Albion River Bridge Project

MENDOCINO COUNTY, CALIFORNIA
District 1 – MEN – State Route 1 (PM 43.3/44.2)
EA 01-40110 / Project ID 0100000154

Draft Environmental Impact Report/ Environmental Impact Statement and Draft Section 4(f) Evaluation



Prepared by the
State of California, Department of Transportation

The environmental review, consultation, and any other actions required by applicable Federal environmental laws for this project are being, or have been, carried out by Caltrans pursuant to 23 USC 327 and the Memorandum of Understanding dated May 27, 2022, and executed by FHWA and Caltrans.

June 2024

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General Information about This Document

What's in this document:

The California Department of Transportation (Caltrans), as assigned by the Federal Highway Administration (FHWA), has prepared this Environmental Impact Report/Environmental Impact Statement (EIR/EIS), which examines the potential environmental impacts of the alternatives being considered for the proposed Albion River Bridge Project (proposed project) located in Mendocino County, California. Caltrans is the lead agency under the National Environmental Policy Act (NEPA). Caltrans is also the lead agency under the California Environmental Quality Act (CEQA). The document tells you why the project is being proposed, what alternatives we have considered for the project, how the existing environment could be affected by the project, the potential impacts of each of the alternatives, and the proposed avoidance, minimization, and/or mitigation measures.

What you should do:

- Please read this document.
- Additional copies of this document and the related technical studies are available for review at the Caltrans District 1 Office, 1656 Union Street, Eureka, CA 95501, the Mendocino Community Library, 10591 William Street, Mendocino, CA 95460, and the Fort Bragg Branch of the Mendocino County Library 499 E Laurel Street, Fort Bragg, CA 95437. This document and related technical studies may be downloaded at the following website: www.albionriverbridgeproject.com.
- Attend the public meeting on Tuesday, August 13, 2024, from 6:00 p.m. to 7:30 p.m. at the Whitesboro Grange, 32510 Navarro Ridge Road, Albion CA 95410.
- We'd like to hear what you think. If you have any comments about the proposed project, please attend the public meeting and/or send your written comments to Caltrans by the deadline.
- Send comments via postal mail to:
  Caltrans
  Attn: Liza Walker, Eureka Office Chief
  Caltrans North Regional Environmental
  1656 Union Street
  Eureka, California 95501
- Send comments via email to: albionbridge@dot.ca.gov.
- Be sure to send comments by the deadline: September 9, 2024

What happens next:

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

Alternative Formats:

For individuals with sensory disabilities, this document can be made available in alternate formats. To obtain a copy in an alternate format, please call or write to Department of Transportation, Attn: Manny Machado, 1656 Union Street, Eureka, California 95501, 1-707-441-5672 (Voice), or use the California Relay Service 1 (800) 735-2929 (TTY to Voice), 1 (800) 735-2922 (Voice to TTY), 1 (800) 855-3000 (Spanish TTY to Voice and Voice to TTY), 1-800-854-7784 (Spanish and English Speech-to-Speech) or 711.

SCH# 2015042016
01-MEN-1 – PM 43.3/44.2
EA No. 01-40110
Project No. 0100000154

Replace the Albion River Bridge on State Route 1 in Mendocino County near Albion from 3.0 miles north of the Route 128 junction to 0.2 mile north of Albion River

Draft Environmental Impact Report/Environmental Impact Statement and Draft Section 4(f) Evaluation

Submitted Pursuant to: (State) Division 13, California Public Resources Code
(Federal) 42 USC 4332(2)(C), 49 USC 303, and/or 23 USC 138

THE STATE OF CALIFORNIA
Department of Transportation

Cooperating Agencies:
U.S. Army Corps of Engineers, U.S. Coast Guard, U.S. Fish and Wildlife Service, U.S. Environmental Protection Agency, National Oceanic and Atmospheric Administration (National Marine Fisheries Service)

Responsible Agencies:
Responsible Agencies: California Transportation Commission, State Office of Historic Preservation, California Natural Resources Agency, State Lands Commission, California Coastal Commission, California Department of Fish and Wildlife, and California North Coast Regional Water Quality Control Board

Brandon Larsen
_____
Matthew Brady
District 1 Director
California Department of Transportation
CEQA/NEPA Lead Agency

6/20/2024
_____
Date

The following person may be contacted for more information about this document:

Liza Walker, Eureka Office Chief
Caltrans North Region Environmental
1656 Union Street
Eureka California, CA 95501
(707) 441-5930

Following circulation for public review and consideration of comments received, Caltrans will issue a final EIS and ROD document, unless statutory criteria or practicability considerations preclude such issuance.

Abstract: The California Department of Transportation (Caltrans) proposes to replace the existing Albion River Bridge (Caltrans Bridge #10-0136) on State Route (SR) 1 in Mendocino County. The project limits are on SR 1 from postmile (PM) 43.3 to PM 44.2. The purpose of the proposed project is to provide a bridge across the Albion River that meets modern seismic safety standards, provides safe and reliable multimodal access, and minimizes ongoing maintenance costs. The proposed project is needed to address several functional, safety, and structural deficiencies associated with the existing bridge. Correcting these deficiencies would improve safety for all users and reduce the chance of catastrophic bridge failure. Caltrans evaluated three Build Alternatives and a No-Build Alternative (also known as the No-Action Alternative). Written comments should be sent via email to albionbridge@dot.ca.gov or to Liza Walker, Eureka Office Chief, Caltrans North Region Environmental, 1656 Union Street, Eureka, California 95501 by September 9, 2024.

Summary

S.1 NEPA ASSIGNMENT

California participated in the "Surface Transportation Project Delivery Pilot Program" (Pilot Program) pursuant to 23 United States Code (USC) 327, for more than five years, beginning July 1, 2007, and ending September 30, 2012. MAP-21 (P.L. 112-141), signed by President Obama on July 6, 2012, amended 23 USC 327 to establish a permanent Surface Transportation Project Delivery Program. As a result, the California Department of Transportation (Caltrans) entered into a Memorandum of Understanding pursuant to 23 USC 327 (National Environmental Policy Act [NEPA] Assignment MOU) with the Federal Highway Administration (FHWA). The NEPA Assignment MOU became effective October 1, 2012, and was renewed on May 27, 2022, for a term of ten years. In summary, Caltrans continues to assume FHWA 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, FHWA assigned and Caltrans assumed all of the United States Department of Transportation (USDOT) 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 FHWA assigned to Caltrans under the 23 USC 326 Categorical Exclusion Assignment MOU, projects excluded by definition, and specific project exclusions.

S.2 PROJECT OVERVIEW

Caltrans proposes to replace the existing Albion River Bridge (Caltrans Bridge #10-0136), which is located on State Route (SR) 1 in the community of Albion, Mendocino County, California. The project limits on SR 1 are from post mile (PM) 43.3 to PM 44.2. The purpose of the project is to provide a bridge across the Albion River that meets modern seismic safety standards, provides safe and reliable multimodal access, and minimizes ongoing maintenance costs. The project considers three Build Alternatives that would replace the bridge west of the existing bridge alignment, east of the existing bridge alignment, and along the same alignment of the existing bridge. These Build Alternatives include arch and non-arch design options. The project also considers a No-Build alternative.

S.2.1 Lead Agencies and NEPA/CEQA Documentation

The proposed project is a joint project by Caltrans and FHWA and is subject to state and federal environmental review requirements. Project documentation, therefore, has been prepared in compliance with both the California Environmental Quality Act (CEQA) and the NEPA. Caltrans is the lead agency under NEPA and CEQA. In addition, FHWA's responsibility for environmental review, consultation, and any other actions required by applicable Federal environmental laws for this project are being, or have

been, carried out by Caltrans pursuant to 23 USC 327 and the Memorandum of Understanding dated May 27, 2022, and executed by FHWA and Caltrans.

Some impacts determined to be significant under CEQA may not lead to a determination of significance under NEPA. Because NEPA is concerned with the significance of the project as a whole, often a “lower level” document is prepared for NEPA.

After receiving comments from the public and reviewing agencies, a Final EIR/EIS will be prepared. Caltrans may prepare additional environmental and/or engineering studies to address comments. The Final EIR/EIS will include responses to comments received on the Draft EIR/EIS and will identify the preferred alternative. After the Final EIR/EIS is circulated, if Caltrans decides to approve the project, a Notice of Determination will be published for compliance with CEQA, and a Record of Decision will be published for compliance with NEPA.

S.2.2 Project Area

The proposed project is located along a section of SR 1 within the community of Albion situated on the coast in Mendocino County, California. The community of Albion contains a small cluster of residences and local businesses. SR 1 is the primary transportation route along the Mendocino County Coast, accommodating local and interregional trips. More than 99 percent of the land in Mendocino County is unincorporated. The county is largely rural and the primary land uses are agriculture and forestland.

The Albion Campground is located immediately north of the Albion River and east of the Albion River Bridge. It contains a day-use area and provides beach access at Albion Cove.

S.2.3 Purpose and Need

The purpose of this project is to provide a bridge across the Albion River that meets modern seismic safety standards, provides safe and reliable multimodal access, and minimizes ongoing maintenance costs.

The project is needed to address several critical deficiencies associated with the existing bridge. Correcting these deficiencies would improve safety for all users and reduce the chance of catastrophic bridge failure.

S.2.4 Proposed Action

Caltrans proposes to replace the existing Albion River Bridge (Caltrans Bridge #10-0136) on State Route (SR) 1 from post mile (PM) 43.3 to PM 44.2 in Mendocino County, California. The project proposes three Build Alternatives and a No-Build Alternative.

Alternative 1 (West Alignment) would construct a replacement bridge approximately 60 feet west of the existing Albion River Bridge centerline. The removal of the existing bridge would occur after construction of the replacement bridge. The replacement bridge deck would be 47 feet wide with two 12-foot-wide travel lanes, 6-foot-wide shoulders, and a 6-foot-wide separated pedestrian walkway on the west side. Two design options are being carried forward for Alternative 1 (West Alignment):

- Design Option 1A: Four-span segmental box girder bridge
- Design Option 1B: Spandrel arch with box girder approaches

Alternative 2 (East Alignment) would construct a replacement bridge up to 190 feet east of the existing Albion River Bridge centerline. The removal of the existing bridge would occur after construction of the replacement bridge. The replacement bridge deck would be 47 feet wide with two 12-foot-wide travel lanes, 6-foot-wide shoulders, and a 6-foot-wide separated pedestrian walkway on the west side. Two design options are being carried forward for Alternative 2 (East Alignment):

- Design Option 2A: Three-span segmental box girder bridge
- Design Option 2B: Spandrel arch with box girder approaches

Alternative 3 (On-Alignment [Half-Width]) would construct a replacement bridge approximately 16 to 46 feet west of the existing Albion River Bridge centerline. The replacement bridge would be constructed in two stages. In Stage 1, the western half of the replacement bridge would be built immediately west of the existing bridge. In Stage 2, the existing bridge would be removed, and the remainder of the new structure, the eastern half, would be constructed in its place. The replacement bridge deck would be 47 feet wide with two 12-foot-wide travel lanes, 6-foot-wide shoulders, and a 6-foot-wide separated pedestrian walkway on the west side. One design option is being carried forward for Alternative 3 (On-Alignment [Half-Width]):

- Design Option 3A: Four-span box girder bridge

Under the No-Build Alternative, the proposed project would not occur, and the existing bridge would remain in its current condition. The existing bridge would continue to deteriorate and become increasingly susceptible to damage or failure due to the marine environment, a seismic event, heavy cyclical loads, or a tsunami. Given the deteriorating condition of the existing bridge, extensive recurring maintenance, and structural improvement projects to maintain the bridge are being implemented currently or are anticipated. Decay and corrosion are expected to continue at an increased rate over time. It is expected that eventual bridge replacement would be necessary; however, future improvement projects and eventual replacement are not included or evaluated as part of the No-Build Alternative.

The existing bridge provides substandard bicycle and pedestrian access. The No-Build Alternative would not provide safe multimodal access across the bridge, would not prevent ongoing leaching of chemical preservatives from the timber members, would

not correct the hazardous turn condition north of the bridge, and would not address the bridge's vulnerability to sea level rise or tsunamis. In the event of seismically induced or tsunami-induced damage to, or failure of, the Albion River Bridge, a 126-mile detour on state routes would likely be in place until the bridge could be repaired or replaced. Local travelers would likely elect to use an unmarked, approximately 28-mile detour route through winding rural roads to the next closest crossing of the Albion River. Caltrans cannot predict how long this detour would last, because its duration would depend on the nature of the seismic event and the circumstances in the surrounding populated areas. Additionally, there would be a high probability of persons avoiding the project area until access can be restored, which would adversely affect community character, access, and recreation.

The No-Build Alternative does not meet the proposed project's purpose and need and is not included in Table S-1 below.

S.3 PROJECT IMPACTS

One of the primary differences between NEPA and CEQA is the way significance is determined. Under NEPA, the determination of significance is based on context and intensity; some impacts determined to be significant under CEQA may not be of sufficient magnitude to be determined significant under NEPA. Under NEPA, it is the magnitude of the impact as *a whole* that is evaluated, and not the judgment of significance to individual resources. NEPA does not require that a determination of significant impacts be stated in the environmental document.

CEQA, on the other hand, does require identification of each "significant effect on the environment" resulting from the project and ways to mitigate each significant effect. All significant environmental effects must be disclosed and mitigated, if feasible. For the proposed project, the CEQA impact conclusions are summarized below:

- The project is anticipated to have *no impact* on agriculture and forestry resources, mineral resources, and tribal cultural resources.
- The project would have *less than significant impacts* on air quality, energy, geology and soils, greenhouse gas emissions, hazards and hazardous materials, hydrology and water quality, land use and planning, noise, population and housing, public services, recreation, transportation, utilities and service systems, and wildfire.
- The project would have *less than significant impacts with mitigation incorporated* on biological resources.
- The project would have *significant and unavoidable impacts*, even after inclusion of avoidance, minimization, and mitigation measures, on aesthetics and cultural resources.

Table S-1 summarizes the potential impacts of the project alternatives and the proposed avoidance, minimization, and mitigation measures under NEPA and CEQA.

Details for all environmental subjects evaluated are presented in Chapters 3 (NEPA) and 4 (CEQA) of this document. The full avoidance, minimization, and mitigation measures are listed in Appendix D, *Avoidance, Minimization, and/or Mitigation Summary*. Standard measures and Best Management Practices (BMPs) can be found in Section 2.2.5, *Common Design Features of the Build Alternatives*. The data presented in Table S-1 are preliminary estimates and may undergo slight modifications as project design advances.

Table S-1. Summary of Potential Impacts from Alternatives

Resource Category	Design Option 1A	Design Option 1B	Design Option 2A	Design Option 2B	Design Option 3A	Avoidance, Minimization & Mitigation Measures	Mitigation Measures Pursuant to CEQA
Aesthetics	During construction, viewers from SR 1 and surrounding areas would experience short-term visual impacts, including removal of vegetation and the presence of construction vehicles, equipment, and materials. Removal of lattice towers would provide a continuity of views from Albion. However, the non-arch design is utilitarian, with low visual interest and memorability.	Construction impacts and lattice tower removal same as Design Option 1A. The arch design option, while not as memorable or distinctive as the existing bridge, provides architectural interest and better fit into the natural setting.	Non-arch design; same as Design Option 1A.	Arch design; same as Design Option 1B.	Non-arch design; similar to Design Option 1A, though visual impacts slightly lower than other non-arch Design Options (1A, 2A) due to symmetry and more harmonious design characteristics.	AMM-AR-1 through AMM-AR-6	AMM-AR-1 through AMM-AR-6

Resource Category	Design Option 1A	Design Option 1B	Design Option 2A	Design Option 2B	Design Option 3A	Avoidance, Minimization & Mitigation Measures	Mitigation Measures Pursuant to CEQA
Air Quality	Construction activities would temporarily generate fugitive dust and construction equipment emissions. The proposed project would not increase capacity or impact traffic volumes or fleet mix; therefore, there would not be an increase in operational air emissions.	Same as Design Option 1A	Same as Design Option 1A	Same as Design Option 1A	Same as Design Option 1A	AMM-AQ-1	None
Agriculture and Forestry	None	None	None	None	None	None	None
Biological Resources: SNCs	Temp. Impacts = 0.77 ac. Perm. Impacts = 0.28 ac.	Temp. Impacts = 0.70 ac. Perm. Impacts = 0.47 ac.	Temp. Impacts = 0.94 ac. Perm. Impacts = 0.26 ac.	Temp. Impacts = 0.69 ac. Perm. Impacts = 0.50 ac.	Temp. Impacts = 0.79 ac. Perm. Impacts = 0.24 ac.	AMM-BR-1 AMM-BR-2 AMM-BR-3 AMM-BR-8	AMM-BR-1 AMM-BR-2 AMM-BR-3 AMM-BR-8

Resource Category	Design Option 1A	Design Option 1B	Design Option 2A	Design Option 2B	Design Option 3A	Avoidance, Minimization & Mitigation Measures	Mitigation Measures Pursuant to CEQA
Biological Resources: Eelgrass[1]	Temp. Impacts = 0.00350 ac. Perm. Impacts = 0.00520 ac.	Temp. Impacts = 0.00027 ac. Perm. Impacts = None	Temp. Impacts = None Perm. Impacts = None	Temp. Impacts = 0.00036 ac. Perm. Impacts = None	Temp. Impacts = 0.00088 ac. Perm. Impacts = None	AMM-BR-2 AMM-BR-3 AMM-BR-8	AMM-BR-2 AMM-BR-3 AMM-BR-8
Biological Resources: Waters and Wetlands[2]	Temp. Impacts = 0.178 ac. Perm. Impacts = 0.099 ac.	Temp. Impacts = 0.177 ac. Perm. Impacts = 0.062 ac.	Temp. Impacts = 0.172 ac. Perm. Impacts = 0.063 ac.	Temp. Impacts = 0.174 ac. Perm. Impacts = 0.065 ac.	Temp. Impacts = 0.168 ac. Perm. Impacts = 0.071 ac.	AMM-BR-4 AMM-BR-9	AMM-BR-4 AMM-BR-9
Biological Resources: Threatened and Endangered Species (*with potential to affect*) • *Lotis blue butterfly* • *Leatherback sea turtle* • *Marbled murrelets* • *Humpback whale* • *CC chinook salmon*	Construction activities, particularly pile driving, have the potential to temporarily affect threatened and endangered species and/or their habitat. Given the location and size of the bridge foundation piles, pile driving has the highest potential to	Same as Design Option 1A; however, given the location and size of the bridge foundation piles, Design Option 1B has less potential to cause underwater sound impacts to listed aquatic species.	Same as Design Option 1B	Same as Design Option 1B	Same as Design Option 1A	AMM-BR-6 AMM-BR-7 AMM-BR-10	AMM-BR-6 AMM-BR-10

[1] While included in the SNC category above, eelgrass is also tabulated separately given its biological importance.

[2] Total summarizes impacts to jurisdictional aquatic resources, which includes Waters of the United States, other waters, and coastal wetlands.

Resource Category	Design Option 1A	Design Option 1B	Design Option 2A	Design Option 2B	Design Option 3A	Avoidance, Minimization & Mitigation Measures	Mitigation Measures Pursuant to CEQA
• *CCC coho salmon* • *Green sturgeon* • *NC steelhead*	cause underwater sound impacts to listed aquatic species. The shape of Albion Cove is anticipated to confine underwater sound within its boundaries.						
Climate Change	Flooding and extreme weather events may disrupt construction activities and damage equipment and facilities used during construction. The proposed project would be constructed to withstand future sea level rise and extreme weather events by using materials less susceptible to corrosion and	Same as Design Option 1A	Same as Design Option 1A	Same as Design Option 1A	Same as Design Option 1A	AMM-HF-1	None

Resource Category	Design Option 1A	Design Option 1B	Design Option 2A	Design Option 2B	Design Option 3A	Avoidance, Minimization & Mitigation Measures	Mitigation Measures Pursuant to CEQA
	wildfire, locating bridge abutments beyond the Albion River flow and sea level rise inundation, and would include a defensible space on either side of the bridge.						
Community Character and Cohesion *For a summary of related impacts, see Air Quality, Noise and Vibration, Transportation, and Recreation.*	Construction would temporarily affect community character. The estimated duration of temporary impacts for Design Option 1A is 3 years.	Same as Design Option 1A	Same as Design Option 1A	Same as Design Option 1A	Same as Design Option 1A; however, the estimated duration of temporary impacts for Design Option 3A is 5 years.	AMM-AQ-1 AMM-NOI-1 AMM-PR-1 AMM-TT-1 AMM-VIB-1 AMM-VIB-2	None
Community Character and Cohesion *For a summary of related impacts, see Aesthetics, Cultural Resources, and Recreation*.	Losing the existing bridge would impact community character. The proposed project would not affect the local population	Same as Design Option 1A	Same as Design Option 1A	Same as Design Option 1A	Same as Design Option 1A	AMM-AR-1 through AMM-AR-6 AMM-CR-3 AMM-PR-1	AMM-AR-1 through AMM-AR-6 AMM-CR-3

Resource Category	Design Option 1A	Design Option 1B	Design Option 2A	Design Option 2B	Design Option 3A	Avoidance, Minimization & Mitigation Measures	Mitigation Measures Pursuant to CEQA
	demographics, influence regional population growth, or contribute to changes in housing characteristics. After construction, community cohesion would be improved, and the bridge would be more structurally sound.						
Cultural Resources	The Albion River Bridge, a historic property listed in the National Register of Historic Places and CA Register of Historic Places, would be removed, which would materially alter the qualities that justify the bridge's	Same as Design Option 1A	Same as Design Option 1A	Same as Design Option 1A	Same as Design Option 1A	AMM-CR-1 through AMM-CR-4	AMM-CR-1 through AMM-CR-4

Resource Category	Design Option 1A	Design Option 1B	Design Option 2A	Design Option 2B	Design Option 3A	Avoidance, Minimization & Mitigation Measures	Mitigation Measures Pursuant to CEQA
	eligibility for listing. Three unevaluated archaeological sites have been identified within the area of potential effect for the proposed project. Due to lack of access, these resources would be evaluated prior to construction after access is obtained.						
Energy	Energy use would temporarily increase during construction, primarily through consumption of diesel and gas for equipment, material deliveries, and debris hauling.	Same as Design Option 1A; however, the estimated fuel consumption for Design Option 1B is 176,553 gallons (diesel) and 46,378 gallons (gas).	Same as Design Option 1A; however, the estimated fuel consumption for Design Option 2A is 135,088 gallons (diesel) and 38,844 gallons (gas).	Same as Design Option 1A; however, the estimated fuel consumption for Design Option 2B is 155,980 gallons (diesel) and 41,697 gallons (gas).	Same as Design Option 1A; however, the estimated fuel consumption for Design Option 3A is 237,322 gallons (diesel) and 62,919 gallons (gas).	AMM-GHG-1	None

Resource Category	Design Option 1A	Design Option 1B	Design Option 2A	Design Option 2B	Design Option 3A	Avoidance, Minimization & Mitigation Measures	Mitigation Measures Pursuant to CEQA
	Fuel consumption Design Option 1A is estimated to be 144,978 gallons (diesel) and 42,741 gallons (gas). The proposed project would not result in an increase in traffic volumes, vehicle mix, or any other factor that would cause an increase in direct energy consumption, and would not result in an inefficient, wasteful, or unnecessary consumption of energy.						
Geology and Soils	The proposed project is in an area with moderate to high liquefaction potential during earthquakes	Same as Design Option 1A; however, the exposed permanent shoring for Design Option	Same as Design Option 1A; however, the exposed permanent shoring for Design Option	Same as Design Option 1A; however, the exposed permanent shoring for Design Option	Same as Design Option 1A; however, the exposed permanent shoring for Design Option	None	None

Resource Category	Design Option 1A	Design Option 1B	Design Option 2A	Design Option 2B	Design Option 3A	Avoidance, Minimization & Mitigation Measures	Mitigation Measures Pursuant to CEQA
	and is highly prone to landslides. The proposed project would be designed according to Caltrans Seismic Design Criteria and would provide for stability and structural integrity. Design Option 1A would not create nor contribute significantly to erosion, geologic instability, or alteration of natural landforms along bluffs or cliffs. Design Option 1A would include installing approximately 6,800 square feet of permanent	1B is 12,800 square feet.	2A is 1,800 square feet.	2B is 8,700 square feet.	3A is 3,400 square feet.		

Resource Category	Design Option 1A	Design Option 1B	Design Option 2A	Design Option 2B	Design Option 3A	Avoidance, Minimization & Mitigation Measures	Mitigation Measures Pursuant to CEQA
	shoring as a safety element to stabilize excavations for equipment and worker access along the steep slopes around new bridge foundations.						
Greenhouse Gas Emissions	Construction activities would temporarily generate greenhouse gas (GHG) emissions as a result of material processing, use of construction equipment, and traffic control. For Design Option 1A, the estimated GHG emissions are 1,984 metric tons. The proposed project would not be capacity increasing or have an	Same as Design Option 1A; however, the estimated GHG emissions for Design Option 1B are 2,362 metric tons.	Same as Design Option 1A; however, the estimated GHG emissions for Design Option 2A are 1,839 metric tons.	Same as Design Option 1A; however, the estimated GHG emissions for Design Option 2B are 2,091 metric tons.	Same as Design Option 1A; however, the estimated GHG emissions for Design Option 3A are 3,173 metric tons.	AMM-GHG-1	None

Resource Category	Design Option 1A	Design Option 1B	Design Option 2A	Design Option 2B	Design Option 3A	Avoidance, Minimization & Mitigation Measures	Mitigation Measures Pursuant to CEQA
	operational impact on traffic volumes or fleet mix, therefore, there would not be an increase in operational GHG emissions.						
Hazards	Construction activities would be coordinated with emergency service providers. Emergency vehicles would be accommodated through the project at all times. After construction, the replacement bridge would be safer for all modes of travel, and more resilient and less	Same as Design Option 1A	Same as Design Option 1A	Same as Design Option 1A	Same as Design Option 1A	AMM-TT-1	None

Resource Category	Design Option 1A	Design Option 1B	Design Option 2A	Design Option 2B	Design Option 3A	Avoidance, Minimization & Mitigation Measures	Mitigation Measures Pursuant to CEQA
	susceptible to collapse.						
Hazardous Materials	Construction activities would potentially disturb asbestos-containing material, lead-based paint, treated wood waste, and contaminated soils. The proposed project would include a potential staging area on a parcel with monitoring wells that require protection. The proposed project would remove the source of the arsenic, lead, zinc and chromium (timber members) in the soil underneath the	Same as Design Option 1A	Same as Design Option 1A	Same as Design Option 1A	Same as Design Option 1A	AMM-HW-1 through AMM-HW-9	None

Resource Category	Design Option 1A	Design Option 1B	Design Option 2A	Design Option 2B	Design Option 3A	Avoidance, Minimization & Mitigation Measures	Mitigation Measures Pursuant to CEQA
	bridge, so there would no longer be wood preservatives leaching into adjacent soil.						
Hydrology and Water Quality	During construction, dewatering in excavation areas could result in a temporary drawdown of groundwater related to dewatering in excavation areas, and sediment discharge from disturbed soil areas and construction near and in-water could have water quality impacts. The proposed project would not substantially alter existing drainage patterns and	Same as Design Option 1A	Same as Design Option 1A; however, the new impervious surface area for Design Option 2A is 1.56 acres.	Same as Design Option 1A; however, the new impervious surface area for Design Option 2B is 1.80 acres.	Same as Design Option 1A; however, the new impervious surface area for Design Option 3A is 1.93 acres.	AMM-WQ-1 AMM-HF-1	None

Resource Category	Design Option 1A	Design Option 1B	Design Option 2A	Design Option 2B	Design Option 3A	Avoidance, Minimization & Mitigation Measures	Mitigation Measures Pursuant to CEQA
	would reduce the number of bridge piers within the floodplain. The new impervious surface area of Design Option 1A is 1.25 acres.						
Land Use and Planning *For a summary of related impacts, see Biological Resources and Transportation.*	Traffic control includes reversing traffic control, occasional intermittent closures and one extended closure. Emergency vehicles would be accommodated across the bridge during closures and all vehicles would be accommodated across the bridge in an evacuation.	Same as Design Option 1A	Same as Design Option 1A	Same as Design Option 1A	Same as Design Option 1A	AMM-TT-1	None

Resource Category	Design Option 1A	Design Option 1B	Design Option 2A	Design Option 2B	Design Option 3A	Avoidance, Minimization & Mitigation Measures	Mitigation Measures Pursuant to CEQA
	The proposed project would not permanently divide an established community, and it would not conflict with land use plans, policies, or regulations.						
Mineral Resources	None	None	None	None	None	None	None
Noise and Vibration	Pile driving would be the loudest noise- and vibration-generating construction activity. For Design Option 1A, pile driving may occur within 125 feet of residential areas, generating noise up to 93 dBA L_{max}. Temporary vibration levels would have the	Same as Design Option 1A; however, the pile driving for Design Option 1B may occur within 175 feet of residential areas, generating noise up to 90 dBA L_{max}. The operational noise increase for Design Option 1B ranges up to 3 dB.	Same as Design Option 1A; however, the pile driving for Design Option 2A may occur within 270 feet of residential areas, generating noise up to 86 dBA L_{max}. The operational noise increase for Design Option 2A ranges up to 6 dB.	Same as Design Option 1A; however, the pile driving for Design Option 2B may occur within 115 feet of residential areas, generating noise up to 94 dBA L_{max}. The operational noise increase for Design Option 2B ranges up to 4 dB.	Same as Design Option 1A; however, the pile driving for Design Option 3A may occur within 300 feet of residential areas, generating noise up to 85 dBA L_{max}. Because Design Option 3A would not substantially change the location or operation of the	AMM-NOI-1 AMM-VIB-1 AMM-VIB-2	None

Resource Category	Design Option 1A	Design Option 1B	Design Option 2A	Design Option 2B	Design Option 3A	Avoidance, Minimization & Mitigation Measures	Mitigation Measures Pursuant to CEQA
	potential for distinctly or strongly perceptible levels at nearby residences. Due to the realigned bridge, the operational noise increase for Design Option 1A ranges up to 3 dB.				roadway, the operational noise levels are anticipated to be same as a no-build.		
Population and Housing	The proposed project would not result in direct or indirect impacts on growth. Permanent right of way (ROW) and temporary construction easements (TCE) would be required. For Design Option 1A, ROW = 3.04 acres and TCE = 21.38 acres.	Same as Design Option 1A	Same as Design Option 1A; however, for Design Option 2A, the permanent ROW = 3.50 acres and temporary TCE = 19.08 acres. In addition, part of the campground would be converted to transportation use; acquisition or permanent relocation of	Same as Design Option 2A; however, for Design Option 2B, the permanent ROW = 2.55 acres and temporary TCE = 22.96 acres.	Same as Design Option 1A; however, for Design Option 3A, the permanent ROW = 1.87 acres and temporary TCE = 22.71 acres.	None	None

Resource Category	Design Option 1A	Design Option 1B	Design Option 2A	Design Option 2B	Design Option 3A	Avoidance, Minimization & Mitigation Measures	Mitigation Measures Pursuant to CEQA
	The campground manager's residence may be left in place or returned to its current location after construction is complete.		the campground manager's residence would be required.				
Public Services	None	None	None	None	None	None	None
Recreation	Construction would temporarily limit and/or restrict public access to the Albion Beach, Albion Campground, and Albion River outlet. For Design Option 1A, campground and beach closure = 37 months, and outlet closure = 90 non-consecutive days. Under Section 4(f), the proposed	Same as Design Option 1A; however, for Design Option 1B, campground and beach closure = 38 months, and outlet closure = 110 non-consecutive days.	Same as Design Option 1A	Same as Design Option 1B	Same as Design Option 1A; however, for Design Option 3A, campground and beach closure = 59 months, and outlet closure = 130 non-consecutive days.	AMM-PR-1	None

Resource Category	Design Option 1A	Design Option 1B	Design Option 2A	Design Option 2B	Design Option 3A	Avoidance, Minimization & Mitigation Measures	Mitigation Measures Pursuant to CEQA
	project would result in a direct use of the Albion River Bridge and in a de minimis impact on the Albion River.						
Transportation	Traffic control includes reversing traffic control, occasional intermittent closures and one extended closure using flagging. The number of traffic control days vary by design option. For Design Option 1A, there would be up to 165 days of traffic control. Bridge lanes and shoulders would be widened and include a separated	Same as Design Option 1A.	Same as Design Option 1A; however, Design Option 2A would additionally require reversing traffic control with temporary signal systems (in addition to flagging) during stages of the work. There would be 305 days of traffic control for Design Option 2A.	Same as Design Option 2A.	Same as Design Option 2B; however, there would be 945 days of traffic control for Design Option 3A.	AMM-PR-1 AMM-TT-1	None

Resource Category	Design Option 1A	Design Option 1B	Design Option 2A	Design Option 2B	Design Option 3A	Avoidance, Minimization & Mitigation Measures	Mitigation Measures Pursuant to CEQA
	pedestrian walkway, which would not increase capacity or otherwise result in increased vehicle miles traveled and would improve the horizontal geometry north of the bridge. Hazardous geometric design features or incompatible uses would not be introduced.						
Tribal Cultural Resources	None	None	None	None	None	None	None
Utilities and Service Systems	Permanent and temporary utility relocations (utility lines, stormwater drainages, and telecommunication lines) would be required. Up to 16,000 gallons of water per day would	Same as Design Option 1A	Same as Design Option 1A	Same as Design Option 1A	Same as Design Option 1A	None	None

Resource Category	Design Option 1A	Design Option 1B	Design Option 2A	Design Option 2B	Design Option 3A	Avoidance, Minimization & Mitigation Measures	Mitigation Measures Pursuant to CEQA
	be used for construction-related activities. Construction waste generated as part of the project would be managed and disposed of in accordance with local and state regulations.						
Wildfire *For a summary of related impacts, see Hazards, Land Use and Planning, Transportation, and Utilities and Service Systems.*	Equipment or materials staging within the TCE on the fire station parcel would not interfere with the ability of fire fighters to respond to emergency calls. Typical vegetation clearing completed by construction crews, in	Same as Design Option 1A	Same as Design Option 1A	Same as Design Option 1A	Same as Design Option 1A	AMM-PR-1 AMM-TT-1 AMM-UE-1	None

Resource Category	Design Option 1A	Design Option 1B	Design Option 2A	Design Option 2B	Design Option 3A	Avoidance, Minimization & Mitigation Measures	Mitigation Measures Pursuant to CEQA
	addition to standard precautions, would reduce the risk of ignition during construction.						

S.4 COORDINATION WITH PUBLIC AND OTHER AGENCIES

As part of the NEPA and CEQA process, a scoping meeting is required when preparing an EIR and EIS. A Notice of Preparation (NOP) of an EIR was received and accepted by the State Clearinghouse (SCH) on April 6, 2015, and advertised to the public and mailed to federal, state, and local agencies having jurisdiction or discretionary approval. A Notice of Intent (NOI) to prepare an EIS was published in the *Federal Register* on April 19, 2022. Several Coordination meetings with agencies, and public meetings have occurred and are described in more detail in Chapter 5, *Comments and Coordination* as well as Appendix F, *Public Outreach and Scoping*.

Various agencies and tribes were invited to participate in the project as cooperating, participating, trustee, and/or responsible agencies, as applicable. Under 23 USC 139, letters of invitation requesting various agencies' involvement as cooperating and/or participating agencies were distributed on March 23, 2022. A summary of consultation and coordination is provided in Chapter 5, *Comments and Coordination.*

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

Table S-2. Permits and Approvals

Agency	PLAC	Status
California Coastal Commission (CCC)	Federal Consistency Determination Coastal Development Permit (CDP)	Federal Consistency Determination and application for CDP is expected after Final Environmental Document (FED) approval.
California Department of Fish and Wildlife (CDFW)	Section 1602 Streambed Alteration Agreement California Endangered Species Act (CESA) Coordination – Section 2080.1 Consistency Determination (CD) or Section 2081(b) Incidental Take Permit (ITP)	A 1602 permit and Section 2080.1 agreement (CD or ITP) would be obtained after FED approval.
California Transportation Commission (CTC)	Vote to Approve Funds	CTC would be required to vote to approve funding for the proposed project after FED approval.
Mendocino County	CDP or Consolidation Encroachment Permits	A request for consolidation submitted or CDP obtained after FED. Encroachment permits would be obtained prior to construction.

Agency	PLAC	Status
Mendocino County Air Quality Management District (MCAQMD)	National Emissions Standards for Hazardous Air Pollutants (NESHAP) Pre-construction Notification (PCN) Authority to Construct (ATC) and Permits to Operate (PTO) for stationary equipment	ATC and PTO permits would be obtained after FED approval. A NESHAP PCN would be filed prior to construction.
National Marine Fisheries Service (NMFS)	Section 7 Federal Endangered Species Act (FESA) Consultation – Biological Opinion (BO) Essential Fish Habitat (EFH) Consultation Marine Mammal Protection Act (MMPA) Incidental Harassment Authorization (IHA) or Letter of Authorization (LOA)	Formal consultation under FESA and EFH consultation would be initiated after the selection of a preferred alternative; a Biological Assessment (BA) with EFH Assessment would be submitted to NMFS. A BO would be obtained after FED. The MMPA IHA or LOA would be obtained after FED.
North Coast Regional Water Quality Control Board (RWQCB)	Clean Water Act Section 401 Water Quality Certification (WQC) or waiver and or/Porter Cologne Act Waste Discharge Requirements Low Threat Discharge (LTD) Waiver Compliance with the NPDES Construction General Permit	A 401 WQC and LTD Waiver would be obtained after FED approval. A statewide NPDES permit for construction and operations would be in effect for the proposed project. Compliance review would take place during the design phase.
State Historic Preservation Officer (SHPO)	Section 106 Consultation for Historic Resources Section 4(f) Consultation	SHPO consultation is ongoing. The Phased Programmatic Agreement to address adverse effects and Section 4(f) would be obtained prior to FED.
State Lands Commission (SLC)	Lease of State Lands	A State Lands lease would be obtained after FED approval.
United States Army Corps of Engineers (USACE)	Preliminary jurisdictional determination for jurisdictional wetlands and waters of the United States. Section 404 Permit for Filling Waters of the United States Section 10 of the of Rivers and Harbors Act of 1899	A preliminary jurisdictional determination would be obtained after FED approval. 404 Nationwide Permit would be obtained after FED approval. Section 10 permit may be required and would be obtained after FED approval.
United States Coast Guard (USCG)	Bridge Permit	A Bridge Permit would be obtained after FED approval.

Agency	PLAC	Status
United States Fish and Wildlife Service (USFWS)	Section 7 Federal Endangered Species Act (FESA) Consultation – Biological Opinion (BO)	Informal consultation under FESA would be initiated after the selection of a preferred alternative; a BA would be submitted to USFWS. A BO would be obtained after FED.

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Chapter 1 Proposed Project

1.1 INTRODUCTION

The California Department of Transportation's (Caltrans') Albion River Bridge Project proposes to replace the existing Albion River Bridge (Caltrans Bridge #10-0136) on State Route (SR) 1 in Mendocino County (proposed project). The proposed project is included in the 2022 State Highway Operation and Protection Program (SHOPP) and is funded from the Bridge Rehabilitation and Replacement Program.

SHOPP is adopted simultaneously with the State Transportation Improvement Program. Although the Mendocino County Office of Governments is allowed input in SHOPP development, the State has sole discretionary authority over the use of SHOPP funds. The proposed project was identified as a SHOPP project in Appendix B of the *2022 Mendocino County Regional Transportation Plan and Active Transportation Plan* (SHOPP ID 9133), which was adopted on February 7, 2022 (Mendocino Council of Governments [MCOG] 2022). The 2022 SHOPP Long Lead Project List (Caltrans 2022c) includes the following description for the proposed project:

> *Near Albion, from 3.0 miles north of Route 128 Junction to 0.2 mile north of Albion River Bridge No. 10-0136. Bridge replacement. This is a Construction Manager/General Contractor (CM/GC)[3] project.*

The proposed project is estimated to cost between $126 million and $155 million. The proposed project is programmed to start construction in 2027, and construction would last between 3 and 5 years, depending on the alternative selected.

Caltrans, as assigned by the Federal Highway Administration (FHWA) pursuant to 23 United States Code (USC) 327, is the lead agency under the National Environmental Policy Act (NEPA) and the California Environmental Quality Act (CEQA). The lead agency is defined as the public agency that has the principal responsibility for approving a project subject to NEPA and CEQA. The lead agency is responsible for determining and preparing the appropriate environmental document. Caltrans has determined that an Environmental Impact Report/Environmental Impact Statement is the appropriate environmental document for the proposed project. This document describes the proposed project's purpose and need, alternatives being considered and eliminated from consideration, and potential impacts under NEPA and CEQA, as well as a summary of the proposed project's avoidance, minimization, and mitigation measures.

[3] In 2022, Granite Construction was selected to partner with the State as the CM/GC for the project. This method involves integrating a contractor early in the process to incorporate their perspective in project design and constructability. This method provides more innovation, efficiency, and savings opportunities than traditional project delivery methods.

1.2 PROJECT SETTING

The proposed project is located in Mendocino County along SR 1, approximately 3 miles north of the SR 128 junction and approximately 15 miles south of Fort Bragg. The total length of the proposed project is approximately 1 mile, extending from post mile (PM) 43.3 to PM 44.2. Figure 1 shows the proposed project vicinity and location.

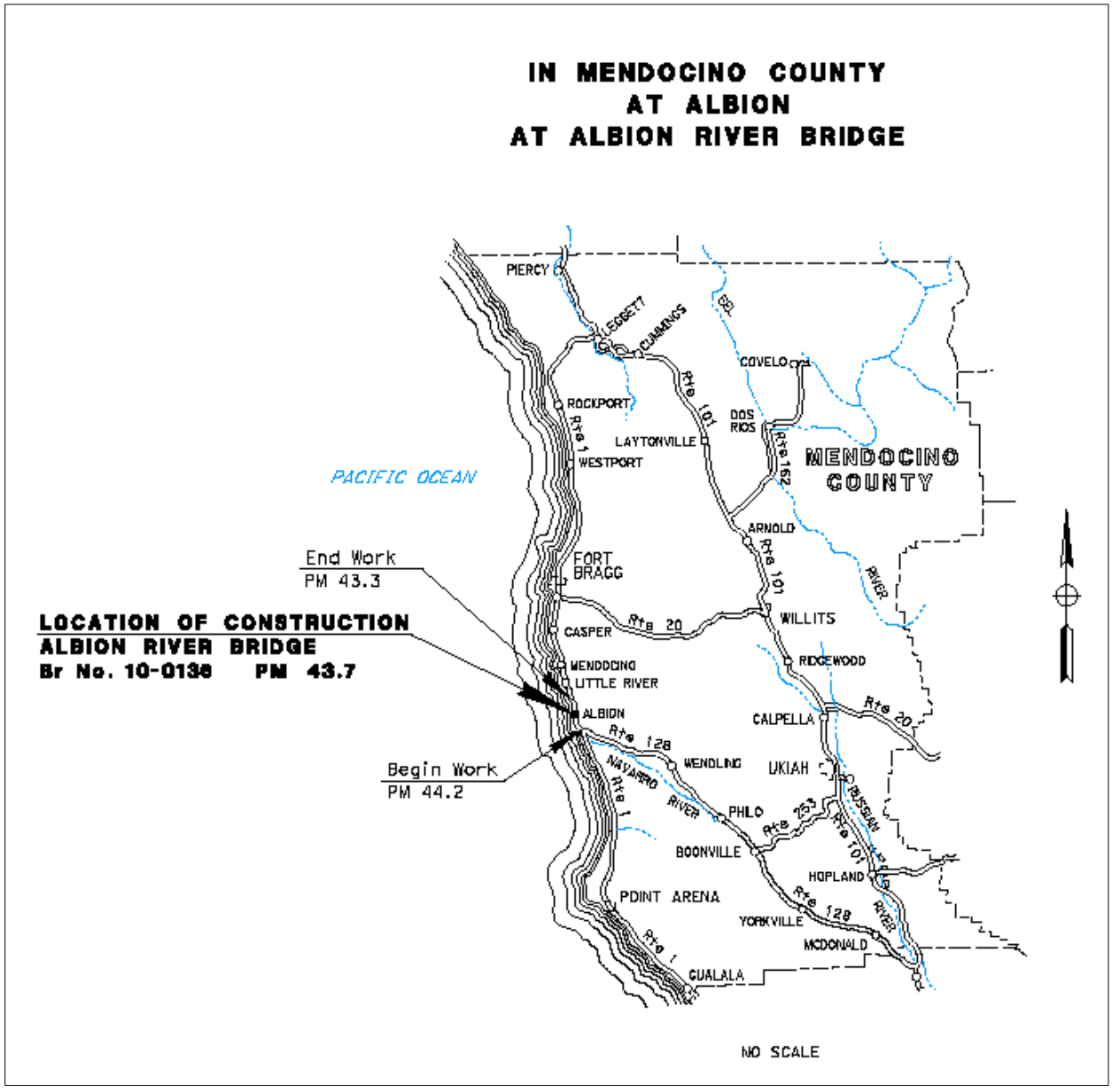


Figure 1. Project Vicinity and Location

SR 1 is a major north-south highway that runs along the Pacific coastline from United States Highway 101 (U.S. 101) near Leggett in the north to Interstate 5 near Dana Point in the south. SR 1 is the primary transportation route along the Mendocino County Coast, accommodating local and interregional trips. Caltrans has designated SR 1 from U.S. 101 (Leggett) to U.S. 101 (near Marin City) as eligible for listing as a state scenic highway (Caltrans 2023a). Annual average daily traffic (AADT) within the PM limits was estimated to be approximately 3,300 vehicles in 2019 (Caltrans 2023b). AADT is estimated to increase to approximately 3,800 vehicles by 2041 and 4,100 vehicles by 2051.

More than 99 percent of land within Mendocino County is unincorporated, and the county is largely rural. The Albion River Bridge is located within the Mendocino County Coastal Zone (County of Mendocino 1985). The tidally influenced Albion River outlets to the Pacific Ocean approximately 170 feet downstream of the bridge. The bridge itself sits approximately 155 feet above the Albion River, spanning a relatively narrow canyon with steep slopes reaching approximately 140 to 150 feet above the valley floor. The Albion River Bridge was listed on the National Register of Historic Places and the California Register of Historic Resources in 2017. The Albion River is designated as a navigable water at this location and is designated as a Wild and Scenic River under the California Wild and Scenic Rivers Act (Public Resources Code [PRC] Section 5093.50 et seq.) for recreation. Beneath the bridge is the privately owned Albion River Campground and Marina (Albion Campground) and Albion Flat Beach.

The existing curvilinear alignment of SR 1 follows the coastline, and the curve north of the bridge structure has an approximate 293-foot radius. There is a radar feedback sign with a posted 30-mile-per-hour (mph) advisory speed approximately 350 feet north of the north end of the bridge for southbound traffic and a second radar feedback sign with a posted 35-mph advisory speed approximately 150 feet south of the south end of the bridge for northbound traffic.

1.3 BRIDGE HISTORY

The existing Albion River Bridge was constructed in 1944 during World War II and is 969 feet long and 28.5 feet wide. This bridge is the primary route over the Albion River. As such, it serves as a vital link between the north and south sides of the community of Albion for residents, regional users of SR 1, and tourists on the Mendocino Coast.

In an effort to conserve concrete and steel materials for the war effort, the original proposed concrete arch structure design was abandoned, and the bridge was redesigned to predominantly use timber. The bridge is composed of timber stringer spans with a two-ply timber deck and an asphalt concrete (AC) riding surface supported by a timber A-frame deck truss and timber towers. The tower footings are supported by either concrete piles or timber piles. The main span is a riveted steel deck truss—which was salvaged from an old bridge located on the South Fork of the Feather River—supported by reinforced concrete tower bents over the Albion River.

1.4 PURPOSE AND NEED

1.4.1 Purpose

The purpose of the proposed project is to provide a bridge across the Albion River that meets modern seismic safety standards, provides safe and reliable multimodal access, and minimizes ongoing maintenance costs. The proposed project's objectives are as follows:

- Eliminate the bridge's structural and seismic deficiencies
- Eliminate the truss main span's fracture critical condition
- Provide shoulder widths consistent with local coastal plan requirements
- Provide improved road alignment and sight distance
- Provide safe, multimodal bridge access for bicyclists and pedestrians
- Minimize ongoing maintenance costs
- Minimize traffic delays associated with bridge inspection, maintenance, and repairs
- Improve resilience to sea level rise, storm surges, and tsunamis
- Prevent further preservative treatment leaching from existing bridge timbers
- Minimize construction-related impacts to the community and environment

1.4.2 Need

According to the Bridge Inspection Reports for the Albion River Bridge (Caltrans 2021; 2022a), the bridge is in poor and deteriorating condition, has a low load rating, and is not an appropriate design for the harsh marine environment in which it is located. The bridge is a 34-span timber truss bridge with a timber deck and AC surface, riveted steel deck truss, and timber tower substructure. Deficiencies exist in the timber deck and other timber elements, including rotting and decay in the timber decks and checking (cracks) and deterioration of the preservative treatment on the timber trestle elements. The marine environment causes significant corrosion on the connection bolts that hold the timber members in place. The substructure and superstructure condition are rated Poor (on a classification scale of Good, Fair, and Poor as defined by the FHWA). Further, the bridge has a sufficiency rating—a measure of the bridge's overall structural health—of 31.3 (poor) out of a possible 100 (very good) using FHWA criteria.

The proposed project is needed to address the following functional, safety, and structural deficiencies:

- The bridge does not meet modern seismic standards, indicating a higher probability of bridge damage and bridge closure from a seismic event.

- The bridge is fracture critical due to no redundancy[4] of the riveted steel deck truss main span. If key structural connections or components are compromised, then the bridge could fail during a seismic event or under heavy cyclical[5] loads.
- The bridge is functionally obsolete and does not meet minimum design standards due to the narrow deck geometry, including 1-foot-wide shoulders.
- SR 1 across the Albion River is a portion of the legislatively designated Pacific Coast Bike Route (PCBR) and functions as a component of the California Coastal Trail (CCT). The bridge lacks continuous, safe, and separate access for bicyclists and pedestrians, including PCBR and CCT users.
- The bridge has an external wooden barrier rail that is not capable of resisting current vehicle impact loading requirements.
- The bridge was designed to carry lighter trucks (e.g., 15-ton trucks). Heavy loads can add strain and advance the structural weakening of the bridge. The load rating of the bridge would be reduced over time as a result of continued deterioration.
- The bridge is the primary route over the Albion River and is an important route for tourism and intraregional travel along the Mendocino Coast. If a full bridge closure is necessary for inspection, maintenance, repairs, or safety reasons, traffic would be required to detour around the closure. A detour using state routes would be approximately 126 miles.
- The bridge is susceptible to tsunami damage, including debris loading or possible collapse, due to the many closely spaced bridge supports within the tsunami inundation zone.
- The bridge requires ongoing preventative maintenance. Caltrans anticipates a continuous program to paint the steel deck truss approximately every 5 years and to replace timber fasteners, the bolted connections, and hardware throughout the entire timber substructure approximately every 2 years.
- The bridge has preservative-treated timbers in a state of ongoing deterioration, which presents a contaminant leaching risk to the environment.

[4] American Association of State Highway and Transportation Officials (AASHTO) Bridge Design Specifications (AASHTO 2022) defines redundancy as “the quality of a bridge that enables it to perform its design function in a damaged state” and a redundant member as “a member whose failure does not cause failure of the bridge.” Redundancy can be provided in one or more of the following ways: 1. load-path redundancy; 2. structural redundancy; and 3. internal redundancy.

[5] Repetitive loading and unloading of bridge over time. Examples include large trucks driving over the bridge, wind, and earthquake ground motion.

1.4.3 Deficiencies in the Existing Bridge

The Albion River Bridge is 28.5 feet wide with a 26-foot-wide deck that consists of two 12-foot-wide lanes and two 1-foot-wide shoulders. The Caltrans Highway Design Manual and Design Information Bulletin #79-04 identify standard minimum widths for in-place roadway shoulders as 4 feet and for in-place bridge shoulders as 6 feet. The current bridge deck does not:

- Provide additional recovery area for errant motorists,
- Meet the multi-modal needs of the public, including PCBR and CCT users.

The bridge and its approaches do not meet current design standards for:

- Minimum shoulder width,
- Minimum curve radius on the highway alignment immediately north of the bridge,
- Minimum stopping sight distance at the vertical curve immediately north of the bridge,
- Minimum stopping sight distance at the intersections of Albion River North Side Road and Albion Little River Road with SR 1.

Structural and Seismic Deficiencies

The following summaries of structural and seismic deficiencies are included in the Bridge Inspection Reports dated April 19, 2021 (Caltrans 2021), and October 17, 2022 (Caltrans 2022a), and a seismic analysis performed in 2013 (Caltrans 2013).

The main bridge span lacks redundancy in its design and would be incapable of carrying loads across the bridge if damage occurred to one or more of its steel members. Due to this lack of redundancy, the bridge is designated “fracture critical.” FHWA defines a fracture critical bridge as a bridge that contains “a steel member in tension, or with a tension element, whose failure would probably cause a portion of, or the entire bridge, to collapse” (23 Code of Federal Regulations [CFR] 650.305).

Current design standards require bridges to carry loads up to an HL-93/HS-20 truck, which is a truck with more than two axles weighing 32,000 pounds, or 16,000 pounds per wheel load. The Albion River Bridge was designed to carry lighter loads of up to an H-15 category of truck (Caltrans 2021), which is a two-axle, single-unit truck weighing 30,000 pounds with 6,000 pounds on its steering axle and 24,000 pounds on its drive axle. Heavy loads can add strain and advance the structural weakening of the bridge. The load rating of the bridge would be reduced over time as a result of continued deterioration.

The bridge has been determined to be seismically deficient because it is susceptible to damage or collapse due to a seismic event. It has been found that the internal split ring, toothed ring, and claw plate shear connectors are in a state of distress. The integrity of these types of shear connections is critical to their load transfer ability. If key structural

connections or components are compromised, then the bridge could fail during a seismic event or under heavy cyclical loads.

The bridge is also vulnerable to damage from tsunamis, storm surges, and sea level rise due to the closely spaced bridge supports, which have the potential to catch incoming or outgoing debris that could damage the bridge.

Deck, Timber Railing, and Roadway

The deck condition (National Bridge Inventory [NBI] 58) is rated as "Fair" based on the rot and decay present along the ends of the deck planks and the associated rail connection capacity. The timber bridge rail is rated as substandard due to the material type, which does not meet current bridge rail standards.

Large areas of rotted and decayed timber deck planks have been identified along the edge of the deck on both sides throughout the length of the structure. The rot was typically present in the area beneath the deck drains and extended approximately 18 to 24 inches into the deck on both layers of deck planks. The exact amount of decay (linear footage) has not been measured but is estimated conservatively at 15 to 20 percent of the total length of the deck (Caltrans 2022a). The decay and corrosion in the deck and timber railing are anticipated to continue at an increased rate over time.

The structural requirements and safety standards for bridge railings are provided in the American Association of State Highway and Transportation Officials (AASHTO) Bridge Design Specifications (AASHTO 2022) and the Caltrans Highway Design Manual (Caltrans 2022a). Per the December 2016 Memorandum for the Implementation of the Manual for Assessing Safety Hardware (MASH) (Caltrans 2016), the timber bridge rails do not meet current MASH safety standards and are not capable of resisting current vehicle impact loading requirements.

Superstructure and Substructure

The superstructure (e.g., steel truss) condition (NBI 59) is rated "Poor" due to corroded timber connection hardware, including claw plates and anchor bolts; multiple split or fractured timber scabs; and deterioration of timber preservative treatment and associated widespread checking of almost all of the timber elements.

The substructure (e.g., timber columns) condition (NBI 60) is rated "Poor" due to the widespread checking of the timber columns, decay potential due to the preservative treatment's diminished effectiveness, distressed timber scab connections, and the assumed corroded condition of the split ring, toothed ring, and claw plate connectors, the majority of which were not visible for inspection.

The decay and corrosion in the superstructure and substructure components are anticipated to continue at an increased rate over time. Additionally, the ongoing deterioration of the preservative-treated timbers has resulted in leaching of heavy metal contaminants to the environment.

Maintenance Requirements

The materials and design, harsh coastal environment, and age and overall condition of the bridge necessitate frequent inspection, maintenance, and repair activities, which involve permitting, acquisition of temporary construction easements from private property owners, and traffic delays associated with maintenance activities. Maintenance obligations to address documented decay and corrosion in the superstructure and substructure components are anticipated to increase over time.

Most recently, the Bridge Inspection Records Information System (BIRIS) report identified the following work recommendations:

- Remove the rotted and decaying portions of the deck located along the edge of deck on both sides of the bridge. Large areas of rotted timber deck [were] encountered along the outermost 24 inches of the bridge deck, particularly in the areas underneath the deck drains. The entire deck may have to be removed and replaced due to the configuration of the timber deck planks.

- Epoxy inject the voids due to insect infestation at the east timber scab at Column 4 of Bent 18, Column 4 of Bent 23, and at the east timber scab at Column 2 at Bent 24. The void at the east timber scab at Column 4 of Bent 18 measures 4 inches high by 2 inches wide by 3.5 inches deep, the void at Column 4 of Bent 23 measures approximately 12 inches high by 8 inches wide by 4 inches deep, and the void at the east timber scab at Column 2 of Bent 24 measures 10 inches high by 2 inches wide by 3.5 inches deep.

- Remove and replace the bolted connections and hardware (threaded rods, malleys, nuts, splice plates/straps, etc.) throughout the entire timber substructure. Replace the top left horizontal timber element between Bent 15 and Bent 16.

- This bridge has been recommended for seismic retrofit by the screening of the Office of Earthquake Engineering. Steel truss members may require strengthening.

- Replace the steel main span or replace the entire structure.

The above work recommendations are in addition to an anticipated ongoing preventative maintenance program established by Caltrans, which includes:

- Painting the steel truss and bridge rails approximately every 5 years.

- Implementation of a routine bolt replacement program and close monitoring of the bridge connections. For example, in winter 2016/2017, approximately 705 bolts were replaced in the timber towers, and in 2021, approximately 1,121 bolts were repaired or replaced.

- Removal and replacement of rotted timbers, and use of epoxy injections to mitigate insect infestation and repair cracked timbers.
- Repair of concrete spalling, or moisture-induced flaking, on the concrete towers.
- Periodic AC overlay repair on the bridge deck.

1.4.4 Independent Utility and Logical Termini

FHWA regulations (23 CFR 771.111[f]) require a project to:

1. Connect logical termini and be of sufficient length to address environmental matters on a broad scope;
2. Have independent utility or independent significance, i.e., be usable and be a reasonable expenditure even if no additional transportation improvements in the area are made; and
3. Not restrict consideration of alternatives for other reasonably foreseeable transportation improvements.

Independent utility is a term used to describe a project that is both usable and a reasonable expenditure, even if no additional transportation improvements are made in the area. A logical terminus describes the logical beginning or end for an improvement project, including the beginning or end of its potential effects. A problem of segmentation may arise if a transportation need extends throughout an entire corridor, but environmental issues and transportation need are discussed for only a segment of the corridor.

Logical Termini: The proposed project would replace an existing bridge located on an existing highway. The proposed project possesses logical termini because it focuses on a replacement of the existing bridge, and the boundaries are limited to the bridge, associated roadway work, and staging areas. The project has rational end points for transportation improvement and rational end points for a review of the environmental impacts.

Independent Utility: The proposed project would be functionally independent and would not restrict consideration of, nor depend on, other reasonably foreseeable transportation improvements in order to meet the stated purpose and need. The bridge design would not impede other potential transportation projects in the area.

Based on the scope, the proposed project would have logical termini and independent utility as it would maintain the connection between the north and south sides of the community of Albion for residents, regional users of SR 1, and tourists to the Mendocino Coast. There are no other improvements being considered in the area, and it would not require other improvements. This project is not anticipated to restrict consideration of alternatives for reasonably foreseeable transportation improvements.

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Chapter 2 Project Alternatives

2.1 PROJECT DESCRIPTION

This section describes the proposed action and the project alternatives developed to meet the purpose and need of the proposed project while avoiding or minimizing environmental impacts.

The proposed project is located in Mendocino County along State Route (SR) 1, approximately 3 miles north of the SR 128 junction and approximately 15 miles south of Fort Bragg. The total length of the proposed project is approximately 1 mile, from post mile (PM) 43.3 to PM 44.2.

Within the limits of the proposed project, SR 1 is an undivided highway with two 11- to 12-foot-wide travel lanes and up to 4-foot-wide, non-standard shoulders. The Albion River Bridge, which was built in 1944, is a 34-span timber truss bridge with a timber 2-ply plank deck. The bridge is 969 feet long with a total width of 28.5 feet and a deck width of 26 feet.

The purpose of the proposed project is to provide a bridge across the Albion River on SR 1 that meets modern seismic safety standards, provides safe and reliable multimodal access, and minimizes ongoing maintenance costs.

The alternatives currently under consideration include three Build Alternatives—Alternative 1 (West Alignment; Design Options 1A and 1B]) Alternative 2 (East Alignment; Design Options 2A and 2B), and Alternative 3 (On-Alignment; Design Option 3A)—and a No-Build (No-Action) Alternative. Figure 2 below shows the approximate alignments of each design option.

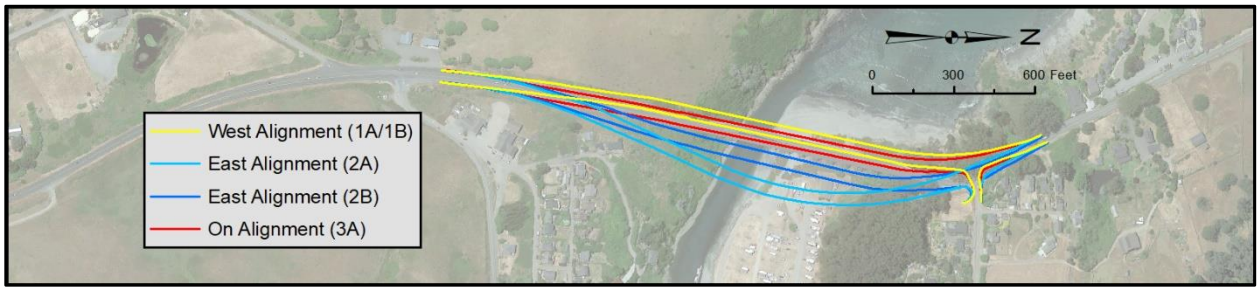


Figure 2. Project Alternative Overview by Design Option

Figure 3 depicts the Environmental Study Limits (ESL) for the proposed project. The ESL is the anticipated boundary of potential impacts; it is larger than the project footprint (the area anticipated to be directly impacted by the project) to accommodate potential scope changes, including refinements in design.



Figure 3. Environmental Study Limits.

2.2 PROJECT ALTERNATIVES

A reasonable range of alternatives was selected based on the proposed project's purpose and need described in Chapter 1, *Proposed Project.* When selecting the Build Alternatives to be evaluated, consideration was given to having the same or similar alignment as the existing Albion River Bridge (existing bridge), avoidance or minimization of impacts on the human and biological environment, and construction cost.

A screening process was conducted to determine Build Alternatives and design options to be carried forward for environmental review, which is further described in Section 2.4, *Alternatives Considered but Eliminated from Further Discussion*.

All proposed Build Alternatives are described in equal detail below. A preferred alternative for the proposed project will not be identified until after the proposed project's Draft EIR/EIS has been circulated and public and agency comments have been considered.

The proposed project contains a number of standard project measures which are employed 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 identified in Section 2.2.5, *Common Design Features of the Build Alternatives*, and addressed in more detail in the Environmental Consequences sections found in Chapter 3.

2.2.1 No-Build (No-Action) Alternative

Under the No-Build Alternative, the proposed project would not occur, and the existing bridge would remain in its current condition. The bridge would continue to deteriorate and become increasingly susceptible to damage or failure due to the marine environment, a seismic event, heavy cyclical loads, or a tsunami. Given the condition of the existing bridge, extensive recurring maintenance and structural improvement projects to maintain the bridge are being implemented currently or are anticipated. Decay and corrosion are expected to continue at an increased rate over time. It is expected that eventual bridge replacement would be necessary; however, future improvement projects are not included or evaluated as part of the No-Build Alternative. The No-Build Alternative does not meet the proposed project's purpose and need.

2.2.2 Alternative 1: West Alignment

Alternative 1 would construct a replacement bridge approximately 60 feet west of the existing bridge centerline. The existing bridge would be removed after construction of the replacement bridge. The replacement bridge deck would be approximately 47 feet wide with two 12-foot-wide travel lanes, 6-foot-wide shoulders, and a 6-foot-wide, separated pedestrian walkway on the west side. Two design options are being considered for Alternative 1:

- Design Option 1A: Four-span segmental box girder bridge (Figure 4 and Figure 5)
- Design Option 1B: Spandrel arch with box girder approaches (Figure 6 and Figure 7)

Alternative 1 would also widen roadway shoulders on SR 1, lengthen the left turn lane on SR 1 south of Spring Grove Road, realign Albion River North Side Road, and reconstruct the SR 1/Albion Little River Road intersection within the ESL.

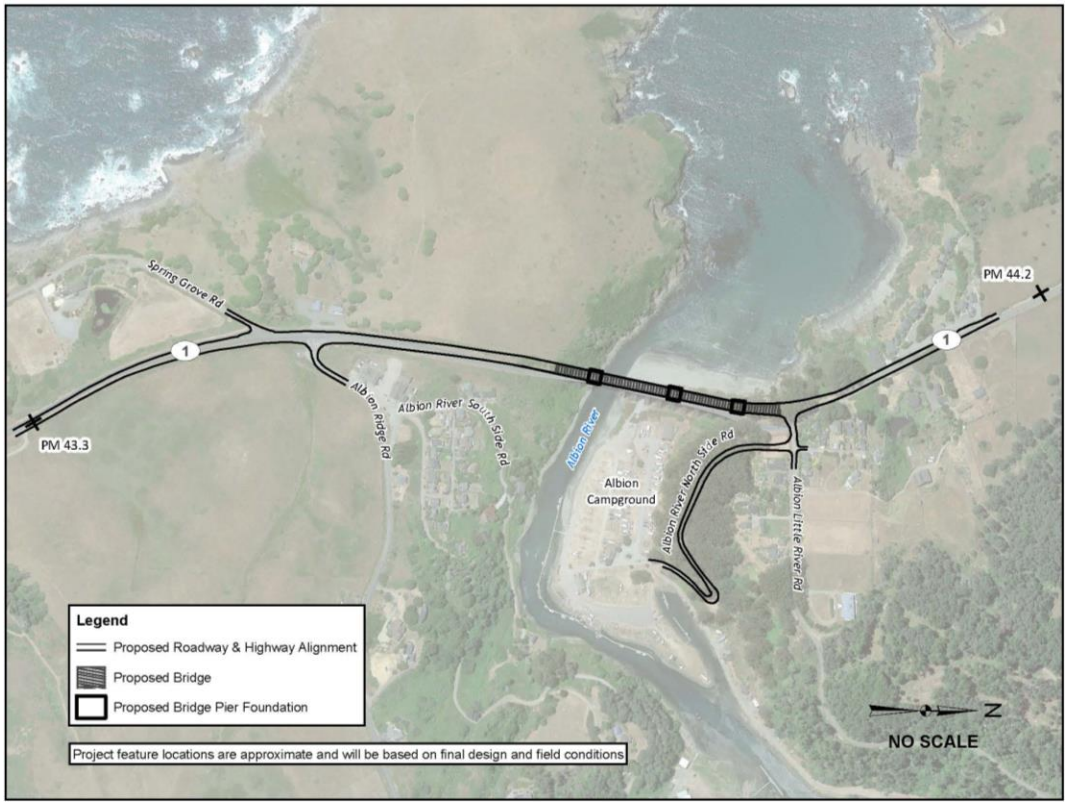


Figure 4. Design Option 1A Map



Figure 5. Design Option 1A Visual Simulation

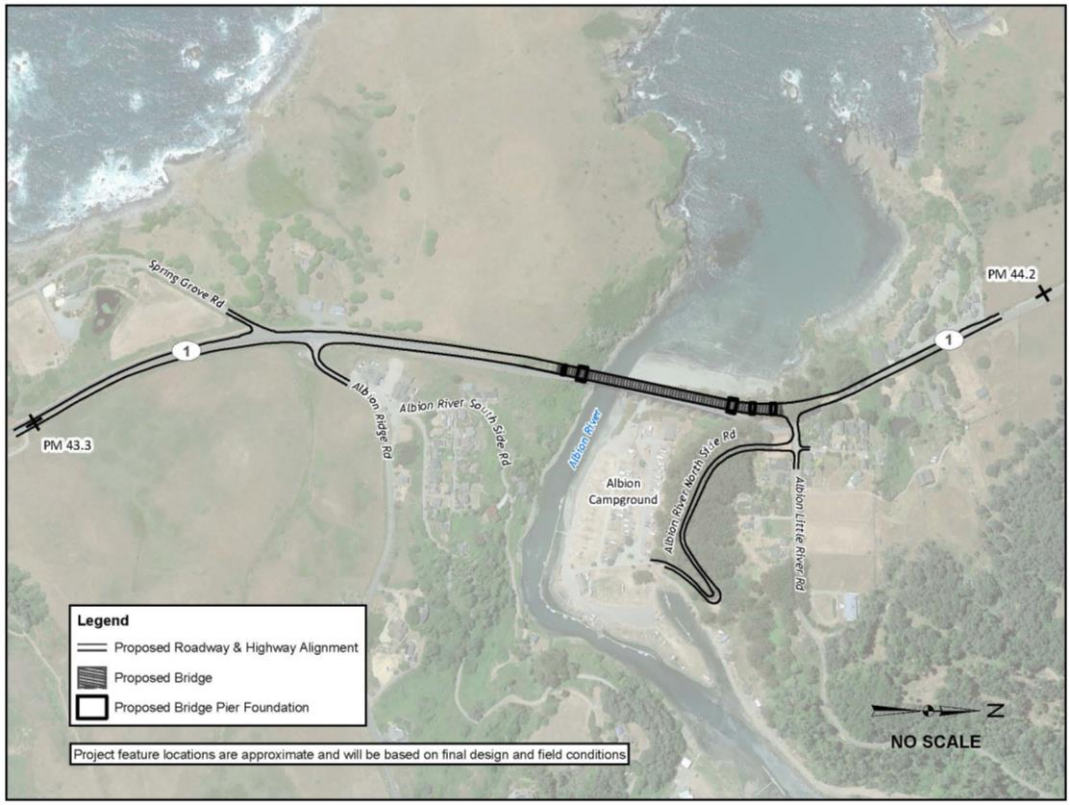


Figure 6. Design Option 1B Map



Figure 7. Design Option 1B Visual Simulation

2.2.3 Alternative 2: East Alignment

Alternative 2 would construct a replacement bridge up to 190 feet east of the existing bridge centerline. The existing bridge would be removed after construction of the replacement bridge. The replacement bridge deck would be approximately 47 feet wide with two 12-foot-wide travel lanes, 6-foot-wide shoulders, and a 6-foot-wide, separated pedestrian walkway on the west side. Two design options are being considered for Alternative 2:

- Design Option 2A: Three-span segmental box girder bridge (Figure 8 and Figure 9)
- Design Option 2B: Spandrel arch with box girder approaches (Figure 10 and Figure 11)

Alternative 2 would also widen roadway shoulders on SR 1, lengthen the left turn lane on SR 1 south of Spring Grove Road, realign Albion River North Side Road, and reconstruct the SR 1/Albion Little River Road intersection within the ESL.

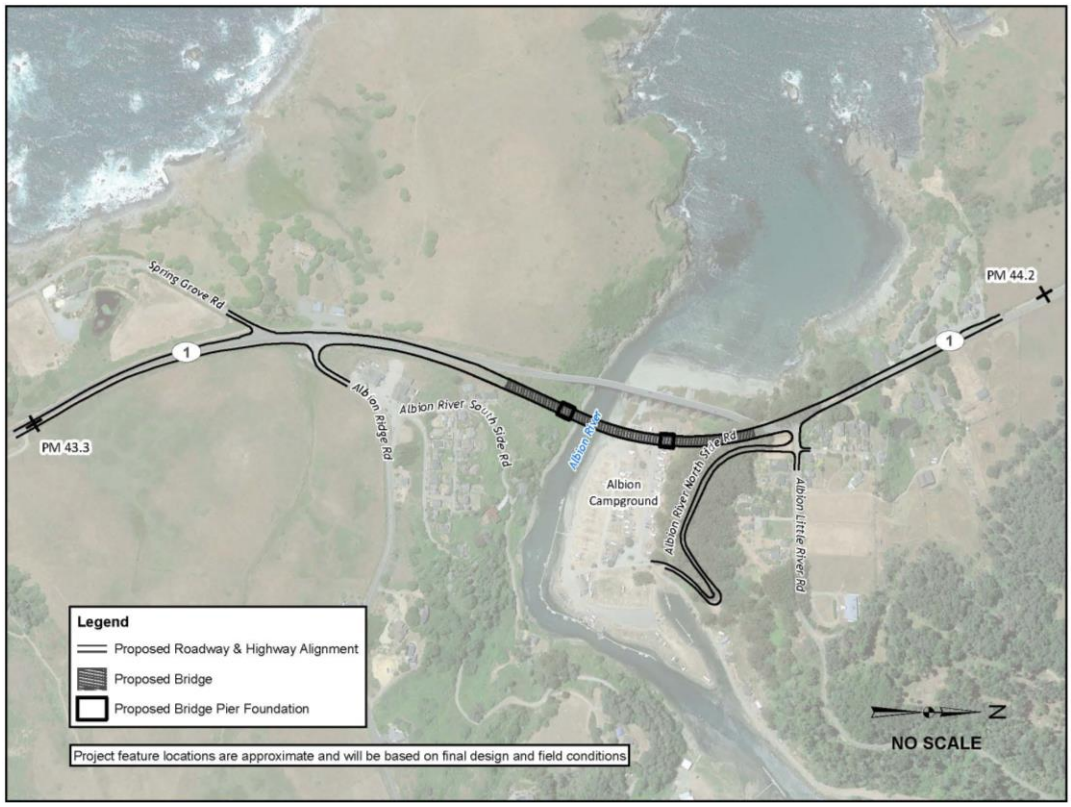


Figure 8. Design Option 2A Map



Figure 9. Design Option 2A Visual Simulation

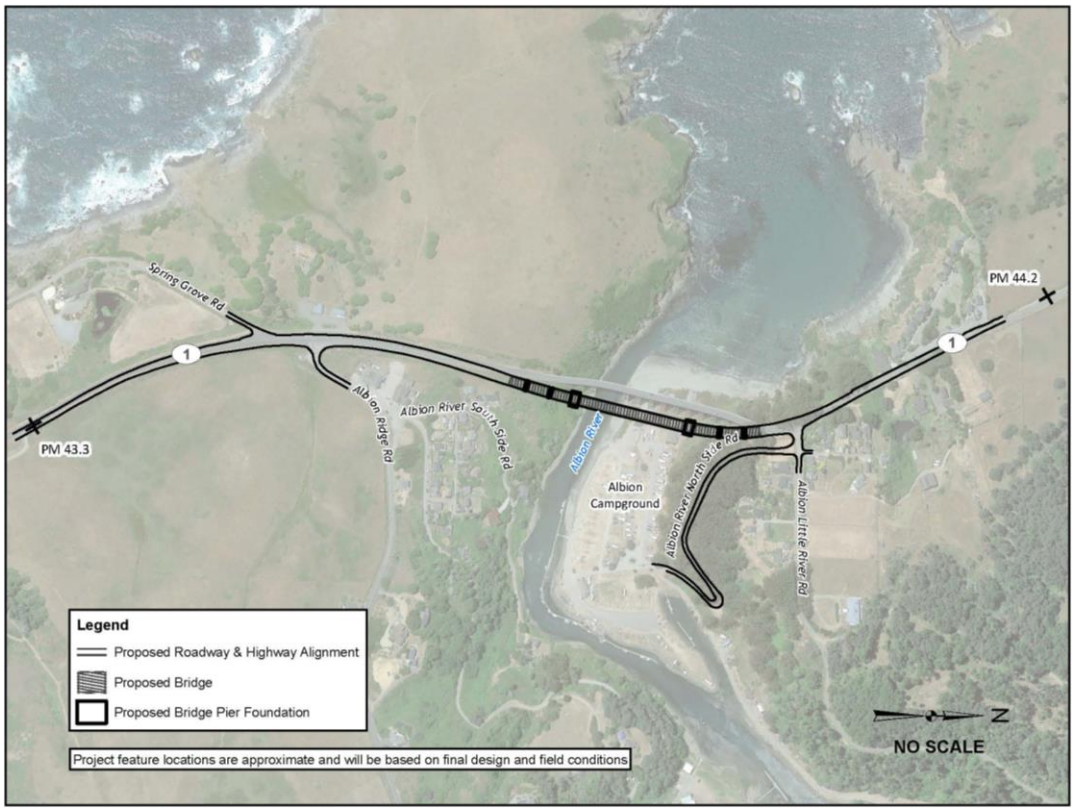


Figure 10. Design Option 2B Map



Figure 11. Design Option 2B Visual Simulation

2.2.4 Alternative 3: On-Alignment (Half-Width)

Alternative 3 would construct a replacement bridge approximately 16 to 46 feet west of the existing bridge centerline. The replacement bridge would be constructed in two stages. In Stage 1, the western half of the replacement bridge would be built immediately west of the existing bridge while traffic is carried on the existing bridge. In Stage 2, the existing bridge would be removed, and the remainder of the new structure would be constructed in its place. Stage 2 traffic would be carried on the western half of the replacement bridge. The replacement bridge deck would be approximately 47 feet wide with two 12-foot-wide travel lanes, 6-foot-wide shoulders, and a 6-foot-wide, separated pedestrian walkway on the west side. One design option is being considered for Alternative 3:

- Design Option 3A: Four-span box girder bridge (Figure 12 and Figure 13)

Alternative 3 would also widen roadway shoulders on SR 1, lengthen the left turn lane on SR 1 south of Spring Grove Road, realign Albion River North Side Road, and reconstruct the SR 1/Albion Little River Road intersection within the ESL.

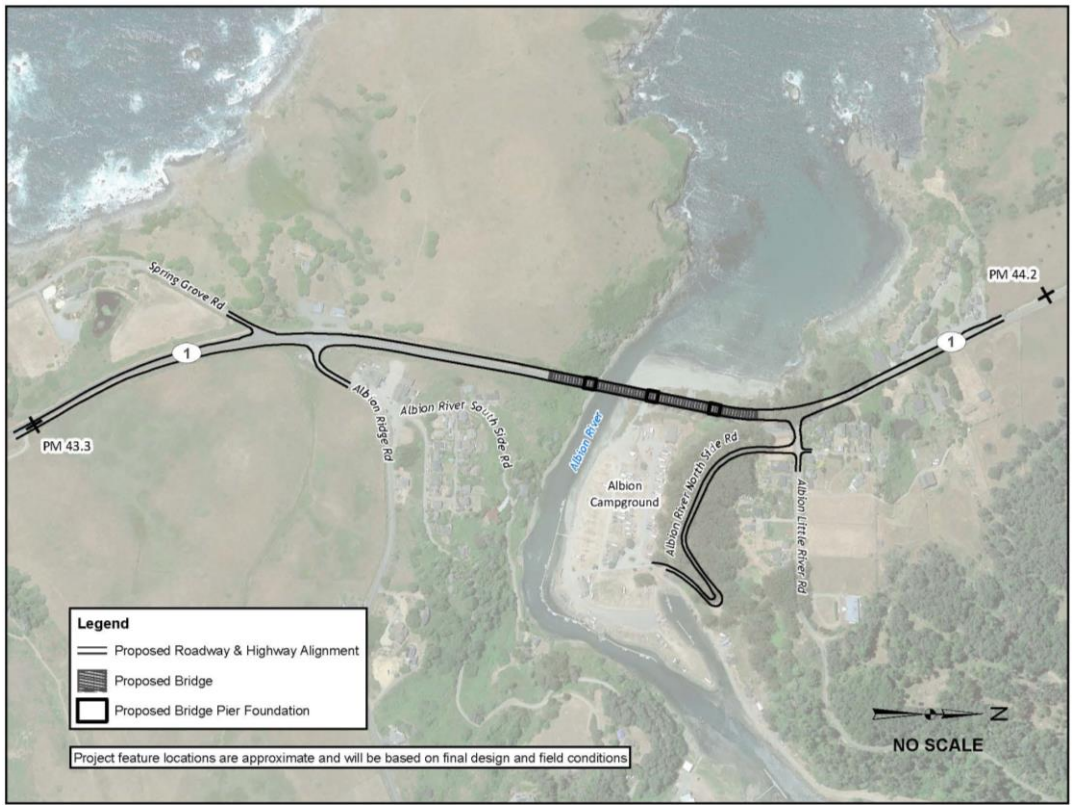


Figure 12. Design Option 3A Map



Figure 13. Design Option 3A Visual Simulation

2.2.5 Common Design Features of the Build Alternatives

Bridge Travel Lanes, Shoulders, and Barrier Rail

The existing bridge has an operating width of approximately 28.5 feet, which includes two 12-foot-wide travel lanes, 1-foot-wide shoulders, and external barrier rails. Caltrans' *Highway Design Manual* (HDM) and *Design Information Bulletin #79-04* identify standard minimum widths for roadway shoulders as 4 feet and for bridge shoulders as 6 feet.

Under all Build Alternatives, the replacement bridge would have an operating width of approximately 47 feet, which includes two 12-foot-wide travel lanes, 6-foot-wide shoulders to conform with both the Local Coastal Plan (LCP) and HDM, 42" tall external steel ST-75 barrier rails consisting of three horizontal bars and a top rail, meeting the latest *Manual for Assessing Safety Hardware* (MASH) requirements, and a 6-foot-wide, separated pedestrian walkway with a barrier on the west side (Figure 14).

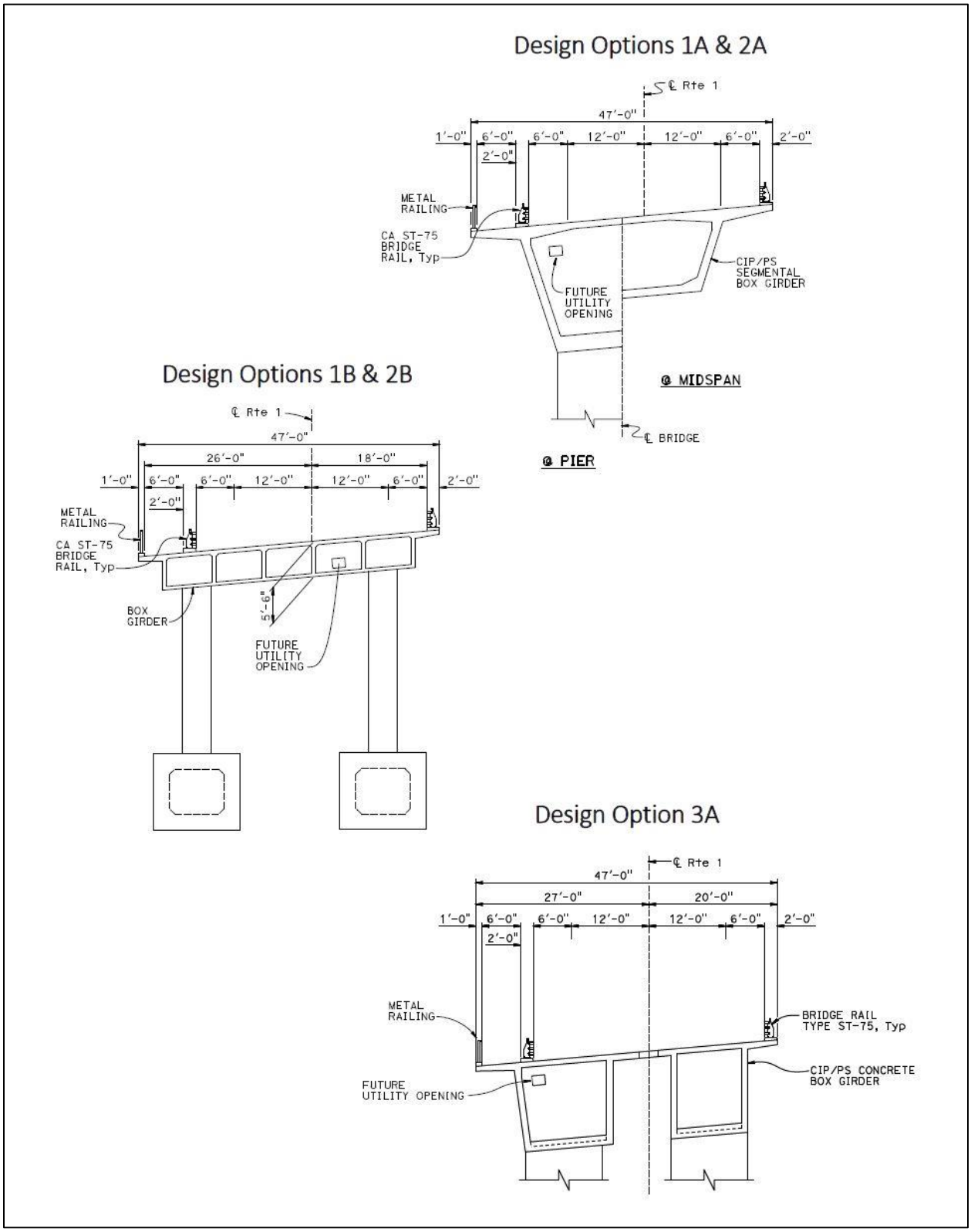


Figure 14. Bridge Typical Sections for All Design Options

Roadway Features and Retaining Walls

Existing roadway shoulders within the ESL vary from approximately zero to 4 feet wide.

All Build Alternatives would widen the roadway shoulders on SR 1 to approximately 4 feet wide within the project limits and would transition to approximately 6 feet wide on the bridge and its approaches. The southbound and northbound roadway approaches would be constructed to meet the horizontal and vertical alignment of the new bridge structure. This would involve installing retaining walls at the bridge abutments, which would facilitate access to the work areas and minimize the project footprint. The retaining wall heights, which are based on preliminary design, would vary for each Build Alternative and are further discussed in Section 2.2.6, *Unique Features of Build Alternatives*.

The Build Alternatives would also increase the radius of the horizontal curve immediately north of the existing bridge to improve the roadway alignment, which will allow for more consistent speeds and provide better sight distance.

The Build Alternatives would improve local connector roads and intersections within the ESL, including the following:

- Lengthen the existing two-way left turn lane on SR 1, at PM 43.50, south of Spring Grove Road from approximately 100 feet to 435 feet to allow turning vehicles to decelerate outside of the through lane
- Realign Albion River North Side Road to intersect Albion Little River Road east of SR 1 to improve intersection operation and sight distance
- Reconstruct the Albion Little River Road intersection with SR 1 to conform with the new SR 1 alignment and profile

Permanent Stormwater Treatment and Drainage Improvements

Design Best Management Practices (BMPs) would be implemented as part of the proposed project and may include the following:

- Erosion control fabric or netting and hydroseeding to stabilize newly graded slopes
- Climate-appropriate landscaping that reduces the need for irrigation and runoff, promotes surface infiltration, and limits the use of pesticides and fertilizers, in accordance with the statewide *Model Water Efficiency Landscape Ordinance* (Title 24, Part 11, Chapters 4 and 5 of CalGreen Building Code)

Post-construction stormwater treatment controls are anticipated, as the proposed project is anticipated to create more than 5,000 square feet of new or replaced impervious surface and treatment would be required as a condition of the Section 401 Water Quality Certification. The treatment controls would address potential stormwater impacts after construction is complete by reducing pollutant loads in runoff prior to reaching a downstream receiving water. The treatment controls would be located and

sized in accordance with permit requirements, prioritizing treatment types that infiltrate and/or evapotranspire the stormwater runoff. The design details and calculations for post-construction stormwater treatment controls would be developed after a preferred alternative is selected.

Currently, stormwater discharges off the bridge via bridge rail posts and over the sides of the bridge via sheet flow. Where feasible, the Build Alternatives would capture and route stormwater from the bridge deck and separated pedestrian walkway through a drainage system (e.g., deck drains that run to pipes within the superstructure) to the abutments and discharge to biofiltration features (e.g., biofiltration swales in which pollutants are removed by filtration through vegetation). The specific stormwater treatment types and locations would be determined once the bridge, roadway, and drainage system design elements are completed prior to construction.

There are culverts along SR 1 within the project area, ranging in size from 12 to 24 inches in diameter. The proposed project anticipates the following culvert work:

- PM 43.36: Replace with an upsized culvert and extend on either end.
- PM 43.73: Potentially remove and replace the culvert on the new alignment, which may result in the culvert being located at a different PM.
- PM 44.03: Replace with an upsized culvert and extend upstream by approximately 3 feet. To limit the culvert's length and associated impacts on the adjacent intermittent stream/wetland, the embankment slope on the east side of the road would be steepened, and a small retaining wall (headwall) would be constructed to hold the embankment fill.
- PM 44.11: Potentially remove and replace existing culvert.
- PM 44.15: Potentially remove and replace two existing culverts.

Non-Motorized and Pedestrian Facilities

The Build Alternatives would include non-motorized and pedestrian facilities in accordance with *Caltrans' Complete Streets – Director's Policy* (DP) *37* and consistent with the public access and public recreation policies in Chapter 3 of the California Coastal Act as well as the Coastal Element of the Mendocino County General Plan (County of Mendocino 2021).

DP 37 establishes a policy within the State Highway System that recognizes bicycle, pedestrian, and transit modes as integral elements of the transportation system. This policy document defines the term "Complete Streets" as, "a transportation facility that is planned, designed, constructed, operated, and maintained to provide comfortable and convenient mobility, and improve accessibility and connectivity to essential community destinations for all users, regardless of whether they are travelling as pedestrians, bicyclists, public transportation riders, or drivers." The intent is to ensure travelers of all ages and abilities can move along a network of Complete Streets safely and efficiently.

The proposed widening of the shoulders on the roadway and bridge, as described above in the *Roadway Features and Retaining Walls* section, would accommodate multi-modal users and disabled vehicles.

The proposed separated pedestrian walkway on the new structure's west side would accommodate pedestrians and allow for a future connection to the California Coastal Trail.

Utilities

Existing overhead telecom lines run parallel to the existing bridge approximately 20 feet from the bridge's eastern railing. Poles for these utility lines are located on the hillsides near each of the existing bridge's abutments. These utility lines would be relocated temporarily during construction, as needed, and would be relocated permanently to conduits on the new bridge superstructure (Figure 14). Buried ducts from the nearest utility pole would be installed to carry the utilities safely to the opening in the new bridge abutments and superstructure. The ducts would be installed during bridge construction and the utilities would be pulled through the ducts after bridge construction is complete. If necessary to facilitate construction activities, aboveground and underground utilities, including the utility poles and lines along Albion River South Side Road and Albion River North Side Road, may need to be relocated temporarily or permanently to allow for equipment to access the proposed project.

Final approval of utility relocations would depend on agreements between Caltrans and utility providers. There would be no change in the services provided to customers following proposed project construction. However, there could be short-term, minor disruptions during construction. All utility work would be handled by the utility companies involved.

Construction work would generally occur between 7:00 a.m. and 7:00 p.m., with limited activities outside these hours subject to advanced notification to interested parties. Temporary lighting would be provided, as necessary, by mobile light towers.

Water would be required during bridge construction and bridge removal for dust control, earthwork, concrete placement and curing, and various other construction activities. While daily water usage would fluctuate depending on the ambient temperature, soil conditions, and type of work activities occurring, it is anticipated that the proposed project would use up to approximately 16,000 gallons of water per day. Water would likely be supplied by on-site construction dewatering operations, local fire hydrants, and/or water use agreements with a local water district, mutual water company, business, and/or residence.

Shoring

The existing bridge spans a relatively narrow canyon with steep slopes that extend up to relatively flat coastal terraces. In order to create equipment and worker access from the terraces down the steep embankment walls to the bridge foundations, shoring (e.g., using steel sheet piles, soldier piles,[6] or soil nail walls) would be used to stabilize excavation along the embankments. Shoring would also be used around the existing timber tower foundations and around the new bridge foundations, as necessary, to stabilize the area around the foundations where the ground surface is steep and where surface water or groundwater are anticipated (i.e., within or near the Albion River) during construction of the replacement bridge and removal of the existing bridge.

As an example, shoring the steep embankment slopes to construct new bridge foundations could involve soil nail walls that would generally be constructed as follows:

1. Create a 20-foot-wide, 5-foot-deep notch into the existing embankment to create space for a track-mounted drill rig.
2. Drill into the soil where the steel reinforcement bars ("soil nails") would be placed.
3. Insert soil nails into the drilled holes.
4. Grout the soil nail anchors.
5. Place a layer of shotcrete and steel reinforcement (e.g., wire mesh or rebar) as a facing material.
6. Install soil nail head plates.

This process would be repeated in 5-foot lifts to the base of the excavation, with approximately three to six soil nails being installed per day. Where soil nail walls or other shoring is retained as a permanent feature, backfill and revegetation or context-sensitive architectural treatment would be used to blend with the natural environment.

Where shoring is intended for use as a hydraulic barrier between a bridge foundation and surface/ground water (e.g., cofferdams), the work zone within the shored area would be dewatered to facilitate bridge construction or bridge removal. Where necessary, a hydraulic barrier (seal course) consisting of concrete would be poured into the bottom of the shored area to facilitate dewatering. Prior to dewatering, a Construction Site Dewatering Plan would be developed describing dewatering operations, which would be reviewed and approved by Caltrans and permitting agencies. Dewatering would generally involve containment and possibly pre-treatment by pumping water through flexible pipes and hoses to a storage location upland at the Albion River Campground and Marina (Albion Campground) (e.g., baker tanks, temporary infiltration basin) where the water could be treated, if necessary, and land applied, subject to regulatory permit conditions. During shoring installation in and near

[6] Steel sheet piles are long corrugated sheets of metal, approximately 2 feet thick, with a vertical interlocking system that create a continuous wall, and soldier piles are H-shaped steel beams or piles drilled or driven vertically into the ground.

the Albion River, BMPs would be utilized to prevent the spread of silt into the water and attenuate noise (e.g., silt curtain and bubble curtain).

Excavated material from shored areas would be used within the proposed project as fill, to the extent possible, or removed and properly disposed of off-site.

Construction of Replacement Bridge and Removal of Existing Bridge

Equipment

Typical equipment that would be used for construction of the replacement bridge and removal of the existing bridge includes excavators, backhoes, dozers, loaders, compactors, pavers, cranes, hoe rams, pile drivers, vibratory hammers, hard rock tools (e.g., core barrels and cluster hammers), portable generators, boom trucks, hauling and dump trucks, concrete trucks, manlifts, saws, pumps, jackhammers, site trailers, storage boxes, and mobile filtration boxes (e.g., baker tanks). All equipment would potentially use attachments to complete the work (e.g., excavator with a hydraulic telescoping boom and chipping attachment for clearing vegetation).

Vegetation Removal and Work Zone Establishment

Vegetation removal and work zone establishment would include installation of fencing for Environmentally Sensitive Areas (ESA), tree removal, and clearing and grubbing of vegetation to facilitate access to the Albion Campground, to the north and south bridge abutments, to existing and new bridge piers, and within the staging areas. Vegetation would generally be removed in two stages:

1. Vegetation removal would be accomplished using a combination of methods, including handheld chainsaws and mechanized equipment (e.g., excavator with a hydraulic telescoping boom and chipping attachment). These methods would allow for trees and shrubs to be removed to the ground surface, while leaving the root ball in place with minimal ground disturbance.

2. Subsequent grubbing of the cleared area for unimpeded equipment access and staging would be performed. Areas that have been cleared may not be subsequently grubbed if the remaining vegetation/root ball would not interfere with construction activities. The extent of the vegetation impacts is identified in Section 3.4, *Biological Resources*.

Vegetation removal would be limited to only the amount necessary to facilitate the construction work. Vegetation that is removed or disturbed due to construction would be replaced consistent with Caltrans' *Project Development Procedures Manual, Chapter 29 Landscape Architecture, Section 2, Highway Planting Revegetation*, to the extent practicable.

Traffic Control and Detours

Each component of the construction work would be staged to minimize the disruption to traffic. Traffic control would include reversing traffic control, as well as occasional intermittent closures and an extended overnight closure. Traffic would be facilitated either by flagging or a temporary signal system.

Reversing traffic control involves alternately stopping traffic in one direction and allowing work activities to occur in the closed lane. Typically, reversing traffic control causes delays of up to 15 minutes, though times may be shorter depending on the method used (i.e., flagging or a temporary signal system).

Intermittent closures are short-duration road closures that would occur as needed. These would be during activities such temporary signal system installation, temporary rail placement, and when moving materials and equipment across the existing and/or replacement bridge. During intermittent closures, traffic would be queued along the roadway approaches. Delays are anticipated to be up to 30 minutes.

One extended 10-hour closure, from approximately 8 p.m. to 6 a.m., is anticipated for the project. This closure would precede the traffic switch from the existing bridge to the replacement bridge. Message boards and/or other messaging systems would be used to inform the public a minimum of 7 days in advance in order for the public to plan appropriately to avoid traveling through the area. Traffic would have the option of using state routes to detour around the closure (Figure 15) or may elect to use other routes to cross the Albion River, which are not on the state highway system, at their discretion.

Bicyclists and pedestrians crossing the bridge would be accommodated through work areas. Access to businesses along SR 1, side roads, and residence entrances would be maintained. The contractor would coordinate with emergency services and prepare a contingency plan to accommodate emergency services during closures.

See Section 2.2.6, *Unique Features of Build Alternatives*, for more details on traffic control for each alternative.

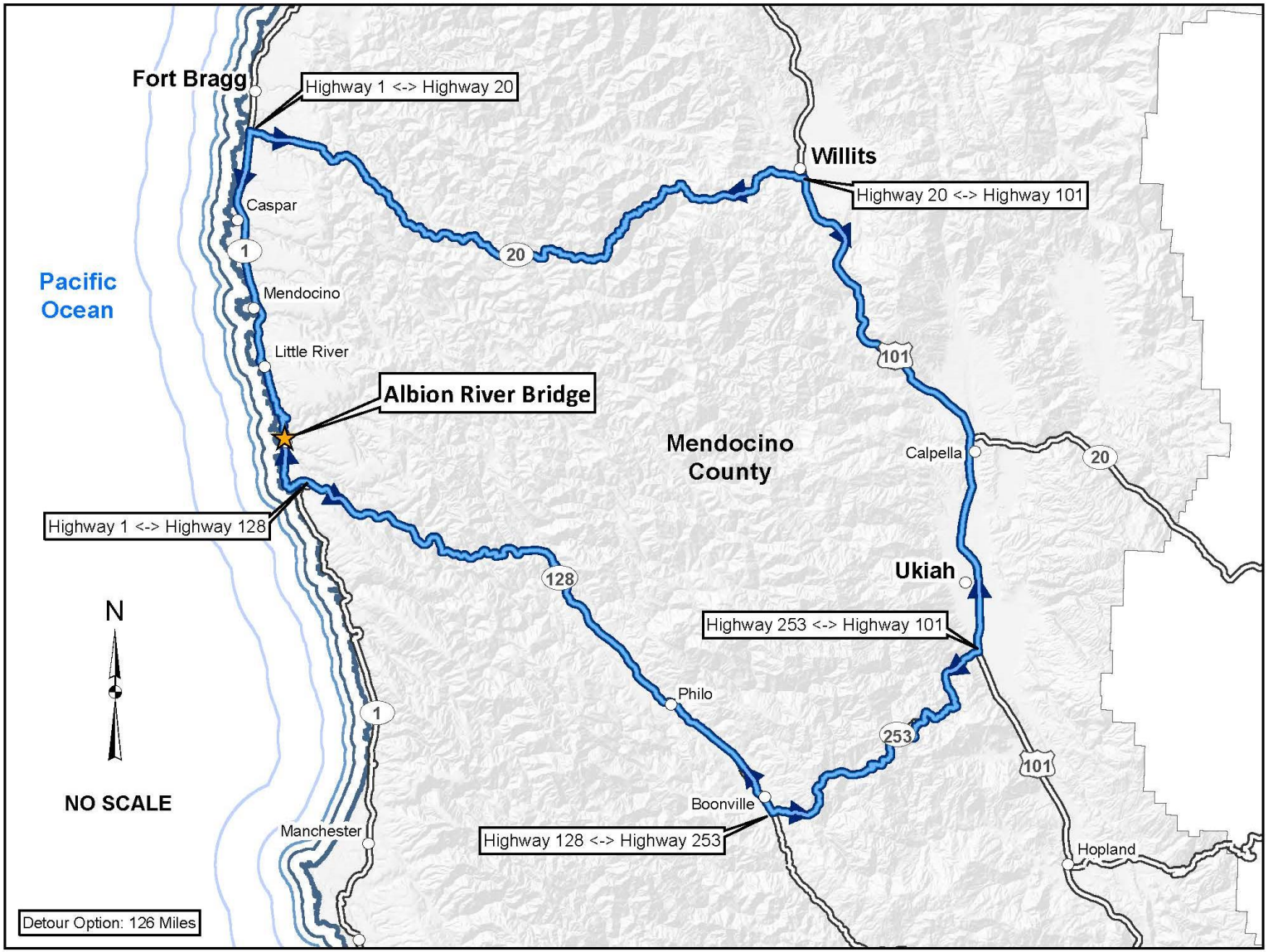


Figure 15. Traffic Detour Route

Access and Staging

All Build Alternatives would use the same access roads and staging areas, which are depicted in Figure 16. Equipment access roads and ramps would be graded and surfaced (e.g., base rock or asphalt) and constructed in the following locations:

- To the north abutment by constructing a temporary roadway and/or temporary trestle off Albion River North Side Road,
- To the east side of the south abutment by constructing a temporary roadway and/or temporary trestle off Albion River South Side Road and to the west side of the south abutment from one of the potential staging areas south of the Albion River and west of SR 1,
- To the Albion Campground from SR 1 along Albion River North Side Road.

Access roads and ramps to the north and south abutments would be restored following completion of the construction work. Improvements to Albion River North Side Road would remain and the road would be relinquished to Mendocino County.

Albion River

Temporary equipment, falsework, and/or bridge removal trestles would be necessary for equipment, materials, and/or construction-worker access to the existing bridge and the replacement bridge. Upland areas outside of the Albion River channel would be needed to prepare the area for temporary trestle installation and temporary trestles in and immediately adjacent to the Albion River would be installed during the in-water work window of June 15 to October 15.

Temporary trestle construction would involve installation of 14- to 24-inch steel H pile or steel pipe pile using pile driving hammers. Noise attenuation measures would be implemented during pile driving. Piles would be driven to a depth of approximately 20 to 30 feet; however, pile depth could be deeper depending on the subsurface materials. Approximately 5 to 10 piles would be installed per trestle bent. Decking and crossbeams (i.e., stringers) would span approximately 30 feet between trestle bents. The temporary trestles would sit parallel to the existing bridge, would span the deepest portion of the Albion River outlet to the Pacific Ocean, and would meet minimum clearance requirements set by the U.S. Coast Guard. Temporary trestles would vary in size, measuring up to approximately 820 feet long and 50 feet wide and, in some cases, would include perpendicular connections between trestles. Trestle installation would also potentially involve construction of an approximately 300-foot-long and 25-foot-wide ramp, oriented east-west, that would allow access from the ground to the trestle deck.

Timber mats designed for equipment movement would be installed to create at-grade equipment decks, where necessary, to protect the ground. Approximately 12,000 square feet of timber mats would be used to enable equipment movement at upland areas outside of the Albion River. Minor leveling and vegetation removal would occur to prepare the area for timber mat placement. Timber mats would be moved out of the tidally influenced area and/or out of the floodplain, as needed, to prevent debris racking.

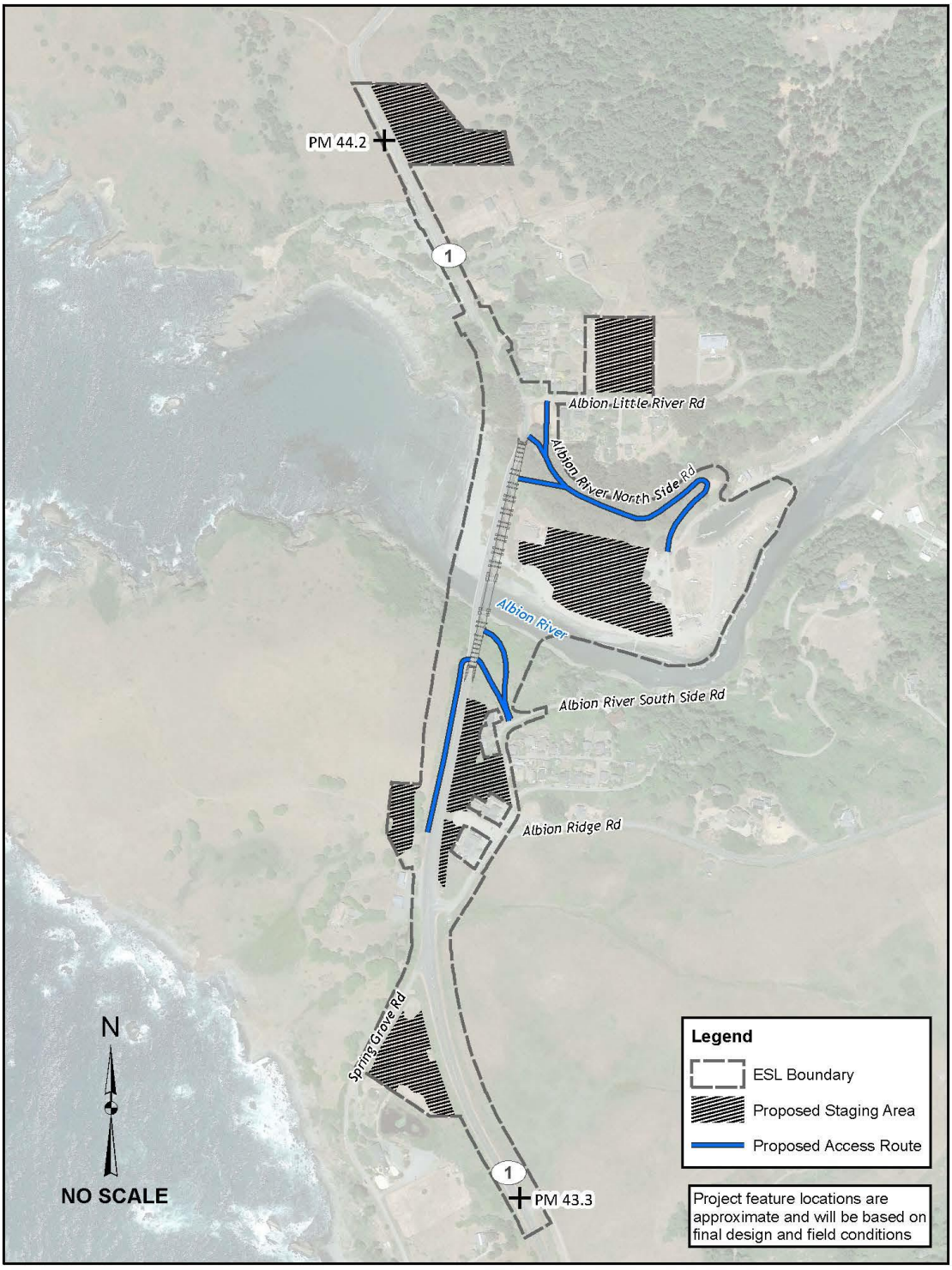


Figure 16. Access Roads and Staging Areas

Filter fabric would be placed under the decking of the trestles to prevent pollutants from being discharged to the Albion River. Trestle decks would be swept periodically and kept free from excess debris in conjunction with a debris catchment system. The temporary trestles would be designed and installed to withstand anticipated site conditions (i.e., debris loading, wind exposure, seasonal high flows, and storm surges) to facilitate year-round use during construction.

The Albion River outlet would remain open, except when closures are necessary to facilitate construction of the replacement bridge and removal of the existing bridge. Outlet closures are currently anticipated to range from approximately 90 to 130 days, depending on the Design Option (See Section 2.2.6, *Unique Features of Build Alternatives*, for more information). Outlet closures may involve a full day of restricted river access where trestles are constructed. The project would coordinate outlet closures in advance with the U.S. Coast Guard Captain of the Port.

Albion River Campground and Marina and Albion Flat Beach

The Albion Campground and Albion Flat Beach are currently accessed either by vehicle from Albion River North Side Road or by watercraft through a relatively narrow outlet from the Pacific Ocean to the Albion River.

Existing vehicle and pedestrian pathways within the Albion Campground provide access to the campsites, adjoining beach, and the dock and marina. The Albion Campground is a gated site, and the campground and beach are privately owned. For visitors, the Albion Campground facilities include full and partial recreation vehicle (RV) hookups, on-site RV rentals, boat launch for vessels and dock berths, convenience store, restrooms, showers, and kayak and canoe rentals.

Pending right of way (ROW) negotiations with the Albion Campground, use of the above-mentioned vehicle and pedestrian paths within the Albion Campground would likely be limited during construction for the safety of construction workers and the public. No visitor access would be permitted to the campsites during construction, as the campsites would be encumbered by construction equipment and materials staging. Additionally, given the safety concerns with pedestrians walking underneath and around an active construction zone, no visitor access to Albion Flat Beach via the Albion Campground would be permitted during construction. Other Albion Campground facilities would remain open to visitors using the existing vehicle access from Albion River North Side Road or by watercraft through the existing outlet.

The Albion Campground includes a manager’s residence, which is a manufactured home located west of the Albion Campground facilities. The Albion Campground is permitted for two campground spaces that can be used for year-round employee housing. All Build Alternatives would require temporarily relocating the manager’s residence and employee housing during construction. For Alternative 2 (East Alignment), permanent acquisition and relocation of the manager’s residence and a portion of underlying property would likely be necessary. The decision regarding whether permanent relocation and/or acquisition would be required would be made during the ROW phase in negotiation with the owners of the Albion Campground. Those

required to permanently relocate are eligible for Relocation Assistance, in accordance with the Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970, as amended, and Caltrans' Relocation Assistance Program. If the manager's residence is temporarily or permanently relocated, a suitable new location would be determined through ROW negotiations with the owners of the Albion Campground. It is assumed that the residence could be relocated within the Albion Campground.

Removal of Existing Bridge Elements and Disposal of Contaminated Materials

All Build Alternatives would remove the existing bridge after the replacement bridge is constructed. Although the precise methods for bridge removal would be determined during final design, the following sequence is anticipated for all Build Alternatives:

1. **Removal of the Steel Truss Section:** Removal of the steel truss section would begin with removal of the bridge railings and curbs, the asphalt concrete roadway surfacing, and the timber decking materials and floor joists above the steel truss section from the existing bridge deck. Once the steel truss is exposed, additional supports would be bolted or welded onto the truss to provide stability to the structure while allowing the removal of segments of the truss that would interfere with the truss lowering using cables, winches, and cranes. Once the truss is lowered, it would be dismantled upland at the Albion Campground and eventually removed off-site for recycling or proper disposal.
2. **Removal of the Timber Structure:** Removal of the timber structure would begin by removing the railings, asphalt surface, decking, and floor joists above each timber span using light equipment from the deck. This process would proceed from the area of the removed steel truss and outward to each abutment. The timber structure on the south side of the Albion River would be dismantled by removing the timber truss sections with the use of a tall crane supported on a temporary trestle. The timber structure on the north side of the river is more accessible due to the flat terrain and ease of access using a tall crane.

   Once the timber truss sections are removed, each tower would be removed in manageable segments down to their concrete foundations. The concrete foundations would be sawcut to a depth of approximately 3 feet below finished grade.
3. **Removal of the Concrete Pier Towers:** The foundation of the existing concrete pier tower on the north shoreline of the Albion River is helping to maintain the form of the beach, including the adjacent vegetated sand berm, and would remain in place. The upper portion of the concrete pier tower on the north shoreline and the entire concrete pier tower on the south shoreline would be removed. The concrete would be demolished with concrete rams and concrete saws; the south shoreline foundation would be sawcut to a depth of approximately 3 feet below finished grade and taken off-site for recycling or proper disposal.

The existing bridge is partially composed of Douglas-fir timbers, which were treated with a wood preservative containing both arsenic oxide and chromic acid. Also, the existing

wooden bridge rails and steel truss were coated with lead-based paint. A preliminary site investigation performed in December 2014 determined that the chemical preservative treatment is leaching and shallow soil immediately adjacent to the bridge foundations have been impacted by contaminants of potential concern consisting of arsenic, chromium, hexavalent chromium, and lead. Although the site investigation determined that no excess human health risk is posed by the contaminants, it did determine that the contaminants present a potential risk to the adjacent Albion River sediment and porewater. Contaminated soil encountered during construction would be properly managed in accordance with local, state, and federal requirements. All removal work would be carried out in a manner to limit exposure of workers and the environment to the contaminants.

Treated timbers would be disposed of in accordance with Standard Specification "Treated Wood Waste", as mentioned in **HW-3** below.

Right of Way Acquisitions

State ROW below the existing bridge is approximately 50 feet on either side of the existing bridge centerline, for a total of 100 feet wide. All Build Alternatives are anticipated to require permanent easements and ROW acquisition of portions of parcels that would be permanently incorporated into the proposed project improvements. The potential ROW that could be needed for each Build Alternative is further described in Section 2.2.6, *Unique Features of Build Alternatives*.

With respect to acquisition of Mendocino County ROW, Caltrans acquires sufficient title to existing public roads under Sections 83 and 233 of the Streets and Highways Code. When project ROW requirements extend into the Mendocino county ROW, that portion of the county ROW becomes state ROW and any newly located county road is relinquished to the County.

Temporary construction easements (TCEs) are areas outside the existing state ROW that would be needed during construction, including construction of the replacement bridge and removal of the existing bridge. TCEs provide space for equipment access roads and ramps, staging areas for construction equipment and materials within the Albion Campground and on private property, and work zones to construct elements of the proposed project. Any land used as a TCE during construction would be returned to an acceptable condition per the terms of the TCE, including site restoration, prior to the return of that land to the original owner after completion of the construction activities. For TCE areas where there are underground facilities, placement of import borrow or base rock may be used to protect underground facilities (i.e., water, sewer, and electrical lines), as necessary.

Design Standards

Caltrans establishes and supports the consistent application of highway design standards to ensure optimal safety for the traveling public and for those who construct, operate, and maintain the State Highway System. Exceptions to these standards are necessary when the proposed design deviates from the standard design features presented in Caltrans' *Highway Design Manual Seventh Edition* (Caltrans 2022a). Chapter 21 of Caltrans' Project Development Procedures Manual (Caltrans 2022b) designates the level of approval authority for exceptions to Boldface and Underlined design standards. Boldface design standards are those considered most essential to achievement of overall design objectives. Underlined design standards are important and allow greater flexibility in application to accommodate design constraints or be compatible with local conditions on resurfacing or rehabilitation projects. After identification of the preferred alternative, Caltrans would prepare and implement the findings from a Final Foundations Report and Final Seismic Design Recommendations, which would include structure design details and identify whether any design elements require exceptions to the Boldface and/or Underlined design standards.

Standard Measures

Each Build Alternative includes standard measures as part of the proposed project description. Standard measures (such as BMPs and measures included in the Standard Plans and Specifications or as Standard Special Provisions [SSPs]) are pre-existing measures that allow little discretion regarding their implementation and are not specific to the circumstances of a particular project. These measures are implemented on most, if not all, Caltrans projects and were not developed in response to any specific environmental impact resulting from the proposed project alternatives. As such, these features are considered elements of the project. While not all-inclusive, common standard measures are described below.

Avoidance, minimization, and mitigation measures specifically prescribed for this project to address potential resource impacts are discussed throughout the document within their relevant sections. These measures are also summarized in Appendix D, *Avoidance, Minimization, and/or Mitigation Summary*.

Aesthetics/Visual Resources

AR-1: Where feasible, guardrail terminals would be buried; otherwise, an appropriate terminal system would be used, if appropriate.

AR-2: Where feasible, construction lighting would be limited to within the area of work. No permanent lighting is proposed for the project.

AR-3: Where feasible, the removal of established trees and vegetation would be minimized, to the extent feasible. Environmentally sensitive areas would have Temporary High Visibility Fencing (THVF) installed before start of construction to demarcate areas where vegetation would be preserved and root systems of trees protected.

Biological Resources

BR-1: General

Before start of work, as required by permit or consultation conditions, a Caltrans biologist or Environmental Construction Liaison (ECL) would meet with the contractor to brief them on environmental permit conditions and requirements relative to each stage of the proposed project, including, but not limited to, work windows, drilling site management, and how to identify and report regulated species within the project areas.

BR-2: Animal Species

A. To protect migratory and nongame birds (occupied nests and eggs), if possible, vegetation removal would be limited to the period outside of the bird breeding season (removal would occur between September 16 and January 31). If vegetation removal is required during the breeding season, a nesting bird survey would be conducted by a qualified biologist within one week prior to vegetation removal. If an active nest is located, the biologist would coordinate with California Department of Fish and Wildlife (CDFW) to establish appropriate species-specific buffer(s) and any monitoring requirements. The buffer would be delineated around each active nest and construction activities would be excluded from these areas until birds have fledged, or the nest is determined to be unoccupied.

B. A Bird Exclusion Plan would be prepared by a qualified biologist prior to construction. Exclusion devices, if used, would be designed so they would not trap or entangle birds or bats. Exclusion devices would be installed outside of the breeding season (September 16 through January 31) to eliminate the re-occupancy of existing structures by migratory bird species that may attempt to nest on the structure during construction. On structures or parts of structures where it is not feasible to install bird exclusion devices, partially constructed and unoccupied nests within the construction area would be removed and disposed of on a regular basis throughout the breeding season (February 1 through September 15 with biologist discretion) to prevent their occupation. Nest removal would be repeated weekly under guidance of a qualified biologist to ensure nests are inactive prior to removal.

C. Pre-construction surveys for active raptor nests within one-quarter mile of the construction area would be conducted by a qualified biologist within one week prior to initiation of construction activities. Areas to be surveyed would be limited to those areas subject to increased disturbance because of construction activities (i.e., areas where existing traffic or human activity is greater than or equal to construction-related disturbance need not be surveyed). If any active raptor nests are identified, appropriate conservation measures (as determined by a qualified biologist) would be

implemented. These measures may include, but are not limited to, establishing a construction-free buffer zone around the active nest site, biological monitoring of the active nest site, and delaying construction activities near the active nest site until the young have fledged.

D. A Bat Exclusion Plan would be prepared by a qualified biologist prior to construction if surveys indicate the presence of day roosting bats. Exclusion devices would be designed so they would not trap or entangle bats or birds. The Bat Exclusion Plan would include guidelines for appropriate date of exclusion and temperature parameters based on bridge type, geographic location, and species present. If overlapping resources are present (e.g., nesting birds), coordination between the Bat Exclusion Plan and any other relevant plans would occur. Measures would be monitored by a qualified biologist.

E. To prevent attracting corvids (birds of the *Corvidae* family, which include jays, crows, and ravens), no trash or foodstuffs would be left or stored on-site. All trash would be deposited in a secure container daily and disposed of at an approved waste facility at least once a week. Also, on-site workers would not attempt to attract or feed any wildlife.

F. Hydroacoustic monitoring would occur during activities such as impact pile driving, hoe-ramming, or jackhammering, which could potentially produce impulsive sound waves that may affect listed fish species. Hydroacoustic monitoring would comply with the terms and conditions of federal and state Endangered Species Act consultations.

   The Hydroacoustic Monitoring Plan would describe the monitoring methodology, frequency of monitoring, positions that hydrophones would be deployed, techniques for gathering and analyzing data, quality control measures, and reporting protocols.

   To reduce potential hydroacoustic impacts to anadromous species due to impact pile driving, a sound-attenuation system may be implemented. The sound attenuation system would be used for piles installed in water by impact hammer. If the sound attenuation system fails, pile driving will stop immediately and will not resume until the system is operational. Types of sound attenuation system include, but are not limited to:

   a) Confined bubble curtain
   b) Unconfined bubble curtain
   c) Isolation casings

G. A qualified biologist would monitor in-stream construction activities that could potentially impact sensitive biological receptors (e.g., amphibians, fish). The biological monitor would be present during activities such as installation and removal of dewatering or diversion systems, bridge demolition, pile-driving and hoe-ramming, and drilling for bridge foundations to ensure adherence to permit conditions. In-water work restrictions would be implemented.

H. An Aquatic Species Relocation Plan, or equivalent, would be prepared by a qualified biologist and include provisions for pre-construction surveys and the appropriate methods or protocols to relocate any species found. If previously unidentified threatened or endangered species are encountered or anticipated incidental take levels are exceeded, work would either be stopped until the species is out of the impact area, or the appropriate regulatory agency would be contacted to establish steps to avoid or minimize potential adverse effects. This Plan may be included as part of the Temporary Creek Diversion System Plan identified in **BR-5**.

I. Artificial night lighting may be required. To reduce potential disturbance to sensitive resources, lighting would be temporary and directed specifically on the portion of the work area actively under construction. Use of artificial lighting would be limited to Division of Occupational Safety and Health (Cal/OSHA) work area lighting requirements.

J. Protocol surveys may be required for Lotis blue butterfly, Behren's silverspot butterfly, bats, and obscure bumble bee during the flight season prior to initiation of proposed project activities. If species are discovered during construction, work would stop in the area of discovery and coordination with the appropriate resource agencies would occur.

K. A Limited Operating Period would be observed, whereby all in-stream work below ordinary high water would be restricted to the period between June 15 and October 15 to protect water quality and vulnerable life stages of sensitive fish and aquatic species.

BR-3: Invasive Species

Invasive non-native species control would be implemented. Measures would include:

- Straw, straw bales, seed, mulch, or other material used for erosion control or landscaping which would be free of noxious weed seed and propagules.

- All equipment would be thoroughly cleaned of all dirt and vegetation prior to entering the job site to prevent importing invasive non-native species. Project personnel would adhere to the latest version of the *California Department of Fish and Wildlife Aquatic Invasive Species Cleaning/Decontamination Protocol (Northern Region)* for all field gear and equipment in contact with water.

BR-4: Plant Species, Sensitive Natural Communities, and Environmentally Sensitive Habitat Areas (ESHA)

A. Seasonally appropriate, pre-construction surveys for sensitive plant species would be completed (or updated) by a qualified biologist prior to construction in accordance with *Protocols for Surveying and Evaluating Impacts to Special Status Native Plant Populations and Natural Communities* (CDFW 2018).

B. A Revegetation Plan would be prepared which would include a plant palette, establishment period, watering regimen, monitoring requirements, and pest control measures. The Revegetation Plan would also address measures for wetland and riparian areas temporarily impacted by the project.

C. Prior to the start of work, THVF and/or flagging would be installed around sensitive natural communities, environmentally sensitive habitat areas, rare plant occurrences, intermittent streams and wetlands and other waters, where appropriate. No work would occur within fenced/flagged areas.

D. Where feasible, the structural root zone would be identified around each large-diameter tree (greater than 2-foot diameter at breast height [DBH]) directly adjacent to project activities, and work within the zone would be limited.

E. When possible, excavation of roots of large diameter trees (greater than 2-foot DBH) would not be conducted with mechanical excavator or other ripping tools. Instead, roots would be severed using a combination of root-friendly excavation and severance methods (e.g., sharp-bladed pruning instruments or chainsaw). At a minimum, jagged roots would be pruned away to make sharp, clean cuts.

F. Upon completion of construction, all superfluous construction materials would be completely removed from the site. The site would then be restored by regrading and stabilizing with a hydroseed mixture of native species along with fast growing sterile erosion control seed, as required by the Erosion Control Plan.

BR-5: Wetlands and Other Waters

A. The contractor would be required to prepare and submit a Temporary Creek Diversion System Plan to Caltrans for approval prior to any creek diversion. Depending on site conditions, the plan may also require specifications for the relocation of sensitive aquatic species (see also Aquatic Species Relocation Plan in **BR-2**). Water generated from the diversion operations would be pumped and discharged according to the approved plan and applicable permits.

B. In-stream work would be restricted to the period between June 15 and October 15 to protect water quality and vulnerable life stages of sensitive fish and other aquatic species (see also **BR-2K**). Construction activities restricted to this period include work below the ordinary high water. Construction activities performed above the ordinary high-water mark of a watercourse that could potentially directly impact surface waters (i.e., soil disturbance that could lead to turbidity) would be performed during the dry season, typically between June through October, or as weather permits per the authorized contractor-prepared Storm Water Pollution Prevention Plan (SWPPP) and/or project permit requirements.

C. See **BR-4** for THVF information.

D. If allowed by regulatory agencies, temporary wetland and soil protection mats may be used to prevent permanent damage and minimize temporary damage to wetlands from construction activities. Mats should be designed to accommodate motorized equipment or vehicles. Mats shall be removed when access is no longer needed or by November 1 of each year.

Cultural Resources

CR-1: Caltrans has reached out to the Native American tribes (see Chapter 7.5, *Tribal Governments*) with interests in the project area; however, only the Sherwood Valley Band of Pomo Indians (Sherwood Rancheria) currently wishes to consult on the proposed project. Caltrans would consult and coordinate with the Sherwood Rancheria and incorporate measures to protect tribal resources, including potential work windows associated with tribal ceremonies. Consultation would continue through completion of construction.

CR-2: An archaeological monitor and tribal cultural monitor designated by the Sherwood Rancheria would be present during all ground-disturbing activities, as determined in consultation with the Tribe.

CR-3: If cultural materials are discovered during construction, work activity within a 60-foot radius of the discovery would be stopped and the area secured until a qualified archaeologist can assess the nature and significance of the find in consultation with the State Historic Preservation Officer (SHPO).

CR-4: If human remains and related items are discovered on private or State land, they would be treated in accordance with State Health and Safety Code Section 7050.5. Further disturbance and activities would cease in any area or nearby area suspected to overlie remains, and the County Coroner contacted. Pursuant to California Public Resources Code (PRC) Section 5097.98, if the remains are thought to be Native American, the coroner would notify the Native American Heritage Commission (NAHC) who would then notify the Most Likely Descendent (MLD).

Human remains and related items discovered on federally owned lands would be treated in accordance with the Native American Graves Protection and Repatriation Act of 1990 (NAGPRA) (23 United States Code [USC] 3001). The procedures for dealing with the discovery of human remains, funerary objects, or sacred objects on federal land are described in the regulations that implement NAGPRA 43 Code of Federal Regulations (CFR) Part 10. All work in the vicinity of the discovery shall be halted and the administering agency's archaeologist would be notified immediately. Project activities in the vicinity of the discovery would not resume until the federal agency complies with the 43 CFR Part 10 regulations and provides notification to proceed.

Geology, Seismic/Topography, and Paleontology

GS-1: The proposed project would be designed to minimize slope failure, settlement, and erosion using recommended construction techniques and Best Management Practices (BMPs). New earthen slopes would be vegetated to reduce erosion potential.

GS-2: In the unlikely event that paleontological resources (fossils) are encountered, all work within a 60-foot radius of the discovery would stop, the area would be secured, and the work would not resume until appropriate measures are taken.

Greenhouse Gas Emissions

GHG-1: Caltrans Standard Specification "Air Quality" requires compliance by the contractor with all applicable laws and regulations related to air quality (Caltrans Standard Specification [SS] 14-9).

GHG-2: Compliance with Title 13 of the California Code of Regulations (CCR), which includes restricting idling of diesel-fueled commercial motor vehicles and equipment with gross weight ratings of greater than 10,000 pounds to no more than 5 minutes.

GHG-3: Caltrans Standard Specification "Emissions Reduction" ensures construction activities adhere to the most recent emissions reduction regulations mandated by the California Air Resource Board (CARB) (Caltrans SS 7-1.02C).

GHG-4: Use of a Transportation Management Plan (TMP) to minimize vehicle delays and idling emissions. As part of this, traffic would be scheduled and directed to reduce congestion and related air quality impacts caused by idling vehicles along the highway during peak travel times.

GHG-5: All areas temporarily disturbed during construction would be revegetated with appropriate native species, as appropriate. Landscaping reduces surface warming and, through photosynthesis, decreases carbon dioxide (CO_2). This replanting would help offset any potential CO_2 emissions increase.

Hazardous Waste and Material

HW-1: Per Caltrans requirements, the contractor(s) would prepare a project-specific Lead Compliance Plan (CCR Title 8, Section 1532.1, the "Lead in Construction" standard) to reduce worker exposure to lead-impacted soil. The plan would include protocols for environmental and personnel monitoring, requirements for personal protective equipment, and other health and safety protocols and procedures for the handling of materials containing lead.

HW-2: When identified as containing hazardous levels of lead, traffic stripes would be removed and disposed of in accordance with Caltrans Standard Special Provision "Remove Yellow Traffic Stripes and Pavement Markings with Hazardous Waste Residue" (SSP 14-11.12).

HW-3: If treated wood waste (such as removal of signposts or guardrail) is generated during this project, it would be disposed of in accordance with Standard Specification "Treated Wood Waste."

HW-4: If asbestos containing material is removed during this project, it would be removed and disposed of in accordance with Standard Special Provision "Asbestos Compliance Plan".

Hydrology and Floodplain

HF-1: No new structures would be placed which would result in a substantial backflow during a flood event.

HF-2: Existing bridge pilings would be removed to three feet below grade, which would reduce resistance and blockage of water moving downstream in a flood event.

Traffic and Transportation

TT-1: Pedestrian and bicycle access would be maintained during construction.

TT-2: The contractor would be required to schedule and conduct work to avoid unnecessary inconvenience to the public and to maintain access to driveways, houses, and buildings within the work zones.

TT-3: A Transportation Management Plan (TMP) would be applied to the proposed project and would include the following measures:

- Notification to the public and applicable agencies with information regarding construction activities and planned closures.
- Use of message boards and/or other messaging systems to inform the public of extended bridge closure a minimum of 7 days in advance.
- Coordination with the local busing system to minimize impacts on bus schedules.

Utilities and Emergency Services

UE-1: All emergency response agencies in the project area would be notified of the proposed project construction schedule and would have access to SR 1 throughout the construction period.

UE-2: Caltrans would coordinate with utility providers to plan for relocation of any utilities to ensure utility customers would be notified of potential service disruptions before relocation.

UE-3: The proposed project is located within the *Moderate* or *High* CAL FIRE Threat Zones. The contractor would be required to submit a jobsite fire prevention plan as required by Cal/OSHA before starting job site activities. In the event of an emergency or wildfire, the contractor would cooperate with fire prevention authorities.

Water Quality and Stormwater Runoff

WQ-1: The proposed project would comply with the Provisions of the Caltrans Statewide National Pollutant Discharge Elimination System (NPDES) Permit (Order 2022-0033-DWQ), effective January 1, 2023. If the proposed project results in a land disturbance of one acre or more, coverage under the Construction General Permit (Order 2022-0057-DWQ) is also required.

Before any ground-disturbing activities, the contractor would prepare a Stormwater Pollution Prevention Plan (SWPPP) or Water Pollution Control Program (WPCP) (per the Construction General Permit Order 2022-0057-DWQ) that includes erosion control measures and construction waste containment measures to protect Waters of the State during project construction. For SWPP projects (which are governed according to both the Caltrans NPDES permit and the Construction General Permit), soil disturbance is permitted to occur year-round as long as the Caltrans NPDES and Construction General Permit (CGP) and the corresponding requirements of those permits are adhered to. For WPCP projects (which are governed according to the Caltrans NPDES permit), soil disturbance is permitted to occur year-round as long as the Caltrans NPDES permit is adhered to.

The SWPPP or WPCP would identify the sources of pollutants that may affect the quality of stormwater; include construction site BMPs to control sedimentation, erosion, and potential chemical pollutants; provide for construction materials management; include non-stormwater BMPs; and include routine inspections and a monitoring and reporting plan. All construction site BMPs would follow the latest edition of the *Caltrans Storm Water Quality Handbooks: Construction Site BMPs Manual* (Caltrans 2017) to control and reduce the impacts of construction-related activities, materials, and pollutants on the watershed.

The proposed project SWPPP or WPCP would be continuously updated to adapt to changing site conditions during the construction phase.

Construction may require one or more of the following temporary construction site BMPs:

- Any spills or leaks from construction equipment (e.g., fuel, oil, hydraulic fluid, and grease) would be cleaned up in accordance with applicable local, state, and/or federal regulations.
- Accumulated stormwater, groundwater, or surface water from excavations or temporary containment facilities would be removed by dewatering.
- Water generated from the dewatering operations would be discharged on-site for dust control and/or to an infiltration basin or disposed of offsite.
- Temporary sediment control and soil stabilization devices would be installed.
- Existing vegetated areas would be maintained to the maximum extent practicable.
- Clearing, grubbing, and excavation would be limited to specific locations, as delineated on the plans, to maximize the preservation of existing vegetation.
- Vegetation reestablishment or other stabilization measures would be implemented on disturbed soil areas, per the Erosion Control Plan.
- For SWPPP projects (which are governed according to both the Caltrans NPDES permit and the Construction General Permit), soil disturbance is permitted to occur year-round as long as the Caltrans NPDES and CGP and the corresponding requirements of these permits are adhered to. For WPCP project (which are governed according to the Caltrans NPDES permit), soil disturbance is permitted to occur year-round as long as the Caltrans NPDES permit is adhered to.

WQ-2: The proposed project would incorporate pollution prevention and design measures consistent with the 2016 Caltrans Storm Water Management Plan (Caltrans 2016). This plan complies with the requirements of the Caltrans Statewide NPDES Permit (Order 2022-0033-DWQ).

The proposed project design may include one or more of the following:

- Vegetated surfaces would feature native plants, and revegetation would use the seed mixture, mulch, tackifier, and fertilizer recommended in the Erosion Control Plan prepared for the proposed project.
- Where possible, stormwater would be directed in such a way as to sheet flow across vegetated slopes, thus providing filtration of any potential pollutants.

2.2.6 Unique Features of Build Alternatives

This section describes the bridge construction and bridge removal staging/phasing, design features, and BMPs unique to each Build Alternative.

Alternative 1: West Alignment

Design Option 1A: Four Span Segmental Box Girder Bridge

Design Option 1A involves the construction of a 4-span box girder replacement bridge to the west of the existing bridge (Figure 4 and Figure 5).

Design Option 1A would take approximately 3 years to construct and would involve approximately 165 days of traffic flagger-assisted reversing traffic control with intermittent closures as needed and an extended overnight bridge closure, as well as 90 days of river access closure, and 37 months of campground and beach closure. Potential ROW that could be required for Design Option 1A is provided in Table 1 and discussed further in Section 3.2.7, *Relocations and Real Property Acquisitions*. All design numbers are estimates and could change during final design.

Design Option 1A would require approximately 12,000 cubic yards of excavation and 3,500 cubic yards of fill. To the extent possible, excavated material would be used as fill. Remaining material could be contoured on-site or disposed of at an approved disposal location.

Bridge construction would be performed in the following stages:

- Stage 1: Construct the new bridge substructure.
- Stage 2: Construct the new bridge superstructure and roadway improvements.
- Stage 3: Remove the existing bridge.

Table 1. Design Option 1A Potential Right of Way (Acres)

APN	Landowner	TCE [1]	FEE [1]	ACC [1]	SUBT [1]
123-140-07	Private	0.53	-	-	-
123-140-22	Private	1.13	0.07	-	-
123-330-09	Private	2.29	< 0.01	-	-
123-140-24	Private	-	0.79	-	0.07
123-040-10	Private	0.20	0.13	-	0.10
123-150-48	Albion Little River Fire Protection District	0.48	-	-	-
123-150-47	Albion Little River Fire Protection District	0.25	-	-	-
123-150-45	Albion Little River Fire Protection District	0.56	-	-	-
123-170-15	Private	0.94	-	-	0.01
123-150-04	Private	0.02	-	-	-
-	County	0.02	-	-	-
123-170-16	Private	0.02	-	-	-
-	State	0.44	0.15	-	0.02
-	County	-	0.03	-	-
-	County	-	-	-	-
123-040-07	Private	1.13	1.17	-	0.10
123-170-01	Private	8.14	-	-	-
123-170-01	Private	-	-	0.57	-
123-170-01	Private	-	0.07	-	-
123-050-12	Private	-	0.36	-	-
123-050-30	Private	1.09	-	-	-
123-050-31	Private	1.08	-	-	-
123-050-28	Private	0.07	-	-	-
123-050-03	Private	-	0.05	-	-
123-050-27	Private	-	0.03	-	-
123-040-06	Private	0.11	-	-	-
123-060-21	Private	0.01	0.19	-	-
123-030-09	Private	0.00	-	-	-
123-060-12	Private	2.85	-	-	-
Total Area	-	**21.38**	**3.04**	**0.57**	**0.29**

[1] ROW estimates are preliminary approximations subject to final design and/or right of way negotiations.

APN = Assessor parcel number; TCE = Temporary construction easement; FEE = Permanent right of way acquisition or highway easement; ACC = Access easement; SUBT = Subterranean easement

In the first construction year, access to the staging areas and existing bridge would be established, including installation of a temporary trestle for equipment over the Albion River. Stage 1 bridge construction would begin with the substructure. Under Design Option 1A, three permanent foundations (Pier 2, Pier 3, and Pier 4) would be installed (Figure 17). The foundation footprint of the piers would be isolated from the surrounding environment using sheet pile cofferdams, and the workspace within the cofferdams would be excavated to a depth of approximately 25 to 30 feet below grade to prepare for permanent pile installation. Permanent piles would consist of cast-in-steel shell (CISS) piles or cast-in-drill-hole (CIDH) piles with permanent steel isolation casings measuring up to 36 inches in diameter and approximately 60 feet long.[7] Pier 2 would sit partially within the ordinary high water mark (OHWM). If needed to embed the piles into solid rock, holes in the rock (rock sockets) would be drilled to a depth of approximately 30 feet.

Following pile installation, the pile casings would be cut to foundation elevations. Sediment and water would be removed from within the pile casings and then the casings would be filled with rebar and concrete vertically up to the top of foundation pile. A large spread footing would then be tied to the foundation pile. Columns would then be constructed using a traveling column form system with scaffolding. Either a pier cap would be placed at the top of the pier column, or a pier cap would be embedded in the box girder section of the superstructure.

Concurrently with pile installation, the replacement bridge abutments (Abutment 1 and Abutment 5) and roadway approaches to the abutments would be constructed. In order to safely construct the abutments and provide a level surface for the drill rig, shoring would be installed at each abutment and then excavation would proceed in lifts. Following structure excavation, CIDH piles approximately 24 inches in diameter would be installed by rotary drilling a hole approximately 50 feet deep. Once drilled, rebar cages and concrete would be placed within the drilled hole to pile tip elevation. If needed to stabilize loose soil, a steel casing may be inserted into the ground by drilling an oversized hole and dropping the steel casing into place prior to placing rebar cages and concrete. Alternatively, a biodegradable polymer may be used to stabilize the soil.

[7] While the diameter and length of permanent foundation piles may change for any of the alternatives pending additional geotechnical surveys, it is not anticipated that the overall footprint of the foundation would change.

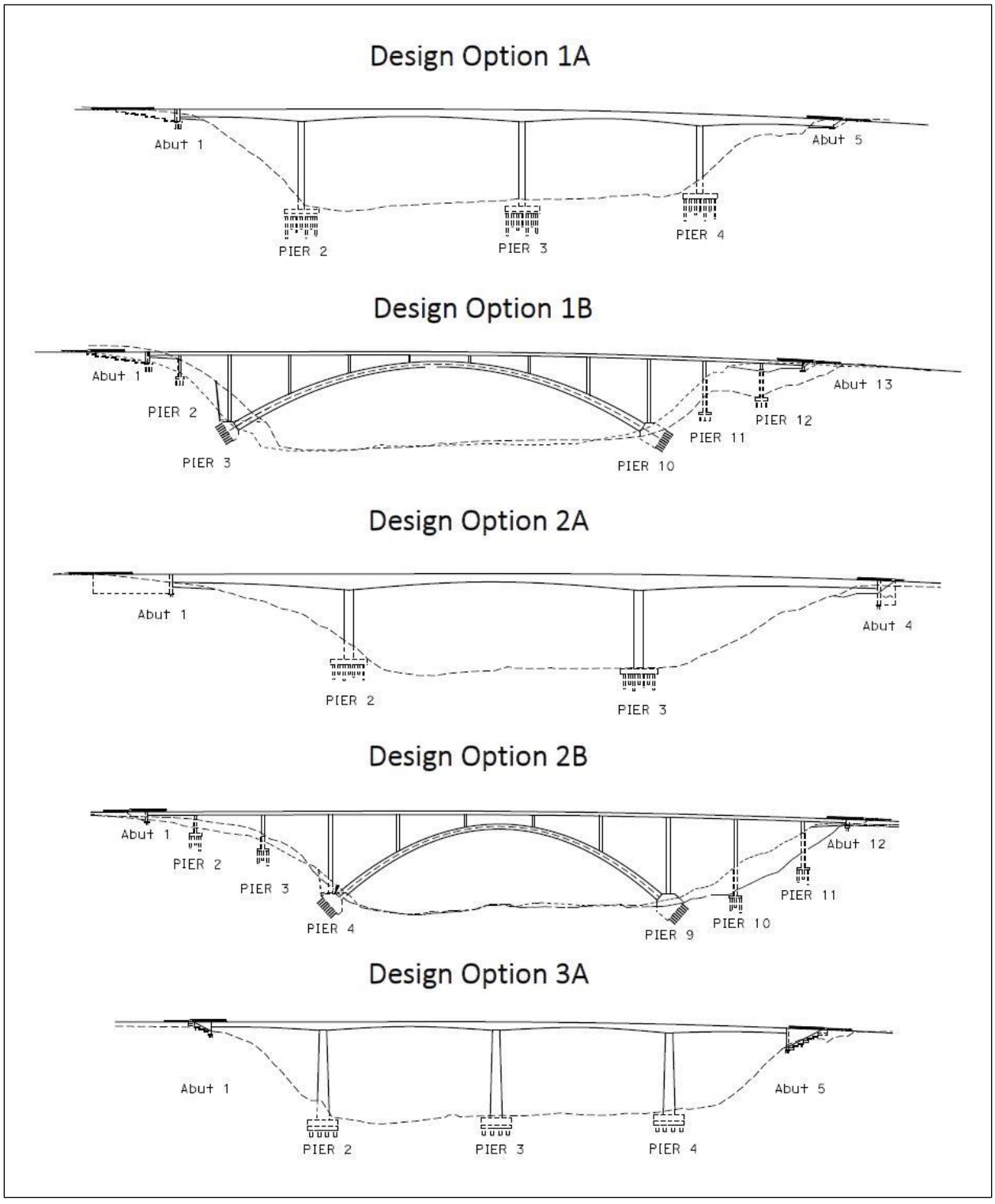


Figure 17. Abutment and Pier Locations for All Design Options

Construction of the widened roadway approaches to the south and north abutments to meet the horizontal and vertical alignment of the new bridge structure would first involve construction of a retaining wall with a concrete barrier slab to support the northwest side of the north abutment. The retaining wall would be partially buried. Following installation of the retaining wall, the fill (subgrade) for the approaches would be placed and compacted in lifts. Aggregate base would be placed on top of the subgrade and then the roadway approaches would be paved with an asphalt surface. Other roadway work to tie-in arterial roadways, including the improvements to local connector roads and intersections described in Section 2.2.5, *Common Design Features of the Build Alternatives,* would occur.

In the second construction year, Stage 2 construction of the bridge superstructure would commence. Concrete spans would be constructed from the south abutment to the north abutment via a balanced cantilever method using a segmental form traveler. Following construction of the concrete spans, the bridge deck sidewalk would be formed and poured, pedestrian handrailing and bridge safety railing would be installed, and the bridge deck would be striped. Following installation of the railing and striping, southbound and northbound traffic would be shifted onto the newly constructed bridge structure and roadway.

In the third construction year, a trestle would be constructed east of the existing bridge to facilitate bridge removal. Stage 3 bridge removal activities (described in detail in Section 2.2.5, *Common Design Features of the Build Alternatives*) would occur from the trestle, the existing bridge deck, the new bridge deck, and Albion Campground. Following bridge removal, temporary trestles and temporary shoring would be removed (e.g., by vibrating and pulling the pile/sheet pile).

At the end of the proposed project, decommissioning and demobilization would commence, which would involve removing materials, debris, and any temporary surfacing from staging and work areas. Miscellaneous pavement installation would occur, where necessary. Where needed, ground preparation (ripping/disking) and final stabilization would occur on all disturbed soil areas not already covered with a surface treatment. This would likely include reseeding using an approved native seed mix and/or replanting per an approved restoration plan.

Design Option 1B: Spandrel Arch with Box Girder Approaches

Design Option 1B involves the construction of a 12-span box girder replacement bridge with an open spandrel arch to the west of the existing bridge (Figure 6 and Figure 7).

Option 1B would take approximately 3 years to construct and would involve approximately 165 days of traffic flagger-assisted reversing traffic control with intermittent closures as needed and an extended overnight bridge closure, as well as 110 days of river access closure, and 38 months of campground and beach closure. Potential ROW that could be required for Design Option 1B is provided in Table 2 and discussed further in Section 3.2.7, *Relocations and Real Property Acquisitions*. All design numbers are estimates and could change during final design.

Option 1B would require approximately 12,000 cubic yards of excavation and 3,500 cubic yards of fill. To the extent possible, excavated material would be used as fill. Remaining material could be contoured on-site or disposed of at an approved disposal location.

Bridge construction would be performed in the following stages:

- Stage 1: Construct the new bridge substructure.
- Stage 2: Construct the new bridge superstructure and roadway improvements.
- Stage 3: Remove the existing bridge.

In the first construction year, access to the staging areas and existing bridge would be established, including installation of a temporary trestle for equipment over the Albion River. Stage 1 bridge construction would begin with the substructure. Under Design Option 1B, five permanent foundations (Pier 2, Pier 3, Pier 10, Pier 11, and Pier 12) would be installed (Figure 17).

For Piers 3 and 10, the arch foundation footprint would be isolated from the surrounding environment using sheet pile cofferdams, and the workspace within the cofferdams would be excavated to a depth of approximately 25 to 30 feet below grade to prepare for permanent pile installation. Permanent piles would consist of micropiles, measuring 12 to 24 inches in diameter and approximately 43 feet long, installed at an incline. Installation would involve drilling a hole to depth and then placing a steel tension rod and grout within the hole.

For Piers 2, 11, and 12, permanent piles would consist of CISS piles or CIDH piles with permanent steel isolation casings measuring up to 36 inches in diameter and approximately 60 feet long. If the piles need to be embedded into solid rock, holes would be drilled in the rock (rock sockets) to a depth of approximately 30 feet. No piers would sit within the OHWM.

Table 2. Design Option 1B Potential Right of Way (Acres)

APN	Landowner	TCE [1]	FEE [1]	ACC [1]	SUBT [1]
123-140-07	Private	0.53	-	-	-
123-140-22	Private	1.13	0.07	-	-
123-330-09	Private	2.29	-	-	-
123-140-24	Private	-	0.79	-	0.07
123-040-10	Private	0.20	0.13	-	0.10
123-150-48	Albion Little River Fire Protection District	0.48	-	-	-
123-150-47	Albion Little River Fire Protection District	0.25	-	-	-
123-150-45	Albion Little River Fire Protection District	0.56	-	-	-
123-170-15	Private	0.94	-	-	0.02
123-150-04	Private	0.02	-	-	-
-	County	0.02	-	-	-
123-170-16	Private	0.02	-	-	-
State Lands	State	0.44	0.15	-	-
-	County	-	0.03	-	-
-	County	-	-	-	-
123-040-07	Private	1.13	1.17	-	-
123-170-01	Private	8.14	-	-	-
123-170-01	Private	-	-	0.57	0.01
123-170-01	Private	-	0.07	-	-
123-050-12	Private	-	0.36	-	-
123-050-30	Private	1.09	-	-	-
123-050-31	Private	1.08	-	-	-
123-050-28	Private	0.07	-	-	-
123-050-03	Private	-	0.05	-	-
123-050-27	Private	-	0.03	-	-
123-040-06	Private	0.11	-	-	-
123-060-21	Private	0.01	0.19	-	-
123-030-09	Private	0.00	-	-	-
123-060-12	Private	2.85	-	-	-
Total Area	-	**21.38**	**3.04**	**0.57**	**0.21**

[1] ROW estimates are preliminary approximations subject to final design and/or right of way negotiations.

APN = Assessor parcel number; TCE = Temporary construction easement; FEE = Permanent right of way acquisition or highway easement; ACC = Access easement; SUBT = Subterranean easement

Following pile installation at Piers 2, 11, and 12, the pipe casing would be cut to foundation elevations. Sediment and water would be removed from within the pipe casing, and then the casings would be filled with rebar and concrete up to the top of foundation pile. A large spread footing would then be tied to the foundation pile. Columns would then be constructed using a traveling column form system with scaffolding. Either a pier cap would be placed at the top of the pier column, or a pier cap would be embedded in the box girder section of the superstructure.

Concurrently with pile installation, the replacement bridge abutments (Abutment 1 and Abutment 13) and roadway approaches to the abutments would be constructed. In order to safely construct the abutments and provide a level surface for the drill rig, shoring would be installed at each abutment and then excavation would proceed. Following structure excavation, CIDH piles up to 24 inches in diameter would be installed by rotary drilling a hole approximately 50 feet deep. Once drilled, rebar cages and concrete would be placed within the drilled hole to pile tip elevation. If needed to stabilize loose soil, a steel casing may be inserted into the ground by drilling an oversized hole and dropping the steel casing into place prior to placing rebar cages and concrete. Alternatively, a biodegradable polymer may be used to stabilize the soil.

Construction of the widened roadway approaches to the south and north abutments to meet the horizontal and vertical alignment of the new bridge structure would first involve construction of a retaining walls with concrete barrier slabs to support the north and south abutments. The retaining walls would be partially buried.

Following installation of the retaining walls, the fill (subgrade) for the approaches would be placed and compacted in lifts. Aggregate base would be placed on top of the subgrade and then the roadway approaches would be paved with an asphalt surface. Other roadway work to tie-in arterial roadways, including the improvements to local connector roads and intersections described in Section 2.2.5, *Common Design Features of the Build Alternatives*, would occur.

In the second construction year, Stage 2 construction of the bridge superstructure would commence, which would first involve installation of a trestle for falsework. The falsework for Abutment 1 to Pier 3 and Pier 10 to Abutment 13 would be erected on the falsework, and the falsework supporting the superstructure from Pier 3 to Pier 10 would be erected on the new concrete arch rib. The arch rib and additional columns on top of the arch rib would be constructed using the same or similar column form traveler system as the substructure. Following construction of the arch rib and additional columns, the bridge deck would be formed and poured, pedestrian handrailing and bridge safety railing would be installed, and the bridge deck would be striped. Following installation of the railing and striping, southbound and northbound traffic would be shifted onto the newly constructed bridge structure and roadway.

In the third construction year, a trestle would be constructed east of the existing bridge to facilitate bridge removal. Stage 3 bridge removal activities (described in Section 2.2.5, *Common Design Features of the Build Alternatives*) would occur from the trestle, new bridge deck, and Albion Campground. Following bridge removal, temporary trestles

and temporary shoring would be removed (e.g., by vibrating and pulling the pile/sheet pile).

At the end of the proposed project, decommissioning, demobilization, and final stabilization would occur as described above under *Design Option 1A: Four Span Segmental Box Girder Bridge*.

Alternative 2: East Alignment

Design Option 2A: Three Span Segmental Box Girder Bridge

Design Option 2A involves the construction of a 3-span box girder replacement bridge to the east of the existing bridge (Figure 8 and Figure 9).

Design Option 2A would take approximately 3 years to construct and would involve approximately 305 days of reversing traffic control (including 205 days using flagging and 100 days of a temporary signal system) with intermittent closures as needed and an extended overnight bridge closure, as well as 90 days of river access closure, and 37 months of campground and beach closure. Potential ROW that could be required for Design Option 2A is provided in Table 3 and discussed further in Section 3.2.7, *Relocations and Real Property Acquisitions*. All design numbers are estimates and could change during final design.

Design Option 2A would require approximately 5,600 cubic yards of excavation and 7,600 cubic yards of fill. To the extent possible, excavated material would be used as fill. Remaining material could be contoured on-site or disposed of at an approved disposal location.

Bridge construction would be performed in the following stages:

- Stage 1: Construct the new bridge substructure.
- Stage 2: Construct the new bridge superstructure and roadway improvements.
- Stage 3: Remove the existing bridge.

In the first construction year, access to the staging areas and existing bridge would be established, including installation of a temporary trestle for equipment over the Albion River. Stage 1 bridge construction would begin with the substructure. Under Design Option 2A, two permanent foundations (Pier 2 and Pier 3) would be installed (Figure 17). The foundation footprint of the piers would be isolated from the surrounding environment using sheet pile cofferdams, and the workspace within the cofferdams would be excavated to a depth of approximately 25 to 30 feet below grade to prepare for permanent pile installation. Permanent piles would consist of CISS piles measuring up to 36 inches in diameter and approximately 100 feet long. No piers would sit within the OHWM.

Table 3. Design Option 2A Potential Right of Way (Acres)

APN	Landowner	TCE [1]	FEE [1]	ACC [1]	SUBT [1]
123-140-07	Private	0.53	-	-	-
123-140-22	Private	1.17	-	-	-
123-330-09	Private	2.29	-	-	-
123-140-24	Private	-	-	-	-
123-040-10	Private	-	-	-	-
123-150-48	Albion Little River Fire Protection District	0.48	-	-	-
123-150-47	Albion Little River Fire Protection District	0.23	0.02	-	-
123-150-45	Albion Little River Fire Protection District	0.39	0.17	-	-
123-170-15	Private	0.75	0.68	-	0.19
123-150-04	Private	0.02	-	-	-
-	County	0.02	-	-	-
123-170-16	Private	0.02	-	-	-
-	State	0.18	0.07	-	-
-	County	-	0.01	-	-
-	County	-	0.10	-	-
123-040-07	Private	0.00	0.38	-	-
123-170-01	Private	7.77	1.39	-	-
123-170-01	Private	-	-	0.51	-
123-170-01	Private	-	0.07	-	-
123-050-12	Private	-	0.36	-	-
123-050-30	Private	1.09	-	-	-
123-050-31	Private	1.08	-	-	-
123-050-28	Private	0.07	-	-	-
123-050-03	Private	0.01	0.02	-	-
123-050-27	Private	0.01	0.02	-	-
123-040-06	Private	0.11	-	-	-
123-060-21	Private	0.01	0.23	-	-
123-030-09	Private	0.00	-	-	-
123-060-12	Private	2.85	-	-	-
Total Area	-	**19.08**	**3.50**	**0.51**	**0.19**

[1.] ROW estimates are preliminary approximations subject to final design and/or right of way negotiations.

APN = Assessor parcel number; TCE = Temporary construction easement; FEE = Permanent right of way acquisition or highway easement; ACC = Access easement; SUBT = Subterranean easement

Following pile installation, the pile casings would be cut to foundation elevations. Sediment and water would be removed from within the pile casings and then the casings would be filled with rebar and concrete up to the top of foundation pile. A large spread footing would then be tied to the foundation pile. Columns would then be constructed using a traveling column form system with scaffolding. Either a pier cap would be placed at the top of the pier column, or a pier cap would be embedded in the box girder section of the superstructure.

Concurrently with pile installation, the replacement bridge abutments (Abutment 1 and Abutment 4) and roadway approaches to the abutments would be constructed. In order to safely construct the abutments and provide a level surface for the drill rig, shoring would be installed at each abutment and then excavation would proceed in lifts. Following structure excavation, CIDH piles approximately 24 inches in diameter would be installed by rotary drilling a hole approximately 60 feet deep. Once drilled, rebar cages and concrete would be placed within the drilled hole to pile tip elevation. If needed to stabilize loose soil, a steel casing may be inserted into the ground by drilling an oversized hole and dropping the steel casing into place prior to placing rebar cages and concrete. Alternatively, a biodegradable polymer may be used to stabilize the soil.

Construction of the widened roadway approaches to the south and north abutments to meet the horizontal and vertical alignment of the new bridge structure would first involve construction of retaining walls to support the north and south abutments. The retaining walls would be partially buried.

Following installation of the retaining walls, the fill (subgrade) for the approaches would be placed and compacted in lifts. Aggregate base would be placed on top of the subgrade and then the roadway approaches would be paved with an asphalt surface. Other roadway work to tie-in arterial roadways, including the improvements to local connector roads and intersections described in Section 2.2.5, *Common Design Features of the Build Alternatives,* would occur.

In the second construction year, Stage 2 construction of the bridge superstructure would commence. Concrete spans would be constructed from the south abutment to the north abutment via a balanced cantilever method using a segmental form traveler. Following construction of the concrete spans, the bridge deck sidewalk would be formed and poured, pedestrian handrailing and bridge safety railing would be installed, and the bridge deck would be striped. Following installation of the railing and striping, southbound and northbound traffic would be shifted onto the newly constructed bridge structure and roadway.

Given the overlap in alignment between the new bridge and the existing bridge on the north end, reversing traffic control with a temporary signal system (as described in Section 2.2.5, *Common Design Features of the Build Alternatives*) would be used; the temporary signal system would be in use for approximately 100 days, as mentioned above.

In the third construction year, a trestle would be constructed under the existing bridge to facilitate bridge removal. Stage 3 bridge removal activities (described in Section 2.2.5, *Common Design Features of the Build Alternatives*) would occur from the trestle, existing bridge deck, new bridge deck, and Albion Campground. Following bridge removal, temporary trestles and temporary shoring would be removed (e.g., by vibrating and pulling the pile/sheet pile).

At the end of the proposed project, decommissioning, demobilization, and final stabilization would occur as described above under *Design Option 1A: Four Span Segmental Box Girder Bridge*.

Design Option 2B: Spandrel Arch with Box Girder Approaches

Design Option 2B involves the construction of a 11-span box girder replacement bridge with an open spandrel arch to the east of the existing bridge (Figure 10 and Figure 11).

Design Option 2B would take approximately 3 years to construct and would involve approximately 305 days of reversing traffic control (including 205 days using flagging and 100 days using a temporary signal system) with intermittent closures as needed and an extended overnight bridge closure, as well as 110 days of river access closure, and 38 months of campground and beach closure. Potential ROW that could be required for Design Option 2B is provided in Table 4 and discussed further in Section 3.2.7, *Relocations and Real Property Acquisitions*. All design numbers are estimates and could change during final design.

Design Option 2B would require approximately 5,600 cubic yards of excavation and 7,600 cubic yards of fill. To the extent possible, excavated material would be used as fill. Remaining material could be contoured on-site or disposed of at an approved disposal location.

Bridge construction activities would be performed in the following stages:

- Stage 1: Construct the new bridge substructure.
- Stage 2: Construct the new bridge superstructure and roadway improvements.
- Stage 3: Remove the existing bridge.

In the first construction year, access to the staging areas and existing bridge would be established, including installation of a temporary trestle for equipment over the Albion River. Stage 1 bridge construction would begin with the substructure. Under Design Option 2B, six permanent foundations (Pier 2, Pier 3, Pier 4, Pier 9, Pier 10, and Pier 11) would be installed (Figure 17).

Table 4. Design Option 2B Potential Right of Way (Acres)

APN	Landowner	TCE [1]	FEE [1]	ACC [1]	SUBT [1]
123-140-07	Private	0.53	-	-	-
123-140-22	Private	1.20	-	-	-
123-330-09	Private	2.29	-	-	-
123-140-24	Private	0.82	-	-	< 0.01
123-040-10	Private	0.36	-	-	0.01
123-150-48	Albion Little River Fire Protection District	0.48	-	-	-
123-150-47	Albion Little River Fire Protection District	0.23	0.02	-	-
123-150-45	Albion Little River Fire Protection District	0.38	0.18	-	-
123-170-15	Private	0.82	0.42	-	0.35
123-150-04	Private	0.02	-	-	-
-	County	0.02	-	-	-
123-170-16	Private	0.02	-	-	-
-	State	0.44	0.20	-	-
-	County	-	0.01	-	0.15
-	County	-	-	-	-
123-040-07	Private	2.29	0.20	-	0.04
123-170-01	Private	7.83	0.84	-	0.29
123-170-01	Private	-	-	0.55	-
123-170-01	Private	-	0.07	-	-
123-050-12	Private	-	0.36	-	< 0.01
123-050-30	Private	1.09	-	-	-
123-050-31	Private	1.08	-	-	-
123-050-28	Private	0.07	-	-	-
123-050-03	Private	0.01	0.02	-	-
123-050-27	Private	-	0.02	-	-
123-040-06	Private	0.11	-	-	-
123-060-21	Private	0.01	0.23	-	-
123-030-09	Private	0.00	-	-	-
123-060-12	Private	2.85	-	-	-
Total Area	-	**22.96**	**2.55**	**0.55**	**0.85**

[1] ROW estimates are preliminary approximations subject to final design and/or right of way negotiations.

APN = Assessor parcel number; TCE = Temporary construction easement; FEE = Permanent right of way acquisition or highway easement; ACC = Access easement; SUBT = Subterranean easement

For Piers 4 and 9, the arch foundation footprint would be isolated from the surrounding environment using sheet pile cofferdams, and the workspace within the cofferdams would be excavated to a depth of approximately 25 to 30 feet below grade to prepare for permanent pile installation. Permanent piles would consist of micropiles, measuring 12 to 24 inches in diameter and approximately 43 feet long, installed at an incline. Installation would involve drilling a hole to depth and then placing a steel tension rod and grout within the hole.

For Piers 2, 3, 10, and 11, permanent piles would consist of CIDH piles with permanent steel isolation casings measuring up to 36 inches in diameter and approximately 60 feet long. If the piles need to be embedded into solid rock, holes would be drilled in the rock (rock sockets) to a depth of approximately 30 feet. No piers would sit within the OHWM.

Following pile installation at Piers 2, 3, 10, and 11, the pile casings would be cut to foundation elevations. Sediment and water would be removed from within the pile casings and then the casings would be filled with rebar and concrete vertically up to the top of foundation pile. A large spread footing would then be tied to the foundation pile. Columns would then be constructed using a traveling column form system with scaffolding. Either a pier cap would be placed at the top of the pier column, or a pier cap would be embedded in the box girder section of the superstructure.

Concurrently with pile installation, the replacement bridge abutments (Abutment 1 and Abutment 12) and roadway approaches to the abutments would be constructed. In order to safely construct the abutments and provide a level surface for the drill rig, shoring would be installed at each abutment and then excavation would proceed in lifts. Following structure excavation, CIDH piles up to 24 inches in diameter would be installed by rotary drilling a hole approximately 50 feet deep. Once drilled, rebar cages and concrete would be placed within the drilled hole to pile tip elevation. If needed to stabilize loose soil, a steel casing may be inserted into the ground by drilling an oversized hole and dropping the steel casing into place prior to placing rebar cages and concrete. Alternatively, a biodegradable polymer may be used to stabilize the soil.

Construction of the widened roadway approaches to the south and north abutments to meet the horizontal and vertical alignment of the new bridge structure would first involve construction of retaining walls to support the north and south abutment. The retaining walls would be partially buried.

Following installation of the retaining walls, the fill (subgrade) for the approaches would be placed and compacted in lifts. Aggregate base would be placed on top of the subgrade and then the roadway approaches would be paved with an asphalt surface. Other roadway work to tie-in arterial roadways, including the improvements to local connector roads and intersections described in Section 2.2.5, *Common Design Features of the Build Alternatives,* would occur.

In the second construction year, Stage 2 construction of the bridge superstructure would commence, which would first involve installation of a falsework trestle. The falsework for Abutment 1 to Pier 4 and Pier 9 to Abutment 2 would be erected on the falsework

trestle, and the falsework supporting the superstructure from Pier 4 to Pier 9 would be erected on the new concrete arch rib. The arch rib and additional columns on the arch rib would be constructed using the same or similar column form traveler system as the substructure. Following construction of the arch rib and additional columns, the bridge deck would be formed and poured, pedestrian handrailing and bridge safety railing would be installed, and the bridge deck would be striped. Following installation of the railing and striping, southbound and northbound traffic would be shifted onto the newly constructed bridge structure and roadway.

Given the overlap in alignment between the new bridge and the existing bridge on the north end, reversing traffic control with a temporary signal system (as described in Section 2.2.5, *Common Design Features of the Build Alternatives*) would be used; the temporary signal system would be in use for approximately 100 days, as mentioned above.

In the third construction year, a trestle would be constructed to the west of and under the existing bridge to facilitate bridge removal. Stage 3 activities (described in Section 2.2.5, *Common Design Features of the Build Alternatives*) would occur from the trestle, new bridge deck, and Albion Campground. Following bridge removal, temporary trestles and temporary shoring would be removed (e.g., by vibrating and pulling the pile/sheet pile).

At the end of the proposed project, decommissioning, demobilization, and final stabilization would occur as described above under *Design Option 1A: Four Span Segmental Box Girder Bridge*.

Alternative 3: On-Alignment (Half-Width)

Design Option 3A: Four Span Box Girder Bridge

Design Option 3A involves the construction of a 4-span box girder replacement bridge generally on the same alignment as (and slightly west of) the existing bridge Figure 12 and Figure 13. Since the replacement bridge would be generally on the same alignment as the existing bridge, the bridge would be built one half at a time, hence “half-width”.

Design Option 3A would take approximately 5 years to construct and would involve approximately 945 days of reversing traffic control (including 215 days using flagging and 730 days using a temporary signal system) with intermittent closures as needed and an extended overnight bridge closure, as well as 130 days of river access closure, and 59 months of campground and beach closure. Potential ROW that could be required for Design Option 3A is provided in Table 5 and discussed further in Section 3.2.7, *Relocations and Real Property Acquisitions*. All design numbers are estimates and could change during final design.

Design Option 3A would require approximately 5,500 cubic yards of excavation and 4,600 cubic yards of fill. To the extent possible, excavated material would be used as fill. Remaining material could be contoured on-site or disposed of at an approved disposal location.

Table 5. Design Option 3A Potential Right of Way (Acres)

APN	Landowner	TCE [1]	FEE [1]	ACC [1]	SUBT [1]
123-140-07	Private	0.53	-	-	-
123-140-22	Private	1.21	-	-	-
123-330-09	Private	2.29	-	-	-
123-140-24	Private	0.57	0.25	-	0.05
123-040-10	Private	0.31	0.05	-	0.11
123-150-48	Albion Little River Fire Protection District	0.48	0.00	-	-
123-150-47	Albion Little River Fire Protection District	0.23	0.02	-	-
123-150-45	Albion Little River Fire Protection District	0.51	0.05	-	-
123-170-15	Private	0.82	-	-	0.04
123-150-04	Private	0.02	-	-	-
-	County	0.02	-	-	-
123-170-16	Private	0.02	-	-	-
-	State	0.58	0.07	-	0.02
-	County	-	0.01	-	-
-	County	-	-	-	0.00
123-040-07	Private	1.76	0.73	-	-
123-170-01	Private	8.11	-	-	-
123-170-01	Private	-	-	0.57	-
123-170-01	Private	-	0.07	-	-
123-050-12	Private	-	0.36	-	-
123-050-30	Private	1.09	-	-	-
123-050-31	Private	1.08	-	-	-
123-050-28	Private	0.07	-	-	-
123-050-03	Private	0.01	0.03	-	-
123-050-27	Private	0.01	0.03	-	-
123-040-06	Private	0.11	-	-	-
123-060-21	Private	0.01	0.21	-	-
123-030-09	Private	0.00	-	-	-
123-060-12	Private	2.85	-	-	-
Total Area	-	**22.71**	**1.87**	**0.57**	**0.22**

[1.] ROW estimates are preliminary approximations subject to final design and/or right of way negotiations.

APN = Assessor parcel number; TCE = Temporary construction easement; FEE = Permanent right of way acquisition or highway easement; ACC = Access easement; SUBT = Subterranean

Bridge construction would be performed in the following stages:

- Stage 1: Construct western half of the substructure and superstructure (southbound lane).
- Stage 2: Divert one-way traffic onto the southbound lane of the new bridge and remove the existing bridge.
- Stage 3: Construct eastern half of the substructure and superstructure (northbound lane).

In the first construction year, access to the staging areas and existing bridge would be advanced, including installation of a temporary equipment trestle west of the existing bridge over the Albion River. Stage 1 would begin with construction of the western half of the substructure. Under Design Option 3A, three permanent foundations (Pier 2, Pier 3, and Pier 4) would be installed (Figure 17). The foundation footprint of the piers would be isolated from the surrounding environment using sheet pile cofferdams, and the workspace within the cofferdams would be excavated to a depth of approximately 25 to 30 feet below grade to prepare for permanent pile installation. Permanent piles would consist of CISS piles measuring up to 60 inches in diameter and approximately 100 feet long. Pier 2 would sit partially within the OHWM.

Following pile installation on the western side, the pile casings would be cut to foundation elevations. Sediment and water would be removed from within the pile casings, and then the casings would be filled with rebar and concrete vertically up to the top of pile elevation. A large spread footing would then be tied to the foundation pile. Columns would then be constructed using a traveling form system with scaffolding. Either a pier cap would be placed at the top of the pier column, or a pier cap would be embedded in the box girder section of the superstructure.

Concurrently with pile installation, the western half of the replacement bridge abutments (Abutment 1 and Abutment 5) and roadway approaches to the abutments would be constructed. In order to safely construct the abutments and provide a level surface for the drill rig, shoring would be installed at each abutment and then excavation would proceed in lifts. Following excavation, CIDH piles approximately 24 inches in diameter would be installed by rotary drilling a hole approximately 60 feet deep. Once drilled, rebar cages and concrete would be placed within the drilled hole to pile tip elevation. If needed to stabilize loose soil, a steel casing may be inserted into the ground by drilling an oversized hole and dropping the steel casing into place prior to placing rebar cages and concrete. Alternatively, a biodegradable polymer may be used to stabilize the soil.

Construction of the widened roadway approaches for the southbound lane (western side) to the south and north abutments to meet the horizontal and vertical alignment of the new bridge structure would first involve construction of retaining walls to support the north and south abutments. The retaining walls would be partially buried.

Following installation of the retaining walls, fill (subgrade) would be placed and compacted in lifts. Aggregate base would be placed on top of the subgrade and then the roadway approaches would be paved with an asphalt surface. Other roadway work to

tie-in arterial roadways, including the improvements to local connector roads and intersections described in Section 2.2.5, *Common Design Features of the Build Alternatives*, would occur.

In the second construction year, Stage 1 construction of the western half of the bridge superstructure would commence, which would first involve installation of a falsework trestle west of the existing bridge. The falsework would be erected on the falsework trestle and the concrete spans from the south abutment to the north abutment would be constructed from the falsework using a similar column form traveler as the substructure. Following construction of the western half of the concrete spans, the bridge deck would then be formed and poured, pedestrian handrailing and bridge safety railing would be installed, and the bridge deck would be striped. Following installation of the railing and striping, southbound and northbound traffic, under reversing traffic control, would be shifted onto the newly constructed western half of the bridge structure.

Reversing traffic control would be used for approximately 730 days until the eastern half of the bridge is constructed.

In the first half of the third construction year, Stage 2 bridge removal activities (described in Section 2.2.5, *Common Design Features of the Build Alternatives*) would occur from the falsework trestle, the remaining existing bridge deck, the western half of the new bridge deck, and the Albion Campground. Following bridge removal, Stage 1 temporary trestles and temporary shoring would be removed (e.g., by vibrating and pulling the pile/sheet pile).

In the second half of the third construction year, a temporary equipment trestle would be installed east of the existing bridge over the Albion River and Stage 3 construction of the eastern half of the substructure would commence. The eastern half of the three permanent foundations for Piers 2, 3, and 4 would be installed, in the same manner as described for the western half (above).

In the fourth construction year, a temporary falsework trestle would be installed east of the existing bridge and Stage 3 construction of the eastern half of the superstructure would commence. The concrete spans would be constructed; the bridge deck would be formed, poured, and striped; and the railing would be installed in the same manner as described for the western half (above).

In the fifth construction year, Stage 3 temporary trestles and temporary shoring would be removed (e.g., by vibrating and pulling the pile/sheet pile).

At the end of the proposed project, decommissioning, demobilization, and final stabilization would occur as described above under *Design Option 1A: Four Span Segmental Box Girder Bridge*.

2.2.7 Transportation System Management and Transportation Demand Management Alternatives

Given that the proposed project is not located in an urban area with a population over 200,000, transportation demand management (TDM), transportation system management (TSM), and mass transit alternatives and measures are not included in the project scope.

2.2.8 Access to Navigable Rivers

The Albion River is a navigable water. As described above and in Section 2.3, *Comparison of Alternatives*, the Albion River outlet would be closed 90 to 130 days[8] during construction, depending on Build Alternative. The proposed project would not permanently limit, and could potentially improve, access to the Albion River following construction by improving local intersections and providing a safer bridge for multimodal travel.

Pursuant to California Streets and Highways Code Section 84.5, Caltrans has given full consideration of, and prepared a report on, the feasibility of providing a means of public access to the Albion River for public recreational purposes. The Public Access Feasibility Report (Caltrans 2023) determined that providing new public access beyond the current existing access to the Albion River was not practical within the existing or proposed state ROW due to impacts on adjacent private property, sensitive habitats, and lack of practical design options that would comply with American with Disabilities Act access requirements.

2.3 COMPARISON OF ALTERNATIVES

Table S-1 in the summary section of this document provides information for comparing environmental impacts for the Build Alternatives (Alternatives 1, 2 and 3) and associated Design Options (1A, 1B, 2A, 2B, and 3A), and Table 6 below summarizes additional project features for comparing the alternatives and design options. All criteria will be used to inform the selection of a preferred alternative for the proposed project.

After the public circulation period, all comments will be considered, and Caltrans will select a preferred alternative and make the final determination of the proposed project's effect on the environment. Under the California Environmental Quality Act (CEQA), Caltrans will certify that the proposed project complies with CEQA, 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

[8] The length of individual outlet closures for all Build Alternatives are dependent on the work being conducted. While there may be consecutive closure days, the full number of closure days (e.g, 90 days) are not anticipated to be consecutive.

Clearinghouse that will identify whether the proposed 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. With respect to the National Environmental Policy Act (NEPA), Caltrans, as assigned by the Federal Highway Administration, will document and explain its decision regarding the selected alternative, project impacts, and mitigation measures in a Record of Decision.

Table 6. Summary of Project Feature Comparison

Project Feature	No Build	Build Alternative 1: Design Option 1A	Build Alternative 1: Design Option 1B	Build Alternative 2: Design Option 2A	Build Alternative 2: Design Option 2B	Build Alternative 3: Design Option 3A
Bikeway Facility on Bridge	Shared roadway with 12'-wide lanes and 1'-wide shoulders.	Shared roadway with 12'-wide lanes and 6'-wide shoulders.	Same as Design Option 1A	Same as Design Option 1A	Same as Design Option 1A	Same as Design Option 1A
Pedestrian Facility on Bridge	None	6'-wide separated pedestrian walkway.	Same as Design Option 1A	Same as Design Option 1A	Same as Design Option 1A	Same as Design Option 1A
ROW: Temporary Construction Easements	None	21.38 Acres	21.38 Acres	19.08 Acres	22.96 Acres	22.71 Acres
ROW: Permanent Acquisition	None	3.04 Acres	3.04 Acres	3.50 Acres	2.55 Acres	1.87 Acres
Construction Seasons/Years	None	3	3	3	3	5
Traffic Control	None	165 Days	165 Days	305 Days	305 Days	945 Days
Albion River Outlet Closed to Public Access	None	90 Days	110 Days	90 Days	110 Days	130 Days
Albion River Campground and Beach Closed to Public Access	None	37 Months	38 Months	37 Months	38 Months	59 Months
Temporary Trestle Piles Driven Within High Tide Line	None	35	87	26	47	107
Bridge Foundations	33	3	5	2	6	3
Exposed Permanent Shoring	None	6,800 SF	12,800 SF	1,800 SF	8,700 SF	3,400 SF
Construction Costs	None	$137M	$155M	$126M	$136M	$128M

2.3.1 Environmentally Superior Alternative

In accordance with CEQA Guidelines Section 15126.6(c)(2), an "environmentally superior alternative" must be identified among the alternatives analyzed in the EIR. The environmentally superior alternative is the alternative found to have an overall environmental advantage based on the impact analysis in the EIR. If the environmentally superior alternative is the "no project" alternative, also known as the No-Build Alternative, the EIR must identify an environmentally superior alternative among the proposed build alternatives. The environmentally superior alternative is not necessarily the preferred alternative.[9]

For the proposed project, the No-Build Alternative would maintain existing conditions and not result in environmental resource impacts. Though the existing bridge would continue to deteriorate and may require future emergency repairs that could potentially impact resources, these cannot be predicted and are not part of a planned project. Compared to the proposed Build Alternatives, which include several features that would impact environmental resources, the No-Build Alternative would be the environmentally superior alternative; however, the No-Build Alternative fails to meet most of the basic project objectives. Therefore, an environmentally superior alternative must be identified among the Build Alternatives.

Determining which of the Build Alternatives is environmentally superior can involve judgment and depends on many factors. An evaluation of concerns that have the greatest potential to result in long-term, significant impacts must be conducted. Areas of concern may include, but are not limited to, visual, biological resources and geology, noise, and transportation. Pursuant to CEQA Guidelines Section 15126.6(b), discussion of alternatives with potential for avoiding or substantially lessening significant impacts should be considered even if these alternatives would impede to some degree the attainment of the project objectives or would be more costly.

As indicated in Table S-1, the Build Alternatives have similar potential for effects to several resource (e.g., air quality, cultural resources, hazardous materials, etc.); however, there are some key differences related to impacts for aesthetics, biological resources, geology, recreation, and transportation. Based on the sensitivity of the project area's scenic resources, the analysis indicates that the arch design options (1B and 2B) would be environmentally preferred over the non-arch design options (1A, 2A, and 3A). Between the arch design options, it was determined that Design Option 2B would be the environmentally superior alternative. The key factors in this determination are described below.

[9] The Lead Agency is not obligated to select the environmentally superior alternative for implementation if it would not accomplish the basic project objectives and/or is infeasible (see State CEQA Guidelines Section 15126.6(a), (c) & (f)).

Non-Arch Design Options (1A, 2A, and 3A)

- The non-arch design options (1A, 2A, and 3A) were found to have low visual interest and memorability and would not lessen the proposed project's significant and unavoidable impact related to aesthetics.
- In addition to an inability to lessen a significant and unavoidable impact:
    - Design Options 1A and 3A have the highest potential to cause underwater sound impacts to listed aquatic species given the location and size of the bridge foundation piles.
    - Design Option 1A is the only alternative that is anticipated to result in permanent impacts to eelgrass, a Sensitive Natural Community (SNC) and Habitat Area of Particular Concern (HAPC), which is a subset of Essential Fish Habitat (EFH).
    - Design Option 3A has the longest construction period (5 years), and correspondingly, greatest duration of temporary impacts to recreation (59 months of campground/beach closure and 130 days of Albion River outlet closure), transportation (946 days of traffic control), and noise.

Arch Design Options (1B and 2B)

- Design Options 1B and 2B involve an arch design that, while not as memorable or distinctive as the existing bridge, provides architectural interest and better fits into the natural setting, lessening the proposed project's significant and unavoidable impact related to aesthetics.
- Design Option 2B requires less exposed permanent shoring (8,700 square feet) than Design Option 1B (12,800 square feet), which reduces alteration to the natural landform consistent with Coastal Act requirements.
- Design Option 2B also results in less energy use, construction-related greenhouse gas emissions, and permanent right of way acquisition than Design Option 1B.

As indicated above, Design Option 2B is the environmentally superior alternative, however, a preferred alternative for the proposed project will not be identified until after the proposed project's Draft EIR/EIS has been circulated and public and agency comments have been considered.

2.4 ALTERNATIVES CONSIDERED BUT ELIMINATED FROM FURTHER DISCUSSION

NEPA regulations require that agencies "evaluate reasonable alternatives to the proposed action, and, for alternatives that the agency eliminated from detailed study, briefly discuss the reasons for their elimination" (40 CFR 1502.14). The range of alternatives discussed in an EIS "shall encompass those to be considered by the decision maker" (40 CFR 1502.2) and shall be limited to a reasonable number of alternatives, including the no-action alternative (40 CFR 1502.14). An EIS "shall provide full and fair discussion of significant environmental impacts and shall inform decision makers and the public of reasonable alternatives that would avoid or minimize adverse impacts or enhance the quality of the human environment" (40 CFR 1502.1).

In accordance with Section 15126.6(c) of the CEQA Guidelines, the factors that may be used to eliminate an alternative from detailed consideration in an EIR are (i) failure to meet most of the basic project objectives, (ii) infeasibility, or (iii) inability to avoid significant environmental impacts. Cost should not be used as a primary determining factor for eliminating an alternative; rather, cost can be one of several considerations in alternative selection.

During the early stages of project development, a wide range of possible alternatives was considered. Alternatives were identified based on past studies and comments received from stakeholders, including elected officials, city and agency staff, and the community. The resulting alternatives were evaluated and refined through a sequential screening process (preliminary screening and initial screening) to identify the reasonable alternatives that best meet the proposed project's purpose and need, including the No-Build Alternative.

Preliminary Screening: Preliminary alternatives screening was conducted through a Value Analysis Study Report conducted in 2013 (Value Management Strategies, Inc. 2013). This study, which was sponsored by Caltrans, evaluated early concepts for a replacement or rehabilitation of the existing bridge. The key focus for the study was to investigate ways to improve the environmental review and approval process. The Value Analysis team identified several observations and design suggestions, relatively general in nature, for consideration by the Project Development Team (PDT). Several alternatives and design options were ultimately rejected and withdrawn from further study for the reasons described below.

Initial Screening: Following selection of the Construction Manager/General Contractor (CM/GC) in 2022, the PDT proceeded with initial screening of the alternatives. The initial screening considered the agency and public comments received following the Notice of Intent and press release issued in 2022, whether the preliminary set of alternatives were feasible to construct, and whether the alternatives would meet the project's purpose, need, and objectives. During the initial screening, the PDT also revisited the possibility of a replacement bridge option with an arch on an east alignment, which was originally determined not to be technically feasible in the Value

Analysis Study Report (Value Management Strategies, Inc. 2013). The PDT relied on available data and schematic representations of each alternative during the initial screening process. Several alternatives and design options were ultimately rejected and withdrawn from further study for the reasons described below:

2.4.1 Replacement Bridge Design Options

A number of bridge design options were considered but eliminated, including the following:

1. A design option that would have replaced the existing bridge with a new bridge that would have 8-foot-wide shoulders, instead of 6-foot-wide shoulders:

   Caltrans' standard width for highway shoulders is 8 feet. This width is generally considered safer for both motorized and non-motorized users. Caltrans provided a presentation to the Coastal Commission's "Roads Edge" Committee advocating for an option with 8-foot-wide shoulders. The Coastal Commission indicated that all bridges along the Mendocino County Coast have 6-foot-wide shoulders consistent with the LCP, with the exception of two bridges in Fort Bragg. It was determined that pursuing 8-foot-wide shoulders would not be feasible given their inconsistency with LCP requirements.

2. Three design options on the west alignment and one design option on the east alignment for box girder replacement bridges with and without arch rib(s):

   The PDT determined that these options were unnecessary given their similarities to the two retained options on the west alignment (1A and 1B) and the two retained options on the east alignment (2A and 2B), and that they would not serve to lessen environmental impacts.

3. One option generally on the same alignment (on-alignment) for a box girder replacement bridge with an arch rib:

   The PDT determined that this option was not prudent given that it would have greater impacts to the community as its construction would be longer than Design Option 3A

2.4.2 On-Alignment Construction with a Detour on Old Highway 1

This alternative proposed an on-alignment bridge replacement option with a local detour, where traffic during construction would have been carried on the old Highway 1 through the Albion Campground via Albion River North Side Road. The roadway would have required widening and flattening of the existing, sharp u-shaped curve in the road and crossed the Albion River on a temporary low-level crossing bridge. It is likely the detour would have only provided a single lane for vehicle access. The proposed detour would have added an additional year to bridge construction and would have impacted wetlands and other sensitive resources. Additionally, this alternative would likely have resulted in an unreasonable obstruction to navigation. This alternative was determined to not be viable due to constructability concerns with the steep embankment south of the Albion River and additional impacts on the community and environment. Therefore, this alternative was eliminated from further consideration.

2.4.3 Realign State Route 1 and Replace with a New Bridge Upriver

This alternative proposed relinquishing the existing SR 1 corridor through Albion to a local jurisdiction and moving the alignment of SR 1 to a different location farther west or farther east, the purpose of which would be to avoid impacting the existing bridge, which was designated as a historic resource during project development. Sensitive coastal resources and topography prevent SR 1 from being relocated farther west than what is currently being proposed. The nearest existing Albion River crossing is over 5 miles east of the existing bridge along Albion Ridge Road. Therefore, an alternative was considered that would relinquish the existing SR 1 and Albion River Bridge to a local jurisdiction and construct SR 1 and a new bridge between the community of Albion and the Albion Ridge Road crossing. This alternative would have required extensive new agreements and ROW to be acquired by Caltrans.

The relinquishment of any portion of a state highway to a local jurisdiction would likely require consent of that local jurisdiction through legislative resolution. Neither Mendocino County nor any other local agency or jurisdiction have expressed an interest in assuming all rights, title, and interest of the state in and to this segment of SR 1. In addition, under Section 73 of the Streets and Highway Code, SR 1 cannot be relinquished to a local jurisdiction until Caltrans has placed the highway into a “state of good repair.” Additionally, since this alternative would require constructing a new highway through largely undeveloped rangeland east of the community of Albion, this alternative could potentially have greater environmental impacts on several resources than the alternatives currently being considered, including land use, biological resources, water quality, noise, air quality, visual, transportation, induced vehicle miles traveled, and potentially archaeological resources. Therefore, this alternative was eliminated from further consideration.

2.4.4 Replacement with In-Kind Wooden Trestle Bridge

This alternative proposed to replace the existing bridge with a similar bridge (i.e., two concrete towers with a steel truss that rests on timber towers). Due to changes in wood treatment regulations, it would not be feasible to construct a new bridge at this location using timber towers that would meet current load requirements. In addition, the current bridge railings do not meet current MASH requirements. Further, as described in the April 2021 Bridge Inspection Report, the existing bridge is functionally obsolete, has a low load rating, and is an inappropriate design for the environment (Caltrans 2021). Therefore, an in-kind replacement bridge would have had the same faults, and this alternative was eliminated from further consideration.

2.4.5 Rehabilitate and Convert Existing Bridge to Multimodal Bridge and Build a New Bridge

This alternative proposed to rehabilitate and convert the existing bridge to a multimodal bridge that would not allow vehicular traffic and construct a replacement bridge adjacent to the converted bridge. This alternative would only have been viable if a third party assumed all ownership and responsibility for the future maintenance, repairs, and upkeep of the rehabilitated structure. The scope of work for the rehabilitation effort would have been similar to Alternative 4 (Rehabilitation Alternative) described in Section 2.4.6; however, the existing bridge rail would have been replaced with a pedestrian rail. An 8-foot-tall fence would have been constructed between the existing bridge and the replacement bridge because the difference in height of the replacement structure and its proximity to the lower existing bridge would pose a safety concern to pedestrian and bicyclists below. The scope of work for the replacement bridge would have been similar to Design Options 1A or 1B.

Despite efforts, Caltrans was not able to identify a third party willing to assume all ownership and responsibility for the converted bridge. Therefore, this alternative was determined infeasible and eliminated from further consideration.

2.4.6 Alternative 4 (Rehabilitation Alternative)

Caltrans developed and analyzed Alternative 4 (Rehabilitation Alternative) with two design options:

- Design Option 4A: Rehabilitate Existing Bridge
- Design Option 4B: Rehabilitate and Widen Existing Bridge

Design Option 4A would maintain the bridge's existing operating width of 26 feet, which consists of two 12-foot-wide travel lanes and 1-foot-wide shoulders. Design Option 4B would widen the existing bridge to two 12-foot-wide lanes and two 6-foot-wide shoulders. Both design options would replace the existing bridge's steel truss and include an earthquake retrofit that would include replacing bolted connections and

adding strapdowns and brackets. Much of the remaining bridge superstructure would still consist of structural timber from the 1940s that is beyond its useful life and subject to further decay and chemical leeching. Given the type of structure, it would not be feasible to rehabilitate the bridge to meet current seismic design standards.

As described further in Appendix I, *Consideration of Rehabilitation Alternative*, Alternative 4 would not address many of the critical public safety issues associated with the existing bridge; would not address ongoing preservative leaching to the environment or vulnerability to climate change; would involve prohibitive costs associated with extensive ongoing inspections, maintenance, and repairs; and would fail to meet most of the basic project objectives. After thorough analysis, and in light of the age and structural condition of the bridge, Alternative 4 was eliminated from further consideration.

2.5 PERMITS AND APPROVALS NEEDED

The permits, reviews, and approvals required for project construction are presented in Table S-2 in the *Summary*.

Chapter 3 Affected Environment, Environmental Consequences, and Avoidance, Minimization, and/or Mitigation Measures

This chapter addresses the proposed project's environmental impacts. The environmental resource discussions presented in this chapter are based on the technical studies cited at the beginning of each discussion. An evaluation of the proposed project, consistent with California Environmental Quality Act (CEQA) checklist criteria, is provided in Section 4.3, *CEQA Environmental Checklist*. Avoidance, minimization, and/or mitigation measures are discussed in the following sections and summarized in Appendix D, *Avoidance, Minimization, and/or Mitigation Summary*.

The National Environmental Policy Act (NEPA) baseline for comparing environmental impacts is the No-Build Alternative. The CEQA baseline for nearly all resource areas would ordinarily be the date the Notice of Preparation (NOP) for the Environmental Impact Report was published. As described further in Chapter 5, *Comments and Coordination*, the proposed project's NOP was published in 2015. The Albion River Bridge was subsequently listed on the National Register of Historic Places and the California Register of Historic Resources in 2017. The initiation of work on the environmental document was delayed approximately seven years while the California Department of Transportation (Caltrans) reevaluated potential alternatives and design options. In order to present a fair and more accurate description of the proposed project's expected environmental impacts, the baseline for the CEQA analysis is the existing physical conditions at the time that the technical studies were prepared or conducted, except where noted.

3.1 TOPICS CONSIDERED BUT DETERMINED NOT TO BE RELEVANT

As part of the scoping and environmental analysis carried out for the proposed project, the following environmental issues were considered but no adverse impacts were identified. As a result, there is no further discussion about these issues in this document.

3.1.1 Farmland

There is no designated Important Farmland (Prime Farmland, Farmland of Statewide Importance, Unique Farmland, or Farmland of Local Importance) or Williamson Act land in the vicinity of the proposed project. For the purposes of land classification, the Department of Conservation identifies the area surrounding the proposed project site as grazing land, nonagricultural or natural vegetation, and urban and built-up land (California Department of Conservation 2016).

Parcels that are operated currently as grazing land west of State Route (SR) 1 may be used for equipment staging and access during construction. The temporary reduction in rangeland would not result in a permanent loss or conversion of agricultural land.

3.1.2 Timberlands

The proposed project would not affect designated timberlands or Mendocino County adopted Timberland Preserve Zones. There are no Timberland Preserve Zones within the project's Environmental Study Limits (ESL). The nearest Timberland Preserve Zone is over 0.5 mile from the ESL (Mendocino County 2014).

3.1.3 Growth

Since the proposed project would not change existing or future land use designations, change the existing capacity of any roadway, or open any new land for development, it would not induce growth in the project vicinity.

3.1.4 Environmental Justice

The following discussion is based on the Community Impact Assessment (CIA) for the proposed project (Area West Environmental 2024), which was completed in March 2024. The Community Impact Study Area is described in Section 3.2.1, *Existing and Future Land Use*.

The environmental justice analysis for minority and low-income populations contained in the project's CIA used demographic data and income and poverty threshold data from the 2017–2021 U.S. Census Bureau American Community Survey. The following criteria were used to identify minority and low-income populations that could potentially qualify as environmental justice populations for the purpose of Executive Order 12898, *Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations*:

- A community would be considered a readily identifiable minority population if the total percentage of minority residents is greater than 15 percentage points higher than Mendocino County as a whole.
- A community would be considered a readily identifiable low-income population if the percentage of residents who are living below the U.S. Census Bureau's defined poverty threshold is greater than 6 percentage points higher than Mendocino County as a whole.

The proposed project is located in Census Tract 110.01 in Mendocino County, California. Table 11, Race and Ethnicity Data, in Section 3.2.6, *Community Character and Cohesion*, summarizes the race and ethnicity for the census tract compared to that of Mendocino County. Census Tract 110.01 is predominantly White (89.7 percent).

Therefore, Census Tract 110.01 would not qualify as a readily identifiable minority population.

As depicted in Table 15 in Section 3.2.6, *Community Character and Cohesion*, Census Tract 110.01 has a slightly higher percentage of individuals below the federal poverty level (16.9 percent) compared to Mendocino County (15.8 percent). However, Census Tract 110.01 has a slightly lower percentage of families below the federal poverty level (7.9 percent) compared to Mendocino County (11.5 percent). This may be due to an older population with fewer children in the census tract. Therefore, Census Tract 110.01 would not qualify as a readily identifiable low-income population.

No minority or low-income populations have been identified that would be adversely impacted by the proposed project as determined above. Therefore, in accordance with the provisions of Executive Order 12898, Executive Order 14096 and FHWA Order 6640.23A, no further environmental justice analysis is required.

3.1.5 Equity

The following discussion is based on the CIA for the proposed project (Area West Environmental 2024). The Build Alternatives would not divide or isolate a disadvantaged community and would not increase long-term housing cost or availability or increase the long-term pollution burden on a disadvantaged community. Overall, the Build Alternatives would not burden a disadvantaged community and would benefit the community by removing the pollution burden of the existing bridge, improving pedestrian and multimodal access, and providing higher resilience to natural disasters, which improves long-term community connectivity and safety. Therefore, the proposed project would not impact equity.

3.1.6 Sole Source Aquifer

The proposed project is not within a designated Sole Source Aquifer (U.S. Environmental Protection Agency 2022).

3.2 HUMAN ENVIRONMENT

3.2.1 Existing and Future Land Use

Affected Environment

This section is based on the proposed project's Community Impact Assessment (CIA) (Area West Environmental 2024), which was completed in March 2024.

The CIA distinguishes between the following resource study areas (Figure 18):

- Land Use Study Area
- Community Study Area

The Land Use Study Area is used to describe existing land use and community facilities and defined as the physical areas directly surrounding State Route (SR) 1 in the project area that have the potential to be subject to direct effects associated with implementation of the proposed project. The Land Use Study Area includes the Environmental Study Limits (ESL) plus a 0.5-mile buffer and the population most likely to experience direct effects (e.g., noise, air quality, and visual effects) associated with the proposed project's direct physical improvements.

The Community Study Area is used to characterize the socioeconomic environment and is defined as the census tracts or census block groups located immediately adjacent to the ESL. Census tracts in the vicinity of the proposed project are very large because the setting is primarily rural with a low population density. The Community Study Area includes two census block groups, making up one census tract (Census Tract 110.01).

The proposed project is in Mendocino County, along SR 1, approximately 15 miles south of the city of Fort Bragg and within the community of Albion. SR 1 is a major north-south highway that runs along the Pacific coastline from U.S. Highway 101 near Leggett in the north to Interstate 5 near Dana Point in the south. SR 1 is the primary transportation route along the Mendocino County coast, accommodating local and interregional trips. More than 99 percent of land within Mendocino County is unincorporated. The county is largely rural, and its primary land uses are agriculture and forestland.

Existing and future land uses for the Land Use Study Area are described in the Mendocino County General Plan, which was adopted in 2009; the Coastal Element of the General Plan; and the Mendocino Council of Governments (MCOG) Regional Transportation Plan and Active Transportation Plan (RTP/ATP) (County of Mendocino 2009; County of Mendocino 2021; MCOG 2022).

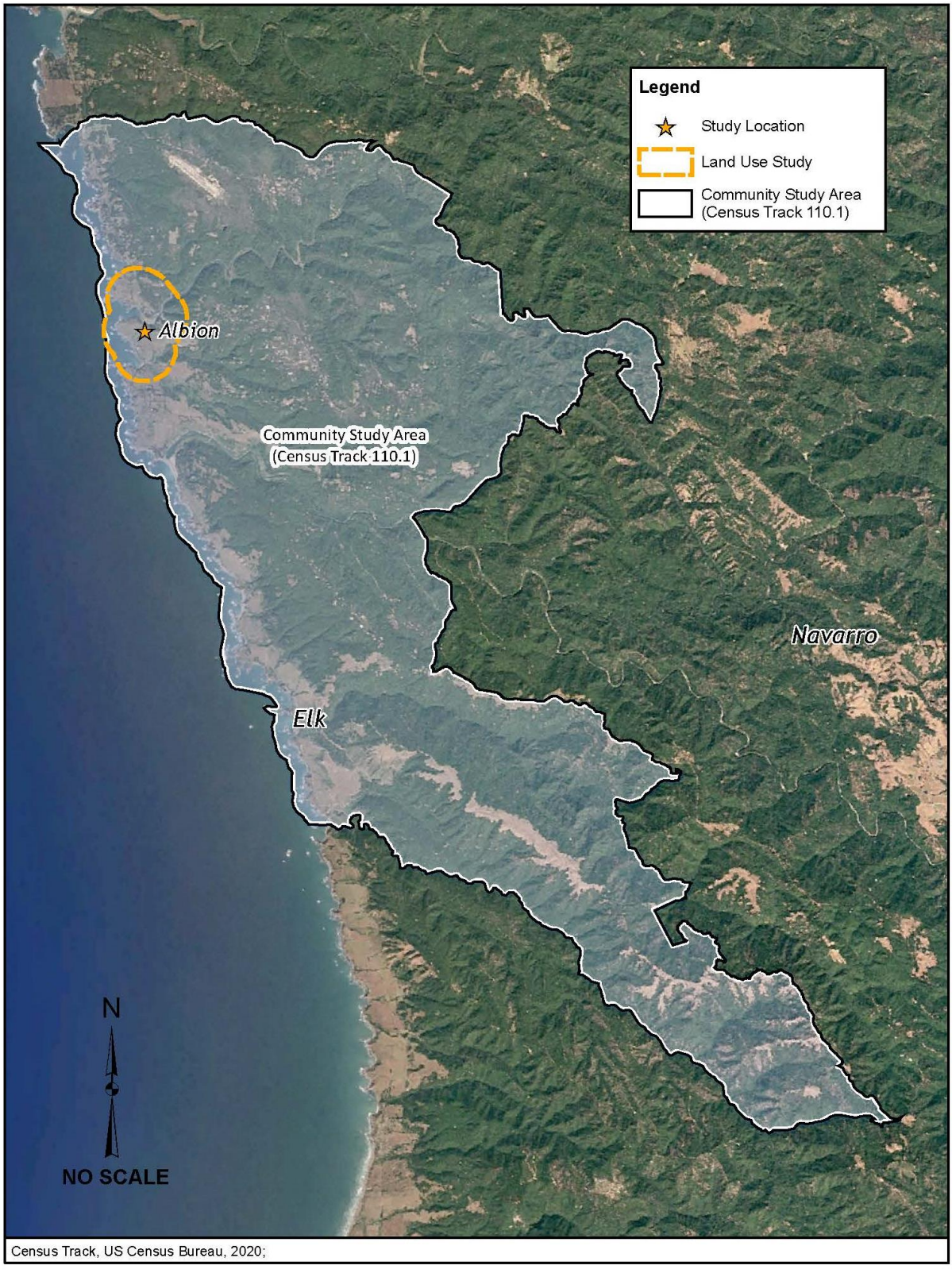


Figure 18. Land Use and Community Study Areas

The Land Use Study Area is primarily rural, with the Pacific Ocean to the west of the Albion River Bridge. The existing developed land uses include the community of Albion, scattered rural residences, a small number of commercial/retail properties, and an inn along the coast. The community of Albion contains small clusters of residences north of the Albion River Bridge, along Albion Little River Road, and south of the bridge along Albion Ridge Road, East Lane, and Albion Street.

According to the Mendocino County Land Use Designation Map, land uses in the Land Use Study Area are designated as commercial, fishing village, range land, remote residential, rural residential, and rural village (County of Mendocino 2009). Additionally, land uses are zoned as commercial, fishing village, range lands, remote rural residential rural residential and rural village (County of Mendocino 2013). Land uses and zoning designations for Mendocino County are shown in Figure 19 and Figure 20, respectively.

The Albion Campground and Marina (Albion Campground) is located immediately north of the Albion River and east of the Albion River Bridge. It contains a day-use area and provides beach access at the Albion Cove. South of the bridge, on Albion Ridge Road, there are several commercial and public land uses, including the Albion Grocery, Village True Value Hardware, U.S. Post Office, and Albion Little River Volunteer Fire Department. Other commercial uses near the ESL include the SCP Mendocino Coast Lodge (formerly Albion River Inn), which is north of the Albion River Bridge and west of SR 1, and the Ledford House restaurant, which is south of the Albion River Bridge and west of SR 1.

No significant development has been identified in the land use study area. Mendocino County is experiencing a population decline, rather than growth. Much of the land in the land use study area is privately owned and zoned for large tracts of rural residential and remote rural residential uses. In addition to a lack of developable land, relatively high housing prices and regulatory limitations on development in the coastal zone also deter rapid growth in the land use study area. Projects that are planned and proposed within approximately 20 miles of the Land Use Study Area are listed in Table 7.

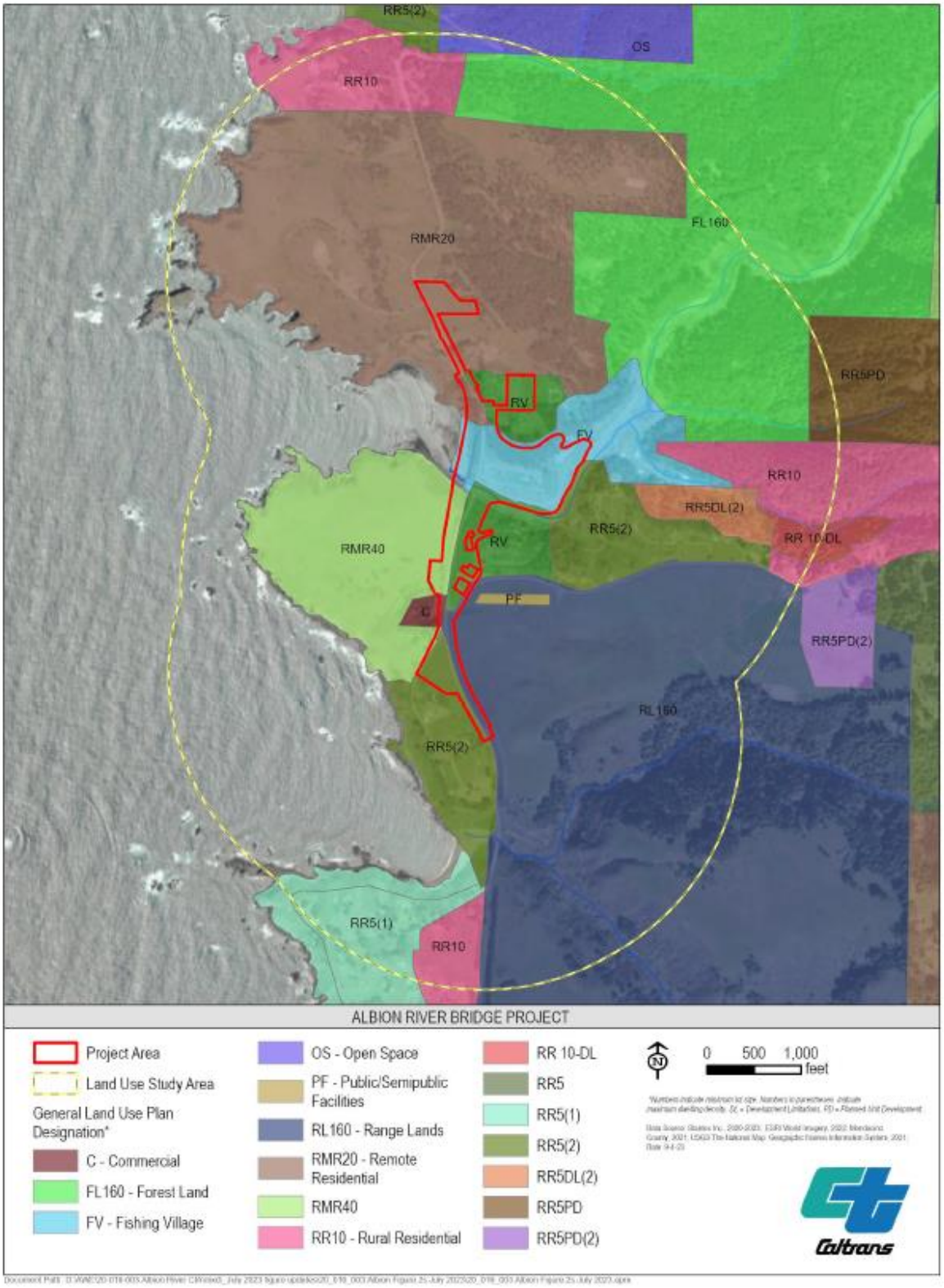


Figure 19. General Plan Land Use Designations and Study Area

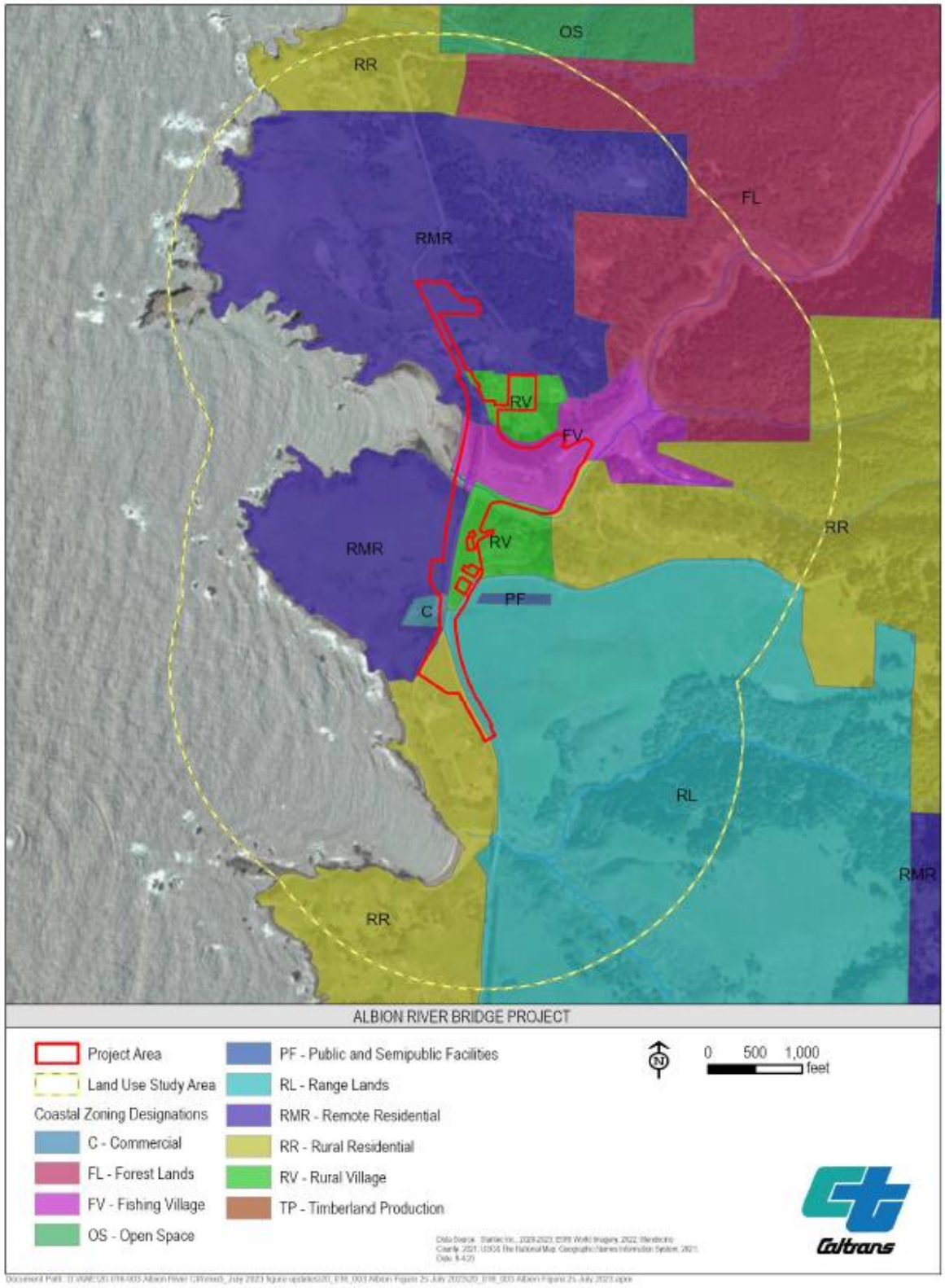


Figure 20. Zoning Designations

Table 7. Planned and Proposed Projects

Project Name (EA No.)	Route: Post Mile (PM)	Project Location	Type of Work	Estimated Delivery Year
Usal Creek Bridge	CR 431; PM 5.93	On Usal Road, CR 431, at PM 5.93	Bridge Replacement	2026
Men-1 Drainage (01-0L270)	SR 1; PM 0 to end of route	From the Sonoma-Mendocino County line to end of SR 1	Rehabilitate drainage and fish passage	2029
Men-1 Fish Passage (01-0F650)	SR 1; PM 4.64 and 58.78	At two locations: Location 1 over Fish Rock Gulch (4.64) and location 2 over Creek at PM 58.78	Fish Passage Remediation	2026
Gualala Shoulders (01-0F710)	SR 1; PM 6.4–6.8 and 9.2–9.5	Near Gualala from 0.3 mile north of Havens Neck Drive to Gypsy Flat Road and from 0.5 to 0.25 mile south of Iversen Road	Widen shoulders	2025
Mendocino Vista Points Seal Coat (01-0M040)	SR 1; PM 10.5–74.1	At various locations near Galloway, Caspar and Kibesillah from 0.8 mile south of Schooner Gulch Bridge to 0.9 mile south of Blue Slide Gulch Bridge	Micro-surfacing	Completed in 2023
North Point Arena Capitol Preventive Maintenance (CAPM) (01-0J940)	SR 1; PM 15–33.9	Near Point Arena from 0.2 mile south of Iverson Avenue to Philo Greenwood Road	Pavement preservation	2026
Elk Creek Bridge Replacement (01-0E110)	SR 1; PM 31.35	In Mendocino County near Elk from 0.2 mile south of Elk Creek Bridge to 0.2 mile north of Elk Creek Bridge	Replace bridge	2024
Men-1 Widen (01-0G600)	SR 1; PM 65.13–65.49	SR 1, PM 65.13 to 65.49	Widen shoulders	Completed in 2023
Elk to Mendocino CAPM (01-0H600)	SR 1; PM 33.7–51.0	Near Elk from 0.1 mile north of Greenwood Creek to 0.2 mile north of Little Lake Road	Rehabilitate pavement	2024
Navarro Ridge Safety (01-0C550)	SR 1; PM 41.78–42.28	In Mendocino County near Albion from 1.5 miles north of the junction of SR 128 to 0.1 mile south of Navarro Ridge Road	Install metal beam guardrail	2024
Navarro Drainage (01-0E940)	SR 1; PM 41.78–42.28	In Mendocino County near Albion at Navarro Ridge Road	Reconstruct drainage	2024
Salmon Creek Bridge Replacement (01-40140)	SR 1; PM 42.3–42.4	Near Albion from 2.2 miles north of the SR 128 junction to 0.2 mile north of Salmon Creek	Replace bridge	2030

Project Name (EA No.)	Route: Post Mile (PM)	Project Location	Type of Work	Estimated Delivery Year
Salmon Creek Sandblast Waste Abatement (01-40141)	SR 1; PM 42.4–43.3	Near Albion from 2.2 miles north of the SR 128 junction to 0.2 mile north of Salmon Creek	Lead cleanup	2026
Pudding Creek Bridge (01-43480)	SR 1; PM 62.12	In Fort Bragg from Elm Street to Pudding Creek Rd-421	Widen bridge and upgrade bridge rail	Completed in 2023
Jack Peters Creek Bridge (01-43484)	SR 1; PM 51.3–52.1	Near Fort Bragg at Jack Peters Creek Bridge 10-150	Widen bridge and upgrade bridge	2024
Fort Bragg ADA (01-0B220)	SR 1; PM 59.8–62.1	In Fort Bragg from SR 20 to Pudding Creek Bridge	Install ADA pedestrian infrastructure	Schedule to be determined
Westport Culverts (01-0K170)	SR 1; PM 75.47–84.1	On SR 1 between Blue Side Gulch Bridge and Hardy Creek Bridge.	Rehabilitate drainage systems	2026
Corrective Maintenance and Pavement Preservation	CR 403; PM 0–3.19	Albion Little River Road, CR 403, PM 0 to 3.19	Chip seal pavement	Completed in 2023
Culvert Rehabilitation and Fish Passage (01-0K680)	SR 128; PM 0–50.5	On SR 128 at various locations from junction SR 1 to 2.1 miles east of Mountain House Road-111	Rehabilitate drainage and fish passage	2028
Boonville CAPM (01-0K000)	SR 128; PM 17.9–30.663	At Reilly Heights and Boonville from Mill Creek Bridge to Robinson Creek Bridge	Capital maintenance	2025
South Fork Noyo River Micro-Surfacing (01-0M030)	SR 20; PM 2–17.3	Near Whiskey Springs from Porterfield Lane to Chamberlain Creek Bridge	Micro-surfacing	October 2023
MEN-20 Culvert Rehab / Replace (01-0M580)	SR 20; PM 7.34–12.97	Various locations on SR 20 from 4.0 miles east of Wildwood Campground to 1.2 miles west of Three Chop Road – Road 8146	Culvert rehabilitation and replacement	2024

Environmental Consequences

Build Alternatives

Construction and Operational Impacts

Under all proposed Build Alternatives, the existing Albion River Bridge would be replaced, and intersection improvements would be constructed. As described in Section 2.2.6, *Unique Features of Build Alternatives*, all Build Alternatives would require the acquisition of right of way (ROW), including permanent partial acquisitions, permanent easements, and temporary construction easements (TCEs).

Based on preliminary designs, ROW for the proposed project would potentially include the following:

- Alternative 1 (West Alignment) would entail removing the existing bridge and constructing a new bridge on an improved alignment approximately 60 feet west of the existing bridge centerline.
    - Design Options 1A and 1B: Approximately 3.04 acres of undeveloped land would be acquired, primarily west of the existing bridge, and converted to a transportation use, and 21.38 acres of land would have a TCE.
- Alternative 2 (East Alignment) would entail removing the existing bridge and constructing a new bridge on an improved alignment up to 190 feet, at the farthest point, east of the existing bridge centerline.
    - Design Option 2A: Approximately 3.50 acres of undeveloped land and campground property would be permanently acquired and converted to a transportation use, and 19.08 acres of land would have a TCE.
    - Design Option 2B: Approximately 2.55 acres of undeveloped land and campground property would be permanently acquired and converted to a transportation use, and 22.96 acres of land would have a TCE.
- Alternative 3 (On-Alignment) would entail removing the existing bridge and constructing a new bridge on an improved alignment with the centerline shifted between 16 and 46 feet to the west of the existing bridge centerline. Approximately 1.87 acres of undeveloped land would be acquired and converted to a transportation use, and 22.71 acres of land would have a TCE.

As described in Section 2.2.5, *Common Design Features of the Build Alternatives*, TCEs are areas outside of state ROW that are needed temporarily during construction. This includes potential staging areas depicted in Figure 16 in Section 2.2.5. Following completion of construction, all TCEs would be restored to a condition as good or better than that of pre-project conditions.

All Build Alternatives have been designed to avoid impacts to existing built land uses, to the extent practicable, while adhering to design and operational criteria to maintain a safe roadway. The proposed project would not include the permanent full acquisition of

any parcel. TCEs and partial acquisitions would not affect the land use designation or zoning for the remainder of any property. In addition, indirect impacts to land use patterns are not anticipated because impacts would be contained largely within state ROW. None of the Build Alternatives would open new areas to development or lead to changes in density. Therefore, overall land use patterns in the Land Use Study Area would remain the same, and zoning and land use designations would not change.

No-Build Alternative

Under the No-Build Alternative, the Albion River Bridge would not be replaced, and land use and zoning would not change within the Land Use Study Area.

Avoidance, Minimization, and/or Mitigation Measures

No avoidance, minimization, or mitigation measures are proposed.

3.2.2 Consistency with State Regional and Local Plans and Programs

Affected Environment

This section is based on the proposed project's Community Impact Assessment (CIA) (Area West Environmental 2024), which was completed in March 2024.

Relevant Plans in the project area include the Mendocino County General Plan (County General Plan), which was adopted in 2009 (County of Mendocino 2009); the Development Element of the General Plan (updated in 2020; County of Mendocino 2020) contains goals and policies related to land use and transportation. In addition, as the project is within the coastal zone, the Coastal Element of Mendocino County's General Plan, updated in 2021 (County of Mendocino 2021), is relevant as well. To review the applicable plans/policies from the Coastal Element, please refer to Section 3.2.3, *Coastal Zone*.

The Mendocino Council of Governments (MCOG) serves as the regional transportation planning agency. The regional transportation planning process is a long-range planning effort (1 to 20 years) that involves federal, state, regional, local, and tribal governments; public and private organizations; and individuals working together to plan for future regional transportation needs. MCOG's Mendocino County Regional Transportation Plan & Active Transportation Plan (RTP/ATP) (MCOG 2022) was adopted in 2022.

Environmental Consequences

Build Alternatives

Construction and Operational Impacts

The land use and transportation goals and policies related to the proposed project include maintaining a safe and efficient transportation system in the county while preserving the county's rural character and scenic values. Table 8 analyzes the consistency of the proposed project with relevant plans, goals, and policies. See Section 3.2.3, *Coastal Zone* for applicable plans and policies for coastal resources and Section 4.5, *Climate Change,* for policies related to climate change.

As shown in the table, the proposed project, which would provide a safe and reliable bridge structure with a normal useful lifespan, would be consistent with relevant plans.

No-Build Alternative

Under the No-Build Alternative, the Albion River Bridge would not be replaced and, as shown in Table 8, would be inconsistent with the Mendocino County RTP/ATP, and inconsistent or partially consistent with most of the applicable goals and policies in the Mendocino County General Plan.

Avoidance, Minimization, and/or Mitigation Measures

No avoidance, minimization, and/or mitigation measures are proposed.

Table 8. Consistency with State, Regional, and Local Plans and Programs

Plans/Policies	Build Alternative 1	Build Alternative 2	Build Alternative 3	No-Build Alternative
Mendocino County General Plan Principle 2-1a: Conservation of Mendocino County's natural resources, farmland, forestland, and open spaces is essential to the rural quality of life desired by residents and visitors alike.	**Consistent.** Build Alternative 1 would not affect any designated natural resources, farmland, forestland, or open space.	**Consistent**. Build Alternative 2 is similar to Build Alternative 1.	**Consistent.** Build Alternative 3 is similar to Build Alternative 1.	**Consistent.** The No-Build Alternative would not affect the county's natural resources, farmland, forestland, or open spaces because no improvements would occur.
Mendocino County General Plan Principle 2-1b: Mendocino County's natural, scenic, recreational, historic, and archaeological resources are vital to the quality of life and shall be protected for the enjoyment and economic prosperity of present and future generations.	**Partially Consistent.** Build Alternative 1 would replace the existing Albion River Bridge, which is a historic structure, with a new structure. Once operational, the proposed project would improve access and decrease visual obstructions to the coastline. Measures to help offset the loss of the historic bridge structure are being determined through the National Historic Preservation Act Section 106 consultation process (see Section 3.2.11, *Cultural Resources*)	**Partially Consistent.** Build Alternative 2 is similar to Build Alternative 1.	**Partially Consistent.** Build Alternative 3 is similar to Build Alternative 1.	**Consistent**. The No-Build Alternative would not affect the county's natural, scenic, recreational, historic, or archaeological resources because no improvements would occur.
Mendocino County General Plan Goal DE-1: Land use patterns that maintain the rural character of Mendocino County, preserve its natural resources, and recognize the constraints of the land and the limited availability of infrastructure and public services.	**Consistent.** Build Alternative 1 would replace the Albion River Bridge, including widening of the shoulders and addition of a separated pedestrian pathway. No lanes would be added. While some small slivers of ROW acquisition would be acquired, the overall land-use patterns would remain the same, and the proposed project would not change the rural, natural setting of the community (see Section 2.2.6, *Unique Features of Build Alternatives*).	**Consistent.** Build Alternative 2 is similar to Build Alternative 1. However, Build Alternative 2 would require additional ROW	**Consistent.** Build Alternative 3 is similar to Build Alternative 1. However, Build Alternative 3 would require the smallest area of ROW	**Consistent.** The No-Build Alternative would not affect existing Mendocino County land use designations as existing conditions would remain as is.

Plans/Policies	Build Alternative 1	Build Alternative 2	Build Alternative 3	No-Build Alternative
		acquisition, particularly from the Albion Campground (see Section 2.2.6, *Unique Features of Build Alternatives*).	acquisition (see Section 2.2.6, *Unique Features of Build Alternatives*).	
Mendocino County General Plan Goal DE-4: Functional, safe, and attractive communities compatible with the County General Plan and community objectives, infrastructure availability, and environmental, safety, economic, and other opportunities and constraints.	**Consistent.** Build Alternative 1 supports the goal of providing functional and safe infrastructure and roadways. In addition to replacing the bridge for structural deficiencies, a purpose of the proposed project is to provide wider shoulders for motorists experiencing breakdowns, as well as safe bicycle and pedestrian movement by providing shoulders and a dedicated walkway on the bridge.	**Consistent.** Build Alternative 2 is similar to Build Alternative 1.	**Consistent.** Build Alternative 3 is similar to Build Alternative 1.	**Inconsistent.** Under the No-Build Alternative, no improvements to the bridge would occur and it would remain unsafe for vehicles in the event of a collision or emergency incident, seismic event, or other catastrophic failure, and would also remain unimproved for pedestrians and cyclists.
Mendocino County General Plan Goal DE-7: Basic infrastructure (roadways, water and sewer service, schools, libraries, internet access, etc.) sufficient to support existing and future development, in place when needed, and fully funded both initially and on an ongoing basis.	**Consistent.** Build Alternative 1 supports the goal of providing safe infrastructure and roadway. In addition to replacing the bridge for structural deficiencies, a purpose of the proposed project is to provide wider shoulders for cyclists and motorists experiencing breakdowns, as well as safe bicycle and pedestrian movement by providing shoulders and a dedicated walkway on the bridge.	**Consistent.** Build Alternative 2 is similar to Build Alternative 1.	**Consistent.** Build Alternative 3 is similar to Build Alternative 1.	**Inconsistent.** Under the No-Build Alternative, no improvements to the bridge would occur and it would remain unsafe for vehicles in the event of a collision or emergency incident, seismic event, or other catastrophic failure, and would also remain unimproved for pedestrians and cyclists.

Plans/Policies	Build Alternative 1	Build Alternative 2	Build Alternative 3	No-Build Alternative
Mendocino County General Plan Goal DE-8: A balanced and coordinated transportation system that: Is an integrated and attractive part of each community. Is functional, safe, and pleasant to use, and supports emergency services. Provides a choice of modes accessing and connecting places frequented in daily life. Promotes compact development and infrastructure efficiencies. Is consistent with principles of sustainability and conservation of resources. Is not solely dependent on the continuation of fossil fuel resources. Can be maintained, used, and justified if available energy sources change during the duration of the County General Plan.	**Consistent.** Build Alternative 1 supports the goal of providing functional and safe infrastructure and roadways that support emergency services and multimodal use. In addition to replacing the bridge for structural deficiencies, a purpose of the proposed project is to provide wider shoulders for cyclists and motorists experiencing breakdowns, as well as safe bicycle and pedestrian movement by providing shoulders and a dedicated walkway on the bridge.	**Consistent.** Build Alternative 2 is similar to Build Alternative 1.	**Consistent.** Build Alternative 3 is similar to Build Alternative 1.	**Inconsistent.** Under the No-Build Alternative, no improvements to the bridge would occur and it would remain unsafe for vehicles in the event of a collision or emergency incident, seismic event, or other catastrophic failure, and would also remain unimproved for pedestrians and cyclists.

Plans/Policies	Build Alternative 1	Build Alternative 2	Build Alternative 3	No-Build Alternative
Mendocino County General Plan Goal DE-9: A countywide road system that provides safe, efficient, and attractive access, coordinated with interstate, state, local, and area-wide systems.	**Consistent.** Build Alternative 1 would have two 12-foot-wide travel lanes and two 6-foot-wide shoulders on the bridge, steel barrier rails, and a separated 6-foot-wide pedestrian walkway on the west side with a barrier railing, which would improve the safety and function of the bridge for all modes of transportation. In addition, there would be 4-foot shoulders on the roadway. The proposed project would not substantially alter existing county roads.	**Consistent.** Build Alternative 2 is similar to Build Alternative 1.	**Consistent.** Build Alternative 3 is similar to Build Alternative 1.	**Inconsistent.** Under the No-Build Alternative, no improvements to the bridge would occur and it would remain unsafe for vehicles in the event of a collision or emergency incident, seismic event, or other catastrophic failure, and would also remain unimproved for pedestrians and cyclists.
Mendocino County General Plan Goal DE-10: Functional, safe, and attractive pedestrian and bicycle systems coordinated with regional and local transportation plans and other transportation modes.	**Consistent.** In addition to replacing the bridge for structural deficiencies, Build Alternative 1 would provide wider shoulders for cyclists and motorists experiencing breakdowns, as well as safe bicycle and pedestrian movement.	**Consistent.** Build Alternative 2 is similar to Build Alternative 1.	**Consistent.** Build Alternative 3 is similar to Build Alternative 1.	**Inconsistent.** Under the No-Build Alternative, no improvements to the bridge would occur, and it would remain. unimproved for pedestrians and cyclists.
Mendocino County General Plan Goal DE-27: To locate and design development in a manner that avoids or is compatible with the risk posed by geologic and seismic hazards.	**Consistent.** Build Alternative 1 would be designed according to Caltrans Seismic Design Criteria and would provide for stability and structural integrity. Build Alternative 1 would not create nor contribute significantly to erosion, geologic instability, or alteration of natural landforms along bluffs or cliffs. After construction, the replacement bridge would be safer for all modes of travel, and more resilient and less susceptible to collapse.	**Consistent.** Build Alternative 2 is similar to Build Alternative 1.	**Consistent.** Build Alternative 3 is similar to Build Alternative 1.	**Inconsistent.** Under the No-Build Alternative, no improvements to this section of SR 1 would occur. The deficiencies of the existing bridge, including risk of catastrophic failure due to geologic and seismic hazards, would persist.
Mendocino County General Plan Goal DE-98: The County will protect residential areas	**Consistent.** Build Alternative 1 would result in traffic noise levels at residential uses in the range of 49 to 59 dBA in the design year, an increase between existing and design year conditions predicted to be 0 to 3 dB. In	**Consistent.** Build Alternative 2 is similar to	**Consistent.** Build Alternative 3 would not	**Consistent.** The No-Build Alternative would not affect noise sensitive sources because no

Plans/Policies	Build Alternative 1	Build Alternative 2	Build Alternative 3	No-Build Alternative
and other noise-sensitive uses from excessive noise by doing the following: 1) Requiring that new land uses, new roadways, and other new noise sources do not create unacceptable noise levels on adjacent parcels. 2) Allowing homes or noise-sensitive uses to be developed only in places where existing and projected noise levels would meet the exterior noise guidelines and standards shown in Policies DE-100 and DE-101.3) Requiring that County decisions that would cause or allow an increase in the noise created by stationary or mobile sources (such as the development of noise-generating land uses or the construction of new or wider roadways) be informed by noise analysis and accompanied by noise reduction measures to keep noise at acceptable levels.	addition, noise reducing pavements (i.e., rubberized asphalt) would be used, which have been shown to have at least a 3 dB decrease in noise levels.	Build Alternative 1. Design Option 2A would result in traffic noise levels at residential uses in the range of 51 to 62 dBA, an increase between existing and design year predicted to be 0 to 6 dB. Design Option 2B would result in traffic noise levels at residential uses in the range of 50 to 60 dBA, an increase between existing and design year predicted to be 0 to 4 dB. In addition, noise reducing pavements	result in substantial horizontal alteration of the roadway, and therefore is not anticipated to affect traffic noise levels.	improvements would occur.

Plans/Policies	Build Alternative 1	Build Alternative 2	Build Alternative 3	No-Build Alternative
		(i.e., rubberized asphalt) would be used, which have been shown to have at least a 3 dB decrease in noise levels.		
Mendocino County General Plan Goal DE-105: A five dB increase in CNEL or Ldn noise levels shall be normally considered to be a significant increase in noise.	**Consistent.** Build Alternative 1 would not have an increase of five dB in CNEL or Ldn noise levels based on traffic noise modeling results and the use of noise reducing pavements (i.e., rubberized asphalt), which have been shown to have at least a 3 dB decrease.	**Consistent.** Build Alternative 2 is similar to Build Alternative 1.	**Consistent.** Build Alternative 3 is similar to Build Alternative 1.	**Consistent.** Under the No-Build Alternative, no improvements to this section of SR 1 would occur.
Mendocino County General Plan Goal DE-252: All new buildings and structures shall comply with the uniform construction codes and other regulations adopted by the County and State to minimize geologic hazards.	**Consistent.** Build Alternative 1 would be designed and constructed in accordance with all applicable federal, State, and local seismic codes, as well as with Caltrans' seismic design criteria for structures. All Build Alternatives propose to install permanent shoring as a necessary safety element to stabilize excavations for equipment and worker access along the steep slopes around the new bridge foundations. The permanent shoring would likely be comprised of steel sheet piles, soldier piles, or concrete soil nail walls, which would be partially backfilled and revegetated. The replacement bridge would be less vulnerable to collapse in a seismic event or coastal hazards than the existing bridge.	**Consistent.** Build Alternative 2 is similar to Build Alternative 1.	**Consistent.** Build Alternative 3 is similar to Build Alternative 1.	**Inconsistent.** Under the No-Build Alternative, no improvements to this section of SR 1 would occur. The deficiencies of the existing bridge would persist, including risk of catastrophic failure due to geologic hazards.
Mendocino County RTP/ATP Goods Movement Goal: A	**Consistent.** Build Alternative 1 would improve the functionality of the bridge and provide wider shoulders to improve safety for motorists, cyclists, and	**Consistent.** Build Alternative 2	**Consistent.** Build Alternative 3	**Inconsistent.** The No-Build Alternative would continue to limit the load-

Plans/Policies	Build Alternative 1	Build Alternative 2	Build Alternative 3	No-Build Alternative
transportation system allowing the efficient free flow of goods and freight, including agricultural goods, within and through the region.	pedestrians. There would also be a dedicated walkway for pedestrian use on the bridge. In addition, Build Alternative 1 would not limit the load capacity of the Albion River Bridge. Therefore, the proposed project would potentially aid the efficient free flow of goods and freight, including agricultural goods, within and through the region.	is similar to Build Alternative 1.	is similar to Build Alternative 1.	carrying capacity of the Albion River Bridge.
Mendocino County RTP/ATP Goods Movement Objective GM 1: Develop State Highway routes and local routes capable of efficiently moving goods and agricultural products to, from, and through the region.	**Consistent.** Build Alternative 1 would improve the load-carrying capacity of the Albion River Bridge. Therefore, the proposed project would potentially aid the efficient free flow of goods and freight, including agricultural goods, within and through the region.	**Consistent.** Build Alternative 2 is similar to Build Alternative 1.	**Consistent.** Build Alternative 3 is similar to Build Alternative 1.	**Inconsistent.** The No-Build Alternative would continue to limit the load-carrying capacity of the Albion River Bridge.
Mendocino County RTP/ATP Goods Movement Policy GM 1.1: Prioritize State Highway and local road projects that improve connectivity and overall mobility and increase the efficiency with which freight can travel throughout the region.	**Consistent.** Build Alternative 1 would improve the functionality of the bridge, which would improve freight movement.	**Consistent.** Build Alternative 2 is similar to Build Alternative 1.	**Consistent.** Build Alternative 3 is similar to Build Alternative 1.	**Inconsistent.** The No-Build Alternative would not improve or fix the structural and seismic deficiencies of the existing conditions of the Albion River Bridge. The No-Build Alternative would continue to limit the load-carrying capacity of the Albion River Bridge.
Mendocino County RTP/ATP Transportation Security and Emergency Response Goal: Provide a safe transportation system and	**Consistent.** Build Alternative 1 would improve the functionality of the bridge and provide wider shoulders to improve safety for motorists, cyclists, and pedestrians and improve conditions for emergency response and evacuation.	**Consistent.** Build Alternative 2 is similar to	**Consistent.** Build Alternative 3 is similar to	**Inconsistent.** The No-Build Alternative would not improve or fix the existing structural and seismic deficiencies of the Albion River Bridge,

Plans/Policies	Build Alternative 1	Build Alternative 2	Build Alternative 3	No-Build Alternative
enable rapid and safe evacuation and emergency response.		Build Alternative 1.	Build Alternative 1.	and the existing bridge does not provide shoulders for emergency responders.
Mendocino County RTP/ATP Transportation Security and Emergency Response Objective TSER 1: Coordinate with local and state agencies on security and emergency response planning efforts.	**Consistent.** Build Alternative 1 would improve the functionality of the bridge and provide wider shoulders to improve safety for motorists, cyclists, and pedestrians and improve conditions for emergency response and evacuation. A TMP would be prepared prior to construction (**TT-3**). **AMM-TT-1** would also be implemented requiring the preparation of a contingency plan in coordination with emergency services. In addition, **AMM-PR-1** would be implemented requiring that a public outreach program be implemented as well.	**Consistent.** Build Alternative 2 is similar to Build Alternative 1.	**Consistent.** Build Alternative 3 is similar to Build Alternative 1.	**Not applicable.**
Mendocino County RTP/ATP Transportation Security and Emergency Response Policy TSER 1.2: Identify key transportation routes for evacuation as well as emergency responder access.	**Consistent.** As the only bridge over the Albion River for several miles, SR 1 is a key emergency responder and evacuation route. Build Alternative 1 would improve the functionality of the bridge and provide wider shoulders to improve safety for motorists, cyclists, and pedestrians and improve conditions for emergency response and evacuation.	**Consistent.** Build Alternative 2 is similar to Build Alternative 1.	**Consistent.** Build Alternative 3 is similar to Build Alternative 1.	**Not applicable.**
Mendocino County RTP/ATP Transportation Security and Emergency Response Policy TSER 1.4: Encourage Caltrans to prioritize improvements to State Highways that will enhance safety during emergency evacuations.	**Consistent.** Build Alternative 1 would improve the functionality of the bridge and provide wider shoulders to improve safety for motorists, cyclists, and pedestrians and improve conditions for emergency response and evacuation.	**Consistent.** Build Alternative 2 is similar to Build Alternative 1.	**Consistent.** Build Alternative 3 is similar to Build Alternative 1.	**Not applicable.**

Plans/Policies	Build Alternative 1	Build Alternative 2	Build Alternative 3	No-Build Alternative
Mendocino County RTP/ATP Transportation Security and Emergency Response Objective TSER 2: Encourage the provision of safety measures for all modes of the regional transportation system.	**Consistent.** Build Alternative 1 would improve the functionality of the bridge and roadway and provide wider shoulders to improve safety for motorists, cyclists, and pedestrians.	**Consistent.** Build Alternative 2 is similar to Build Alternative 1.	**Consistent.** Build Alternative 3 is similar to Build Alternative 1.	**Inconsistent.** Under the No-Build Alternative, no improvements to the bridge would occur and it would remain unsafe for vehicles in the event of a collision or emergency incident, seismic event, or other catastrophic failure and would also remain unimproved for pedestrians and cyclists.
Mendocino County RTP/ATP Transportation Security and Emergency Response Policy TSER 2.1: Consider safety features when planning new transportation projects, such as lighting and fencing, that would improve safety and security of travelers.	**Consistent.** Build Alternative 1 would improve the functionality of the bridge and provide wider shoulders to improve safety for motorists and cyclists. A separated pedestrian walkway would improve safety for pedestrians. In addition, steel railings would be added to the bridge to meet current bridge rail safety standards.	**Consistent.** Build Alternative 2 is similar to Build Alternative 1.	**Consistent.** Build Alternative 3 is similar to Build Alternative 1.	**Not applicable.**

Plans/Policies	Build Alternative 1	Build Alternative 2	Build Alternative 3	No-Build Alternative
Mendocino County RTP/ATP State Highway System Goal: Provide safe, efficient transportation for regional and interregional traffic while maintaining quality of life for residents of the county.	**Consistent.** Build Alternative 1 would improve the safety of crossing the Albion River Bridge without adding roadway capacity.	**Consistent.** Build Alternative 2 is similar to Build Alternative 1.	**Consistent.** Build Alternative 3 is similar to Build Alternative 1.	**Inconsistent.** Under the No-Build Alternative, no improvements to the bridge would occur and it would remain unsafe for vehicles in the event of a collision or emergency incident, seismic event, or other catastrophic failure and would also remain unimproved for pedestrians and cyclists.
Mendocino County RTP/ATP State Highway System Objective SH 1: Provide timely improvements to the Principal Arterial (major highway) system consistent with statewide needs and regional priorities.	**Consistent.** SR 1 from the junction with SR 128 north to its terminus at the U.S. 101 junction is considered a corridor of regional significance in the Mendocino County RTP/ATP. The proposed project would improve SR 1 and is identified in the Mendocino County RTP/ATP. Build Alternative 1 would improve the functionality of the Albion River Bridge and provide wider shoulders and a pedestrian walkway to improve safety for motorists, cyclists, and pedestrians.	**Consistent.** Build Alternative 2 is similar to Build Alternative 1.	**Consistent.** Build Alternative 3 is similar to Build Alternative 1.	**Inconsistent.** The No-Build Alternative would not improve or fix the structural and seismic deficiencies of the existing conditions of the Albion River Bridge.
Mendocino County RTP/ATP State Highway System Policy SH 1.1: Identify improvements to the major corridors consistent with route concepts.	**Consistent.** The proposed project would improve SR 1 and is identified in the Mendocino County RTP/ATP. Build Alternative 1 would improve the functionality of the Albion River Bridge and provide wider 6-foot shoulders and a separated pedestrian walkway to improve safety for motorists, cyclists, and pedestrians. In addition, steel railings would be added to the bridge to meet current bridge rail safety standards.	**Consistent.** Build Alternative 2 is similar to Build Alternative 1.	**Consistent.** Build Alternative 3 is similar to Build Alternative 1.	**Inconsistent.** The No-Build Alternative would not improve or fix the structural and seismic deficiencies of the Albion River Bridge.

Plans/Policies	Build Alternative 1	Build Alternative 2	Build Alternative 3	No-Build Alternative
Mendocino County RTP/ATP State Highway System Objective SH 2: Provide a system of Minor Arterial Highways consistent with statewide needs and local priorities.	**Consistent.** The proposed project would improve SR 1 and is identified in the Mendocino County RTP/ATP. In addition, Build Alternative 1 would include, but is not limited to, the following safety improvements that would benefit the local community: lengthening the left turn lane on SR 1 south of Spring Grove Road, realigning Albion River North Side Road, and reconstructing the SR 1/Albion Little River Road intersection.	**Consistent.** Build Alternative 2 is similar to Build Alternative 1.	**Consistent.** Build Alternative 3 is similar to Build Alternative 1.	**Inconsistent.** The No-Build Alternative would not improve or fix the structural and seismic deficiencies of the Albion River Bridge and is not consistent with statewide and local policies for multimodal transportation and safety.
Mendocino County RTP/ATP State Highway System Policy SH 2.1: Encourage State funding for maintenance of Minor Arterial Highway segments within the county.	**Consistent.** One of the purposes of the proposed project is to reduce the amount of maintenance required for the Albion River Bridge, which is maintained by Caltrans.	**Consistent.** Build Alternative 2 is similar to Build Alternative 1.	**Consistent.** Build Alternative 3 is similar to Build Alternative 1.	**Inconsistent.** The No-Build Alternative would require ongoing and costly maintenance.
Mendocino County RTP/ATP State Highway System Policy SH 2.2: Coordinate with Caltrans to identify and program needed operational and safety improvements.	**Consistent.** Build Alternative 1 would improve the functionality of the bridge and provide wider shoulders to improve safety for motorists, cyclists, and pedestrians. This alternative is consistent with the applicable safety goals and policies.	**Consistent.** Build Alternative 2 is similar to Build Alternative 1.	**Consistent.** Build Alternative 3 is similar to Build Alternative 1.	**Inconsistent.** The No-Build Alternative would not improve or fix the structural and seismic deficiencies of the existing conditions of the Albion River Bridge.
Mendocino County RTP/ATP State Highway System Objective SH 3: Provide safe traveling conditions on all State Highways within Mendocino County.	**Consistent.** Build Alternative 1 would improve the functionality of the bridge and roadway by providing wider shoulders to improve safety for motorists, cyclists, and pedestrians. This alternative is consistent with the applicable safety goals and policies.	**Consistent.** Build Alternative 2 is similar to Build Alternative 1.	**Consistent.** Build Alternative 3 is similar to Build Alternative 1.	**Inconsistent.** The No-Build Alternative would not improve or fix the structural and seismic deficiencies of the existing conditions of the Albion River Bridge.

Plans/Policies	Build Alternative 1	Build Alternative 2	Build Alternative 3	No-Build Alternative
Mendocino County RTP/ATP State Highway System Policy SH 3.1: Prioritize projects that correct safety issues (particularly in locations with high accident rates) for support and funding consideration.	**Consistent.** Build Alternative 1 would improve the functionality of the bridge and roadway by providing wider shoulders to improve safety for motorists, cyclists, and pedestrians and correct site distance and hazardous turns on the roadway. This alternative is consistent with the applicable safety goals and policies.	**Consistent.** Build Alternative 2 is similar to Build Alternative 1.	**Consistent.** Build Alternative 3 is similar to Build Alternative 1.	**Inconsistent.** The No-Build Alternative would not improve or fix the structural and seismic deficiencies of the existing conditions of the Albion River Bridge, or the hazardous turn condition north of the bridge.

3.2.3 Coastal Zone

Regulatory Setting

The proposed project has the potential to affect resources protected by the Coastal Zone Management Act (CZMA) of 1972. The CZMA is the primary federal law enacted to preserve and protect coastal resources. The CZMA sets up a program under which coastal states are encouraged to develop coastal management programs. States with an approved coastal management plan are able to review federal permits and activities to determine if they are consistent with the state's management plan.

California has developed a coastal zone management plan and has enacted its own law, the California Coastal Act of 1976, to protect the coastline. The policies established by the California Coastal Act are similar to those for the CZMA: 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 CZMA 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 (LCP). The proposed project is subject to the Mendocino County LCP. LCPs contain the ground rules for development and protection of coastal resources in their jurisdiction consistent with the California Coastal Act goals. Mendocino County's LCP is contained in the Coastal Element of the General Plan, which was adopted by the Mendocino County Board of Supervisors and originally certified by the California Coastal Commission on November 20, 1985 (County of Mendocino 2021). The Mendocino County Coastal Zoning Code (Division II of Title 20) is applicable to all properties in the unincorporated areas of the Coastal Zone within Mendocino County.

A Federal Consistency Determination will be needed. The Federal Consistency Determination process would be required as part of the permitting process after the final environmental document.

Affected Environment

This section is based on the proposed project's Community Impact Assessment (CIA) (Area West Environmental 2024), which was completed in March 2024, and Natural Environment Study (Caltrans 2024a), which was completed in May 2024. In addition, Caltrans Office of Geotechnical Services prepared a Sand Supply Memorandum (Caltrans 2024b), which was completed in January 2024.

The Land Use Study Area, which is defined in Section 3.2.1, *Existing and Future Land Use*, is located within the coastal jurisdiction of Mendocino County and the California Coastal Commission. Figure 21 shows the location of the Land Use Study Area in

relation to the coastal zone (County of Mendocino 1985). The existing Albion River Bridge sits approximately 155 feet above the Albion River, which outlets to the Pacific Ocean, approximately 170 feet downstream of the existing bridge.

State Route (SR) 1 is the primary route to coastal resources within Mendocino County, including public beaches. As described further in Section 3.2.5, *Parks and Recreational Facilities*, the Pacific Coast Bike Route (PCBR) and the planned California Coastal Trail (CCT) are along SR 1.

The tidally-influenced Albion River is considered a navigable waterway of the United States, though the depth of the river limits boat size. According to the County of Mendocino Coastal Element, approximately 100 year-round boats fish out of Albion, and there is a sizeable increase in the number of boats during the summer (County of Mendocino 2021).

As described in Section 3.2.1, *Existing and Future Land Use,* the privately owned Albion River Campground and Marina (Albion Campground) and Albion Flat Beach are beneath and adjacent to the existing Albion River Bridge. The Albion LCP Plan Map designates the Albion Campground parcel as a Fishing Village, which is defined as "fishing-related commercial and industrial uses; other commercial residential uses as space permits" (County of Mendocino 1985). The remainder of the parcels within the Land Use Study Area are primarily designated as Rural Village, Remote Residential, or Rural Residential.

The public has traditionally been allowed access to the Albion Flat Beach, Albion River, and Albion Cove/Pacific Ocean through the privately owned Albion Campground (County of Mendocino 2021). The beach and ocean can be accessed from Albion Campground by crossing under the existing Albion River Bridge. There is also a paid parking lot at the end of Albion River North Side Road. The Albion LCP Plan Map (County of Mendocino 1985) shows existing shoreline access from Albion Little River Road, to the south along SR 1, then east along Albion River North Side Road, referred to as the Albion Flat Shoreline Access.

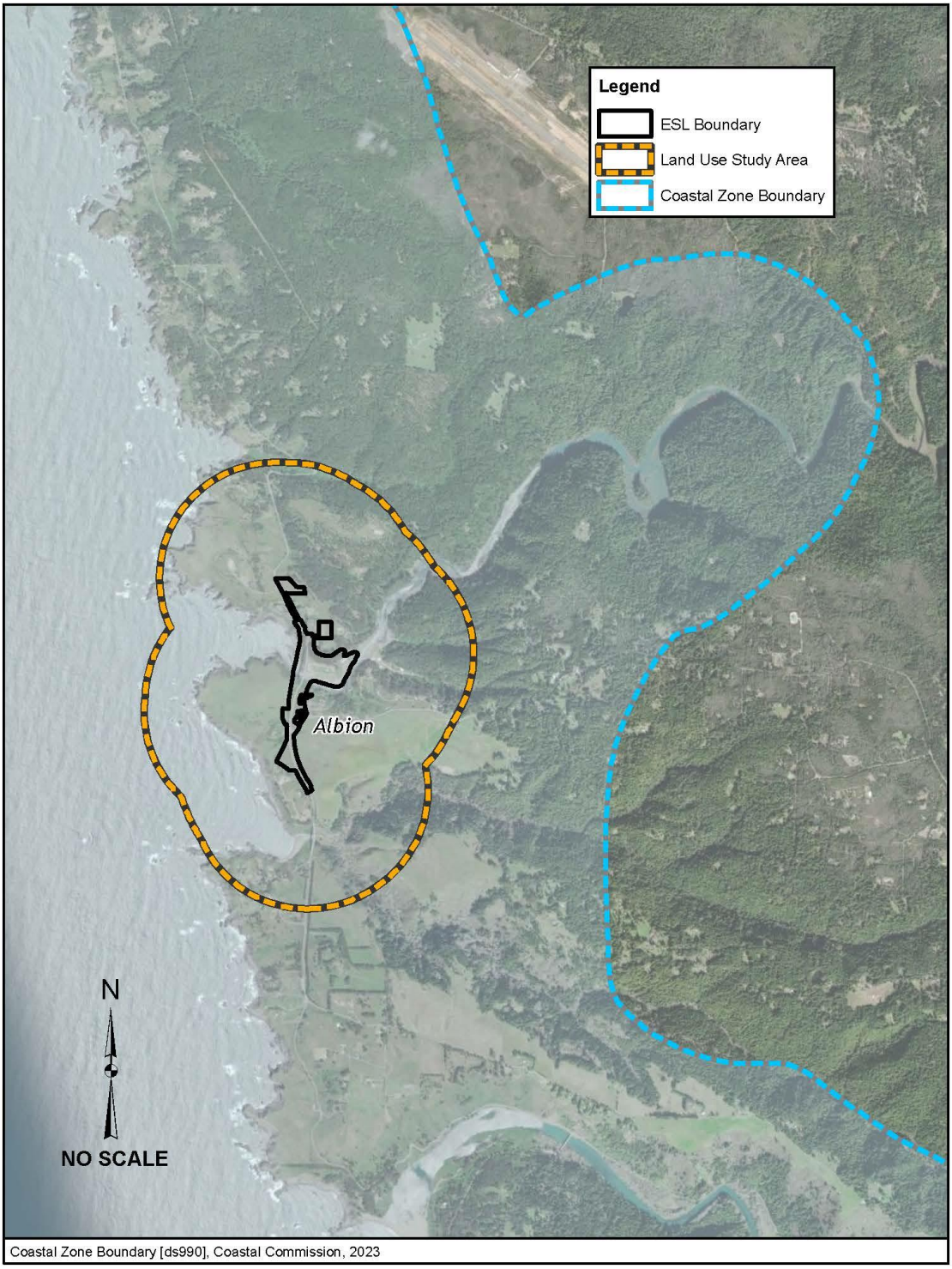


Figure 21. Coastal Zone

The project area contains multiple habitats that may be considered ESHAs, pending consultation with the CCC. Section 30107.5 of the California Coastal Act defines Environmentally Sensitive Habitat Areas (EHSA) as

> "…any area in which plant or animal life or their habitats are either rare or especially valuable because of their special nature or role in an ecosystem and which could be easily disturbed or degraded by human activities and developments."

Potential ESHAs include sensitive natural communities (SNCs), wetlands, waters, riparian habitat, critical habitat for state and federally listed species, Essential Fish Habitat (EFH), and other areas that may be considered to meet the definition of ESHA. ESHAs in general as well as SNCs and other habitats that may meet the definition of ESHA (sand dunes and unvegetated beaches) are discussed in Section 3.4.1, Natural Communities. Wetlands and waters are discussed in Section 3.4.2, Wetlands and Other Waters, while critical habitat and EFH are discussed in Section 3.4.5, Threatened and Endangered Species.

Environmental Consequences

Build Alternatives

Construction and Operational Impacts

The California Coastal Act and Mendocino County Coastal Element have protection policies for a variety of resources. The project may affect a variety of resources, including public access and recreation and visual, cultural and natural resources. See the applicable policies in Table 9 below for additional information.

Overall, the project Build Alternatives would be consistent with the applicable policies within the CCA, as well as the Mendocino County Coastal Element. Coastal resources would be considered as part of the environmental process and protected to the extent feasible.

No-Build Alternative

Under the No-Build Alternative, the Albion River Bridge would not be replaced, and would remain inconsistent with sections of the Coastal Act and key policies of the Mendocino County Coastal Element. Among others, the No-Build Alternative would not provide for safe multimodal access across the bridge (CCA Section 30210, Coastal Element Section 3.6-19), would not address the bridge's vulnerability to sea level rise or tsunamis (CCA Section 30235, 30236, and 30253, Coastal Element Section 3.4), would not prevent ongoing leaching of chemical preservatives from the timber members (CCA Sections 30230, 30231, 30232, 30270, and 30001.5), and would not correct the hazardous turn condition north of the bridge (Coastal Element Section 4.9).

In the event of seismically induced or tsunami-induced damage to, or failure of, the Albion River Bridge, a 126-mile detour on state routes would likely be in place until the bridge could be repaired or replaced. Local travelers would likely elect to use an

unmarked, approximately 28-mile detour route through winding rural roads to the next closest crossing of the Albion River. Caltrans cannot predict how long this detour would last, because its duration would depend on the nature of the seismic event and the circumstances in the surrounding populated areas. Additionally, there would be a high probability of persons avoiding the project area until access can be restored, which would adversely affect access and recreation within the coastal zone.

Avoidance, Minimization, and/or Mitigation Measures

Applicable measures from other resource categories that are referenced in this chapter include Measures **AMM-PR-1**, **AMM-TT-1**, and **AMM-BR-1** through **AMM-BR-10**. These measures would be implemented and are described in Appendix D, *Avoidance, Minimization, and/or Mitigation Summary*. No additional avoidance, minimization, or mitigation measures are proposed.

Table 9. Coastal Act Chapter Three and Mendocino County Coastal Element Policies Consistency Summary Table for All Build Alternatives

Coastal Act Chapter Three Policy Area/Mendocino Coastal Element Policies	Coastal Act/Coastal Element Consistency Analysis
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 30212.** *(a) Public access from the nearest public roadway to the shoreline and along the coast shall be provided in new development projects except where: (1) it is inconsistent with public safety, military security needs, or the protection of fragile coastal resources, (2) adequate access exists nearby, or, (3) agriculture would be adversely affected. Dedicated accessway shall not be required to be opened to public use until a public agency or private association agrees to accept responsibility for maintenance and liability of the accessway*. … **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*. … **Coastal Act Section 30214.** *(a) The public access policies of this article shall be implemented in a manner that takes into account the need to regulate the time, place, and manner of public access depending on the facts and circumstances in each case including, but not limited to, the following: (1) Topographic and geologic site characteristics. (2) The capacity of the site to sustain use and at what level of intensity. (3) The appropriateness of limiting public access to*	**Consistent:** Construction Impacts SR 1 is the primary means to access coastal resources in the community of Albion. During construction, there would be traffic delays due to reversing traffic control (typically up to 15 minutes), occasional intermittent closures (anticipated up to 30 minutes) and one extended overnight closure (10 hours). A Transportation Management Plan (TMP) would be implemented to reduce temporary delays associated with construction. Caltrans and/or the construction contractor would notify the public prior to any bridge closures. As described in Section 3.2.5, *Parks and Recreational Facilities*, a public outreach program would be implemented under Measure **AMM-PR-1**. Existing shoreline access crosses under the existing bridge. Access to Albion Flat Beach and the Pacific Ocean is provided through the privately owned Albion Campground. Under all Build Alternatives, public access to the beach would be restricted during bridge construction and bridge demolition for safety of construction workers and the public. The length of closure would depend on the preferred alternative selected, ranging from approximately 3 years for Alternatives 1 and 2 to 5 years for Alternative 3. Daily marina traffic on the Albion River and out to the ocean varies seasonally. All Build Alternatives would intermittently prohibit the use of Albion River outlet by boat at the Albion River Bridge during construction. The length of intermittent closures would depend on the preferred alternative, ranging from a minimum of approximately 90 days (Design Options 1A and 2A) to a maximum of approximately 130 days (Alternative 3). For Design Options 1B and 2B, the maximum length of closures is estimated to be 110 days. Operational Impacts Following construction, the proposed project would provide a river crossing that meets modern design and safety requirements with

Coastal Act Chapter Three Policy Area/Mendocino Coastal Element Policies	Coastal Act/Coastal Element Consistency Analysis
the right to pass and repass depending on such factors as the fragility of the natural resources in the area and the proximity of the access area to adjacent residential uses. (4) The need to provide for the management of access areas so as to protect the privacy of adjacent property owners and to protect the aesthetic values of the area by providing for the collection of litter. (b) It is the intent of the Legislature that the public access policies of this article be carried out in a reasonable manner that considers the equities and that balances the rights of the individual property owner with the public's constitutional right of access pursuant to Section 4 of Article X of the California Constitution. … **Coastal Act Section 30220.** *Protection of certain water-oriented activities Coastal areas suited for water-oriented recreational activities that cannot readily be provided at inland water areas shall be protected for such uses.* **Coastal Act Section 30221.** *Oceanfront land suitable for recreational use shall be protected for recreational use and development unless present and foreseeable future demand for public or commercial recreational activities that could be accommodated on the property is already adequately provided for in the area.* ***Coastal Act Section 30222.*** *The use of private lands suitable for visitor-serving commercial recreational facilities designed to enhance public opportunities for coastal recreation shall have priority over private residential, general industrial, or general commercial development, but not over agriculture or coastal-dependent industry.* **Coastal Act Section 30223.** *Upland areas necessary to support coastal recreational uses shall be reserved for such uses, where feasible.* **Coastal Act Section 30224.** *Increased recreational boating use of coastal waters shall be encouraged, in accordance with this division, by developing dry storage areas, increasing public launching facilities, providing additional berthing space in existing harbors, limiting non-water dependent land uses that congest access corridors and preclude boating support facilities, providing harbors of refuge, and by*	pedestrian and bicycle improvements linking the north and south sides of the Albion community. All Build Alternatives would provide two, 12-foot-wide travel lanes, two 6-foot-wide shoulders on the bridge, a 6-foot-wide separated pedestrian walkway on the west side of the bridge, and a consistent 4-foot-wide paved shoulder on the roadway, which would greatly facilitate and could potentially encourage multimodal travel within the coastal zone. The Build Alternatives would improve coastal access by increasing safety, connectivity, and reliability of the bridge for hikers, cyclists, travelers, and commuters. Caltrans prepared a Feasibility Report – Public Access to Navigable River (Caltrans 2023) for the Build Alternatives and determined that providing new public access beyond that of the current existing conditions to the Albion River was not practical within the existing or proposed right of way (ROW) for a new bridge due to adjacent private property, environmentally sensitive habitats, and lack of practical design options that would comply with Americans with Disabilities Act access requirements. Improving the currently available public access would require cooperation from one of the private property owners to allow a public easement connecting to Mendocino County ROW.

Coastal Act Chapter Three Policy Area/Mendocino Coastal Element Policies	Coastal Act/Coastal Element Consistency Analysis
providing for new boating facilities in natural harbors, new protected water areas, and in areas dredged from dry land. **Coastal Act Section 30252.** *The location and amount of new development should maintain and enhance public access to the coast by (1) facilitating the provision or extension of transit service, (2) providing commercial facilities within or adjoining residential development or in other areas that will minimize the use of coastal access roads, (3) providing non-automobile circulation within the development, (4) providing adequate parking facilities or providing substitute means of serving the development with public transportation, (5) assuring the potential for public transit for high intensity uses such as high-rise office buildings, and by (6) assuring that the recreational needs of new residents will not overload nearby coastal recreation areas by correlating the amount of development with local park acquisition and development plans with the provision of onsite recreational facilities to serve the new development*. **County Policy CE 3.6-16.** *Access to the beach and to blufftop viewpoints shall be provided for handicapped persons where parking areas can be close enough to beach or viewing level to be reachable by wheelchair ramp. The wheelchair symbol shall be displayed on road signs designating these access points where the means of access is not obvious from the main road.* **County Policy CE 3.6-17.** *Caltrans shall be required to improve or construct view turnouts designated on the Land Use Maps as a part of adjoining highway improvement projects when such improvements involve widening or improvements of the highway. (This would exclude rehabilitation type projects).* **County Policy CE 3.6-18.** *Along sections of the highway where development intensity will result in pedestrian use, or where this is the siting of the County designated coastal trail, a 15-foot accessway measured from the right-of-way of Highway 1 shall be offered for dedication as a condition of permit approval if the topography is deemed suitable for pathway development. Coastal trail includes trails identified in Table 3.6-1 and portions of Highway 1 and Usal Road that are necessary to connect these trail segments. All such access offers*	

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that have been recorded shall be offered to Caltrans for acceptance. Prevailing acquisition methods for acquiring public right-of-way by Caltrans shall apply to this section. **County Policy CE 3.6-19.** *Along intensively developed sections of Highway 1, (such as between Cleone and Albion or in Gualala) Caltrans shall be requested to build a separate pedestrian, equestrian path parallel to the highway where pedestrian traffic warrants and physical conditions permit.* **County Policy 3.6-20.** *Paved 4-foot shoulders should be provided by Caltrans along the entire length of Highway 1 wherever construction is feasible without unacceptable environmental effects.*	
Visual Resources **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.* **County Policy 3.5-1.** *State Highway 1 in rural areas of the Mendocino County coastal zone shall remain a scenic two-lane road. The scenic and visual qualities of Mendocino County 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 designated by the County of Mendocino Coastal Element shall be subordinate to the character of its setting.*	**Consistent:** Construction Impacts The proposed project is located within a designated highly scenic area. During construction under all Build Alternatives, viewers from SR 1 and surrounding areas would experience visual impacts, including removal of vegetation and the presence of construction vehicles, equipment, and materials. However, these changes would be short-term and temporary. Operational Impacts State Route 1 would remain a scenic two-lane road for all Build Alternatives. Further, all Build Alternatives would provide greater continuity of views of the ocean from Albion by removing the lattice towers. Design Options 1B and 2B include arches, which create a focal point other than the bridge deck, produce a distinctive look, and provide a gateway between the campground and the beach. The addition of a pedestrian facility on the new bridge for all Build Alternatives would also enhance viewer opportunities. See Section 3.2.10, *Visual/Aesthetics* for more information.

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County Policy 3.5-2. *Albion… shall have special protection to the extent that new development shall remain within the scope and character of existing development by meeting the standards of implementing ordinances.*	
Archaeological or Paleontological Resources **Coastal Act Section 30244.** *Where development would adversely impact archaeological or paleontological resources as identified by the State Historic Preservation Officer, reasonable mitigation measures shall be required.* **County Policy CE 3.5-10.** *The County shall review all development permits to ensure that proposed projects will not adversely affect existing archaeological and paleontological resources. Prior to approval of any proposed development within an area of known or probable archaeological or paleontological significance, a limited field survey by a qualified professional shall be required at the applicant's expense to determine the extent of the resource. Results of the field survey shall be transmitted to the SHPO and Cultural Resource Facility at Sonoma State University for comment. The County shall review all coastal development permits to ensure that proposed projects incorporate reasonable mitigation measures so the development will not adversely affect existing archaeological/paleontological resources. Developments in these areas are subject to any additional requirements of the Mendocino County Archaeological Ordinance.*	**Consistent:** Construction Impacts The Albion River Bridge was previously determined eligible for the National Register of Historic Places (NRHP) and therefore was automatically placed on the California Register of Historical Resources (CRHR). The bridge was listed subsequently on the NRHP as of July 31, 2017 (NRHP Reference #100001383). In addition, the proposed undertaking would impact known archaeological resources. Caltrans has preliminarily determined that the proposed undertaking, under all Build Alternatives, would result in a Finding of Adverse Effect under Section 106 of the National Historic Preservation Act (NHPA) and a "use" under Section 4(f). If previously unidentified cultural materials are discovered during construction, all earth-moving activity within and around the immediate discovery area would be diverted until a qualified archaeologist can assess the nature and significance of the find. In addition, implementation of Measures **AMM CR-1** and **AMM-CR-2** require the development of a Cultural Resources Management Plan (CRMP) in consultation with the State Historic Preservation Officer (SHPO), consulting tribes, and consulting parties. The CRMP would contain a Late Discovery Treatment And Monitoring Plan (AMM-CR-4). A Phased Programmatic Agreement (Phased PA) would be developed for the proposed project and would contain the CRMP. Any measures that are developed during the course of the consultation with the SHPO would be included in the Phased PA. In accordance with Measure **AMM-CR-3**, Caltrans would develop reasonable treatment measures in consultation with the SHPO, consulting tribes, and consulting parties. The proposed project in an area with a low sensitivity for paleontological resources; therefore, the project would have a low

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	potential for impacts. If any resources are found during construction, contractors would be required to stop work within the area until appropriate measures are taken. Operational Impacts There would be no impacts on cultural or paleontological resources following construction. See Section 3.2.11, *Cultural Resources*, and Section 3.3.4, *Paleontology*, for more information on these resources.
Water Quality **Coastal Act Section 30230.** *Marine resources shall be maintained, enhanced, and where feasible, restored. Special protection shall be given to areas and species of special biological or economic significance. Uses of the marine environment shall be carried out in a manner that will sustain the biological productivity of coastal waters and that will maintain healthy populations of all species of marine organisms adequate for long-term commercial, recreation, scientific, and educational purposes.* **Coastal Act Section 30231.** *The biological productivity and the quality of coastal waters, streams, wetlands, estuaries, and lakes appropriate to maintain optimum populations of marine organisms and for the protection of human health shall be maintained and, where feasible, restored through, among other means, minimizing adverse effects of waste water discharges and entrainment, controlling runoff, preventing depletion of ground water supplies and substantial interference with surface water flow, encouraging waste water reclamation, maintaining natural vegetation buffer areas that protect riparian habitats, and minimizing alteration of natural streams.* **Coastal Act Section 30232.** *Protection against the spillage of crude oil, gas, petroleum products, or hazardous substances shall be provided in relation to any development or transportation of such materials. Effective containment and cleanup facilities and procedures shall be provided for accidental spills that do occur.*	**Consistent:** The Albion River is not an Area of Special Biological Significance (Caltrans 2023). A total of 14.00 acres of waters were identified and mapped within the project BSA that would be potentially jurisdictional under the California Coastal Act (Caltrans 2024a). Construction Impacts Standard measures, BMPs and minimization measures would be implemented during construction to minimize and avoid environmental impacts on biological resources and water quality. A Stormwater Pollution Prevention Plan, including spill prevention procedures, would be prepared to comply with the applicable conditions of the Construction General Permit in effect at the time of construction. Additional measures would be implemented in accordance with Section 401 Water Quality Certification, Section 404 Permit, 1602 Streambed Alteration Agreement, and the Coastal Development Permit, which would be obtained prior to construction. Operational Impacts It is currently anticipated that all new impervious surface would be fully treated within the proposed project's environmental study limits. All Build Alternatives would replace the existing bridge, which would reduce the risk of further water quality impacts from wood preservative leaching into the Albion River. In addition, the removal of the existing bridge and replacement of culverts with appropriate design pollution

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County Policy 3.1-27. *Clearance of trash and accumulated debris from coastal streams and the improvement of these streams for water supply, recreational use and fishery restoration are projects which are vital to the economic and biologic health of the Mendocino Coast and shall be encouraged whenever possible.*	prevention measures and stormwater treatment are anticipated to improve water quality. See Section 3.3.2, *Water Quality and Stormwater Runoff,* and Section 3.4.2, *Wetlands and Other Waters,* for additional information.
Coastal Hazards/Shoreline Development **Coastal Act Section 30253 (in part).** *New development shall: (a) Minimize risks to life and property in areas of high geologic, flood, and fire hazard. (b) Assure stability and structural integrity, and neither create nor contribute significantly to erosion, geologic instability, or destruction of the site or surrounding area or in any way require the construction of protective devices that would substantially alter natural landforms along bluffs and cliffs.* **Coastal Act Section 30235.** *Revetments, breakwaters, groins, harbor channels, seawalls, cliff retaining walls, and other such construction that alters natural shoreline processes shall be permitted when required to serve coastal-dependent uses or to protect existing structures or public beaches in danger from erosion, and when designed to eliminate or mitigate adverse impacts on local shoreline sand supply. Existing marine structures causing water stagnation contributing to pollution problems and fish kills should be phased out or upgraded where feasible.* **Coastal Act Section 30236.** *Channelizations, dams, or other substantial alterations of rivers and streams shall incorporate the best mitigation measures feasible, and be limited to (1) necessary water supply projects, (2) flood control projects where no other method for protecting existing structures in the floodplain is feasible and where such protection is necessary for public safety or to protect existing development, or (3) developments where the primary function is the improvement of fish and wildlife habitat.* **Coastal Act Section 30270.** *The commission shall take into account the effects of sea level rise in coastal resources planning and management policies and activities in order to identify, assess, and, to*	**Consistent:** Under all Build Alternatives, the proposed project was designed to be safe from flood hazards and for seismic stability. Although it is within a floodplain, the proposed project would not impede or redirect flood flows. The proposed project does not include any channelization, dams, or other substantial alteration to any river or stream. Under all Build Alternatives, the proposed replacement bridge would have fewer piers in the channel. It would therefore have a lower potential to capture floating debris and would improve flow conditions compared to the existing bridge. In addition, sea level rise has been considered in the development of all Build Alternatives. All Build Alternatives were designed to withstand future sea level rise conditions, such as from scour; see the discussion of sea level rise under Section 4.4.5, *Adaption*. A Sand Supply Memo was developed to address consistency with Coastal Act Section 30235 (Caltrans 2024b). Based on the geologic materials at the project site and within the Albion River Watershed, it can be concluded that the primary source of sand at the Albion River beach is not from the bedrock slopes and marine terraces adjacent to the bridge. The proposed project is not anticipated to create or contribute to geologic instability or a substantial alteration of any bluff or cliff. The proposed project involves shoring only where necessary to ensure geological stability and would not arrest retreat of the shoreline or impede natural landforms along the coastal bluffs, including design and placement of pier locations, partial backfill and revegetation of exposed shoring, revegetation of disturbed surfaces, and incorporation of context sensitive texturing and color. Further, it is anticipated that the Build Alternatives would result in a benefit to the Albion Flat as

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the extent feasible, avoid and mitigate the adverse effects of sea level rise. **Coastal Act Section 30001.5.** *The basic goals of the state for the coastal zone are to […] Anticipate, assess, plan for, and, to the extent feasible, avoid, minimize, and mitigate the adverse environmental and economic effects of sea level rise within the coastal zone.* *(Added by Stats. 2021, Ch. 236, Sec. 2. (SB 1) Effective January 1, 2022.)* **County Policy 3.4-1.** *The County shall review all applications for Coastal Development permits to determine threats from and impacts on geologic hazards arising from seismic events, tsunami runup, landslides, beach erosion, expansive soils, and subsidence and shall require appropriate mitigation measures to minimize such threats. In areas of known or potential geologic hazards, such as shoreline and bluff top lots and areas delineated on the hazards maps, the County shall require a geologic investigation and report, prior to development, to be prepared by a licensed engineering geologist or registered civil engineer with expertise in soils analysis to determine if mitigation measures could stabilize the site. Where mitigation measures are determined to be necessary by the geologist or registered civil engineer, the County shall require that the foundation construction and earthwork be supervised and certified by a licensed engineering geologist, or a registered civil engineer with soil analysis expertise, to ensure that the mitigation measures are incorporated properly into the development.* **County Policy 3.4-3.** *The County shall review development proposals for compliance with the Alquist-Priolo Special Studies Zone Act (as amended May 4, 1975).* **County Policy 3.4-4.** *The County shall require that water, sewer, electrical, and other transmission and distribution lines that cross fault lines be subject to additional safety standards beyond those required for normal installations, including emergency shutoff, where applicable*.	they propose the construction of significantly fewer new piers than the number of existing piers that would be removed.

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County Policy 3.4-10. *No development shall be permitted on the bluff face because of the fragility of this environment and the potential for resultant increase in bluff and beach erosion due to poorly sited development. However, where they would substantially further the public welfare, developments such as staircase accessways to beaches or pipelines to serve coastal-dependent industry may be allowed as conditional uses, following a full environmental, geologic, and engineering review and upon the determinations that no feasible less environmentally damaging alternative is available and that feasible mitigation measures have been provided to minimize all adverse environmental effects.* **County Policy 3.4-11.** *No development, except flood control projects, to protect existing structures, nonstructural agricultural uses, and seasonal uses shall be permitted in the 100-year floodway unless mitigation measures in accordance with FEMA regulations are provided.* **County Policy 3.4-12.** *Seawalls, breakwaters, revetments, groins, harbor channels and other structures altering natural shoreline processes or retaining walls shall not be permitted unless judged necessary for the protection of existing development or public beaches or coastal dependent uses. Allowed developments shall be processed as conditional uses, following full environmental, geologic, and engineering review. This review shall include site-specific information pertaining to seasonal storms, tidal surges, tsunami runups, littoral drift, sand accretion, and beach and bluff face erosion. In each case, a determination shall be made that no feasible less environmentally damaging alternative is available and that the structure has been designed to eliminate or mitigate adverse impacts upon local shoreline sand supply and to minimize other adverse environmental effects. The design and construction of allowed protective structures shall respect natural landforms, provide for lateral beach access, and minimize visual impacts through all available means.*	

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Environmentally Sensitive Habitat Area (ESHA) **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 adjacent 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.* **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.* **County Policy 3.1-2** ***(in relevant part):*** *Development proposals in environmentally sensitive habitat areas such as wetlands, riparian zones on streams or sensitive plant or wildlife habitats (all exclusive of buffer zones) including, but not limited to those shown on the Land Use Maps, shall be subject to special review to determine the current extent of the sensitive resource.* **County Policy 3.1-7.** *A buffer area shall be established adjacent to all environmentally sensitive habitat areas. The purpose of this buffer area shall be to provide for a sufficient area to protect the environmentally sensitive habitat from significant degradation resulting from future developments. The width of the buffer area shall be a minimum of 100 feet, unless an applicant can demonstrate, after consultation and agreement with the California Department of Fish and Game, and County Planning Staff, that 100 feet is not necessary to protect the resources of that particular habitat area and the adjacent upland transitional habitat function of the buffer from possible significant disruption caused by the proposed development. The buffer area shall be measured from the outside edge of the environmentally sensitive habitat areas and shall not be less than 50 feet in width. New land division shall not be allowed which will create new parcels entirely*	**Consistent:** The project area contains potential ESHA, including sensitive natural communities, wetlands, waters, riparian habitat, critical habitat for state and federally listed species, EFH, sand dunes, and unvegetated beach. See Section 3.4.1, *Natural Communities*, for additional information on ESHA. All Build Alternatives have the potential to impact ESHA, though they vary in amounts. No feasible alternative exists that would avoid impacts to all ESHAs. However, the project would implement standard measures and BMPs to minimize impacts. In addition, the project would implement all feasible measures to compensate for impacts to ESHAs, including **AMM-BR-1**, **AMM-BR-8**, and **AMM-BR-9**. With implementation of standard measures and BMPs and compensation, the project would be consistent with the applicable policies related to ESHA.

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within a buffer area. Developments permitted within a buffer area shall generally be the same as those uses permitted in the adjacent environmentally sensitive habitat area and must comply at a minimum with each of the following standards: 1. It shall be sited and designed to prevent impacts which would significantly degrade such areas; 2. It shall be compatible with the continuance of such habitat areas by maintaining their functional capacity and their ability to be self-sustaining and to maintain natural species diversity; and 3. Structures will be allowed within the buffer area only if there is no other feasible site available on the parcel. Mitigation measures, such as planting riparian vegetation, shall be required to replace the protective values of the buffer area on the parcel, at a minimum ratio of 1:1, which are lost as a result of development under this solution. **County Policy 3.1-10.** *Areas where riparian vegetation exists, such as riparian corridors, are environmentally sensitive habitat areas and development within such areas shall be limited to only those uses which are dependent on the riparian resources. All such areas shall be protected against any significant disruption of habitat values by requiring mitigation for those uses which are permitted. No structure or development, including dredging, filling, vegetation removal and grading, which could degrade the riparian area or diminish its value as a natural resource shall be permitted in the Riparian Corridor except for: channelizations, dams, or other substantial alterations of rivers and streams as permitted in Policy 3.1-9; pipelines, utility lines and road crossings, when no less environmentally damaging alternative route is feasible; existing agricultural operations; removal of trees for disease control, public safety purposes, or for firewood for the personal use of the property owner at his or her residence. Such activities shall be subject to restrictions to protect the habitat values.* **County Policy 3.1-15.** *Dunes shall be preserved and protected as Environmentally sensitive habitats for scientific, educational and passive recreational uses. Vehicle traffic shall be prohibited. Where public access through dunes is permitted, well-defined footpaths or other means of directing use and minimizing adverse impacts shall be developed and used. New development on dune parcels shall be located in the least environmental damaging location and shall*	

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minimize the removal of natural vegetation and alteration of natural landforms. No new parcels shall be created entirely within sand dune habitat. One housing unit shall be authorized on every legal parcel existing on the date of adoption of this plan, provided that adequate access, water, and sewage disposal capacity exists and that the proposed development is consistent with all other applicable policies of this Coastal Element and meets all applicable health standards. **County Policy 3.1-18.** *Public access to sensitive wildlife habitats such as rookeries or haulout areas shall be regulated, to ensure that public access will not significantly adversely affect the sensitive resources being protected. Development within buffer areas recommended by the California Department of Fish and Game to protect rare or endangered wildlife species and their nesting or breeding areas shall meet guidelines and management practices established by the Department of Fish and Game and must be consistent with other applicable policies of this plan.* **County Policy 3.1-19:** *The following activities and facilities shall be permitted in estuaries, consistent with applicable policies of this plan:* *1. Expansion of existing port or harbor facilities on the Noyo and Albion Rivers.* *2. Expansion of coastal dependent industrial facilities, such as commercial fishing facilities on the Noyo and Albion rivers.* *3. Existing navigational channels may be maintained to existing depths.* *4. Expansion of dredged areas in either length, width or depth shall be contingent upon the finding that the proposed expansion will have only minimal adverse environmental effects and that the expansion is necessary to support a coastal dependent use.* *5. Existing dredged areas shall be allowed to be maintained to designed conditions.*	

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6. New or expanded boating facilities shall be limited to entrance channels in wetlands, upon the finding that they are required by a coastal dependent use. *7. Continued maintenance of dredge disposal sites and continued use of Noyo Spoil disposal site should be permitted.* *8. New or expanded energy facilities except those related to offshore oil development, petroleum production or processing.* *9. New or expanded boating facilities.* *10. Incidental public service purpose, including but not limited to, burying cables and pipes or inspection of piers and maintenance of existing intake and outfall lines.* *11. Restoration purposes.* *12. Nature study, aquaculture, or similar resource dependent activities except ocean ranching of anadromous fish.* **County Policy 3.1-24.** *Any development within designated resource areas, if not specifically addressed by other policies, shall be carefully reviewed and established in accord with conditions which could allow some development under mitigating conditions but would assure the continued protection of the resource.* **County Policy 3.1-25.** *The Mendocino Coast is an area containing many types of marine resources of statewide significance. Marine resources shall be maintained, enhanced and, where feasible, restored; areas and species of special biologic or economic significance shall be given special protection; and the biologic productivity of coastal waters shall be sustained.* **County Policy 3.1-28.** *Section 30519(b) of the Coastal Act recognizes in this Coastal Element that the Coastal Commission retains primary permit authority to issue coastal permits for all development proposed on tidelands, submerged lands, or public trust lands, whether filled or unfilled, that are located in the coastal zone.* **County Policy 3.1-31.** *Structures or projects involving a diversion of water from streams appearing as dotted or dashed blue lines on 7.5-*	

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minute U.S.G.S. quadrangle maps shall be sited and designed to not impede upstream or downstream movement of native fish or to reduce stream flows to a level which will have a significant adverse effect on the biological productivity of the stream and its associated aquatic organisms. **County Policy 3.1-33.** *Vegetation removal that constitutes "development", as defined in the glossary of this plan, shall require a coastal development permit. The granting of such permit shall be done only when the proposed development is consistent with all other sections and policies of this plan.*	
Wetlands **Coastal Act Section 30230.** *Marine resources shall be maintained, enhanced, and where feasible, restored. Special protection shall be given to areas and species of special biological or economic significance. Uses of the marine environment shall be carried out in a manner that will sustain the biological productivity of coastal waters and that will maintain healthy populations of all species of marine organisms adequate for long-term commercial, recreation, scientific, and educational purposes.* **Coastal Act Section 30231.***The biological productivity and the quality of coastal waters, streams, wetlands, estuaries, and lakes appropriate to maintain optimum populations of marine organisms and for the protection of human health shall be maintained and, where feasible, restored through, among other means, minimizing adverse effects of waste water discharges and entrainment, controlling runoff, preventing depletion of ground water supplies and substantial interference with surface water flow, encouraging waste water reclamation, maintaining natural vegetation buffer areas that protect riparian habitats, and minimizing alteration of natural streams.* **Coastal Act Section 30233 (in relevant part).** *(a) The diking, filling, or dredging of open coastal waters, wetlands, estuaries, and lakes shall be permitted in accordance with other applicable provisions of this division, where there is no feasible less environmentally damaging alternative, and where feasible mitigation measures have been*	**Consistent**: The proposed project has been designed to avoid wetland impacts as much as possible. standard measures (such as installing Temporary High Visibility Fencing [THVF] around environmentally sensitive areas), BMPs and restoration and revegetation measures are incorporated to minimize environmental effects to wetlands. Several alternatives have been evaluated and no other design or siting alternative is feasible that meets the purpose, need, and objectives of the proposed project without impacting wetlands. Impacts have been avoided to the maximum extent feasible and measures have been provided to minimize adverse environmental effects, including replacement at a ratio to be determined in consultation with the regulatory agencies. Measures for the proposed project are being developed, which could include offsite wetland compensation and/or restoration (**AMM-BR-4**, **AMM-BR-9**), as described further in Section 3.4.2, *Wetlands and Other Waters* and Appendix D, *Avoidance, Minimization, and/or Mitigation Summary*.

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provided to minimize adverse environmental effects, and shall be limited to the following: (1) New or expanded port, energy, and coastal-dependent industrial facilities, including commercial fishing facilities. (2) Maintaining existing, or restoring previously dredged, depths in existing navigational channels, turning basins, vessel berthing and mooring areas, and boat launching ramps. (3) In open coastal waters, other than wetlands, including streams, estuaries, and lakes, new or expanded boating facilities and the placement of structural pilings for public recreational piers that provide public access and recreational opportunities. (4) Incidental public service purposes, including, but not limited to, burying cables and pipes or inspection of piers and maintenance of existing intake and outfall lines. (5) Mineral extraction, including sand for beaches, except in environmentally sensitive areas. (6) Restoration purposes. (7) Nature study, aquaculture, or similar resource dependent activities... **County Policy 3.1-4.** *As required by the Coastal Act, development within wetland areas shall be limited to:* *1. Port facility construction or expansion, Section 30233(a)(1).* *2. Energy facility construction or expansion, Section 30233(a)(1).* *3. Coastal-dependent industrial facilities such as commercial fishing facilities, construction or expansion, Section 30233(a)(1).* *4. Maintenance or restoration of dredged depths or previously dredged depths in: navigational channels, turning basins, vessel berthing and mooring areas, and associated with boat launching ramps.* *5. In wetland areas, only entrance channels for new or expanded boating facilities may be constructed, except that in a degraded wetland, other boating facilities may be permitted under special circumstances, Section 30233(a)(3). New or expanded boating facilities may be permitted in estuaries, Section 30233(a)(4).* *6. Incidental public services purposes, including, but not limited to, burying cables and pipes or inspection of piers and maintenance of existing intake and outfall lines.* *7. Mineral extraction, including sand for restoring beaches, except in environmentally sensitive areas.* *8. Nature study purposes and salmon restoration projects.*	

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9. Aquaculture, or similar resource dependent activities excluding ocean ranching. *(See Glossary)* *In any of the above instances, the diking, filling, or dredging of open coastal waters, wetlands, estuaries, and lakes, shall be permitted in accordance with all other applicable provisions of this plan. Such requirements shall include a finding that there is no feasible less environmentally damaging alternative and shall include mitigation measures required to minimize adverse environmental effects, in accordance with Sections 30233 and 30607, and other provisions of the Coastal Act.* **County Policy 3.1-13.** *All diking, dredging, and filling activities shall comply with the provisions of Sections 30233 and 30607.1 of the Coastal Act. Dredging, when consistent with these provisions and where necessary for the maintenance or restoration of the tidal flow and continued viability of the wetland habitat, shall be subject to the following conditions:* *• Dredging shall be limited to the smallest area feasible; shall be modified by mitigation measures to lessen environmental disruption; and shall maintain or enhance the functional capacity of the wetland.* *• Dredging in breeding and nursery areas and during periods of fish migration and spawning shall incorporate all mitigation measures recommended by the Department of Fish and Game to assure maximum protection of species and habitats.* *• Designs for dredging and excavation projects shall incorporate all mitigation measures recommended by the Regional Water Quality* Control Board and regulated to prevent unnecessary discharge of refuse, petroleum spills, and dispersal of silt materials.	
<u>Agricultural Resources</u> **Coastal Act Section 30241.** *The maximum amount of prime agricultural land shall be maintained in agricultural production to assure the protection of the areas' agricultural economy, and conflicts*	**Consistent:** The project does not contain farmland or timberland. While parcels that are currently operated as grazing land may be used or equipment staging and access during construction, these are temporary impacts, and would not result in a loss or conversion of farmland or timberland.

Coastal Act Chapter Three Policy Area/Mendocino Coastal Element Policies	Coastal Act/Coastal Element Consistency Analysis
shall be minimized between agricultural and urban land uses through all of the following: *(a) By establishing stable boundaries separating urban and rural areas, including, where necessary, clearly defined buffer areas to minimize conflicts between agricultural and urban land uses.* *(b) By limiting conversions of agricultural lands around the periphery of urban areas to the lands where the viability of existing agricultural use is already severely limited by conflicts with urban uses or where the conversion of the lands would complete a logical and viable neighborhood and contribute to the establishment of a stable limit to urban development.* *(c) By permitting the conversion of agricultural land surrounded by urban uses where the conversion of the land would be consistent with Section 30250.* *(d) By developing available lands not suited for agriculture prior to the conversion of agricultural lands.* *(e) By assuring that public service and facility expansions and nonagricultural development do not impair agricultural viability, either through increased assessment costs or degraded air and water quality.* *(f) By assuring that all divisions of prime agricultural lands, except those conversions approved pursuant to subdivision (b), and all development adjacent to prime agricultural lands shall not diminish the productivity of such prime agricultural lands.* **Coastal Act Section 30242.** *All other lands suitable for agricultural use shall not be converted to nonagricultural uses unless (l) continued or renewed agricultural use is not feasible, or (2) such conversion would preserve prime agricultural land or concentrate development consistent with Section 30250. Any such permitted conversion shall be compatible with continued agricultural use on surrounding lands.*	

Coastal Act Chapter Three Policy Area/Mendocino Coastal Element Policies	Coastal Act/Coastal Element Consistency Analysis
Coastal Act Section 30113. *"Prime agricultural land" means those lands defined in paragraph (1), (2), (3), or (4) of subdivision (c) of Section 51201 of the Government Code.* **Section 51201(c) of the California Government Code includes:** *(1) a rating as class I or class II in the Natural Resource Conservation Service Land use capability classifications; (2) a rating 80 through 100 in the Storie Index Rating; or (3) the ability to support livestock used for the production of food and fiber with an annual carrying capacity equivalent to at least one animal unit per acre as defined by the United States Department of Agriculture; or (4) the ability to normally yield in a commercial bearing period on an annual basis not less than two hundred dollars ($200) per acre of unprocessed agricultural plant production of fruit- or nut-bearing trees, vines, bushes or crops which have a nonbearing period of less than five years.* **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.*	
Environmental Justice **Coastal Act Section 30604**. *When acting on a coastal development permit, the issuing agency, or the Commission on appeal, may consider environmental justice, or the equitable distribution of environmental benefits throughout the state.* **Coastal Act Section 30006.** *The public has a right to fully participate in decisions affecting coastal planning, conservation and development; that achievement of sound coastal conservation and development is dependent upon public understanding and support; and that the continuing planning and implementation of programs for coastal conservation and development should include the widest opportunity for public participation.*	**Consistent:** As described in Section 3.1, *Topics Considered but Determined not to be Relevant*, no minority or low-income populations that would be adversely affected by the project. Caltrans has been engaging with the public and will continue to do so throughout the life of the project. See Chapter 5, *Comments and Coordination*, for additional information.
Transportation	**Consistent:**

Coastal Act Chapter Three Policy Area/Mendocino Coastal Element Policies	Coastal Act/Coastal Element Consistency Analysis
County Policy 3.8-2. *Current studies indicate a need for future improvement to certain stretches of Highway 1 and to major intersections. These improvements shall be encouraged so as to accommodate essential industries vital to the economic health of the County and other priority uses under the Coastal Act. The Department of Transportation shall be requested and urged as a high priority of public interest and Coastal Act purpose to:* *1. accelerate highway improvement projects along Highway 1 and those state-maintained highway intersections within the Coastal Zone of Mendocino County.* *2. develop a long-range comprehensive circulation plan for Mendocino County coastal state highways and tributaries consistent with Coastal Act mandates. If the objectives of the Coastal Act are to be met, these goals must receive high priority at both local and state levels.* **County Policy CE 3.8-6.** *It shall be a goal of the Transportation Section to achieve, where possible and consistent with other objectives of The Coastal Act and plan policies for Highway 1, a roadbed with a vehicle lane width of 16 feet including the shoulder to achieve a 32-foot paved roadway (12-foot vehicle lane and 4-foot paved shoulder). The minimum objective shall be a 14-foot vehicle lane width (10-foot vehicle lane and 4-foot paved shoulder). New widening projects shall be allocated, first to safety and improved capacity needs and secondly to paved shoulders.* **County Policy 3.6-20.** *Paved 4-foot shoulders should be provided by Caltrans along the entire length of Highway 1 wherever construction is feasible without unacceptable environmental effects.* *Minor highway improvements, such as adding 2 to 4-foot bike lanes, are desirable where the terrain allows. A hazardous turn immediately to the North of the Albion Bridge is the site of numerous Highway 1 accidents. Spot improvement of this turn should be given high priority by Caltrans…*	Upon completion of construction, all Build Alternatives would improve existing transportation conditions. The proposed project is not a capacity-increasing project. Neither traffic patterns nor roadway capacity would change as a result of the proposed project. The proposed project would improve the function and geometrics of the Albion River Bridge and approach roadway to provide uninterrupted traffic movement in the event of a collision or emergency incident, seismic event, or other catastrophic failure. It would also provide safe access for pedestrians and bicyclists across the bridge. The proposed project would improve traffic flow with upgrades to the bridge approaches by widening the shoulders, lengthening the existing Spring Grove Road/Albion Ridge Road two-way left turn lane, and improving site distances; thus, improving safety and reducing the potential for accidents and collisions on and in the vicinity of the bridge. The proposed project would also improve access and safety on the bridge by providing a pedestrian/bicycle walkway for pedestrians and shoulders for cyclists' access and safety by providing a separated pedestrian walkway on the bridge. The replacement bridge deck for all Build Alternatives would be 47 feet wide with 12-foot-wide travel lanes, 6-foot-wide shoulders, and a 6-foot-wide, separated pedestrian walkway. All Build Alternatives would also widen the roadway shoulders on SR 1 to 4 feet within the post mile limits consistent with the Mendocino County Coastal Element, which would transition to 6 feet wide on the bridge approaches. The proposed separated pedestrian walkway on the west side of the new structure would allow for a future connection to the planned CCT. The proposed project would not permanently impact existing access to the Albion River. In addition, Caltrans has completed a feasibility study and determined that it would not be practical to construct new public access routes and/or facilities to the Albion River within the existing and proposed state right of way as part of the proposed project.

3.2.4 Wild and Scenic Rivers

Regulatory Setting

Projects affecting Wild and Scenic Rivers are subject to the National Wild and Scenic Rivers Act (16 United States Code [USC] Section 1271) and the California Wild and Scenic Rivers Act (CA Public Resources Code [PRC] Section 5093.50 et seq.).

There are three possible Wild and Scenic River Designations:

1. Wild: Undeveloped, with river access by trail only.
2. Scenic: Undeveloped, with occasional river access by road.
3. Recreational: Some development is allowed, with road access.

Affected Environment

This section is based on the proposed project's Community Impact Assessment (Area West Environmental 2024) and the Wild and Scenic Rivers Report (Stantec Consulting Services, Inc. 2024), both of which were completed in March 2024.

According to the National Wild and Scenic Rivers System website (National Wild and Scenic Rivers System n.d) there are 26 rivers included in the National Wild and Scenic Rivers System in California; this does not include the Albion River. The closest National Wild and Scenic River to the proposed project is the Eel River, which is located more than 25 miles northeast of the proposed project's environmental study limits (ESL).

The California Wild and Scenic Rivers Act (PRC Section 5093.545) and other readily available information from the California Natural Resources Agency (California Natural Resources Agency 2020) were reviewed to determine whether rivers included in the California Wild and Scenic Rivers System are within the Land Use Study Area. The Albion River was originally designated as a State Wild and Scenic River in 2003. It is currently designated as "recreational" from 0.25 mile upstream of its confluence with Deadman Gulch downstream to its mouth at the Pacific Ocean, a distance of 3.97 miles (PRC Section 5093.545[m]).

The California Wild and Scenic Rivers Act further defines recreational rivers as (PRC Section 5093.53(c):

> "those rivers or segments of rivers that are readily accessible by road or railroad, that may have some development along their shorelines, and that may have undergone some impoundment or diversion in the past."

The Albion River Bridge is approximately 155 feet above the Albion River on State Route (SR) 1. The bridge connects the coastal bluffs across the mouth of the river as it flows into the Pacific Ocean. The Albion River originates approximately 12 miles inland and drains an area of approximately 43 square miles. There is a large estuary at the mouth of the river, and tidal waters travel up to 5 miles upstream.

The Albion River and vicinity is a destination for camping, beach-going, river sports, dining, and lodging. The river outlets to the Pacific Ocean approximately 170 feet downstream of the existing Albion River Bridge. Beneath the bridge is the privately owned Albion River Campground and Marina (Albion Campground) and the Albion Flat Beach. The campground and beach are accessed by vehicle from Albion River North Side Road or watercraft through a relatively narrow outlet from the Pacific Ocean to the Albion River. In addition, the Albion Biological Field Station, a research facility owned and operated by Pacific Union College, is just upriver from the Albion River Bridge.

The Albion Campground has three permanent structures and 107 campsites (including 17 full and 90 partial RV hookups), on-site recreational vehicle rentals, boat launch for vessels and dock berths, convenience store, restrooms, showers, playground, and kayak and canoe rentals. The marina has 19 sport berths. Campers and day use visitors can access the Albion River and Albion Flat Beach and cove from the Albion Campground. Activities include boating, paddle boarding, abalone diving, and fishing. The Albion River is navigable by paddle craft for up to 3 miles inland from the project area. The Albion Campground is privately owned, and offers day-use vehicle parking for a fee. The boating season typically occurs in spring and fall for kayaking and canoeing. Small, motorized watercraft can operate in the river year-round.

Environmental Consequences

As described in the following sections, none of the Build Alternatives would result in permanent adverse effects on the free-flowing characteristics of the Albion River. In addition, the improvements to the Albion River Bridge would not alter the Albion River's ability to meet its recreational designation under the California Wild and Scenic Rivers Act. The California Natural Resources Agency, the agency with management responsibility for the river's wild and scenic designation, does not have concerns related to the proposed project.

Build Alternatives

Construction Impacts

Construction of the Build Alternatives would include work within the bed, bank, and channel of the Albion River. Per Caltrans standard measures, in-river work would be restricted to the period between June 15 and October 15 (see Section 2.2.5, *Common Design Features of the Build Alternatives*). Temporary work trestles would be installed during this work period and would remain in the river channel throughout construction.

Free-Flowing Nature of the Albion River

It is anticipated that temporary piles would be installed both on land and in water. Following completion of construction, the temporary trestles would be removed, and areas temporarily disturbed during construction would be restored in accordance with Caltrans standard measures. Of the Build Alternatives being evaluated, only Alternative 1 (Design Option 1A) and Alternative 3 (Design Option 3A) would install a new permanent bridge foundation (pier) on the south shore of the Albion River within tidal waters. All Build Alternatives would install cofferdams around new and existing piers, some of which are below the high tide line, to facilitate construction and demolition, and steel piles to support the temporary trestles would be present within the river channel. However, these structures would be temporary and would not restrict the flow of the Albion River to the ocean. The river's free-flowing condition would not be affected by the proposed project.

Alteration of the Setting of the Albion River

Construction activities and equipment would be visible from the roadway, the Albion River, and other nearby areas (e.g., residences, boat launch, convenience store). However, these activities would be temporary, lasting 3 to 5 years, depending on the Build Alternative. Therefore, the setting of the river would not be permanently altered by the views of construction activities.

Construction would also require vegetation removal for temporary access roads and staging areas. However, the removal of established trees and vegetation would be minimized and areas of temporary disturbance would be restored. Implementation of Caltrans standard measures, which are described in Section 2.2.5, *Common Design Features of the Build Alternatives* (e.g., measures that would minimize vegetation removal, restore disturbed areas, prevent introduction of non-native species), would reduce and minimize potential permanent impacts on the setting of vegetated areas along the Albion River in the project vicinity.

Recreational Designation of the Albion River

Pending right of way negotiations with landowners, the Albion Campground campsites would be encumbered by construction equipment and materials staging. No visitor access would be permitted to the campsites during the construction period (i.e., 3 years for Alternatives 1 and 2, and 5 years for Alternative 3). Additionally, given the safety concerns with pedestrians walking underneath and around an active construction zone, no visitor access to the Albion Flat Beach via the Albion Campground would be permitted during the construction period. Other Albion Campground facilities (e.g., campground office, parking lot, restrooms, picnic area, and the dock and marina) would remain open to visitors using the existing vehicle access from Albion River North Side Road or by watercraft through the existing outlet. The outlet would remain open during construction, except when intermittent passage closures are necessary to facilitate bridge construction or bridge demolition. Recreational opportunities upstream of the proposed project would continue.

Traffic delays on SR 1 due to construction could temporarily interfere with public access to recreation sites, including Schooners Landing (temporarily closed while it is undergoing an extensive restoration project) and Albion Campground via Albion River North Side Road. All Build Alternatives also include one extended overnight bridge closure. However, construction-phase traffic delays would not ultimately inhibit or prevent access to these recreational sites. The dock and marina, located along the north shoreline of the Albion River east (upstream) of the project site and adjacent to the Albion Campground, would remain open and accessible to the public during construction.

Operational Impacts

Under all Build Alternatives, the proposed project would not result in a permanent adverse effect on the free-flowing characteristics of the Albion River. In addition, the improvements at the Albion River Bridge would not alter the river's ability to meet its current recreational designation under the California Wild and Scenic Rivers Act.

Free-Flowing Nature of the Albion River

Following construction, there would be no new structures that would result in a substantial backflow during a flood event (Standard Measure **HF-1**). Additionally, with the exception of the lower concrete portion of the existing pier on the north bank, which is being retained to maintain current geomorphic processes, existing bridge pier foundations (pilings) would be removed to 3 feet below grade (Standard Measure **HF-2)**, which would reduce resistance and blockage of water moving downstream in a flood event. In addition, the replacement bridge is being designed to accommodate small crafts. The depth of the Albion River, which limits the type of boats to small crafts, would not be modified.

Alteration of the Setting of the Albion River

The most prominent change in the visual setting of the Albion River associated with the proposed project would be the replacement of the bridge. Although replacing the existing bridge with another bridge type would not result in a permanent overall structural alteration of the setting of the river (i.e., there would still be a bridge spanning the waterway after the completion of construction, just as there is under existing conditions), several scoping comments for the proposed project emphasize the aesthetic value of the existing bridge to the community and the design of the existing bridge is referred to as iconic. (Area West Environmental, 2024).

With implementation of the proposed project, the visual appearance of the bridge would change from its existing, historical, wooden trestle construction style to a modern non-arch (Design Options 1A and 2A) or spandrel arch (Design Options 1B and 2B) Although the Build Alternatives would alter the appearance of the bridge compared to existing conditions, they would open the view under the bridge making the river, cove, and landforms beyond the bridge more visible (Earthview Science 2024). All Build Alternatives would also include a separated pedestrian walkway on the west side of the

new structure to improve safe multimodal access and increase views of the Pacific Ocean.

Recreational Designation of the Albion River

The proposed project would not permanently alter the Albion River's ability to meet its recreational designation. Upon construction completion, recreational activities would not be affected and would be expected to return to existing conditions.

No-Build Alternative

Under the No-Build Alternative, the Albion River Bridge would not be replaced, and the Albion River would not be impacted.

Avoidance, Minimization, and/or Mitigation Measures

No avoidance, minimization, or mitigation measures are proposed.

3.2.5 Parks and Recreational Facilities

Regulatory Setting

The Park Preservation Act (California Public Resources Code [PRC] Sections 5400-5409) prohibits local and state agencies from acquiring any property which is in use as a public park at the time of acquisition unless the acquiring agency pays sufficient compensation or land, or both, to enable the operator of the park to replace the park land and any park facilities on that land.

Affected Environment

This section is based on the proposed project's Community Impact Assessment (Area West Environmental 2024), which was completed in March 2024, and the Section 4(f) Evaluation, which is provided in Appendix A, *Section 4(f)*.

Section 4(f) of the Department of Transportation Act of 1966, codified in federal law at 49 United States Code (USC) 303, declares that "it is the policy of the United States Government that special effort should be made to preserve the natural beauty of the countryside and public park and recreation lands, wildlife and waterfowl refuges, and historic sites."

The Section 4(f) Study Area for public parks, recreation lands, and refuges is the environmental study limits (ESL) plus a 0.5-mile buffer. This is the same study area as the Land Use Study Area, which is described in Section 3.2.1, *Existing and Future Land Use*.

Albion is a destination for camping, beach-going, river sports, dining, and lodging. The large, flat area beneath the Albion River Bridge and along the Albion River is known as Albion Flat. Albion Flat has beach and river access, a private campground, a small marina and boat launch, and a campground store. The Albion Biological Field Station research facility, which is owned and operated by Pacific Union College, is located just upriver from the Albion River Bridge.

Public Parks

There are no public parks or facilities protected by the Park Preservation Act or protected under 4(f) in the Section 4(f) Study Area. The nearest public park is Van Damme State Park, approximately 4 miles north of the proposed project.

According to Coastwalk/California Coastal Trail Association, which is a partnership between Coastwalk California and the State Coastal Conservancy, state legislators and the State Coastal Conservancy are working on acquiring property for a potential state park in Albion (CoastalWalk, California Coastal Trail Association, n.d). The park would not currently qualify for protection under the Park Preservation Act because it is assumed it would not be in use prior to or at the time of construction (PRC Section 5401).

Campgrounds

The privately owned Albion Campground and Marina (Albion Campground) is located immediately east of the Albion River Bridge on the north bank of the Albion River (see **Figure 22** below). The campground contains 17 full recreational vehicle (RV) hookups and 90 partial hookups for tents and RVs, as well as on-site RV rentals. The campground also offers day-use vehicle parking, a campground store, restrooms, showers, boat launch and dock berths, kayak and canoe rentals, and public beach access. Fees are charged for both overnight stays and day-use. Incidental observations of the Albion Campground and a review of Google Earth historical aerial photographs taken during summer months do not show the campground at capacity (Area West Environmental 2024).

The privately owned Schooner's Landing Marina is located along the Albion River east of the Albion Campground. The facility is currently closed for an extensive restoration project. The facility previously offered camping, hunting, fishing, kayaking (ocean and up-river), and diving. Fees were charged for day-use and overnight stays. Approximately half of the patrons used Schooner's Landing in the past for hunting/fishing/diving, whereas the other half consisted of families primarily interested in camping and passive recreation. The owner of the facility indicated that it would not reopen in the near future, if ever, under the current ownership (Area West Environmental 2024).

The next closest campground with coastal access is located 4 miles away. Several other campgrounds are available within 20 miles of the Section 4(f) Study Areas, more than half of which have coastal access. Alternate campgrounds in the vicinity include, but are not limited to, the following:

- Van Damme State Park (4 miles north, coastal access)
- Navarro Beach Campground in Navarro State Park (5 miles south, coastal access)
- Russian Gulch State Park (10 miles north, coastal access)
- Caspar Beach RV Park and Campground (11 miles north, coastal access)
- Mendocino Woodlands State Park (13 miles north, inland)
- Woodside RV Park and Campground (14 miles north, inland)
- Pomo RV Park and Campground (14 miles north, inland)
- Harbor RV Park (15 miles north, overlooks ocean)
- Dolphin Isle Marina & RV Park (16 miles north, inland)
- Hidden Pines RV Park and Campground (15 miles north, inland)
- Sportsman Park RV Sites (17 miles north, coastal access)
- MacKerricher State Park (20 miles north, coastal access)

- Cleone Campground (20 miles north, coastal access)

Beaches and Shoreline Resources

There are no designated state beaches in the Section 4(f) Study Area. Access to the beach at Albion Cove is privately owned. The general public may access the beach free of charge during normal day-use hours if they do not park on private campground property and do not use the campground facilities. All beach areas in California are public trust, usable by the public up to the mean high tide line; however, there is no designated public access or parking for the Albion Flat Beach.

The California Coastal National Monument (CCNM), which is managed by the Bureau of Land Management (BLM), is a protected area that includes offshore rocks and islands that are exposed above mean high tide and within 12 nautical miles of the mainland along the California coastline. Established in 2000, the CCNM protects these offshore areas as a scenic public resource and important wildlife habitat. Off-shore rocks in and around Albion Cove are protected as part of CCNM's Point Arena – Stornetta Unit (BLM 2023), administered by the BLM's Ukiah Field Office.

California Coastal Trail

The California Coastal Trail (CCT) is a network of interconnected public trails being developed to provide a multimodal opportunity to walk and bike the length of California's coastline from Oregon to Mexico. The CCT is an official state trail and is designed to make the coast more accessible, foster appreciation and stewardship of the scenic and natural resources of the coast, provide recreational opportunities, and encourage non-motorized transportation. Future improvements and completion of the CCT is a joint undertaking of the California Coastal Conservancy in cooperation with the California Coastal Commission, California Department of Parks and Recreation, Coastwalk, and other community groups and nonprofit organizations. The CCT system will be developed as close to the Pacific Ocean as possible and, where feasible, within sight, sound, and smell of the ocean.

The majority of the planned trail in Mendocino County is within the State Route (SR) 1 roadway right of way (ROW), and hikers could walk along the roadway shoulders/edge of the roadway. At the SR 1 intersection with Albion Little River Road, Albion Little River Road, which has no shoulder, can be taken northeast toward the pygmy forest in Van Damme State Park (**Figure 22**). While the planned route for the CCT is along SR 1 in the project area, there is currently no developed trail; given the narrow width of the roadway shoulders, pedestrians and cyclists share the roadway with vehicles.

Pacific Coast Bike Route

The Pacific Coast Bike Route (PCBR) is an 1,800-mile-long cycling route that follows the entire west coast of the United States from Canada to Mexico. It generally follows SR 1, although the bike route does have several detours. The PCBR follows state highways, freeways, and city and county roads and serves long-distance, touring, recreational cyclists as well as daily commuters. There are some bridge crossings, tunnels, and roadways with non-existent or narrow shoulders where there are alternative options for moving further inland. In Mendocino County, the PCBR starts on U.S. Highway 101 (U.S. 101) in the north, then continues on SR 1 to the Sonoma County border in the south. The PCBR currently crosses the existing Albion River Bridge (**Figure 22**) where cyclists share the roadway with vehicles as there is no dedicated pathway, and the shoulders are insufficient.

Albion River

The Albion River is considered a navigable waterway of the United States from the Albion River Bridge to 3 miles of the mouth and a public way under the California Harbors and Navigation Code Sections 100-106. According to the California Wild and Scenic Rivers Act (PRC Section 5093.50 et seq.), the Albion River is designated as a California Wild and Scenic River for recreation (see Section 3.2.4, *Wild and Scenic Rivers*). In addition, the State Lands Commission has designated the Albion River as a Significant Land in the *Inventory of Unconveyed State School Lands & Tide & Submerged Lands Possessing Significant Environmental Values* (Significant Lands Inventory) (State Lands Commission, n.d.; State Lands Division, 1975). Generally, the public has rights to access and use navigable waters for many beneficial uses, including, but not limited to, navigation, fishing, and recreation.

However, there is no deeded public access to the Albion River because all the access points are on private property. There is no direct access to the Albion River from SR 1 due to steep slopes. Other than access via the ocean, all other access points in the area are through private property. Access is primarily from the privately owned Albion Campground and Schooner's Landing Marina via the Albion River North Side Road. The public can purchase a day pass or reserve a campsite for a fee to access the Albion River through the Albion Campground, which has a small boat ramp, marina and docks. The other private access point, Schooner's Landing Marina, which is adjacent and to the east of the Albion Campground, has also provided river access, but is currently closed. On the south side of Albion River, access is limited to a facility owned by Pacific Union College located approximately 0.75 mile from SR 1 at the end of Albion Street. Self-propelled personal watercraft can be launched here for a small fee.

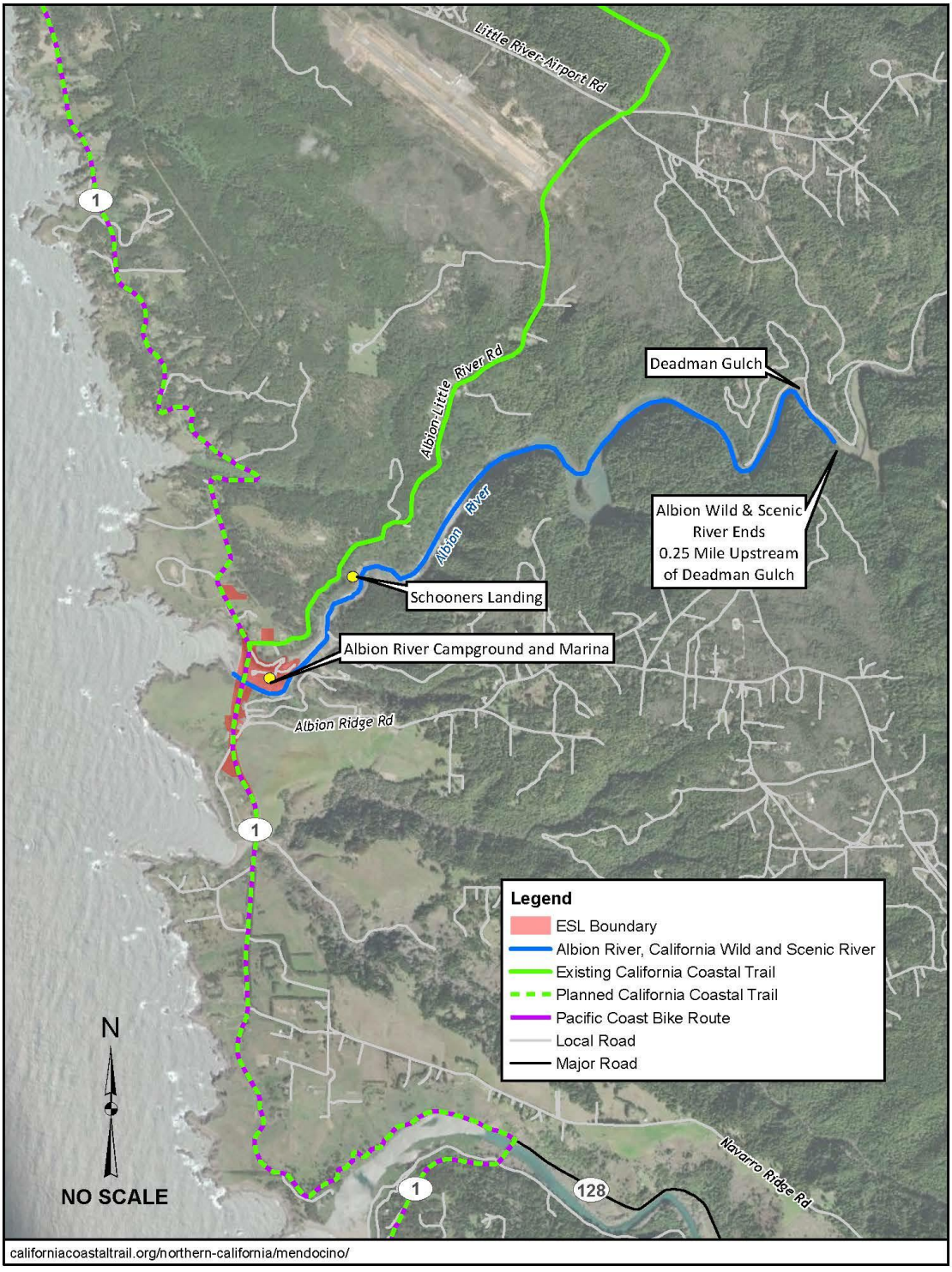


Figure 22. Recreational Resources within and near Project Area

Environmental Consequences

Build Alternatives

Construction Impacts

All Build Alternatives would temporarily limit and/or restrict public access to the Albion Flat Beach, Albion Campground, and Albion River outlet during construction. Construction activities would restrict public access to the Albion Flat for the safety of construction workers and the public and would overlap with the peak season for recreational uses at Albion Campground and Albion Flat Beach.

The Albion Campground would be encumbered by construction equipment and materials staging and visitor access would not be permitted to the campsites during the construction period. Public access to the Albion Campground would be limited to the campground office, parking lot, restrooms, picnic area, and the dock and marina. The dock and marina for small watercraft located along the northern Albion River shoreline adjacent to the campgrounds is anticipated to remain open during construction. However, it is likely that construction activity would deter marina visitors due to construction noise, visual impacts, and periodic river outlet closures under the bridge. During daytime construction activities, some marina users may be out on the ocean fishing, kayaking, or diving. Any temporary trestle(s) crossing the river for construction purposes would allow access to the ocean with safe passage for small watercraft outside of planned temporary river outlet closures.

Construction of Alternative 1 (West Alignment) would affect recreational activities along the Albion River for 3 years, including 3 summer seasons. Alternative 1 could require temporary relocation of the Albion Campground manager's residence during construction; the residence would potentially be returned after construction is complete, pending negotiations with the campground owners during the ROW phase. Negotiations may result in the permanent relocation or acquisition of the campground manager's residence. See Section 3.2.7, *Relocations and Real Property Acquisitions,* for more information. No campsites would need to be relocated. In addition, Design Option 1A would result in approximately 37 months of campground and beach closures, and approximately 90 days of Albion River outlet (boating) closures[10]. Design Option 1B would result in approximately 38 months of campground and beach closure, and approximately 110 days of outlet closures of the Albion River.

Construction of Alternative 2 (East Alignment) would affect recreational activities along the Albion River for 3 years, including 3 summer seasons. Alternative 2 would require permanent relocation of the Albion Campground manager's residence as the existing residence is within the new proposed bridge alignment. In addition, this alternative

[10] The length of individual outlet closures for all Build Alternatives are dependent on the work being conducted. While there may be consecutive closure days, the full number of closure days (e.g, 90 days) are not anticipated to be consecutive. Outlet closures would be coordinated, in advance, with the U.S. Coast Guard Captain of the Port.

would permanently affect approximately four campsites and a portion of the westernmost boat launch parking area. Design Option 2A would result in approximately 37 months of campground and beach closure and approximately 90 days of outlet closures of the Albion River. Design Option 2B would result in approximately 38 months of campground and beach closure and approximately 110 days of outlet closures of the Albion River.

Construction of Alternative 3 (On-Alignment) would affect recreational activities along the Albion River for 5 years, including 5 summer seasons. Alternative 3 could require temporary relocation of the Albion Campground manager's residence during construction and would return the residence to its current location after construction is complete, pending consultation with the campground owners. Alternative 3 would not result in the permanent closure of any campsite. Alternative 3 would result in approximately 59 months of campground and beach closure and approximately 130 days of outlet closures of the Albion River.

Schooner's Landing Marina is currently closed for an extensive restoration project and there are no known plans to reopen in the immediate future. If the campground were to reopen before bridge construction begins, access to Schooner's Landing would be maintained through Albion River North Side Road under all Build Alternatives. However, construction-related river outlet (boating) and beach access closures and construction noise and disturbance would adversely affect marina and associated campground use if the Schooner's Landing Marina were to reopen prior to or during construction.

Construction-related river, path, and beach closures and construction noise and disturbance would temporarily affect recreational activities. The loss of campsites during the summer construction season could increase demand at other campgrounds on the coast in this region. However, this impact would be temporary and would not result in a permanent impact on recreation or the creation of any new parks or recreational facilities.

During construction, cyclists and pedestrians would be affected temporarily by lane, road, and bridge closures. However, Standard Measure **TT-1** requires that pedestrian and bicycle access be maintained during construction. During traffic control, cyclists or pedestrians on SR 1 would be accommodated through the proposed project either by joining the vehicle queue or through the lane closure, except during the extended overnight bridge closure. When flaggers are on-site, they can facilitate pedestrian movements if necessary. Accommodation for pedestrians and cyclists would be included in the Transportation Management Plan as required by Standard Measure **TT-3**. These temporary changes to pedestrian and bicycle use of the bridge during construction are further discussed in Section 3.2.9, *Traffic and Transportation/ Pedestrian and Bicycle Facilities*. In addition, Measure **AMM-PR-1,** which requires a public outreach program be implemented, would provide notification to the public and recreational users of construction activities so they can plan accordingly.

Operational Impacts

Under all Build Alternatives, there would be no permanent impacts on river or beach access. Proposed improvements to the Albion River Bridge would ultimately benefit recreational users. The Albion River would remain both accessible and navigable after construction. A 6-foot-wide, separated pedestrian walkway on the west side of the replacement structure and two 6-foot-wide shoulders would provide continuity across the Albion River for cyclists and pedestrians. Flattening the horizontal curve north of the bridge and widening SR 1 to accommodate alignment with the new structure would also improve safety for multimodal users, including cyclists and pedestrians.

Alternative 2 would affect approximately four campsites and a portion of the westernmost boat launch parking area. All Build Alternatives may temporarily or permanently affect the campground manager's residence. Until an alternative is selected, and the design is more refined, the number of campsites displaced is preliminary and impacts to the manager's residence is to be determined.

No-Build Alternative

Under the No-Build Alternative, the Albion River Bridge would not be replaced, and parks and recreational facilities would not be impacted.

U.S. Department of Transportation Section 4(f)- Recreational Resources

As described in Appendix A, *Section 4(f)*, the Albion River Campground and Schooner's Landing Marina do not qualify as Section 4(f) resources because these facilities are privately owned. Further, pursuant to 23 Code of Federal Regulations (CFR) 774.13(f)(3), the PCBR and CCT are exempt from the requirements of Section 4(f) because these recreational facilities occupy the existing SR 1 ROW without a specified location within the ROW. The proposed project would also not result in a use (permanent incorporation, temporary occupancy, or constructive use) of the CCNM, which includes rocky outcrops off the coast.

The Albion River is subject to Section 4(f) requirements because it is public property that is managed for recreational purposes. The California Natural Resources Agency (CNRA) is the official agency with jurisdiction over the Albion River under Section 4(f). As described further in Appendix A, *Section 4(f)*, all Build Alternatives would result in a *de minimis* impact on the Albion River under Section 4(f) because there would be no permanent changes to the river, the river would remain both accessible and navigable after construction, the river's status as a recreational river within the State of California Wild and Scenic Rivers Program would not change, and the river's recreational uses would continue following construction. Caltrans has coordinated with CNRA, which is described further in Section 3.2.4, *Wild and Scenic Rivers*.

CNRA concurrence of the *de minimis* impact finding would be obtained after the public comment period for the DEIR/EIS and prior to approval of the final EIR/EIS with appended Final 4(f) evaluation. See Appendix A, *Section 4(f)*, under the heading "Albion River Proposed De Minimis Impact Determination" for additional details.

California State Lands – Public Access

Pursuant to Section 84.5 of the California Streets and Highways Code, the State Lands Commission requires an evaluation of the feasibility of providing public access to the Albion River as part of the proposed project, including the following considerations:

- An assessment of public access needs at the project location, in addition to a benefit analysis of public access alternatives.
- A description of existing public access points and facilities in the project vicinity, including the existing condition of these resources and the entity responsible for maintenance.
- An assessment of existing constraints and hazards that could make on-site public access infeasible.
- A feasibility assessment of proposed, on-site public access infrastructure, such as construction of trails, stairs, parking areas, trash cans, restrooms, etc.
- If on-site public access is infeasible, a feasibility assessment of alternatives, such as improving existing public access or creating new public access points for the subject waterway within the proposed project vicinity.
- Environmental impacts of providing public access.
- A conclusion on the feasibility of providing public access.

Caltrans prepared a Feasibility Report – Public Access to Navigable River (Caltrans 2023) to address the State Lands Commission analysis. The Feasibility Report determined that the proposed project would not permanently impact existing access to the river and providing new public access would not be practical within the existing or proposed state ROW due to impacts on adjacent private property, sensitive habitats, and lack of practical design options that would comply with Americans with Disabilities Act access requirements. Both the north bank and south bank/bluff have very steep slopes and contain sensitive environmental habitats. Additionally, improving the currently available public access would require cooperation from one of the private property owners to allow a public easement connecting Mendocino County ROW to the river. This is unlikely to occur since the private properties currently charge the public to use their respective river access.

Avoidance, Minimization, and/or Mitigation Measures

The following resource-specific measure would be implemented:

AMM-PR-1: A public outreach program would be implemented that provides notification to the public (e.g., residents, businesses, Albion River users/recreationalists, emergency service providers, transit operators) and applicable agencies with information regarding construction activities and closures.

3.2.6 Community Character and Cohesion

Regulatory Setting

The National Environmental Policy Act (NEPA) of 1969, as amended, established that the federal government use all practicable means to ensure for all Americans safe, healthful, productive, and aesthetically and culturally pleasing surroundings (42 United States Code [USC] 4331[b][2]). The Federal Highway Administration (FHWA) in its implementation of NEPA (23 USC 109[h]) directs that final decisions on projects are to be made in the best overall public interest. This requires taking into account adverse environmental impacts, such as destruction or disruption of human-made resources, community cohesion, and the availability of public facilities and services.

Under the California Environmental Quality Act (CEQA), an economic or social change by itself is not to be considered a significant effect on the environment. However, if a social or economic change is related to a physical change, then social or economic change may be considered in determining whether the physical change is significant. Since this project would result in physical change to the environment, it is appropriate to consider changes to community character and cohesion in assessing the significance of the project's effects.

Affected Environment

This section is based on the proposed project's Community Impact Assessment (Area West Environmental 2024), which was completed in March 2024.

This section addresses potential impacts on community character and cohesion within the Community Study Area. Community character and cohesion are defined as follows:

- ***Community character*** consists of the attributes that make a community unique and establish a sense of place for its residents, including population demographics, economic and social history, importance of various facilities, and plans for the future.
- ***Community cohesion*** is the degree to which residents have a sense of belonging to their neighborhood, their level of commitment to the community, or a strong attachment to neighbors, groups, and institutions, usually as a result of continued association over time. Community cohesion also refers to the degree of interaction among the individuals, groups, and institutions that make up a community.

Cohesive communities are indicated by various types of social characteristics, such as longer lengths of residency, home ownership, ethnic homogeneity, and high levels of community activity. Transportation projects can divide cohesive neighborhoods if they act as a physical barrier, are perceived as a psychological barrier by residents, or if they isolate a portion of a homogeneous neighborhood.

The Community Study Area, which is depicted in Figure 18 in Section 3.2.1, *Existing and Future Land Use*, was used to characterize the socioeconomic environment for the proposed project (Area West Environmental, 2024). This study area is broader than the Land Use Study Area, which is also described in Section 3.2.1. The Community Study Area is defined by the two census block groups that make up Census Tract 110.01, the census tract in which the project is located. Because the Albion Census-Designated Place (CDP) is small, with a large margin of error in statistical reporting, Census Tract 110.01 was used to provide more statistically reliable socioeconomic data.

The proposed project is located in the community of Albion and unincorporated part of Mendocino County. The Community Study Area is primarily rural. Communities and residences within and immediately adjacent to the proposed project's ESL include the community of Albion, scattered rural residences, a small number of commercial/retail properties, and an inn along the coast. The community of Albion contains a small cluster of residences north of the Albion River Bridge along Albion Little River Road and another small cluster of residences south of the bridge along Albion Ridge Road, East Lane, and Albion Street.

The existing Albion River Bridge contributes to the Albion community's sense of place and history. The Albion River Bridge is a wooden deck truss bridge that rises 155 feet above the Albion River and crosses approximately 170 feet east of its outlet to Albion Cove and the Pacific Ocean. Constructed in 1944, the Albion River Bridge is the only remaining wooden bridge on SR 1. The bridge was built of salvaged wood and a salvaged steel center truss from a former railroad bridge due to shortages of concrete and steel during World War II. The bridge was placed on the National Register of Historic Places and the California Register of Historical Resources in July 2017 (see Section 3.2.11, *Cultural Resources*).

The project's scoping meeting for the NEPA Notice of Intent on May 5, 2022, provided the public with an opportunity to voice concerns regarding the proposed project. During this meeting, 14 commenters indicated they consider the existing bridge to be an iconic, unique, defining feature of their community (Area West Environmental 2024). As described in more detail in Section 3.2.10, *Visual/Aesthetics*, dramatic views of the bridge are visible from several key viewpoints in the area. Overall, the outstanding scenic quality of the rugged coastal landscape and deep river valley contribute to Albion's community character.

Some factors that can influence a community's sense of belonging or level of commitment include housing, household size, household tenure, race and ethnicity, age, transit-dependent populations, and parks and recreational facilities. As described in more detail below, communities with a higher percentage of owner-occupied residences are typically more cohesive because their population tends to be less mobile. Homeowners often take a greater interest in what is happening in their communities than renters do because they have a financial stake in the community. This often translates to a stronger sense of belonging to their communities. However,

this stronger cohesion may be less pronounced in the community study area since many homes seem to lack full-time residents (Area West Environmental 2024).

Information about the community within Census Tract 110.01 is included below. Many properties in the Community Study Area and the community of Albion are owned by seasonal residents as vacation homes. Several statistics collected by the U.S. Census Bureau and others are only attributed to the location of primary residence (e.g., income, ethnicity, age, employment). Hence, statistics within the Community Study Area do not include the socioeconomic composition of the seasonal residents who make up a sizeable portion of the property owners along the coast.

Population Characteristics

Table 10 illustrates the population in 2021 for the state (California), county (Mendocino County), and Community Study Area (Census Tract 110.01) (see Figure 18 in Section 3.2.1*, Existing and Future Land Use*). In 2021, the population of the Community Study Area totaled 2,070, representing approximately 2.3 percent of the county population. In 2021, the population of the county totaled 91,534, representing approximately 0.2 percent of the state's total population.

Table 10. Current Population (2021)

Area	2021 Population
California	39,455,353
Mendocino County	91,534
Census Tract 110.01	2,070

Source: U.S. Census Bureau American Community Survey 2021 5-year data (Table ID B03002)

Race and Ethnicity

Table 11 shows the race and ethnicity characteristics for Census Tract 110.01 compared to Mendocino County and the state of California. Mendocino County and Census Tract 110.01 are predominantly White, not Hispanic or Latino. Census Tract 110.01 is more ethnically homogeneous than the county, with a population that is 89.7 percent White, 3.1 percent Hispanic, 3.1 percent Asian, 2.0 percent Native Hawaiian/Pacific Islander, and 2.1 percent two or more races. Therefore, Census Tract 110.01 would not be considered a minority community for the purposes of this environmental document.

Table 11. Race and Ethnicity Data

Area	Total	Hispanic or Latino (of any race)	Not Hispanic or Latino						
			White	Black or African American	Native American	Asian	Native Hawaiian/ Pacific Islander	Other Race	Two or More Races
California	39,455,353	15,593,787 (39.5%)	14,109,297 (35.8%)	2,128,184 (5.4%)	124,341 (0.3%)	5,802,086 (14.7%)	134,692 (0.3%)	149,096 (0.4%)	1,413,870 (3.6%)
Mendocino County	91,534	24,068 (26.3%)	58,074 (63.4%)	554 (0.6%)	2,779 (3.0%)	1,969 (2.2%)	124 (0.1%)	490 (0.5%)	3,476 (3.8%)
Census Tract 110.01	2,070	64 (3.1%)	1,857 (89.7%)	0 (0%)	0 (0%)	65 (3.1%)	41 (2.0%)	0 (0%)	43 (2.1%)

Source: (U.S. Census Bureau, American Community Survey 2021 5-year data) (Table ID B03002)

Age

Children and the elderly are potentially more susceptible to negative environmental effects than other members of the population. In addition, elderly residents (65 years or older) tend to demonstrate a greater social commitment to their communities and are often more active in the community as a result of having more time available for volunteering and participating in social organizations.

Table 12 shows the age statistics of Census Tract 110.01 compared to Mendocino County and California. Census Tract 110.01 has a substantially lower percentage of the population under the age of 18 (7.5 percent) than Mendocino County (21.4 percent). Census Tract 110.01 also has a substantially higher percentage of the population over the age of 65 (40.0 percent) than Mendocino County (22.4 percent).

Table 12. Age Statistics

Area	Total under 18	Total 18 to 64	Total Elderly (65+)	Percent Under 18 or Elderly	Median Age
California	8,992,432 (22.8%)	24,793,042 (62.8%)	5,669,879 (14.4%)	37.2%	37.0
Mendocino County	19,587 (21.4%)	51,450 (56.2%)	20,497 (22.4%)	43.8%	43.6
Census Tract 110.01	156 (7.5%)	1,087 (52.5%)	827 (40.0%)	47.5%	57.8

Source: U.S. Census Bureau, American Community Survey 2021 5-year data (Table IDs B01001 and B01002)

Housing

Table 13 shows the housing characteristics of the Community Study Area (Census Tract 110.01) compared to Mendocino County and California. In 2021, the available housing in the Community Study Area (1,529 units) represented approximately 3.7 percent of the county's total housing stock (41,276 units). Housing characteristics within the Community Study Area vary from the housing characteristics in the county and state. A higher percentage of vacant housing units are available within the Community Study Area (36.7 percent) compared to the county (17.2 percent). Higher vacancy indicates that many of the units may be second homes and/or vacation homes and not primary residences. As shown in Table 13, the median house value in the Community Study Area ($532,800) is substantially higher than in the county ($388,500). The higher median house value does not coincide with a higher median household income when compared to the county. The higher home values may be a function of the higher percentage of vacation or secondary homes and the desirable coastal location.

Table 13. Selected Housing Characteristics

Area	Total Housing Units	Percent Vacant	Percent Single-Family Units	Average Household Size (Persons)	Percent Owner Occupied	Median Value [1]	Median Rent Per Month
California	14,328,539	7.8%	68.5%	2.92	55.5	$538,500	$1,586
Mendocino County	41,276	17.2%	86.3%	2.61	60.3	$388,500	$1,134
Census Tract 110.01	1,529	36.7%	99.2%	1.90	69.9	$532,800	$1,233

Source: U.S. Census Bureau, American Community Survey 2021 5-year data (Table IDs B25002, B25003, B25010, B25024, B25064, and B25077)

[1] American Community Survey 2020 5-year data was used for median rent and median house value in all areas, due to unavailability of more recent data for Mendocino County.

Communities with a high percentage of households with children are more cohesive than communities comprised largely of households without children. This may be because children tend to establish friendships with other children in their communities, and the social network of children often leads to the establishment of friendships and affiliations among parents in the communities. This analysis assumes that higher persons per household translates to more families with children. There are fewer persons per household in the Community Study Area (1.90 persons) than in the county (2.61 persons). Table 12 shows that a lower percentage of the population is under the age of 18 years in the Community Study Area (7.5 percent) compared to the county (21.4 percent) indicating a less cohesive community.

Communities with a high percentage of long-term residents are typically more cohesive because a greater portion of the population has had time to establish social networks and develop an identity within the community. As shown in Table 14, the Community Study Area has a higher percentage of households that have been in the area for a longer period of time than Mendocino County or California. The majority of residents in the Community Study Area have lived in their current housing unit since the 1990s (50.3 percent), which is a higher percentage than that of Mendocino County (29.7 percent) and California (21.9 percent). This indicates that those residents in the Community Study Area have established roots in the area and thus may have a higher degree of community cohesion.

Table 14. Household Tenure

Area	Year Householder Moved into Unit by Percentage					
	2019 or Later	2015 to 2018	2010 to 2014	2000 to 2009	1990 to 1999	1989 or Earlier
California	9.3	28.5	19.7	20.7	11.3	10.6
Mendocino County	6.4	25.4	15.9	22.5	13.9	15.8
Census Tract 110.01	4.3	17.3	16.7	11.3	25.7	24.6

Source: U.S. Census Bureau, American Community Survey 2021 5-year data (Table ID B25038)

Household Income

According to the U.S. Department of Health and Human Services, the poverty level for a family of four is $30,000 (Office of the Assistant Secretary for Planning and Evaluation 2023). As shown in Table 15, the average household size in the Community Study Area (1.90 persons) is smaller than for the county (2.61 persons). Median household incomes within the Community Study Area ($42,717) were lower than in the county ($52,915). Fewer persons per household (contributing income) trends with lower household income. The percentage of individuals living below the federal poverty level within the Community Study Area (16.9 percent) is slightly higher than in the county (15.8 percent). Alternatively, the number of families living below the federal poverty level within the Community Study Area (7.9 percent) is lower than that of the county (11.5 percent). This may be due in part to the smaller percentage of families in the Community Study Area when compared to the county.

Table 15. Selected Income Characteristics

Area	Average Number of Persons per Household	Median Household Income [1]	Percent of Individuals Below Poverty Level	Percent of Families Below poverty Level
California	2.92	$78,672	12.3%	8.7%
Mendocino County	2.61	$52,915	15.8%	11.5%
Census Tract 110.01	1.90	$42,717	16.9%	7.9%

Source: U.S. Census Bureau, American Community Survey 2021 5-year data (Table IDs B17012, B19013, B25010, S1701)

[1] U.S. Census Bureau, American Community Survey 2020 5-year data was used for median household income due to unavailability of more recent data for the Community Study Area.

Employment

Table 16 shows the employment and labor force composition of the Community Study Area (Census Tract 110.01) compared to that of Mendocino County and California. According to the U.S. Census Bureau 2021 5-year data (U.S Census Bureau 2021), California had an estimated available labor force of 20,129,162 individuals. Comparatively, Mendocino County had an estimated available labor force of 42,629 individuals and Census Tract 110.01 had an estimated available labor force of 1,065 individuals. At 10.3 percent, the unemployment rate within the Community Study Area is higher than that of Mendocino County (8.5 percent) and California (6.5 percent). The percent of employed persons in the labor force who are college educated is higher in the Community Study Area (72.8 percent) than Mendocino County (57.4 percent) and California (64.4 percent).

Table 16. Employment and Labor Force Composition

Area	Number Persons in Labor Force[1]	Number of Persons Employed	Number of Persons Unemployed	Percent Unemployed	Percent Women in Labor Force	Percent Employed and College Educated[2]
California	20,129,162	18,676,721	1,303,741	6.5%	45.7%	64.4%
Mendocino County	42,629	38,972	3,606	8.5%	46.7%	57.4%
Census Tract 110.01	1,065	955	110	10.3%	48.1%	72.8%

Source: U.S. Census Bureau 2021 5-year data (Table IDs B23001 and B23006)
Notes:
[1] Labor Force: Aged 16 years and older
[2] College Educated Population: Aged 25 years and older with more than a high school education.

Commute Patterns

The Albion River presents a natural physical barrier to traveling within the Community Study Area. The first bridge crossing the Albion River was built in 1861. However, the crossing was low and accessible only by treacherous grades up and down the bluffs on either side of the river. The existing bridge was completed in 1944. It provides the only crossing of the Albion River for several miles. The nearest Albion River crossing is approximately 5.5 miles northeast of Albion but involves an unmarked 28-mile route through winding rural roads. Limited connectivity across rivers creates longer trip lengths; greater dependence on automobiles; concentrated vehicle traffic flows on existing bridges and their connecting approach roadways; and barriers to economic activity, social exchanges, recreational opportunities, and access to jobs. Currently, residents drive over the bridge to reach community services, businesses, and neighbors on each side of the river. The existing bridge lacks shoulders for pedestrians and bicyclists, and the bridge does not meet modern seismic safety standards. All Build Alternatives would add shoulder width and a separated pedestrian walkway across the

bridge, which would provide long-term benefits for community cohesion by providing safe and reliable multimodal access across the Albion River.

Table 17 shows the total number of workers and preferred commuting methods for residents within the Community Study Area compared to that of Mendocino County and California. A lower percentage of residents within the Community Study Area (56.0 percent) preferred to drive alone compared to Mendocino County (73.4 percent) and California (72.1 percent). No resident within the Community Study Area reported taking public transit. However, 11.7 percent of residents within the Community Study Area reported walking or biking to work, which is a higher percentage than Mendocino County (6.5 percent) and California (3.4 percent).

Table 17. Transportation to Work

Area	Total Number of Workers[1]	Percent Drove Alone	Percent Carpool	Percent Public Transportation	Percent Other	Walk/ Bike	Percent Work from Home
California	18,239,892	72.1%	10.0%	4.6%	1.6%	3.4%	8.4%
Mendocino County	36,083	73.4%	10.0%	0.2%	0.7%	6.5%	9.2%
Census Tract 110.01	891	56.0%	14.5%	0.0%	1.6%	11.7%	16.3%

Source: U.S. Census Bureau, American Community Survey 2021 5-year data (Table ID B08301)
Notes:
[1] Workers aged 16 years and over

Table 18 shows the commuting patterns and location of employment relative to where residents live. Nearly all residents within the Community Study Area work within Mendocino County (96.0 percent) and outside their place of residence (71.4 percent). In addition, the majority of residents within the Community Study Area reported travelling less than 30 minutes to work (68.0 percent). No resident reported commuting more than an hour. Similar patterns exist for Mendocino County and California.

Table 18. Commuting Patterns

Area	Work Inside County of Residence	Work Outside County of Residence	Work Inside Place of Residence [1]	Work Outside Place of Residence	Travel Time to Work[2] <30 Minutes [3]	Travel Time to Work 30 to 60 Minutes[3]	Travel Time to Work >60 Minutes [3]
California	83.5%	16.0%	39.6%	60.4%	56.1%	31.2%	12.7%
Mendocino County	92.8%	6.8%	45.3%	54.7%	76.7%	15.4%	7.9%
Census Tract 110.01	96.0%	3.5%	28.6%	71.4%	68.0%	32.0%	0.0%

Source: U.S. Census Bureau 2021 5-year data (Table IDs B08007, B08008, and B08303)
Notes:
[1] Place of residence is defined as a city or census designated place.
[2] Travel Time to Work percentages calculated using total number of workers, excluding those working from home.
[3] U.S. Census Bureau 2020 5-year data was used for travel time to work due to lack of availability of more recent data for Community Study Area.

Parks and Recreational Facilities

As described in Section 3.2.5, *Parks and Recreational Facilities*, there are limited public parks and recreational facilities within the community of Albion and Land Use Study Area. Privately-owned recreational facilities within the community are associated primarily with access to the Albion River and include the Albion River Campground and Marina and Schooner's Landing Marina, which is temporarily closed for restoration.

Disadvantaged Community

The U.S. Environmental Protection Agency's Environmental Justice Screening Tool (EJScreen) and the California Office of Environmental Health Hazard Assessment's CalEnviroScreen Tool were used to characterize demographics, pollution burdens, and health disparities. The California Environmental Protection Agency has defined disadvantaged communities as those census tracts that fall in or above the 75th percentile in CalEnviroScreen. There are approximately 8,000 census tracts in California.

The Community Study Area has a CalEnviroScreen score in the 11th percentile for pollution burden and the 21st percentile for population characteristics when compared to other census tracts in the state. These rankings indicate that the Community Study Area is not confronted with the burdens and vulnerabilities from environmental pollutants and is not defined as a disadvantaged community. The Community Study Area has a CalEnviroScreen score in the 56th percentile for poverty. Therefore, the Community Study Area does not reach the 75th percentile for any indicator in CalEnviroScreen and is not considered a disadvantaged community.

Environmental Consequences

Build Alternatives

Construction Impacts

During construction, air pollutant emissions and noise from construction activities would temporarily affect community character for residents and businesses near the construction site. Construction of the proposed project is anticipated to take between 3 years (Alternatives 1 and 2) and 5 years (Alternative 3). As discussed further in Section 3.3.6, *Air Quality*, short-term degradation of air quality is expected from the release of particulate emissions (airborne dust) generated by excavation, grading, hauling, and other construction activities, as well as emissions from construction equipment powered by gasoline and diesel engines. However, standard measures, listed in Section 2.2.5, *Common Design Features of the Build Alternatives,* would be implemented that would reduce impacts. These include Standard Measures **GHG-1** through **GHG-5**, which require compliance with all applicable laws and regulations related to air quality, limits idling of vehicles, ensures adherence to most recent emissions reductions regulations, and use of a Transportation Management Plan (TMP) to minimize vehicle delays and idling emissions. In addition, Measure **AMM-AQ-1**, which would require that the construction contractor implement controls to minimize the release of fugitive dust and toxic air contaminants due to emissions, would be implemented. Therefore, short-term release of air pollutants would not adversely affect community character.

Construction-related noise would temporarily affect community character. As discussed further in Section 3.3.7, *Noise and Vibration*, the beach area and picnic areas near the bridge would be exposed to high noise levels during pile driving for the new bridge foundation and temporary work structures, and during other construction phases. However, access to these areas would be restricted during construction, which would minimize community exposure to substantial construction noise. Construction noise and vibration would be intermittent, short term, and conducted in accordance with Measures **AMM-NOI-1** (construction noise controls), **AMM-VIB-1** (vibration surveying), and **AMM-VIB-2** (vibration monitoring) to further minimize and avoid the potential for noise and vibration impacts from construction activities.

During construction, traffic control (reversing traffic control, intermittent closures, and one extended overnight closure) would temporarily disrupt circulation across the Albion River within the Community Study Area. Since the bridge is the only crossing of the Albion River within the community of Albion, the proposed project would affect community cohesion during construction. However, these impacts would be temporary, short-term, and intermittent. In addition, the temporary impacts on vehicle accessibility and circulation during construction would be minimized through implementing Standard Measures **TT-3** and **GHG-4**, which require the use of a TMP. In addition, Standard Measure **TT-2** requires that the construction contractor avoid unnecessary inconvenience to the public and maintain access to driveways, houses, and buildings within the work zones. In addition, Measures **AMM-TT-1** and **AMM-PR-1**(described in Section 3.2.9, *Traffic and Transportation/Pedestrian and Bicycle Facilities*, and Section

3.2.5, *Parks and Recreational Facilities*, respectively) would also be implemented. These measures would require the preparation of a contingency plan and a public outreach program to address emergency vehicle and bicycle and pedestrian access over the Albion River. Construction impacts on the local community would be temporary and would cease following replacement of the existing bridge.

Under all Build Alternatives, there would be no visitor access to Albion Flat Beach during construction, and campsites within the private Albion Campground would be closed for 3 to 5 years, depending on the alternative selected. Construction related activities could reduce regional tourism temporarily and cause short-term economic impacts on the community of Albion and surrounding businesses and nearby communities. However, tourists would still have access to local businesses, and the local community would continue to patronize local businesses during construction. Sales tax revenue may decrease in the Land Use Study Area but increase elsewhere in the Community Study Area and county at other nearby tourist destinations as tourists and recreationists seek recreation options outside the area influenced by construction.

Construction of the proposed project would generate direct and indirect temporary economic activity, including the purchases of goods and services and employment of workers required for construction. The proposed project is not anticipated to result in the need to construct new housing for construction workers. Construction workers may elect to stay in Albion, Fort Bragg, or other nearby areas, where they would commute to and from the construction site. Proposed construction activities would not contribute to changes in housing characteristics in the community of Albion or the rest of the Community Study Area. In addition, the temporary and/or permanent relocation of the Albion Campground manager's residence is not anticipated to impact the character or cohesion of the local community. Therefore, proposed construction activities are not anticipated to affect the population demographics of the local community under any of the Build Alternatives.

Operational Impacts

All Build Alternatives would replace the existing bridge with a modern bridge structure that meets current design and safety standards. None of the Build Alternatives would affect the population demographics of the local community. For some residents, replacing the existing historic bridge would change their perception of their sense of place and community history due to the local importance of the existing bridge. The existing bridge is iconic within the community, and some community members feel the existing bridge defines them as a unique coastal community. Losing this icon would impact community character. As described in Section 3.2.11, *Cultural Resources*, measures would be developed in consultation with the State Historic Preservation Officer to ensure the existing bridge can be enjoyed by future generations (see Measure **AMM-CR-3**). These could include historic bridge recordation, public interpretative materials, a commemorative monument, and/or reusing some of the original bridge's fabric into the new bridge design.

The visual impacts of the loss of the bridge are inherently tied to this loss of character and are discussed further in Section 3.2.10, *Visual/Aesthetics*. Measures **AMM-AR-1** through **AMM-AR-6** would be implemented. The visual measures would help reduce the impact on the rural coastal character and includes working with the local community to offset the proposed project's effects on scenic views.

The Build Alternatives would not remove an impediment or barrier to growth nor incentivize growth, provide an entirely new public facility, or provide new access to previously unserved areas. In addition, the proposed project would not result in permanent changes to land use, increase roadway capacity, cause new businesses to relocate to the area, or stimulate additional development. Therefore, none of the Build Alternatives would influence regional population growth or contribute to changes in the housing characteristics within the Community Study Area.

The proposed project would ultimately not divide an existing community or create barriers to access. Currently, residents drive over the bridge to reach community services, businesses, and neighbors on each side of the river. The existing bridge lacks shoulders for pedestrians and bicyclists, and the bridge does not meet modern seismic safety standards. All Build Alternatives would add shoulder width and a separated pedestrian walkway across the bridge, which would provide long-term benefits for community cohesion by providing safe and reliable multimodal access across the Albion River.

All Build Alternatives would improve the community's resilience to catastrophic events (e.g., earthquakes, sea level rise, tsunamis). In addition, by improving safety and mobility within the community, the new bridge would improve community access to emergency services in case of natural disasters and other events. All Build Alternatives would improve community cohesion and provide a more structurally sound bridge to aid in local response to emergencies.

The California Coastal Commission (CCC) maintains that SR 1 must remain a scenic, two-lane roadway, where roadway improvement projects must not distract from the rural scenic characteristics of the present roadway. All Build Alternatives would satisfy the CCC's standards for maintaining a two-lane, scenic rural highway once construction is complete.

No-Build Alternative

Under the No-Build Alternative, the Albion River Bridge would not be replaced, and community character and cohesion would not be impacted.

Avoidance, Minimization, and/or Mitigation Measures

Applicable measures from other resource categories that are referenced in this chapter include measures **AMM-AR-1** through **AMM-AR-6**, **AMM-AQ-1**, **AMM-CR-3**, **AMM-NOI-1**, **AMM-PR-1, AMM-TT-1, AMM-VIB-1** and **AMM-VIB-2**. These measures would be implemented and described in Appendix D, *Avoidance, Minimization, and/or Mitigation Summary.* No additional avoidance, minimization, and/or mitigation measures are proposed.

3.2.7 Relocations and Real Property Acquisition

Regulatory Setting

The Department's Relocation Assistance Program (RAP) is based on the Federal Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970, as amended (Uniform Act), and Title 49 Code of Federal Regulations (CFR) Part 24. The purpose of the RAP is to ensure that persons displaced as a result of a transportation project are treated fairly, consistently, and equitably so that such persons will not suffer disproportionate injuries as a result of projects designed for the benefit of the public as a whole. Please see Appendix C for a summary of the RAP.

All relocation services and benefits are administered without regard to race, color, national origin, persons with disabilities, religion, age, or sex. Please see Appendix B for a copy of the Department's Title VI Policy Statement.

Affected Environment

This section is based on the proposed project's Community Impact Assessment (Area West Environmental 2024), which was completed in March 2024, and Relocation Impact Memorandum (Caltrans 2023), which was completed in July 2023. The Land Use Study Area is described in Section 3.2.1, *Existing and Future Land Use*.

The Land Use Study Area is primarily rural, with the Pacific Ocean on the west and the community of Albion on the north and south sides of the Albion River. As described in Section 3.2.1, *Existing and Future Land Use*, land uses in the vicinity of the proposed project are designated as commercial, fishing village, range land, remote residential, rural residential, and rural village (County of Mendocino 2009). The existing developed land uses include scattered rural residences and small clusters of residences both north and south of the Albion River. The Albion River Campground and Marina (Albion Campground) is located immediately east of the Albion River Bridge. The Albion Flat Beach is located immediately west of the bridge. The Albion River meets the Pacific Ocean in Albion Cove, approximately 170 feet west of the Albion River Bridge. There are several commercial and public land uses nearby, including the Albion Grocery, U.S. Post Office, Village True Value Hardware, Albion Little River Volunteer Fire Department, the SCP Mendocino Coast Lodge (formerly Albion River Inn), and the Ledford House restaurant.

Environmental Consequences

Build Alternatives

Construction & Operational Impacts

All Build Alternatives would require permanent right of way (ROW) acquisition and temporary construction easements (TCEs). Permanent ROW is property outside state ROW that would be converted permanently to transportation use. TCEs are areas outside state ROW that would be needed during construction for access and staging of

equipment and supplies. All permanent and temporary property acquisitions would be verified during final design and occur prior to construction.

None of the Build Alternatives would require the full, permanent acquisition of any parcel but all Build Alternatives would require acquisition of slivers of permanent ROW along the west side of SR 1 between Albion Ridge Road and the SCP Mendocino Coast Lodge. There are also slivers of ROW to the east that would be used as proposed staging areas and access routes. In addition, Alternatives 1 and 3 would encroach onto Albion Flat Beach; Alternative 2 would not.

The acreage of property affected varies based on design option. Based on preliminary designs, the following ROW could be required for the proposed project, which includes permanent fee acquisitions, permanent easements, and TCEs:

- Alternative 1 (West Alignment) would entail removing the existing Albion River Bridge and constructing a replacement bridge approximately 60 feet west of the existing bridge centerline. For both design options, approximately 3.04 acres of undeveloped land would be acquired, primarily west of the existing bridge, and converted to a transportation use, and 21.38 acres of land would require TCEs.
- Alternative 2 (East Alignment) would entail removing the existing Albion River Bridge and constructing a replacement bridge up to 190 feet, at the farthest point, east of the existing bridge centerline.
    - Design Option 2A: Approximately 3.50 acres of undeveloped land and campground property would be permanently acquired and converted to a transportation use, and 19.08 acres of land would require TCEs.
    - Design Option 2B: Approximately 2.55 acres of undeveloped land and campground property would be permanently acquired and converted to a transportation use, and 22.96 acres of land would require TCEs.
- Alternative 3 (On-Alignment) would entail removing the existing Albion River Bridge and constructing a replacement bridge with the centerline shifted between 16 and 46 feet west of the existing bridge. Approximately 1.87 acres of undeveloped land would be acquired and converted to a transportation use, and 22.71 acres of land would require TCEs.

Potential ROW acquisition locations for each Build Alternative are depicted in Figure 23 through Figure 32. See Section 2.2.6, *Unique Features of Build Alternatives*, for more information regarding parcels that would potentially be affected the proposed project.

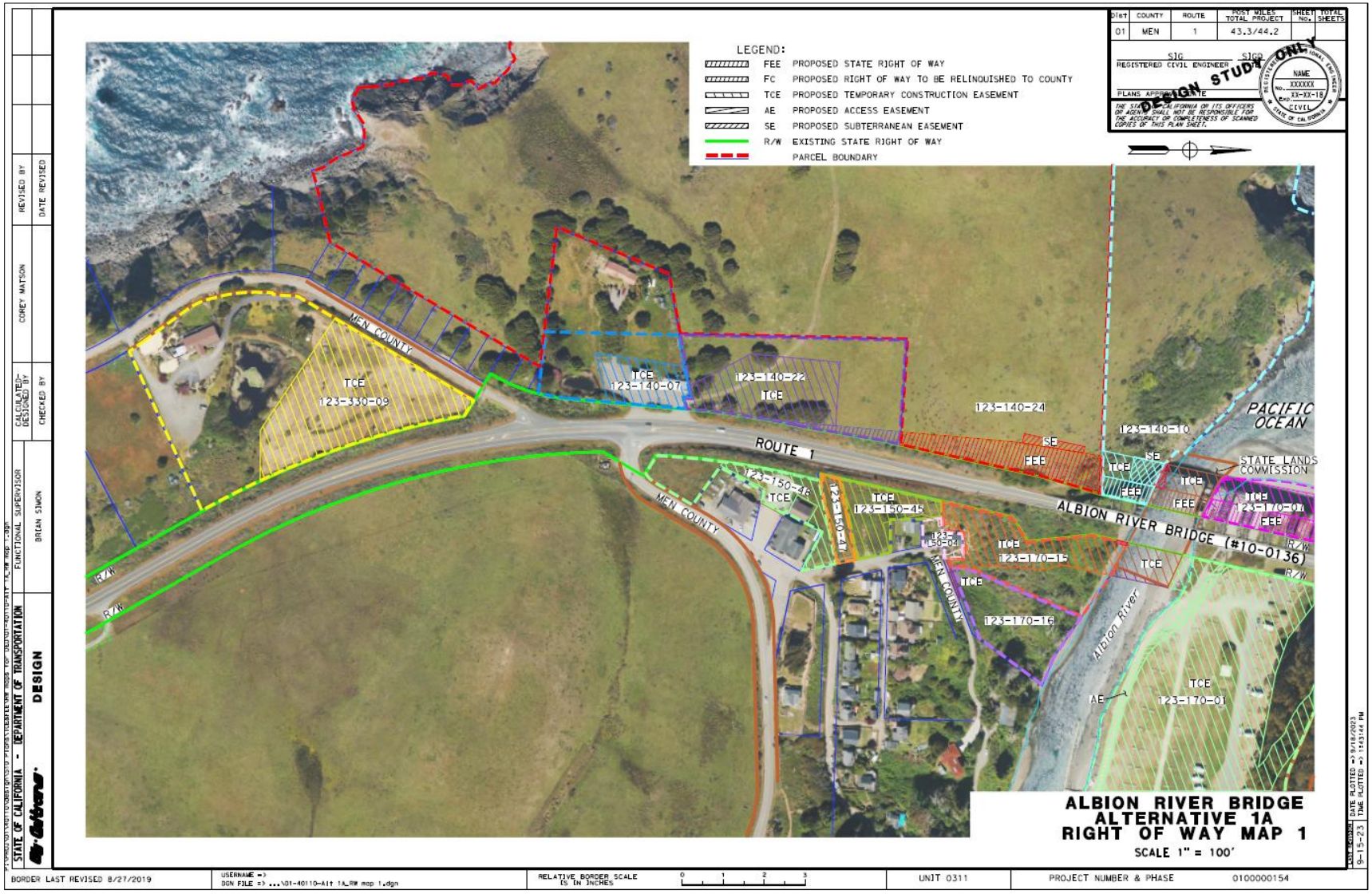


Figure 23. Potential Right of Way for Design Option 1A (Map 1)

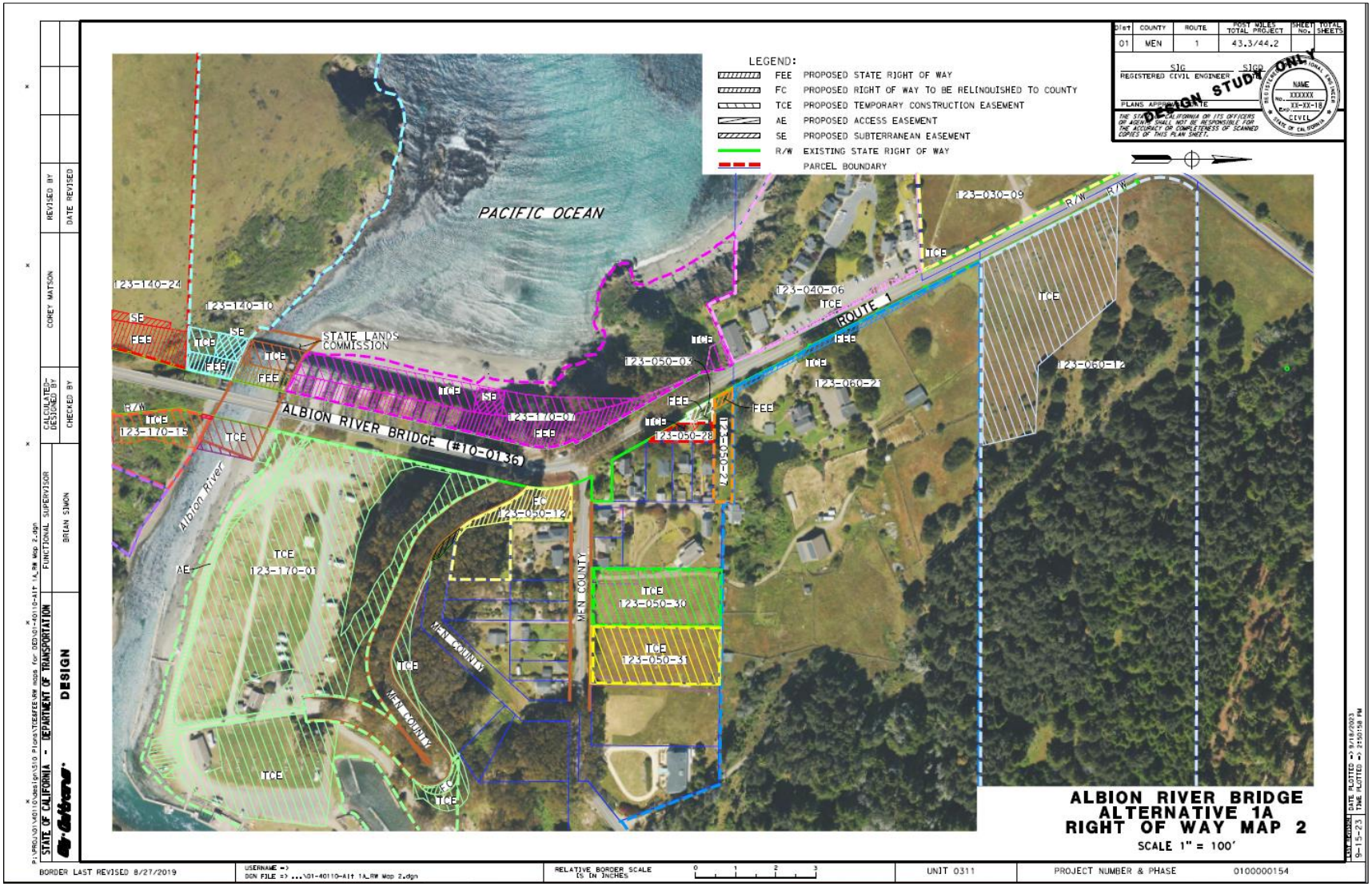


Figure 24. Potential Right of Way for Design Option 1A (Map 2)

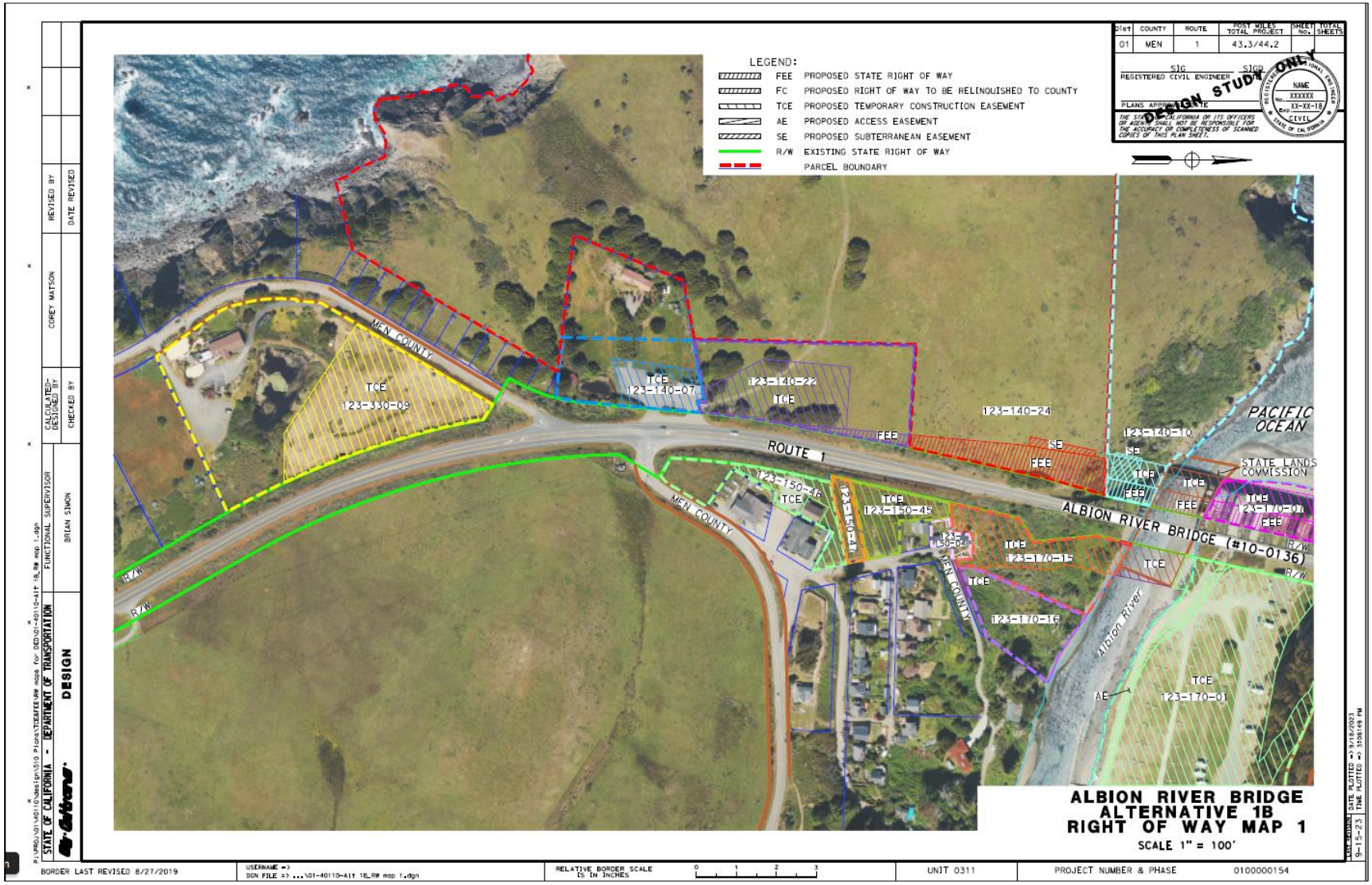


Figure 25. Potential Right of Way for Design Option 1B (Map 1)

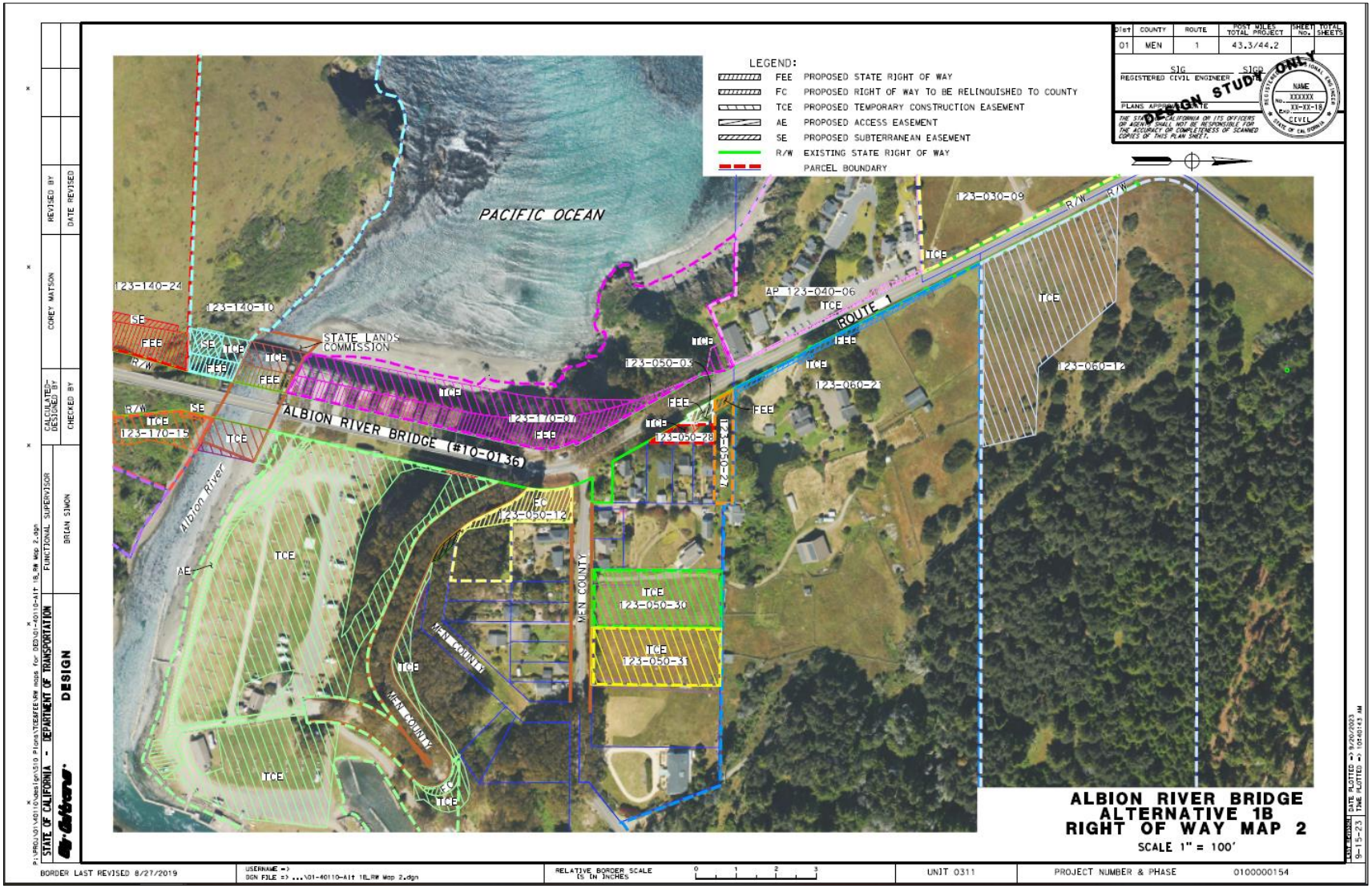


Figure 26. Potential Right of Way for Design Option 1B (Map 2)

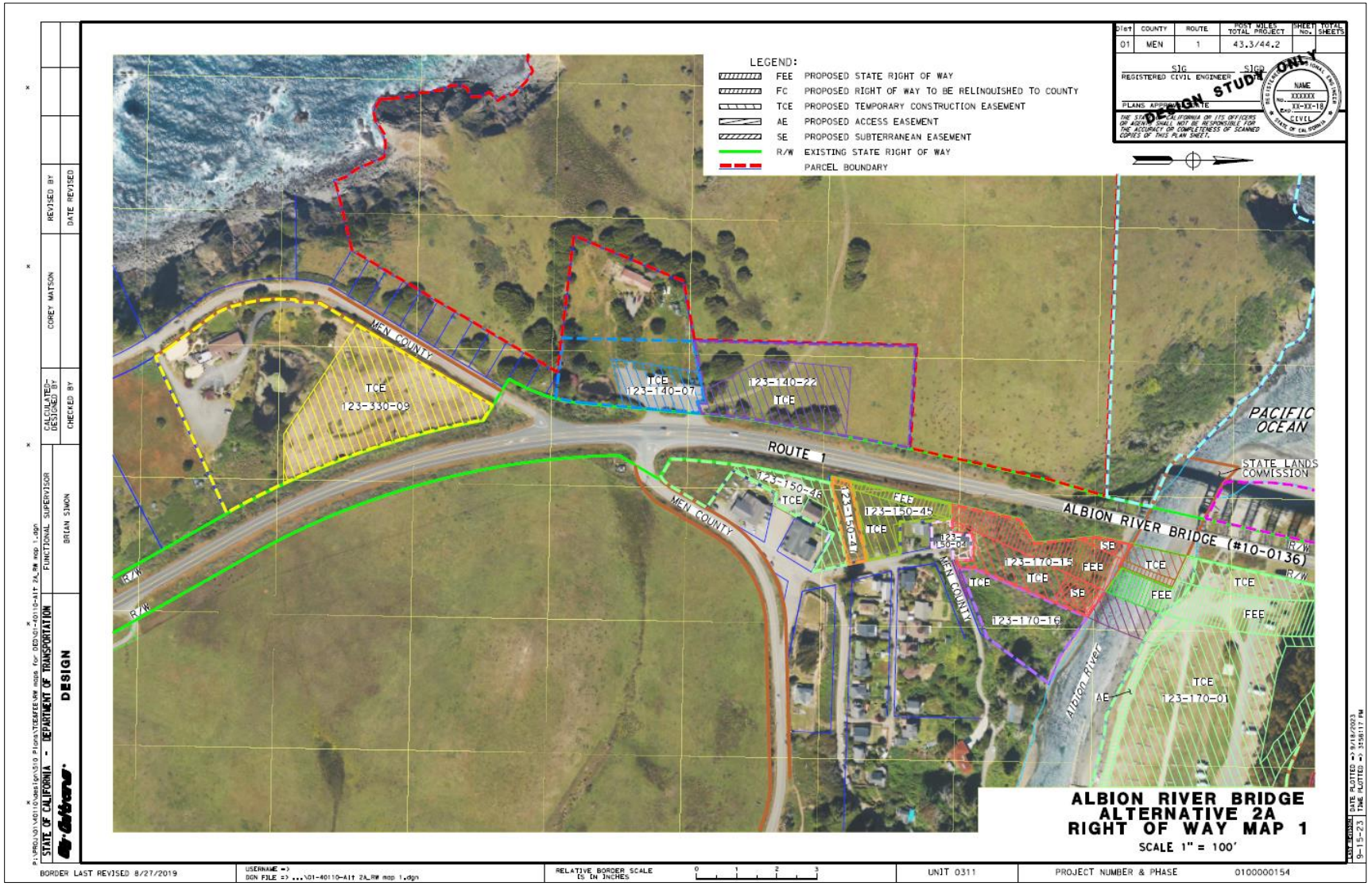


Figure 27. Potential Right of Way for Design Option 2A (Map 1)

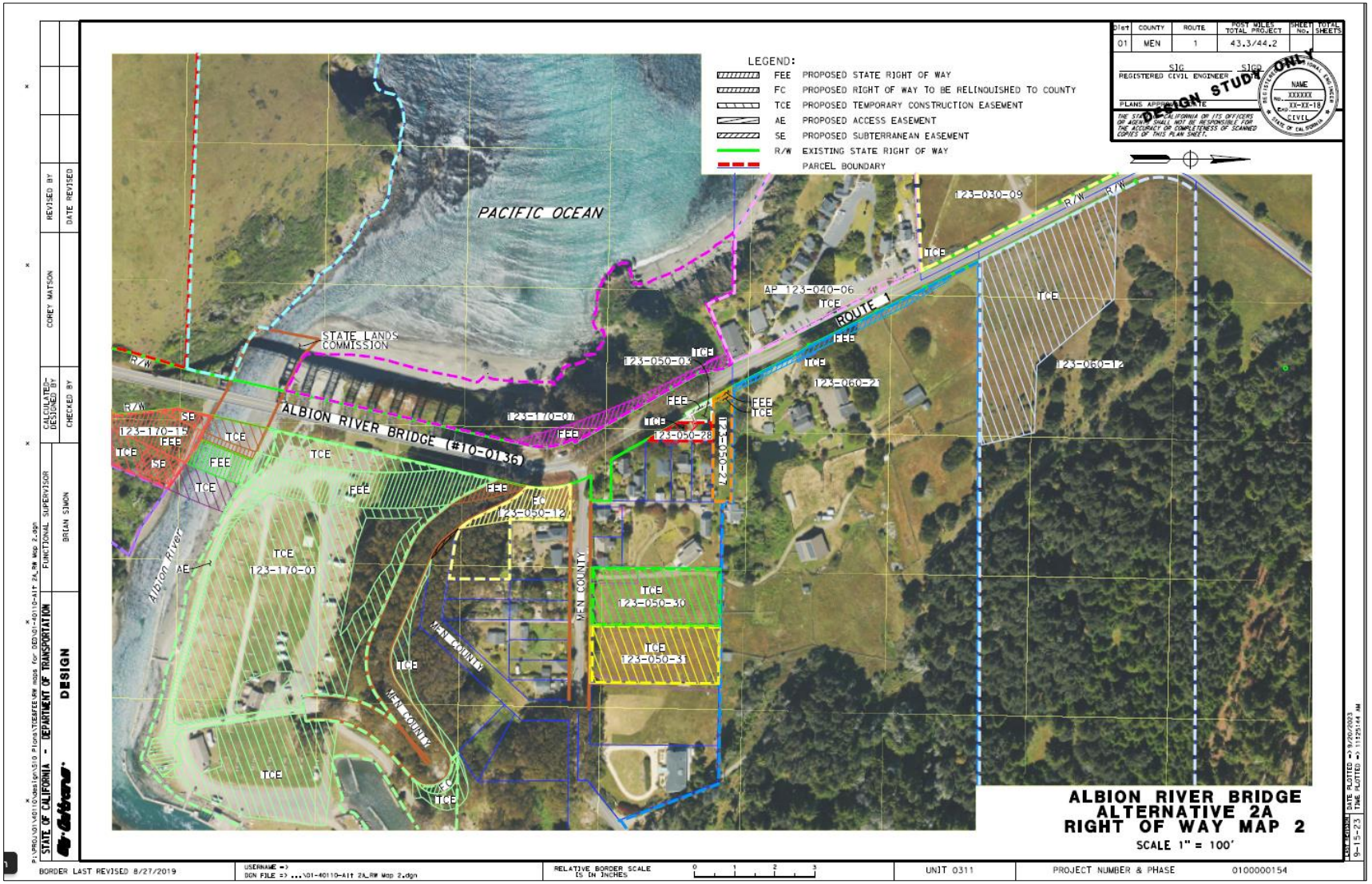


Figure 28. Potential Right of Way for Design Option 2A (Map 2)

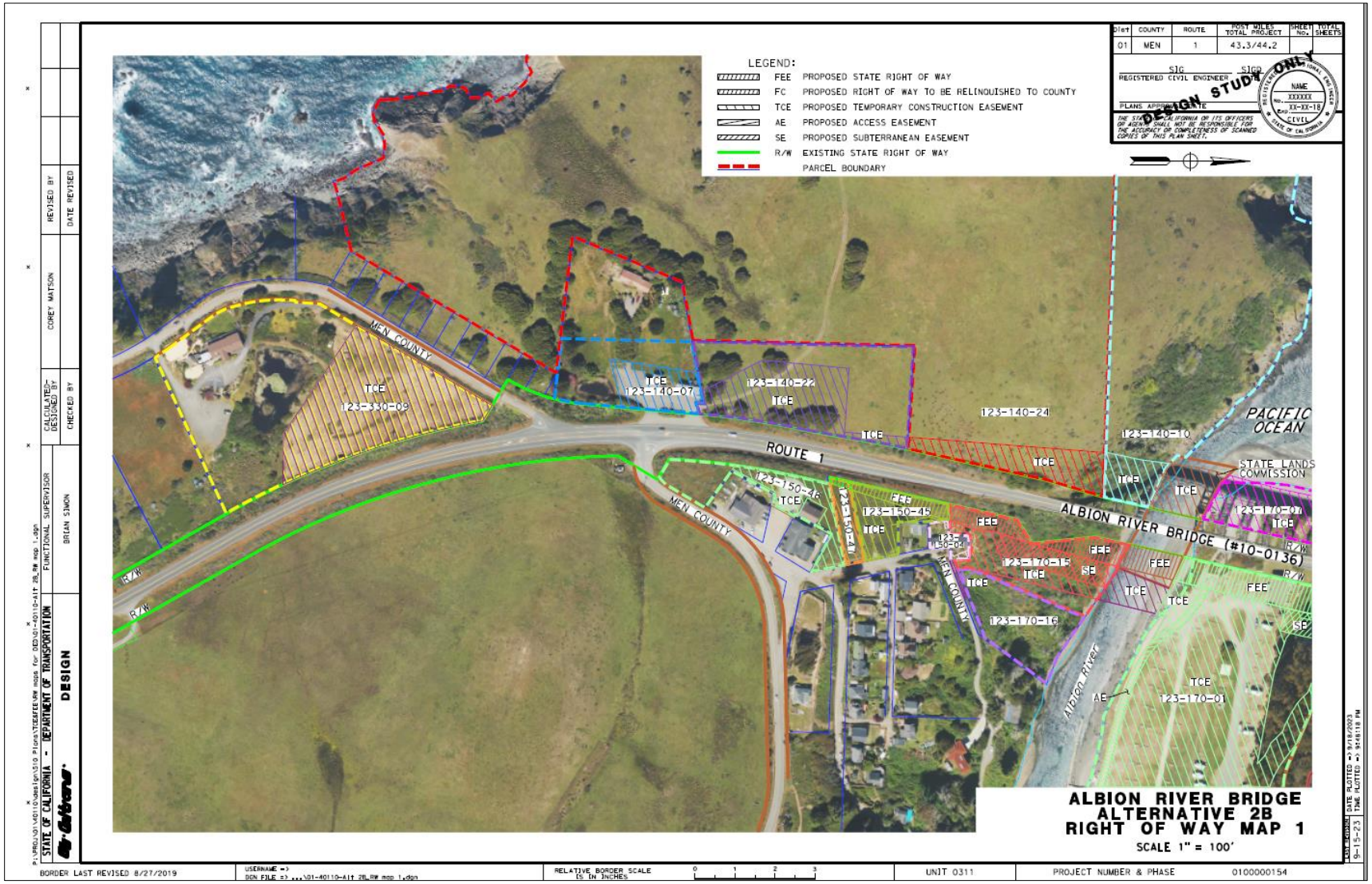


Figure 29. Potential Right of Way for Design Option 2B (Map1)

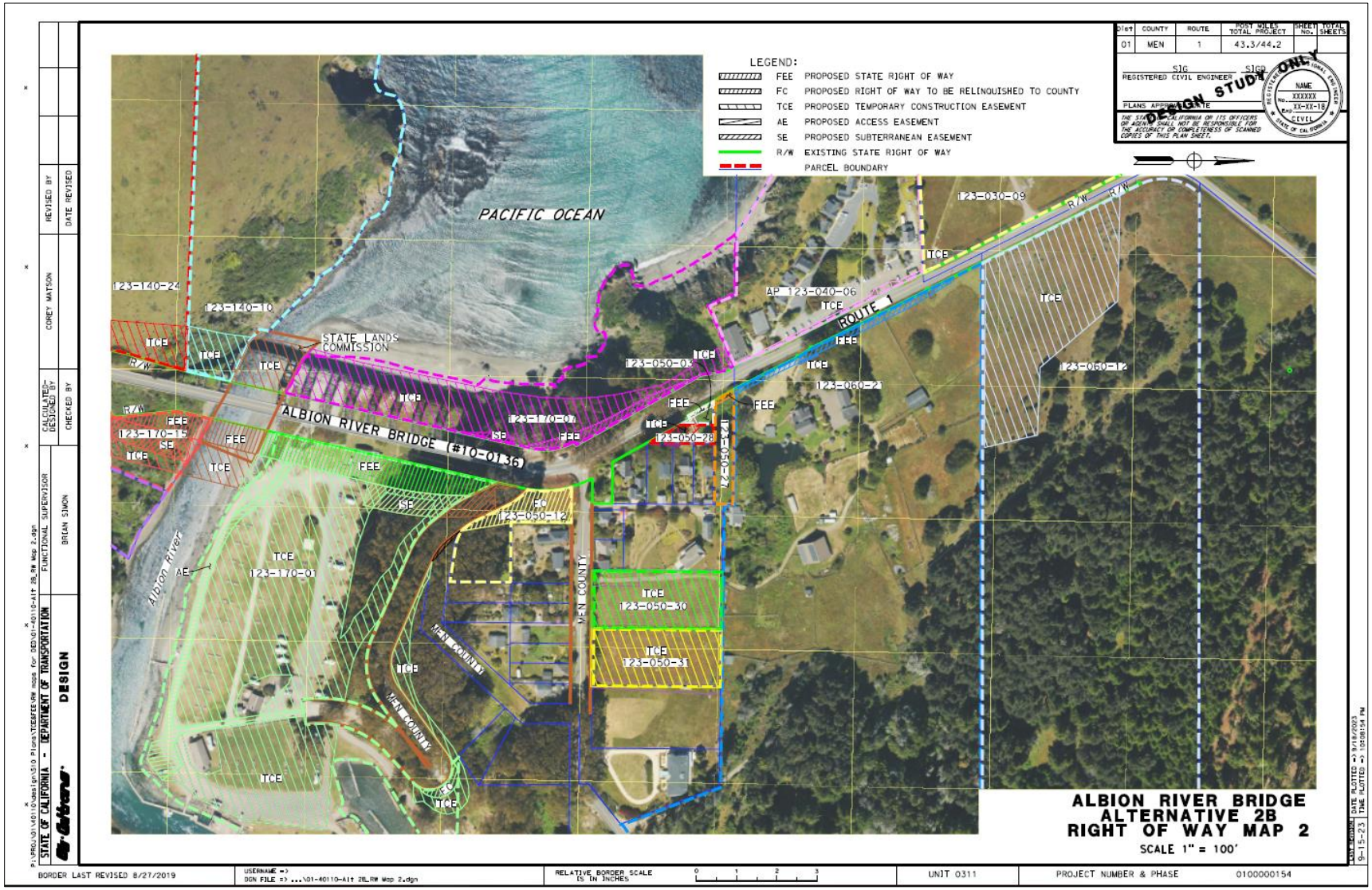


Figure 30. Potential Right of Way for Design Option 2B (Map 2)

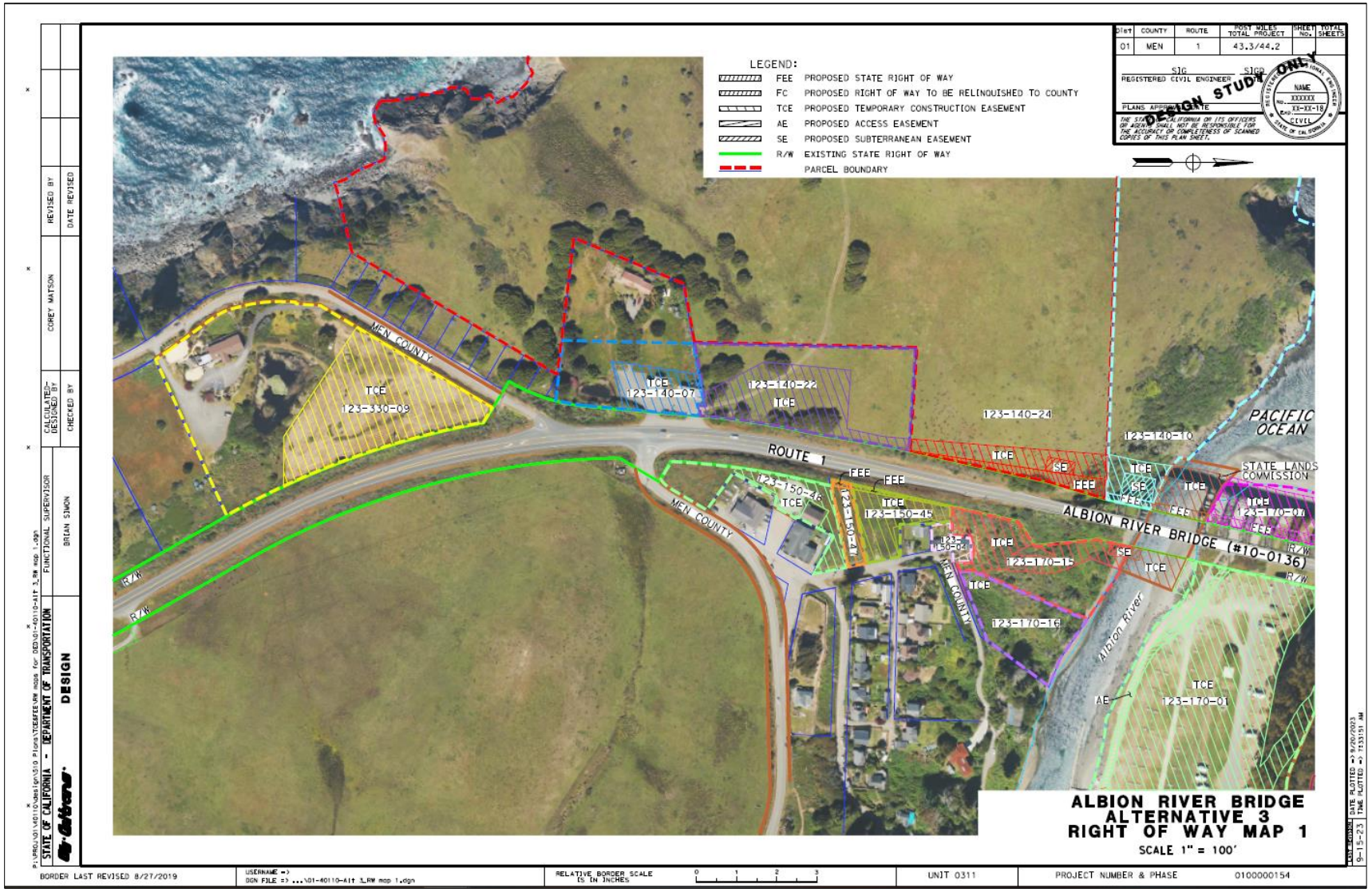


Figure 31. Potential Right of Way for Design Option 3A (Map 1)

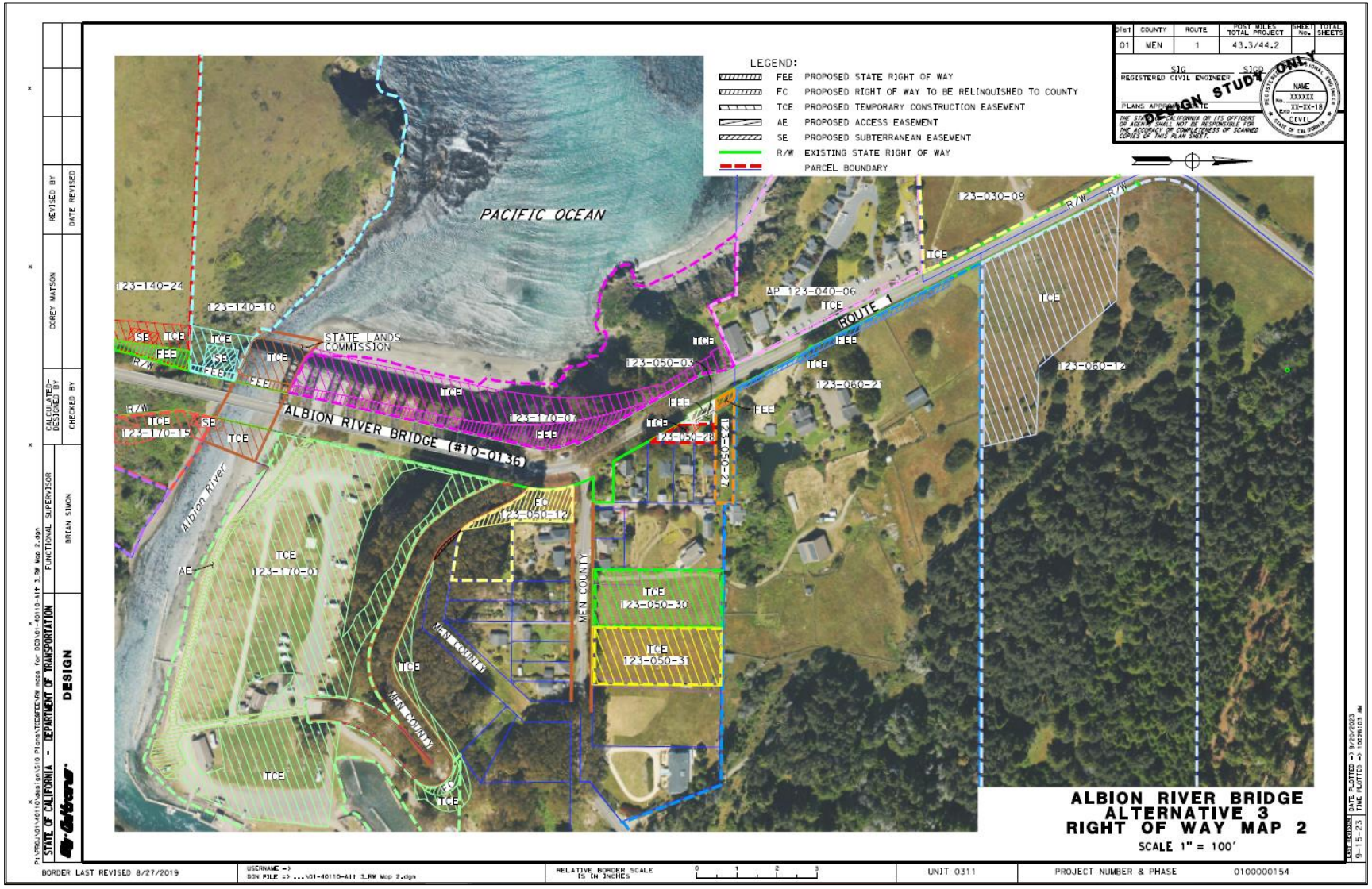


Figure 32. Potential Right of Way for Design Option 3A (Map 2)

The manager's residence at the Albion Campground is located immediately adjacent to the existing Albion River Bridge. Alternative 2 would require permanent relocation of the manager's residence and removal of approximately four campsites and a portion of a boat launch parking area at the campground. Alternatives 1 and 3 would require either temporary or permanent relocation of the campground manager's residence during construction, as negotiated with the property owners.

Any eligible displaced occupant would be provided relocation assistance in accordance with the Uniform Relocation Assistance and Real Property Acquisition Act of 1970. Per the proposed project's *Relocation Impact Memorandum* (Caltrans 2023), the campground manager is a tenant and eligible for relocation benefits. Aside from the manager's residence, there are no employee structures within the proposed acquisition area to be considered for relocation assistance. The rental vacancy rate in Albion, and Mendocino County as a whole, is much lower than the California state average. Therefore, it cannot be determined at this time whether there would be sufficient relocation properties for the eligible tenant(s) within the community. No other ROW acquisition would result in the relocation or displacement of any resident, business, or farm operation under the Uniform Act.

For all Build Alternatives, a TCE is anticipated to be needed for staging, material and equipment storage, and temporary trestles within the Albion Campground (Assessor Parcel Number [APN] 123-170-01) and Albion Flat Beach (APN 123-040-07). The proposed TCE encompasses the majority of the campground, with the exception of the permanent structures on the eastern portion (store, café, restroom) and steep, heavily vegetated area on the northwestern portion that measures approximately 400 feet by 200 feet. The campground and beach would be closed during construction. It is anticipated that the marina, which is located on the far eastern end of the campground, would not be included in the TCE and would remain open during construction.

Albion River North Side Road would be used for construction access from SR 1 to get equipment and materials to the proposed staging area at the Albion Campground. Improvements such as widening of the existing road is proposed to allow for better construction access and accessibility as the existing road is too narrow and the turning radius would be too tight for equipment and material to be transported. The access improvements would entail grading and re-surfacing (e.g., base rock or asphalt). Improvements to Albion River North Side Road would remain following construction and would be relinquished to Mendocino County. The improved Albion River North Side Road would provide improved access to the Albion Campground. A driveway may be constructed to provide access from SR 1 to a staging area on APN 123-140-22, depending on whether the contractor elects to use an existing gate located west of the proposed driveway. If a driveway is constructed for construction access, it could be temporary and restored to pre-project conditions following construction, or could be permanent, depending on coordination with the property owner during the ROW phase. Additional work to conform driveways to widened shoulders would be required at three APNs on the north side of the bridge: APNs 123-050-28, 123-060-21, and 123-040-06.

However, this work is not anticipated to result in a relocation or displacement of any residence or business under the Uniform Act.

The existing Albion Campground sign is located on Albion River North Side Road at its intersection with SR 1. As a component of the proposed project, Albion River North Side Road would be realigned to join Albion Little River Road east of SR 1. Therefore, the Albion Campground sign would be relocated from Albion River North Side Road to Albion Little River Road under all Build Alternatives. No other sign relocations would be required under any of the Build Alternatives.

No-Build Alternative

Under the No-Build Alternative, the Albion River Bridge would not be replaced, and no ROW acquisitions, displacements, or relocations would occur.

Avoidance, Minimization, and/or Mitigation Measures

No avoidance, minimization, and/or mitigation measures are proposed.

3.2.8 Utilities/Emergency Services

Affected Environment

This section is based on the proposed project's Community Impact Assessment (Area West Environmental 2024) which was completed in March 2024.

Emergency Services

State Route (SR) 1 is a dedicated evacuation route for wildfire, as it is the primary transportation route in the area; in the event of a closure, the detour using state routes would be approximately 126 miles (Figure 15). A local detour is about 28 miles through winding rural roads.

The Mendocino County Office of Emergency Services (OES) is responsible for disaster planning, assistance, and coordination for all jurisdictions within the Mendocino Operational Area, which encompasses Mendocino County. The OES Director administers the Mendocino County Emergency Operations Plan for the planned response to extraordinary emergency situations associated with natural disasters, technological incidents, and national security emergencies occurring in or affecting Mendocino County (Office of the Mendocino County Chief Executive Officer 2016).

The Mendocino County Sheriff's Office provides law enforcement services to unincorporated areas within the county. The main sheriff's station, including dispatch and detention facilities, is located at the Mendocino County Administration Center complex in the city of Ukiah. The nearest substation is in the city of Fort Bragg, which is approximately 15 miles north of the community of Albion. The California Highway Patrol (CHP) is responsible for traffic enforcement services on state highways and county roads. The CHP dispatch station is located in the city of Ukiah.

The Albion Little River Fire Protection District (ALRFPD) provides structural fire protection, first responders for emergency medical services and hazardous materials incidents, vehicle rescue and extrication, cliff and ocean rescue, and fire prevention for the communities of Albion and Little River. The ALRFPD catchment area is located between Little River Airport Road on the north and SR 128 on the south and extends inland for approximately 6 miles. ALRFPD employs approximately 25 trained staff and volunteers. ALRFPD includes five fire stations. The main station is located at 32600 Albion Ridge Road with another at 34920 West Street, behind the Albion Grocery. ALRFPD receives approximately 200 calls per year, most of which are related to medical aid. Although there is not an official response time goal, ALRFPD aims to respond to calls as quickly as possible. It is an approximately 40-minute drive from one end of the district to the other.

The California Department of Forestry and Fire Protection (CAL FIRE) is responsible for wildland fire protection services. The nearest CAL FIRE stations are in the cities of Mendocino and Point Arena. The proposed project is located within Moderate and High CAL FIRE Threat Zones.

Other facilities that provide emergency services within the area include the Mendocino Coast District Hospital, Elk Fire, Anderson Valley Fire, California Shock Trauma Air Rescue (Calstar), and Relief for Emergency Service through Community Help (REACH). Mendocino Coast District Hospital is located in Fort Bragg, north of the project area.

Utilities

An overhead three-wire power line and telephone line run parallel to the Albion River Bridge, approximately 20 feet from the bridge's eastern railing. Dedicated poles for these lines are located on the hillsides near each bridge abutment. Underground electrical lines run between the eastern side of the bridge and the northern side of the Albion River. Underground utilities for the Albion River Campground and Marina (Albion Campground) are also located approximately 50 feet east of the Albion River Bridge.

Environmental Consequences

Build Alternatives

Construction Impacts

Emergency Services

During construction, the Build Alternatives would require between 165 and 945 days of traffic control days, which include reversing traffic control (delays typically up to 15 minutes), occasional intermittent closures (anticipated delays up to 30 minutes), and an extended overnight closure (10 hours). Alternative 1 would require 165 days of traffic control using flaggers, Alternative 2 would have 305 days using flaggers or a temporary signal system, while Alternative 3 would require 945 days of traffic control using flaggers or a temporary signal system.

Emergency vehicles would be accommodated across the bridge during closures and all vehicles would be accommodated across the bridge in the event of an evacuation. In accordance with Standard Measures **TT-3** and **GHG-4**, which are provided in Section 2.2.5, *Common Design Features of the Build Alternatives*, a Transportation Management Plan (TMP) would be developed to manage traffic circulation and access during construction activities. The TMP would allow access for emergency services during construction and would be prepared in accordance with Caltrans' Transportation Management Plan Guidelines (Caltrans 2015). Public outreach would be conducted in order to inform the residents, businesses, emergency service providers, and general public of the construction schedule, closures, detours, and work conducted. Consistent with Standard Measure **UE-1**, all emergency response agencies in the proposed project area would be notified of the construction schedule and would have access to SR 1 throughout the construction period. As required by Standard Measure **UE-3,** the construction contractor would submit a jobsite fire prevention plan before starting construction. In addition, Standard Measure **TT-3** would require using messaging systems to inform the public of the single overnight bridge closure a minimum of 7 days in advance.

Measure **AMM-TT-1** would require the construction contractor to prepare a contingency plan to accommodate emergency services during closures and would include provisions for access across the bridge for vehicles during an evacuation (i.e., wildfires). In addition, the Albion Fire Station is located behind the Albion Grocery store and accessed from Albion Street, between the hardware store/post office building and the grocery store. Staging for equipment or materials would be located on the fire station parcel. However, Measure **AMM-UE-1** would be implemented, which requires that access to the Albion Fire Station be maintained at all times during construction. Therefore, the project would not interfere with the ability of fire fighters to respond to emergency calls.

The project would not substantially affect emergency response services and evacuation routes.

Utilities

All Build Alternatives would require utility relocations. The three-wire overhead power line and telephone line adjacent to northbound SR 1 would be relocated temporarily during construction activities. It is likely that these lines would be relocated permanently to conduits on the bridge. Import borrow or base rock would be placed to protect Albion Campground's underground utility infrastructure, which includes water, sewer, and electrical utilities. All Build Alternatives would require relocating the campground manager's residence either temporarily or permanently, which could also require the relocation of utilities within the campground. Therefore, there could potentially be short-term minor disruptions to utility services during construction activities.

Final approval for utility relocations would depend on communication between Caltrans and the respective utility providers. Following Standard Measure **UE-2,** Caltrans would coordinate with utility providers for relocation of any utilities. Utility coordination and service disruptions would be minimized to the extent feasible and communicated with customers in advance to allow for alternative service arrangements. All utility work would be handled by the utility companies involved.

Operational Impacts

All Build Alternatives would replace the existing Albion River Bridge with a modern bridge that meets current design and safety standards. The proposed project would not result in any permanent utility service interruptions or impacts. The replacement bridge structure would require less maintenance than the existing bridge and all Build Alternatives would widen shoulders along SR 1 and on the Albion River Bridge, which could better facilitate emergency response services.

No-Build Alternative

Under the No-Build Alternative, the Albion River Bridge would not be replaced, and utilities and emergency services would not be impacted.

Avoidance, Minimization, and/or Mitigation Measures

Applicable measures from other resource categories that are referenced in this chapter include Measure **AMM-TT-1**. This measure would be implemented and is described in Appendix D, *Avoidance, Minimization, and/or Mitigation Summary*. Additionally, the following resource-specific measure would be implemented:

AMM-UE-1 Access to the Albion Little River Fire Protection District fire station at 34920 Albion Street, Albion, CA would be maintained at all times during construction.

3.2.9 Traffic and Transportation/Pedestrian and Bicycle Facilities

Regulatory Setting

The Department, as assigned by the Federal Highway Administration (FHWA), directs that full consideration should be given to the safe accommodation of pedestrians and bicyclists during the development of Federal-aid highway projects (see 23 Code of Federal Regulations [CFR] 652). It further directs that the special needs of the elderly and the disabled must be considered in all Federal-aid projects that include pedestrian facilities. When current or anticipated pedestrian and/or bicycle traffic presents a potential conflict with motor vehicle traffic, every effort must be made to minimize the detrimental effects on all highway users who share the facility.

In July 1999, the U.S. Department of Transportation (USDOT) issued an Accessibility Policy Statement pledging a fully accessible multimodal transportation system. Accessibility in federally assisted programs is governed by the USDOT regulations (49 CFR 27) implementing Section 504 of the Rehabilitation Act (29 United States Code [USC] 794). The FHWA has enacted regulations for the implementation of the 1990 Americans with Disabilities Act (ADA), including a commitment to build transportation facilities that provide equal access for all persons. These regulations require application of the ADA requirements to Federal-aid projects, including Transportation Enhancement Activities.

Affected Environment

This section is based on the proposed project's Community Impact Assessment (Area West Environmental 2024), which was completed in March 2024, and Traffic Data and Designation Request Memorandum (Caltrans 2023b), which was completed in October 2023. Policies related to traffic and transportation, including from the Mendocino County General Plan and the Mendocino County Coastal Element are discussed in Section 3.2.2, *Consistency with State Regional and Local Plans and Programs*, and Section 3.2.3, *Coastal Zone.*

The Land Use Study Area, described in Section 3.2.1, *Existing and Future Land Use*, was used to analyze the traffic and transportation systems because it includes the physical areas directly around the project area that have the potential affected by the implementation of the proposed project.

Roads and Highways

The primary roads in the Land Use Study Area include SR 1, Albion Ridge Road, Albion River North Side Road, and Spring Grove Road. The traffic data records are provided for SR 1 through the project's post mile limits (Table 19). The traffic index periods are the baseline year (2019)[11], current year (2023), construction completion year (2031), and 10- and 20-year projections.

[11] 2019 was used for the baseline to represent traffic conditions prior to the COVID 19 pandemic.

Table 19. State Route 1 Traffic Data Between Post Miles 43.3 and 44.2

Year	Annual ADT (veh/d)	Peak Hour Traffic (veh/h)	Annual ADTT (veh/d)
2019	3,300	480	226
2023	3,400	490	232
2031	3,600	520	246
2041	3,800	560	263
2051	4,100	600	280

ADT = average daily traffic; ADTT= average daily truck traffic; veh/hr = vehicles per hour; veh/d = vehicles per day

Within the limits of the proposed project, SR 1 is an undivided, conventional highway with two 11- to 12-foot-wide travel lanes and 0- to 4-foot-wide shoulders. The bridge structure's existing curvilinear alignment follows the coastline, and the curve north of the bridge structure has an approximate 293-foot radius, which limits sight distance.

The bridge and its approaches do not meet current design standards for minimum shoulder width, minimum curve radius on SR 1 immediately north of the existing bridge, minimum stopping sight distance at the vertical curve immediately north of the existing bridge, and minimum stopping sight distance at the intersections of Albion River North Side Road and Albion Little River Road with SR 1. The timber bridge rails do not meet current Manual for Assessing Safety Hardware (MASH) safety standards and are not capable of resisting current vehicle impact loading requirements.

Pedestrian and Bicycle Facilities, and Transit

Currently, the Albion River Bridge has shoulders that are as narrow as 1 foot wide and does not contain a dedicated pedestrian or bicycle pathway. The existing bridge does not provide continuous, safe, and separate access for cyclists and pedestrians. Cyclists seeking to avoid the existing bridge over the Albion River on SR 1 may elect to travel inland to reach the next Albion River crossing, for a 28-mile roundtrip detour over partially unpaved roads.

Parking in the Land Use Study Area is limited to designated lots associated with businesses, such as parking for the SCP Mendocino Coast Lodge (formerly Albion River Inn), which is located along the west side of SR 1 north of the bridge, and the Albion Beach parking area, which is located under the existing bridge.

The Mendocino Transit Authority (MTA) provides public transportation service in Mendocino County. Fixed route services are widely available, and Dial-a-Ride services are available in Ukiah and Fort Bragg. MTA Route 60 (The Coaster) runs daily, Monday through Friday, from Fort Bragg to the Navarro River junction. MTA Route 60 has northbound and southbound service, each with one stop at the Albion Grocery in the morning and one in the evening. The northbound route stops at 9:05 a.m. and 5:00 p.m., and the southbound route stops at 8:35 a.m. and 4:40 p.m. (MTA 2023).

Environmental Consequences

Build Alternatives

Construction Impacts

The surrounding community, as well as motorists traveling on SR 1, would experience temporary traffic delays during construction under all Build Alternatives. Table 20 provides information on the number of construction seasons and traffic control days (flagger and temporary signal system). Flagging days involve reversible traffic control for 10 hours per day with flagging for staging and set-up, road widening, alignment tie-in, bridge demolition, and bridge work. Temporary signal control is used for longer-term one-way reversing traffic control and would be in effect for 24 hours per day, 7 days per week during bridge work.

Table 20. Estimated Traffic Control by Design Option

Design Option	Alignment	Construction Seasons (Years)	Estimated Flagging Days[1]	Estimated Temporary Signal Control Days[2]
1A	West	3	165	0
1B	West	3	165	0
2A	East	3	205	100
2B	East	3	205	100
3A	On-alignment	5	215	730

Source: (Area West Environmental 2024)

[1] Flagging Days = one-way reversible traffic control 10-hours per day
[2] Temporary signal Control Days = one-way reversible traffic control 24-hours per day

Both design options under Alternative 1 (West Alignment) would require flagged traffic control for approximately 165 days (Table 20). This would include reversing traffic control and intermittent closures. Reversing traffic control typically causes delays of up to 15 minutes, while intermittent closures, which would be conducted as needed, would cause delays of up to 30 minutes. Alternative 1 would require the fewest number of traffic control days compared to the other Build Alternatives.

Both design options under Alternative 2 (East Alignment) would require 305 days of traffic control, which would include flagging and temporary signal systems (Table 20). As with Alternative 1, this would involve reversing traffic control as well as intermittent closures as needed. Although Alternatives 1 and 2 would have the same duration (i.e., approximately 3 years), Alternative 2 would result in more traffic control days than Alternative 1 due to the overlap in alignment between the new and existing bridge on the northern end.

Alternative 3 (On-Alignment) would be constructed using half-width construction Under This construction method, traffic would use the existing bridge while the western portion of the new bridge is constructed; once complete, traffic would be diverted onto the new portion of the bridge while the existing structure is removed, and the eastern half of new bridge is constructed. Because of this, Alternative 3 would have more days of traffic control than Alternatives 1 and 2, with 945 days of reversing traffic control with flagging or using a temporary signal system and occasional intermittent closures (Table 20).

All Build Alternatives would require one extended overnight bridge closure. During the closure, traffic would have the option of using state routes to detour around the closure (approximately 126 miles) or may elect to use other routes to cross the Albion River, which are not on the state highway system, at their discretion (see Figure 15 in Section 2.2.5, *Common Design Features of the Build Alternatives*). The extended overnight bridge closure would occur over a 10-hour period for bridge work. Message boards and/or other messaging systems would be used to inform the public of an extended overnight bridge closure a minimum of 7 days in advance.

In accordance with Standard Measures **TT-3** and **GHG-4**, detailed in Section 2.2.5, *Common Design Features of the Build Alternatives,* a TMP would be used to manage circulation and access during construction. The TMP would be prepared in accordance with Caltrans' Transportation Management Plan Guidelines (Caltrans 2015) and would include, in part, the following actions:

- One lane closure is allowed within the project limits.
- Signage will be placed in advance of construction to notify the public of lane closures/construction activities.
- During installation of the temporary traffic signal, temporary rail placement, and when moving materials and equipment across the existing and/or new bridge, public traffic may be stopped in both directions for periods not to exceed 10 minutes (resulting in up to 30 minutes of traffic delay).
- All work would be coordinated with the MTA bus service and school bus system in advance of construction.
- Any emergency service agency whose ability to respond to incidents would be affected by any lane closure must be notified prior to that closure per the contractor's Emergency Service Contingency Plan.

As required by Standard Measure **TT-2**, the construction contractor would schedule and conduct work to avoid unnecessary inconvenience to the public and to maintain access to driveways, houses, and buildings within the work zone. Project-specific Measure **AMM-PR-1,** which requires a planned public outreach program to keep area residents, businesses, emergency service providers, and transit operators informed of the project construction schedule, would also be implemented. In addition, Measure **AMM-TT-1** would be implemented, which requires the construction contractor to prepare a

contingency plan to accommodate emergency services during closures. This contingency plan would also include accommodation for all vehicles during an evacuation (e.g., wildfires).

All Build Alternatives would affect public transportation and school buses during construction through traffic delays. MTA northbound and southbound buses each cross the Albion River Bridge two times per day, once in the morning and once in the evening. MTA bus service does not operate before 6:00 a.m. or after 8:00 p.m. in Albion, so it would not be affected by the extended overnight bridge closure. Buses traveling through the project would experience delays, as with all traffic on SR 1, due to reversing traffic control (anticipated 15 minutes or less). Buses may also be delayed during intermittent, short-duration bridge closures (anticipated 30 minutes or less). The TMP would require coordinating lane and bridge closures with MTA. MTA could provide rider alerts on their website, recorded phone line, and flyers posted at bus stops warning of potential delays due to construction on this route.

Standard Measure **TT-1** requires pedestrian and cyclist access be maintained during construction. There are no existing pedestrian facilities on the bridge, so no temporary facilities would be constructed. Using traffic control, cyclists or pedestrians along SR 1 would be accommodated by joining the vehicle queue. When flaggers are onsite, they can facilitate pedestrian movements if necessary. It is not anticipated that pedestrians would be accommodated with traffic signals because this would result in excessive delays (approximately 45 minutes). Anytime a signal is used (i.e., Design Options 2A, 2B and 3A), construction would be staged so the separated pedestrian walkway is constructed prior to reducing traffic to one lane with a signal.

Operational Impacts

Upon completion of construction, all Build Alternatives would improve existing conditions. The proposed project is not a capacity-increasing project and neither traffic patterns nor roadway capacity would change as a result of the proposed project.

The proposed project would improve the function and geometrics of the Albion River Bridge and approach roadway to provide uninterrupted traffic movement in the event of a collision or emergency incident, seismic event, or other catastrophic failure. It would also provide safe access for pedestrians and bicyclists across the bridge. The proposed project would improve traffic flow with upgrades to the bridge approaches by widening the shoulders, lengthening the existing Spring Grove Road/Albion Ridge Road two-way left turn lane, and improving site distances and thus improving safety and reducing the potential for accidents and collisions on and in the vicinity of the bridge. The proposed project would also improve pedestrian/bicycle access and safety on the bridge by providing a separated pedestrian walkway for pedestrians and shoulders for cyclists. The proposed separated pedestrian walkway on the west side of the new structure would allow for a future connection to the planned CCT.

The proposed project would not permanently impact existing access to the Albion River. In addition, Caltrans has completed a feasibility study and determined that it would not

be practical to construct new public access routes and/or facilities to the Albion River within the existing and proposed state right of way as part of the proposed project (Caltrans 2023a).

No-Build Alternative

Under the No-Build Alternative, the Albion River Bridge would not be replaced, and traffic, transportation, pedestrian and bicycle facilities would not be impacted.

Avoidance, Minimization, and/or Mitigation Measures

Applicable measures from other resource categories that are referenced in this chapter include Measure AMM-PR-1. This is described in Appendix D, *Avoidance, Minimization, and/or Mitigation Summary*. Additionally, the following resource-specific measure would be implemented:

AMM-TT-1: A contingency plan would be prepared in coordination with emergency services to accommodate emergency vehicles at all times. The contingency plan would include provisions for access across the bridge for all vehicles during an evacuation (e.g., wildfires).

3.2.10 Visual/Aesthetics

Regulatory Setting

The National Environmental Policy Act (NEPA) of 1969, as amended, establishes that the federal government use all practicable means to ensure all Americans safe, healthful, productive, and *aesthetically* (emphasis added) and culturally pleasing surroundings (42 United States Code [USC] 4331[b][2]). To further emphasize this point, the Federal Highway Administration (FHWA), in its implementation of NEPA (23 USC 109[h]), directs that final decisions on projects are to be made in the best overall public interest taking into account adverse environmental impacts, including among others, the destruction or disruption of aesthetic values.

The California Environmental Quality Act (CEQA) 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" (CA Public Resources Code [PRC] Section 21001[b]).

California Streets and Highways Code Section 92.3 directs Caltrans to use drought resistant landscaping and recycled water, when feasible, and incorporate native wildflowers and native and climate-appropriate vegetation into the planting design when appropriate.

Affected Environment

This section is based upon the proposed project's Visual Impact Assessment (VIA) (Earthview Science 2024), which was completed in February 2024.

Project Location and Setting

The project corridor is located along an approximately 1-mile stretch of SR 1 along the northern California coast in Mendocino County. The project corridor is approximately 15 miles south of the city of Fort Bragg and within the community of Albion. SR 1, also known as the Pacific Coast Highway, follows nearly the entire length of the Mendocino coastline and is a popular tourist route. Development along this stretch of coast is limited and small in scale, giving the traveler views of coastal hills, forests, rangeland, villages and small towns, and the rugged Pacific coastline. Landscapes in the project vicinity include ocean, river, coastal headlands, prairie grasslands, and coastal forest. The climate is mild year-round and is frequently foggy.

The Albion River Bridge connects the coastal bluffs across the mouth of the Albion River as it flows into the Pacific Ocean. The existing bridge is a timber truss bridge built in 1944 that sits 155 feet above the river. Coastal bluffs rise above the Pacific Ocean on either side of the canyon. The community of Albion extends along the project corridor on either side of the bridge and east along the Albion River. Albion is primarily a residential community. A few small businesses are located on either side of the bridge along SR 1,

including a hotel/restaurant (Mendocino Coast Lodge/Albion River Inn Restaurant) to the north.

The large, flat area along the river beneath the bridge is known as Albion Flat. Albion Flat has Albion Beach, a private campground (Albion River Campground and Marina [Albion Campground]), a small marina and boat launch, and a café. Pacific Union College's Albion Biological Field Station research facility is located just upriver.

The land use designations within the corridor are primarily remote residential, rural residential, range land, rural village, fishing village, and commercial.

Formal and informal scenic designations, viewpoints, trails, and recreational areas in the project vicinity include the following:

- SR 1 in the project corridor is not an officially designated state scenic highway but is eligible for California State Scenic Highway status (Caltrans 2023). The Mendocino County General Plan recommends pursuing state scenic designation for SR 1 within Mendocino County (County of Mendocino 2009).
- The project corridor is in a highly touristed section of SR 1 between the Navarro River and the town of Mendocino. The stretch of coastline is designated as a "highly scenic area" by Mendocino County (County of Mendocino 2009).
- The Pacific Coast Bike Route (PCBR) and the planned California Coastal Trail (CCT) are within the project corridor.
- Within the project corridor, the Albion River is designated as a Recreational River under the California Wild and Scenic Rivers Act, which is discussed further in Section 3.2.4, *Wild and Scenic Rivers*. The Albion River is not a designated river in the National Wild and Scenic Rivers System.
- The Albion River Bridge provides expansive views of the Albion River to the east and the Pacific Ocean to the west.
- The project would be visible from various recreational areas including the Albion Beach, Albion River, and the Albion Campground.

The existing Albion River Bridge dominates views from Albion Flat and the Pacific Ocean. While it is similar in scale to the cliffs behind it, the bridge towers over the beach and hems it in by providing an eastern wall. Though the bridge form and lines are somewhat industrial, the wood materials largely blend in with the natural setting. The wooden beams blend in with the tree trunks behind them and with the brown tones of the sand and hillslopes.

The Albion River Bridge is a highly memorable structure. The bridge represents a historical construction style that is uncommon and would be considered visually distinctive compared to other bridges along the corridor. As mentioned in Section 1.3, *Project History/Background*, the original structure was proposed to be a concrete arch bridge but was redesigned using timber predominantly to conserve concrete and steel

materials for the war effort. The historical character of the bridge is also visually compatible with other structures in the community, and its distinctiveness confers a sense of place.

Analyzing Visual Resources and Resource Change

Resource change and viewer response are the two major variables that determine visual impacts. Resource change is assessed by evaluating the visual character and the visual quality of the visual resources that comprise the project corridor before and after the construction of the proposed project. Viewer response is a measure or prediction of the viewer's reaction to changes in the visual environment, which is discussed below in *Viewers and Viewer Response.*

The degree of impact depends on both the magnitude of change in the visual resource (i.e., the visual character and quality) and on viewers' concerns about those changes. This process of evaluating impacts is similar for all established federal procedures of visual assessment (Smardon 1986).

Visual Resources

The project setting's visual resources were defined and identified by assessing visual character and visual quality in the project corridor.

Visual Character

Visual character includes attributes such as form, line, color, and texture, and it is used to describe, not evaluate. These attributes are neither considered good nor bad. However, a change in visual character can be evaluated when it is compared with the viewer response to that change. Changes in visual character can be identified by how visually compatible a project would be with the existing condition by using visual character attributes as an indicator.

Visual Quality

The three criteria for evaluating visual quality are defined below:

- **Vividness:** the extent to which the landscape is memorable and is associated with distinctive, contrasting, and diverse visual elements.
- **Intactness:** the integrity of visual features in the landscape and the extent to which the existing landscape is free from non-typical visual intrusions.
- **Unity:** the extent to which all visual elements combine to form a coherent, harmonious visual pattern.

The project corridor and vicinity are known for outstanding scenic quality with rugged coastal landscapes, forested hills, and deep river valleys. Vividness is high in project surroundings, particularly where glimpses of the Pacific Ocean or Albion River are available. Rocky headlands, small coves, sea cliffs, and sea stacks dominate views toward the ocean. In the project corridor, where the Albion River meets the Pacific

Ocean, natural landforms and features remain dominant despite development, retaining a high degree of visual intactness and unity. Albion Village and its neighboring communities are small-scale and have rustic charm. Though the quality of specific views may vary, the overall visual quality of project surroundings is high to very high.

Viewers and Viewer Response

Viewers are people whose views of the landscape may be altered by the proposed project—either because the landscape itself has changed or their perception of the landscape has changed.

There are two major types of viewer groups for highway projects: highway neighbors with views *of* the highway (i.e., residents, recreationalists and tourists, local businesses, and commercial fishing) and highway users with views *from* the highway (i.e., motorists [recreational and local], commercial haulers, and touring bicyclists). Each viewer group has its own particular level of *viewer exposure* and *viewer sensitivity*, resulting in distinct and predictable visual concerns for each group that helps to predict the responses to visual changes.

Viewer response has two dimensions, viewer exposure and viewer sensitivity. Viewer exposure is a measure of the viewer's ability to see a particular object or scene, while viewer sensitivity is a measure of the viewer's recognition of a particular object or scene. Table 21 summarizes the rating for each type of viewer response.

Table 21. Viewer Exposure and Sensitivity Rating Systems

Viewer Exposure	
Descriptive	**Viewer Response**
Very far, few, or short	Very Low
Far, few, or short	Low
Moderately far, few, or short	Moderate Low
Moderate	Moderate
Moderately close, many, or long	Moderate High
Close, many, long	High
Very close, many, or long	Very High
Viewer Sensitivity	
Descriptive	**Viewer Sensitivity**
Very routine, general, or unprotected	Very Low
Routine, general, or unprotected	Low
Moderately routine, general, or unprotected	Moderate Low
Moderate	Moderate
Moderately unique, specific, or protected	Moderate High
Unique, specific, or protected	High
Very unique, specific, protected	Very High

Source: (Earthview Science 2024)

Assessment Method

The process to evaluate potential visual impacts associated with the proposed project follows the federal guidance outlined in *Visual Impact Assessment for Highway Projects*, which FHWA published in March 1981 (FHWA 1981). The process includes the following steps:

1. Define the project location and setting.
2. Identify visual assessment units (VAU) and key views.
3. Analyze existing visual resources, resource change, and viewer response.
4. Depict or describe the visual appearance of project alternatives.
5. Assess the visual impacts of project alternatives.
6. Propose measures to offset visual impacts.

The proposed project's visual depiction included the following methods:

- Photographs of the project corridor and surroundings. The focal length and camera types vary by photograph and include digital single lens reflex, cell phone, and drone shots.
- Visual simulations (see Chapter 2, Section 2.2.6, *Unique Features of Build Alternatives*) were prepared using computer modeling techniques to depict the views as it would appear with the completed project. AutoDesSys Form-Z 3D modeling software was used.
- A three-dimensional digital model of the project improvements was constructed using preliminary engineering files.
- A virtual camera was positioned within the model that matches the real-world position and specification of the field camera.
- The simulated views were composed within the photograph by overlaying the project elements and removing and modifying some existing elements.

Using the process guidance, concepts, and terminology above, analysis of the proposed project's visual effects included the following methods:

- Multiple field observations from 2017 to 2022.
- Observation of the proposed project's visual context, quality, and character by visual resource analysts using both in-field and desktop analysis methods.
- Review of the proposed project for compliance with state and local ordinances and regulations that pertain to visual context, character, quality, and resources.
- Review of preliminary project design drawings and reports.
- Preparation and analysis of photographic simulations.

Visual impacts are determined by assessing changes to the visual resources and predicting viewer response to those changes. These impacts can be beneficial or detrimental. Cumulative impacts and temporary impacts due to the contractor's operations are also considered.

The project corridor was divided into "outdoor rooms" or Visual Assessment Units (VAUs). Two VAUs were identified for this project: SR 1 (i.e., VAU-1) and the project surroundings (i.e., VAU-2). For each VAU, key views (KV) were selected to present representative views from key locations that demonstrate the change in the project's visual resources. KVs also represent the viewer groups that have the highest potential to be affected by the project considering exposure and sensitivity. In addition, one aerial view (AV) was chosen to present a broader context of the project corridor. The AV and simulation are used to depict overall corridor changes and do not represent the perspective of a KV. The AV and simulation are informative but are not evaluated in the same way as KVs since the AV does not represent the perspective of highway users or highway neighbors.

Table 22 and Figure 33 provide a summary of each VAU and associated KVs and AV.

Table 22. Key Views/Aerial View Description

Visual Assessment Unit	Key View/Aerial View	Key View/Aerial View Description
VAU-1	KV-1	Key view from the bridge deck looking north
	KV-2	View of the north approach to bridge from the intersection of SR 1 and Albion Little River Road
	AV-1	An aerial view of the south approach bridge looking north
VAU-2	KV-3	View from Albion River Southside Road, representative of the views from Albion River and Albion Ridge
	KV-4	View toward the bridge from Albion Campground on Albion Flat, representative of the view of recreationists such as campers, boaters, and beachgoers
	KV-5	View from west of the bridge, representative of views from the ocean[1]
	KV-6	View from Albion Flat Beach facing northeast

Source: (Earthview Science 2024)
Notes:
[1.] This photograph was taken from a drone but is a proxy for views from the ocean by recreational and commercial boaters.

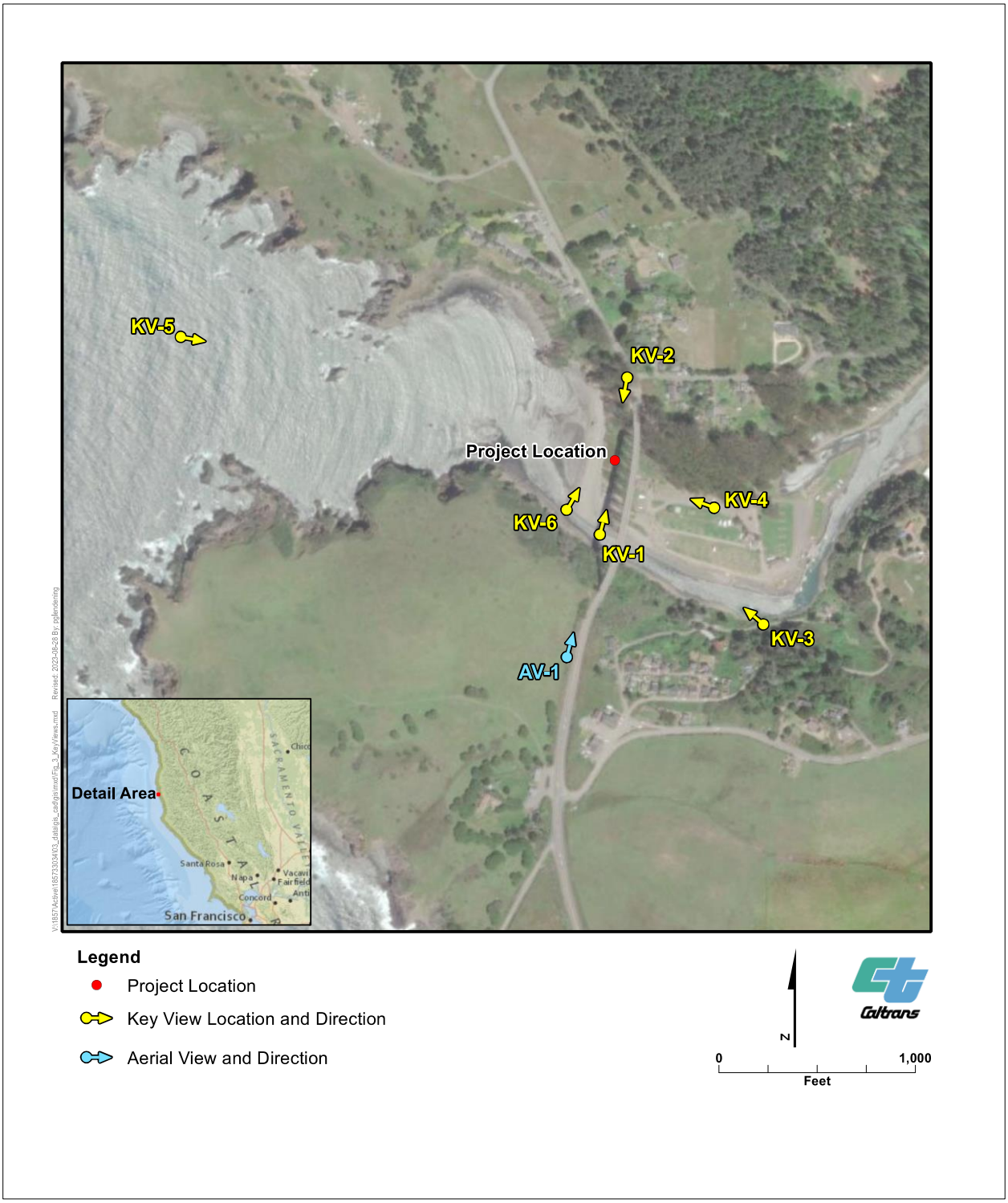


Figure 33. Key View Locations

Environmental Consequences

Build Alternatives

Construction Impacts

During construction under all Build Alternatives, viewers from SR 1 and surrounding areas would experience short-term visual impacts. Construction is anticipated to take 3 years for Alternative 1 (Design Options 1A and 1B) and Alternative 2 (Design Options 2A and 2B) and 5 years for Alternative 3 (Design Option 3A). Due to the scenic quality of the project corridor and vicinity, construction activities, which would include replacement of the existing Albion River Bridge, would have adverse effects on the visual environment. The removal of vegetation and the presence of dust; construction vehicles, equipment, and materials; and the construction site itself would affect the visual environment. Vegetation and shrubs along the approaches to the bridge and within temporary construction areas would be removed. Disturbed ground surfaces would be contoured and replanted or seeded, depending on the slope, with regionally appropriate California native plants (**AMM-AR-4**). Although most construction activities would occur during the day, the proposed project would require limited night work and bridge and lane closures on SR 1. New sources of light and glare would be minimal from temporary construction activities.

Operational Impacts

The proposed project's permanent impacts differ by design option. All Build Alternatives would have the same bridge width: a 47-foot-wide bridge deck with two 12-foot travel lanes and two 6-foot shoulders (see Figure 14 In Section 2.2.5, *Common Design Features of the Build Alternatives*). In addition, all Build Alternative would have the same railing type, ST-75, which is 42 inches tall and consists of three horizontal bars and a top rail. All Build Alternatives also include a separated 6-foot pedestrian walkway on the west side with a vertical railing. More information regarding impacts on key views, including simulations, are provided in the discussion below (see Visual Assessment Unit (VAU) 1 and Visual Assessment Unit (VAU) 2).

Measures **AMM-AR-1, AMM-AR-2** and **AMM-AR-3** would be implemented. These measures require that aesthetic treatments to the bridges, guardrails, and retaining walls be included to address context sensitivity. To the extent feasible, improvements to SR 1 would comply with Caltrans' *Highway Design Manual (7th Edition)*, which uses context sensitive solutions consistent with the 2001 Director's Policy memorandum DP-22. This approach includes implementing Design Standards 304.1, *Side Slope Standards*; 304.4, *Contour Grading and Slope Rounding*; and 902.1, *Design Considerations, Aesthetics*. Compliance with Highway Design Manual design standards would minimize visual impacts associated with roadside grading, slopes, and revegetating exposed slopes, thereby reducing impacts on the views associated with the proposed Project. In addition, Measure **AMM-CR-3**, which is described in Section 3.2.11, *Cultural Resources*, would require that Caltrans work with the State Historic Preservation Officer to identify treatment measures due to the replacement of the existing bridge.

All design options would require the removal of some eucalyptus trees at the bridge approaches, though the number and location of which would differ by design option. However, dense stands would continue to exist under all design options. Clearing some eucalyptus trees opens the landscape to more expansive views. Overall, resource change at the bridge approaches would be low.

For motorists, the frontal view of the coastal landscape ahead would be relatively unchanged under all Build Alternatives. The new ST-75 railing has a transparency similar to the existing wooden railing enabling motorists to look through it. However, views to the sides would be affected by the wider road surface. In particular, the view of the Pacific Ocean to the west would be diminished because of the proposed pedestrian walkway and the pedestrian railing on the outside of the walkway.

For bicyclists, views would be relatively unchanged on the northbound side of the bridge because bicyclists would ride on the shoulder close to the railing. Views on the southbound side would be somewhat diminished due to the presence of the pedestrian lane with its vertical outer railing; however, pedestrians are more likely to be able to enjoy the view because crossing the bridge would be a less stressful experience.

Proposed changes would reduce the vividness and unity of the view by reducing the views for motorists. In particular, the view of the Pacific Ocean would be reduced because of the placement of a pedestrian walkway and the pedestrian railing on the west side of the bridge. Although there would be a reduction in visual quality for motorists, there would be enhanced views for bicyclists and pedestrians. In addition, bicyclists and pedestrians can safely cross the bridge and take in the views without occupying the motorist lane.

Boaters would have short-term views of the bridge while accessing the marina or cruising along the coast. For fishermen, these views may be frequent. For other boaters, this view is likely to be a small part of a much longer trip. Viewer numbers are low, but viewers are likely to be highly aware of the view, given its quality and their presumed familiarity with the bridge as a landmark. Overall, viewer response would be high.

From the view of the motorist driving the highway, highway widening could have the potential to somewhat change the character of the area from a more rural area to that of a more developed area. The current bridge and highway are in scale with the size of the adjacent small community and compatible with the rural nature of the area. The impacts for each VAU are summarized below. The overall level of resource change is expected to be moderately low.

Visual Assessment Unit (VAU) 1

VAU 1 represents views from SR 1 and the experience of motorists, bicyclists, and pedestrians. Highway users see only the bridge deck and not the bridge profile. KV-1 is a view from the bridge deck, and KV-2 is from the north approach (Figure 34 through Figure 40). AV-1 is an aerial view of the bridge from the south approach. All Build Alternatives would have the same viewer response, resource change, and visual impact score, which are summarized in Table 23. The visual quality would be reduced for motorists because of the diminished view of the Albion River valley and the Pacific Ocean on either side of the roadway due to the increased deck width resulting from the addition of 6-foot shoulders. Views toward the Pacific Ocean would be diminished due to the addition of the pedestrian walkway and railing on the west side of the roadway. Although there would be a reduction in visual quality for motorists, there would be potentially enhanced views for bicyclists and pedestrians. The change in visual quality would be moderately low and, coupled with a high viewer response, would create a moderately high visual impact.



Figure 34. Key View 1 – View from the Bridge Looking North, Existing Condition



Figure 35. Key View 1 – View from the Bridge Looking North, Design Options 1A, 1B, 2A, 2B, 3A (Simulation), Proposed Condition



Figure 36. Key View 2 – View of the North Approach to the Bridge, Existing Condition



Figure 37. Key View 2 – View of the North Approach to the Bridge, Design Options 1A and 1B (Simulation), Proposed Condition



Figure 38. Key View 2 – View of the North Approach to the Bridge, Design Option 2A (Simulation), Proposed Condition



Figure 39. Key View 2 – View of the North Approach to the Bridge, Design Option 2B (Simulation), Proposed Condition



Figure 40. Key View 2 – View of the North Approach to the Bridge, Design Option 3A (Simulation), Proposed Condition

Table 23. Visual Impact Score for VAU-1 by Build Alternative and Design Option

Build Alternative	Key View	Viewer Response	Resource Change	Visual Impact
Build Alternatives (Design Options 1A, 1B, 2A, 2B, and 3A)	1	H	ML	MH
Build Alternatives (Design Options 1A, 1B, 2A, 2B, and 3A)	2	MH	L	M
Average Scores	-	H	ML	MH

Source: (Earthview Science 2024)

Acronyms: AV = Aerial View, H = High, KV = Key View, M = Moderate, MH = Moderate High, ML = Medium Low, L= Low, VAU = Visual Assessment Unit

NOTE: VAUs includes AV-1; however, AV-1 is an aerial view. For purposes of evaluating visual impacts, they are informative but are not evaluated in the same way as KVs since AVs do not represent the perspective of highway users or highway neighbors.

Visual Assessment Unit (VAU) 2

VAU 2 represents views (Figure 41 through Figure 64) of the bridge in profile from viewers in surrounding areas such as residents, recreationists, tourists, and local workers. The visual impact scores from VAU 2 are summarized in Table 24 and discussed for each design option following the table. The viewer response for all Build Alternatives would be considered high for this VAU because the project would replace the existing wooden trestle bridge with a more modern bridge structure.



Figure 41. Key View 3 – View from Albion River South Side Road, Existing View



Figure 42. Key View 3 – View from Albion River South Side Road, Design Option 1A (Simulation), Proposed Condition



Figure 43. Key View 3 – View from Albion River South Side Road, Design Option 2A (Simulation), Proposed Condition



Figure 44. Key View 3 – View from Albion River South Side Road, Design Option 3A (Simulation), Proposed Condition



Figure 45. Key View 3 – View from Albion River South Side Road, Design Option 1B (Simulation), Proposed Condition



Figure 46. Key View 3 – View from Albion River South Side Road, Design Option 2B (Simulation), Proposed Condition



Figure 47. Key View 4 – View from Campground, Existing Condition



Figure 48. Key View 4 – View from Campground, Design Option 1A (Simulation), Proposed Condition



Figure 49. Key View 4 – View from Campground, Design Option 2A (Simulation), Proposed Condition



Figure 50. Key View 4 – View from Campground, Design Option 3A (Simulation), Proposed Condition



Figure 51. Key View 4 – View from Campground, Design Option 1B (Simulation), Proposed Condition



Figure 52. Key View 4 – View from Campground, Design Option 2B (Simulation), Proposed Condition



Figure 53. Key View 5 – View from the Ocean, Existing Condition



Figure 54. Key View 5 – View from the Ocean, Design Option 1A (Simulation), Proposed Condition



Figure 55. Key View 5 – View from the Ocean, Design Option 2A (Simulation), Proposed Condition



Figure 56. Key View 5 – View from the Ocean, Design Option 3A (Simulation), Proposed Condition



Figure 57. Key View 5 – View from the Ocean, Design Option 1B (Simulation), Proposed Condition



Figure 58. Key View 5 – View from the Ocean, Design Option 2B (Simulation), Proposed Condition



Figure 59. Key View 6 – View from Albion Flat Beach, Existing Condition



Figure 60. Key View 6 – View from Albion Flat Beach, Design Option 1A (Simulation), Proposed Condition



Figure 61. Key View 6 – View from Albion Flat Beach, Design Option 2A (Simulation), Proposed Condition



Figure 62. Key View 6 – View from Albion Flat Beach, Design Option 3A (Simulation), Proposed Condition



Figure 63. Key View 6 – View from Albion Flat Beach, Design Option 1B (Simulation), Proposed Condition



Figure 64. Key View 6 – View from Albion Flat Beach, Design Option 2B (Simulation), Proposed Condition

Table 24. Visual Impact Score for VAU-2 by Build Alternative and Design Option

Build Alternative	Key View	Viewer Response	Resource Change	Visual Impact
Non-Arch Design Options:				
Build Alternative 1				
Design Option 1A	3	VH	H	VH
Design Option 1A	4	H	MH	H
Design Option 1A	5	H	M	MH
Design Option 1A	6	H	MH	H
Average Scores		**H**	**MH**	**H**
Build Alternative 2				
Design Option 2A	3	VH	H	VH
Design Option 2A	4	H	MH	H
Design Option 2A	5	H	M	MH
Design Option 2A	6	H	MH	H
Average Scores		**H**	**MH**	**H**
Build Alternative 3				
Design Option 3A	3	VH	MH	H
Design Option 3A	4	H	MH	H
Design Option 3A	5	H	M	MH
Design Option 3A	6	H	MH	H
Average Scores		**H**	**MH**	**H**
Arch Design Options:				
Build Alternative 1				
Design Option 1B	3	VH	M	H
Design Option 1B	4	H	ML	MH
Design Option 1B	5	H	L	M
Design Option 1B	6	H	M	MH
Average Scores		**H**	**ML**	**MH**
Build Alternative 2				
Design Option 2B	3	VH	M	H
Design Option 2B	4	H	ML	MH
Design Option 2B	5	H	L	M
Design Option 2B	6	H	M	MH
Average Scores		**H**	**ML**	**MH**

Source: (Earthview Science 2024)

Acronyms: VH= Very High, H = High, M = Moderate, MH = Moderate High, ML = Medium Low, L= Low

Non-Arch Design Options (Design Options 1A, 2A, and 3A): These bridges differ in alignment, the number of piers, and pier dimensions. Design Option 1A (four-span segmental box girder bridge on the West Alignment) and Design Option 2A (three-span segmental box girder bridge on the East Alignment) received visual impact scores of moderately high to very high depending on the visual context and distance from the project area. These designs have narrow piers compared to the horizontal structure, giving the bridge the appearance of a typical highway overpass. These utilitarian designs' visual interest, as well as the distinctiveness of the existing bridge, result in substantially diminished visual quality. They also impart a modern character, altering the historic and rural character of the existing setting. On average, the visual impact scores of Design Options 1A and 2A are high. Design Option 3A (five-span box girder bridge on-alignment) is somewhat similar to Design Options 1A and 2A but is more well-proportioned and symmetrical. However, Design Option 3A would still create a loss of vividness and change in character. Visual impacts would be moderately high. Visual impact for Design Option 3A is somewhat less than for Design Options 1A and 2A but is still high on average.

Arch Design Options (Design Options 1B and 2B): Design Options 1B and 2B are spandrel arch bridges with box girder approaches that differ by alignment. Though these designs cannot replicate the distinctiveness, memorability, or historical character of the existing bridge, they offer some compensating architectural interest. Both design options received moderately high and high visual impact scores for each key view close to the project area and a moderate impact score from further away. They both received moderately high visual impact scores on average.

With these options, arches are connected to the deck by a series of spandrels. The piers supporting the box girder approaches replicate the dimensions of the spandrels. The open space between the deck and the arches gives lightness to the design. The slenderness and curve of the arches create a focal point other than the bridge deck and visually anchor the bridge in the valley. The arches mimic the rounded forms of surrounding hills. Both design options allow expansive views beyond the bridge, with the arches framing the view of the river cove beneath them.

The arch design options would cause less visual impact—an average of moderate high. Design Options 1B and 2B are not as memorable or distinctive as the existing bridge and lack the historical character. However, these design options provide an architectural interest with their spandrel and arch design and better fit into the natural setting. The arch design forms a gateway between the Albion Bridge and Albion Flat and mimics the curve of adjacent hills. The visual unit of these designs would be higher than that of the existing bridge because of their harmony in the landscape.

Light and Glare

There are no streetlights along the project corridor, and the proposed project would not introduce new sources of permanent nighttime lighting. Therefore, nighttime lighting levels associated with the project corridor would not be affected. The amount of new pavement that would be introduced would be minor and result in a negligible increase in

daytime glare that would not be perceptible. Potential daytime glare would also be minimized with Measure **AMM-AR-1**, in which the bridge surface would incorporate treatment or materials that would reduce the potential for glare.

No-Build Alternative

Under the No-Build Alternative, the Albion River Bridge would not be replaced, and there would be no direct or indirect visual impacts on the existing visual character, visual quality, light and glare, or affected viewer groups.

Avoidance, Minimization, and/or Mitigation Measures

Applicable measures from other resource categories that are referenced in this chapter include Measure **AMM-CR-3**. This measure would be implemented and is described in Appendix D, *Avoidance, Minimization, and/or Mitigation Summary*. Additionally, the following resource-specific measures would be implemented:

AMM-AR-1: The potential for glare from bridge structure components would be avoided or minimized through the selection of materials and finishes used for bridge construction.

AMM-AR-2: Aesthetic treatment, such as color and pedestrian railing design, would be applied to the bridge railing to increase its visual compatibility.

AMM-AR-3: Bridge structures, such as retaining walls and wing walls, would be aesthetically treated with color, texture, and/or patterns to increase the project's visual compatibility with the surrounding environment.

AMM-AR-4: All disturbed soil areas that were previously vegetated, including temporary access roads, construction easements, and staging areas, would be restored to a natural contour. Disturbed slopes 2:1 and flatter would be planted and seeded with regionally appropriate California native species plants. Steeper disturbed slopes would be seeded with regionally appropriate California native species plants. No native plantings at their mature height may block existing views.

AMM-AR-5: Albion Campground facilities, such as but not limited to, grass, gravel, and hookups, would be restored or replaced to their original condition if disturbed by construction activities.

AMM-AR-6: Caltrans would work with community members to offset the project's effects on scenic views through the incorporation of community input into the identification and design of landscape amenities to enhance views and provide opportunities for passive recreation.

3.2.11 Cultural Resources

Regulatory Setting

The term "cultural resources," as used in this document, refers to the "built environment" (e.g., 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 National Historic Preservation Act (NHPA) 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 (NRHP). Section 106 of the NHPA requires federal agencies to take into account the effects of their undertakings on historic properties and to allow the Advisory Council on Historic Preservation (ACHP) the opportunity to comment on those undertakings, following regulations issued by the ACHP (36 Code of Federal Regulations [CFR] 800). On January 1, 2014, the First Amended Section 106 Programmatic Agreement (PA) among the Federal Highway Administration (FHWA), the ACHP, the California State Historic Preservation Officer (SHPO), and the Department went into effect for Caltrans projects, both state and local, with FHWA involvement. The PA implements the ACHP's regulations, 36 CFR 800, streamlining the Section 106 process and delegating certain responsibilities to Caltrans. The FHWA's responsibilities under the PA have been assigned to Caltrans as part of the Surface Transportation Project Delivery Program (23 United States Code [USC] 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 (PRC) Section 5024.1 established the California Register of Historical Resources (CRHR) and outlined the necessary criteria for a cultural resource to be considered eligible for listing in the CRHR and, therefore, a historical resource. Historical resources are defined in PRC Section 5020.1(j). Unique archaeological resources are referenced in PRC Section 21083.2. Caltrans uses a streamlined approach to addressing PRC Section 5024 as detailed in the Memorandum of Understanding Between the Caltrans and the SHPO Regarding Compliance with Public Resources Code Section 5024 and Governor's Executive Order W-26-92 (MOU) signed on December 12, 2014. In 2014, Assembly Bill 52 (AB 52) added the term "tribal cultural resources" to CEQA, and AB 52 is commonly referenced instead of CEQA when discussing the process to identify tribal cultural resources (as well as identifying measures to avoid, preserve, or mitigate effects to them). Defined in PRC Section 21074(a), a tribal cultural resource is a CRHR 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. AB 52 applies to any project for which a Notice of

Preparation, Notice of Mitigated Negative Declaration or Notice of Negative Declaration is filed on or after July 1, 2015 (Stats. 2114, ch. 532, Section 11 [c]). The Notice of Preparation for the project was filed on April 1, 2015; thus, AB 52 does not apply to the proposed project. However, as described below, tribal consultation with potentially affected Native American tribes occurred for the proposed project pursuant to NRHP Section 106 compliance and as required by the Programmatic Agreement (PA). This included consulting with Native American tribes regarding the identification of historic properties with traditional tribal cultural significance. Please see Section 4.3*, CEQA Environmental Checklist*, particularly Section 4.3.5, *Cultural Resources*, and Section 4.3.18, *Tribal Cultural Resources*.

PRC Section 5024 requires state agencies to identify and protect state-owned historical resources that meet the NRHP 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 SHPO before altering, transferring, relocating, or demolishing state-owned historical resources that are listed on or are eligible for inclusion in the NRHP or are registered or eligible for registration as California Historical Landmarks. Procedures for compliance with PRC Section 5024 are outlined in a Memorandum of Understanding (MOU) between Caltrans and SHPO, effective January 1, 2015. For most Federal-aid projects on the State Highway System, compliance with the PA will satisfy the requirements of PRC Section 5024.

Affected Environment

This section is based on the proposed project's Archaeological Survey Report (Haney 2015), First Supplemental Archaeological Survey Report (Tanksley 2023a), First Supplemental Historic Property Survey Report (Tanksley 2023b), Historical Resources Evaluation Report and Phase 2 Proposal (Van Buren, 2015), Historic Resources Evaluation Report (McMorris 2022), and Phase II Archaeological Evaluation Report (Shapiro et al. 2015). Additional information, including consultation logs for the proposed project, is provided in Attachment 1: Letters and Other Correspondence of Appendix A, *Section 4(f)*.

Area of Potential Effect

In accordance with Stipulations VI.B.8 and VIII.A of the PA pertaining to the administration of the Federal-Aid Highway Program in California (Caltrans 2014), Caltrans established the Area of Potential Effects (APE) for the proposed project. As defined in 36 CFR Section 800.16(d), an APE is defined as:

> "the geographic area or areas within which an undertaking may directly or indirectly cause alterations in the character or use of historic properties, if any such properties exist. The area of potential effects is influenced by the scale and nature of an undertaking and may be different for different kinds of effects caused by the undertaking."

The APE for the proposed project was initially defined by Caltrans in 2015 but was expanded to incorporate additional staging areas in 2023. In a letter dated August 4, 2023, the SHPO agreed that the APE, as currently delineated, appears appropriate for the project (OHP Reference No.: FHWA_2015_1113_001).

The APE consists of the horizontal and vertical maximum potential extent of direct and indirect impacts that could result from the proposed project and is located primarily along State Route (SR) 1 from post mile (PM) 43.3 to PM 44.2. It includes all areas where construction activities are planned to occur, all potential construction easements, all potential staging areas, and all potential temporary storage locations. The vertical APE varies throughout the proposed project. All areas of potential construction activities would be impacted to a depth of a minimum of 6 to 24 inches through clearing and grading activities. In areas where bridge foundations would be constructed, the depth of disturbance could be 60 feet or more. These deep impacts would be limited to the areas of the bridge piers and abutments. Work for the proposed project would occur in existing Caltrans right of way (ROW), Mendocino County ROW, and privately owned parcels. Temporary construction easements would be acquired for the project, and new ROW acquisition is expected for this effort.

Identification Efforts

Cultural resource studies began with a records search on April 8, 2013, at the Northwest Information Center (NWIC) of the California Historical Resources Information System (CHRIS) at Sonoma State University in Rohnert Park. The records search documented all previously recorded archaeological sites and prior cultural resource studies conducted within a 0.25-mile radius of the proposed project. A total of 13 previous studies were done within this area between 1976 and 2011. The Albion River Bridge was the only previously recorded cultural resource identified within the project APE.

Additional research to identify known and potential historic properties was conducted by reviewing the NRHP, CRHR, California Landmarks, and Inventory of Historic Resources. In addition to the Albion River Bridge's as-built plans from the 1940s and Sanborn Fire Insurance Maps from 1909 and 1919, research included review of historical documents, maps and photographs, newspapers, land patents, deeds and property transaction records, census records, directories, cemetery records, oral histories, and ethnographic studies. Additionally, between August and October of 2020, the following local historical societies were contacted regarding any available information or concerns related to historical resources within the project area: Grace Hudson Museum and Sun House, Kelley House Museum, Fort Bragg-Mendocino Coast Historical Society, Mendocino County Historical Society, Mendocino County Museum, Archaeological Commission of the Mendocino County Planning and Building Services, Held-Poage Research Library, and Mendocino County Recorder.

A letter was sent to the Native American Heritage Commission (NAHC) on March 6, 2013, to request a search of their Sacred Land Files within a 0.25-mile radius of the APE. In a letter dated March 18, 2013, the NAHC responded that the Sacred Land File

search was negative and provided a list of Native American tribes and individuals who may have knowledge of cultural resources in the project area. On April 2, 2013, Caltrans sent letters to individuals from tribes (Table 25) describing the project and asking if there were any concerns or issues regarding cultural resources that may be affected by the proposed project. Follow-up calls and emails were made to these individuals in the weeks following. Letters to discuss updates to the proposed project were mailed to the same list of Native Americans in June 2014, with additional follow-up calls the same month.

Due to the passage of time, a second Sacred Lands search at the NAHC was requested by Caltrans on July 27, 2022. In a letter dated August 20, 2022, the NAHC responded that the records search was negative and provided an updated list (Table 25). On March 29, 2023, letters were sent to these individuals reinitiating consultation and notifying them of changes to the construction alternatives and the addition of staging areas. Follow-up calls were made in April and May 2023. The cultural resources inventory and evaluation reports used to support the proposed project were provided to the Sherwood Valley Band of Pomo Indians and the Manchester Point Arena Band of Pomo Indians for review and comment on historic property identification efforts. None of the parties consulted identified resources or particular places of concern that are potential historic properties. Initially, both the Sherwood Valley Band of Pomo Indians and the Manchester Point Arena Band of Pomo Indians elected to consult formally on the proposed project pursuant to NHPA Section 106 and asked for the opportunity to monitor during construction. In April of 2023, while consulting with Caltrans, the Manchester Point Arena Band of Pomo Indians informed Caltrans that it would defer to the Sherwood Valley Band of Pomo Indians as a point of contact for consultation, returning only if the Sherwood Valley Tribe ever ceased consultation.

Table 25. Native American Tribal Contacts

Name	Tribal Affiliation
Mary L. Norris, Chairperson (2023)	Cahto Tribe of the Laytonville Rancheria
Rochard Smith, Chairperson (2013)	Cahto Tribe of the Laytonville Rancheria
Michael Hunter, Chairperson (2013 & 2023)	Coyote Valley Band of Pomo Indians
Priscilla Hunter, THPO (2023)	Coyote Valley Band of Pomo Indians
Donald Duncan, Chairperson (2023)	Guidiville Band of Pomo Indians
Meyo Marrufo, EPA Director (2023)	Guidiville Band of Pomo Indians
Merline Sanchez, Chairperson (2013)	Guidiville Band of Pomo Indians
Ramón Billy, THPO (2023)	Hopland Band of Pomo Indians
Sonny Elliott, Chairperson (2023)	Hopland Band of Pomo Indians
Shawn Padi, Chairperson (2013)	Hopland Band of Pomo Indians
Hawk Rosales, Executive Director (2013 & 2023)	Inter-Tribal Sinkyone Wilderness Council
Dino Franklin, Chairperson (2023)	Kashia Band of Pomo Indians of the Stewarts Point Rancheria
Anthony, Macias, THPO (2023)	Kashia Band of Pomo Indians of the Stewarts Point Rancheria
Jaime Cobarrubia, Chairman (2023)	Manchester-Point Arena Rancheria
Nelson Pinota, Chairperson (2013)	Manchester-Point Arena Rancheria
Harriet L. Stanley-Rhoades (2013 & 2023)	Noyo River Indian Community
Angela James, THPO (2023)	Pinoleville Pomo Nation
Leona Williams, Chairperson (2013 & 2023)	Pinoleville Pomo Nation
Greg Young, EPA Director (2023)	Potter Valley Tribe
Salvador Rosales, Chairperson (2013)	Potter Valley Tribe
Elizabeth Hansen, Chairperson (2013)	Redwood Valley Rancheria of Pomo
Josh Martinez, Tribal Administrator (2023)	Redwood Valley Rancheria of Pomo
Debra Ramirez, Chairwoman (2023)	Redwood Valley Rancheria of Pomo
Beniakem Cromwell, Chairman (2023)	Robinson Rancheria of Pomo Indians
Patricia Rabano, THPO (2023)	Round Valley Reservation / Covelo Indian Community
James Russ (2023)	Round Valley Reservation / Covelo Indian Community
Kenneth Wright, President (2013)	Round Valley Reservation / Covelo Indian Community
Michael Fitzgerral, Chairperson (2013)	Sherwood Valley Rancheria of Pomo
Melanie Rafanan, Chairperson (2023)	Sherwood Valley Rancheria of Pomo
Valerie Stanley, THPO (2023)	Sherwood Valley Rancheria of Pomo
Emilio Valencia, Chairperson (2013)	Stewarts Point Rancheria
Romayne Daniels, Chairperson (2013 & 2023)	Yokayo Tribe
Doreen Mitchell (2023)	Yokayo Tribe
Dina Bowen-Welsh (2013 & 2023)	No affiliation listed

Due to restricted access in the project area, the NHPA Section 106 process would be conducted through the development and execution of a project-specific phased Programmatic Agreement (Phased PA), which is allowable under Stipulation XII.A of the PA. The Cultural Resources Management Plan (CRMP), which would be attached to the Phased PA, would outline a Phased Identification approach, which includes the process and procedure for identifying resources in the portions of the APE with restricted access.

Built environment resources in the APE were reviewed and addressed. In addition, for accessible areas of the APE, intensive pedestrian archaeological surveys were conducted on May 13 through 15, 2013, September 3 and 4, 2013, and April 22, 2014, with additional surveys in previously undefined equipment staging areas on April 12 and 13, 2023, and April 20, 2023. Surveys were conducted by walking transects spaced approximately 16 to 33 feet apart. Areas with poor ground visibility due to heavy vegetation were cleared approximately every 16 feet to inspect the ground surface. Along the steep slopes of the river, transects were expanded to approximately 65 to 83 feet in width for safety purposes. In addition to the pedestrian surveys, geophysical surveys of certain portions of the APE were undertaken in an attempt to locate potential buried cultural resources.

Archaeological Resources

The archaeological surveys for the proposed project identified one prehistoric archaeological site and two historical period archaeological sites within the APE (Table 26). Identification efforts were documented in an Archaeological Survey Report dated June 2015 (Haney 2015) and a Supplemental Archaeological Survey Report dated April 2023 (Tanksley 2023a).

Table 26. Archaeological Resources Identified within the Area of Potential Effects

Prehistoric Resources	
CA-MEN-3645 (P-23-00584)	This site appears to be a low-density lithic scatter. Surface inspection of identified fragments of a projectile point and biface, and four pieces of lithic debitage.
Historical Era Resources	
CA-MEN-3652H (P-23-005516)	The remains of a 19th and 20th Century lumber mill, first constructed in 1852 and operated until 1928, then torn down in 1937. Businesses related to this mill were also present at one time, as well as a wharf of which pylon remnants can still be seen.
CA-MEN-3653H (P-23-004258)	This historical-era site consists of seven refuse deposits that extend along a slope below the town of Albion. Items within the deposits date from the 1880s into the 1950s.

Sources: (Haney 2015; Tanksley 2023a)

Built Environment

Field surveys for the built environment took place on August 25 and 26, 2020, and September 22, 2021 (McMorris 2022). In addition to the previously recorded Albion River Bridge, the surveys identified 33 resources requiring formal evaluation, including buildings constructed between the turn of the 20th Century and the early 1970s (Table 27). Built environment identification and evaluations were conducted by a qualified architectural historian meeting both the Secretary of Interior's professional qualifications standards and the professional qualifications standards required by the PA.

Table 27. Built Environment Resources Evaluated and Determined to be Not Eligible for Inclusion to the NRHP

Count	APN #	Address
1	123-050-04	3781 N. Highway 1, Albion, CA
2	123-050-05	3775 N. Highway 1, Albion, CA
3	123-050-26	3751 N. Highway 1, Albion, CA
4	123-050-25	3725 N. Highway 1, Albion, CA
5	123-050-34	3700 Albion Little River Road, Albion, CA
6	123-050-37 & 38	3720 Albion Little River Road, Albion, CA
7	123-050-24-05	3721 Albion Little River Road, Albion, CA
8	123-150-04 & 08	33880-33890 Albion River S. Side Road, Albion, CA
9	123-150-09	33891 Albion River S. Side Road, Albion, CA
10	123-150-22	33861 Albion River S. Side Road, Albion, CA
11	123-150-23	33880 Albion Street, Albion, CA
12	123-150-05 Albion Grocery	34920 Albion River S. Side Road, Albion, CA
13	123-150-48 Albion Fire Station	33900 West Street, Albion, CA
14	123-330-09 Ledford House	3000 N. Highway 1, Albion, CA
15	123-330-11	2960-2961 Spring Grove Road, Albion, CA
16	123-050-27 123-050-31 123-050-36 123-060-21 Hughes Llama Ranch	3801 N. Hwy 1, Albion, CA
17	123-150-33 Ball House	34010 Albion Ridge Road, Albion, CA
18	123-150-24	33870 Albion Street, Albion, CA
19	123-150-25	33860 Albion Street, Albion, CA
20	123-150-26	33850 East Lane
21	123-150-27	33840 Albion Street, Albion, CA
22	123-150-28	33830 Albion Street, Albion, CA
23	123-150-52	33820 Albion Street, Albion, CA
24	123-150-53	33810 Albion Street, Albion, CA
25	123-150-31	33800 Albion Street, Albion, CA

Count	APN #	Address
26	123-150-10	33879 East Lane, Albion, CA
27	123-150-11	33875 East Lane, Albion, CA
28	123-150-12	33861 East Lane, Albion, CA
29	123-150-13	33851 East Lane, Albion, CA
30	123-150-14	33831 East Lane, Albion, CA
31	123-150-16	33795 East Lane, Albion, CA
32	123-150-44 Johansen Residence	33950 Albion River S. Side Road, Albion, CA
33	123-170-09	33750 Albion Street, Albion, CA

6Z = Found ineligible for NRHP, CRHR, or local designation through survey evaluation.
APN = Assessor Parcel Number
CRHR = California Register of Historic Resources

The Albion River Bridge (10-0136, NRHP Reference #100001383) was previously determined eligible for the NRHP in the Caltrans Historic Bridge Inventory update in 2004 and therefore was automatically placed on the CRHR. Its period of significance being World War II/1944. The bridge was subsequently listed on the NRHP as of July 31, 2017 (National Park Service n.d.).

Evaluation

Due to the presence of archaeological cultural resources within the APE, testing strategies were developed to evaluate whether any cultural resources contained data that would qualify them as eligible for the NRHP and assist Caltrans in complying with the PA. It was also necessary for Caltrans to determine whether they are significant resources for the purposes of CEQA. Built environment resources were addressed visually and archivally by a qualified architectural historian for the same purpose. It is important to note that a cultural resource determined eligible for listing in the NRHP and a historical resource for the purposes of CEQA is considered to have the same status as a listed resource for the purposes of the proposed project.

A property may be listed in or eligible for the NRHP if it meets one or more of the criteria for evaluation as defined in 36 CFR Section 60.4 (Table 28) and retains sufficient integrity to reflect its significance. The same criteria listed for the NRHP (A, B, C, and D), correlate to Criterion 1, 2, 3, 4 under CEQA PRC for historical resources as defined in Section 5020.1(j).

Table 28. Criteria for eligibility to the National Register of Historic Places

The quality of significance in American history, architecture, archaeology, engineering and culture is present in districts, sites, buildings, structures and objects that possess integrity of location, design, setting, materials, workmanship, feeling and association and…	
Criterion A	…are associated with events that have made a significant contribution to the broad patterns of our history; or
Criterion B	…are associated with the lives of persons significant in our past; or
Criterion C	…embody the distinctive characteristics of a type, period, or method of construction, or that represent the work of a master, or that possess high artistic values, or that represent a significant and distinguishable entity whose components may lack individual distinction; or
Criterion D	…have yielded, or may likely to yield, information important in prehistory or history.

Source: 36 CFR Section 60.4

In addition to being "significant" with respect to one or more of the four NRHP criteria (i.e., 36 CFR Section 60.4[a–d]), a cultural property must possess "integrity" in order to qualify for the NRHP or CRHR. The following seven types of integrity are defined in *National Register Bulletin 15* (U.S. Department of the Interior 1997):

- **Location** is the place where the historic property was constructed or the place where the historic event occurred;
- **Design** is the combination of elements that create the form, plan, space, structure, and style of a property;
- **Setting** is the physical environment of a historic property;
- **Materials** are the physical elements that were combined or deposited during a particular period of time and in a particular pattern or configuration to form a historic property;
- **Workmanship** is the physical evidence of the crafts of a particular culture or people during any given period in history or prehistory;
- **Feeling** is a property's expression of the aesthetic or historic sense of a particular period of time;
- **Association** is the direct link between an important historic event or person and a historic property.

Evaluation of Prehistoric Resources

As mentioned previously, one prehistoric site, CA-MEN-3645 (P-23-00584), was identified within the APE, a portion of which is located in the project's area of direct impact (ADI). Stipulation VIII of the PA governs evaluation of historic properties in order to determine whether a site within the APE contains data that would contribute toward its potential NRHP eligibility. The evaluation would also determine whether the site is a historical resource under CEQA. A subsurface investigation (Phase II) was undertaken to evaluate a portion of CA-MEN-3645 that falls within the ADI as part of a separate undertaking. A consulting Native American tribe, the Manchester-Point Arena Rancheria, monitored the work during the subsurface investigation, which took place from October 14 through 19, 2014. Excavation and subsequent analysis were conducted by archaeologists and detailed procedures and results were documented in the Phase II Archaeological Evaluation Report for Prehistoric Site CA-MEN-3645 (Shapiro et al. 2015).

Research, testing, and evaluation determined the portion of CA-MEN-3645 within Caltrans ROW did not qualify for Criterion A, B, or C because the depositional integrity of this portion of CA-MEN-3645 was severely compromised. In addition, this portion of the site lacked quantity and diversity in the cultural assemblage, low frequencies of functionally and temporally diagnostic artifacts, absence of dateable features, poor preservation, and lack of faunal remains and other organic materials, all of which determined the portion of the site that was investigated does not possess important scientific research potential and is ineligible for listing on the NRHP under Criterion D. Documented in a letter for a separate undertaking and dated December 9, 2015, the California SHPO reviewed the research and determined the investigation was sufficient and concurred that the evaluated portion of the site was not eligible for listing in the NRHP.

Because testing and evaluation of the entirety of the portion of site CA-MEN-3645 that falls within the ADI could not be completed due to lack of access to private property, a phased process would be employed to complete cultural resources studies, which would phase the evaluation and assessment of effects. Consistent with 36 CFR Sections 800.4(b)(2) and 800.5(a)(3), PA Stipulation XII.A allows for the phasing of identification, evaluation, and application of the Criteria of Adverse Effect for undertakings in which locations within the APE have restricted access that preclude completion of identification efforts, evaluation of a potential historic property, or effects determinations. In addition to the documentation already submitted to the SHPO regarding testing and evaluation of site CA-MEN-3645, Caltrans would implement Measure **AMM-CR-2**. This measure would require the preparation and submittal of a CRMP after a preferred alternative is selected. The plan would include provisions to complete identification and evaluation of cultural resources. The plan would be developed under a Phased PA that includes a schedule and provisions for notification and consultation with the SHPO, consulting with tribes, and consulting parties. Prior to construction, testing and evaluation would occur once temporary construction easements and any new ROW are obtained.

Evaluation of Historic-Era Cultural Resources

All 33 historic-era, built-environment structures discussed previously (see Table 27) were also evaluated and determined not eligible for listing in the NRHP and are not considered historical resources for the purposes of CEQA. In a letter dated August 4, 2023, the SHPO concurred that these 33 structures do not qualify as historic properties under Section 106. Studies for the built environment were documented in a Historical Resources Evaluation Report, dated January 2022 (McMorris 2022). All other built environment properties present within the APE meet the criteria set forth in the PA as "Properties Exempt from Evaluation." These properties consisted of buildings less than 30 years old, buildings so altered as to appear less than 30 years old, and buildings 30 to 50 years old. As mentioned above, the Albion River Bridge is a listed resource (National Park Service n.d.).

Two historic-era archaeological resources are within the proposed project's APE, the remains of a 19th and 20th Century lumber mill (CA-MEN-3652H [P-23-005516]), and a historic era-refuse deposit (CA-MEN-3653H [P-23-004258]). A testing and evaluation strategy for these two resources was developed and documented in a Historical Resources Evaluation Report and Phase 2 Proposal (Van Buren 2015).

As part of this testing strategy, a Geographical Information System (GIS) mapping effort geo-rectified historic maps to determine which areas of these two sites were most likely to contain subsurface deposits. In addition, a remote sensing and magnetometer instrument survey was used in areas identified as sensitive for buried resources. Six "targets of interest" were considered worthy of further investigation. The locations of former dwellings not amenable to remote sensing survey were identified for testing as well as possible landfill deposits from former occupation on Albion Flat encapsulated by fire and flood episodes. However, a permit to enter to conduct the subsurface testing of these two sites could not be obtained, and soon after the private landowner denied access to the area.

Because testing and evaluation of historic-era archaeological sites CA-MEN-3652H (P-23-005516) and CA-MEN-3653H (P-23-004258) could not be completed, a phased identification process would be employed to complete cultural resources studies. Consistent with 36 CFR Sections 800.4(b)(2) and 800.5(a)(3), PA Stipulation XII.A allows for the phasing of identification, evaluation, and application of the Criteria of Adverse Effect for undertakings in which locations within the APE have restricted access that preclude completion of identification efforts, evaluation of a potential historic property, or effects determinations. In addition to the documentation already submitted to the SHPO, Caltrans would implement Measure **AMM-CR-2** and submit a CRMP for the planned completion of the identification and evaluation of cultural resources and execute a Phased PA that includes a schedule and provisions for notification and consultation with the SHPO, consulting tribes, and consulting parties. As mentioned above, prior to construction, testing and evaluation would occur for these resources also once temporary construction easements and any new ROW are obtained.

Environmental Consequences

Consistent with 36 CFR Section 800.5(a)(1), an adverse effect is found when an "undertaking may alter, directly or indirectly, any of the characteristics of a historic property that qualify the property for inclusion in the National Register." If there are historic properties that may be affected by the undertaking, Caltrans must apply the Criteria of Adverse Effect to assess those effects, pursuant to Stipulation IX.B of the PA and consistent with 36 CFR Section 800.5(a)(1). If the APE contains more than one historic property, it is possible that the project may have no adverse effect on some historic properties, but an adverse effect on others. There are five possible findings when cultural resources are present within the project limits:

- No Historic Properties Affected
- Finding of No Adverse Effect with Standard Conditions (FNAE-SC)
- Finding of No Adverse Effect with Non-standard Conditions (FNAE-NSC)
- Finding of No Adverse Effect (FNAE)
- Finding of Adverse Effect (FAE)

As described in more detail below, the proposed project under All Build Alternatives would result in a Finding of Adverse Effect under the PA and 36 CFR Section 800.5(a)(1) for the undertaking.

In addition, the Albion River Bridge is a historic property protected by Section 4(f) of the Department of Transportation Act of 1966, and the proposed project would result in a "use" of this property as defined by Section 4(f). See Appendix A, *Section 4(f)*, for details.

Build Alternatives

Construction Impacts

The Albion River Bridge is located within the APE and is listed on the NRHP and the CRHR (McMorris 2022). Three additional cultural resources have not been evaluated fully due to restricted access, but all are located within the area of direct impact for all Build Alternatives (Tanksley 2023a). These sites include the remains of a 19th and 20th Century lumber mill (CA-MEN-3652H [P-23-005516]), historic-era refuse deposits (CA-MEN-3653H), and a prehistoric site (CA-MEN-3645 [P-23-00584]). In accordance with Measure **AMM-CR-2**, these sites would be evaluated and addressed as part of a CRMP attached to the Phased PA. This would be implemented for the proposed project prior to construction, when access is obtained.

The Albion River Bridge would be completely removed under all Build Alternatives. As such, Caltrans has determined that the project would have an adverse effect on this historic property by removing the bridge in its entirety and therefore its characteristics that qualify it for the National Register.

Pending further consultation with the SHPO, Caltrans would implement Measure **AMM-CR-3**, which includes measures that would mitigate impacts to this historic property. However, even with implementation of measures, impacts would still be adverse. Measures for resolving adverse effects under Section 106, as determined through consultation with consulting parties, would be memorialized in the Phased PA and the CRMP.

As discussed previously, the lumber mill site (CA-MEN-3652H [P-23-005516]), the historic-era refuse deposits (CA-MEN-3653H), and the unevaluated portion of prehistoric site CA-MEN-3645 (P-23-005516) would be evaluated and addressed using a Phased Identification approach identified within the Phased PA and CRMP. The Phased PA and CRMP would outline a Phased Identification approach and a process through which a Finding of Effect for each of these sites would be determined in consultation with the SHPO and other consulting parties. Full implementation of the Phased PA and CRMP would conclude the Section 106 process for the project. Portions of these sites located outside of the ADI, but still within the APE, would be avoided and protected as an Environmentally Sensitive Area (ESA) as required by Measure **AMM-CR-1**. In accordance with Measure **AMM-CR-4**, an Archaeological Monitoring Plan is being prepared for the project. All ground disturbing activities associated with the construction of the project would require both archaeological and tribal monitoring. 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. Procedural details would be included in the CRMP. If human remains are discovered, California Health and Safety Code (H&SC) Section 7050.5 states that further disturbances and activities shall 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 NAHC, who, pursuant to PRC Section 5097.98, will then notify the most likely descendent. At this time, the person who discovered the remains will contact the project archaeologist so that they may work with the MLD on the respectful treatment and disposition of the remains. Further provisions of PRC 5097.98 are to be followed as applicable.

Operational Impacts

There would be no impacts on cultural resources post-construction.

No-Build Alternative

Under the No-Build Alternative, the Albion River Bridge would not be replaced, and cultural resources would not be impacted.

Avoidance, Minimization, and/or Mitigation Measures

The following measures would be implemented:

AMM-CR-1: Known cultural resources, not located in the area of direct impact (ADI) of the proposed project, would be protected by temporary high visibility fencing (THVF) and marked as an environmentally sensitive area (ESA). Protocols for the establishment of ESAs and procedures in the event of an inadvertent breach of an ESA would be documented in the Cultural Resource Management Plan (CRMP), developed in consultation with the California State Historic Preservation Officer (SHPO) and attached to the Phased Programmatic Agreement (PA) (see **AMM-CR-2**).

AMM-CR-2: Following execution of the Phased PA and alternative selection, Caltrans would implement the CRMP, which is an attachment to the Phased PA. The CRMP would guide the further evaluation of CA-MEN-3652H [P-23-005516]), historic-era refuse deposits (CA-MEN-3653H), and a prehistoric site (CA-MEN-3645 [P-23-00584]). The CRMP would outline a Phased Identification approach and process through which a Finding of Effect for these sites would be determined in consultation with the SHPO and other consulting parties. The procedures for addressing an inadvertent discovery would also be located in the CRMP.

AMM-CR-3: To address adverse effects to the historic bridge, Caltrans would initiate historic bridge recordation using Level I or II Historic American Engineering Record (HAER) documentation, with copies held at local historical repositories and made available to the public. The HAER documentation would follow National Park Service guidelines for formal archival documentation, which consists of measured and interpretive drawings, historical reports, and large-format photographs.

Additional treatment measures to address adverse effects may include, but are not limited to:

- Public interpretative materials such as website materials and/or a short film about the history of the bridge, which could be shared through a local historical society, Mendocino County, and/or schools.
- A commemorative monument or interpretive exhibit(s) near the location of the new bridge. Caltrans would designate a location for interpretive panels focused on the history of the Albion Bridge and its surroundings.

- A short documentary film that would document the evolution and construction of the Albion Bridge and the greater Albion community. The film would be available for viewing on a Caltrans supported website and be made available for educational and interpretive purposes by the public.

Following public input and consultation with SHPO, and consulting parties, treatment measures would be finalized and documented in the CRMP.

AMM-CR-4: In consultation with SHPO, Caltrans would prepare an Archaeological Monitoring Plan, which would be included in the CRMP and attached to the Phased PA. The Archaeological Monitoring Plan would be implemented during construction. This plan would include establishing Resource Monitoring Area (RMAs) and having an archaeologist and Tribal representative monitor job site activities within the RMAs to identify any undiscovered resources, unanticipated effects, and to inform tribal communities that cultural resources being protected by ESAs remain effective. No work can be conducted within the RMAs unless archeological and Tribal monitors are present. The Archaeological Monitoring Plan would be updated following further investigations of CA-MEN-3652H [P-23-005516]), historic-era refuse deposits (CA-MEN-3653H), and prehistoric site (CA-MEN-3645 [P-23-00584]).

3.3 PHYSICAL ENVIRONMENT

3.3.1 Hydrology and Floodplain

Regulatory Setting

Executive Order (EO) 11988 (Floodplain Management) directs all federal agencies to refrain from conducting, supporting, or allowing actions in floodplains unless it is the only practicable alternative. The Federal Highway Administration (FHWA) requirements for compliance are outlined in 23 Code of Federal Regulations (CFR) 650 Subpart A.

To comply, the following must be analyzed:

- The practicability of alternatives to any longitudinal encroachments.
- Risks of the action.
- Impacts on natural and beneficial floodplain values.
- Support of incompatible floodplain development.
- Measures to minimize floodplain impacts and to preserve/restore any beneficial floodplain values affected by the project.

The base floodplain is defined as “the area subject to flooding by the flood or tide having a one percent chance of being exceeded in any given year.” An encroachment is defined as “an action within the limits of the base floodplain.”

Affected Environment

The information in this section is derived from the following assessments, reports, studies, and summaries completed for the proposed project:

- Draft Final Hydraulic Report (Caltrans 2024d), which was completed in January 2024
- Draft Hydraulics and Sediment Analysis Report (Caltrans 2020), which was completed in June 2020
- Water Quality Assessment Report (Caltrans 2023), which was completed in July 2023
- Preliminary Drainage Report (Caltrans 2024b), which was completed in January 2024
- Location Hydraulic Study (Caltrans 2024a), which was completed in January 2024
- Natural Environment Study (Caltrans 2024c), which was completed in May 2024

The Albion River Bridge spans the Albion River on State Route (SR) 1 in the community of Albion. The river flows primarily east to west and outlets into the Pacific Ocean

approximately 170 feet downstream of the bridge. However, the river is tidally influenced and subject to flow reversal.

The existing Albion River Bridge is approximately 155 feet above the river and spans a relatively narrow canyon. The largest expanse of floodplain underneath and adjacent to the bridge is referred to as the “Albion Flat,” which were once covered with buildings supporting large timber mill operations, but currently are developed as a campground with a marina and only a few buildings (Albion Campground and Marina [Albion Campground]).

The existing bridge is within and above a Federal Emergency Management Agency (FEMA) mapped designated floodplain area. FEMA Flood Insurance Rate Map Number 06045C1385G, shown in Figure 65, which became effective July 18, 2017, designates a Zone A 100-year floodplain/floodway at the bridge crossing and at the Albion Flat. Zone A is a designated 100-year floodplain without base flood elevations. The river is classified as a Regulatory Floodway. There is an existing revetment on Albion Flat between the Albion River and the Albion River Campground. Approximately 25 feet west of the bridge is designated Zone VE, which is a coastal hazard area with a 1 percent annual chance of experiencing floods. Zone VE is a Special Flood Hazard Area with a higher risk of damage from waves than, for example, Zone AE. The existing bridge structure has approximately 15 rows of timber or concrete tower supports within the 100-year floodplain.

The floodplain within the Albion River is naturally narrow due to the incised nature of the channel. This is characteristic not only of the channel and adjacent Flat within the project area, but also of the upstream river reaches and many contributing tributaries (U.S. Environmental Protection Agency 2001).

There has been armoring on the north bank of the Albion River for well over a hundred years as a means of isolating and protecting buildings and infrastructure (Caltrans 2024c). Historically, the armoring protected buildings and wood mill infrastructure from high waters. Now, armoring protects the campground, campground facilities, and access roads located within the floodplain. Current armoring takes the form of rock slope protection (or “rip-rap”) south of the Albion River Campground and Marina and at the river’s western end, while a high plastic sea wall extends upstream of the campground. These protective measures have further narrowed the available and functional floodplain by creating a barrier that disconnects the floodplain from the river channel during all but the highest elevation flood events.

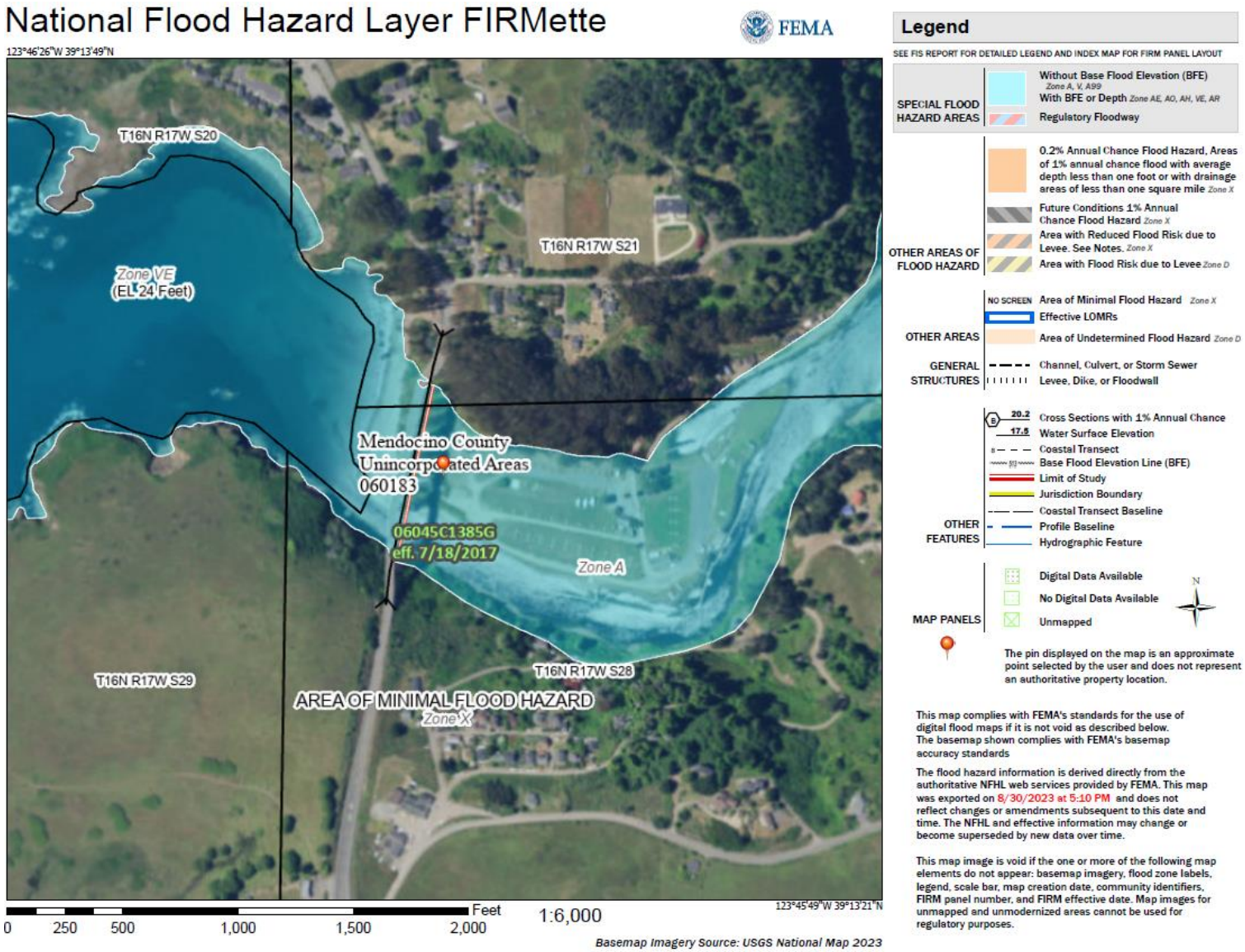


Figure 65. FEMA Flood Insurance Rate Map

Natural and Beneficial Floodplain Values

Natural and beneficial floodplain values associated within the Environmental Study Limits (ESL) include, but are not limited to, fish, wildlife, plants, open space, natural beauty, scientific study, outdoor recreation, agriculture, natural moderation of floods, water quality maintenance, and groundwater recharge.

As described further in Section 3.3.2, *Water Quality and Stormwater Runoff*, the North Coast RWQCB Basin Plan (Basin Plan) lists beneficial uses for the Albion River Hydrologic Subarea, which include the following (North Coast RWQCB 2018):

- **Existing:** Municipal and Domestic Supply; Agricultural Supply; Industrial Service Supply; Groundwater Recharge; Freshwater Replenishment; Navigation; Water Contact Recreation; Non-Contact Water Recreation; Commercial and Sport Fishing; Cold Freshwater Habitat; Wildlife Habitat; Rare, Threatened, or Endangered Species; Migration of Aquatic Organisms; Spawning, Reproduction, and/or Early Development; Estuarine Habitat
- **Potential:** Hydropower Replenishment; Industrial Process Supply; and Aquaculture

The Albion River is a navigable waterway and is an important recreational facility for the community, allowing for recreational boating and commercial and sport fishing. The privately-owned Albion Campground provides access to the Albion River, the Albion Cove, and other coastal resources. The floodplain currently contains campground infrastructure, roads, and hardscaping to protect the shoreline. In addition, Pacific Union College has a biological field station upstream of the Albion River Bridge. The river provides habitat for several special status species and the floodplain process is important for salmonids. Impacts on biological resources are discussed further in Section 3.4, *Biological Environment*.

Environmental Consequences

A “significant encroachment,” as defined in 23 CFR 650.105, is a highway encroachment and any direct support of likely base floodplain development that would involve one or more of the following construction or flood-related impacts:

- A significant potential for interruption or termination of a transportation facility that is needed for emergency vehicles or provides a community's only evacuation route;
- A significant risk (to life or property); or
- A significant adverse impact on natural and beneficial floodplain values.

Build Alternatives

Construction Impacts

Under all Build Alternatives, construction staging, trestle construction, vegetation removal, regrading, temporary surfacing, and access road construction would occur within the 100-year floodplain during the proposed project's construction phase. In addition, the Albion Campground's manager's residence could be relocated temporarily or permanently within the floodplain, which is described further in Section 3.2.7, *Relocations and Real Property Acquisition*.

Standard Measure **HF-1** would be implemented requiring that the proposed project not result in a substantial backflow during a flood event. In addition, Measure **AMM-HF-1** would be implemented requiring monitoring and removing debris that pose a threat to temporary and permanent infrastructure and channel/bank stability.

SR 1 is the community's only evacuation route within the project area and there are no practicable alternative routes during a full bridge closure. A public outreach program would be implemented in accordance with Measure **AMM-PR-1**, and a Transportation Management Plan (TMP) would be implemented for the proposed project, as required by the Standard Measures **GHG-4** and **TT-3** in Section 2.2.5, *Common Design Features of the Build Alternatives*.

Caltrans has determined that the proposed construction activities would not result in a significant encroachment under any of the Build Alternatives (Caltrans 2024b).

Operational Impacts

The proposed bridge would be approximately 47 feet wide, 163 to 164 feet tall, and vary in length from approximately 943 feet to 1,157 feet, depending on Build Alternative. As such, the new structure would be 8 to 9 feet higher than the existing bridge. In addition, the roadway surface would be over 100 feet above the base flood elevation.

The proposed bridge would cross the Albion River at a slight skew. Proposed structure foundations and abutments have been positioned to minimize encroachment on the floodplain. There are up to two foundations/piers that would be constructed in the floodplain, depending on the alternative. Potential location for bridge structures within the floodplain are shown in Figure 66. The existing bridge is a timber trestle with approximately 15 rows of timber or concrete tower supports within the 100-year floodplain, all of which would be removed, except for the concrete foundation on the north bank of Albion River. In order to maintain the current geomorphic processes after replacement of the existing bridge, it was recommended that the lower concrete portion of the existing pier (i.e., the foundation) remain in place. The large foundation is helping maintain the form of the beach including the vegetated sand berm, while preventing beach erosion (Caltrans 2020).

A draft Final Hydraulic Report (Caltrans 2024d) was prepared for the proposed project. According to the report, there would be no anticipated change in the lateral extents of

the floodplain from existing to proposed conditions for all Build Alternatives. The report addresses any potential scour, hydraulic, and floodplain impacts. The Build Alternatives were analyzed through hydraulic modeling and determined not to cause any significant hydraulic or scour-related issues. The proposed project would not change the water surface elevation for the 100-year floodplain under any Build Alternative, which is approximately 11.2 feet.

The proposed project would not require FEMA map revisions to the floodplain. As described in Section 2.2.5, *Common Design Features of the Build Alternatives*, Standard Measure **HF-1** would be implemented requiring that no new structures would be placed that would result in a substantial backflow during a flood event. The Build Alternatives would be designed to allow for the free flow of the Albion River and maintain clear passage under the bridge for typical boats that frequent the river. Navigational clearance requirements would be met under all Build Alternatives.

In addition, Standard Measure **HF-2** would be implemented. This requires that existing bridge pilings be removed to approximately 3 feet below bed of channel, except the foundation located on the north bank of the Albion River as described above.

According to the project's Location Hydraulic Study (Caltrans 2024a), the proposed project would not cause a longitudinal encroachment of the base floodplain, propose actions that support probable incompatible floodplain development, result in significant impacts on natural and beneficial floodplain values, or constitute a significant floodplain encroachment as defined in 23 CFR Section 650.105(q). Therefore, the proposed project would not be a significant encroachment under all Build Alternatives.

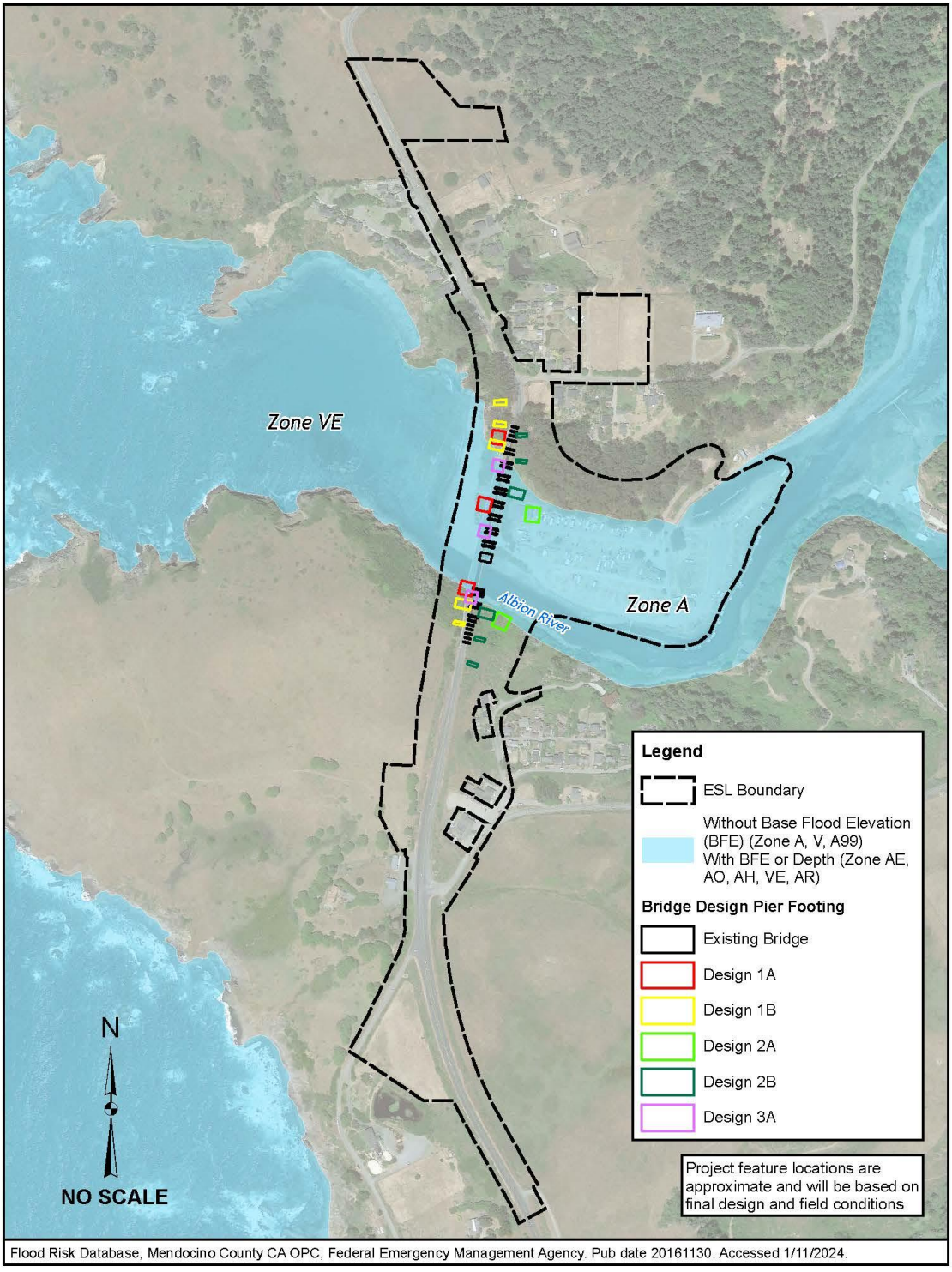


Figure 66. Foundations in FEMA Floodplain

No-Build Alternative

Under the No-Build Alternative, the Albion River Bridge would not be replaced, and hydrology and floodplains would not be impacted.

Avoidance, Minimization, and/or Mitigation Measures

Applicable measures from other resource categories that are referenced in this chapter include Measures **AMM-PR-1** and **AMM-TT-1**. These measures would be implemented and are described in Appendix D, *Avoidance, Minimization, and/or Mitigation Summary*. Additionally, the following resource-specific measure would be implemented:

AMM-HF-1: During construction, the site would be monitored on a regular basis as well as each time the National Weather Service issues a flood risk warning at the closest monitoring station (Fort Bragg) to assess the potential for debris loading and implement measures, as determined feasible, to remove staged materials and racked debris that poses a threat to temporary and permanent infrastructure and channel/bank stability. Measures would include the use of on-site equipment (e.g., excavators) to remove staged materials from the site in advance of a flood event, and to dislodge or remove and dispose of racked debris caught on temporary trestles in the river, when site conditions allow for the safe removal of debris.

3.3.2 Water Quality and Stormwater Runoff

Regulatory Setting

Federal Requirements: Clean Water Act

In 1972, Congress amended the Federal Water Pollution Control Act, making the addition of pollutants to the waters of the United States (U.S.) from any point source unlawful unless the discharge is in compliance with a National Pollutant Discharge Elimination System (NPDES) permit. This act and its amendments are known today as the Clean Water Act (CWA). Congress has amended the act several times. In the 1987 amendments, Congress directed dischargers of storm water from municipal and industrial/construction point sources to comply with the NPDES permit scheme. The following are important CWA sections:

- Sections 303 and 304 require states to issue water quality standards, criteria, and guidelines.
- Section 401 requires an applicant for a federal license or permit to conduct any activity that may result in a discharge to waters of the U.S. to obtain certification from the state that the discharge will comply with other provisions of the act. This is most frequently required in tandem with a Section 404 permit request (see below).
- Section 402 establishes the NPDES, a permitting system for the discharges (except for dredge or fill material) of any pollutant into waters of the U.S. Regional Water Quality Control Boards (RWQCBs) administer this permitting program in California. Section 402(p) requires permits for discharges of storm water from industrial/construction and municipal separate storm sewer systems (MS4s).
- Section 404 establishes a permit program for the discharge of dredge or fill material into waters of the U.S. This permit program is administered by the U.S. Army Corps of Engineers (USACE).

The goal of the CWA is “to restore and maintain the chemical, physical, and biological integrity of the Nation’s waters.”

The USACE issues two types of 404 permits: General and Individual. There are two types of General permits: Regional and Nationwide. Regional permits are issued for a general category of activities when they are similar in nature and cause minimal environmental effect. Nationwide permits are issued to allow a variety of minor project activities with no more than minimal effects.

Ordinarily, projects that do not meet the criteria for a Regional or Nationwide Permit may be permitted under one of the USACE’s Individual permits. There are two types of Individual permits: Standard permits and Letters of Permission. For Individual permits, the USACE decision to approve is based on compliance with U.S. Environmental

Protection Agency's (U.S. EPA) Section 404 (b)(1) Guidelines (40 Code of Federal Regulations [CFR] Part 230), and whether the permit approval is in the public interest. The Section 404(b)(1) Guidelines (Guidelines) were developed by the U.S. EPA in conjunction with the USACE, and allow the discharge of dredged or fill material into the aquatic system (waters of the U.S.) only if there is no practicable alternative which would have less adverse effects. The Guidelines state that the USACE may not issue a permit if there is a least environmentally damaging practicable alternative (LEDPA) to the proposed discharge that would have lesser effects on waters of the U.S. and not have any other significant adverse environmental consequences. According to the Guidelines, documentation is needed that a sequence of avoidance, minimization, and compensation measures has been followed, in that order. The Guidelines also restrict permitting activities that violate water quality or toxic effluent[12] standards, jeopardize the continued existence of listed species, violate marine sanctuary protections, or cause "significant degradation" to waters of the U.S. In addition, every permit from the USACE, even if not subject to the Section 404(b)(1) Guidelines, must meet general requirements. See 33 CFR 320.4. A discussion of the LEDPA determination, if any, for the document is included in Section 3.4.2, Wetlands and Other Waters.

State Requirements: Porter-Cologne Water Quality Control Act

California's Porter-Cologne Act, enacted in 1969, provides the legal basis for water quality regulation within California. This act requires a "Report of Waste Discharge" for any discharge of waste (liquid, solid, or gaseous) to land or surface waters that may impair beneficial uses for surface and/or groundwater of the state. It predates the CWA and regulates discharges to waters of the state. Waters of the state include more than just waters of the U.S., like groundwater and surface waters not considered waters of the U.S. Additionally, it prohibits discharges of "waste" as defined, and this definition is broader than the CWA definition of "pollutant." Discharges under the Porter-Cologne Act are permitted by Waste Discharge Requirements (WDRs) and may be required even when the discharge is already permitted or exempt under the CWA.

The State Water Resources Control Board (SWRCB) and RWQCBs are responsible for establishing the water quality standards (objectives and beneficial uses) required by the CWA and regulating discharges to ensure compliance with the water quality standards. Details about water quality standards in a project area are included in the applicable RWQCB Basin Plan. In California, RWQCBs designate beneficial uses for all water body segments in their jurisdictions and then set criteria necessary to protect those uses. As a result, the water quality standards developed for particular water segments are based on the designated use and vary depending on that use. In addition, the SWRCB identifies waters failing to meet standards for specific pollutants. These waters are then state-listed in accordance with CWA Section 303(d). If a state determines that waters are impaired for one or more constituents and the standards cannot be met through point source or non-point source controls (NPDES permits or WDRs), the CWA

[12] The U.S. EPA defines "effluent" as "wastewater, treated or untreated, that flows out of a treatment plant, sewer, or industrial outfall."

requires the establishment of Total Maximum Daily Loads (TMDLs). TMDLs specify allowable pollutant loads from all sources (point, non-point, and natural) for a given watershed. The SWRCB implemented the requirements of CWA Section 303(d) through Attachment D of the Caltrans Statewide MS4, as it includes specific TMDLs for which Caltrans is the named stakeholder.

State Water Resources Control Board and Regional Water Quality Control Boards

The SWRCB administers water rights, sets water pollution control policy, and issues water board orders on matters of statewide application, and oversees water quality functions throughout the state by approving Basin Plans, TMDLs, and NPDES permits. RWCQBs are responsible for protecting beneficial uses of water resources within their regional jurisdiction using planning, permitting, and enforcement authorities to meet this responsibility.

National Pollutant Discharge Elimination System (NPDES) Program

Municipal Separate Storm Sewer Systems (MS4)

Section 402(p) of the CWA requires the issuance of NPDES permits for five categories of storm water discharges, including MS4s. An MS4 is defined as “any conveyance or system of conveyances (roads with drainage systems, municipal streets, catch basins, curbs, gutters, ditches, human-made channels, and storm drains) owned or operated by a state, city, town, county, or other public body having jurisdiction over storm water, that is designed or used for collecting or conveying storm water.” The SWRCB has identified Caltrans as an owner/operator of an MS4 under federal regulations. Caltrans’MS4 permit covers all Caltrans rights of way, properties, facilities, and activities in the state. The SWRCB or the RWQCB issues NPDES permits for 5 years, and permit requirements remain active until a new permit has been adopted.

Caltrans’MS4 Permit, NPDES No. CAS000003, SWRCB Order No. 2022-0033-DWQ (adopted on June 22, 2022 and effective on January 1, 2023), contains three basic requirements:

1. Caltrans must comply with the requirements of the Construction General Permit (see below);
2. Caltrans must implement a year-round program in all parts of the State to effectively control storm water and non-storm water discharges; and
3. Caltrans storm water discharges must meet water quality standards through implementation of permanent and temporary (construction) Best Management Practices (BMPs), to the maximum extent practicable, and other measures as the SWRCB determines to be necessary to meet the water quality standards.

To comply with the permit, Caltrans developed the Statewide Storm Water Management Plan (SWMP) to address storm water pollution controls related to highway planning, design, construction, and maintenance activities throughout California. The SWMP assigns responsibilities within Caltrans for implementing storm water management

procedures and practices as well as training, public education and participation, monitoring and research, program evaluation, and reporting activities. The SWMP describes the minimum procedures and practices Caltrans uses to reduce pollutants in storm water and non-storm water discharges. It outlines procedures and responsibilities for protecting water quality, including the selection and implementation of BMPs. The proposed project will be programmed to follow the guidelines and procedures outlined in the latest SWMP to address storm water runoff.

Construction General Permit

Construction General Permit (CGP; NPDES No. CAS000002, SWRCB Order No. 2022-0057-DWQ) was adopted September 8, 2022, and became effective on September 1, 2023. The permit regulates stormwater discharges from construction sites that result in a Disturbed Soil Area (DSA) of 1.0 acre or greater, and/or are smaller sites that are part of a larger common plan of development. The most significant change from the previous Order No. 2009-0009-DWQ and amendments is the inclusion of TMDL requirements applicable to construction stormwater discharge. Many of the TMDL monitoring requirements are triggered where construction related discharge potentially includes the TMDL pollutant of concern to an impaired water body. Additional construction BMPs may be necessary to meet the TMDL requirement.

For all projects subject to the CGP, the applicant is required to hire a Qualified Storm Water Pollution Prevention Plan (SWPPP) Developer to develop and implement an effective SWPPP. All Project Registration Documents, including the SWPPP, are required to be uploaded into the SWRCB's on-line Stormwater Multiple Application and Report Tracking System (SMARTS), prior to the commencement of construction activity. Construction activity cannot commence until the waste discharge identification (WDID) number is issued.

Waivers from Construction General Permit Coverage

Projects that disturb over 1.0 acre but less than 5 acres of soil may qualify for waiver of CGP coverage. This occurs whenever the R factor of the Watershed Erosion Estimate (=R*K*LS) in tons/acre is less than 5. Within this CGP formula, the R factor is related to when and where the construction will take place. When the R factor is below the numeric value of 5, projects can be waived from coverage under the CGP (a "Low Erosivity Waiver") and are instead covered by the Caltrans Statewide MS4.

Construction activity that results in soil disturbances of less than 1 acre is subject to this CGP if there is potential for significant water quality impairment resulting from the activity as determined by the RWQCB. Operators of regulated construction sites are required to develop a SWPPP, to implement soil erosion and pollution prevention control measures, and to obtain coverage under the CGP.

Preliminary Risk Level Assessment

The CGP contains a risk-based permitting approach by establishing three levels of risk possible for a construction site. Risk Levels (RL) are determined during the planning, design, and construction phases, and are based on a project's combined risk of generating sediments (based on the equation R*K*LS) and risk to impairing receiving water. Requirements apply according to the RL determined.

A preliminary RL Assessment, per the CGP (2022-0057-DWQ), was completed using the Caltrans Water Quality Planning Tool and the RL Determination Worksheet. The CGP is a risk-based permit that establishes three levels of environmental risk possible for a construction site. The RL is calculated in two parts: (1) Project Sediment Risk, and (2) Receiving Water Risk. The CGP RL determination quantifies sediment and receiving water characteristics and uses these results to determine the project's overall RL. Highly erodible soils, in higher rainfall areas, on steep slopes increase the "sediment risk." Monitoring and reporting requirements increase as the RL goes from 1 to 3.

Section 401 Permitting

Under Section 401 of the CWA, any project requiring a federal license or permit that may result in a discharge to a water of the U.S. must obtain a 401 Certification, which certifies that the project will be in compliance with state water quality standards. The most common federal permits triggering 401 Certification are CWA Section 404 permits issued by the USACE. The 401 permit certifications are obtained from the appropriate RWQCB, dependent on the project location, and are required before the USACE issues a 404 permit.

In some cases, the RWQCB may have specific concerns with discharges associated with a project. As a result, the RWQCB may issue a set of requirements known as WDRs under the State Water Code (Porter-Cologne Act) that define activities, such as the inclusion of specific features, effluent limitations, monitoring, and plan submittals that are to be implemented for protecting or benefiting water quality. WDRs can be issued to address both permanent and temporary discharges of a project.

CWA Section 401 regulations allow the Executive Officer of the Regional Boards wide discretion in implementing Basin Plan requirements and water quality objectives (WQO), including Section 303(d) of the CWA. The proposed project is within SWRCB Region 1. Water quality regulations within the project limits are administered by the North Coast RWQCB, which regulates stormwater and non-stormwater discharges through the 401 Water Quality (401) certification program. The North Coast RWQCB requires that projects subject to 401 certification evaluate the implementation of post-construction stormwater treatment BMPs to treat stormwater discharged from the Caltrans right of way and implement them when there is an increase in impervious surface area of 5,000 square feet or more.

Affected Environment

This section is based on the proposed project's Water Quality Assessment Report (Caltrans 2023a), which was completed in July 2023

Hydrology

Regional Hydrology

The existing Albion River Bridge is within the Albion River watershed (Hydrologic Unit Code 180101080801), Mendocino Coast Hydrologic Unit, Albion River Hydrologic Area, and Albion River Hydrologic Subarea (#113.40) (Caltrans 2023b). The Albion River watershed extends approximately 43 square miles (27,309 acres) (Caltrans 2023b). The northern portion of the proposed project's Environmental Study Limits (ESL) is within the Big Salmon Creek-Frontal Pacific Ocean watershed (1801080802).

According to the California Department of Water Resources' Sustainable Groundwater Management Act (SGMA) Map Viewer, the existing bridge is not within a delineated groundwater basin (California Department of Water Resources 2023). However, the area north of Albion Little River Road is within the Fort Bragg Terrace Area (1-02) Bulletin 118 Groundwater Basin from post mile (PM) 43.9 to PM 44.2. California's Groundwater (Bulletin 118) is the State's official publication on the occurrence and nature of groundwater in California. The Fort Bragg Terrace Area consists of a series of discontinuous, uplifted marine terrace deposits that lie along the northern California coastline within Mendocino County. This area of terrace deposits extends for approximately 50 miles along the coast from near Rockport on the north end to Point Arena on the south end. They extend inland from 0.2 mile to approximately 5 miles. There are no critically overdrafted basins in Mendocino County (California Department of Water Resources 2023).

Climate

The proposed project is located within the California Floristic Province, Northwest Region, North Coast subregion, along the Pacific Ocean. The region has a Mediterranean climate characterized by wet, cool winters, and dry, mild, foggy summers (Caltrans 2023a). The maximum average temperature reported for the Albion area was 67 degrees Fahrenheit (º F) during the summer months, and the lowest average temperature is 40º F during the winter months. The average annual precipitation in the region is approximately 41 inches (Western Regional Climate Center n.d).

Topography

The existing Albion River Bridge is located along the marine terrace and bluffs adjacent to the coastline of the Pacific Ocean. The average elevation ranges from approximately 0 to 180 feet above mean sea level. Topography is nearly level, except where the bluffs slope down toward the Albion River and Albion Flat Beach.

Aquatic Environment

Section 3.4, *Biological Environment*, contains detailed information on all pertinent aquatic environmental features. These features include wetlands and other waters, fish passage, special status species, and existing aquatic organisms. Impacts on wetlands and other waters are described in Section 3.4.2, *Wetlands and Other Waters*.

Water Quality Objectives, Standards, and Beneficial Uses

Surface Water Objectives, Standards, and Beneficial Uses

The North Coast RWQCB Basin Plan (Basin Plan) lists the following beneficial uses for waters within the Albion River Hydrologic Subarea (North Coast RWQCB 2018).

- **Existing:** Municipal and Domestic Supply; Agricultural Supply; Industrial Service Supply; Groundwater Recharge; Freshwater Replenishment; Navigation; Water Contact Recreation; Non-Contact Water Recreation; Commercial and Sport Fishing; Cold Freshwater Habitat (COLD); Wildlife Habitat; Rare, Threatened, or Endangered Species; Migration of Aquatic Organisms; Spawning, Reproduction, and/or Early Development (SPWN); Estuarine Habitat
- **Potential:** Hydropower Replenishment; Industrial Process Supply; and Aquaculture

According to the Basin Plan, surface waters with the beneficial uses of COLD and SPWN must conform to numerical WQOs for dissolved oxygen, as shown in Table 29. The Basin Plan also includes specific WQOs for the Mendocino Coast Hydrologic Unit, which only includes a maximum hydrogen ion (pH) of 8.5 and a minimum pH of 6.5. (North Coast RWQCB 2018).

Table 29. Dissolved Oxygen Water Quality Objectives for North Coast Region Surface Waters

Beneficial Use	Daily Minimum Objective (mg/L)	7-Day Moving Average Objective (mg/L) [1]
Cold Freshwater Habitat (COLD) [1]	6.0	8.0
Spawning, Reproduction, and/or Early Development (SPWN) [2]	9.0	11.0

Source: (Caltrans 2023a)
Acronyms: mg/L= milligrams per liter
Notes:

1. Water quality objectives (WQO) designed to protect COLD-designated waters are based on the aquatic life-based requirements of salmonids but apply to all waters designated in Table 2 of the Basin Plan as COLD regardless of the presence or absence of salmonids.
2. WQOs designed to protect SPWN-designated waters apply to all fresh waters designated in Table 2 of the Basin Plan as SPWN in those reaches and during those periods of time when spawning, egg incubations, and larval development are occurring or have historically occurred. The period of spawning, egg incubations, and emergence generally occurs in the North Coast Region between the dates of September 15 and June 4.

The beneficial uses impaired by excessive sediment in the Albion River watershed are primarily those associated with the salmonid fishery: commercial sport fishing, cold freshwater habitat, estuarine habitat, migration of aquatic organisms and spawning and reproduction and/or early development. Additionally, the Basin Plan identifies municipal, industrial, agricultural, and recreational uses of the Albion River Watershed. The beneficial uses of water related to rare, threatened, or endangered species have been proposed for this basin and approved by the Regional Water Board and State Water Board. As with many of the north coast watersheds, the beneficial uses associated with cold water fishery appear to be the most sensitive of the beneficial uses in the watershed because of the sensitivity of salmonid species to habitat changes and water quality degradation. Accordingly, protecting cold water fishery is presumed to protect other beneficial uses.

Existing Water Quality

The SWRCB's 2020-2022 California Integrated Report lists the Albion River as an impaired water body for water temperature and sedimentation/siltation (SWRCB 2022). The sources of these impairments include flow alteration, regulation, or modification; channel erosion; construction or land development; erosion or siltation; logging road construction or maintenance; nonpoint source; removal of riparian vegetation; and silviculture.

The Albion River TMDL for sediment was approved by the U.S. EPA in 2001. The *TMDL Implementation Policy Statement for Sediment-Impaired Receiving Waters in the North Coast Region* was approved by the North Coast RWQCB under Resolution R1-2004-0087.

The Caltrans MS4 Permit identifies general requirements for TMDLs and specific TMDL control requirements for sediment in Attachments D and A of the permit, respectively. The 2022 Caltrans MS4 Permit requires load reductions of 5 tons per year by 2034 in the Albion River watershed. These can be accomplished by implementing post-construction treatment BMPs, pursuing cooperative agreements with municipalities or other agencies, inspecting roads, and complying with the CGP.

Environmental Consequences

Build Alternatives

Construction Impacts

Replacement of the Albion River Bridge could result in temporary impacts on water quality during construction. Construction activities would result in clearing vegetation and exposing soil within the ESL, which would increase the potential for soil erosion. Clearing vegetation could also potentially cause temporary reduction in shade to adjacent waters, allowing direct sunlight, which may increase temperature and subsequently decrease the amount of dissolved oxygen. Soil erosion could also occur at accelerated rates during rain events. Equipment and material would be located on the Albion Flat in the Albion River Campground and Marina (Albion Campground). Construction equipment and vehicles could also inadvertently track sediment from the construction site onto adjacent roadways, which could potentially be conveyed to stormwater drainage systems and receiving waters. Bridge removal and related construction activities could also result in material and pollutants falling into the Albion River. Additional pollutants that could impact water quality during construction include sediment/dust, concrete waste (dry and wet), sanitary waste, trash, metals, and chemicals, including gasoline, oils, grease, solvents, lubricants, and other petroleum products. Also, temporary trestle decks would be periodically swept and kept free from excess debris in conjunction with a debris catchment system.

All Build Alternatives would have a DSA greater than 1 acre of soil, ranging from approximately 24.32 acres to 26.25 acres, depending on the design option (see Table 31). As described in Section 2.2.5, *Common Design Features of the Build Alternatives*, Standard Measure **WQ-1** would be implemented requiring that an SWPPP be prepared to comply with the applicable conditions of the Construction General Permit in effect at the time of construction. In addition, Standard Measure **WQ-2** would be implemented, requiring that the construction contractor incorporate pollution prevention and design measures consistent with the stormwater management plan in effect at the time of construction.

Potential temporary impacts on water quality would be addressed by implementing standard BMPs, which can be found in Caltrans *Stormwater Quality Handbooks: Construction Site Best Management Practices (BMPs) Manual* (Caltrans 2017). Temporary control BMPs that could be implemented to address stormwater impacts and to protect water quality during construction are listed in Table 30 and include the following: soil stabilization, sediment control, tracking control, wind control, non-stormwater management, waste management, material pollution control, and job site management.

Table 30. Construction Site Project Features (Temporary BMPs)

Project Feature (Temporary BMP)	Purpose
Soil Stabilization	
Scheduling	A schedule that includes sequencing of construction activities with the implementation of construction site BMPs, such as temporary soil stabilization and temporary sediment control measures.
Move-In/Move-Out	Mobilization locations where permanent erosion control or revegetation to stabilize disturbed areas is required within the project.
Preservation of Existing Vegetation	Preserve vegetation for erosion and sediment control and existing wildlife.
Temporary Cover	Covers for stockpiles.
Streambank stabilization	Erosion control blankets and additional sediment control BMPs to reduce the discharge of sediment and other pollutants to watercourses.
Sediment Control	
Temporary Fiber Rolls	Degradable fibers rolled tightly and placed on the toe and face of slopes to intercept runoff.
Temporary Silt Fence	Linear, permeable fabric barriers to intercept sediment-laden sheet flow. Placed downslope of exposed soil areas, along channels, and proposed project perimeter.
Temporary Gravel Bag Berm	Single row of gravel bags installed end to end to form a barrier to intercept runoff. Can be used to divert or detain moderately concentrated flows.
Temporary Drainage Inlet Protection	Protection consists of devices used at storm drain inlets that detain and/or filter sediment-laden runoff prior to discharge into storm drainage systems.
Check Dams	Reduce scour and channel erosion by reducing flow velocity and encouraging sediment settlement.
Tracking Control	
Temporary Construction Entrances/Exits	Points of entrance/exit to a construction site that are stabilized to reduce the tracking of mud and dirt onto public roads.
Street Sweeping	Removal of tracked sediment to prevent it from entering a storm drain or watercourse.
Wind Control	
Wind Erosion Control	Applying water or other dust palliatives as necessary to prevent or alleviate erosion by forces of wind.
Non-Stormwater Management	
Dewatering Operations • Dust-control • Transport to a publicly-owned treatment works facility • Upland disposal	Dewatering activities associated with stormwater and non-stormwater to prevent the discharge of pollutants from the construction site.
Clear Water Diversion	System that intercepts surface water upstream of a work area and transports and discharges it to another location with minimal water quality degradation.
Material and Equipment Use Over Water	Proper use, storage, and disposal of materials and equipment on barges, boats, temporary construction pads, or similar locations that minimize or eliminate the discharge of potential pollutants into storm drain inlets or receiving waters.

Project Feature (Temporary BMP)	Purpose
Pile Driving Operations	Proper control and use of equipment, materials, and waste products from pile driving operations will reduce the discharge of potential pollutants to the storm drain system or receiving waters.
Waste Management and Materials Pollution Control	
Temporary Concrete Washout Facilities	Specified concrete vehicle and equipment washing areas to contain concrete waste materials.
Job Site Management	
General measures covered under job site management include: • Spill prevention and control • Materials Use • Materials Delivery and Storage • Stockpile Management • Waste Management • Hazardous Waste Management • Concrete Waste • Sanitary and Liquid Waste	Non-stormwater management consists of: • Water control and conservation; • Illegal connection and discharge detection and reporting; • Vehicle and equipment cleaning, fueling, and maintenance; • Paving, sealing, saw cutting, and grinding operations; • Thermoplastic striping and pavement markers; and • Concrete curing and concrete finishing.

Sources: (Caltrans 2023a; 2017)

The CGP separates projects into RL 1, 2, and 3. Each risk level requires non-stormwater visual monitoring, and also includes visual observance of stormwater discharges, post-storm inspections, and monitoring for non-visible pollutants in accordance with the CGP. The RL for all Build Alternatives was preliminarily determined to be RL 2. Therefore, in addition to implementing temporary BMPs, the construction contractor would also be required to collect samples of runoff and comply with numeric action level limits for pH and turbidity.

Further evaluation of the DSA and necessary BMPs for the proposed project would be detailed during the PS&E phase. During construction, the construction contractor would be required to detail the actual in-field implementation of the BMPs in the SWPPP and amend the document as necessary to match field conditions and phasing of the proposed project.

With implementation of the standard measures described in Section 2.2.5, *Common Design Features of the Build Alternatives*, BMPs, and other project features that are protective of water quality, anticipated temporary impacts related to pollutants in stormwater runoff are not expected to be adverse.

Dewatering

Dewatering would be necessary to create a dry work zone within shored areas to facilitate construction of the replacement bridge and removal of the existing bridge. Prior to dewatering, a Construction Site Dewatering Plan prepared pursuant to Caltrans' *Field Guide for Construction Dewatering* (Caltrans 2014) would be developed describing the dewatering operations. Dewatering would generally involve containment and pre-treatment (if necessary) by pumping water through flexible pipes and hoses to a storage location upland at the Albion Campground (e.g., baker tanks,

temporary infiltration basin) where the water could be treated (if necessary) and reused, subject to regulatory permit conditions.

SWRCB Quality Order No. 2003-0003-DWQ, *Statewide General Waste Discharge Requirements (WDRs) for Dischargers to Land with a Low Threat to Water Quality*, covers discharges to land with a low threat to water quality, subject to certain provisions. The proposed project would likely seek coverage under the referenced General Order or an equivalent general order or obtain an individual WDR from the North Coast RWQCB for dewatering discharges to land.

North Coast RWQCB Order No. R1-2020-0006 and General NPDES No. CAG0024902, *Waste Discharge Requirements for Low Threat Discharges to Surface Waters in the North Coast Region*, covers construction groundwater dewatering, provided that (1) the discharge does not contain pollutant quantities that could adversely affect beneficial uses, and (2) the discharge meets specific criteria listed in the Regional Basin Plan.

Operational Impacts

The proposed project under all Build Alternatives includes the replacement of the Albion River Bridge with a new bridge structure and the improvement of ancillary roadways and intersections in the vicinity of the bridge. It would also include the re-establishment of roadside drainages and culverts, which would be located and sized to accommodate anticipated surface runoff. The proposed project would also involve permanent grading of slopes, which may affect natural erosion and accretion patterns. This could potentially have permanent, beneficial impacts by reducing erosion.

As described in Section 2.2.5, *Common Design Features of the Build Alternatives*, design pollution prevention BMPs would be implemented and may include the following:

- Erosion control fabric or netting and hydroseeding to stabilize newly graded slopes.

- Climate-appropriate landscaping that reduces the need for irrigation and runoff, promotes surface infiltration, and limits the use of pesticides and fertilizers, in accordance with the statewide Model Water Efficiency Landscape Ordinance.

In accordance with Measure **AMM-WQ-1**, all erosion control fabric would be natural fiber, not plastic.

As shown in Table 31, it is estimated that the Build Alternatives would result in a permanent increase of net new impervious surface area of approximately 1.23 acres to 1.34 acres depending on the design option. Attachment C of the CGP, Order 2022-0033-DWQ, decreased the new impervious surface (NIS) threshold for post-construction treatment from 43,560 square feet (1.0 acre) to 10,000 square feet. Post-construction stormwater controls for the project would also be a condition of the Section 401 Water Quality Certification. Since the proposed project would require a

Section 401 Water Quality Certification from the North Coast RWQCB, the NIS threshold is reduced further to 5,000 square feet.

Stormwater runoff from impervious roadway surfaces and bridge approaches would be discharged as sheet flow to biofiltration strips and/or biofiltration swales following highway drainages work. Additionally, the replacement of culverts with appropriate design pollution prevention measures and stormwater treatment would be an improvement to water quality. Runoff from the bridge deck would be captured and routed from the bridge at the abutments and discharged to vegetated or rock-lined ditches.

The post-construction treatment controls would address potential stormwater impacts after construction is completed by reducing pollutant loads in runoff prior to reaching a downstream receiving water. The treatment controls would be located and sized in accordance with the permit requirements, prioritizing treatment types that infiltrate, harvest, reuse, and/or evapotranspire the stormwater runoff.

The design details and calculations for post-construction stormwater treatment controls would be further developed prior to construction. It is currently anticipated that all new impervious surfaces would be fully treated within the ESL. The post-construction treatment goal for the proposed project is to fully treat new impervious surface (see Table 31).

The existing Albion River Bridge is partially composed of Douglas-fir timbers treated with wood preservative. The wood preservative contains both arsenic oxide and chromic acid. Soil investigations have indicated the presence of elevated metals (arsenic, lead, zinc, and chromium) beneath the Albion River Bridge site (Caltrans 2020). The primary contaminant of concern is arsenic based on elevated levels encountered in the immediate vicinity of, and on the surface of, the concrete pedestal-type bridge bent foundations. The arsenic levels decrease rapidly with distance (within a few feet) from the concrete footings to within the range that is considered background. All Build Alternatives would replace the existing bridge, which would reduce the risk of further water quality impacts from wood preservative leaching into the Albion River.

No-Build Alternative

Under the No-Build Alternative, the Albion River Bridge would not be replaced, and wood preservatives would continue to leach into the surrounding environment, impacting water quality.

Avoidance, Minimization, and/or Mitigation Measures

The following resource-specific measure would be implemented:

AMM-WQ-1: All erosion control fabric would be natural fiber, not plastic.

Table 31. Impervious Surface Area, Postconstruction Treatment Area, and Disturbed Surface Area for All Build Alternatives

Design Option	Pre-Project Impervious Area	Post-Project Impervious Area	Net New Impervious (NNI) Area	Replaced Impervious Surface (RIS) Area	Excluded Impervious (EIA) Area	New Impervious Surface (NIS) Area	Post-Construction Treatment Area (PCTA)	Disturbed Soil Area (DSA)
1A	4.67	5.89	1.23	0.20	0.17	1.25	1.25	25.56
1B	4.67	5.89	1.23	0.20	0.17	1.25	1.25	26.25
2A	4.67	6.00	1.34	0.41	0.18	1.56	1.56	24.49
2B	4.67	5.90	1.23	0.75	0.18	1.80	1.80	24.32
3A	4.67	5.93	1.27	0.81	0.15	1.93	1.93	25.28

3.3.3 Geology/Soils/Seismic/Topography

Regulatory Setting

For geologic and topographic features, the key federal law is the Historic Sites Act of 1935, which establishes a national registry of natural landmarks and protects "outstanding examples of major geological features." Topographic and geologic features are also protected under the California Environmental Quality Act (CEQA).

This section also discusses geology, soils, and seismic concerns as they relate to public safety and project design. Earthquakes are prime considerations in the design and retrofit of structures. Structures are designed using Caltrans' Seismic Design Criteria (SDC). The SDC provides the minimum seismic requirements for highway bridges designed in California. A bridge's category and classification will determine its seismic performance level and which methods are used for estimating the seismic demands and structural capabilities. For more information, please see the Caltrans Division of Engineering Services, Office of Earthquake Engineering, Seismic Design Criteria.

Affected Environment

The information in this section is derived from the following technical studies that were prepared for the proposed project:

- Paleontological Identification Report/Paleontological Evaluation Report (Earthview Sciences 2023), which was completed in June 2023
- Revised Preliminary Foundation Report (Caltrans 2014), which was completed in February 2014
- Draft Final Hydraulic Report (Caltrans 2024b), which was completed in January 2024
- Albion River Bridge Sand Supply Memorandum (Caltrans 2024a), which was completed in January 2024

Figure 67 shows the underlying topography within the ESL—the anticipated boundary of potential impacts—and surrounding areas, while Figure 68 shows the underlying geology.

The proposed project lies within the Coast Ranges Geomorphic Province. These ranges are northwest/southeast-trending mountains and valleys that are roughly parallel to the San Andreas Fault Zone. The mountain cores are typically Mesozoic to Cenozoic in age (less than 250 million years old) and are composed of both metamorphic and sedimentary rocks. These deposits have subsequently been uplifted and complexly deformed by Cenozoic convergent tectonic processes followed by broad, wide-scale thrusting due to the northward migration of the Mendocino Triple Junction and San Andreas Fault Zone (Bachman et al. 1984). Pleistocene and younger sediments overlie marine, wave-cut terraces eroded into these older rock units (Bachman et al. 1984; Leibson 2004; Lock et al. 2006).

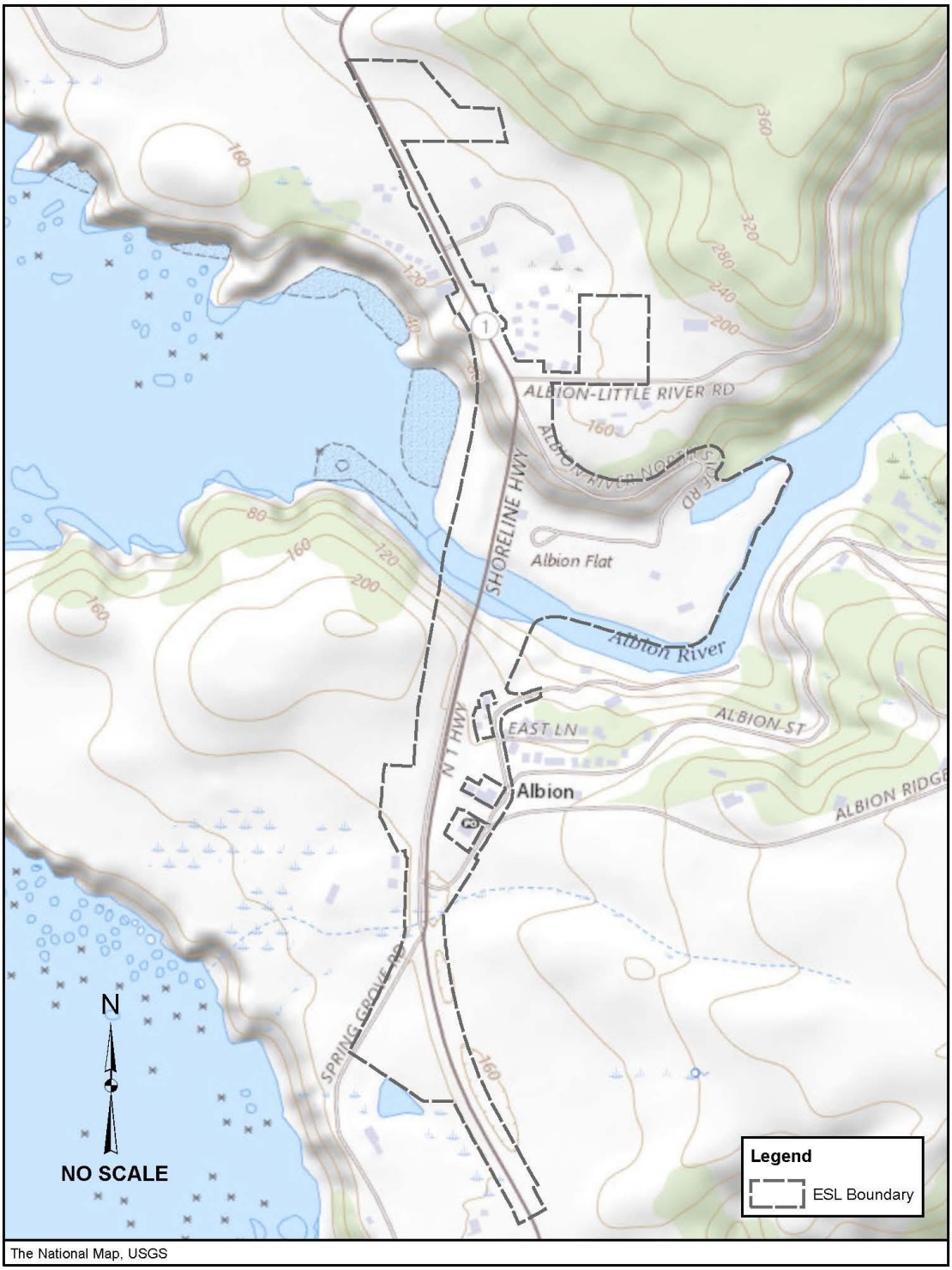


Figure 67. Topography of the Environmental Study Limits

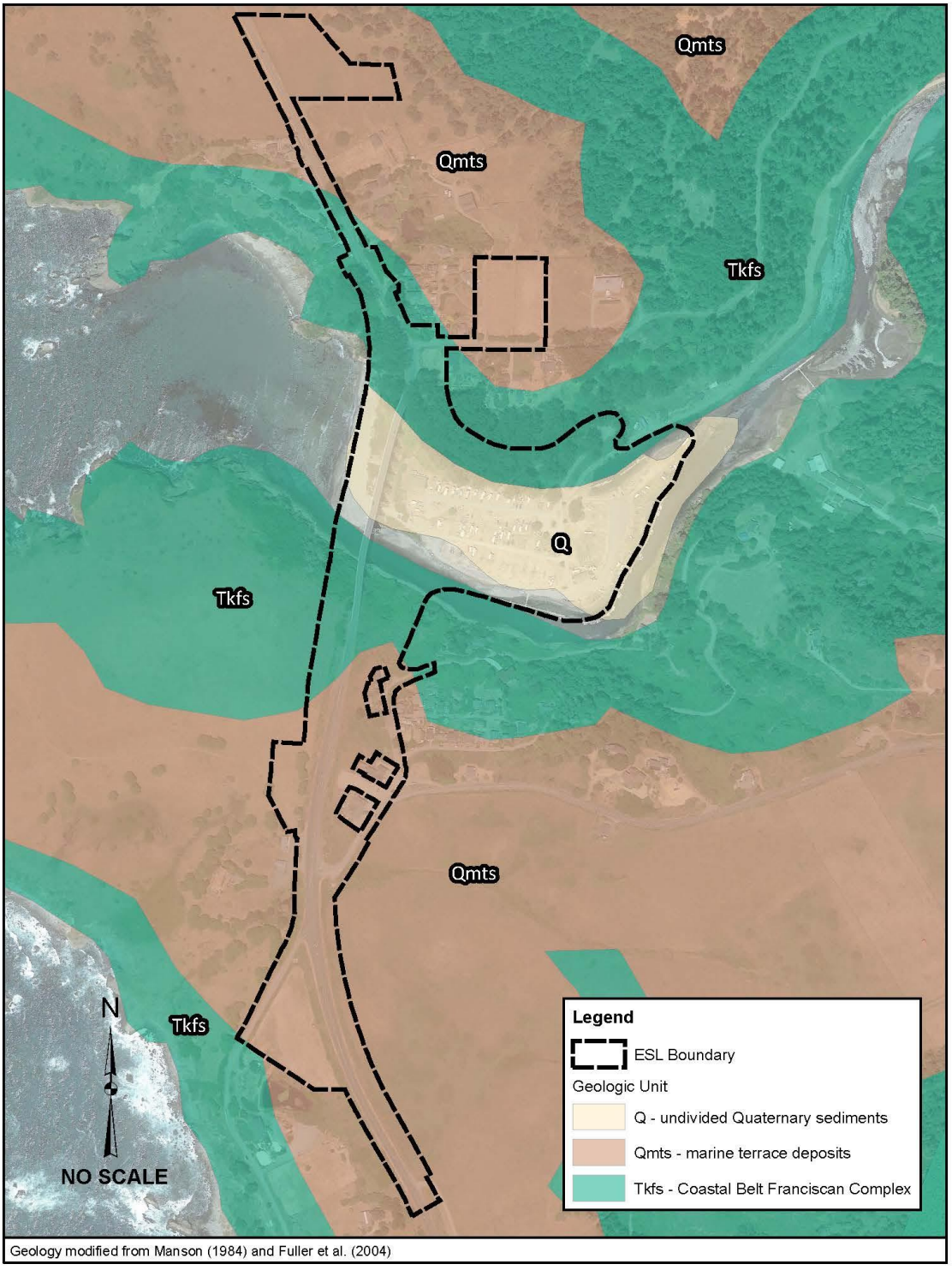


Figure 68. Underlying Geology of the Environmental Study Limits

Geologic Units

Geologic units in the project area include, from oldest to youngest, Cretaceous to Tertiary Coastal Belt Franciscan Complex, Pleistocene marine terrace deposits, and Holocene undivided Quaternary sediments (Figure 68).

The Franciscan Complex composes a large portion of the Coast Ranges and is subdivided into the Eastern, Central, and Coastal Belts. The complex itself contains sedimentary, volcanic, and metamorphic rocks that were deposited along the continental margin. The proposed project is within the youngest terranes of the Coastal Belt of the Franciscan Complex. The Coastal Belt is less deformed and less metamorphosed than the other two belt regions (Eastern and Central). The Coastal Belt is composed primarily of sandstone and shale with hints of conglomerate, limestone, chert, and volcanics. Around the project area, Franciscan rocks are primarily massive greywacke sandstones, interbedded shales, and conglomerates. The Coastal Belt is believed to have been deposited during the Tertiary Period. However, the chaotic nature of the disparate terranes and suites of rocks makes it difficult to accurately gauge the true age of the belt.

Pleistocene marine terrace deposits unconformably overlie the Franciscan Complex in the project vicinity and form extensive coastal deposits in the region. These terraces represent ancient shorelines and are prominent landforms along the northern California coastline. There are a number of terraces at different elevations along the coastline in the vicinity of the Albion River Bridge. Each terrace represents a former sea level high stand, and its elevation provides a record of regional uplift. The marine terrace at the Albion River Bridge is estimated to have been formed approximately 118,000 years ago. Sediments deposited on this terrace may be up to 50 feet thick, though thickness is highly variable. These deposits consist of poorly consolidated oxidized sand.

Undifferentiated Quaternary sediments are sediments that consist of Holocene fluvial and alluvial deposits within the boundaries of the modern Albion River and other local floodplains. Within the project area, these sediments consist of unconsolidated sands, silts, and gravels that unconformably overlie Franciscan Complex bedrock.

Within the project area, the marine terrace deposits exhibit variable depth but are generally between several feet up to ten feet thick, and the underlying Franciscan Complex is relatively resistant to erosion. Landslides in the project vicinity appear to occur as shallow debris slides, and evidence of historical landslides in the area is limited. Based on the geologic materials at the project site and within the Albion River Watershed, it can be concluded that the primary source of sand at the Albion River beach is not from the bedrock slopes and marine terraces adjacent to the bridge; landslides within the Albion River watershed, beginning roughly two to three miles upstream of the bridge site, are likely the primary contributor to sand in the Albion River and on the beach (Caltrans 2024a).

Groundwater

The groundwater depth is assumed at the elevation of the existing river channel or adjacent ground surface. Some groundwater seepage is observed for the slope areas below the abutments.

Geologic Hazards

As no known faults are projecting toward or passing through the proposed project area, the potential for surface rupture due to fault movement is considered low; the closest fault is west of the project area by approximately three miles.

However, the Albion River channel areas have saturated, loose, granular soils, which may have a moderate to high liquefaction potential to an estimated maximum depth of 50 to 60 feet during strong earthquake ground shaking.

The Albion River Bridge is also within a designated California Tsunami Hazard Area (California Department of Conservation 2023), and the area is projected to experience sea level rise of 6.2 to 13.0 feet by 2100 and the proposed water surface elevations is projected to be between 11.2 to 13.0 feet.

Environmental Consequences

Build Alternatives

Construction Impacts

Geology and soils under all Build Alternatives could be affected by construction-related ground disturbance activities in work areas, heavy equipment traffic areas, and material laydown areas. This would include soil compaction and increased potential for soil erosion due to soil exposure when compared with existing conditions. Additionally, soil erosion could occur at an accelerated rate during a storm event. However, all Build Alternatives would install permanent shoring as a necessary safety element to stabilize excavations along the steep slopes around the new bridge foundations. In addition, Standard Measure **GS-1** would be implemented, requiring that the project be designed to minimize slope failure, settlement, and erosion and, as described in Section 3.3.2, *Water Quality and Stormwater Runoff*, best management practices (BMPs) for erosion control and stormwater discharge would be implemented as part of the proposed project for all Build Alternatives during construction.

Under all Build Alternatives, construction activities could be affected indirectly by ground motion, liquefaction and lateral spreading, and potential ground deformation if a seismic event were to occur during construction. As mentioned in the *Affected Environment* section, while there are no known faults projecting toward or passing through the project area, the project is within a seismically active region. Caltrans' Office of Earthquake Engineering is responsible for assessing the seismic hazards for Caltrans projects. The proposed project would be designed to meet Caltrans's modern seismic requirements, which are specified in the Caltrans' Seismic Design Criteria. These criteria specify the minimum seismic design requirements for newly designed "Standard" concrete bridges. All Build Alternatives would be designed and constructed based on recommendations

from a final design-level geotechnical report, which would be prepared in accordance with all applicable federal, state, and local seismic codes, as well as Caltrans' seismic design criteria for structures. The report would document all potential soil-related constraints and hazards, such as slope instability, settlement liquefaction, or related secondary seismic impacts, which may be present and would provide recommendations for specific foundation design and earthwork construction. Health and safety protocols that prescribe safe construction practices, emergency response procedures, and safety training requirements would be followed to protect workers and the public during construction and minimize construction-related seismic hazards.

In addition, the sea level rise and tsunami hazards were considered in the development of the Build Alternatives. All Build Alternative would be designed so that tsunami flows are below the soffit of the bridge and would be designed to withstand future sea level rise conditions. See Section 4.5, *Climate Change*, for more information on tsunamis and sea level rise.

With the incorporation of BMPs and standard measures identified in Section 2.2.5, *Common Design Features of the Build Alternatives* and Section 3.3.2, *Water Quality and Stormwater Runoff*, and with the design considerations to seismic and coastal hazards, no substantial impacts related to geology and soils are anticipated under the Build Alternatives.

Operational Impacts

The replacement bridge would be designed and constructed in accordance with all applicable federal, state, and local seismic codes, as well as with Caltrans' seismic design criteria for structures. The replacement bridge would be less vulnerable to collapse in a seismic event or coastal hazards than the existing bridge.

No-Build Alternative

Under the No-Build Alternative, the Albion River Bridge would not be replaced, and geologic and topographic features would not be impacted. The Albion River Bridge would remain seismically deficient.

Avoidance, Minimization, and/or Mitigation Measures

No avoidance, minimization, or mitigation measures are proposed.

3.3.4 Paleontology

Regulatory Setting

Paleontology is a natural science focused on the study of ancient animal and plant life as it is preserved in the geologic record as fossils.

A number of federal statutes specifically address paleontological resources, their treatment, and funding for mitigation as a part of federally authorized projects.

16 United States Code (USC) 431–433 (the "Antiquities Act") prohibits appropriating, excavating, injuring, or destroying any object of antiquity situated on federal land without the permission of the Secretary of the Department of Government having jurisdiction over the land. Fossils are considered "objects of antiquity" by the Bureau of Land Management, the National Park Service, the Forest Service, and other federal agencies.

23 USC 1.9(a) requires that the use of federal-aid funds must be in conformity with all federal and state laws.

23 USC 305 authorizes the appropriation and use of federal highway funds for paleontological salvage as necessary by the highway department of any state, in compliance with 16 USC 431–433 above and state law.

Under California law, paleontological resources are protected by the California Environmental Quality Act (CEQA).

Affected Environment

This section is based on the proposed project's Paleontological Identification Report and Paleontological Evaluation Report (PIR/PER) (Earthview Sciences 2023), which was completed in June 2023.

A paleontological field survey of the project area was conducted on December 29, 2016. During the field survey, the geologic maps that were later used to develop the PIR/PER were field-verified and determined to be reasonably accurate given the limited exposures and abundant vegetation cover in the area. A records search and literature review were then conducted in 2022 within a 1-mile radius of the project area. The following online and print databases were queried: California Academy of Sciences, Los Angeles County Natural History Museum, Paleobiology Database, and the University of California at Berkeley Museum of Paleontology. In addition, peer-reviewed journals, scientific reports, geologic maps, dissertations, historical topographic maps, agency fact sheets, and news sources were also reviewed.

Fossils vary in their preservation, abundance, and distribution. Therefore, not all fossils are considered scientifically significant. Scientifically significant paleontological resources are fossils and fossiliferous deposits consisting of large or small identifiable

vertebrate fossils; uncommon invertebrate, plant, and trace fossils; and other data that provide taphonomic, taxonomic, phylogenetic, paleoecologic, stratigraphic, and/or biochronologic information.

Caltrans uses a tripartite scale for assessing paleontological potential, which is provided in Table 32. This scale consists of high potential, low potential, and no potential.

Table 32. Caltrans Paleontology Sensitivity Scale

Caltrans Sensitivity	Description
High Potential	Rock units that, based on previous studies, contain or are likely to contain significant vertebrate, invertebrate, or plant fossils. These units include, but are not limited to, sedimentary formations that contain significant nonrenewable paleontological resources anywhere within their geographical extent, and sedimentary rock units temporally or lithologically suitable for the preservation of fossils. These units may also include some volcanic and low-grade metamorphic rock units. Fossiliferous deposits with extremely limited geographic extent or an uncommon origin (e.g., tar pits and caves) are given special consideration and ranked as highly sensitive. High sensitivity includes the potential for containing: (1) abundant vertebrate fossils; (2) a few significant fossils (large or small vertebrate, invertebrate, or plant fossils) that may provide new and significant taxonomic, phylogenetic, ecologic, and/or stratigraphic data; (3) areas that may contain datable organic remains older than recent, including Neotoma (sp.) middens; or (4) areas that may contain unique new vertebrate deposits, traces, and/or trackways. Areas with a high potential for containing significant paleontological resources require monitoring and mitigation.
Low Potential	This category includes sedimentary rock units that: (1) are potentially fossiliferous but have not yielded significant fossils in the past; (2) have not yet yielded fossils but possess a potential for containing fossil remains; or (3) contain common and/or widespread invertebrate fossils if the taxonomy, phylogeny, and ecology of the species contained in the rock are well understood. Sedimentary rocks expected to contain vertebrate fossils are not placed in this category because vertebrates are generally rare and found in more localized stratum. Rock units designated as low potential generally do not require monitoring and mitigation. However, as excavation for construction gets underway, new and unanticipated paleontological resources might be encountered. If this occurs, a Construction Change Order must be prepared to have a qualified principal paleontologist evaluate the resource. If the resource is determined to be significant, monitoring and mitigation are required.
No Potential	Rock units of intrusive igneous origin, most extrusive igneous rocks, and moderately to highly metamorphosed rocks are classified as having no potential for containing significant paleontological resources. For projects encountering only these types of rock units, paleontological resources can generally be eliminated as a concern when the Preliminary Environmental Assessment Report is prepared, and no further action taken.

Source: (Caltrans 2014)

The underlying topography and geology are described in Section 3.3.3, *Geology/Soils/Seismic/Topography,* and shown in Figure 67 and Figure 68, respectively. The proposed project lies within the Coast Ranges Geomorphic Province. The Coast Ranges are typified by northwest/southeast-trending mountains and valleys, roughly parallel to the San Andreas Fault Zone. The geologic units identified as potentially being impacted by the proposed project included undivided Quaternary sediments, marine terrace deposits, and Coastal Belt Franciscan Complex. The paleontological sensitivity of these geologic units was assessed, and the results are presented in Table 33.

Table 33. Sensitivity of Geological Units Within the Paleontology Resource Study Area

Geologic Unit	Geological Age	Potential / Sensitivity Designation	Basis for Sensitivity Rating
Undivided Quaternary sediments	Holocene *(less than 11,700 years ago)*	Low	Deposits are too young to contain scientifically significant macrofossils.
Marine terrace deposits	Pleistocene *(2.6 million to 11,700 years ago)*	Low	These deposits have not produced vertebrate remains within 60 miles of the project.
Coastal Belt Franciscan Complex	Cretaceous to Tertiary *(99.6 to 2.6 million years ago)*	Low	These Franciscan Complex units have undergone low-grade metamorphic processes. Macrofossils are lacking in these units, with rare exceptions. Microfossils are present but are found in abundance.

Source: (Earthview Sciences 2023; U.S. Geological Service 2010)

Environmental Consequences

Build Alternatives

Construction Impacts

All Build Alternatives would replace the existing Albion River Bridge. As described in Table 33, all geologic units that could potentially be impacted by the proposed project have a low sensitivity for paleontological resources. Therefore, all Build Alternatives would have a low potential to affect scientifically significant paleontological resources. In accordance with Standard Measure **GS-2**, described in Section 2.2.5, *Common Design Features of the Build Alternatives*, contactors would be required to stop work within a 60-foot radius of discovery if paleontological resources are encountered during proposed project construction. The work area would be secured, and work would not resume until appropriate measures are taken. This measure would be sufficient to avoid or minimize impacts on paleontological resources.

Operational Impacts

Under all Build Alternatives, no operational impacts would occur.

No-Build Alternative

Under the No-Build Alternative, the Albion River Bridge would not be replaced, and paleontological resources would not be impacted.

Avoidance, Minimization, and/or Mitigation Measures

No avoidance, minimization, or mitigation measures are proposed.

3.3.5 Hazardous Waste/Materials

Regulatory Setting

Hazardous materials, including hazardous substances and wastes, are regulated by many state and federal laws. Statutes govern the generation, treatment, storage, and disposal of hazardous materials, substances, and waste, and also the investigation and mitigation of waste releases, air and water quality, human health, and land use.

The primary federal laws regulating hazardous wastes/materials are the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA) of 1980, and the Resource Conservation and Recovery Act (RCRA) of 1976. The purpose of CERCLA, often referred to as "Superfund," is to identify and cleanup abandoned contaminated sites so that public health and welfare are not compromised. The RCRA provides for "cradle to grave" regulation of hazardous waste generated by operating entities. Other federal laws include:

- Community Environmental Response Facilitation Act of 1992
- Clean Water Act
- Clean Air Act
- Safe Drinking Water Act
- Occupational Safety and Health Act (OSHA)
- Atomic Energy Act
- Toxic Substances Control Act
- Federal Insecticide, Fungicide, and Rodenticide Act

In addition to the acts listed above, Executive Order 12088, *Federal Compliance with Pollution Control Standards*, mandates that necessary actions be taken to prevent and control environmental pollution when federal activities or federal facilities are involved.

California regulates hazardous materials, waste, and substances under the authority of the CA Health and Safety Code and is also authorized by the federal government to implement RCRA in the state. California law also addresses specific handling, storage, transportation, disposal, treatment, reduction, cleanup, and emergency planning of hazardous waste. The Porter-Cologne Water Quality Control Act also restricts disposal of wastes and requires cleanup of wastes that are below hazardous waste concentrations but could impact ground and surface water quality. California regulations that address waste management and prevention and cleanup of contamination include Title 22 Division 4.5 Environmental Health Standards for the Management of Hazardous Waste, Title 23 Waters, and Title 27 Environmental Protection.

Worker and public health and safety are key issues when addressing hazardous materials that may affect human health and the environment. Proper management and disposal of hazardous material is vital if it is found, disturbed, or generated during project construction.

Affected Environment

The information in this section is based on the proposed project's Initial Site Assessment (ISA) (Geocon Consultants, Inc. 2022), which was completed in October 2022, and a supplement to the ISA (Caltrans 2023), which was completed in July 2023. Hazardous waste and hazardous materials were evaluated within project's Environmental Study Limits (ESL), which is described in Chapter 2, *Project Alternatives*.

Environmental databases (Cortese List) were reviewed in 2022 and an Environmental Data Resources (EDR) Radius Map Report with Geocheck was prepared. Regulatory case file documentation for properties and facilities within or near the ESL was obtained from the following sources:

- State Water Resources Control Board GeoTracker website (http://geotracker.waterboards.ca.gov)
- Department of Toxic Substances Control (DTSC) EnviroStor website (http://www.envirostor.dtsc.ca.gov/public/)
- California Environmental Protection Agency Regulated Site Portal (https://siteportal.calepa.ca.gov/nsite/map/help)
- DTSC File Review Request for Albion Lumber Company
- North Coast Regional Water Quality Control Board (RWQCB) File Review of Albion Flat Leaking Underground Storage Tank (LUST) Case
- Geocon Consultants, Inc. Report Files for Albion River Bridge

The ESL is located within a minimally developed, rural area within the unincorporated community of Albion. Development south of the Albion River Bridge includes a residence and former gasoline station west of State Route (SR) 1, and residences, hardware and grocery stores, a fire station, and a post office in the Albion community east of SR 1. The Albion River Campground and Marina (Albion Campground) is located adjacent to and east of the Albion River Bridge. Development north of the Albion River Bridge includes the SCP Mendocino Coast Lodge/Albion River Inn Restaurant (west of SR 1) and residential properties (east of SR 1).

The Albion River Bridge site and adjacent Albion Campground were occupied previously by at least five generations of redwood mills operating from approximately 1852 through 1928. The former Albion Lumber Company facilities were located within the existing state right of way (ROW) at the bridge structure and on the property currently occupied by the Albion River Campground. A wharf was constructed into Albion Cove in 1889 to facilitate loading lumber into schooners for delivery to San Francisco. Remnants of the wharf pilings still remain extending into Albion Cove from the beach.

Contaminated Sites

The following sites were identified in the ISA as potentially containing hazardous materials:

Albion River Bridge (SR 1)

The existing Albion River Bridge was constructed in 1944. The timber members are Douglas-fir salt-treated by the Wolman method. A supplementary bridge report prepared for the Albion River Bridge dated January 1949 states that the wood preservative "Wolman Concentrate 72%" consists of arsenic oxide and chromic acid. The bridge report further states, "The structural steel members were painted in May to July 1944, with one prime coat of No. 1 red lead, a second coat of red lead metalead [*sic*], and a finish coat of dull black." (Geocon Consultants, Inc. 2022)

The Albion River Bridge is listed on the EnviroStor, Voluntary Cleanup Program, California Integrated Water Quality System, and California Environmental Reporting System regulatory databases. As of December 22, 2022, the Albion River Bridge is listed as "No Evidence of Release" and is under a voluntary cleanup agreement with DTSC. The identified contaminants of concern are arsenic and lead in soil and sediment.

Investigation of subsurface conditions beneath the Albion River Bridge has been subject to DTSC oversight since 2015, in accordance with an existing voluntary cleanup agreement. Preliminary site investigations (PSI) of the bridge, followed by a preliminary endangerment assessment (PEA), were conducted in December 2014 and July 2017, respectively (Geocon Consultants, Inc. 2014a; 2014b; 2017a; 2017b). The PSIs indicated the presence of elevated metals (arsenic, lead, zinc, and chromium) beneath the bridge site, with the primary contaminant of concern being arsenic. Arsenic levels decrease rapidly with distance (within a few feet) from the bridge's concrete footings to within a range that would be consistent with background levels. The PEA determined that there was no excess human health risk posed by the potential contaminants of concern in areas analyzed inside and outside of the state ROW and recommended removal of the bridge structure's treated timber (i.e., source of arsenic).

Information obtained from DTSC on October 10, 2022, indicated that the case file documents were currently under review and either the regulatory case would be closed or further action directed (Geocon Consultants, Inc., 2022). DTSC later determined that release was minimal and associated with treated wood (DTSC 2022). On December 15, 2022, DTSC indicated that they do not need to provide oversight for the proposed replacement of the Albion River Bridge (Tom Lanphar, personal communication, December 15, 2022). Impacted soil would be managed with the removal of the source of arsenic (i.e., bridge structure).

Former Albion Shell Station (3300 North Highway 1)

The Albion Shell Station is a former gasoline station facility located along southbound SR 1 across from the Albion Ridge Road intersection. The facility is listed as a North

Coast RWQCB Open-Remediation LUST Cleanup Site as of 2005. Gasoline-impacted soil was identified during the removal of five fuel underground storage tanks (UST) from the facility in 1997. Contaminated soil and groundwater were removed from the site between 2002 and 2003. Ozone remediation was conducted between 2004 and 2009 with no favorable results. A total of 18 groundwater monitoring wells were installed at the property and on the adjacent parcels to the north, west, and southwest. Four wells have since been destroyed. According to Mr. Kent Huth at the North Coast RWQCB, no work has been completed at this facility since 2013, but the state is trying to move forward with additional work (Geocon Consultants, Inc. 2022).

Albion Grocery Store (3380 Albion Ridge Road)

This active grocery store and gasoline refueling facility, located south and east of the bridge along Albion Ridge Road, is a Closed North Coast RWQCB LUST regulatory case for gasoline-impacted soil and groundwater. Petroleum hydrocarbon soil impacts were limited to the area of the on-site UST. No substantial petroleum hydrocarbon groundwater impacts were identified (Geocon Consultants, Inc. 2022).

Albion Campground (Albion Flat; 33800 Albion River North Side Road)

The Albion Campground is currently an active campground located adjacent to and east of the existing Albion River Bridge. The property was formerly occupied by extensive lumber mill facilities between the mid-1800s and early-1900s. This site is a closed regulatory case for petroleum hydrocarbon impacted soil and groundwater. Subsurface impacts were identified on the eastern portion of the property during removal of fuel USTs in the vicinity of the campground office and marina. Petroleum hydrocarbon soil impacts were limited to the area of the former on-site UST. No substantial petroleum hydrocarbon groundwater impacts were identified. Soil borings completed for the Albion River Campground LUST case encountered 4 to 6 feet of fill material containing wood and saw dust debris associated with the historical lumber mill facilities. Shallow concrete and brick debris were also encountered in borings completed beneath the bridge (Geocon Consultants, Inc. 2022).

Asbestos-Containing Materials

The National Emissions Standards for Hazardous Air Pollutants (NESHAP) (40 Code of Federal Regulations [CFR] 61[M]) and federal OSHA classify asbestos-containing materials (ACM) as any materials or products that contain more than 1 percent of asbestos. Nonfriable ACMs are classified by NESHAP as either Category I or II material, including materials sometimes found in bridges, rail shims, pipes, pipe coverings, expansion joint facings, and certain cement products. Generally, nonfriable ACM cannot be crushed with normal hand pressure. A structure survey of the Albion River Bridge was completed in 2014 (Geocon Consultants, Inc. 2014a). Samples of suspect asbestos containing bridge materials, bridge railing paint, and treated wood structural members were collected from the bridge structure. Asbestos was detected in samples of drainpipes used in the bridge abutments.

Lead-Based Paint

Lead-containing paint (LCP) is paint or other surface covering containing lead at any detectable level. Lead-based paint (LBP) is any paint or other surface cover containing equal to or more than 1 milligram per square centimeter or 0.5 percent lead by weight (California Code of Regulations, Title 17, Section 35033). Demolition of a deteriorating LBP component would require waste characterization and appropriate disposal. Intact LBP on a component is currently accepted by most landfill facilities.

A structure survey of the Albion River Bridge was completed in 2014 (Geocon Consultants, Inc. 2014a). Samples of bridge materials, bridge railing paint, and treated wood structural members were collected from the bridge structure. A white paint composite sample collected from the bridge railing contained lead at a concentration that would require disposal as a California and federal hazardous waste if stripped, blasted, or otherwise separated from the substrate.

Treated-Wood Waste

Treated wood waste (TWW) comes from old wood that has been treated with chemical preservatives. These chemicals help protect the wood from insect attack and fungal decay while it is being used. Fence posts, pilings, and guardrails are all examples of chemically treated wood. The Albion River Bridge is a timber trestle bridge that was constructed primarily of Douglas-fir timber. A structure survey of the bridge was completed in 2014 (Geocon Consultants, Inc., 2014a). The majority of the wood samples collected from the bridge's treated wood timbers exhibited total arsenic and chromium concentrations exceeding California hazardous waste thresholds (Geocon Consultants, Inc, 2022; 2014a).

Aerially Deposited Lead

Aerially deposited lead (ADL) can be found in surface and near-surface soils along nearly all roadways due to the historical use of tetraethyl lead in motor vehicle fuels. Areas of primary concern are soils along routes that had large traffic volumes or congestion during the period when leaded gasoline was in use (generally prior to 1986). Historical U.S. Geological Survey (USGS) maps indicate that SR 1 extended through the ESL in its current alignment since the 1940s.

An ADL site investigation was performed in 2020 to evaluate potential lead in shallow soil along the unpaved shoulders of SR 1 north and south of the bridge (Geocon Consultants, Inc. 2020). Total lead concentrations ranged from 2.2 to 330 milligrams per kilogram (mg/kg) with mean concentrations less than the residential screening level of 80 mg/kg (DTSC 2016). Soil generated from the unpaved shoulders (as a whole) was determined to be suitable for unrestricted use.

Yellow Thermoplastic Striping

Street striping is typically painted using a process called thermoplastic striping. Prior to 2005, yellow thermoplastic striping contained lead chromate pigment. Yellow thermoplastic has been sampled and tested on the Albion River Bridge and would be

classified as a California and federal hazardous waste based on lead content if stripped, blasted, or otherwise separated from the substrate.

Gas Transmission Pipelines and Hazardous Liquid Pipelines

According to the U.S. Department of Transportation, there are no gas transmission pipelines or hazardous liquid pipelines within the ESL (Pipeline and Hazardous Materials Safety Administration 2023).

Environmental Consequences

Build Alternatives

Construction Impacts

Potential impacts related to the following sites are discussed below:

- Albion River Bridge
- Former Albion Shell Station (3300 North Highway 1)
- Albion Grocery Store (3380 Albion Ridge Road)
- Albion Campground (Albion Flat; 33800 Albion River North Side Road)

The project's ISA determined that all of these sites present a low risk to the proposed project (Caltrans 2020). None of the Build Alternatives would require permanent ROW from the Albion Shell Station or the Albion Grocery Store. In addition, the LUST sites at Albion Grocery Store and the Albion Campground are closed.

The groundwater monitoring well network for the Albion Shell Station facility extends onto adjacent parcels, including a parcel which will be used for temporary construction staging for all Build Alternatives. In accordance with project-specific Measure **AMM-HW-1**, at-grade and/or aboveground monitoring wells would be protected from damage, and access would be provided to the wells for sampling during construction under all Build Alternatives.

Should Alternative 2 (East Alignment) be selected, Measure **AMM-HW-2** would be implemented requiring that a detailed site investigation (DSI) be prepared to determine whether contaminants are present from the prior use of the site as a lumber mill at the Albion Campground. The DSI would also provide Caltrans information regarding special handling and disposal requirements if elevated levels of contaminants are present. A DSI is not required for Alternatives 1 and 3.

Bridge structure removal may result in the release or disturbance of hazardous building materials, including asbestos, heavy metals and sVOCs from pipe or bridge components, respectively. Lead paint associated with steel structures, utility openings, and bridge structures may also be encountered during demolition activities. Potential hazards exist to workers who remove or cut through LCP during demolition. Dust containing hazardous concentrations of lead may be generated during scraping or

cutting materials coated with LBP. Torching these materials may produce lead oxide fumes. Disturbing treated wood could expose construction workers or the public to hazardous materials, unless removal protocols are followed. Exposure of construction workers or the public to these hazardous materials or waste could pose a possible threat to human health.

According to the bridge survey conducted in 2014 (Geocon Consultants, Inc. 2014a), bridge removal could potentially disturb ACM. In addition, intact LCP discovered on the bridge's wood railings would be classified as hazardous waste if stripped, blasted, or otherwise separated from the structural elements. Treated wood members on the bridge are known to have elevated concentrations of arsenic, chromium, and semi-volatile organic compounds. Impacts resulting from treated wood, asbestos, and lead would be reduced through implementation of Standard Measures **HW-1**, **HW-2**, **HW-3**, and **HW-4** regarding the handling, storage, transportation, and disposal of waste. In addition, and project-specific Measures **AMM-HW-3** through **AMM-HW-6** would be implemented which require, among other things, that the construction contractor prepare project-specific lead compliance and health and safety plans prior to renovation or demolition activities. Further, a NESHAP notification to the Mendocino County Air Quality Management District (MCAQMD) would be required prior to bridge renovation and demolition activities.

The presence of elevated metals in soil may restrict potential on-site or off-site soil reuse. Soil adjacent to the Albion River Bridge's bent foundations and shallow soils under the bridge are of primary concern. The results of the previous PSI indicate the presence of elevated metals (arsenic, lead, zinc, and chromium) beneath the bridge site. Any excavated soil generated from these areas would be stockpiled, sampled, analyzed for heavy metals, and evaluated for suitability for on-site reuse or off-site disposal. Measure **AMM-HW-7** would be implemented requiring that soil beneath the bridge site be handled in accordance with Non-Standard Special Provision (NSSP) 14-11.11, *Department Generated Contaminated Soil*.

It is assumed that all yellow thermoplastic striping that may be disturbed by the proposed project would contain lead and chromium. Traffic lane stripes would be removed and disposed of in accordance with Caltrans Standard Special Provision (SSP) 14-11.12 (Measures **HW-3** and **AMM-HW-8**). The handling and disposal requirements differ depending on the level of lead and chromium in the collected waste, which would be characterized prior to removal. Removal of white striping alone would not generate hazardous waste.

ADL from the historical use of leaded gasoline exists along roadways throughout California. Soils with elevated concentrations of lead as a result of ADL on the state highway system within the limits of the project alternatives are present. Soil determined to contain lead concentrations exceeding stipulated thresholds must be managed under the July 1, 2016, ADL Agreement between Caltrans and DTSC. This ADL Agreement allows such soils to be safely reused within the project limits as long as all requirements of the ADL Agreement are met.

In accordance with Measure **AMM-HW-9**, all excavated soils would be managed in accordance with the ADL Agreement. A PSI for ADL contaminated soils was conducted along the bridge embankments (Caltrans 2020). Results from the PSI indicate that soil excavated from the surface to a depth of 2 feet or shallower would not be classified as California-hazardous soil based on lead content. Soils excavated from the surface to a depth of 2 feet or shallower near the southern embankment qualified as non-regulated material for unrestricted use under the ADL Agreement. Soils excavated from the surface to a depth of 2 feet or shallower near the northern bridge embankment could be reused within state ROW or disposed of at an appropriately permitted Class II/III disposal facility or commercial property by submitting a completed agreement between a contractor and a real property owner to DTSC. In accordance with Standard Measure **HW-1**, a project-specific Lead Compliance Plan would be prepared for the proposed project. In addition, the following specifications for the proposed project would be implemented to further reduce the potential for adverse effects to construction workers and the public: SSP 7-1.02K(6)(j)(iii), *Earth Material Containing Lead*; SSP 14-11.08, *Regulated Material Containing Aerially Deposited Lead*; and SSP 14-11.09, *Minimal Disturbance of Material Containing Regulated Concentrations of Aerially Deposited Lead*.

It is anticipated that any planned construction excavations/bridge footings within state ROW at the bridge site and within the Albion Campground property may encounter shallow debris fill materials. In addition, groundwater generated construction dewatering activities would likely require containment and possible pretreatment prior to permitted discharge in accordance with permit requirements.

Polychlorinated biphenyl (PCB) is found in electrical equipment produced before 1979, such as transformers, capacitors, and fluorescent light ballasts. In accordance with Caltrans Standard Specification 14-11.15, *Disposal of Electrical Equipment Requiring Special Handling*, the construction contractor would be required to manage and dispose of transformers and capacitors containing PCBs, if any, in accordance with 40 CFR Part 761 and 22 California Code of Regulations Division 4.5.

Any undocumented USTs, contaminated soil, abandoned septic systems, inactive domestic/agricultural water supply wells, or other subsurface structures encountered during construction activities would be removed properly or abandoned in accordance with applicable regulations. Piezometers installed by Caltrans as part of the proposed project for groundwater level monitoring, if any, would also require proper abandonment when no longer in use, in accordance with Mendocino County permitting requirements.

Operational Impacts

All Build Alternatives would remove contaminated soils encountered during project activities. Once constructed, none of the Build Alternatives would disturb any known site that contains hazardous materials, nor would they expose the public or environment to any hazardous materials. Further, following the removal of the bridge's timber members, wood preservatives would no longer continue to leach into adjacent soil.

No-Build Alternative

Under the No-Build Alternative, the Albion River Bridge would not be replaced and hazardous waste and/or hazardous materials would not be disturbed or generated. However, the bridge's timber members would not be removed, and wood preservatives would continue to leach into adjacent soils.

Avoidance, Minimization, and/or Mitigation Measures

The following resource-specific measures would be implemented:

AMM-HW-1: All monitoring wells would be identified and protected from damage in the vicinity of the former Albion Shell Station (3300 North Highway 1). Wells would be identified as environmentally sensitive areas (ESA) in final design. The construction contractor would allow access to the wells for sampling.

AMM-HW-2: If Alternative 2 (East Alignment) is selected as the Preferred Alternative, a DSI would be prepared to determine whether the proposed project would encroach on areas previously impacted from activities associated with past use of the site as a lumber mill. The results from the DSI would inform whether elevated levels of contaminants are present and provide Caltrans information regarding special handling and disposal requirements of these materials, if needed. In addition, information gathered from the DSI would provide information in support of property acquisition and any additional SSP or NSSP development.

AMM-HW-3: Asbestos abatement would be completed prior to any work on structures that could potentially contain asbestos. SSP 14-11.16, *Asbestos Containing Construction Materials in Bridges*, would be included in the specification package. In accordance with SSP 14-11.16, a certified industrial hygienist (CIH) with experience and knowledge of asbestos removal work and a certified asbestos consultant would direct the removal, storage, transportation, and disposal of asbestos containing materials and would sign and seal the Asbestos Compliance Plan. A certified asbestos consultant would sign and seal an Asbestos Work Plan, which would be submitted 15 days before starting bridge demolition activities in areas containing or suspected to contain asbestos. All personnel would be required to submit certification of completed safety training before starting work in areas containing or suspected to contain asbestos.

AMM-HW-4: SSP 14-9.02, *NESHAP Notification*, would be included in the specification package. A NESHAP notification to the Mendocino County Air Quality Management District (MCAQMD) would be required prior to bridge demolition activities.

AMM-HW-5: NSSP 14-11.17, *Disturbance of Existing Treated Wood and Paint Systems on Bridges*, would be included in the project specifications. A Health and Safety Plan would be prepared for disturbance or removal of TWW. TWW can be found in the bridge's timber, utility poles, signposts, and bridge rails. TWW would be included as a disposal item in the construction contract and disposed of in accordance with SSP 14-11.14, *Treated Wood Waste*. Any personnel who handle or may come in contact with TWW would be provided training.

AMM-HW-6: A Lead Compliance Plan would be prepared prior to paint and thermoplastic disturbance/removal.

AMM-HW-7: A Health and Safety Plan would be required for soil disturbance/removal beneath the bridge structure. In addition, NSSP 14-11.11, *Department Generated Contaminated Soil*, would be included in the specification package.

AMM-HW-8: In accordance with Standard Measure **HW-2,** Caltrans SSP 14-11.12, *Remove Yellow Traffic Stripes and Pavement Markings with Hazardous Waste Residue,* would be included in specification package. SSP 36-4, *Containing Lead from Paint and Thermoplastic*, would also be included in the specification package. SSP 84-9.03B, *Remove Traffic Stripes and Pavement Markings Containing Lead*, would be included if this method is preferred.

AMM-HW-9: All lead-impacted excavated soil would be managed in accordance with the ADL Agreement between Caltrans and DTSC. Surface soils from potentially contaminated areas have been tested. In accordance with Standard Measure **HW-1**, a Lead Compliance Plan would be prepared for lead-impacted soil as a bid item for the construction contractor. The following specifications would also be included for soil disturbance and removal activities along roadways in the specification package: SSP 7-1.02K(6)(j)(iii), *Earth Material Containing Lead*; SSP 14-11.08, *Regulated Material Containing Aerially Deposited Lead*; and SSP 14-11.09, *Minimal Disturbance of Material Containing Regulated Concentrations of Aerially Deposited Lead.*

3.3.6 Air Quality

Regulatory Setting

The Federal Clean Air Act (FCAA), as amended, is the primary federal law that governs air quality while the California Clean Air Act (CCAA) is its companion state law. These laws, and related regulations by the United States Environmental Protection Agency (U.S. EPA) and the California Air Resources Board (CARB), set standards for the concentration of pollutants in the air. At the federal level, these standards are called National Ambient Air Quality Standards (NAAQS). NAAQS and state ambient air quality standards have been established for six criteria pollutants that have been linked to potential health concerns: carbon monoxide (CO), nitrogen dioxide (NO_2), ozone (O_3), particulate matter (PM) —which is broken down for regulatory purposes into particles of 10 micrometers or smaller (PM_{10}) and particles of 2.5 micrometers and smaller ($PM_{2.5}$), Lead (Pb), and sulfur dioxide (SO_2). In addition, state standards exist for visibility reducing particles, sulfates, hydrogen sulfide (H_2S), and vinyl chloride. The NAAQS and state standards are set at levels that protect public health with a margin of safety, and are subject to periodic review and revision. Both state and federal regulatory schemes also cover toxic air contaminants (air toxics); some criteria pollutants are also air toxics or may include certain air toxics in their general definition.

Federal air quality standards and regulations provide the basic scheme for project-level air quality analysis under the National Environmental Policy Act (NEPA). In addition to this environmental analysis, a parallel "Conformity" requirement under the FCAA also applies.

Conformity

The conformity requirement is based on FCAA Section 176(c), which prohibits the U.S. Department of Transportation (USDOT) and other federal agencies from funding, authorizing, or approving plans, programs, or projects that do not conform to State Implementation Plan (SIP) for attaining the NAAQS. "Transportation Conformity" applies to highway and transit projects and takes place on two levels: the regional (or planning and programming) level and the project level. The proposed project must conform at both levels to be approved.

Conformity requirements apply only in nonattainment and "maintenance" (former nonattainment) areas for the NAAQS, and only for the specific NAAQS that are or were violated. U.S. EPA regulations at 40 Code of Federal Regulations (CFR) 93 govern the conformity process. Conformity requirements do not apply in unclassifiable/attainment areas for NAAQS and do not apply at all for state standards regardless of the status of the area.

Regional conformity is concerned with how well the regional transportation system supports plans for attaining the NAAQS for carbon monoxide (CO), nitrogen dioxide (NO_2), ozone (O_3), particulate matter (PM_{10} and $PM_{2.5}$), and in some areas (although not

in California), sulfur dioxide (SO_2). California has nonattainment or maintenance areas for all of these transportation-related "criteria pollutants" except SO2, and also has a nonattainment area for lead (Pb); however, lead is not currently required by the FCAA to be covered in transportation conformity analysis. Regional conformity is based on emission analysis of Regional Transportation Plans (RTPs) and Federal Transportation Improvement Programs (FTIPs) that include all transportation projects planned for a region over a period of at least 20 years (for the RTP) and 4 years (for the FTIP). RTP and FTIP conformity uses travel demand and emission models to determine whether or not the implementation of those projects would conform to emission budgets or other tests at various analysis years showing that requirements of the FCAA and the SIP are met. If the conformity analysis is successful, the Metropolitan Planning Organization (MPO), Federal Highway Administration (FHWA), and Federal Transit Administration (FTA) make the determinations that the RTP and FTIP are in conformity with the SIP for achieving the goals of the FCAA. Otherwise, the projects in the RTP and/or FTIP must be modified until conformity is attained. If the design concept and scope and the "open-to-traffic" schedule of a proposed transportation project are the same as described in the RTP and FTIP, then the proposed project meets regional conformity requirements for purposes of project-level analysis.

Project-level conformity is achieved by demonstrating that the project comes from a conforming RTP and TIP; the project has a design concept and scope[13] that has not changed significantly from those in the RTP and TIP; project analyses have used the latest planning assumptions and EPA-approved emissions models; and in PM areas, the project complies with any control measures in the SIP. Furthermore, additional analyses (known as hot-spot analyses) may be required for projects located in CO and PM nonattainment or maintenance areas to examine localized air quality impacts.

Affected Environment

The information in this section is based on the proposed project's Air Quality Report (Caltrans 2024), which was completed in June 2024.

The proposed project is located entirely within the Mendocino County Air Quality Management District (MCAQMD) of the North Coast Air Basin. Table 34 provides the principal health and atmospheric effects and sources for criteria pollutants. Table 35 indicates the national and California ambient air quality standards applicable in California. At the federal and state level, Mendocino County is classified as attainment or unclassified for all criteria pollutants. Although MCAQMD adopted a Particulate Matter Attainment Plan in 2005 (MCAQMD 2005b), as of 2023, CARB is showing all of Mendocino County as attainment at the state level for both PM_{10} and $PM_{2.5}$.

[13] "Design concept" means the type of facility that is proposed, such as a freeway or arterial highway. "Design scope" refers to those aspects of the project that would clearly affect capacity and thus any regional emissions analysis, such as the number of lanes and the length of the project.

Table 34. Air Pollution Effects and Sources

Pollutant	Principal Health and Atmospheric Effects	Typical Sources
Ozone (O_3)	High concentrations irritate lungs. Long-term exposure may cause lung tissue damage and cancer. Long-term exposure damages plant materials and reduces crop productivity. Precursor organic compounds include many known toxic air contaminants. Biogenic VOC may also contribute.	Low-altitude ozone is almost entirely formed from reactive organic gases (ROG) or volatile organic compounds (VOC) and nitrogen oxides (NOx) in the presence of sunlight and heat. Common precursor emitters include motor vehicles and other internal combustion engines, solvent evaporation, boilers, furnaces, and industrial processes.
Carbon Monoxide (CO)	CO interferes with the transfer of oxygen to the blood and deprives sensitive tissues of oxygen. CO also is a minor precursor for photochemical ozone. Colorless, odorless.	Combustion sources, especially gasoline-powered engines and motor vehicles. CO is the traditional signature pollutant for on-road mobile sources at the local and neighborhood scale.
Respirable Particulate Matter (PM_{10})	Irritates eyes and respiratory tract. Decreases lung capacity. Associated with increased cancer and mortality. Contributes to haze and reduced visibility. Includes some toxic air contaminants. Many toxic and other aerosol and solid compounds are part of PM_{10}.	Dust- and fume-producing industrial and agricultural operations; combustion smoke and vehicle exhaust; atmospheric chemical reactions; construction and other dust-producing activities; unpaved road dust and re-entrained paved road dust; natural sources.
Fine Particulate Matter ($PM_{2.5}$)	Increases respiratory disease, lung damage, cancer, and premature death. Reduces visibility and produces surface soiling. Most diesel exhaust particulate matter—a toxic air contaminant—is in the $PM_{2.5}$ size range. Many toxic and other aerosol and solid compounds are part of $PM_{2.5}$	Combustion including motor vehicles, other mobile sources, and industrial activities; residential and agricultural burning; also formed through atmospheric chemical and photochemical reactions involving other pollutants including NOx, sulfur oxides (SOx), ammonia, and ROG.
Nitrogen Dioxide (NO_2)	Irritating to eyes and respiratory tract. Colors atmosphere reddish-brown. Contributes to acid rain and nitrate contamination of stormwater. Part of the "NOx" group of ozone precursors.	Motor vehicles and other mobile or portable engines, especially diesel; refineries; industrial operations.
Sulfur Dioxide (SO_2)	Irritates respiratory tract; injures lung tissue. Can yellow plant leaves. Destructive to marble, iron, and steel. Contributes to acid rain. Limits visibility.	Fuel combustion (especially coal and high-sulfur oil), chemical plants, sulfur recovery plants, metal processing; some natural sources like active volcanoes. Limited contribution possible from heavy--duty diesel vehicles if ultra-low sulfur fuel is not used.
Lead (Pb)	Disturbs gastrointestinal system. Causes anemia, kidney disease, and neuromuscular and neurological dysfunction. Also is a toxic air contaminant and water pollutant.	Lead-based industrial processes like battery production and smelters. Lead paint and leaded gasoline. Aerially deposited lead from older gasoline use may exist in soils along major roads.
Sulfates	Premature mortality and respiratory effects. Contributes to acid rain. Some toxic air contaminants attach to sulfate aerosol particles.	Industrial processes, refineries and oil fields, mines, natural sources like volcanic areas, salt-covered dry lakes, and large sulfide rock areas.

Pollutant	Principal Health and Atmospheric Effects	Typical Sources
Hydrogen Sulfide (H_2S)	Colorless, flammable, poisonous. Respiratory irritant. Neurological damage and premature death. Headache, nausea. Strong odor.	Industrial processes such as: refineries and oil fields, asphalt plants, livestock operations, sewage treatment plants, and mines. Some natural sources like volcanic areas and hot springs.
Visibility Reducing Particles (VRP)	Reduces visibility. Produces haze. NOTE: not directly related to the Regional Haze program under the Federal Clean Air Act, which is oriented primarily toward visibility issues in National Parks and other "Class I" areas. However, some issues and measurement methods are similar.	See particulate matter above. May be related more to aerosols than to solid particles.
Vinyl Chloride	Neurological effects, liver damage, cancer. Also considered a toxic air contaminant.	Industrial processes

Source: (Caltrans 2020)

Table 35. State and Federal Criteria Air Pollutant Standards and Status

Pollutant	Averaging Time	State Standard [i]	Federal Standard [ii]	State Project Attainment Status	Federal Project Area Attainment Status
O_3 [iii]	1 hour	0.09 ppm [iv]	N/A	Attainment	N/A
O_3	8 hours	0.070 ppm	0.07 ppm (4th highest in 3 years)	Attainment	Attainment – Unclassified
CO [v]	1 hour	20 ppm	35 ppm	Attainment	Attainment – Unclassified
CO	8 hours	9.0 ppm	9 ppm	Attainment	Attainment – Unclassified
PM_{10} [vi]	24 hours	50 µg/m^3 [vii]	150 µg/m^3 (expected number of days above standard < or equal to 1)	Attainment	Unclassified
PM_{10}	Annual	20 µg/m^3	N/A	Attainment	N/A
$PM_{2.5}$ [viii]	24 hours	N/A	35 µg/m^3 [vi]	N/A	Attainment – Unclassified
$PM_{2.5}$	Annual	12 µg/m^3	12.0 µg/m^3	Attainment	Attainment – Unclassified
NO_2	1 hour	0.18 ppm	0.10 ppm [ix]	Attainment	Attainment – Unclassified
NO_2	Annual	0.03 ppm	0.053 ppm	Attainment	Attainment – Unclassified
SO_2 [x]	1 hour	0.25 ppm	0.075 ppm (99th percentile over 3 years)	Attainment	Attainment – Unclassified

Pollutant	Averaging Time	State Standard [i]	Federal Standard [ii]	State Project Attainment Status	Federal Project Area Attainment Status
SO_2	3 hours	N/A	0.5 ppm [xi]	N/A	Attainment – Unclassified
SO_2	24 hours	0.04 ppm	0.14 ppm (for certain areas)	Attainment	Attainment – Unclassified
SO_2	Annual	N/A	0.03 ppm (for certain areas)	N/A	Attainment – Unclassified
Pb [xii]	Monthly	1.5 µg/m^3	N/A	Attainment	N/A
Pb	Calendar Quarter	N/A	1.5 µg/m^3 (for certain areas)	N/A	Attainment – Unclassified
Pb	Rolling 3-month average	N/A	0.15 µg/m^3 [xiii]	N/A	Attainment – Unclassified
Sulfates	24 hours	25 µg/m^3	N/A	Attainment	N/A
H_2S	1 hour	0.03 ppm	N/A	Unclassified	N/A
Visibility Reducing Particles (VRP) [xiv]	8 hours	Visibility of 10 miles or more (Tahoe: 30 miles) at relative humidity less than 70%	N/A	Unclassified	N/A
Vinyl Chloride [xii]	24 hours	0.01 ppm	N/A	N/A	N/A

Sources: (Caltrans 2020; 2024)

CO = carbon monoxide
H_2S = hydrogen sulfide
O_3 = ozone
N/A = not applicable
NO_2 = nitrogen dioxide
Pb = lead
PM_{10} = particles of 10 micrometers or smaller
$PM_{2.5}$ = particles of 2.5 micrometers or smaller
ppm = parts per million
SO_2 = sulfur dioxide
µg/m^3 = micrograms per cubic meter

Notes:

[i] California standards for ozone, carbon monoxide (except 8-hour Lake Tahoe), sulfur dioxide (1 and 24 hour), nitrogen dioxide, and particulate matter (PM10, PM2.5, and visibility reducing particles) are values that are not to be exceeded. All others are not to be equaled or exceeded. California ambient air quality standards are listed in the Table of Standards in Section 70200 of Title 17 of the California Code of Regulations.

[ii] Federal standards (other than ozone, particulate matter, and those based on annual arithmetic mean) are not to be exceeded more than once a year. The ozone standard is attained when the fourth highest 8-hour concentration measured at each site in a year, averaged over 3 years, is equal to or less than the standard. For PM_{10}, the 24-hour standard is attained when the expected number of days per calendar year with a 24-hour average concentration above 150 µg/m3 is equal to or less than one. For $PM_{2.5}$, the 24-hour standard is attained when 98 percent of the daily concentrations, averaged over 3 years, are equal to or less than the standard. Contact the U.S. EPA for further clarification and current national policies.

[iii] On October 1, 2015, the national 8-hour ozone primary and secondary standards were lowered from 0.075 to 0.07 ppm. Transportation conformity applies in newly designated nonattainment areas for the 2015 national 8-hour ozone primary and secondary standards on and after August 4th, 2019 (see Transportation Conformity Guidance for 2015 Ozone NAAQS Nonattainment Areas).

[iv] ppm = parts per million

Pollutant	Averaging Time	State Standard [i]	Federal Standard [ii]	State Project Attainment Status	Federal Project Area Attainment Status

[v] Transportation conformity requirements for CO no longer apply after June 1, 2018, for the following California Carbon Monoxide Maintenance Areas (see U.S. EPA CO Maintenance Letter).

[vi] On December 14, 2012, the national annual $PM_{2.5}$ primary standard was lowered from 15 µg/m^3 to 12 µg/m^3. The existing national 24-hour $PM_{2.5}$ standards (primary and secondary) were retained at 35 µg/m^3, as was the annual secondary standard of 15 µg/m^3. The existing 24-hour PM_{10} standards (primary and secondary) of 150 µg/m^3 also were retained. The form of the annual primary and secondary standards is the annual mean, averaged over 3 years.

[vii] µg/m3 = micrograms per cubic meter

[viii] The 65 µg/m^3 $PM_{2.5}$ (24-hr) NAAQS was not revoked when the 35 µg/m^3 NAAQS was promulgated in 2006. The 15 µg/m^3 annual $PM_{2.5}$ standard was not revoked when the 12 µg/m^3 standard was promulgated in 2012. Therefore, for areas designated nonattainment or nonattainment/maintenance for the 1997 and or 2006 $PM_{2.5}$ NAAQS, conformity requirements still apply until the NAAQS are fully revoked.

[ix] Final 1-hour NO_2 NAAQS published in the Federal Register on 2/9/2010, effective 3/9/2010. Initial area designation for California (2012) was attainment/unclassifiable throughout. Project-level hot spot analysis requirements do not currently exist. Near-road monitoring starting in 2013 may cause re-designation to nonattainment in some areas after 2016.

[x] On June 2, 2010, a new 1-hour SO_2 standard was established, and the existing 24-hour and annual primary standards were revoked. To attain the 1-hour national standard, the 3-year average of the annual 99th percentile of the 1-hour daily maximum concentrations at each site must not exceed 75ppb. The 1971 SO_2 national standards (24-hour and annual) remain in effect until 1 year after an area is designated for the 2010 standard, except that in areas designated nonattainment for the 1971 standards, the 1971 standards remain in effect until implementation plans to attain or maintain the 2010 standards are approved.

[xi] Secondary standard, the levels of air quality necessary to protect the public welfare from any known or anticipated adverse effects of a pollutant rather than health. Conformity and environmental analysis address both primary and secondary NAAQS.

[xii] CARB has identified vinyl chloride and the particulate matter fraction of diesel exhaust as toxic air contaminants. Diesel exhaust particulate matter is part of PM_{10} and, in larger proportion, $PM_{2.5}$. Both CARB and U.S. EPA have identified lead and various organic compounds that are precursors to ozone and $PM_{2.5}$ as toxic air contaminants. There are no exposure criteria for adverse health effect due to toxic air contaminants, and control requirements may apply at ambient concentrations below any criteria levels specified above for these pollutants or the general categories of pollutants to which they belong.

[xiii] Lead NAAQS are not considered in Transportation Conformity analysis.

[xiv] In 1989, CARB converted both the general statewide 10-mile visibility standard and the Lake Tahoe 30-mile visibility standard to instrumental equivalents, which are "extinction of 0.23 per kilometer" and "extinction of 0.07 per kilometer" for the statewide and Lake Tahoe Air Basin standards, respectively.

MCAQMD is responsible for establishing and enforcing local air quality rules and regulations that address the requirements of federal and state air quality laws. This includes, but is not limited, to Rule 1-400, *General Limitations*; Rule 1-410, *Visible Emissions*; Rule 1-420, *Particulate Matter*; Rule 1-430, *Fugitive Dust Emissions*; Rule 1-440 *Sulfur Oxide Emissions*; and Rule 1-492, *National Emission Standards for Hazardous Air Pollutants*.

Climate, Meteorology, and Topography

Meteorology (weather) and terrain can influence air quality. Certain weather parameters are highly correlated to air quality, including temperature, the amount of sunlight, and the type of winds at and above the land surface. Winds can transport ozone and ozone precursors from one region to another, contributing to air quality problems downwind of source regions. Furthermore, mountains can act as a barrier that prevents ozone from dispersing.

The climate of Mendocino County transitions between that of the coast and that of the interior of California. The climate of coastal Mendocino, where the proposed project is located, is characterized by cool summers with frequent fog and mild winters with lots of rain. In coastal areas, the ocean helps to moderate temperatures year-round. Further inland, the summers are hotter and drier and the winters colder and snowier. At higher elevations in inland areas, it is cooler in the summers and snowier in the winter. In the summer months, strong northwesterly winds are common. During the winter, storms from the south Pacific lead to winds from the south.

Sensitive Receptors

Sensitive receptors/land uses for air quality include residential areas, schools, hospitals, other health care facilities, child/day care facilities, parks, and playgrounds (CARB 2005). According to CARB, the zone of greatest concern for transportation projects would be within 500 feet of a freeway, an urban road with 100,000 vehicles per day, or a rural road with 50,000 vehicles per day.

Although the Albion River Campground and numerous residences are within 500 feet of SR 1, the project area is predominantly rural. Within the project's post mile limits, SR 1 has annual average daily traffic (AADT) of 3,300 vehicles for the base year (2019), which would increase to approximately 4,100 vehicles by the design year (2051) (see Table 19 in Section 3.2.9, *Traffic and Transportation/Pedestrian and Bicycle Facilities*) (Caltrans 2024).

Environmental Consequences

Conformity Status

The proposed project is located in an attainment/unclassified area for all current NAAQS. Therefore, transportation conformity requirements do not apply.

Build Alternatives

Construction Impacts

During construction, short-term degradation of air quality is expected from the release of particulate emissions (airborne dust) generated by excavation, grading, hauling, and other activities related to construction. Emissions from construction equipment powered by gasoline and diesel engines are also anticipated and would include CO, NO_X, VOCs, directly emitted PM_{10} and $PM_{2.5}$, and toxic air contaminants, such as diesel exhaust particulate matter. Construction activities are expected to increase traffic congestion in the area, resulting in increases in emissions from traffic during the delays. These emissions would be temporary and limited to the immediate area surrounding the construction site.

Construction activities are expected to begin in 2027 and the construction duration would be 3 years for Alternatives 1 and 2, and 5 years for Alternative 3.

Temporary increases in emissions that are expected to occur during the construction phase typically fall into two main categories:

- **Fugitive Dust:** All air districts, including MCAQMD, and the California Health and Safety Code (Sections 41700–41701) regulates fugitive dust and generally requires that reasonable precautions be taken to control fugitive dust.

  Sources of fugitive dust may include disturbed soil at the construction site and trucks carrying uncovered loads of soil. Unless properly controlled, vehicles leaving the site may track out mud onto local streets, which could be an additional source of airborne dust after it dries. PM_{10} emissions may vary from day to day, depending on the nature and magnitude of construction activity and local weather conditions. PM_{10} emissions depend on soil moisture, silt content of soil, wind speed, and the types and number of equipment. Larger dust particles would settle near the source, while fine particles would be dispersed over greater distances from the construction site.
- **Construction equipment emissions:** Diesel exhaust particulate matter is a California-identified toxic air contaminant, and localized issues may exist if diesel-powered construction equipment is operated near sensitive receptors.

Construction emissions were estimated for the Build Alternatives using the Caltrans construction emissions tool (CAL-CET2021). Construction emissions for roadway and structure work were calculated separately to account for different equipment and schedules. Estimated roadway and structure emissions were added to show total estimated construction emissions. Construction emissions presented in Table 36 represent the average daily emissions from roadway and structure construction for each Build Alternative (Caltrans 2024).

Table 36. Average Daily Construction Emissions for Construction

Alternative	ROG (lbs/day)	CO (lbs/day)	NO_x (lbs/day)	PM_{10} (lbs/day)	$PM_{2.5}$ (lbs/day)
1A	7.6	31.5	46.0	17.2	4.5
1B	8.6	34.3	51.1	17.6	4.9
2A	7.3	30.7	44.9	17.1	4.4
2B	7.9	32.1	47.6	17.4	4.7
3A	8.1	32.5	48.5	17.5	4.8
Maximum	8.6	34.3	51.1	17.6	4.9

Short-term air quality impacts would not be substantial and are expected to be localized around construction activities. Further, U.S. EPA and CARB have adopted rules and emission standards that would further reduce diesel particulate matter emissions from on-road and off-road engines for construction equipment. The construction contractor would be required to comply with Caltrans Standard Specifications related to minimizing or eliminating particulate matter and vehicle and equipment emissions. Standard Specification Section 14-9.02 requires that the construction contractor comply with all rules, regulations, ordinances, and statutes that apply to work performed under the contract, including air pollution control rules, regulations, ordinances, and statutes provided in Government Code Section 11017 (Public Contract Code Section 10231) (see also Standard Measure **GHG-1**). Additional control measures are specified in Caltrans Standard Specifications Section 10-5, *Dust Control,* and Section 18, *Dust Palliatives* and Measure **AMM-AQ-1**. Where Caltrans Standard Specifications conflict with applicable MCAQMD rules, the construction contractor would be required to comply with the more stringent control or standard.

Construction activities will not last for more than 5 years at one general location, so construction-related emissions do not need to be included in regional and project-level conformity analysis (40 CFR 93.123[c][5]).

Lead

Lead is not normally an air quality issue for transportation projects, unless the project involves disturbance of soils containing high levels of aerially deposited lead (ADL) or painting or modification of structures with lead-based coatings.

As discussed in Section 3.3.5, *Hazardous Waste/Materials*, an ADL Site Investigation was performed to evaluate potential lead in shallow soil along SR 1 in 2020. Total lead concentrations ranged from 2.2 to 330 milligrams per kilogram (mg/kg) with mean concentrations less than the residential screening level of 80 mg/kg (DTSC 2016). Soil generated from the unpaved shoulders (as a whole) was determined to be suitable for unrestricted use.

Lead-based paint (LBP) was found in a white paint composite sample from the bridge railing in a structure survey of the Albion River Bridge completed in 2014. The concentration of lead would require disposal as California and federal hazardous waste.

Standard Measure **HW-1** and Measures **AMM-HW-2** and **AMM-HW-6** through **AMM-HW-9** would be implemented requiring preparation of Lead Compliance Plan(s) and Health and Safety Plan(s) for the proposed project. Lead from paint and thermoplastics would be managed in accordance with Caltrans Standard Specifications. All excavated soil would be managed in accordance with the ADL Agreement between Caltrans and DTSC. Surface soils and other potentially contaminated areas would be tested. If they exceed standards, the soils would be screened and contaminated soils and waste would be disposed of appropriately.

Asbestos

Asbestos is a known human carcinogen that can be found in manufactured items (e.g., structural asbestos found in ceilings) or found naturally (e.g., naturally occurring asbestos [NOA]). Structural asbestos is regulated by federal and state air district regulations, while NOA is regulated by CARB and worker-safety programs.

Given that the bridge was constructed in 1944, there is potential for asbestos-containing materials in the bridge structure, including rail shims, pipes, pipe coverings, expansion joint facings, and certain cement products. As described in Section 3.3.5-4, *Hazardous Waste/Materials*, asbestos was detected in samples of drainpipes used in bridge abutments in a structure survey of the Albion River Bridge completed in 2014.

Asbestos can also be released from serpentine and ultramafic rocks, if present, when the rock is broken or crushed. These rocks have been used commonly for unpaved gravel roads, landscaping, fill projects, and other improvement projects in some localities. Serpentinite and/or ultramafic rock are known to be present in 44 of California's 58 counties, including Mendocino County. However, NOA is not known to be present in the project area, and according to MCAQMD (MCAQMD 2005a), the proposed project's Environmental Study Limits do not overlap an area of concern for NOA. Standard Specification 14-11.02 would be implemented in the event of an unanticipated discovery of NOA.

Standard Measure **HW-4** and Measure **AMM-HW-3** would require asbestos abatement before any work on structures that could potentially contain asbestos in accordance with an Asbestos Work Plan. In addition, consistent with MCAQMD Rule 1-492, *National Emission Standard for Hazardous Air Pollutants (NESHAP)*, implementation of Measure **AMM-HW-4** would require a NESHAP notification to MCAQMD prior to bridge renovation or removal activities.

Operational Impacts

Operational emissions take into account long-term changes in emissions due to the proposed project, excluding the construction phase. Operational emissions were estimated for the Build Alternatives and No-Build Alternative using the Caltrans on-road vehicle emissions modeling tool (CT-EMFAC2021). Operational emissions presented in Table 37 represent the average daily emission rates for CO, PM_{10}, $PM_{2.5}$, and NO_x in 2019 (baseline year), 2031, and 2051.

Table 37. Summary and Comparison of Operational Emissions

Scenario/ Analysis Year	CO (grams/day)	PM_{10} (grams/day)	$PM_{2.5}$ (grams/day)	NO_x (grams/day)
Baseline Year	4,813	77	388	1,017
2031 No-Build	1,904	72	404	300
2031 Build Alternatives	1,904	72	404	300
2051 No-Build	1,461	78	452	118
2051 Build Alternatives	1,461	78	452	118

The proposed project would not result in changes to the traffic volume, fleet mix, or roadway capacity. Therefore, as indicated in the table above, the proposed project would not have an impact on CO, PM_{10}, $PM_{2.5}$, and NO_x emission rates relative to the No-Build Alternative. The CO and NO_x emission rates would decrease over time when compared to the baseline condition due to fleet turnover. The PM_{10} and $PM_{2.5}$ emission rates would increase over time as a result of tire wear, brake wear, and road dust emissions from increased traffic volumes, which would occur with or without the proposed project (Caltrans 2024).

Mobile Source Air Toxics Analysis

The FHWA developed a tiered approach with three categories for analyzing mobile source air toxics (MSAT) in NEPA documents, depending on specific project circumstances: (1) No analysis for projects with no potential for meaningful MSAT effects; (2) Qualitative analysis for projects with low potential MSAT effects; or (3) Quantitative analysis to differentiate alternatives for projects with higher potential MSAT effects (FHWA 2023).

According to FHWA's Updated Interim Guidance the proposed project is classified as a Category 1 project (a project with no potential for meaningful MSAT effects). The proposed project is expected to meet this category for the following reasons:

The purpose of the proposed project is to provide a bridge that meets modern seismic safety standards, provides safe and reliable multimodal access, and minimizes ongoing maintenance costs by constructing a replacement bridge across the Albion River. The proposed project has been determined to generate minimal air quality impacts for Clean Air Act criteria pollutants and has not been linked with any special MSAT concerns. The proposed project would not result in changes in traffic volumes, vehicle mix, basic project location, or any other factor that would cause a meaningful increase in MSAT impacts compared to that of the No-Build Alternative. Moreover, U.S. EPA regulations for vehicle engines and fuels will cause overall MSAT emissions to decline significantly over the next several decades. Based on regulations now in effect, an analysis of national trends with EPA's MOVES3 model forecasts a combined reduction of over 76 percent in the total annual emissions rate for the priority MSAT from 2020 to 2060 while vehicle-miles of travel are projected to increase by 31 percent (FHWA 2023). This will both reduce the background level of MSAT as well as the possibility of even minor MSAT emissions from the proposed project under all Build Alternatives. Though not required, CT-EMFAC2021 was used to estimate MSAT emissions for the Build Alternatives and No-Build Alternative in 2019 (baseline year), 2031, and 2051. Modeling results showed that the proposed project would not have an impact on MSAT emissions relative to the No-Build Alternative and that MSAT emissions would decrease over time (Caltrans 2024).

No-Build Alternative

Under the No-Build Alternative, the Albion River Bridge would not be replaced, and air quality would not be impacted.

Avoidance, Minimization, and/or Mitigation Measures

Applicable measures from other resource categories that are referenced in this chapter include Measures **AMM-HW-2** through **AMM-HW-4**, and **AMM-HW-6** through **AMM-HW-9**. These measures would be implemented and are described in Appendix D, *Avoidance, Minimization, and/or Mitigation Summary*. Additionally, the following resource-specific measure would be implemented:

AMM-AQ-1: Implementation of the following measures, some of which may also be required for other purposes, such as storm water pollution control, would reduce air quality impacts resulting from construction activities.

1. All construction equipment would use low sulfur fuel, as required by CA Code of Regulations Title 17, Section 93114

2. A dust control plan would be developed documenting sprinkling, temporary paving, speed limits, and timely re-vegetation of disturbed slopes as needed to minimize construction impacts to existing communities.

3. Track-out reduction measures, such as gravel pads at project access points to minimize dust and mud deposits on roads affected by construction traffic, would be used.

4. Dust and mud that are deposited on paved, public roads due to construction activity and traffic would be removed promptly and regularly to reduce PM emissions.

5. To the extent feasible, construction traffic would be scheduled and routed to reduce congestion and related air quality impacts caused by idling vehicles along local roads during peak travel times.

6. Disturbed areas would be stabilized as soon as practical after grading to reduce windblown PM in the area.

Climate Change

Neither the U.S. EPA nor the FHWA has issued explicit guidance or methods to conduct project-level greenhouse gas analysis. FHWA emphasizes concepts of resilience and sustainability in highway planning, project development, design, operations, and maintenance. Because there have been requirements set forth in California legislation and executive orders on climate change, the issue is addressed in the CEQA chapter of this document. The CEQA analysis may be used to inform the NEPA determination for the project.

3.3.7 Noise and Vibration

Regulatory Setting

The National Environmental Policy Act (NEPA) of 1969 and the California Environmental Quality Act (CEQA) provide the broad basis for analyzing and abating highway traffic noise effects. The intent of these laws is to promote the general welfare and to foster a healthy environment. The requirements for noise analysis and consideration of noise abatement and/or mitigation, however, differ between NEPA and CEQA.

California Environmental Quality Act

CEQA requires a strictly baseline versus build analysis to assess whether a proposed project will have a noise impact. If a proposed project is determined to have a significant noise impact under CEQA, then CEQA dictates that mitigation measures must be incorporated into the project unless those measures are not feasible. The rest of this section will focus on the NEPA/Title 23 Part 772 of the Code of Federal Regulations (23 CFR 772) noise analysis; please see Chapter 4 of this document for further information on noise analysis under CEQA.

National Environmental Policy Act and 23 CFR 772

For highway transportation projects with Federal Highway Administration (FHWA) involvement (and the California Department of Transportation [Caltrans], as assigned), the Federal-Aid Highway Act of 1970 and its implementing regulations (23 CFR 772) govern the analysis and abatement of traffic noise impacts. The regulations require that potential noise impacts in areas of frequent human use be identified during the planning and design of a highway project. The regulations include noise abatement criteria (NAC) that are used to determine when a noise impact would occur. The NAC differ depending on the type of land use under analysis. For example, the NAC for residences (67 A-weighted decibels [dBA]) is lower than the NAC for commercial areas (72 dBA). The following table lists the noise abatement criteria for use in the NEPA/23 CFR 772 analysis.

Table 38. Noise Abatement Criteria

Activity Category	NAC, Hourly A-Weighted Noise Level, Leq(h)	Description of activity category
A	57 (Exterior)	Lands on which serenity and quiet are of extraordinary significance and serve an important public need and where the preservation of those qualities is essential if the area is to continue to serve its intended purpose.
B[1]	67 (Exterior)	Residential.
C[1]	67 (Exterior)	Active sport areas, amphitheaters, auditoriums, campgrounds, cemeteries, day care centers, hospitals, libraries, medical facilities, parks, picnic areas, places of worship, playgrounds, public meeting rooms, public or nonprofit institutional structures, radio studios, recording studios, recreation areas, Section 4(f) sites, schools, television studios, trails, and trail crossings.
D	52 (Interior)	Auditoriums, day care centers, hospitals, libraries, medical facilities, places of worship, public meeting rooms, public or nonprofit institutional structures, radio studios, recording studios, schools, and television studios.
E	72 (Exterior)	Hotels, motels, offices, restaurants/bars, and other developed lands, properties, or activities not included in A–D or F.
F	No NAC—reporting only	Agriculture, airports, bus yards, emergency services, industrial, logging, maintenance facilities, manufacturing, mining, rail yards, retail facilities, shipyards, utilities (water resources, water treatment, electrical, etc.), and warehousing.
G	No NAC—reporting only	Undeveloped lands that are not permitted.

[1] Includes undeveloped lands permitted for this activity category.

Figure 69 lists the noise levels of common activities to enable readers to compare the actual and predicted highway noise levels discussed in this section with common activities.

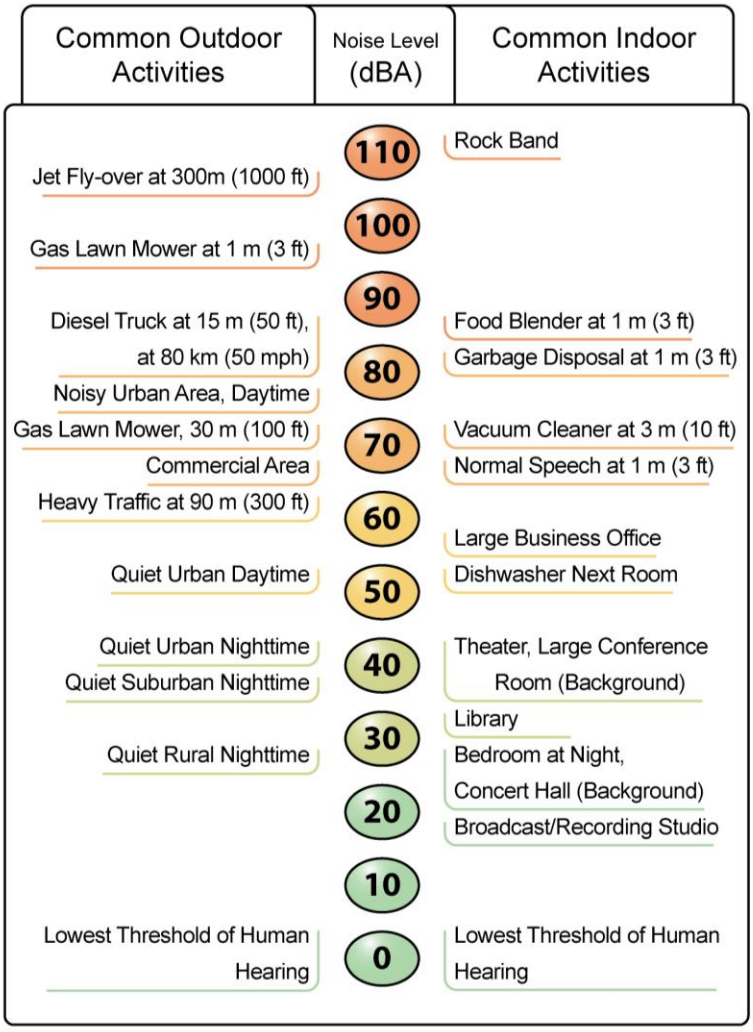


Figure 69. Noise Levels of Common Activities

According to the Caltrans' Traffic Noise Analysis Protocol for New Highway Construction and Reconstruction Projects, April 2020, a noise impact occurs when the predicted future noise level with the project substantially exceeds the existing noise level (defined as a 12 dBA or more) or when the future noise level with the project approaches or exceeds the NAC (Caltrans 2020a). A noise level is considered to approach the NAC if it is within 1 dBA of the NAC.

If it is determined that the project will have noise impacts, then potential abatement measures must be considered. Noise abatement measures that are determined to be reasonable and feasible at the time of final design are incorporated into the project plans and specifications. This document discusses noise abatement measures that would likely be incorporated in the project.

Caltrans' Traffic Noise Analysis Protocol sets forth the criteria for determining when an abatement measure is reasonable and feasible. Feasibility of noise abatement is

basically an engineering concern. Noise abatement must be predicted to reduce noise by at least 5 dB at an impacted receptor to be considered feasible from an acoustical perspective. It must also be possible to design and construct the noise abatement measure for it to be considered feasible. Factors that affect the design and constructability of noise abatement include, but are not limited to, safety, barrier height, topography, drainage, access requirements for driveways, presence of local cross streets, underground utilities, other noise sources in the area, and maintenance of the abatement measure. The overall reasonableness of noise abatement is determined by the following three factors: 1) the noise reduction design goal of 7 dB (A) at one or more impacted receptors; 2) the cost of noise abatement; and 3) the viewpoints of benefited receptors (including property owners and residents of the benefited receptors).

Affected Environment

This section is based on the proposed project's Noise Study Report (Caltrans 2024), which was completed in March 2024. Based on the results of the project's Noise Study Report, a Noise Abatement Decision Report was not required for the proposed project, as projected traffic noise levels in the design year are not expected to approach or exceed the NAC for any of the Build Alternatives.

The proposed project is located on State Route (SR) 1 in Mendocino County, approximately 15 miles south of Fort Bragg. The dominant source of noise in the project area is highway noise from SR 1. Caltrans conducted a field investigation to identify land uses that could be subject to traffic and construction noise impacts from the proposed project. The following land uses were identified in the project area by activity category:

- Activity Category B – Residential
- Activity Category C – Campground
- Activity Category E – Hotel/Motel
- Activity Category F – Commercial and Agricultural
- Activity Category G – Undeveloped Land Use

Activity Categories F and G are not sensitive to highway traffic noise. Although all land uses are evaluated, traffic noise abatement is only considered for areas of frequent human use that would benefit from a lowered noise level. Accordingly, this analysis focuses on locations with defined outdoor activity areas, such as residential backyards and common use areas at campgrounds and hotels.

Field Noise Study

A field noise study was conducted in accordance with the recommended procedures in Caltrans' Technical Noise Supplement to the Traffic Noise Analysis Protocol (Caltrans 2013). Noise receptors in the project area were identified using parcel mapping aerial images and field investigations.

Short-term noise measurements were conducted on September 28, 2016; April 3, 2023; and April 4, 2023. Measurements intervals were between 20 and 30 minutes at each site. A total of seven short-term noise measurements were conducted at Activity Categories B (Residential), C (Campground), and G (Undeveloped) land uses. The seven short-term measurement locations were selected to serve as representative modeling locations. Access to private property was limited. Noise measurements were taken within Caltrans or Mendocino County right of way and at several private residences that granted access. Short-term measurement locations are identified in Figure 70.

During the short-term measurements two or more consecutive measurements were taken at each monitoring location. Dominant noise sources were identified and logged. Table 39 summarizes the results of the short-term noise monitoring conducted in the project area.

Table 39. Summary of Short-Term Noise Measurements

Position	Address	NAC	Land Uses	Date	Start Time	Duration (minutes)	Measured L_{eq}
ST-1	3081 N Highway 1	B	Residential	4/4/2023	11:01	30	49.1
					11:31	30	49.4
ST-2	3700 Albion Little River Road	B	Residential	9/28/2016	14:54	20	52.3
					15:14	20	52.4
ST-3	3740 Albion Little River Road	G	Undeveloped	4/4/2023	9:09	30	49.0
					9:39	30	48.4
ST-4	Albion River Campground	C	Campground	4/4/2023	14:03	30	53.2
					14:30	30	51.4
ST-5	Albion River Campground	C	Campground	4/4/2023	12:54	30	46.2
					13:24	30	45.2
ST-6	33890 Albion River South Side Road	B	Residential	9/28/2016	13:03	20	54.1
					13:20	20	55.3
ST-7	33870 Albion River South Side Road	G	Undeveloped	4/3/2023	13:12	30	51.6
					13:42	30	53.4

Source: (Caltrans 2024)

NAC = Noise Abatement Criteria; L_{eq} = equivalent continuous sound level

Long-term noise monitoring was conducted at one location. A single long-term measurement site was selected to capture the diurnal traffic noise level pattern in the project area. The long-term sound level data were collected over a 22-hour period, beginning Tuesday, September 27, 2016, and ending Wednesday, September 28, 2016. The purpose of long-term measurements is to establish the loudest noise hour.

Long-term monitoring location LT-1 was located at the residence at 33890 Albion River South Side Road on the south side of SR 1, approximately 120 feet from the SR 1 edge-of-pavement. LT-1 was near where ST-6 measurements were taken (see Figure 70). The average loudest-hour sound level [$L_{eq(h)}$] measured was 52.3 dBA during the hour beginning 4:00 p.m.



Figure 70. Noise Monitoring Locations

Traffic Noise Modeling

Traffic noise levels were predicted using the FHWA Traffic Noise Model Version 2.5. Key inputs to the traffic noise model were the locations of roadways, traffic mix and speed, shielding features (e.g., topography and buildings), ground type, and receptors. As described further below in *Environmental Consequences*, noise levels were modeled at 55 receiver locations for each Design Option, which includes the seven short-term monitoring locations.

Traffic noise was evaluated under existing conditions (2019) and 20-year design-year (2051) conditions with and without the proposed project for each Design Option. 2019 was used for existing conditions to represent traffic conditions prior to the COVID-19 pandemic. Loudest-hour traffic volumes, vehicle classification percentages, and traffic speeds under existing and design-year conditions were developed for input into the traffic noise model.

Human Response to Changes in Noise Levels

Under controlled conditions in an acoustical laboratory, the trained, healthy human ear is able to discern 1-dB changes in sound levels when exposed to steady, single-frequency (“pure-tone”) signals in the midfrequency (1,000 Hz–8,000 Hz) range. In typical noisy environments, changes in noise of 1 to 2 dB are generally not perceptible. However, it is widely accepted that people are able to begin to detect sound level increases of 3 dB in typical noisy environments. Further, a 5-dB increase is generally perceived as a distinctly noticeable increase, and a 10-dB increase is generally perceived as a doubling of loudness. Therefore, a doubling of sound energy (e.g., doubling the volume of traffic on a highway) that would result in a 3-dB increase in sound, would generally be perceived as barely detectable.

Decibels are logarithmic units, and therefore a doubling of sound energy results in a 3-dB increase in sound. However, given a sound level change measured with precise instrumentation, the subjective human perception of a doubling of loudness will usually be different than what is measured.

Environmental Consequences

Build Alternatives

Construction Impacts (Noise)

For all Build Alternatives, noise generated by construction activities would be a function of the noise levels generated by individual pieces of construction equipment, the type and amount of equipment operating at any given time, the timing and duration of construction activities, and the proximity of nearby receptors. Construction noise would primarily result from the operation of heavy construction equipment and arrival and departure of heavy-duty trucks. Construction noise levels would vary on a day-to-day basis during each phase of construction depending on the specific task being completed.

Project construction is anticipated to include clearing and grubbing, earthwork, paving, bridge construction (excluding pile driving) and pile driving. FHWA's Roadway Construction Noise Model was used to calculate the maximum and average noise levels anticipated during each phase of construction. Table 40 shows the equipment noise levels expected for each type of work for each of these phases.

Table 40. Noise Levels for Construction Equipment by Phase

Construction Phase	Equipment	Maximum Noise Level (L_{max}, dBA)	Hourly Average Noise Level ($L_{eq[h]}$, dBA)
Clearing and Grubbing	Dozer	82	78
	Excavator	81	77
	Grader	85	81
	Heavy Truck	77	73
	Backhoe	78	74
Earthwork	Dozer	82	78
	Excavator	81	77
	Grader	85	81
	Heavy Truck	77	73
	Roller	80	73
	Scraper	84	80
	Backhoe	78	74
	Hoe Ram	90	80
Paving	Concrete Saw	90	83
	Heavy Truck	77	73
	Pavement Scarafier	85	78
	Paver	77	74
	Roller	80	73
	Tractor	84	80
Bridge Construction (excluding pile driving)	Bore/Drill Rig	84	77
	Crane	81	73
	Concrete Saw	90	83
	Excavator	81	77
	Heavy Truck	77	73
	Air Compressor	78	74
	Rough Terrain Forklift	84	79
	Backhoe	78	74
Pile Driving	Impact Pile Driver	101	94
	Vibratory Pile Driver	101	94

Source: (Caltrans 2024)

dBA = A-weighted decibels,
$L_{eq(h)}$ = 1-hour A-weighted equivalent sound level L_{max} = maximum sound level

Table 41 summarizes noise levels produced by the loudest construction equipment for each construction phase calculated using FHWA's Roadway Construction Noise Model. This model includes representative sound levels for the most common types of construction equipment and the approximate usage factors of such equipment that were developed based on an extensive database of information gathered during the construction of the Central Artery/Tunnel Project in Boston, Massachusetts. Equipment anticipated during each phase of construction were input into the model to calculate noise levels at distances of 50 feet, 100 feet, and 500 feet from the construction activity.

Noise generated by construction equipment drops off at a rate of 6 dB per doubling of distance.

Table 41. Noise Level by Construction Phase

Construction Phase	Maximum Noise Level (L_{max}, dBA)			Hourly Average Noise Level ($L_{eq[h]}$, dBA)		
	50 feet	100 feet	500 feet	50 feet	100 feet	500 feet
Clearing and Grubbing	85	79	65	87	81	67
Earthwork	90	84	70	89	83	69
Paving	90	84	70	86	80	66
Bridge Construction (excluding pile driving)	90	84	70	88	82	68
Pile Driving	101	95	81	99	93	79

Source: (Caltrans 2024)

dBA = A-weighted decibels, $L_{eq(h)}$ = 1-hour A-weighted equivalent sound level
L_{max} = maximum sound level

The loudest noise-generating construction activity for the proposed project would be pile driving. Pile driving would be required during construction of temporary trestles and foundations (abutments and piers) for the new bridge. Pile driving typically occurs during daytime hours over short durations with breaks in between each pile. Typical pile driving can generate maximum sound levels (L_{max}) ranging between 95 and 101 dBA at 50 feet. Table 42 shows noise generated by impact pile driving operations at various distances from the pile driving operation.

Table 42. Noise from Impact Pile Driving Operation

Distance from Pile Driving (feet)	Maximum Noise Level (L_{max}, dBA)	Hourly Average Noise Level ($L_{eq[h]}$, dBA)
50	101	99
75	98	96
150	92	90
200	89	87
400	83	81
800	77	70

Source: (Caltrans 2024)

dBA = A-weighted decibels, $L_{eq(h)}$ = 1-hour A-weighted equivalent sound level,
L_{max} = maximum sound level

As indicated in Table 42, hourly average noise levels would be up to 99 dBA $L_{eq[h]}$ at 50 feet from pile driving and maximum noise levels would be up to 101 dBA L_{max} at 50 feet from pile driving.

For Alternative 1 (Design Option 1A), if driven piles are selected for the abutments, pile driving could occur within 125 feet of residential areas on the north side of the bridge and within 275 feet of residential areas on the south side of the bridge. At these distances, maximum outdoor noise levels during pile driving would be approximately 93 and 86 dBA L_{max} respectively. If cast-in-drilled hole (CIDH) piles are selected for the abutments, the nearest pile driving could occur within 200 feet of residential areas on the north side of the bridge and 430 feet of residential areas on the south side of the bridge. At these distances, maximum outdoor noise levels during pile driving would be approximately 89 and 82 dBA L_{max} respectively.

For Alternative 1 (Design Option 1B), pile driving could occur within 175 feet of residential areas on the north side of the bridge and within 300 feet of residential areas on the south side of the bridge. At these distances, maximum outdoor noise levels during pile driving would be approximately 90 and 85 dBA $L_{max,}$ respectively.

For Alterative 2 (Design Option 2A), pile driving could occur within 400 feet of residential areas on the north side of the bridge and within 270 feet of residential areas on the south side of the bridge. At these distances, maximum outdoor noise levels during pile driving would be approximately 83 and 86 dBA L_{max} respectively.

For Alterative 2 (Design Option 2B), pile driving could occur within 145 feet of residential areas on the north side of the bridge and within 115 feet of residential areas on the south side of the bridge. At these distances, maximum outdoor noise levels during pile driving would be approximately 92 and 94 dBA L_{max} respectively.

For Alternative 3, pile driving could occur within 300 feet of residential areas on the north side of the bridge and within 380 feet of residential areas on the south side of the bridge. At these distances, maximum outdoor noise levels during pile driving would be approximately 85 and 83 dBA L_{max} respectively.

There is a Caltrans Standard Specification that requires that construction noise not exceed a maximum sound level of 86 dBA at 50 feet from job site activities between the hours of 9:00 p.m. and 6:00 a.m. However, due to nearby residences, a more restrictive measure, **AMM-NOI-1**, would be implemented to minimize or avoid potential noise impacts resulting from proposed construction activities on receptors. This measure would require that the construction contractor provide advance notification to interested parties and implement additional noise controls, where practical and feasible, when noise-generating construction activities are necessary outside of the hours of 7:00 a.m. to 7:00 p.m. Monday through Saturday, with no construction on Sundays or federal holidays.

Construction Impacts (Vibration)

Vibrations travel through the ground from the point at which energy is imparted (e.g., pile strike). Vibrations are spread out and reflected between different soil layers and attenuates as it travels due to the spreading and damping properties of the soil or rock through which the vibration travels. Consequently, the process of vibration propagation

is often complex and difficult to predict for any given site. Generally, vibrations will spread through the ground and diminish in strength as the distance from the vibration source increases.

Construction vibration has the potential to cause architectural or structural damage to buildings in the project area during operation of heavy equipment or impact equipment. Ground vibration and ground-borne noise can also be a source of annoyance to residences near the vibration-generating activities.

Construction equipment or activities capable of generating perceptible vibration include excavation equipment, tracked vehicles, vibratory and impact pile drivers, pile extraction equipment, vibratory compaction equipment, blasting, drop balls, and crack-and-seat equipment. Table 43 presents typical vibration levels that could be expected from representative construction equipment at a reference distance of 25 feet and calculated vibration levels at representative distances from the proposed project. The typical vibration levels were identified in the *Transportation and Construction Vibration Guidance Manual* (Caltrans 2020b) and represent typical worst-case values. Actual values from equipment used by the contractor may result in vibration levels that exceed or are lower than the reference values. Vibration levels are highest close to the source, and then attenuate with increasing distance depending on soil conditions.

Table 43. Construction Vibration from Equipment

Equipment	Vibration Level (in/sec PPV)				
	25 feet	50 feet	75 feet	100 feet	200 feet
Vibratory Roller	0.210	0.098	0.063	0.046	0.021
Large Bulldozer	0.089	0.042	0.027	0.019	0.009
Drilling	0.089	0.042	0.027	0.019	0.009
Hoe Ram	0.244	0.114	0.073	0.053	0.025
Loaded Truck	0.076	0.035	0.023	0.017	0.008
Impact Pile Driver (typical)	0.650	0.303	0.194	0.141	0.066
Impact Pile Driver (upper limit)[1]	1.532	0.715	0.458	0.333	0.156
Vibratory Pile Driver	0.650	0.303	0.194	0.141	0.066

Source: (Caltrans 2024; 2020b)

in/sec = inches per second, PPV = peak particle velocity
[1]Upper limit impact pile driving assumes maximum driving energy of 200,000 feet-pounds

Construction-related vibration impacts are evaluated in terms of potential structural damage and potential annoyance to nearby residences.

In terms of structural damage, impact pile driving that occurs within 130 feet of historic buildings, 110 feet of older residential buildings or 70 feet of new residential and commercial structures has the potential to cause damage. Vibratory pile driving that occurs within 60 feet of historic buildings, 50 feet of older residential buildings, or 32 feet of new residential and commercial structures has the potential to cause damage. Hoe rams have the highest peak particle velocity (PPV) for other construction equipment. Hoe rams operating within 25 feet of historic buildings, 21 feet of older residential buildings, or 13 feet of new residential and commercial structures has the potential to

cause damage. Based on the anticipated locations of pile driving and other project activities in relation to the distances shown in

Table 44, it is not anticipated that proposed impact pile driving, vibratory pile driving, or use of construction equipment would cause damage to any structure.

Table 44. Distance to Potential Structure Damage

Structure Type	Distance to Threshold (feet)		
	Impact Pile Driving (upper limit)	Vibratory Pile Driving	Other Equipment
Modern Industrial/Commercial Structures	70	32	13
New Residential Structures	70	32	13
Older Residential Structures	110	50	21
Historic and some Old Structures	130	60	25

Source: (Caltrans 2024)

In terms of potential annoyance to nearby residences, vibration from impact pile driving would be considered severe within 85 feet of the pile driving operation and would be barely perceptible beyond 2,500 feet. Vibratory pile driving would be considered severe at distances less than 40 feet and would be barely perceptible beyond 1,115 feet. Vibrations from a hoe ram would be considered severe within 16 feet and would be barely perceptible beyond 455 feet. See Table 45 for further details. The distance pile driving would occur to residences is described above in *Construction Impacts (Noise)*. It is anticipated that the proposed impact pile driving, vibratory pile driving, and use of construction equipment for all of the Build Alternative would have the potential for distinctly or strongly perceptible levels at nearby residences. However, any vibration-related impacts would be temporary and transient in nature and would cease at the completion of construction. For Build Alternatives 1 and 2, it is anticipated that a single construction season of pile driving would occur, while for Alternative 3 it is anticipated that two construction seasons of pile driving would occur. For any of the Build Alternatives, only a portion of the pile driving days would occur within the distinctly perceptible threshold distances shown in Table 45, which would be a function of the location of the foundations in relation to nearby residences. Measures **AMM-VIB-1** and **AMM-VIB-2** would be implemented, which would require a pre-construction survey and vibration monitoring, respectively. Vibration monitors would be placed outside the buildings at the point closest to the vibration source.

Table 45. Distance to Potential Annoyance

Human Response	Distance to Threshold (feet)		
	Impact Pile Driving (upper limit)	Vibratory Pile Driving	Other Equipment
Barely perceptible	2,500	1,115	455
Distinctly perceptible	690	315	130
Strongly perceptible	300	140	55
Severe	85	40	16

Source: (Caltrans 2024)

Operational Impacts

The FHWA defines a Type I project as a proposed federal highway project for the construction of a highway on a new location, addition of through-traffic lane(s), or the physical alteration of an existing highway where there is either a substantial horizontal or vertical alteration. Type I projects require operational noise analysis. Projects that do not meet the classification of a Type I project, based on the scope of work, are considered Type III projects. Type III projects do not require noise analysis.

Table 46 (below) summarizes the traffic noise modeling results for existing conditions, design-year no-build condition, and design year build condition for Alternative 1 and Alterative 2. Alternative 3 would not substantially change the location or operation of the roadway; therefore, noise levels in the design year are expected to be equivalent to the design year no build condition. Predicted design-year traffic noise levels with the project are compared to existing conditions and to design-year no-project conditions. The comparison to existing conditions is included in the analysis to identify traffic noise impacts as defined under 23 CFR 772. The comparison to No-Build conditions indicates the direct effect of the proposed project. Traffic noise modeling results indicate the loudest traffic noise levels would remain below the noise abatement criteria and would not result in a substantial increase in noise at any land uses within the project area (see Table 46).

Build Alternative 1

Alternative 1 is considered a Type I project because the proposed alignment would result in a substantial horizontal alteration. Figure 71 shows the modeled receiver locations and the proposed alignment of the Albion River Bridge under Alternative 1.

Activity Category B (Residential)

For Design Options 1A and 1B, traffic noise modeling results indicate that traffic noise levels at residential uses would be in the range of 49 to 59 dBA $L_{eq(h)}$ in the design year. The results also indicate that the increase in noise between existing and design year conditions is predicted to be 0 to 3 dB. Because the predicted noise levels in the design year are not expected to approach or exceed the NAC (67 dBA $L_{eq[h]}$) or result in a substantial increase in noise, no traffic noise impacts are predicted at Category B locations.

Activity Category C (Campground)

For Design Options 1A and 1B, traffic noise modeling results indicate that traffic noise levels at campground uses would be in the range of 48 to 54 dBA $L_{eq(h)}$ in the design year. The results also indicate that the increase in noise between existing and design-year conditions is predicted to be 0 to 2 dB. Because the predicted noise levels in the design year are not expected to approach or exceed the NAC (67 dBA $L_{eq[h]}$) or result in a substantial increase in noise, no traffic noise impacts are predicted at Category C locations.

Activity Category E (Hotel/Motel)

For Design Options 1A and 1B, traffic noise modeling results indicate that traffic noise levels at hotel/motel uses would be in the range of 51 to 58 dBA $L_{eq(h)}$ in the design year. The results also indicate that the increase in noise between existing and design-year conditions is predicted to be 2 dB. Because the predicted noise levels in the design year are not expected to approach or exceed the NAC (72 dBA $L_{eq[h]}$) or result in a substantial increase in noise, no traffic noise impacts are predicted at Category E locations.

Therefore, the projected traffic noise levels in the design year are not expected to approach or exceed the NAC at any Category B, Category C, or Category E receptors and traffic noise abatement is not required for Alternative 1.



Figure 71. Design Options 1A and 1B – Noise Modeling Receiver Locations

Build Alternative 2

Alternative 2 is considered a Type I project because the proposed alignment would result in a substantial horizontal alteration. Figure 72 and Figure 73 show the modeled receiver locations and the proposed alignment of the Albion River Bridge under Design Option 2A and Design Option 2B, respectively.

Activity Category B (Residential)

For Design Option 2A, traffic noise modeling results indicate that traffic noise levels at residential uses would be in the range of 51 to 62 dBA $L_{eq(h)}$ in the design year. The results also indicate that the increase in noise between existing and design-year conditions is predicted to be 0 to 6 dB. Because the predicted noise levels in the design year are not expected to approach or exceed the NAC (67 dBA $L_{eq[h]}$) or result in a substantial increase in noise, no traffic noise impacts are predicted at Category B locations.

For Design Option 2B, traffic noise modeling results indicate that traffic noise levels at residential uses would be in the range of 50 to 60 dBA $L_{eq(h)}$ in the design year. The results also indicate that the increase in noise between existing and design year conditions is predicted to be 0 to 4 dB. Because the predicted noise levels in the design year are not expected to approach or exceed the NAC (67 dBA $L_{eq[h]}$) or result in a substantial increase in noise, no traffic noise impacts are predicted at Category B locations.

Activity Category C (Campground)

For Design Option 2A, traffic noise modeling results indicate that traffic noise levels at campground uses would be in the range of 50 to 54 dBA $L_{eq(h)}$ in the design year. The results also indicate that the increase in noise between existing and design-year conditions is predicted to be 2 to 4 dB. Because the predicted noise levels in the design year are not expected to approach or exceed the NAC (67 dBA $L_{eq[h]}$) or result in a substantial increase in noise, no traffic noise impacts are predicted at Category C locations.

For Design Option 2B, traffic noise modeling results indicate that traffic noise levels at campground uses would be in the range of 50 to 56 dBA $L_{eq(h)}$ in the design year. The results also indicate that the increase in noise between existing and design-year conditions is predicted to be 0 to 4 dB. Because the predicted noise levels in the design year are not expected to approach or exceed the NAC (67 dBA $L_{eq[h]}$) or result in a substantial increase in noise, no traffic noise impacts are predicted at Category C locations.



Figure 72. Design Option 2A – Alignment and Noise Modeling Receiver Location



Figure 73. Design Option 2B – Noise Modeling Receiver Locations

Activity Category E (Hotel/Motel)

For Design Option 2A, traffic noise modeling results indicate that traffic noise levels at hotel/motel uses would be in the range of 51 to 57 dBA $L_{eq(h)}$ in the design year. The results also indicate that the increase in noise between existing and design-year conditions is predicted to be 1 to 3 dB. Because the predicted noise levels in the design year are not expected to approach or exceed the NAC (72 dBA $L_{eq[h]}$) or result in a substantial increase in noise, no traffic noise impacts are predicted at Category E locations.

For Design Option 2B, traffic noise modeling results indicate that traffic noise levels at hotel/motel uses would be in the range of 51 to 58 dBA $L_{eq(h)}$ in the design year. The results also indicate that the increase in noise between existing and design-year conditions is predicted to be 2 dB. Because the predicted noise levels in the design year are not expected to approach or exceed the NAC (72 dBA $L_{eq[h]}$) or result in a substantial increase in noise, no traffic noise impacts are predicted at Category E locations.

Therefore, the projected traffic noise levels in the design year are not expected to approach or exceed the NAC at any Category B, Category C, or Category E receptors and traffic noise abatement is not required for Alternative 2.

Build Alternative 3

Alternative 3 would not result in substantial horizontal alterations. Therefore, Alternative 3 is considered a Type III project under 23 CFR 772.7. Traffic noise impacts are not anticipated, and traffic volumes, composition, and speeds would remain the same in the Build and No-Build condition. Therefore, there would be no impact from traffic noise, and traffic noise abatement is not required for Alternative 3.

No-Build Alternative

Under the No-Build Alternative, the Albion River Bridge would not be replaced and there would be no impacts related to noise or vibration.

Avoidance, Minimization, and/or Mitigation Measures

The following resource-specific measures would be implemented:

AMM-NOI-1: *Construction Noise Minimization Measures*. To reduce the potential for noise impacts resulting from project construction, the following measures shall be implemented during project construction.

1. When feasible, noise-generating construction activities shall be restricted to between 7:00 a.m. and 7:00 p.m. Monday through Saturday, with no construction occurring on Sundays or federal holidays. If work is necessary outside of these hours, notifications shall be made to interested parties

in advance and additional noise controls shall be implemented where practical and feasible.

2. All internal combustion engine driven equipment shall be equipped with manufacturer recommended intake and exhaust mufflers that are in good condition and appropriate for the equipment.
3. Unnecessary idling of internal combustion engines within 100 feet of residences shall be strictly prohibited.
4. "Quiet" air compressors and other "quiet" equipment shall be used where such technology exists.
5. Provide acoustic shielding around pile driving hammer.

AMM-VIB-1: *Pre-construction Surveys*. Prior to the start of construction, a pre-construction survey that documents the existing condition of the buildings shall be conducted. The pre-construction survey shall identify and document both structural and cosmetic damage on the interior and exterior of the building. The length and width of cracks shall be measured, and if deemed necessary, monitored during construction. Areas that are typically inspected during a pre-construction survey include foundations, interior/exterior walls, hardscaping, and interior floors. The survey shall include a photo log or video log, and if known, list the cause of the damage.

AMM-VIB-2: *Vibration Monitoring*. During construction, vibration monitors shall be placed outside the buildings at the point closest to the vibration source.

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Table 46. Predicted Future Noise Levels

Receptor I.D.	Land Use	Number of Dwelling Units	Address	Existing Noise Level $L_{eq(h)}$, dBA	Design Year Noise Level without Project $L_{eq(h)}$, dBA	SR 1 Future Worst Hour Noise Levels – $L_{eq(h)}$, dBA												Activity Category (NAC)	Impact Type
						Alternative 1A			Alternative 1B			Alternative 2A			Alternative 2B				
						Design Year Noise Level with Project $L_{eq(h)}$, dBA	Design Year Noise Level without Project minus Existing Conditions $L_{eq(h)}$, dBA	Design Year Noise Level with Project minus No Project Conditions $L_{eq(h)}$, dBA	Design Year Noise Level with Project $L_{eq(h)}$, dBA	Design Year Noise Level without Project minus Existing Conditions $L_{eq(h)}$, dBA	Design Year Noise Level with Project minus No Project Conditions $L_{eq(h)}$, dBA	Design Year Noise Level with Project $L_{eq(h)}$, dBA	Design Year Noise Level without Project minus Existing Conditions $L_{eq(h)}$, dBA	Design Year Noise Level with Project minus No Project Conditions $L_{eq(h)}$, dBA	Design Year Noise Level with Project $L_{eq(h)}$, dBA	Design Year Noise Level without Project minus Existing Conditions $L_{eq(h)}$, dBA	Design Year Noise Level with Project minus No Project Conditions $L_{eq(h)}$, dBA		
R-1	Hotel/Motel	1	3790 N Highway 1	49	50	51	1	1	51	1	1	51	1	1	51	1	1	E (72)	None
R-2	Hotel/Motel	1	3790 N Highway 1	53	54	55	1	1	55	1	1	56	1	2	55	1	1	E (72)	None
R-3	Hotel/Motel	1	3801 N Highway 1	56	57	58	1	1	58	1	1	57	1	0	58	1	1	E (72)	None
R-4 (ST-1)	Residential	1	-	56	57	58	1	1	58	1	1	57	1	0	57	1	0	B (67)	None
R-5	Undeveloped	None	-	57	58	59	1	1	59	1	1	59	1	1	58	1	0	G	None
R-6	Undeveloped	None	-	59	60	61	1	1	61	1	1	60	1	0	59	1	-1	G	None
R-7	Undeveloped	None	3781 N Highway 1	57	58	58	1	0	58	1	0	58	1	0	58	1	0	G	None
R-8	Residential	1	3775 N Highway 1	55	56	57	1	1	57	1	1	57	1	1	56	1	0	B (67)	None
R-9	Residential	1	3751 N Highway 1	56	57	58	1	1	58	1	1	58	1	1	57	1	0	B (67)	None
R-10	Residential	1	3725 N Highway 1	57	58	58	1	0	58	1	0	59	1	1	58	1	0	B (67)	None
R-11	Residential	1	3700 Albion Little River Rd	58	59	59	1	0	59	1	0	61	1	2	60	1	1	B (67)	None
R-12 (ST-2)	Residential	1	3720 Albion Little River Rd	56	57	57	1	0	57	1	0	59	1	2	58	1	1	B (67)	None
R-13	Residential	1	3740 Albion Little River Rd	53	54	55	1	1	55	1	1	56	1	2	55	1	1	B (67)	None
R-14 (ST-3)	Undeveloped	None	3721 Albion Little River Rd	51	52	53	1	1	53	1	1	55	1	3	54	1	2	G	None
R-15	Residential	1	3751 Albion Little River Rd	55	56	57	1	1	57	1	1	61	1	5	59	1	3	B (67)	None
R-16	Residential	1	3887 Albion Little River Rd	52	53	55	1	2	55	1	2	57	1	4	56	1	3	B (67)	None
R-17	Residential	2	Albion River North Side Rd	51	52	54	1	2	54	1	2	56	1	4	54	1	2	B (67)	None
R-18	Campground	1	Albion River North Side Rd	52	53	54	1	1	54	1	1	54	1	1	56	1	3	C (67)	None
R-19	Campground	1	Albion River North Side Rd	53	54	52	1	-2	52	1	-2	52	1	-2	53	1	-1	C (67)	None
R-20 (ST-4)	Campground	1	Albion River North Side Rd	52	53	52	1	-1	52	1	-1	50	1	-3	56	1	3	C (67)	None
R-21 (ST-5)	Campground	1	3500 N Highway 1	46	47	48	1	1	48	1	1	50	1	3	50	1	3	C (67)	None
R-22	Undeveloped	None	33920 Albion River South Side Rd	49	50	50	1	0	50	1	0	51	1	1	51	1	1	G	None

Receptor I.D.	Land Use	Number of Dwelling Units	Address	Existing Noise Level $L_{eq(h)}$, dBA	Design Year Noise Level without Project $L_{eq(h)}$, dBA	SR 1 Future Worst Hour Noise Levels – $L_{eq(h)}$, dBA												Activity Category (NAC)	Impact Type
						Alternative 1A			Alternative 1B			Alternative 2A			Alternative 2B				
						Design Year Noise Level with Project $L_{eq(h)}$, dBA	Design Year Noise Level without Project minus Existing Conditions $L_{eq(h)}$, dBA	Design Year Noise Level with Project minus No Project Conditions $L_{eq(h)}$, dBA	Design Year Noise Level with Project $L_{eq(h)}$, dBA	Design Year Noise Level without Project minus Existing Conditions $L_{eq(h)}$, dBA	Design Year Noise Level with Project minus No Project Conditions $L_{eq(h)}$, dBA	Design Year Noise Level with Project $L_{eq(h)}$, dBA	Design Year Noise Level without Project minus Existing Conditions $L_{eq(h)}$, dBA	Design Year Noise Level with Project minus No Project Conditions $L_{eq(h)}$, dBA	Design Year Noise Level with Project $L_{eq(h)}$, dBA	Design Year Noise Level without Project minus Existing Conditions $L_{eq(h)}$, dBA	Design Year Noise Level with Project minus No Project Conditions $L_{eq(h)}$, dBA		
R-23	Undeveloped	None	33950 Albion River South Side Rd	52	53	52	1	-1	52	1	-1	56	1	3	56	1	3	G	None
R-24	Residential	1	33880 Albion River South Side Rd	48	49	49	1	0	49	1	0	52	1	3	52	1	3	B (67)	None
R-25	Residential	1	33890 Albion River South Side Rd	56	57	54	1	-3	54	1	-3	59	1	2	58	1	1	B (67)	None
R-26 (ST-6)	Residential	1	33891 Albion River South Side Rd	58	59	56	1	-3	56	1	-3	62	1	3	60	1	1	B (67)	None
R-27	Residential	1	33879 East Ln	55	56	56	1	0	56	1	0	58	1	2	57	1	1	B (67)	None
R-28	Residential	1	33875 East Ln	53	54	53	1	-1	53	1	-1	56	1	2	55	1	1	B (67)	None
R-29	Residential	1	33861 East Ln	52	53	53	1	0	53	1	0	56	1	3	55	1	2	B (67)	None
R-30	Residential	1	33851 East Ln	51	52	52	1	0	52	1	0	55	1	3	54	1	2	B (67)	None
R-31	Residential	1	33831 East Ln	51	52	52	1	0	52	1	0	54	1	2	53	1	1	B (67)	None
R-32	Residential	1	33795 East Ln	50	51	51	1	0	51	1	0	54	1	3	53	1	2	B (67)	None
R-33	Residential	1	3400 N Highway 1	49	50	50	1	0	50	1	0	52	1	2	52	1	2	B (67)	None
R-34	Undeveloped	None	33870 Albion River South Side Rd	54	55	55	1	0	55	1	0	55	1	0	55	1	0	G	None
R-35 (ST-7)	Undeveloped	None	33861 Albion River South Side Rd	58	59	59	1	0	59	1	0	60	1	1	59	1	0	G	None
R-36	Residential	1	33880 Albion St	54	55	55	1	0	55	1	0	56	1	1	55	1	0	B (67)	None
R-37	Residential	1	33870 Albion St	53	54	54	1	0	54	1	0	55	1	1	55	1	1	B (67)	None
R-38	Residential	1	33860 Albion St	52	53	53	1	0	53	1	0	55	1	2	54	1	1	B (67)	None
R-39	Residential	1	33850 East Ln	51	52	52	1	0	52	1	0	54	1	2	53	1	1	B (67)	None
R-40	Residential	1	33840 Albion St	50	51	52	1	1	52	1	1	53	1	2	53	1	2	B (67)	None
R-41	Residential	1	33830 Albion St	50	51	51	1	0	51	1	0	53	1	2	52	1	1	B (67)	None
R-42	Residential	1	33820 Albion St	49	50	50	1	0	50	1	0	52	1	2	52	1	2	B (67)	None
R-43	Residential	1	3300 N Highway 1	49	50	50	1	0	50	1	0	52	1	2	51	1	1	B (67)	None
R-44	Residential	1	3300 N Highway 1	50	51	50	1	-1	50	1	-1	51	1	0	50	1	-1	B (67)	None
R-45	Residential	1	34900 Albion Ridge Rd	58	59	59	1	0	59	1	0	59	1	0	58	1	-1	B (67)	None
R-46	Commercial	1	34011 Albion Ridge Rd	57	58	58	1	0	58	1	0	57	1	-1	57	1	-1	F	None
R-47	Commercial	None	3187 Spring Grove Rd	54	55	54	1	-1	54	1	-1	55	1	0	54	1	-1	F	None
R-48	Undeveloped	None	3269 Spring Grove Rd	48	49	49	1	0	49	1	0	49	1	0	49	1	0	G	None
R-49	Undeveloped	None	-	56	57	57	1	0	57	1	0	57	1	0	57	1	0	G	None

Receptor I.D.	Land Use	Number of Dwelling Units	Address	Existing Noise Level $L_{eq(h)}$, dBA	Design Year Noise Level without Project $L_{eq(h)}$, dBA	SR 1 Future Worst Hour Noise Levels – $L_{eq(h)}$, dBA												Activity Category (NAC)	Impact Type
						Alternative 1A			Alternative 1B			Alternative 2A			Alternative 2B				
						Design Year Noise Level with Project $L_{eq(h)}$, dBA	Design Year Noise Level without Project minus Existing Conditions $L_{eq(h)}$, dBA	Design Year Noise Level with Project minus No Project Conditions $L_{eq(h)}$, dBA	Design Year Noise Level with Project $L_{eq(h)}$, dBA	Design Year Noise Level without Project minus Existing Conditions $L_{eq(h)}$, dBA	Design Year Noise Level with Project minus No Project Conditions $L_{eq(h)}$, dBA	Design Year Noise Level with Project $L_{eq(h)}$, dBA	Design Year Noise Level without Project minus Existing Conditions $L_{eq(h)}$, dBA	Design Year Noise Level with Project minus No Project Conditions $L_{eq(h)}$, dBA	Design Year Noise Level with Project $L_{eq(h)}$, dBA	Design Year Noise Level without Project minus Existing Conditions $L_{eq(h)}$, dBA	Design Year Noise Level with Project minus No Project Conditions $L_{eq(h)}$, dBA		
R-50	Undeveloped	None	-	58	59	59	1	0	59	1	0	59	1	0	58	1	-1	G	None
R-51	Undeveloped	None	3000 N Shoreline	60	61	61	1	0	61	1	0	62	1	1	60	1	-1	G	None
R-52	Commercial	1	2981 Spring Grove Rd	48	49	49	1	0	49	1	0	49	1	0	48	1	-1	F	None
R-53	Residential	None	-	60	61	61	1	0	61	1	0	61	1	0	61	1	0	G	None
R-54	Undeveloped	None	2960 Spring Grove Rd	60	61	60	1	-1	60	1	-1	61	1	0	60	1	-1	G	None
R-55	Residential	1	3790 N Highway 1	54	55	55	1	0	55	1	0	55	1	0	55	1	0	B (67)	None

Source: (Caltrans 2024)
Note: All NAC are exterior unless noted.
dBA = A-weighted decibels, $L_{eq(h)}$ = 1-hour A-weighted equivalent sound level, NAC = Noise Abatement Criteria

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3.3.8 Energy

Regulatory Setting

The National Environmental Policy Act (NEPA) (42 United States Code [USC] Part 4332) requires the identification of all potentially significant impacts to the environment, including energy impacts.

The California Environmental Quality Act (CEQA) Guidelines section 15126.2(b) and Appendix F, *Energy Conservation*, require an analysis of a project's energy use to determine if the project may result in significant environmental effects due to wasteful, inefficient, or unnecessary use of energy, or wasteful use of energy resources.

Affected Environment

This section is based on the proposed project's Energy Analysis Memorandum (Caltrans 2024), which was completed in March 2024.

Transportation energy is generally described in terms of direct and indirect energy:

> **Direct Energy:** In the context of transportation projects, direct energy is the energy consumed in the actual propulsion of transportation vehicles (e.g., automobiles, trains, airplanes). Direct energy consumption is a function of traffic characteristics, such as vehicle miles travelled (VMT), speed, vehicle mix, and thermal value of the fuel being used. Some projects may also include features such as new or replacement roadway lighting or other features requiring electricity, which is an ongoing and permanent source of direct energy consumption. The one-time energy expenditure involved in constructing a project is also considered direct energy.
>
> **Indirect Energy:** Indirect energy is defined as all of the remaining energy consumed to run a transportation system, including maintenance energy, and any substantial impacts on energy consumption related to project-induced land use changes and mode shifts, as well as any substantial changes in energy associated with vehicle operation, manufacturing, or maintenance due to increased automobile use.

Existing traffic conditions that may influence energy consumption are described in Section 3.3.6, *Air Quality*, and Section 3.2.9, *Traffic and Transportation/Pedestrian and Bicycle Facilities*.

Environmental Consequences

Build Alternatives

Construction Impacts

The proposed project would not change roadway capacity or the vehicle fleet mix during the construction period; therefore, direct energy consumption from mobile sources would remain the same as the No-Build Alternative. However, the use of traffic control may increase traffic congestion, resulting in an increase of idle times at the Albion River Bridge. The resulting increase in energy consumption would be considered negligible given the ruralness of the area, the low traffic volumes on State Route (SR) 1, and that traffic control would be temporary, intermittent, and of a short duration. One extended (10-hour) bridge closure would occur overnight (i.e., 8:00 p.m. to 6:00 a.m.). Vehicles would have the option of using state routes to detour around the closure or may elect to use other routes to cross the Albion River, which are not on the state highway system, at their discretion. Travelers would be notified in advance and advised to avoid the area during this closure.

To evaluate gasoline and diesel consumed by construction equipment, Caltrans Construction Emission Tool (CAL-CET2021) was used to estimate fuel and electricity consumption based on project-specific construction information.

Project construction is expected to begin in 2027. The estimated length of construction for Alternatives 1 and 2 is 3 years, and for Alternative 3 is 5 years. Construction of the proposed project would primarily consume diesel and gasoline through operation of heavy-duty construction equipment, material deliveries, and debris hauling. Fuel consumption by Build Alternative and type of fuel is shown in Table 47. For all Build Alternatives, there would be different phases in construction and energy use would depend on the construction equipment being used in each phase. Standard measures for greenhouse gas (GHG) emissions (**GHG-1** through **GHG-5**) would reduce energy consumption during construction. In addition, implementation of Measure **AMM-GHG-1** would require that the construction contractor use best management practices (BMPs) to further reduce energy consumption.

Table 47. Estimated Fuel Consumption during Construction

Alternative	Fuel Consumption Diesel (gallons)	Fuel Consumption Gasoline (gallons)
1A	144,978	42,741
1B	176,553	46,378
2A	135,088	38,844
2B	155,980	41,697
3A	237,322	62,919
Maximum	**237,322**	**62,919**

Source: (Caltrans 2024)

As indicated in Table 47, proposed project construction is estimated to result in the total short-term diesel consumption between approximately 135,088 and 237,322 gallons and total gasoline consumption between approximately 38,844 and 62,919 gallons, depending on the Build Alternative. Compared to the diesel and gasoline sales for Mendocino County, the proposed project's energy consumption would represent 1.5 percent of the county's diesel consumption and 0.2 percent of the county's gasoline consumption (California Energy Commission 2023). This represents a temporary and small demand on local and regional energy consumption, and this demand would cease once construction is complete. Moreover, construction-related energy consumption would not result in a permanent new source of energy demand. The proposed project would not result in an inefficient, wasteful, or unnecessary consumption of energy. Where feasible, construction asphalt materials would be reused to reduce waste. Further, the proposed project would be consistent with the RTP/ATP and other local plans and policies for energy or energy efficiency as described in Section 3.2.2 *Consistency with State, Regional and Local Plans and Programs* and 3.2.3 *Coastal Zone*.

Operational Impacts

None of the Build Alternatives would increase capacity, relieve congestion, or introduce new sources of lighting. As such, the proposed project would not result in changes in traffic volumes, vehicle mix, or any other factor that would cause an increase in direct energy consumption compared to the No-Build Alternative.

The proposed project would lengthen intervals between maintenance activities compared to the No-Build Alternative. Therefore, long-term operational energy used on maintenance for all Build Alternatives would be less than that of the No-Build Alternative (Caltrans 2024).

No-Build Alternative

Under the No-Build Alternative, the Albion River Bridge would not be replaced, and energy would not be directly consumed. Ongoing maintenance would continue to contribute to indirect impacts. The materials and design, harsh coastal environment, and age and overall condition of the bridge necessitate frequent inspection, maintenance, and repair activities, which require traffic delays during. Maintenance obligations to address documented decay and corrosion in the superstructure and substructure components are anticipated to increase over time. Shorter intervals between maintenance efforts contribute to higher energy consumption.

Avoidance, Minimization, and/or Mitigation Measures

The following measure would be implemented:

AMM-GHG-1: The use of construction BMPs would minimize energy consumption from construction activities, including but not limited to:

1. Limit idling of vehicles and equipment.
2. Using solar-powered equipment, if feasible (e.g., signal boards).
3. Regular vehicle and equipment maintenance.
4. If feasible, recycle non-hazardous waste and excess materials to reduce disposal offsite.

In addition, with innovations such as longer pavement lives, improvement in traffic management, and changes in materials, energy consumption can be offset to some degree by longer intervals between maintenance activities, and other project features.

3.4 BIOLOGICAL ENVIRONMENT

This section of the document discusses environmental resources within the project area. It is based on the project's Natural Environment Study (NES) (Caltrans 2024), completed in May 2024, and is broken into the following subsections: Natural Communities, Wetlands and Other Waters, Plant Species, Animal Species, Threatened and Endangered Species, and Invasive Species.

The area for assessment of environmental resources was based on the project's footprint, Environmental Study Limits (ESL) and Biological Study Areas (BSAs).

The project footprint is the area that is anticipated to be directly impacted by the project, both temporarily and permanently. The ESL is the anticipated boundary of potential impacts; it is larger than the project footprint to accommodate potential scope changes. The ESL is also used for identifying the BSAs for the project.

BSAs include the ESL plus any areas outside of the ESL that might be potentially affected by the project (i.e, noise, visual, hydrology, Coastal Zone, etc.). The proposed project includes four BSAs:

1. ***Project BSA:*** A 100-foot buffer around the ESL to evaluate the potential presence of, and impacts to, coastal resources (Figure 74).
2. ***Raptor BSA:*** A 0.25-mile buffer around the ESL to evaluate auditory disturbance for raptor species (Figure 75).
3. ***Butterfly BSA:*** A 330-foot (100-meter) buffer around the ESL to evaluate potential indirect impacts to federally endangered butterfly species (Figure 75).
4. ***Aquatic Species BSA:*** A buffer that extends approximately 0.25 mile (400 meters) upstream within the Albion River and approximately 0.75 mile (1,200 meters) into Albion Cove to cover the maximum area of potential hydroacoustic impacts to aquatic species (Figure 76). The buffer area is based on distance to behavioral and injury thresholds for aquatic species, which is assumed to be confined within the banks of the Albion River and Albion Cove.

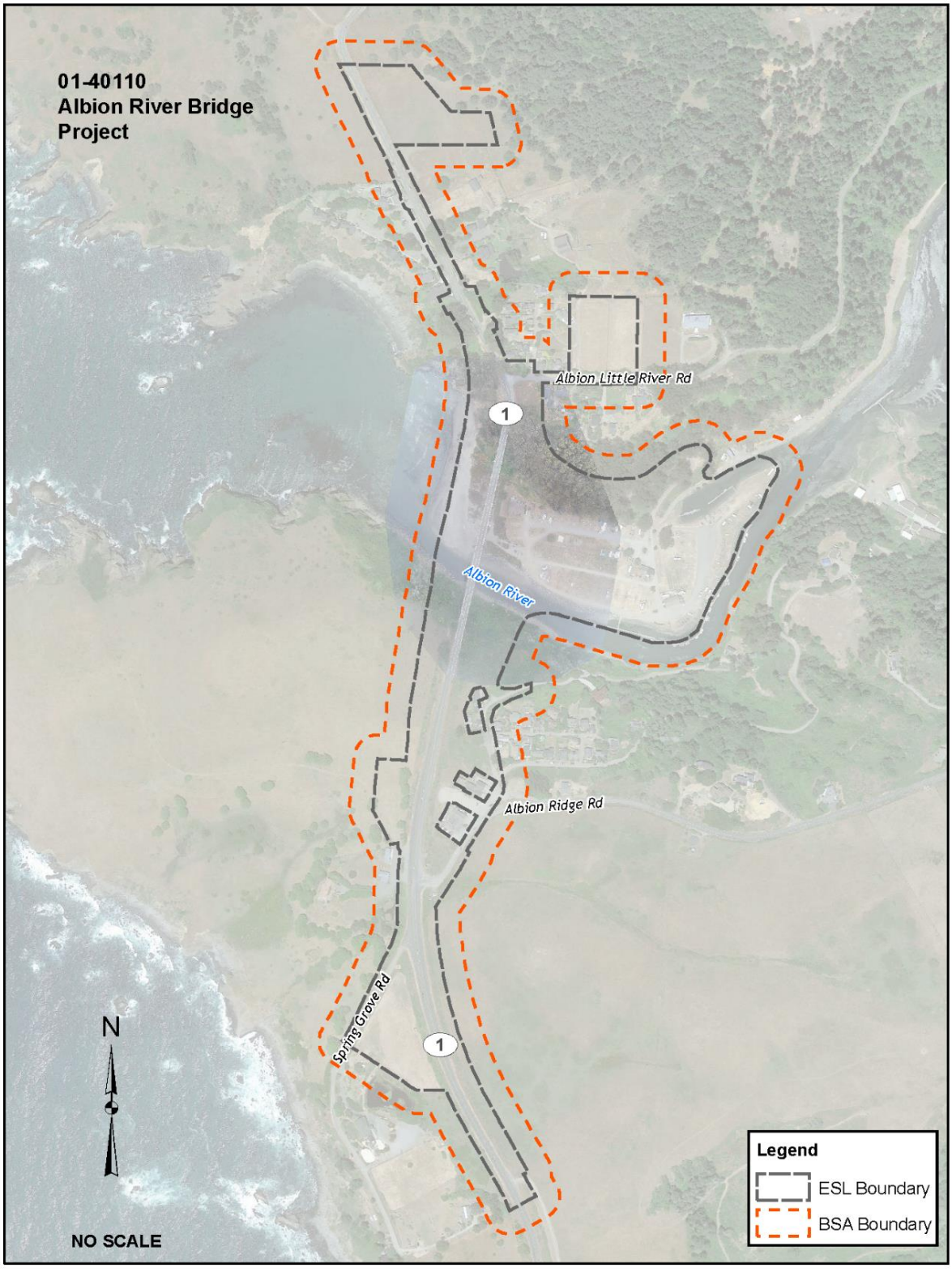


Figure 74. Project Biological Study Area

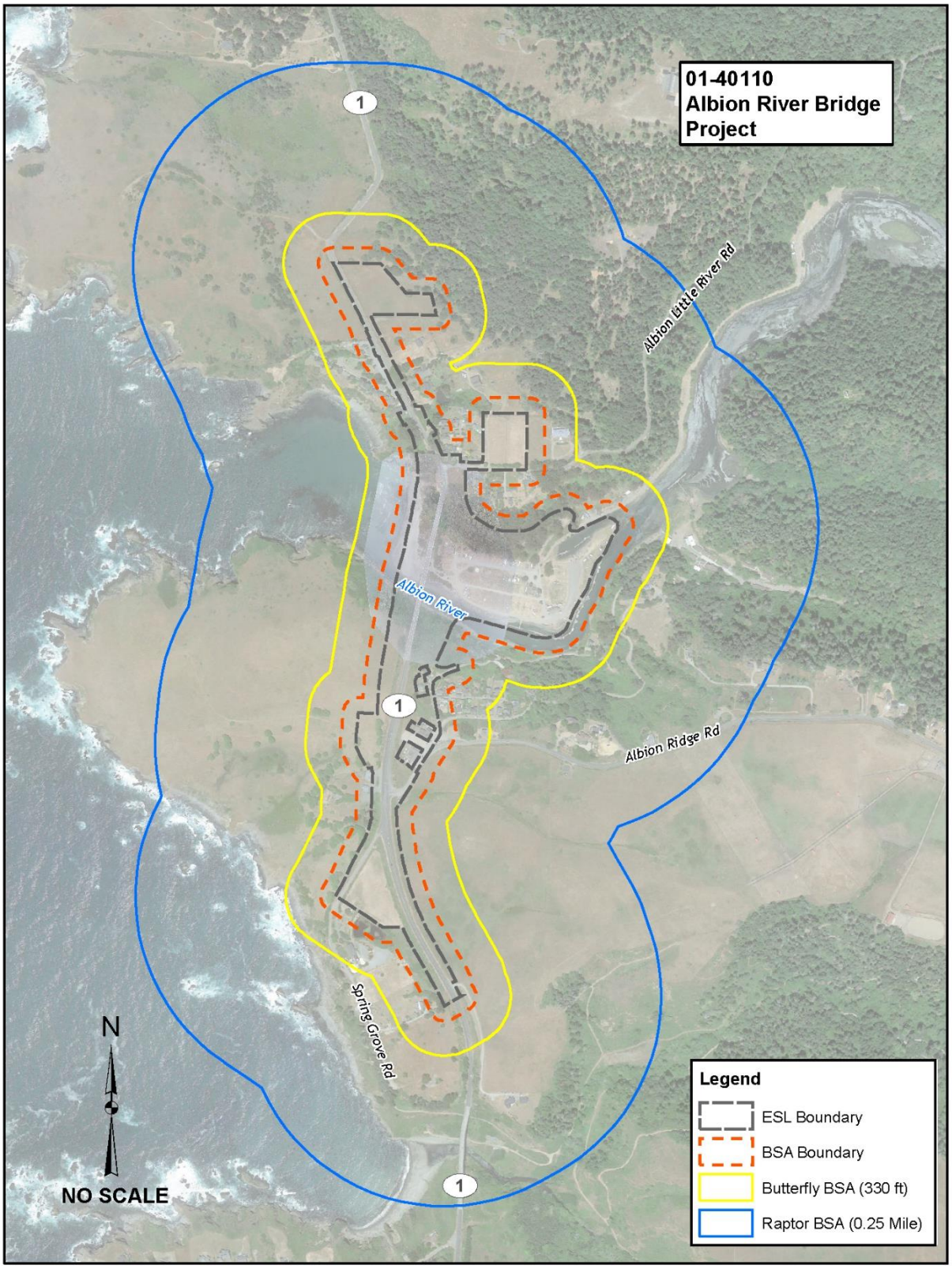


Figure 75. Raptor and Butterfly Biological Study Areas

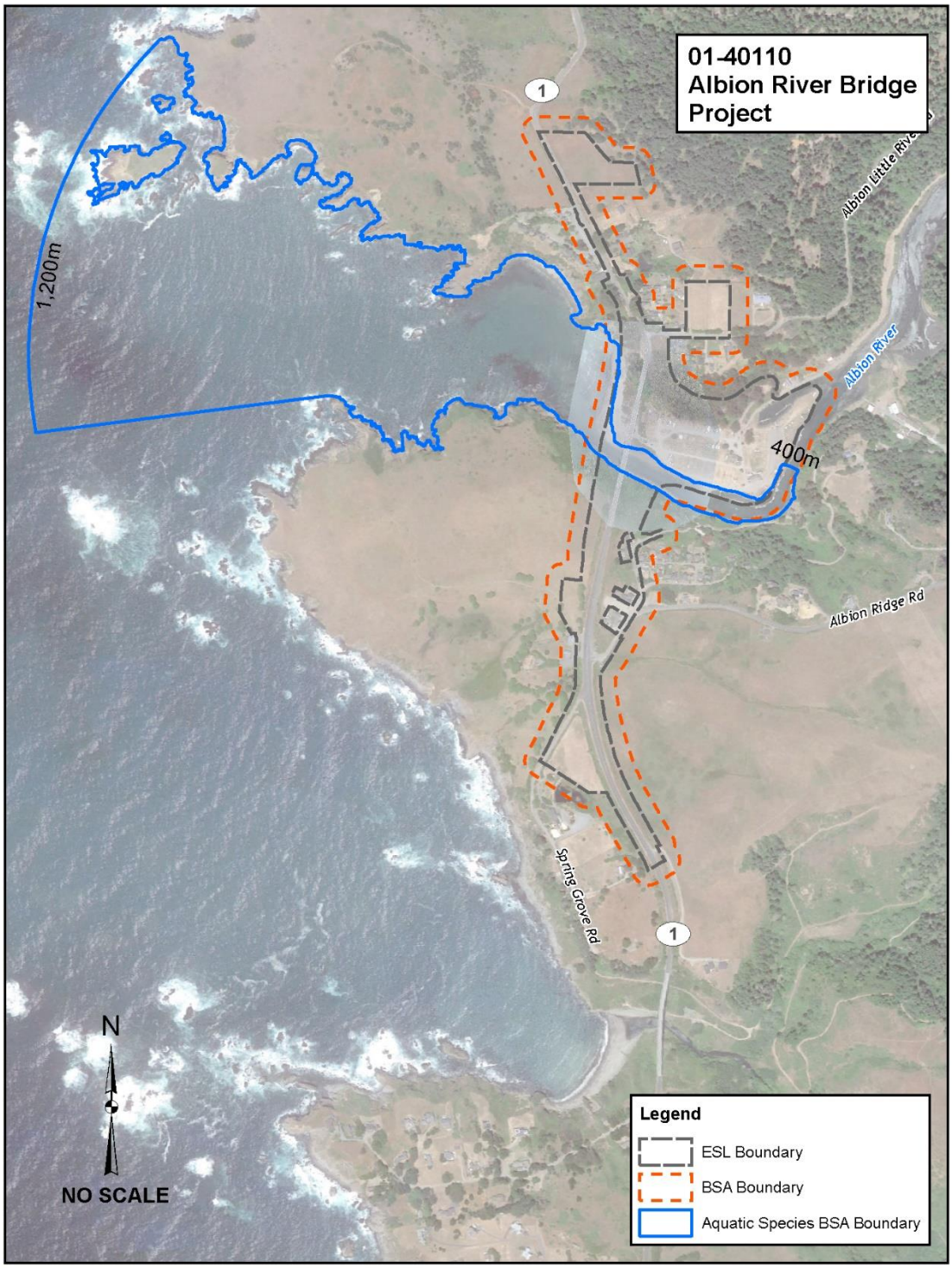


Figure 76. Aquatic Species Biological Study Area

3.4.1 Natural Communities

This section of the document discusses natural communities of concern within the proposed project area. 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.

Habitat areas that have been designated as critical habitat under the Federal Endangered Species Act are discussed below in Section 3.4.5, *Threatened and Endangered Species*. Wetlands and other waters are also discussed below in Section 3.4.2, *Wetlands and Other Waters*.

Regulatory Setting

Natural communities of concern are those habitats and vegetation types considered sensitive because of their high species diversity, high productivity, unusual nature, limited distribution, or declining status. Federal, state, and local agencies consider these habitats important. The California Department of Fish and Wildlife (CDFW) maintains a list of sensitive natural communities (SNCs). CDFW, USACE, and RWQCBs consider certain habitats, such as wetlands and riparian communities, important for water quality and wildlife. The California Coastal Commission (CCC) regulates additional areas within the Coastal Zone that qualify as coastal wetlands and Environmentally Sensitive Habitat Areas (ESHAs).

Affected Environment

The information in this section is based on the proposed project's Natural Environment Study (Caltrans 2024).

The project BSA, which includes the ESL plus a 100-foot buffer (Figure 74) supports several types of natural communities of concern, including SNCs, wetlands and waters, riparian habitat, critical habitat, and Essential Fish Habitat (EFH), and ESHAs.

Wetlands, waters, and riparian habitat are discussed in Section 3.4.2, *Wetlands and Other Waters,* while critical habitat and EFH are discussed in Section 3.4.5, *Threatened and Endangered Species.*

The following sections discuss SNCs, habitat connectivity, and potential ESHAs.

Natural Communities

Natural community types identified within the project BSA are typical of the North Coast subregion of northern California, including disturbed grass dominated habitats associated with infrastructure development and agriculture, coastal vegetation, and neighboring shrub and forest sites.

Field surveys to map vegetation types were conducted concurrently with the special status plants surveys and wetlands delineation surveys. During the field surveys, the boundaries of each vegetation type were identified, and associated species noted.

Vegetation types in the project BSA were identified based on the vegetation classification and keys in *A Manual of California Vegetation*, Second Edition (Sawyer et al. 2009) and online updates (California Native Plant Society [CNPS] 2023). Classification is based on dominant plant species and emphasizes natural, existing vegetation. Vegetation types in the project BSA were identified at the alliance level, as well as association level where it was necessary to determine if sensitive associations were present. Rarity of each vegetation type was determined from CDFW's current California Natural Communities List (CDFW 2023c), which includes the current list of vegetation alliances, associations, and special stands and indicates which vegetation types are considered sensitive.

Sensitive natural communities (SNC) are those natural communities that are of limited distribution statewide, or within a county or region, and are often vulnerable to environmental effects of projects. These communities may or may not contain special status taxa or their habitat. High priority SNCs are globally (G) and state (S) ranked 1 to 3, where 1 is critically imperiled, 2 is imperiled, and 3 is vulnerable. Global and state ranks of 4 and 5 are considered apparently secure and demonstrably secure, respectively. Semi-natural stands are not ranked and denoted as GNA/SNA (global/state rank not applicable) because they are strongly dominated by nonnative species. Some alliances or associations are considered "Provisional"; these communities have been studied to the extent that there is enough data to propose the vegetation type, but not enough to confidently assign a status. A "?" indicates a best estimate of the community rank when there are insufficient samples over the full expected range of the type, but existing information points to this rank. Designations of "NR" means that a community is not ranked.

A total of 16 natural community types were identified within the project BSA in addition to other landcover types (ruderal vegetation that have pervasive non-native or weedy species, landscaped or developed areas, and unvegetated beach habitat.). See Figure 77 for a map of the landcover types in the project BSA. Of the 16 natural community types, nine are considered sensitive, including eight terrestrial SNCs and one aquatic SNC.

The non-sensitive community types in the BSA include *Baccharis pilularis* Shrubland Alliance (Coyote Brush Scrub) (G5/S5); *Carpobrotus edulis* or Other Ice Plants Semi-Natural Herbaceous Stands (Ice Plant Mats) (GNA/SNA?); *Eucalyptus* (*globulus, camaldulensis*) Semi-Natural Woodland Stands (Eucalyptus Groves) (GNA/SNA); *Hesperocyparis macrocarpa - Pinus radiata* Landscaped Forest Alliance (Non-native Monterey Pine, and Monterey Cypress Stands) (GNA/SNA); *Holcus lanatus* – *Anthoxanthum odoratum* Semi-natural Herbaceous Stands (Common Velvet Grass – Sweet Vernal Grass) (GNA/SNA); Soft and western rush – Sedge marshes [*Juncus* (*effusus, patens*) – *Carex* (*pansa, praegracilis*) Alliance (Soft Rush Marsh - *Juncus*

effusus Association (G4/S4?); and *Salix lasiolepis* Shrubland Alliance (Arroyo Willow Thicket) (G4/S4).

The sensitive community types include *Baccharis pilularis* Shrubland Alliance (*Garrya elliptica* [Coastal Silk Tassel Scrub] Provisional Association) (G?/S?); *Calamagrostis nutkaensis* Herbaceous Alliance (Pacific Reed Grass Meadows) (G4/S2); *Festuca idahoensis – Danthonia californica* Herbaceous Alliance (*Festuca rubra* association) (GNA/S3) (Red Fescue Grassland Association) (G2/S1); *Gaultheria shallon - Rubus* (*ursinus*) Shrubland Alliance (*Rubus parvifolium* Association) (Coastal Brambles) (G4/S3); *Pinus muricata* (Bishop Pine Provisional Forest Alliance) (G3?/S3?); *Rubus spectabilis – Morella californica* Shrubland Alliance (*Morella californica - Rubus* spp. Association) (Wax Myrtle Scrub) (G3/S3); *Salix hookeriana* Shrubland Alliance (Coastal Dune Willow Thicket) (G4/S3); *Sedum spathulifolium* Provisional Herbaceous Alliance (Coast Range Stonecrop Draperies) (G4?/S3); and *Zostera* (*marina, pacifica*) Pacific Aquatic (Eelgrass Beds) (GNR/S3).

SNCs within the project BSA are summarized in Table 48 and are discussed in further detail in the sections below.

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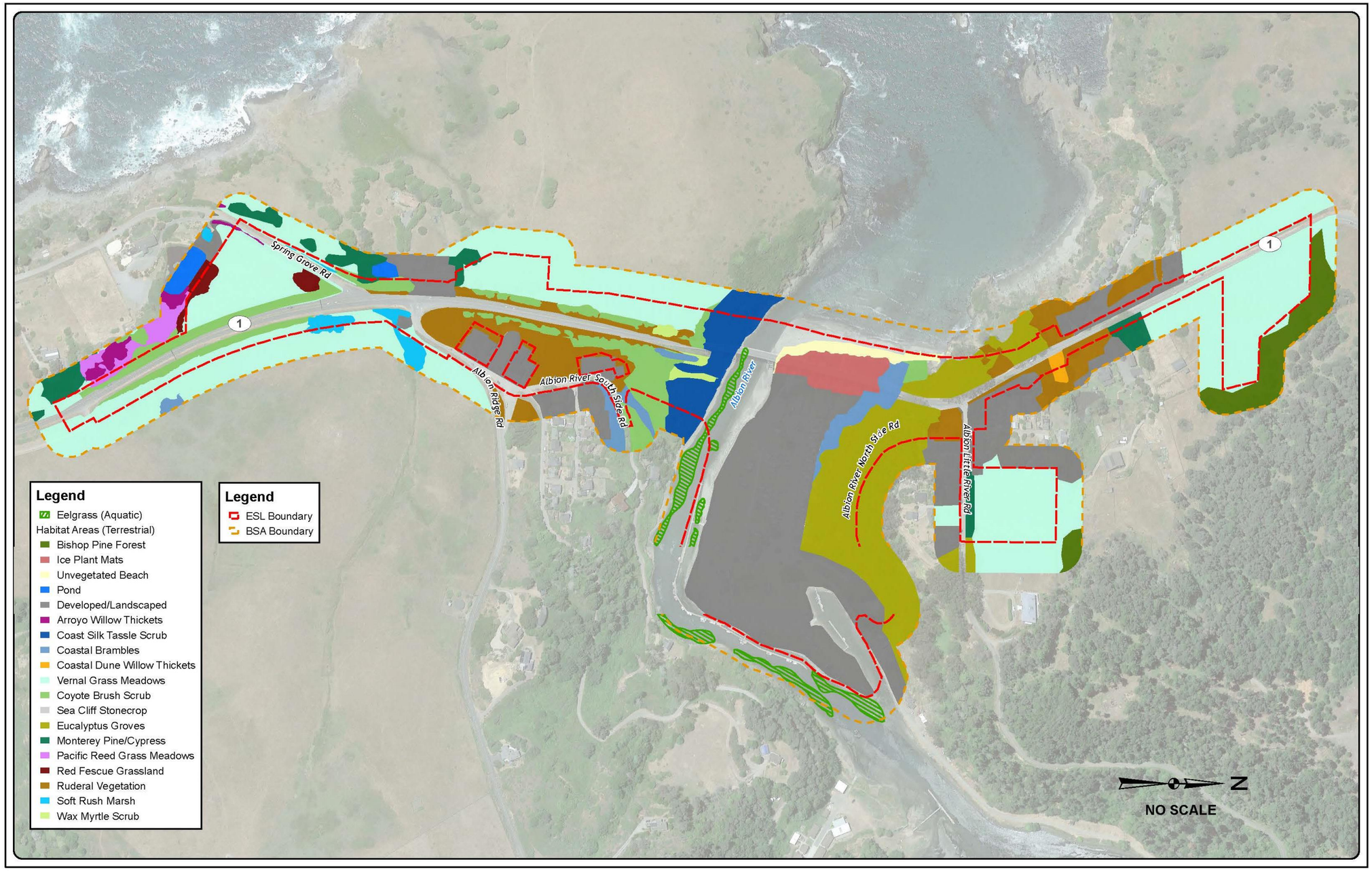


Figure 77. Landcover Types in the Project BSA

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Table 48. Sensitive Natural Communities in the Biological Study Area

Alliance Name [a]	Common Name	BSA Acreage	Rank	Comments
Baccharis pilularis Shrubland Alliance *(Garrya elliptica* Provisional Association*)*	Coastal Silk Tassel Scrub	2.02	G?/S?	Present along the north facing slopes just past the top of the bluff on the southern side of the river. Habitat is less disturbed to the north and west of the mapped community and includes an increasing dominance of native coastal shrub species that continues along the steeply sloping north-facing bank toward the river and high tide line of Albion Cove.
Calamagrostis nutkaensis Herbaceous Alliance	Pacific Reed Grass Meadow	0.62	G4/S2	Occurs in a wet meadow adjacent to a maintained pond and connected to wetlands upslope and across the highway through ground water and a few small culvert systems.
Festuca idahoensis – Danthonia californica Herbaceous Alliance (*Festuca rubra* Association)	Red Fescue Grassland	0.44	GNA, S3	Occurs at two locations in the southwest portion of the BSA at the toe of slopes and are transitional areas between velvet grass–sweet vernal grass meadows and either coyote brush scrub or arroyo willow.
Gaultheria shallon - Rubus (ursinus) Shrubland Alliance *(Rubus parvifolium association)*	Coastal Brambles	1.42	G4/S3	Occurs in numerous sites both adjacent to the roadside habitat and in sites along the steeply sloping southern and northern facing hillsides and within marine terrace.
Pinus muricata (Bishop Pine Provisional Forest Alliance)	Bishop Pine Forest	2.21	G3?/S3?	Habitat is located on the hill above the northeastern project areas, and specifically at the edge of the proposed areas for contractor use (staging).
Rubus spectabilis – Morella californica Shrubland Alliance (*Morella californica - Rubus* spp. Association)	Wax Myrtle Scrub	0.25	G3/S3	Occurs along State Route 1 on the south side of the bridge and interspersed within coastal scrub habitats located on the south bank, northern facing hillside. Where it occurs on the southeast side of the bridge, it would also be considered riparian habitat due to its proximity to, and location directly upslope from, the Albion River channel.
Salix hookeriana Shrubland Alliance	Coastal Dune Willow Thickets	0.14	G4/S3	Present within the BSA along a small intermittent stream north of the bridge at post mile 44.03; it would be considered coastal wetland and riparian habitat as it is adjacent to the intermittent stream.
Sedum spathulifolium Provisional Herbaceous Alliance	Coast Range Stonecrop Draperies	0.43	G4?/S3	One occurrence was observed on an area of rock outcrop slope northwest of the Albion River Bridge.

Alliance Name [a]	Common Name	BSA Acreage	Rank	Comments
Zostera (*marina, pacifica*) Pacific Aquatic (Eelgrass Beds)	Eelgrass Beds	1.60	GNR/S3	Occurs primarily along the southern edge of the Albion River within the project BSA, which is the far western edge of an extensive eelgrass complex that continues over 2 miles up the river.
Total Area in the BSA		**9.13 acres**		

Source: (Caltrans 2024)

[a] Manual of California Vegetation, (Sawyer et al. 2009).
[b] Global [G] / State [S] Rank Explanations:
G1/S1 = Critically imperiled: at high risk of extinction, extremely rare;
G2/S2 = Imperiled: at high risk of extinction, restricted range, very few populations;
G3/S3 = Vulnerable: moderate risk of extinction, restricted range, few populations;
G4/S4 = Apparently secure: uncommon, not rare, possible long-term declines;
G5/S5 = Secure: common, widespread, abundant;
GNA/SNA = Not Applicable (Globally and State)
GNR/SNR = Unranked (Globally and State)
? = Best estimate of the rank when there are insufficient samples over the full expected range of the type, but existing information points to this rank.

Coastal Silk Tassel Scrub

Coastal silk tassel scrub (*Baccharis pilularis* Shrubland Alliance [*Garrya elliptica*] (G?/S?) is an association within the non-sensitive Coyote Brush Scrub Alliance. It does not yet have a global or state rank assigned, but is currently considered uncommon, and, until more data is collected, is published as a Provisional Sensitive Natural Community (CDFW 2023c).

Coast silk tassel (*Garrya elliptica*) is a shrub or small tree that often occurs scattered in open forest and coastal scrub types in northern California, but also forms stands with other, co-dominant, native shrub species on mesic coastal bluffs as well as on steep, drier areas exposed to salt spray (CNPS 2023). This vegetation community, while comparatively uncommon throughout the state, is not uncommon on coastal bluffs and cliffs above the ocean and coves of the north coast and Mendocino County coastline.

Within the BSA, the community is dominated by coast silk tassel, with co-dominants of coyote brush (*Baccharis pilularis*), thimbleberry (*Rubus parvifolium*), and sword fern (*Polystichum munitum*). Emergent tree species, including grand fir (*Abies grandis*) and Sitka spruce (*Picea sitchensis*), are also found at low cover within this community type.

Approximately 2.02 acres of coastal silk tassel scrub are within the BSA along the north-facing slopes just past the top of the bluff on the southern side of the river. Habitat is less disturbed in the northern and western portions of the mapped community and there is an increasing dominance of native coastal shrub species that continues along the steeply sloping north-facing bank toward the river and high tide line of Albion Cove. This plant community continues west outside of the project BSA and along the coastal bluff to the south of Albion Cove. It is also found along the coastal bluffs to the north of the project areas as well as above the river mouths of many neighboring rivers and smaller gulches, including the Little Salmon River, Navarro River, Elk Creek, and Greenwood Creek.

Pacific Reed Grass Meadows

Pacific reed grass meadows (*Calamagrostis nutkaensis* Herbaceous Alliance) (G4/S2) are dominated by the namesake species, Pacific reed grass (*Calamagrostis nutkaensis*), which may form very dense, almost monospecific stands, or occur scattered through more diverse vegetation.

In the project BSA, associated species include sweet vernal grass (*Anthoxanthum lanatum*), slough sedge (*Carex obnupta*), cow parsnip (*Heracleum maximum*), velvet grass (*Holcus lanatus*), and California blackberry (*Rubus ursinus*). Special status plant swamp harebell (*Campanula californica*; California Rare Plant Rank [CRPR] 1B.2) and the uncommon fringed cornlily (*Veratrum fimbriatum*; CRPR 4.3) are also present within the project BSA.

Approximately 0.62 acre of Pacific reed grass meadow is within the BSA in a wet meadow adjacent to a pond maintained by the Ledford House Restaurant and connected to wetlands upslope and across the highway through groundwater and a few small culvert systems.

Red Fescue Grassland

Within the project BSA, red fescue grassland is part of the *Festuca rubra* Association within the Idaho fescue–California oatgrass grassland [*Festuca idahoensis – Danthonia californica* Herbaceous Alliance] (G2/S1). The community is representative of remanent coastal prairie, and is patchily distributed within a matrix of invasive plants and non-native plant communities, but can still be found on coastal bluffs, headlands, terraces and coastal ridgetops.

The red fescue grasslands in the project BSA are remnants of native coastal prairie. They are dominated by red fescue (*Festuca rubra*), with the following co-dominants: sweet vernal grass, velvet grass, field horsetail (*Equisetum arvense*), bedstraw (*Galium aparine*), and California blackberry. Harlequin lotus (*Hosackia gracilis*), considered an uncommon plant (CRPR 4.3) and larval host plant of the federally endangered lotis blue butterfly (*Lycaeides argyrognomon lotis*), was found within this alliance.

Red fescue grassland occurs at two locations in the southwest portion of the project BSA, accounting for approximately 0.44 acre. Both locations occur at the toe of slopes and are transitional areas between velvet grass–sweet vernal grass meadows and either coyote brush scrub or arroyo willow.

Coastal Brambles

Coastal brambles (*Gaultheria shallon–Rubus* [*ursinus*] Shrubland Alliance) (G4/S3) within the study area are part of the sensitive *Rubus parviflorus* Association (G4/S3) (CNPS 2021). Though considered a vulnerable community due to its restricted range across the state, coastal bramble communities are common in mesic coastal sites on the Mendocino Coast and are frequently found on slopes near rivers or in swales or northeastern hill slopes protected from wind.

Coastal bramble habitat is dominated by California blackberry and thimbleberry, while co-dominant species include sword fern, western bracken fern (*Pteridium aquilinum*), and the non-native shrub cotoneaster (*Cotoneaster* sp.). This habitat was patchily distributed throughout the project BSA, including adjacent to the roadside habitat, in sites along the steeply sloping southern and northern-facing hillsides, and within marine terrace. It was also observed in patches surrounded by ruderal vegetation, including an escaped ornamental fuchsia and privet (*Ligustrum* sp.).

Approximately 1.42 acres of coastal brambles are within the project BSA. A large area of this plant community occurs on the south side of Albion River North Side Road and is characterized by thimbleberry, sword fern, elderberry (*Sambucus* spp.), and an abundance of wild cucumber (*Marah oregana*). This habitat extends across the road and toward the Albion River for several hundred feet in a swale that is bounded by coyote brush on either side. The lower portion of this occurrence would be considered riparian habitat due to its proximity to the river, as would the area of coastal bramble further west on the south bank where it extends below the existing bridge abutment.

Bishop Pine Forest

Bishop pine forest (*Pinus muricata* [Bishop Pine Provisional Forest Alliance]) (G3?/S3?) is believed to have once been widespread throughout western North America as a late tertiary forest, but now exists in discontinuous stands along the Pacific Coast from Humboldt County, California, to Baja California, Mexico (Barbour et al. 2007; Bakker 1984). Bishop pine forest can comprise pure stands, with well-developed shrub and herbaceous layers. In southern Mendocino County, single-species stands are typically found along the lower marine terraces and on coastal bluffs. The climate in this coastal band is dominated by summer fog, which is likely an important moisture source during the dry summer months or drought.

Bishop pine (*Pinus muricata*) occurs in coastal conifer and hardwood forests, chaparral, and annual grasslands at elevations from sea level to 1,320 feet and can grow in a variety of soil types including acidic, serpentine, sandy, loamy, and clay (Vogl et al. 1977). In some areas, the species grows in pure stands, while in other areas individuals

or small populations of the species are intermixed with other dominant tree species such as tanoak (*Lithocarpus densiflorus*), shore pine (*Pinus contorta* ssp*. contorta*), Bolander pine (*Pinus contorta* ssp*. bolanderi*), Douglas-fir (*Pseudotsuga menziesii*), coast redwood (*Sequoia sempervirens*), grand fir, Pacific madrone (*Arbutus menziesii*), Mendocino pygmy cypress (*Hesperocyparis pygmaea*), and others.

Approximately 2.21 acres of bishop pine forest stands are located at the northeastern edges of the project BSA. Only the edges of the bishop pine forest were accessible for survey. In this area, specifically at the edge of the areas proposed for contractor use (staging), Bishop pine was co-dominant with Douglas-fir, tanoak, and shore pine. There are no known extant occurrences of pygmy cypress, pygmy manzanita (*Arctostaphylos nummularia* ssp. *mendocinoensis*), or Bolander pine in the project vicinity, although there is a 1968 herbarium record of Bolander pine from “Albion” recorded and mapped outside of the project BSA on Albion Street (Calflora 2023), and none of these species were observed. Records of pygmy cypress, pygmy manzanita, and Bolander pine and the Mendocino cypress vegetation community have been extensively mapped and are known to occur as close as approximately 0.9 mile further east and southeast of the project area (CDFW 2023b) at the closest point.

Wax Myrtle Scrub

The *Morella californica–Rubus* ssp. Association of wax myrtle scrub (*Rubus spectabilis–Morella californica* Shrubland Alliance) (G3/S3) is found within the project area. Stands of this alliance often form dense clonal thickets along moist swales, margins of wetlands, seeps, foggy slopes, low drainages, and other wetland/riparian sites usually within a short distance of the Pacific coast of California.

Wax myrtle scrub is dominated by California wax myrtle (*Morella californica*) with other minor shrub components of coyote brush and silk tassel. Herbaceous species include sword fern, California blackberry, coast manroot, California bee plant (*Scrophularia californica*), and poison hemlock (*Conium maculatum*).

Wax myrtle scrub covers approximately 0.25 acre in the project BSA along State Route (SR) 1 on the south side of the bridge and interspersed within coastal scrub habitats located on the south bank. Where wax myrtle scrub occurs on the southeast side of the bridge, it would also be considered riparian habitat due to its proximity to, and location directly upslope from, the Albion River channel.

Coastal Dune Willow Thickets

The *Salix hookeriana* Association of coastal dune willow thicket (*Salix hookeriana* Shrubland Alliance) (G4/S3) is found within the project BSA. Coastal dune willow thicket is known from areas near the ocean within the summer fog belt, where water stands and floods seasonally, such as deflation plains and swales among coastal dunes, lagoon margins, and floodplains. This vegetation community is not thought to be very common throughout the state. However, small stands of this alliance are encountered

more frequently within riparian and estuarine habitats within the fog belt of the Mendocino County coastline.

Coastal dune willow thicket within the project BSA is dominated by coastal dune willow (*S. hookeriana*). Other species present include red elderberry (*Sambucus racemosa* var. *racemosa*), thimbleberry, cape ivy (*Delairea odorata*), coyote brush, and Himalayan blackberry (*Rubus armeniacus*). Herbaceous species noted in the understory include giant horsetail (*Equisetum telmateia),* Pacific water parsley (*Oenanthe sarmentosa*), and common rush (*Juncus effusus*).

The 0.14-acre of coastal dune willow thicket within the project BSA is adjacent to an intermittent freshwater stream. It would be considered a coastal scrub-shrub wetland and riparian habitat due to its location in the low areas adjacent to the stream, where it is seasonally flooded.

Coast Range Stonecrop Draperies

Coast Range stonecrop draperies (*Sedum spathulifolium* Provisional Herbaceous Alliance) (G4?/S3) are considered vulnerable to extirpation in the California, and particularly in Mendocino County, where succulent species and communities have been negatively impacted by collectors in recent years.

Pacific stonecrop (*Sedum spathulifolium*) is a common, yellow-flowered stonecrop that occurs throughout most of cismontane California. It co-occurs on steep rock faces with various species of moss and lichens that form the main substrate. Plants may occur in relatively deep shade of slopes or as an understory to coniferous or broadleaf woodlands. The species is composed of four subspecies, including *S.* ssp*. pruinosum*, which grows on coastal bluffs of the North Coast, and *S.* ssp*. spathulifolium*, which is widespread (CNPS 2023).

As of 2023, occurrences of stonecrop draperies have not been published by VegCamp on the northern California coast. Mapping is in progress. Therefore, an accurate distribution and abundance of stonecrop draperies on the northern California coast is unknown. However, the exposed rocky outcrops north of the Albion River are similar and seem to reflect the same associated species as what has been identified on the north coast thus far. Associated species include coast buckwheat (*Eriogonum latifolium*) and stinging phacelia (*Phacelia malvifolia*).

One occurrence of Coast Range stonecrop, an estimated 0.43 acre, was observed on a rock outcrop northwest of the Albion River Bridge.

Eelgrass Beds

In addition to being an aquatic SNC, eelgrass beds (*Zostera* [*marina, pacifica*] Pacific Aquatic Alliance) (GNA/S3) are designated as a Habitat Area of Particular Concern (HAPC), which is a subset of EFH. EFH and HAPCs are discussed in further detail in Section 3.4.5, *Threatened and Endangered Species.*

Eelgrass beds warrant protections due to the important biological, physical, and economic values they provide for various federally managed fish species within the Pacific Coast Groundfish Fishery Management Plan (Pacific Fishery Management Council 2023). Vegetated shallows that support eelgrass are also considered special aquatic sites under the 404(b)(1) guidelines of the Clean Water Act (40 Code of Federal Regulations [CFR] Section 230.43).

CDFW mapped eelgrass (*Zostera marina*) within the Albion River in 2015 (CDFW 2023b), and again in 2022. Preliminary results from the 2022 survey suggest a similar, although slightly restricted, distribution of eelgrass within the ESL compared to previous years (Corianna Flannery, CDFW, personal communication, March 23, 2023). Current surveys indicate the westernmost limit of eelgrass is located approximately 164 feet (50 meters) south of the bridge, where it transitions from surfgrass (*Phyllospadi*x sp.) habitat (CDFW 2022) and continues upriver for over 2 miles, supporting an estimated 30.63 acres of eelgrass habitat within that length. Of this total habitat area, the project BSA includes approximately 1.60 acres of eelgrass, and the ESL includes 0.29 acre of eelgrass. The eelgrass beds grow approximately 2 feet below sea level to 3 feet above sea level.

Habitat Connectivity

Wildlife corridors are areas used by wildlife for seasonal or daily migration. Rivers and their associated riparian areas are regularly used as migration corridors by aquatic and terrestrial species. Albion Cove and the Albion River within the project area and the Aquatic Species BSA provides migration habitat for adult anadromous fish species that migrate upriver into freshwater habitats to spawn and for juvenile salmonids moving downstream to the ocean from upstream rearing areas. This river system provides habitat connectivity to numerous terrestrial and semi-aquatic species that may forage and find cover along the banks of the river. For example, marine mammal species such as harbor seals travel through the project BSA from Albion Cove to upriver sites to feed and bask. Harbor seal haul-outs are also recorded upriver at Schooner's Landing, approximately 0.4 mile east of the project BSA.

The California Essential Habitat Connectivity Project was commissioned by Caltrans and CDFW to identify and describe wildlife movement corridors in California (CDFW 2017). The project identifies large parcels of intact habitat or natural landscape that support native biodiversity and areas essential for ecological connectivity between them (Essential Connectivity Areas). Additionally, the project models linkages between the Essential Connectivity Areas that need to be maintained for use as wildlife corridors. The goal of the project is to integrate natural resource considerations into transportation

and land use planning processes. No natural landscape blocks or Essential Connectivity Areas were identified by the California Essential Habitat Connectivity Project in or adjacent to the project BSA (CDFW 2017). The closest natural landscape blocks are the Navarro Ridge to the southeast and Van Damme Beach State Park, north of the proposed project.

Similarly, the CDFW Areas of Conservation Emphasis is a tool that utilizes a compilation of statewide spatial information to create rankings on items such as biodiversity, rarity, significant habitats, and connectivity to highlight important areas for connectivity enhancement or protection (CDFW 2023a). The project BSA is within a terrestrial connectivity importance area that has an Areas of Conservation Emphasis ranking of one and is not considered an area with limited connectivity opportunity (CDFW 2023a).

Environmentally Sensitive Habitat Areas

Environmentally Sensitive Habitat Areas (ESHAs) are defined by CCA Section 30107.5 as "…any area in which plant or animal life or their habitats are either rare or especially valuable because of their special nature or role in an ecosystem and which could be easily disturbed or degraded by human activities and developments." It is important to note the three parts to this definition. The first is whether a species or habitat is rare. The second is whether a habitat is especially valuable. The third is that an ESHA could easily be disturbed or degraded by human activities or developments.

The project area contains multiple habitats that may be considered ESHAs, pending consultation with the CCC. These include SNCs, wetlands, waters, riparian habitat, critical habitat for state and federally listed species, and EFH. SNCs are discussed above, under Natural Communities, while wetlands and waters are discussed in Section 3.4.2, *Wetlands and Other Waters*. Riparian habitat has overlapping designations, as it is part of various SNCs discussed above, as well as associated with aquatic resources; the communities are discussed above, and additional information is provided in Section 3.4.2. Critical habitat and EFH are discussed in Section 3.4.5, *Threatened and Endangered Species*. In addition to these habitats, sand dunes and unvegetated beach are found within the project area. Dunes, regardless of vegetation community present, and beaches may be considered ESHA and protected under the CCA. These areas are discussed in further detail below.

Sand Dune

Within the project BSA, approximately 1.19 acres of sand dune habitat is present north of the Albion River and west of the Albion River Campground. The sand dunes are covered by an ice plant mat community (*Carpobrotus edulis* or Other Ice Plants Semi-Natural Herbaceous Stands) (GNA/SNA), dominated by *Carpobrotus edulis* (ice plant), which is a highly invasive non-native species. Other non-native dune mat plants such as sea rocket (*Cakile maritima*) occur in a limited distribution within this single-species dominated community.

Unvegetated Beach

Within the project BSA, approximately 0.54 acre of unvegetated beach is found along the Albion Cove west of the bridge, where wave action precludes vegetated cover. The substrate is dominated by sand, with cobble and gravel found in smaller quantities.

Environmental Consequences

Build Alternatives

Construction Impacts

Natural Communities

Temporary and permanent impacts on natural communities are anticipated during ground and vegetation disturbance for construction activities, such as vegetation removal, grading for access, temporary placement of piles and cofferdams, equipment staging, and drainage work.

Temporary impacts refer to those areas that would be restored on-site and in-kind upon completion of construction. Many areas of temporary impacts would be of short duration and could be restored immediately post-construction, but some temporary disturbances could occur for over one year prior to commencement of restoration activities. Since accurately estimating the timing of restoration for each design option under evaluation is not possible at this stage in project design, any impact that could eventually be restored on-site to pre-project conditions is discussed in this document as a temporary impact.

In contrast, permanent impacts refer to areas where significant cut or fill is proposed or where there would be an increase in infrastructure, including areas where new pavement would be added to the road, as well as new bridge foundations, soldier pile walls, wingwalls, and retaining walls.

The proposed project is anticipated to have temporary or permanent impacts on six of the nine SNCs within the BSA, including coastal silk tassel scrub, coastal brambles, wax myrtle scrub, coastal dune willow scrub, Coast Range stonecrop draperies, and eelgrass bed. The other three sensitive natural communities—Pacific Reed Grass Meadows, Red Fescue Grassland and Bishop Pine Forest—would not be impacted by any of the Build Alternatives.

Temporary and permanent impact acreages would differ by alternative but would generally be consistent between bridge types. The nature and extent of anticipated impacts to SNCs are quantified in Table 49; impact maps are included in Appendix J, *Sensitive Habitat Impact Maps*. SNCs impacted by the Build Alternatives are discussed further below.

Standard measures in Section 2.2.5, *Common Design Features of the Build Alternatives,* including Standard Measures **BR-3** and **BR-4**, would be implemented, limiting impacts to SNCs both during and after construction. These include measures to prevent invasive non-native species from colonizing disturbed areas, placing Temporary

High Visibility Fencing (THVF) and/or flagging around SNCs to prevent unanticipated impacts, and implementation of a Revegetation Plan for fully restoring temporarily disturbed areas.

In addition to standard measures, **AMM-BR-1** would be implemented for permanent impacts to SNCs. Offsite restoration would be pursued in coordination with regulatory agencies through purchasing credits from a mitigation bank and/or conducting off-site mitigation.

Table 49. Area of Sensitive Natural Communities in the Biological Study Area and Estimated Impacts by Proposed Design Option

Sensitive Natural Community	Rank [1]	Total Area of Sensitive Natural Community in Project Area (Acres)	Estimated Impacts on Sensitive Natural Communities (Acres)									
			Design Option 1A		Design Option 1B		Design Option 2A		Design Option 2B		Design Option 3A	
			Permanent	Temporary	Permanent	Temporary	Permanent	Temporary	Permanent	Temporary	Permanent	Temporary
Coast Silk Tassel Scrub	G?/S?	2.02	0.08	0.31	0.21	0.29	0.15	0.37	0.19	0.25	0.11	0.28
Pacific Reed Grass Meadow	G4/S2	0.62	0	0	0	0	0	0	0	0	0	0
Red Fescue Grassland	GNA/S3	0.44	0	0	0	0	0	0	0	0	0	0
Coastal Bramble	G4/S3	1.42	0.10	0.36	0.16	0.32	0.03	0.47	0.18	0.34	0.03	0.41
Bishop Pine Forest	G3?/S3?	2.21	0	0	0	0	0	0	0	0	0	0
Wax Myrtle Scrub	G3/S3	0.25	0.08	0.08	0.08	0.08	0.06	0.09	0.11	0.09	0.08	0.08
Coastal Dune Willow Thicket	G4/S3	0.14	0.02	0.01	0.02	0.01	0.02	0.01	0.02	0.01	0.02	0.01
Coast Range Stonecrop Draperies	G4?/S3	0.43	0	< 0.01	<0.01	0	0	0	0	0	0	< 0.01
Eelgrass Beds	GNA/S3	1.60	< 0.01	< 0.01	0	< 0.01	0	0	0	< 0.01	0	< 0.01
Total	-	**9.13**	**0.28**	**0.77**	**0.47**	**0.70**	**0.26**	**0.94**	**0.50**	**0.69**	**0.24**	**0.79**

Source: (Caltrans 2024)

[1] Global [G] / State [S] Rank Explanations: G1/S1 = Critically imperiled: at high risk of extinction, extremely rare; G2/S2 = Imperiled: at high risk of extinction, restricted range, very few populations; G3/S3 = Vulnerable: moderate risk of extinction, restricted range, few populations; G4/S4 = Apparently secure: uncommon, not rare, possible long-term declines; G5/S5 = Secure: common, widespread, abundant; GNA/SNA = Global/state rank not applicable; ? = Best estimate of the rank when there are insufficient samples over the full expected range of the type, but existing information points to this rank.

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Coastal Silk Tassel Scrub

Within the project BSA, there is an estimated 2.02 acres of coastal silk tassel scrub. All Build Alternatives would have the potential to result in temporary and permanent impacts to this community due to construction access for removal of the existing bridge and construction of the new bridge, including earthwork and ground disturbance required to install the southern bents and new bridge abutments.

Estimated temporary impacts on coastal silk tassel scrub are variable depending on the design option, with the smallest acreage of approximately 0.25 acre for Design Option 2B and the highest of approximately 0.37 acre for Design Option 2A.

Anticipated permanent impacts range from approximately 0.08 acre for Design Option 1A to approximately 0.21 acre for Design Option 1B.

Coastal Brambles

In total, there are approximately 1.42 acres of coastal bramble habitat patchily distributed within the project BSA. All project alternatives are anticipated to result in temporary and permanent impacts on this habitat due to construction of new bridge foundations and footings, as well as construction access, earthwork and access for existing bridge removal, and new bridge construction on the north banks for all design options.

Temporary impacts range from approximately 0.32 acre for Design Option 1B to 0.47 acre for Design Option 2A. Permanent impacts range from approximately 0.03 acre for Design Options 2A and 3A to 0.18 acre for Design Option 2B.

Wax Myrtle Scrub

Approximately 0.25 acre of wax myrtle scrub, some of which is riparian, is present in the project BSA. Potential permanent and temporary impacts would primarily occur as a result of bridge construction beneath the southern abutment for all design options.

Construction of Design Option 2B has slightly more overall potential to impact wax myrtle scrub and would entail the highest permanent loss of approximately 0.11 acre.

Coastal Dune Willow Thickets

Approximately 0.14 acre of riparian coastal dune willow thicket is adjacent to an intermittent freshwater stream within the project BSA. All Build Alternatives include widening of the bridge and bridge approaches, requiring work on the culvert on the east side of SR 1 at post mile 44.03 and would therefore have similar impacts. The existing 24-inch culvert would be replaced with a longer 30-inch culvert and would also require construction of a headwall.

It is estimated that there would be a temporary loss of 0.01 acre of dune willow habitat and permanent removal of approximately 0.02 for all design options.

Coast Range Stonecrop Draperies

There is one 0.43-acre occurrence of stonecrop on a rock outcrop northwest of the Albion River Bridge. It is anticipated that the western and on-alignment alternatives—Design Options 1A, 1B, and 3A—would affect this community due to access and excavation needed for the northern abutment. Design Options 2A and 2B are not anticipated to have any impacts on this community.

Design Options 1A and 3A are estimated to have only very minor and temporary impacts of less than 0.01 acre (approximately 1 square foot for Design Option 1A and 174.24 square feet for Design Option 3A), while Design Option 1B may have permanent impacts on less than 0.01 acre (261.36 square feet).

Eelgrass Beds

Approximately 1.60 acres of eelgrass habitat is within the river channel in the project BSA, with 0.29 acre within the ESL. Potential impacts to eelgrass habitat for each design option is shown in Table 50.

Potential temporary impacts to existing eelgrass beds would include physical displacement from installation of temporary piers (all Design Options except 2A) as well as potential shading of existing habitat from temporary structures over the channel.

Only Design Option 1A would result in a permanent impact to existing eelgrass beds. Construction of Design Option 1A would include installing permanent piles and a portion of a new bridge footing within the river channel, resulting in the permanent loss of less than 0.01 acre (approximately 226.51 square feet) of existing eelgrass bed, which amounts to approximately 1.79% of eelgrass within the ESL and 0.33% of mapped eelgrass habitat within the BSA.

In addition to direct displacement of eelgrass by construction of piers in existing beds for Design Option 1A, pier placement for the construction of the proposed project for all Build Alternatives may have indirect impacts, including localized impacts on hydrology and alluvial geomorphology, shading, and potential impacts on water quality and turbidity.

Table 50. Potential Eelgrass Habitat Impacts

Design Option	Potential Eelgrass Habitat Impact (acres/sq ft)		
	Permanent	Temporary	Total
1A	0.00520 (226.51)	0.00350 (152.46)	0.00870 (387.97)
1B	0	0.00027 (11.76)	0.00027 (11.76)
2A	0	0	0
2B	0	0.00036 (15.68)	0.00036 (15.68)
3A	0	0.00088 (38.33)	0.00088 (38.33)

Source: (Caltrans 2024)

Hydrology/Alluvial Geomorphology

Placement of piles to support the temporary trestles could result in temporary adverse impacts on very small areas of existing eelgrass habitat as a result of changes in streambed topography. Since the piles (24- to 30-inch steel H or pipe-piles) to support these temporary structures would be placed either within or immediately adjacent to existing eelgrass beds, the scour and sediment deposition patterns within the channel could be slightly modified at these locations. However, temporary piles would be placed 25 to 30 feet apart and would span the deepest and fastest moving part of the channel (thalweg). As they would be situated in the low flow channel sides, they would not be exposed to the higher velocities associated with deeper parts of the channel. While temporary trestles would stay within the channel for 3 years (Design Options 1A, 2A, 1B, 2B) to 5 years (Design Option 3A) during project construction, sediment transport within the channel in the vicinity of the bridge project work would remain in a state of equilibrium due to the tidal influence at the project location and would therefore result in only a small amount of scour surrounding temporary piles. As such, once the piles are removed, the channel morphology and substrate changes, if any, would be expected to return to normal (Caltrans 2020).

Debris racking could also potentially result in a temporary impact on eelgrass habitat within the project footprint, as large woody debris upstream would have the potential to further alter scour and sediment deposition patterns over time. However, unlike on larger and more intact river systems where flow rates can increase quickly and upstream erosion or flooding might quickly bring large and small woody debris that could potentially get caught up on piles situated within the water column, the Albion River is considered to be “large woody debris (LWD) deficient” (Downie et al. 2004) as a result of over a century of logging and wood removal from the watershed. Furthermore, and as mentioned previously, placing the temporary trestle piles so that they span the thalweg would keep the piers out of the path of fast-flowing debris and likely prevent debris racking.

Additionally, while flows can be high during and after large storm events, tidal action within the proposed project area would mediate the intensity of potential debris racking effects and may prevent LWD from lodging itself on the temporary trestle piles. Because construction crews would be working from trestles during the winter months, they would be able to dislodge any LWD (or other debris) from the piers – either allowing the LWD to go out to sea or hauling out and disposing of trash debris if appropriate (i.e., large items of trash). In addition, Measure **AMM-HF-1** would be implemented, which would further minimize potential impacts on eelgrass habitat from debris racking by requiring monitoring and removing debris that pose a threat to temporary and permanent infrastructure and channel/bank stability.

Shading

The temporary trestles would be in place throughout construction, as mentioned above. The trestles would be oriented south to north, and the trestle decks would be located a minimum of 35 feet above the mean higher-high water (MHHW) mark (elevation of 5.72 feet above sea level). The eelgrass beds within the project BSA are growing from approximately 2 feet below to 3 feet above sea level, with a minimum distance of approximately 36 feet between the nearest eelgrass beds and the potential temporary shading source. Given the height and the orientation of the temporary trestles on a north-south alignment, installation of temporary trestles over existing eelgrass beds would result in only minor and temporary shading and would not be expected to result in any substantial decrease in long-term viability. However, the percent reduction in eelgrass biomass is expected to increase as duration of shading increases (Nelson 2017), although the effects from shading may take weeks to months to manifest fully (Gladstone and Courtenay 2014). Therefore, the longer timeframe estimated for the construction of Design Option 3A would potentially result in a greater temporary shading effect to eelgrass biomass below the temporary trestles.

Water Quality

Temporary impacts on water quality could potentially also occur as a result of leaks or spills from equipment being used adjacent to or above (on trestles) eelgrass bed habitat. In addition, excavation and earthwork required for construction of the new bridge on the banks, particularly on the steep south bank, could potentially result in sediment entering surface waters. Increased turbidity from in-water pile driving adjacent to eelgrass habitat could also impact water quality. Sediment and turbidity could temporarily reduce clarity and sunlight penetration to the eelgrass beds – which over the long term can decrease eelgrass productivity (Lefcheck et al. 2017). However, potential water quality impacts from sediment and turbidity as a result of project construction would be temporary and transient and would not be expected to have a measurable impact on eelgrass. In addition, because sand, not fine sediments, is the dominant substrate within the Albion River channel and Albion Cove (Caltrans 2020), sand would not stay suspended within the water column for any length of time; in fact, NMFS guidelines suggest BMPs for turbidity control would not be required to protect eelgrass when the substrate consists of over 80 percent sand (NMFS 2023).

Direct construction related impacts would be avoided or minimized to the extent possible during final project design and during construction and indirect impacts would have limited potential to adversely impact eelgrass due to the temporary nature of the work and inclusion of standard measures for water quality such as Standard Measures **WQ-1 and WQ-2** described in Section 2.2.5, *Common Design Features of the Build Alternatives.*

Conclusion

The project has the potential to impact eelgrass beds directly and indirectly, as described above. The standard measures and BMPs described in Section 2.2.5, *Common Design Features of the Build Alternatives*, would minimize project impacts to this special habitat both during and after construction, including by adhering to appropriate seasonal work windows and implementing measures for water quality.

In addition, project-specific measures **AMM-HF-1**, **AMM-BR-2**, and **AMM-BR-3** would be implemented to minimize impacts. Measure **AMM-HF-1** would further minimize the negligible potential impacts of debris racking by monitoring and removal. Measure **AMM-BR-2** would require employing soil (sand) protection timber crane mats when working adjacent to the channel or below high tide line at low tide and placing temporary trestle piles and permanent bridge foundations outside of eelgrass habitat where feasible to lessen direct impacts, while under measure **AMM-BR-3**, temporary trestle piles would be installed and removed during outgoing tides when feasible to deflect turbidity away from upstream eelgrass beds.

As eelgrass beds are designated as HAPC—a subset of EFH—and there would be impacts, consultation with the National Marine Fisheries Service (NMFS) would be needed. Eelgrass beds as HAPC are described in Section 3.4.5, *Threatened and Endangered Species*. Measure **AMM-BR-8** would be implemented for eelgrass; all necessary standards outlined in the California Eelgrass Mitigation Policy (CEMP) would be followed to ensure “no net loss”. This includes the development of a comprehensive mitigation and monitoring plan and associated pre- and post-construction surveys.

Habitat Connectivity

The proposed project would only have the potential for slight and mostly temporary changes to the migration habitat for anadromous fish species and other marine species as well as terrestrial species that could use riparian habitats. Within the Albion River, temporary piles would be placed 25 to 30 feet apart and would span the deepest and fastest moving part of the river (thalweg), allowing marine species of all sizes to pass below. In addition, pier removal of the existing Albion River Bridge would enhance available habitat for aquatic species and could potentially increase habitat connectivity for terrestrial dune inhabitants, including rodents and invertebrates.

Environmentally Sensitive Habitat Areas

All Build Alternatives would include impacts to ESHA. Impacts to SNCs are discussed in the section on natural communities above. Impacts to wetlands and waters, and details on riparian habitat, are discussed in Section 3.4.2, *Wetlands and Other Waters*. Critical habitat and EFH are discussed in Section 3.4.5, *Threatened and Endangered Species*.

The remaining ESHAs—sand dunes and unvegetated beach—would be affected by the project. Estimated impacts to these areas are included in Table 51, and discussed further below.

Table 51. Estimated Impacts to Sand Dune and Unvegetated Beach

Design Option	Sand Dune (acres)			Unvegetated Beach (acres)		
	Permanent	Temporary	Total	Permanent	Temporary	Total
1A	0.07	0.80	0.87	0	0.11	0.11
1B	0.00	0.79	0.79	0	0.12	0.12
2A	0.00	0.67	0.67	0	0.01	0.01
2B	0.02	0.65	0.67	0	0.01	0.01
3A	0.10	0.74	0.84	0	0.02	0.02

Source: (Caltrans 2024)

Sand Dune

The majority of potential impacts to ice plant mats would be temporary due to equipment access during construction of all Build Alternatives. However, due to construction of the permanent bridge pier footings on the north side of Albion River, Design Options 1A, 2B, and 3A would result in a permanent loss of sand dune habitat. Construction of Design Option 3A would have the highest acreage of impacts on sand dune habitat (0.10 acre), as this alignment would require two pier footings within sand dune habitat, while Design Options 1A and 2B would only require one pier footing.

However, removal of the existing wooden bridge pier footings would result in an estimate 0.19 acre of new dune habitat, resulting in a net increase of approximately 0.12 acre for Design Option 1A, 0.17 acre for Design Option 2B, and 0.09 acre for Design Option 3A. Design Options 1B and 2A, with no impacts, would result in a gain of the full 0.19 acre of new dune habitat.

In addition, following standard measures for revegetation, temporarily impacted areas would be restored and replanted with native vegetation, increasing the diversity from a monoculture of non-native ice plant mats to a more diverse assemblage of plants, and associated available resources for native animals and insects.

Unvegetated Beach

Beach habitat would be temporarily impacted by equipment access and trestle installation and use during construction, with Design Options 1A and 1B having the highest impacts. However, beach habitat would be fully restored post-construction and there would be no permanent impacts.

Operational Impacts

Upon completion of construction, no operational impacts are anticipated to sensitive natural communities. The slightly wider bridge for all Build Alternatives would result in a small incremental increase of permanent shading of the Albion River, which could hypothetically result in a minor reduction of primary production in waters and/or eelgrass vegetation. However, the shading associated with a widened replacement bridge structure would be unlikely to result in a measurable decrease in primary productivity because the height of the structure would allow more than sufficient light to reach the eelgrass below. The factors most limiting to eelgrass growth and density within the ESL are more likely related to direct and indirect effects of wave action and associated natural and anthropomorphic (boat) turbidity, as well as direct damage from recreational and commercial boats and boaters (Burdick and Short 1999) than any potential effect of shading from the proposed permanent bridge structure.

No-Build Alternative

Under the No-Build Alternative, the Albion River Bridge would not be replaced, and natural communities would not be impacted.

Avoidance, Minimization, and/or Mitigation Measures

Applicable measures from other resource categories referenced in this chapter include **AMM-HF-1**. This measure would be implemented and is described in Appendix D, *Avoidance, Minimization, and/or Mitigation Summary*. Additionally, the following resource-specific measures would be implemented:

AMM-BR-1: Caltrans proposes to compensate for permanent impacts to sensitive natural communities by purchasing credits from the Mendocino Coast Mitigation Bank and/or conducting off-site mitigation. The appropriate credit ratios would be identified and coordinated through the CCC, USACE, North Coast RWQCB, CDFW, and any other administering agencies during the permitting phase of the project. Caltrans anticipates mitigation credits to be available prior to project impacts; therefore, a mitigation ratio of approximately 1:1 to 2:1 is expected. Alternatively, a minimum ratio of 3:1 would be proposed for restoration and/or preservation of habitat at an off-site location.

AMM-BR-2: Soil (sand) protection timber crane mats would be deployed when working adjacent to the channel or below high tide line at low tide, and temporary trestle piles and permanent bridge foundations would be placed outside of eelgrass habitat, where feasible.

AMM-BR-3: When feasible, temporary trestle piles would be installed and removed during outgoing tides to deflect turbidity away from upstream eelgrass beds.

AMM-BR-8: To ensure "no net loss" of seagrass (surfgrass and eelgrass), all necessary standards outlined in the California Eelgrass Mitigation Policy (CEMP) would be followed. This includes the development of a comprehensive mitigation and monitoring plan and associated pre- and post-construction surveys.

If temporarily impacted areas of seagrass do not restore naturally within an agreed-upon timeframe (to be determined during permitting), then adaptive mitigation measures may be implemented. Restoration efforts would likely take the form of infilling gaps within remaining eelgrass patches. If an impact is determined to have occurred as a result of project construction, any gaps that have developed between the pre- and post-construction surveys that are greater than 1 meter across would be planted. If determined necessary, Caltrans would pursue on-site mitigation with a final minimum restoration ratio of 1.2:1. If there are permanent impacts, then Caltrans would mitigate with a final restoration ratio achieving a minimum of 2:1. Restoration options to offset permanent impacts would be developed in coordination with CDFW and NMFS and could include in-stream efforts within the project area or upstream that increase potential habitat area by removing existing structures currently shading or occupying potential habitat areas (e.g., old wood and concrete piers and/or docks).

See Appendix D, *Avoidance, Minimization, and/or Mitigation Summary,* for more information on mitigation for sensitive natural communities.

3.4.2 Wetlands and Other Waters

Regulatory Setting

Wetlands and other waters are protected under a number of laws and regulations. At the federal level, the Federal Water Pollution Control Act, more commonly referred to as the Clean Water Act (CWA) (33 United States Code [USC] 1344), is the primary law regulating wetlands and surface waters. One purpose of the CWA is to regulate the discharge of dredged or fill material into waters of the U.S., including wetlands. Waters of the U.S. include navigable waters, interstate waters, territorial seas, and other waters that may be used in interstate or foreign commerce. Waters that can fit under this definition include wetlands, special aquatic sites, and other non-wetland waters, such as bays, rivers, and lakes. The lateral limits of jurisdiction over non-tidal water bodies extend to the ordinary high water mark (OHWM), in the absence of adjacent wetlands. When adjacent wetlands are present, CWA jurisdiction extends beyond the OHWM to the limits of the adjacent wetlands. Within tidally influenced systems, the limits of CWA jurisdiction extend to the high tide line. To classify wetlands for the purposes of the CWA, a three-parameter approach is used that includes the presence of hydrophytic (water-loving) vegetation, wetland hydrology, and hydric soils (soils formed during saturation/inundation). All three parameters must be present, under normal circumstances, for an area to be designated as a jurisdictional wetland under the CWA. In comparison, areas with only one or two-parameter features that have evidence of hydric soils and/or hydrology may be considered “Coastal Wetlands” and protected as Environmentally Sensitive Habitat Areas (ESHA) under the California Coastal Act. Potential coastal wetlands may also include one-parameter features that directly abut a three-parameter CWA wetland or stream as they may serve wetland buffering functions to the adjacent USACE jurisdictional areas or riparian habitats.

The U.S. Army Corps of Engineers (USACE) regulates waters of the U.S. under Section 404 of the CWA and Section 10 of the Rivers and Harbors Act. Section 404 of the CWA establishes a regulatory program that provides that discharge of dredged or fill material cannot be permitted if a practicable alternative exists that is less damaging to the aquatic environment or if the nation’s waters would be significantly degraded. The Section 404 permit program is run by the USACE with oversight by the U.S. Environmental Protection Agency (U.S. EPA).

The USACE issues two types of 404 permits: General and Individual. There are two types of General permits: Regional and Nationwide. Regional permits are issued for a general category of activities when they are similar in nature and cause minimal environmental effect. Nationwide permits are issued to allow a variety of minor project activities with no more than minimal effects.

Ordinarily, projects that do not meet the criteria for a Regional or Nationwide Permit may be permitted under one of USACE’s Individual permits. There are two types of Individual permits: Standard permits and Letters of Permission. For Individual permits, the USACE decision to approve is based on compliance with U.S. EPA’s Section

404(b)(1) Guidelines (40 Code of Federal Regulations Part 230), and whether permit approval is in the public interest. The Section 404 (b)(1) Guidelines (Guidelines) were developed by the U.S. EPA in conjunction with the USACE, and allow the discharge of dredged or fill material into the aquatic system (waters of the U.S.) only if there is no practicable alternative which would have less adverse effects. The Guidelines state that the USACE may not issue a permit if there is a "least environmentally damaging practicable alternative" (LEDPA) to the proposed discharge that would have lesser effects on waters of the U.S., and not have any other significant adverse environmental consequences.

The Executive Order for the Protection of Wetlands (EO 11990) also regulates the activities of federal agencies with regard to wetlands. Essentially, EO 11990 states that a federal agency, such as FHWA and/or the Department, as assigned, cannot undertake or provide assistance for new construction located in wetlands unless the head of the agency finds: (1) that there is no practicable alternative to the construction and (2) the proposed project includes all practicable measures to minimize harm. A Wetlands Only Practicable Alternative Finding must be made.

At the state level, wetlands and waters are regulated primarily by the State Water Resources Control Board (SWRCB), the Regional Water Quality Control Boards (RWQCB) and the California Department of Fish and Wildlife (CDFW). In certain circumstances, the Coastal Commission (or Bay Conservation and Development Commission or the Tahoe Regional Planning Agency) may also be involved. Sections 1600-1607 of the California Fish and Game Code require any agency that proposes a project that will substantially divert or obstruct the natural flow of or substantially change the bed or bank of a river, stream, or lake to notify CDFW before beginning construction. If CDFW determines that the project may substantially and adversely affect fish or wildlife resources, a Lake or Streambed Alteration Agreement will be required. CDFW jurisdictional limits are usually defined by the tops of the stream or lake banks, or the outer edge of riparian vegetation, whichever is wider. Wetlands under jurisdiction of the USACE may or may not be included in the area covered by a Streambed Alteration Agreement obtained from the CDFW.

The RWQCBs were established under the Porter-Cologne Water Quality Control Act to oversee water quality. Discharges under the Porter-Cologne Act are permitted by Waste Discharge Requirements (WDR) and may be required even when the discharge is already permitted or exempt under the CWA. In compliance with Section 401 of the CWA, the RWQCBs also issue water quality certifications for activities which may result in a discharge to waters of the U.S. This is most frequently required in tandem with a Section 404 permit request. Please see the Water Quality section for more details (Section 3.3.2, *Water Quality and Stormwater Runoff*).

Affected Environment

The information in this section is based on the Natural Environment Study prepared for the project (Caltrans 2024). In addition, an aquatic resources delineation is included as part of the NES; it will be submitted to USACE for verification and concurrence after preparation of the final environmental document.

Potential waters of the U.S. and state were delineated within the project BSA (the ESL plus a 100-foot buffer) (Figure 74) in 2014, 2015, 2017, 2020, and 2023. Surveys followed state and federal guidelines, including the *Corps of Engineers Wetlands Delineation Manual* (Environmental Laboratory 1987), *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Western Mountains, Valleys, and Coast Region* (USACE 2010), USACE's Regulatory Guidance Letter 05-05 (USACE 2005), *A Field Guide to the Identification of the Ordinary High Water Mark in the Western Mountains, Valleys, and Coast Region of the United States* (Mersel and Lichvar 2014) and the *State of California 2016 Wetland Plant List* (Lichvar et al. 2016).

The project BSA contains potential CWA Section 401 and 404 wetlands (i.e., three-parameter wetlands), non-wetland waters of the U.S. and state (including Section 10 waters), coastal wetlands (i.e., one- and two-parameter wetlands), and riparian habitat.

A total of approximately 14.00 acres of potentially jurisdictional waters were mapped in the project BSA (Figure 78). Of this, approximately 12.73 acres of three-parameter wetlands and other waters would potentially be jurisdictional waters of the U.S. and state, while an additional 1.27 acres of one- to two-parameter wetlands would only potentially be jurisdictional under the California Coastal Act (CCA). In addition, there is approximately 2.48 acres of riparian habitat in the project BSA.

A summary of wetlands and other waters found within the project BSA is provided in Table 52; wetlands and other waters and associated riparian habitat are described further below.

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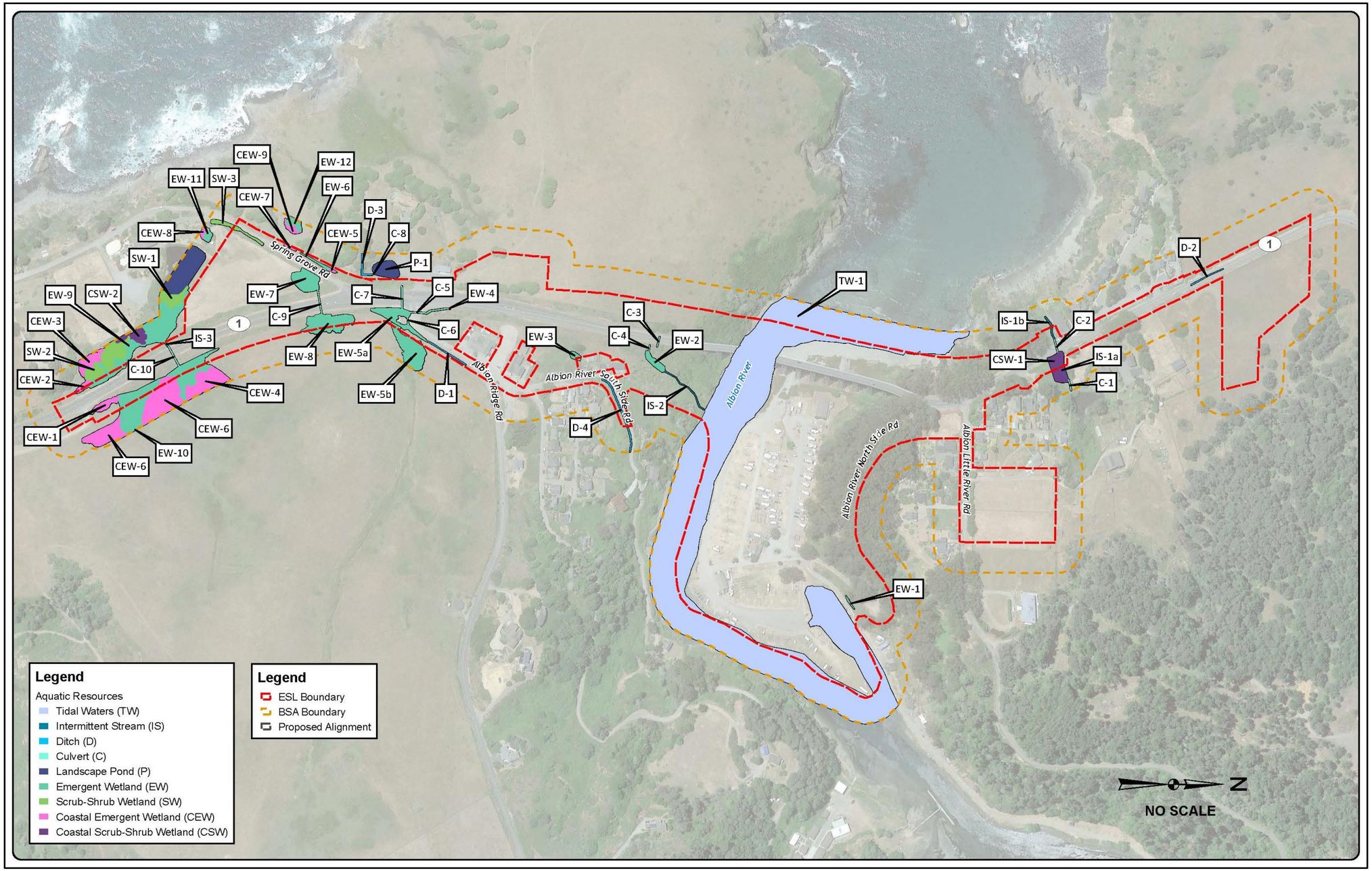


Figure 78. Aquatic Resources in the Project BSA

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Table 52. Summary of Aquatic Features Delineated within the Biological Study Area

Aquatic Resources Type	ARD Code	Cowardin Type	Length (ft)	Total Area in BSA (acres)
WETLANDS (404/401) (3-parameter)				
Emergent Wetlands	EW-1	PEM1	-	0.003
	EW-2	PEM1	-	0.047
	EW-3	PEM1	-	0.020
	EW-4	PEM1	-	0.008
	EW-5a	PEM1	-	0.134
	EW-5b	PEM1	-	0.240
	EW-6	PEM1	-	0.013
	EW-7	PEM1	-	0.150
	EW-8	PEM1	-	0.230
	EW-9	PEM1	-	0.520
	EW-10	PEM1	-	0.640
	EW-11	PEM1	-	0.025
	EW-12	PEM1	-	0.043
Scrub-Shrub Wetlands	SW-1	PSS1	-	0.110
	SW-2	PSS1	-	0.250
	SW-3	PSS1	-	0.043
Sub-total 3-parameter Wetlands				***2.476 2.48, rounded***
OTHER WATERS (404/401)				
Albion River (Tidal Waters)	TW	E1UBL	~2,960	9.721
Sub-total Other Waters (tidal)			2,960	***9.721 9.72, rounded***
Man-made Pond	P-1	PUBxr	105	0.119
	P-2	PUBxr	215	0.340
Intermittent Stream	IS-1a	R4SB	110	0.008
	IS-1b	R4SB	98	0.007
	IS-2	R4SB	234	0.005
	IS-3	R4SB	22	0.001
Ditches	D-1	R4SB	166	0.004
	D-2[1]	-	141	0.003
	D-3	R4SB	119	0.008
	D-4	R4SB	315	0.014
Culverts	C-1	-	43	0.002
	C-2	-	66	0.003
	C-3	-	30	0.002
	C-4	-	24	0.001
	C-5	-	70	0.003
	C-6	-	29	0.001
	C-7	-	96	0.004
	C-8	-	15	<0.001

Aquatic Resources Type	ARD Code	Cowardin Type	Length (ft)	Total Area in BSA (acres)
	C-9	-	115	0.004
	C-10	-	92	0.004
Sub-total Other Waters (non-tidal)			*2,105*	***0.533 0.53, rounded***
Total Potentially Jurisdictional 404/401 Aquatic Features			5,065	**12.73**
WETLANDS (Coastal) (1-2 Parameter)[1]				
Emergent Wetlands	CEW-1	-	-	0.059
	CEW-2	-	-	0.029
	CEW-3	-	-	0.100
	CEW-4	-	-	0.239
	CEW-5	-	-	0.005
	CEW-6	-	-	0.579
	CEW-7	-	-	0.004
	CEW-8	-	-	0.015
	CEW-9	-	-	0.027
Scrub-Shrub Wetland	CSW-1	-	-	0.125
	CSW-2	-	-	0.089
Sub-Total Coastal Wetlands				***1.271 1.27, rounded***
Total All Potentially Jurisdictional Waters				***14.001 14.00, rounded***

Source: (Caltrans 2024)

[1] This features is not jurisdictional to the U.S.

Wetlands

There are approximately 2.48 acres of potentially jurisdictional three-parameter wetlands within the project BSA, including emergent wetlands (EW) and scrub-shrub wetlands (SW).

Emergent wetlands include several large complexes within the southern portion of the BSA (EW-7, EW-8, EW-9 and EW-10) and adjacent to Albion Ridge Road (EW-5 and EW-4); three small herbaceous wetlands east of SR 1 near the Albion River South Side Road (EW-3), located on the hillside just south of the southeast exiting bridge footing (EW-2), and a small roadside depressional feature located along the northwestern boundary of the Albion Campground (EW-1); and three small herbaceous wetlands west of SR 1 near Spring Grove Road (EW-6, EW-11, and EW-12). These features are classified as seasonally flooded Palustrine Emergent Persistent (PEM1) under the Cowardian classification system.

Scrub-shrub wetlands include two wetlands within and adjacent to the southwestern emergent complex of EW-9 (SW-1 and SW-2) and one adjacent to Spring Grove Road (SW-3). These features are classified as seasonally flooded Palustrine Scrub-Shrub Wetland Broad-leaved Deciduous (PSS1) under the Cowardian classification system.

Other Waters of the U.S. and State

There are approximately 10.25 acres, or 5,065 linear feet, of other waters of the U.S. and state in the project BSA, which is composed of both tidal and non-tidal waters.

Tidal waters (TW) are defined by the high tide line, which is located at an elevation of 7.48 feet above sea level within the project BSA. Tidal waters account for 9.72 acres, or 2,960 linear feet, of the documented other waters of the U.S. and state, and includes the Pacific Ocean within Albion Cove and the Albion River mouth and channel. The Albion River is a perennial stream with an estuary—a partially enclosed coastal water body where freshwater mixes with saltwater—that extends upstream for four to five miles. Within the BSA, the river is classified as Estuarine Subtidal Unconsolidated Bottoms Saltwater Tidal (E1UBL) and is the only fish-bearing water in the project area.

Non-tidal waters comprise the remaining other waters of the U.S. and state documented in the BSA, accounting for 0.533 acre, or 2,105 linear feet. These freshwater features include man-made ponds (P), intermittent streams (IS), ditches (D), and culverts (C):

- ***Man-made ponds:*** Two small, constructed landscape ponds are present on private property in the project BSA. The ponds, which account for approximately 0.459 acre, are visible from SR 1. Pond 1 (P-1) is north of Spring Grove Road, and Pond 2 (P-2) is south; only a portion of P-2 is within the BSA. According to mapping provided by the National Wetlands Inventory (USFWS 2023), as well their topographic position and proximity to existing wetlands, both ponds are within a historically mapped Palustrine Emergent Persistent wetland and are classified as PUBxr – Palustrine, Unconsolidated Bottom, Excavated, Artificial Substrate.
- ***Intermittent streams:*** Three potentially jurisdictional intermittent streams, comprising 0.021 acre, or 464 linear feet, are in the BSA; these streams are classified as Riverine Intermittent Streambed (R4SB). Two of the streams (IS-1 and IS-2) connect to fish-bearing waters (Pacific Ocean and the Albion River). However, the slope, depth, width, natural connectivity, and consistency of these intermittent waters are not adequate to support fish species. The remaining stream (IS-3) conveys concentrated sheet flow from one wetland area to another.
- ***Ditches:*** Four roadside ditches are present within the project BSA, comprising approximately 0.029 acre, or 741 linear feet. Of these, only one (D-2) is located along the highway, conveying stormwater; this ditch may not be jurisdictional to the USACE or the state. The remaining three potentially jurisdictional ditches convey waters from local roadway runoff, pond overflows, or other culverts from within Albion. Ditches D-1, D-3, and D-4 are classified as R4SB.
- ***Culverts:*** Ten culverts transport potential waters of the U.S. and state in the project BSA, comprising approximately 0.024 acre, or 580 linear feet. The culverts convey water under SR 1, Spring Grove Road, Albion Ridge Road, and to and from the man-made ponds.

Coastal Wetlands

There are approximately 1.27 acres of coastal wetlands (i.e., one- and/or two-parameter wetlands) within the project BSA which are potentially under the jurisdiction of the California Coastal Commission and County of Mendocino.

The coastal wetlands are located within the transitional zones of the delineated three-parameter wetland features or adjacent to streams, and were mapped as coastal wetlands because they offer either buffering capacity or shared seasonal aqueous moisture regimes with the three-parameter wetlands or streams at a depth that allows for hydrophytic plant communities to develop.

Eight of the ten coastal features are considered coastal emergent wetlands (CEW), composed of herbaceous upland and wetland vegetation (primarily dominated by soft rush and velvet grass) with little correspondence to hydric soils (CEW-1 through CEW-8); these features are all adjacent to three-parameter wetlands in southern portion of the project. The remaining two are considered coastal scrub-shrub wetlands (CSW), dominated either by coastal dune willow thicket (CSW-1) or coyote brush scrub (CSW-2). CSW-1 is located an intermittent stream (IS-1), while CSW-2 is adjacent to three-parameter wetlands in the southern portion of the project BSA.

Riparian Habitat

Riparian habitat is the transitional zone between aquatic and terrestrial (upland) environments adjacent to a water body, such as a stream, channel, or river. Within the project BSA, riparian habitat was identified in two locations: surrounding the intermittent stream segment IS-1a and on the south bank of the Albion River. No riparian habitat was identified adjacent to IS-1b or IS-3. Riparian habitat associated with IS-2 was minimal and defined primarily by herbaceous species along the stream edge; this habitat is encompassed by the surrounding Albion River riparian habitat. In addition, the north side of the Albion River within the project BSA consists primarily of hardscaping to protect the shoreline (rock), road and other campground infrastructure within the floodplain; vegetation along the north bank is disconnected from the Albion River channel and does not serve a riparian function.

Riparian habitat types within the project BSA consists of four sensitive natural community types: coastal dune willow thicket, coastal silk tassel scrub, coastal bramble, and wax myrtle scrub. The dominant riparian habitat adjacent to the freshwater intermittent stream segment IS-1a consists of approximately 0.14 acres of coastal dune willow thicket. The remaining communities were found adjacent to the Albion River.

Riparian habitat adjacent to the Albion River includes coastal scrub habitat on the south bank of the Albion River, composed primarily of coastal silk tassel scrub (approximately 2.02 acres) growing immediately adjacent to the high tide line, with some wax myrtle scrub (approximately 0.17 acre) and coastal bramble (approximately 0.032 acre) found in swales further up the bank. Because they are situated in a riverbank position, the vegetation on the south bank of the Albion River is likely important in stabilizing the

steep bank and provides nutrient inputs into the river system (e.g., plant litter and arthropods), although the riparian vegetation along the river in the BSA does not provide many of the ecological functions normally associated with riparian systems such as regulating water quality, regulating water temperature, or providing increased habitat complexity and cover for aquatic species through overhanging vegetation or roots.

Coastal dune willow thicket, silk tassel scrub, wax myrtle scrub, and coastal bramble habitats are discussed in more detail in Section 3.4.1, *Natural Communities*.

Environmental Consequences

Build Alternatives

Construction Impacts

All Build Alternatives have the potential to temporarily and permanently impact aquatic resources. Temporary impacts are areas that would be restored on-site and in-kind upon completion of construction. Impacts that would not be restorable, such as where there would be an increase in infrastructure, including construction of new abutments, bridge piers, or shoring, are considered permanent.

Impacts to wetlands and other waters are summarized in Table 53, and estimated impacts to riparian habitat are shown in Table 54. Maps of impacts to aquatic resources impacts for all Build Alternatives are shown in Appendix K, *Aquatic Resource Impact Maps;* impacts to SNCs, which include riparian habitat, are shown in Appendix J, *Sensitive Habitat Impact Maps.* Further detail on impacts is provided below. Impacts on aquatic resources represent conservative impacts, based on maximum anticipated disturbance estimates.

Standard measures identified in Section 2.2.5, *Common Design Features of the Build Alternatives*, such as Standard Measures **BR-3**, **BR-4**, **BR-5**, **WQ-1**, and **WQ-2,** would be implemented, which would minimize project impacts on wetlands and other waters and riparian habitat both during and after construction. These measures include Best Management Practices (BMPs) to stabilize bare soil areas and to minimize adverse effects to water quality. Temporary high visibility fencing would be used to limit ground disturbance to the project footprint, and debris containment plans would be implemented as needed so that construction debris does not enter adjacent waters. In addition, a project-specific Revegetation Plan would be prepared, which would require that all wetlands and waters and associated riparian areas temporarily impacted by construction be revegetated once construction is complete. In conjunction with these efforts, a program of invasive weed control would be implemented in all areas of soil disturbance caused by construction to improve habitat for native species in and adjacent to disturbed soil areas within the project limits.

In addition to standard measures, Measure **AMM-BR-4** would be implemented for temporary impacts, and Measure **AMM-BR-9** for permanent impacts. Under these measures, wetlands and other waters that would be temporarily disturbed would be restored to their natural contours for revegetation efforts and for permanent losses that

cannot be compensated onsite, offsite restoration would be pursued in coordination with regulatory agencies. See the *Avoidance, Minimization, and/or Mitigation Measures* section below for more details.

Due to impacts to jurisdictional resources, the project would require a CWA Section 401 Water Quality Certification from the North Coast Regional Water Quality Control Board, a CWA Section 404 from USACE (Nationwide), a Section 1602 Streambed Alteration Agreement from CDFW, and a Coastal Development Permit from the California Coastal Commission.

Table 53. Estimated Impact to Wetlands and Other Waters

Aquatic Resource Type	Estimated Impacts on Wetlands and Waters (Acres)														
	Design Option 1A			Design Option 1B			Design Option 2A			Design Option 2B			Design Option 3A		
	Permanent	Temporary	Total	Permanent	Temporary	Total	Permanent	Temporary	Total	Permanent	Temporary	Total	Permanent	Temporary	Total
Waters of the U.S. (Section 404/401)															
3-parameter Emergent Wetlands	0.048	0.051	0.099	0.048	0.051	0.099	0.048	0.051	0.099	0.050	0.051	0.101	0.048	0.051	0.099
3-parameter Scrub-Shrub Wetlands	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Potential Impacts 3-parameter wetlands	0.048	0.051	0.099	0.048	0.051	0.099	0.048	0.051	0.099	0.050	0.051	0.101	0.048	0.051	0.099
Other Waters															
Albion River	0.037	0.078	0.115	0	0.077	0.077	0	0.072	0.072	0	0.074	0.074	0.009	0.068	0.077
Sub-Total Potential Impacts to Other Waters (Tidal)	0.037	0.078	0.115	0	0.077	0.077	0	0.072	0.072	0	0.074	0.074	0.009	0.068	0.077
Man-made Pond	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Intermittent streams	0.002	0.004	0.006	0.002	0.004	0.006	0.003	0.004	0.007	0.003	0.004	0.007	0.002	0.004	0.006
Ditches	0.001	0.002	0.003	0.001	0.002	0.003	0.001	0.002	0.003	0.001	0.002	0.003	0.001	0.002	0.003
Culverts	0	0.019	0.019	0	0.019	0.019	0	0.019	0.019	0	0.019	0.019	0	0.019	0.019
Sub-Total Potential Impacts Other Waters (Non-Tidal)	0.003	0.025	0.028	0.003	0.025	0.028	0.004	0.025	0.029	0.004	0.025	0.029	0.003	0.025	0.0280
Total Potential Impacts Other Waters	0.040	0.103	0.143	0.003	0.102	0.105	0.004	0.097	0.101	0.004	0.099	0.103	0.012	0.093	0.105
Total Potential Impacts *404/401*	0.088	0.154	0.242	0.051	0.153	0.204	0.052	0.148	0.200	0.054	0.150	0.204	0.060	0.144	0.204
Coastal Wetlands															
Coastal Emergent Wetlands	0	0.013	0.013	0	0.013	0.013	0	0.013	0.013	0	0.013	0.013	0	0.013	0.013
Coastal Scrub-Shrub Wetlands	0.011	0.011	0.022	0.011	0.011	0.022	0.011	0.011	0.022	0.011	0.011	0.022	0.011	0.011	0.022
Total Potential Impacts CCA wetlands	0.011	0.024	0.035	0.011	0.024	0.035	0.011	0.024	0.035	0.011	0.024	0.035	0.011	0.024	0.035
Total Impacts on Jurisdictional Aquatic Resources	0.099	0.178	0.277	0.062	0.177	0.239	0.063	0.172	0.235	0.065	0.174	0.239	0.071	0.168	0.239

Source: (Caltrans 2024)
CCA = California Coastal Act

Table 54. Riparian Vegetation and Estimated Impacts

Riparian Communities	Total Riparian within BSA (acres)	Estimated Impacts to Albion River Riparian Habitat (acres)														
		1A			1B			2A			2B			3A		
		Permanent	Temporary	Total	Permanent	Temporary	Total	Permanent	Temporary	Total	Permanent	Temporary	Total	Permanent	Temporary	Total
Coastal Silk Tassel Scrub	2.02	0.083	0.310	0.393	0.210	0.290	0.500	0.150	0.374	0.524	0.190	0.260	0.450	0.106	0.276	0.382
Coastal Brambles	0.032	0	0.022	0.022	0	0.022	0.022	0	0.022	0.022	0.030	0	0.030	0	0.022	0.022
Wax Myrtle Scrub	0.17	<0.001	0.080	0.080	<0.001	0.080	0.080	0.044	0.069	0.113	0.096	0.073	0.173	<0.001	0.080	0.080
Coastal Dune Willow Thicket	0.14	0.016	0.011	0.027	0.016	0.011	0.027	0.016	0.011	0.027	0.016	0.011	0.027	0.016	0.011	0.027
Total	2.482	0.994	0.423	0.522	0.226	0.403	0.629	0.210	0.476	0.686	0.332	0.344	0.680	0.1224	0.389	0.511

Wetlands

Temporary impacts to three-parameter wetlands are estimated to be the same for all project alternatives, at approximately 0.051 acre. These impacts are related to equipment access to facilitate shoulder widening and associated culvert work.

Permanent impacts to three-parameter wetlands are primarily associated with the construction of an access road or trestle across and down the southern riverbank and through wetland EW-2. Overall, permanent impacts are anticipated to be similar for all Build Alternatives; Design Options 1A, 1B, 2A, and 3A would impact approximately 0.048 acre, while Design Option 2B would have slightly higher impacts, at 0.050 acre.

While permanent losses of wetlands are not anticipated to be re-created onsite, the loss would not be so great as to compromise the function or values of those wetlands remaining within the BSA. Design Option 2B, with the highest amount of permanent loss would mean the loss of 2% of the three-parameter wetlands within the BSA. Except for at EW-2, losses are mostly at the edges of existing, biologically diverse, and functioning wetland systems. Proposed construction would not alter hydrology, wetland topography, shade or microclimate for the remaining 98% of wetlands within the BSA and therefore is not anticipated to compromise the function these remaining wetlands or have direct or indirect impacts on species diversity or richness in the future.

Other Waters of the U.S. and State

There would be temporary and permanent impacts to both tidal and non-tidal waters of the U.S. and state.

For tidal waters, temporary impacts vary only slightly by design option, with the lowest impacts associated with Design Option 3A at approximately 0.068 acre, and the highest at 0.078 acre for Design Option 1A. These impacts are associated with fill from installation of temporary trestles, cofferdam placement for removal of the existing south pier, and for temporary cofferdam placement below the high tide line for construction of new piers on the south bank for Design Options 1A and 3A. The differences in temporary impacts to tidal waters are the result of the placement and number of temporary trestles and trestle piles.

Permanent fill for tidal waters is only anticipated for Design Options 1A and 3A. Design Option 1A would have higher impacts (0.037 acre) than Design Option 3A (0.009 acre). Overall, Design Option 1A has the highest combined temporary and permanent impacts at 0.115 acre. However, the proposed project, in addition to placing fill in waters, would remove the existing southern concrete footing on the south bank of the Albion River, below the high tide line and partially within the active river channel. This would result in approximately 0.032 acre of new channel habitat—resulting in a net gain for Design Options 1B, 2A, 2B, and 3A, and only a slight decrease for Design Option 1A.

For non-tidal waters, there would be temporary impacts to intermittent streams, culverts, and ditches; there would be no impacts to the man-made ponds.

- ***Intermittent streams:*** There would be both temporary and permanent impacts to all three intermittent streams for all project design options.

  For all design options, roadwork and shoulder widening and associated culvert extensions would be the same near IS-1 and IS-3. For both intermittent streams, both temporary and permanent impacts would be small; IS-1 would have temporary impacts of approximately 0.003 acre (148.10 square feet) and permanent impacts of less than 0.001 acre (12.20 square feet), while IS-3 would have temporary impacts to 0.001 acre of (16.55 square feet) and permanent impacts of 0.004 acre (19.17 square feet).

  Construction of access roads to existing and new piers on the south bank of the Albion River would affect IS-2; while the contractor may be able to span the intermittent stream, it is conservatively estimated that this resource would be permanently affected. Design Options 2A and 2B would have the highest amounts of potential permanent impacts on IS-2, at approximately 0.002 acre, or approximately 95.83 square feet for Design Option 2A and 104.54 square feet for Design Option 2B, due to construction of the new southern piers. Because of this, overall impacts to intermittent streams would be highest for Design Options 2A and 2B. Though the stream would be permanently impacted, the connectivity of the stream to the Albion River would be maintained.

- ***Ditches:*** There would be temporary and permanent impacts to the ditch that conveys stormwater adjacent to the highway (D-2). Impacts would be the same for all design options, with approximately 0.002 acre of temporary impacts and 0.001 acre of permanent impacts associated with roadwork.

- ***Culverts:*** There would be temporary impacts for culvert work at approximately 0.019 acre, which would be the same for all design options.

Coastal Wetlands

Temporary and permanent impacts to coastal wetlands are expected to be the same across all design options, as these wetlands are limited to the bluffs and roadside and grassland habitats north and south of the bridge, and the proposed shoulder work is the same for all alternatives. There are anticipated to be approximately 0.024 acre of temporary impacts and 0.011 acre of permanent impacts to coastal wetlands.

Similar to the anticipated impacts to three-parameter wetlands, these small areas of permanent loss, here amounting to less than 1% of the total coastal wetlands in the project BSA alone, are occurring only on the edge of the intact coastal wetlands and there would be no indirect impacts such as changes to hydrology, shade, topography, or modifications of other aspects of natural conditions that might impact future and existing wetland function.

Riparian Habitat

There would be impacts to riparian habitat associated with IS-1a and with the Albion River in the project BSA (Table 54).

Temporary and permanent impacts to IS-1a would be associated with a culvert extension. Impacts would be minimal, and similar across alternatives. Impacts would be to coastal dune willow thicket, with temporary impacts of approximately 0.016 acre and permanent impacts of 0.011 acre. Due to its location on the south bank of the Albion River, impacts to riparian habitat around IS-2 are captured by impacts to the river's riparian habitat for all design options.

Temporary and permanent impacts, primarily related to access through riparian habitat on the south bank of the river to the Albion River, are anticipated to be similar across the design options. Total impacts range from a low of approximately 0.511 acre for Design Option 3A to a high of 0.686 acre for Design Option 2A. The highest impact acreage is associated with coastal silk tassel scrub riparian habitat, with up to a half-acre or more for Design Options 1B and 2A. However, higher proportions of other habitats within the BSA, such as wax myrtle scrub, would be affected (e.g., Design Option 2A would affect 26% of riparian coastal silk tassel habitat, while Design Option 2B is anticipated to impact 100% of wax myrtle habitat). Overall, most impacts to Albion River riparian vegetation would be temporary; furthermore, riparian habitat function within the BSA is limited in its ecological function and temporary loss of riparian habitat from the south bank would not result in any effect on water temperature, water quality, or any measurable decrease of in-stream cover or habitat complexity for aquatic species.

Operational Impacts

Once the bridge is constructed, proposed stormwater treatment and drainage improvements to the bridge and roadways would minimize water quality impacts associated with additional runoff from the increased impervious surfaces of the larger bridge deck and approaches. No operational impacts on wetlands and other waters are anticipated.

No-Build Alternative

Under the No-Build Alternative, the Albion River Bridge would not be replaced, and wetlands and other waters would not be impacted directly or indirectly.

Avoidance, Minimization, and/or Mitigation Measures

The following resource-specific measures would be implemented:

AMM-BR-4: Wetlands and other waters temporarily disturbed would be restored to their natural contours for revegetation.

AMM-BR-9: Caltrans would pursue off-site restoration to offset permanent losses of wetlands and waters habitats that cannot be restored or replaced

onsite. Caltrans plans to use credits from the Mendocino Coast Mitigation Bank as mitigation for impacts on aquatic resources that cannot be restored onsite. As compensatory mitigation to offset project impacts on aquatic resources and riparian habitat, Caltrans anticipates that final restoration acreage may vary based on changes to project design and/or additional input from resource/regulatory agencies. Caltrans anticipates mitigation credits to be available prior to project impacts; therefore, a mitigation ratio of approximately 1:1 to 2:1 is expected.

See Appendix D, *Avoidance, Minimization, and/or Mitigation Summary,* for more information on mitigation for wetlands.

3.4.3 Plant Species

Regulatory Setting

The U.S. Fish and Wildlife Service (USFWS) and California Department of Fish and Wildlife (CDFW) have regulatory responsibility for the protection of special status plant species. “Special status” species are selected for protection because they are rare and/or subject to population and habitat declines. Special status is a general term for species that are provided varying levels of regulatory protection. The highest level of protection is given to threatened and endangered species; these are species that are formally listed or proposed for listing as endangered or threatened under the Federal Endangered Species Act (FESA) and/or the California Endangered Species Act (CESA). Please see the Threatened and Endangered Species Section 3.4.5 in this document for detailed information about these species.

This section of the document discusses all other special status plant species, including CDFW and USFWS candidate species and California Native Plant Society (CNPS) rare and endangered plants.

The regulatory requirements for FESA can be found at 16 United States Code (USC) Section 1531, et seq. See also 50 Code of Federal Regulations (CFR) Part 402. The regulatory requirements for CESA can be found at California Fish and Game Code, Section 2050, et seq. Department projects are also subject to the Native Plant Protection Act, found at California Fish and Game Code, Section 1900-1913, and the California Environmental Quality Act (CEQA), found at California Public Resources Code, Sections 21000-21177.

Affected Environment

The information in this section is based on the Natural Environment Study prepared for the project (Caltrans 2024).

Special status plant species that may occur within the project area were determined by reviewing natural resource agency databases, literature, and other relevant sources, including existing Caltrans information and environmental documents. The literature and database searches included:

- California Natural Diversity Database (CNDDB)
- California Native Plant Society’s (CNPS) Electronic Inventory
- USFWS species lists on Information for Planning and Consultation (IPaC)

The CNDDB and CNPS inventory queries were conducted for the following USGS 7.5-minute Quadrangles: Albion, Mendocino, Mathison Peak, Elk, and Mallo Pass Creek. The USFWS IPaC database query was conducted using a shapefile of the BSA.

Species lists based on these queries are provided in Appendix G, *Species Lists*. A table of plant species based on these lists is provided in Appendix L, *Special Status Plant Species with the Potential to Occur in the Project Vicinity*, with a summary of legal status and habitat requirements, as well as an assessment for the potential species to occur in the project area.

Floristic surveys were conducted within the project BSA (Figure 74) in 2013, 2014, 2020, 2021, and 2023. Surveys followed CDFW *Protocols for Surveying and Evaluating Impacts to Special Status Native Plant Populations and Natural Communities* (CDFW 2018). Surveys were timed to coincide with the flowering and identification periods of the potentially occurring special plant species. Every plant encountered was identified to the lowest taxonomic level possible (i.e., species, subspecies, or variety). At a minimum, every taxon was identified to the extent necessary to determine whether it had special status. Nomenclature follows *The Jepson Manual (2nd Edition)* (Baldwin et al. 2012) and updates published online by the Jepson Flora Project (Jepson Flora Project 2023).

Four special status plant species were observed in the project BSA during surveys (Figure 79): fringed cornlily (*Veratrum fimbriatum*), harlequin lotus (*Hosackia gracilis*), Point Reyes checkerbloom (*Sidalcea calycosa* ssp. *rhizomata*), and swamp harebell (*Campanula californica*). These species are discussed in further detail below.

The other species listed in Appendix L either do not have habitat within the project BSA and/or were not found to be present. Therefore, the project is not anticipated to impact these species, and no further discussion is warranted.

Although not found within the project BSA, federally and/or state listed species with habitat in the project BSA are discussed further in Section 3.4.5, *Threatened and Endangered Species*, due to their listing status.

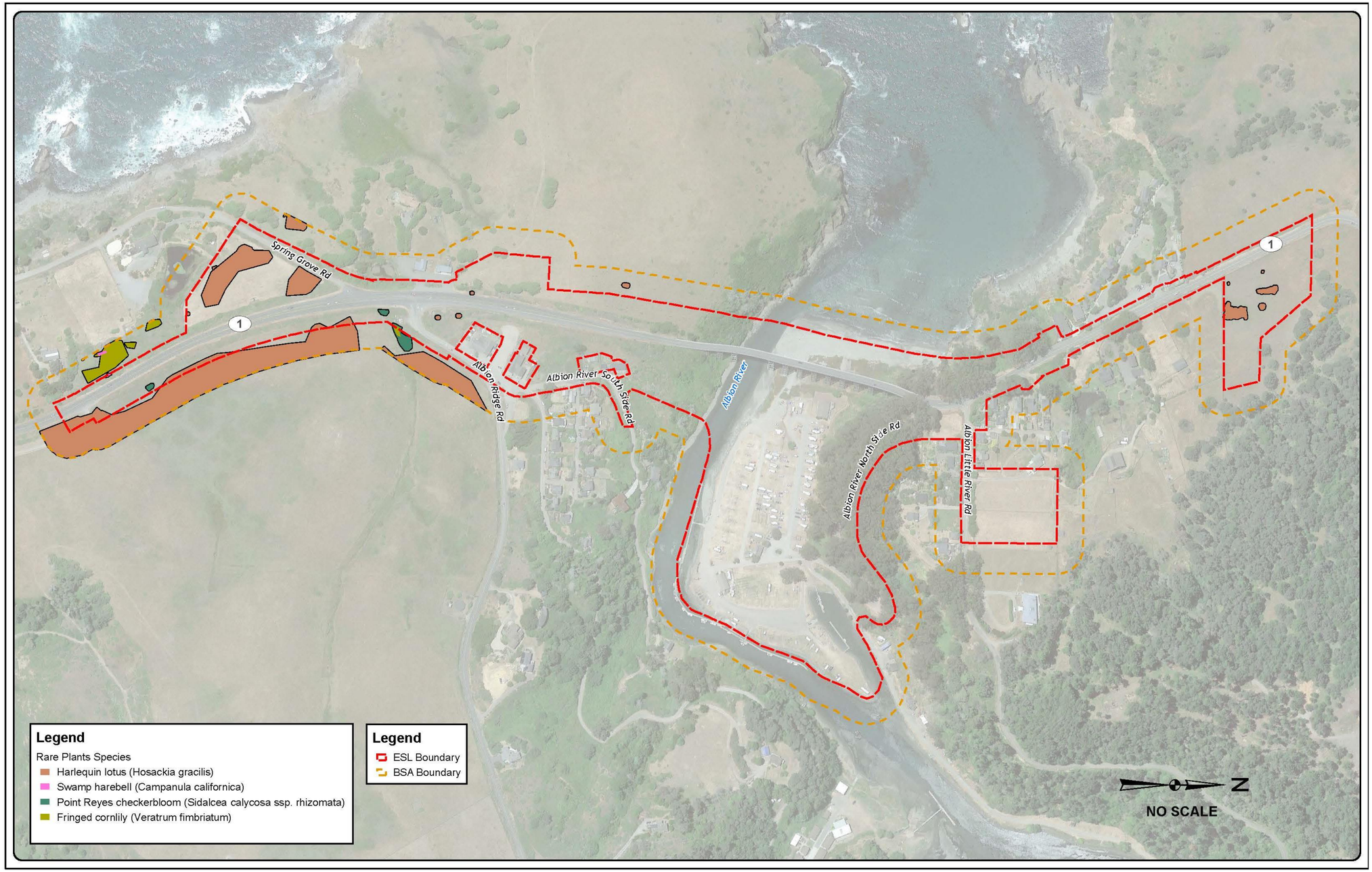


Figure 79. Rare Plant Species in the Project Biological Study Area

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Fringed Cornlily

Fringed cornlily (*Veratrum fimbriatum*) has a California Rare Plant Rank (CRPR) of 4.3, indicating that the species has limited distribution throughout a broader region in California and its status should be monitored closely. Additionally, the species S3/G3 state and global ranking acknowledges the species as both state and globally vulnerable.

Fringed cornlily is endemic to California, occurring only in Mendocino and Sonoma counties. This perennial species is in the bunchflower family (Melanthiaceae) and usually flowers July through September. Fringed cornlily is found primarily in wet meadows of coastal scrub and coastal coniferous forest habitat below 350 feet in elevation.

Two separate occurrences of fringed cornlily were observed within the southern portion of the project BSA. The largest occurrence is located in the southwest corner of the project BSA and includes approximately 10 plants all growing within a wetland complex. The second occurrence consists of only a few plants and is found growing intermixed with Point Reyes checkerbloom within an emergent wetland located on the east side of State Route (SR) 1 just south of the Albion Ridge Road turnout. The larger western occurrence is situated outside of the ESL, but within the project BSA, while the smaller eastern occurrence is located partially inside the ESL, but outside of the proposed project footprint.

Harlequin Lotus

Harlequin lotus (*Hosackia gracilis*), a legume in the pea family (Fabaceae), has a CRPR of 4.3, indicating that the species has limited distribution throughout a broader region in California and its status should be monitored closely. Additionally, the species S3/G3 state and global ranking acknowledges the species as both state and globally vulnerable.

Harlequin lotus is native to western North America, ranging from British Columbia to California, where it is found as far south as San Luis Obispo County. In Mendocino County, this species is most commonly found in mesic coastal prairie and can also be found in closed-cone pine forest, coastal scrub, and meadows and seeps in broad-leaved upland forest and coniferous forest. It is a perennial herb and typically blooms from March through July.

In addition to being of limited distribution, harlequin lotus is thought to be the larval host plant for the lotis blue butterfly (*Plebejus [Lycaeides] anna lotis*), a federally endangered butterfly species that is further discussed in Section 3.4.5, *Threatened and Endangered Species*.

Threats to the harlequin lotus include residential and urban development, conversion of remnant coastal prairie to agricultural and cattle grazing lands, corresponding changes to hydrologic and fire regimes, and correlated increase in non-native plant invasion.

While limited in distribution considering the entire state of California, harlequin lotus is not that uncommon in grasslands and remnant coastal prairie in Mendocino County.

Harlequin lotus was found in many locations within the project BSA (Figure 79) and the Butterfly Buffer (Figure 82 under Section 3.4.5*, Threatened and Endangered* Species) during floristic surveys. The largest occurrence of approximately 3,000 plants is located in the eastern portion of the project area where it spans the Butterfly BSA, project BSA, and ESL within the common velvet grass – sweet vernal grass habitat east of SR 1. This species is also found within several other locations within the project ESL, including within the proposed staging area west of SR 1 adjacent to Spring Grove Road (approximately 32 individuals) and in patches (with 5 plants total) on either side of SR 1 just north of Albion Ridge Road along Caltrans existing ROW, and scattered over the central portion of the proposed northeast construction staging area within ruderal grassland habitat (approximately 141 plants). In total, the project BSA supports approximately 4.47 acres of harlequin lotus habitat, and the Butterfly BSA supports an additional 9.02 acres, for a total of approximately 13.49 acres.

Point Reyes Checkerbloom

Point Reyes checkerbloom (*Sidalcea calycosa* ssp. *rhizomata*) is a rare perennial herb that has a CRPR of 1B.2, indicating it is rare or endangered in California and elsewhere (fairly endangered in California), as well as a S2/G5T2 state and global ranking acknowledging it as state imperiled and globally secure.

Point Reyes checkerbloom is endemic to California, meaning that the wild populations found in Mendocino County, Sonoma County, and northern Marin County are the only populations of this subspecies of checkerbloom in the world. It can be found in marshes and wet places along the coast at elevations from sea level to 3,900 feet.

The CNDDB shows three occurrences and Calflora (2023) has four records of this species at various locations within the project vicinity. The Calflora records date as far back as 1936 and also include data collected during surveys for this project in 2013. Three patches were recorded within the southern portions of the project BSA during 2013 and 2014 botanical surveys. These patches were verified during updated surveys in 2021 and 2023.

The two northern patches are located east of SR 1 just south of the junction with Albion Ridge Road; these patches occur within the same habitat (emergent wetland) and population. The 2014 botanical surveys recorded approximately 15 individuals scattered within the larger occurrences mapped on the eastern side of the highway, while the 2023 botanical survey recorded at least 20 plants within the smaller patch immediately east of SR 1. The exact number of plants is difficult to estimate from observance surveys as the plant is rhizomatous and growing within dense vegetation of other wetland species and water.

The third patch of Point Reyes checkerbloom is found within another emergent wetland and is located approximately 45 feet east of the existing highway road edge. Floristic surveys in 2014 and 2020 recorded only a few plants found within this small occurrence.

Swamp Harebell

Swamp harebell (*Campanula californica*) is endemic to California and has a CRPR of 1B.2, indicating it is rare or endangered in California and elsewhere (fairly endangered in California). In addition, the S3/G3 state and global ranking indicates it is both state and globally vulnerable.

Swamp harebell is a rhizomatous perennial herb typically found in freshwater springs and wetlands, including shaded and wet roadside ditches and on shady forest floors. It blooms from June through September, and is distributed within coastal California, in coastal Mendocino, Sonoma, and Marin Counties. It was once also known, but is likely now extirpated, from Santa Cruz County. The species is threatened by logging operations, cattle grazing, and development, including development that results in the alteration of hydrology.

Two small occurrences of swamp harebell were found in the southern portion of the project BSA, west of SR 1 and east of Spring Grove Road during floristic surveys. The easternmost and more roadside occurrence consisted of approximately 40 plants and was recorded as approximately 35 feet west of the current road alignment.

Environmental Consequences

Build Alternatives

Construction Impacts

Estimated project impacts for all sensitive plant species observed within the project BSA are the same for all Build Alternatives because the plant species are located where the proposed road widening, culvert work, and staging area use would be the same for all design options. Table 55 provides a summary of the anticipated impacts for the fringed cornlily, harlequin lotus, Point Reyes checkerbloom, and swamp harebell for all Build Alternatives. In addition, Figure 80 and Figure 81 show impacts to impacted species.

Table 55. Summary of Rare Plant Species within BSA and Estimated Impacts

Plant Species (CNPS Rank)	Area in BSA (acre)	All Build Alternatives	
		Permanent	Temporary
Fringed cornlily *(Veratrum fimbriatum)*	0.31	0	0
Harlequin lotus *(Hosackia gracilis)*	13.49	0	0.650
Point Reyes checkerbloom *(Sidalcea calycosa ssp. rhizomata)*	0.10	0	0.002
Swamp harebell (*Campanula californica*)	0.02	0	0

Source: (Caltrans 2024)
SA = Biological Study Area

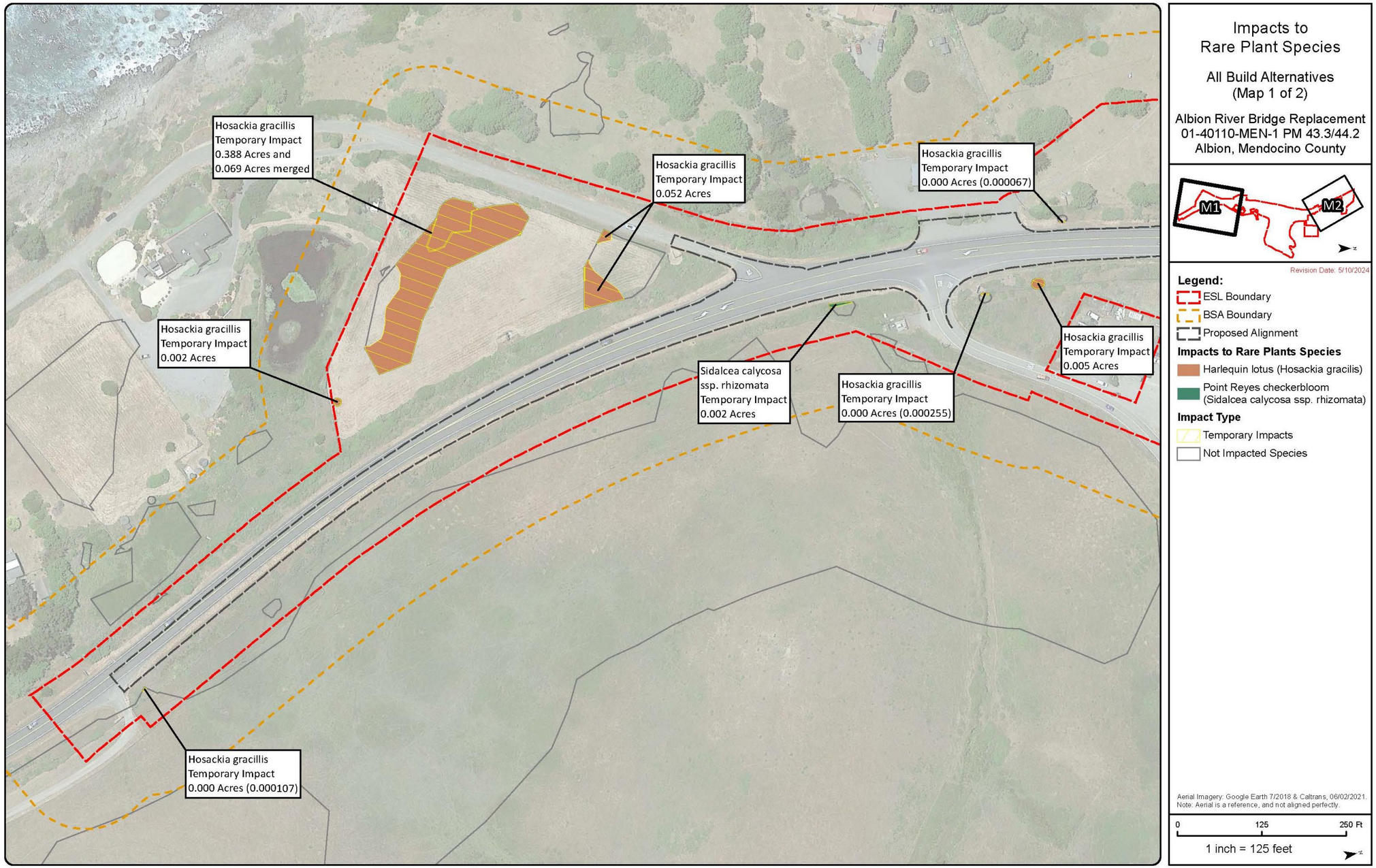


Figure 80. Impacts to Rare Plant Species, Map 1 of 2

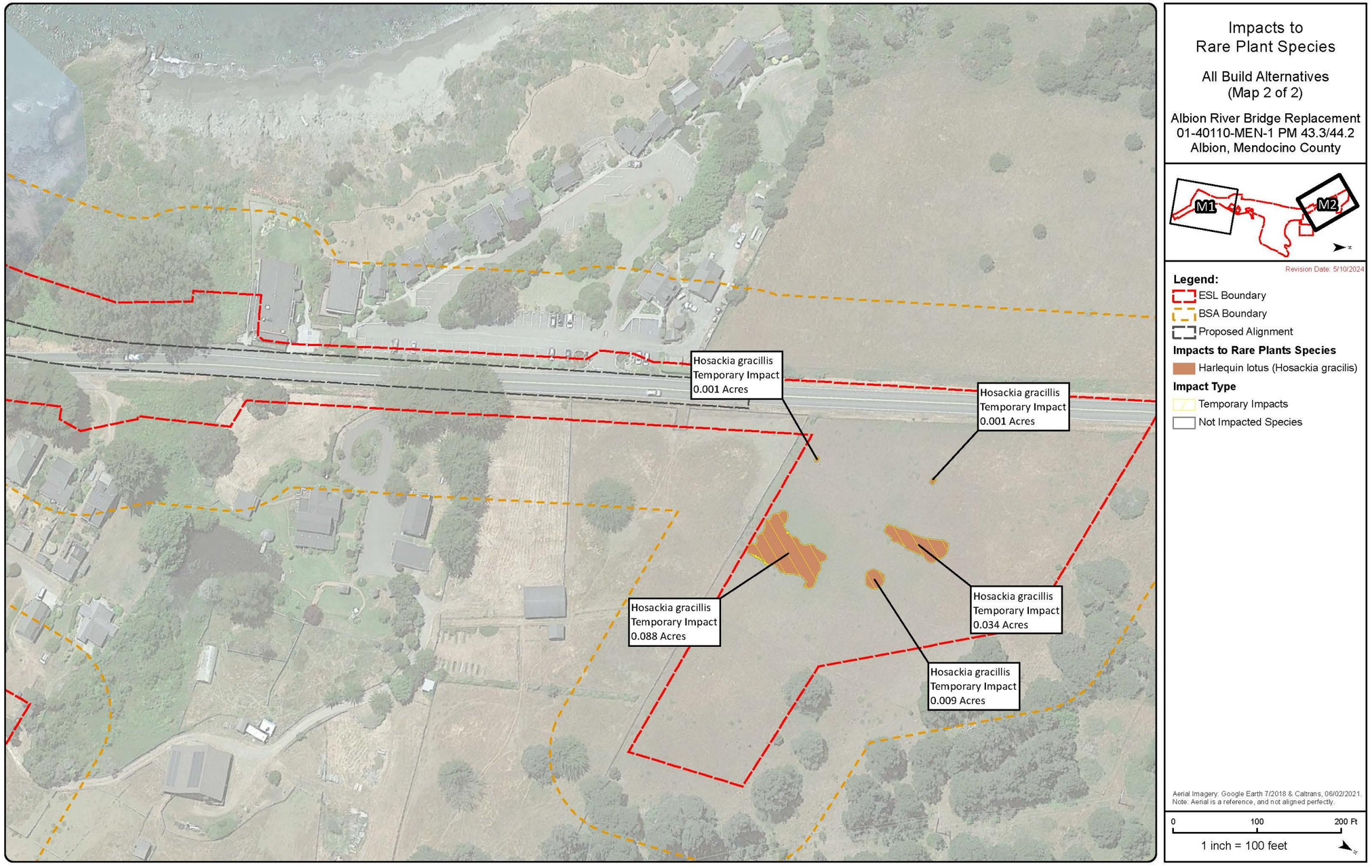


Figure 81. Impacts to Rare Plant Species, Map 2 of 2

Standard measures in Section 2.2.5, *Common Design Features of the Build Alternatives*, including Standard Measures **BR-3** and **BR-4**, would be implemented, avoiding or limiting impacts to special status plant species. These measures include pre-construction surveys for sensitive plant species, the development of an on-site Revegetation Plan, and installation of Temporary High Visibility Fencing (THVF). If special status plant species are found in a new location within the ESL and cannot be avoided during construction, the Revegetation Plan would incorporate measures such as seed collection, plant salvage, and/or plant establishment procedures to ensure impacts are negligible. Potential indirect impacts that could occur due to invasive non-native plants colonizing the disturbed area would be minimized through revegetation efforts and standard measures to control/reduce the spread of invasive non-native species. Project-related impacts to special status plant species would be minor and temporary in nature with the implementation of standard measures.

Additional information regarding potential impacts to the fringed cornlily, harlequin lotus, Point Reyes checkerbloom, and swamp harebell is provided below.

Fringed Cornlily

No direct temporary or permanent impacts are anticipated to fringed cornlily under any of the Build Alternatives, as the occurrence is outside of the project footprint. In addition, no changes to existing hydrology or existing roadside drainage features are proposed adjacent to fringed cornlily populations under any of the Build Alternatives, and compaction for road shoulder widening in the area would be limited to the existing road prism and compacted areas. Therefore, no indirect impacts for fringed cornlily are anticipated. Further, the implementation of standard measures, such as the placement of THVF, would ensure that there would be no project-related impacts to individual cornlily plants or their habitat.

Harlequin Lotus

Harlequin lotus is not located within the proposed cut/fill boundary for any of the Build Alternatives; therefore, no permanent impacts are anticipated as part of the proposed project.

However, all Build Alternatives would have temporary impacts to this species. The total acreage of temporary impacts is estimated to be 0.650 acre of habitat and approximately 175 individual plants. While a few plants may be disturbed as part of road widening at the southern portion of the project BSA, the majority of the impacted acreage is associated with equipment and material staging in the project's southwest and northeast ends, in grassland habitats where this species is located.

When taken in comparison with the total estimated number of plants (greater than 3,178) and the total area of harlequin lotus mapped in the Butterfly BSA (13.49 acres), the proposed project would only impact a small fraction (5.5 percent of observed plants and 4.8 percent of habitat) of this locally abundant population. Further, with the implementation of standard measures, all harlequin lotus habitat temporarily impacted by the project would be restored. As part of the Revegetation Plan, attention would be

given to details that would increase success of the species over time. This would include efforts such as collecting seeds and replanting harlequin lotus. Coyote brush may be planted as well, as it is often found growing in non-native grasslands and may be especially important in providing shade and moisture retention for harlequin lotus seedlings in dry years.

Point Reyes Checkerbloom

No permanent impacts are anticipated to Point Reyes checkerbloom as part of the proposed project for any of the Build Alternatives. However, all Build Alternatives are estimated to result in temporary impacts to an estimated 0.002 acre (87.12 square feet) of the northeastern roadside population and Point Reyes checkerbloom habitat due to temporary disturbance related to access for construction of widened road shoulders.

Indirect impacts, such as from changes to hydrology, are not anticipated, and the implementation of standard measures would prevent other indirect impacts, such as the spread of invasive species.

Overall, project-related impacts to Point Reyes checkerbloom would be temporary in nature and limited with the implementation of standard measures. In addition to controlling the spread of invasive species, standard measures include the use of wetland mats during construction if feasible, which would minimize damage to the soil and seedbank, and the use of THVF, to limit direct impacts from equipment access or trampling from construction personnel. The Revegetation Plan would incorporate species-specific measures, such as seed collection and/or plant establishment procedures, to ensure temporary impacts are negligible.

Swamp Harebell

No direct temporary or permanent impacts are anticipated to swamp harebell under any of the Build Alternatives as the occurrences are outside of the project footprint. In addition, the project is not anticipated to have indirect impacts to this species, as there would be no change in hydrology, and closest occurrence is over 15 feet away from the nearest edge of temporary disturbance. Further, the implementation of standard measures, such as the placement of THVF, would ensure that there would be no project-related impacts to individual swamp harebell plants or their habitat.

Operational Impacts

Upon completion of construction, no operational impacts are anticipated on special status plant species.

No-Build Alternative

Under the No-Build Alternative, the Albion River Bridge would not be replaced, and special status plant species would not be impacted.

Avoidance, Minimization, and/or Mitigation Measures

No avoidance, minimization, or mitigation measures are proposed.

3.4.4 Animal Species

Regulatory Setting

Many state and federal laws regulate impacts to wildlife. The U.S. Fish and Wildlife Service (USFWS), the National Oceanic and Atmospheric Administration's (NOAA's) National Marine Fisheries Service (NMFS), and the California Department of Fish and Wildlife (CDFW) 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. Species listed or proposed for listing as threatened or endangered are discussed in the Threatened and Endangered Species Section 3.4.5 below. All other special status animal species are discussed here, including CDFW fully protected species and species of special concern, and USFWS or NMFS 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

State laws and regulations relevant to wildlife include the following:

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

Affected Environment

The information in this section is based on the Natural Environment Study prepared for the project (Caltrans 2024).

Special status wildlife species that may occur within the project area were determined by reviewing natural resource agency databases, literature, and other relevant sources, including existing Caltrans information and environmental documents. The literature and database searches included:

- Bumble Bees of North America Database (Richardson 2022)
- California Natural Diversity Database (CNDDB)
- NMFS online species list
- USFWS species lists on Information for Planning and Consultation (IPaC)
- iNaturalist and eBird online community science portals

The CNDDB query was conducted for the following USGS 7.5-minute Quadrangles: Albion, Mendocino, Mathison Peak, Elk, and Mallo Pass Creek. The USFWS IPaC database query was conducted using a shapefile of the project BSA. Species lists based on these queries are provided in Appendix G, *Species Lists*. A table of wildlife species based on these lists is provided in Appendix M, *Special Status Wildlife and Critical Habitat with the Potential to Occur in the Project Vicinity*, with a summary of legal status and habitat requirements, as well as an assessment for the potential of the species to occur in the project area.

In addition to the assessments discussed above, general habitat assessments, site visits, and discussions with agency personnel and species experts were conducted. General habitat assessments and surveys included breeding bird surveys, bat roosting and breeding habitat assessments, and preliminary surveys for special status bumble bee habitat. Other relevant analyses for the potential of the project to affect special status species included a hydroacoustic analysis, airborne noise analysis, and water quality assessment.

Assessments were conducted generally in the project BSA, as well as the Raptor BSA for auditory disturbance to raptor species, and the Aquatic Species BSA for potential hydroacoustic impacts to aquatic species; these BSAs are discussed in Section 3.4, *Biological Environment*, and shown in Figure 74, Figure 75, and Figure 76.

The project BSA has potential habitat for obscure bumble bee (*Bombus caliginosus*), foothill yellow-legged frog (*Rana boylii*), northern red-legged frog (*Rana aurora*), and Pacific lamprey (*Entosphenus tridentatus*), as well as various raptors and other migratory and non-migratory birds, marine mammals, and bats that require special consideration. These species are discussed in further detail below.

The other species listed in Appendix M do not have habitat within the project BSA. Therefore, the project is not anticipated to impact these species, and no further discussion is warranted.

Federally and/or state listed species with habitat in the project BSA are discussed in Section 3.4.5, *Threatened and Endangered Species*.

Obscure Bumble Bee

Obscure bumble bee (*Bombus caliginosus*) is a species of bumble bee native to the west coast of the United States where its distribution extends from Washington to southern California. It is critically imperiled due to rarity, few populations, and restricted range, and is included as a species on the list of California Terrestrial and Vernal Pool Invertebrates of Conservation Priority (CDFW 2017). Obscure bumble bee inhabits open grassy coastal prairies and Coast Range meadows. Nests are usually well concealed, often underground, sometimes on the surface, and occasionally 30 to 39 feet above the ground in trees and have been observed in abandoned bird nests. This species is classified as a medium long-tongued species, whose food plants include *Ceanothus* spp., *Cirsium* spp., *Clarkia* spp., *Keckiella* spp., *Lathyrus* spp., *Lotus* spp.,

Lupinus spp.*, Rhododendron* spp.*, Rubus* spp.*, Trifolium* spp.*,* and *Vaccinium* spp. (Williams et al. 2014). Queens of this species emerge from hibernation in late January, the first workers appear in early March, and the males follow by the end of April. The colony dissolves in late October when all inhabitants die except the new queens. Overwintering ecology and requirements of new queens are not well understood for this species.

Obscure bumble bee was collected approximately 2 miles south of the project site at the mouth of the Navarro River in 1956 and 1975 (EO 97418 [CDFW 2023]). Additional observations of obscure bumble bee were recently made within the southwestern portion of the project BSA in 2022 (Richardson 2022). Accurate identification of this species is difficult to accomplish without capture due to its resemblance to the abundant yellow-faced bumble bee (*Bombus vosnesenskii*); therefore, distribution and occurrence data may be inaccurate or the species may be underrepresented.

Based on preliminary bumble bee habitat surveys, the project BSA provides suitable nesting, overwintering, and foraging habitat for obscure bumble bee. Coastal silk tassel scrub, coyote brush scrub, coastal brambles, and grassland habitats provide suitable foraging resources for the species. Landscaped and disturbed areas may also provide suitable foraging resources.

Amphibians

The North Coast clade of foothill yellow-legged frog (*Rana boylii*) and northern red-legged frog (*Rana aurora*) are CDFW Species of Special Concern (SSC) that could potentially occur within the project BSA.

The North Coast clade of foothill yellow-legged frog is characteristically found very close to water in association with perennial streams and ephemeral creeks that retain perennial pools through the end of summer. This species is associated with sunny reaches of relatively wide and shallow streams and riffles with cobble, boulder, and gravel or rocky substrates (Thomson et al. 2016). Egg masses are attached to gravel or rocks in moving water near stream margins. During cold weather, individuals seek cover under rocks in the streams or on shore within 6 feet of water. Mating and egg-laying occurs exclusively in freshwater streams and rivers.

Northern red-legged frog is a medium to large-sized frog found in humid forests, woodlands, grasslands, and stream sides with dense riparian cover. Northern red-legged frog is highly aquatic and prefers shorelines with extensive vegetation. Breeding occurs in permanent pools and eggs are attached to emergent vegetation. It is most common in lowlands or foothills and is frequently found in woods adjacent to streams but can be wide-ranging and highly terrestrial in damp woods and meadows during the non-breeding season. It requires permanent water sources, such as ponds and lakes, for breeding.

No special status amphibians were observed during any field studies and no species-specific surveys were conducted. Within the project BSA, the Albion River substrate is primarily sand and is tidally influenced up to four to five miles from the bridge. While it is possible for adult foothill yellow-legged frogs and northern-red legged frogs to occur in, disperse through, or inhabit the aquatic and/or vegetated habitats along the banks of the Albion River, the high salinity, lack of riparian vegetation and cover within the project BSA, and year-round presence of vehicles and people on the north bank makes this highly unlikely. The south bank provides more vegetative cover and dispersal habitat that could be used by northern red-legged frog from upland aquatic features through an intermittent stream and wetland seep. However, due to a lack of breeding and unsuitable or marginal dispersal habitat, neither of these species are expected to occur within the project vicinity.

Raptors

Several raptor species may forage and nest within 0.25 mile of the ESL (i.e., Raptor BSA), including osprey (*Pandion haliaetus*), peregrine falcon (*Falco peregrinus*), and white-tailed kite (*Elanus leucurus*). These species are protected by the Migratory Bird Treaty Act (MBTA). White-tailed kite is also a state fully protected species, while peregrine falcon was formerly a fully protected species. Additionally, osprey is treated as a "taxa to watch" by CDFW due to their former inclusion on special concern lists.

Breeding habitat requirements vary between species. Ospreys nest in tall mature trees near water and forage in open water habitats, peregrine falcons typically nest on cliff faces but are also known to nest on human-built structures (e.g., bridges), and white-tailed kites nest in the upper canopy of tall trees or structures, often within dense forests, and forage in more open grassland and shrub habitats.

Although no species-specific surveys for raptors were conducted, ospreys and peregrine falcons were observed foraging within the Raptor BSA during the 2018, 2020, and 2021 breeding bird surveys. Ospreys were also incidentally observed during various site visits, including in 2023. No osprey nests were observed in the project BSA, though there is a record of an osprey nest approximately 0.4 mile east of the project's ESL within coniferous forest habitat on the river's south bank. In addition to the active osprey nest observed upstream, the CNDDB also reports nests detected in Big River Estuary approximately 4 miles north of the project area.

Peregrine falcons have been observed flying both north and south of the Albion River Bridge, and there is suitable nesting habitat along the cliffs of the Pacific Ocean outside of the proposed project area. While the Albion River Bridge itself could provide suitable platforms for nest placement, no peregrine falcon nests were observed in the proposed project area during any previous survey, including during bird surveys.

White-tailed kites prefer to nest in large trees at the edge of forests. The closest CNDDB record of a while-tailed kite nest is 3.15 miles southeast of the proposed project area; the nest is in an older stand of trees surrounded by younger trees and near fields for foraging. The eucalyptus grove in the project area provides marginal nesting habitat

for white-tailed kite and the grassland habitats north and south of the Albion River would be suitable foraging habitat; however, this species was not observed nesting or foraging within the Raptor BSA during focused bird surveys or incidentally during other surveys.

Other Migratory and Non-Migratory Bird Species

The occupied nests and eggs of all native birds are protected by state law (California Fish and Game Code [FGC] Section 3503). Occupied nests and eggs of migratory birds are further protected by federal and state laws, including the MBTA and FGC Section 3503.5 and 3513. USFWS is responsible for overseeing compliance with the MBTA. CDFW is responsible for overseeing compliance with the FGC and making recommendations about nesting birds.

Vegetation within the proposed project area is dense and diverse, providing suitable habitat for a variety of migratory and non-migratory nesting bird species. For instance, the eucalyptus grove north of the Albion River Bridge and upstream from the BSA may provide night roosting habitat for great blue herons (*Ardea herodias*) and great egrets (*Ardea alba*). In addition, suitable habitat is present within the proposed project area for CDFW SSC purple martin (*Progne subis*). While there is not a known purple martin nesting colony within the Albion bridge structure itself, there are known colony locations within Caltrans right of way, approximately 5.3 miles north at Big River Bridge and 7.5 miles south at Greenwood Creek Bridge, as well as a wild-nesting population in coastal Mendocino County (Dan Airola, personal communication, 2023).

Focused breeding bird surveys were conducted in 2018, 2020, and 2021 to determine common species present within the project vicinity and to document any nesting activity. Some species known to nest within the proposed project area include house finch (*Haemorhous mexicanus*), house sparrow (*Passer domesticus*), orange-crowned warbler (*Leiothlypis celata*), song sparrow (*Melospiza melodia*), Steller's jay (*Cyanocitta stelleri*), and white-crowned sparrow (*Zonotrichia leucophrys*). However, no native bird species were observed nesting on the existing Albion River Bridge.

Marine Mammals

The Marine Mammal Protection Act (MMPA) protects marine mammals, prohibiting "take" of a marine mammal without prior authorization from NMFS, where "take" includes any act of pursuit, torment, or annoyance that has the potential to injure (Level A harassment) or disturb by causing disruption of behavioral patterns (Level B harassment) a marine mammal or marine mammal stock in the wild.

NMFS issues incidental take authorizations in the form of either a Letter of Authorization (LOA) or Incidental Harassment Authorization (IHA), which permit the incidental, but not the intentional, take of marine mammals. Typically, the level of harassment influences the type of incidental take authorization that would be obtained; Level A harassment would require an LOA, while Level B harassment would require an IHA.

California's Pacific Coast provides a migratory route for several species of marine mammals. Within the Aquatic Species BSA, there is the potential for non-listed species of marine mammals as well as federally listed species.

Non-listed species of marine mammals with potential to occur include gray whale (*Eschrichtius robustus*), harbor porpoise (*Phocoena phocoena*), common bottlenose dolphin (*Tursiops truncatus*), Pacific harbor seal (*Phoca vitulina richardii*), northern elephant seal (*Mirounga angustirostris*), and California sea lion (*Zalophus californianus*). These species are described further below.

Federally listed species are discussed within Section 3.4.5, *Threatened and Endangered Species.*

Gray Whale

Genetic studies indicate there are distinct “Eastern North Pacific” (ENP) and “Western North Pacific” (WNP) population stocks of gray whale. The ENP stock includes all gray whales off the coast of the western United States. The ENP gray whale population travels about 12,000 miles round trip during their yearly migration between their Arctic summer feeding grounds and the warm waters of Mexico where the females birth and rear calves. The ENP stock moves south from November to mid-February where they winter mainly along the west coast of Baja California, using shallow, nearly landlocked lagoons and bays. Calves are born from early January to mid-February (Rice et al. 1981), and gray whales begin their northbound migration generally in mid-February, continuing through May (Rice et al. 1981, 1984; Poole 1984) along the California coast. Gray whales migrate close to shore along the West Coast feeding primarily on benthic amphipods and crustaceans within the intertidal zone, including in bays and coves similar to the Albion Cove, and therefore may be found within the Aquatic Species BSA. Anthropomorphic threats to gray whale include entanglement and vessel strikes; entanglement is most often associated with nets and materials for large-mesh drift gillnet fishery and pot and trap fisheries.

Harbor Porpoise

Harbor porpoises are commonly found in bays, estuaries, harbors, and fjords less than 650 feet deep. They mainly eat schooling fish, like herring and mackerel, and do not make long migrations, but do exhibit seasonal inshore-offshore movements, likely in response to prey availability. Because they prefer coastal habitats, harbor porpoises are particularly vulnerable to gillnets and fishing traps, pollution, and other types of human disturbance, such as underwater noise. Underwater sound pollution interrupts the normal behavior of harbor porpoises and interferes with their communication (Carretta et al. 2022).

While harbor porpoise has not been observed in the Aquatic Resource BSA, because they are a smaller mammal, they have the potential to access the Albion River channel and shallow areas of Albion Cove following prey.

Common Bottlenose Dolphin

Common bottlenose dolphin inhabits both offshore and coastal waters, including harbors, bays, gulfs, and estuaries of temperate and tropical waters; they prey on a variety of animals, including fish, squid, and crustaceans. Five distinct stocks have been identified for the species, including the California/Oregon/Washington offshore stock, which encompasses the Mendocino coast and proposed project area. Common bottlenose dolphins are exposed to a variety of human-caused and natural threats and stressors. Entanglement as bycatch in fishing gear is a leading cause of common bottlenose dolphin deaths and injuries. Similar to harbor porpoise, effects of underwater sound pollution on common bottlenose dolphins can be particularly impactful because the species uses sound both for communication and to hunt for food.

While common bottlenose dolphin has not been observed in the Aquatic Resource BSA, because they are a smaller mammal, they have the potential to access the Albion River channel and shallow areas of Albion Cove.

Pacific Harbor Seal and Northern Elephant Seal

Pacific harbor seal (*Phoca vitulina richardii*) and northern elephant seal (*Mirounga angustirostris*) are considered “true seals” in the family Phocidae; both are characterized as earless seals and have hearing ranges within the 50 hertz to 86 kilohertz range.

Harbor seals are divided into two subspecies, the subspecies *Phoca vitulina richardii* is divided further into discrete population segments and five separate stock groupings have been identified. The California stock has approximately 400 to 600 harbor seal haul-out sites that are widely distributed along the mainland and on offshore islands. Pacific harbor seals are the most common pinniped in California and are the only pinniped species that give birth along the beaches and sandbars of Mendocino County, where the proposed project is located. Pupping season in northern California is typically from late April through May where females give birth to a single pup. The species is considered non-migratory and during non-breeding season can still be found in nearshore coastal waters; they often haul out on rocky islets and mudflats in estuaries, and rocky and sandy beaches. Harbor seals feed on schooling fish, shellfish, and crustaceans in nearshore habitats.

Northern elephant seals that might occur within the proposed project area are from the California Breeding stock; these seals breed and give birth from December to March in California (U.S.) and Baja California (Mexico), primarily on offshore islands, but also on beaches of southern California, and as far north as Point Reyes. Males and females of the species show spatial segregation in the use of foraging areas; males migrate from breeding rookeries to the Gulf of Alaska and western Aleutian Islands along the continental shelf to feed on benthic prey, while females migrate to pelagic areas in the Gulf of Alaska and the central North Pacific to feed on pelagic prey (Le Beouf et al. 2000). When not breeding or molting, northern elephant seals are at sea, well offshore (up to 5,000 miles), and may spend the majority of their time diving for prey, descending

to depths of 1,000 to 2,500 feet for 20- to 30-minute intervals with only short breaks at the surface. Their diet primarily consists of squid and fish, but they also consume rays and sharks.

While there are no recorded haul-out sites for Pacific harbor seal within the Aquatic Species BSA, Albion River is used as a travel corridor for haul-out locations near Schooners Landing, upstream of the project area, and residents in the area report that females with pups are frequently observed in the Albion River estuary during late spring and early summer and have been observed using upstream piers as haul-outs. There is also a known haul-out location off the coast of Albion Head, approximately 0.62 mile west of the proposed project area (Earthworks 2013). In addition, Pacific harbor seals were observed around and under the boat docks at the Albion Campground and Marina during a site visit in October 2022, and 0.5 mile upstream in April 2023, as well as on numerous other occasions.

There is no recorded haul-out site for northern elephant seal within the Aquatic Species BSA. While there is potential for this species to use habitats within the area for basking and feeding (Noyo Center 2017), this species would be an infrequent visitor in Albion Cove and would not be expected on a regular basis.

California Sea Lion

California sea lions are eared seals in the family Otariidae. California sea lions breed mainly on offshore islands, ranging from Southern California's Channel Islands to Mexico, although a few pups have been born on Año Nuevo and the Farallon Islands in Central California as well. Five genetically distinct geographic populations have been identified, including the U.S. Stock (Pacific Temperate) (Carretta et al. 2022). The Pacific Temperate population includes rookeries within U.S. waters, and foraging habitat consists of shallow coastal waters where California sea lions often forage in upwelling areas on a diet consisting of squid, anchovies, mackerel, rockfish, and sardines. Kelp forests are important for the species. In addition to foraging, California sea lions are also known to take fish from commercial and sport fishing gear. They prefer sandy beaches or rocky coves both for breeding and haul-out sites, but may also haul-out on marina docks, jetties, and buoys.

Threats to this species include human-induced injury and mortality from the fishing industry (bycatch) as well as a variety of noncommercial fishery sources, including shootings, hook and line fisheries, power plant entrainment, marine debris entanglement, oil exposure, vessel strikes, and dog attacks (Carretta et al. 2022). Harmful algal blooms and increasing sea surface temperatures may also impact California sea lion populations.

There is no recorded haul-out site for California sea lion within the Aquatic Species BSA. While there is potential for this species to use habitats within the area for basking and feeding (Noyo Center 2017), it is likely that California sea lion would be an infrequent visitor in Albion Cove and would not be expected on a regular basis.

Bats

In the mild Mendocino coastal climate, bats can be present year-round or seasonally, exhibiting migratory life history traits. In California, there are at least 10 species of bats considered SSC by CDFW and four additional species are proposed for that status. Additionally, the U.S. Forest Service and Bureau of Land Management list some species as sensitive and the Western Bat Working Group (WBWG) lists some as high priority for consideration of conservation measures. Under CEQA, state agencies, local governments, and special districts are required to evaluate and disclose impacts from projects in the state. FGC Section 4150 provides further protection to bats (non-game mammals) from take or possession. Disturbances by humans, especially in hibernacula and maternity roosts, are a serious threat to most bat species. Pallid bat (*Antrozous pallidus*), Townsend's big-eared bat (*Corynorhinus townsendii*), and western red bat (*Lasiurus blossevillii*) are special status species that may be present within the project area. These species are considered SSC by CDFW, and are considered a high-priority species in California by the WBWG (2005; 2017).

Pallid bat occurs at low elevations throughout California in a variety of habitats, including grasslands, shrublands, and woodlands, and are most common in open, dry habitats with rocky areas for roosting (Zeiner et al. 1990). Pallid bats roost alone, in small groups, or gregariously in crevices in rocky outcrops and cliffs, caves, mines, tree hollows, exfoliating tree bark, and various human-made structures, such as bridges and buildings (WBWG 2005). Maternity colonies form in early April generally comprising 12 to 100 individuals. These colonies then disperse between August and October (WBWG 2005).

Townsend's big-eared bat is known to occur throughout California, from low desert to mid-elevation montane habitats. Habitat associations include coniferous forests, native prairies, riparian communities, active agricultural areas, and coastal areas (WBWG 2017). Townsend's big-eared bats roost in caves, tunnels, mines, buildings, and other cave-like spaces, including rock crevices and hollow trees. Townsend's big-eared bat forages along edge habitats of streams, adjacent to and within wooded habitats. A relatively sedentary species, Townsend's big-eared bats hibernate near summer maternity roosts and are at their hibernacula from October to April. Townsend's big-eared bats are extremely sensitive to disturbance of roosting sites and a single visit may result in abandonment of the roost site (Harris 2000).

Western red bat is locally common in some areas of California and occurs from Shasta County south to the Mexican border, and west of the Sierra Nevada/Cascade crest and desert. Roosting habitat includes forests and woodlands from sea level up through mixed conifer forests. A variety of habitats are used for foraging including grasslands, shrublands, woodlands, forests, and croplands. Roosting typically occurs primarily in the foliage of trees and less often in shrubs. Day roost sites are generally located in habitat mosaics or edge habitat near streams, fields, or urban areas. Maternity roosts are in trees. The species is generally solitary, though they are known to migrate in groups and forage in close association with one another in summer; the winter behavior of western red bats is poorly understood (WBWG 2017).

Non-special status species of bats that have been reported to occur in Mendocino County and may occur in or within the vicinity of the proposed project area include California myotis (*Myotis californicus*), fringed myotis (*Myotis thysanodes*), hoary bat (*Lasiurus cinereus*), little brown bat (*Myotis lucifugus*), long-eared myotis (*Myotis evotis*), long-legged myotis (*Myotis volans*), Mexican free-tailed bat (*Tadarida brasiliensis*), silver-haired bat (*Lasionycteris noctivagans*), Yuma myotis (*Myotis yumanensis*), and several other species (CDFW 2023).

Most bats in California have the potential to use bridge structures (Erickson et al. 2002). Bats often use bridge cavities for roosting during the day and for bearing and rearing young, typically from February through August. They may also use bridges in winter as hibernacula. Bats forage at night for flying insects and are known to roost in the open on the concrete undersides of bridges to rest during their nighttime foraging events. Night roosts, which are used from approximately sunset to sunrise, are sites where bats congregate to rest and digest their food between foraging bouts. Night roosts also serve as important stopping points during migration and appear to have a social function.

Most bridges have crevices near areas such as bridge piers and expansion joints. These areas are used by bats for day and maternity roosts because they retain heat, as well as offering protection from predators. Maternity roosts are typically found in habitat features that are very warm and thermally stable due to the high temperatures needed to rear young (Johnston et al. 2004). Due to its proximity to the ocean, summer fog, and offshore winds, the Albion River Bridge does not maintain temperatures conducive to maternity roosting for bats.

In addition to bats roosting inside or on bridge structures, bats can roost in culverts, on rocky banks, or in nearby trees, such as those in adjacent riparian habitat. Trees can serve as potential roosting sites for foliage-roosting bats (e.g., hoary bats and western red bats), as well as for many species of crevice-roosting bats. Buildings and other structures adjacent to transportation facilities may also provide potential habitat for crevice- or cavern-roosting species.

Bat species have been detected historically in sites near the proposed project area and a CNDDB occurrence of Townsend's big-eared bat was documented at a former lumber camp adjacent to the bridge in the 1970s. Another colony was reported approximately 2 miles south of the project site located in an abandoned structure. A few day-roosting bats (*Myotis* sp.) have been observed about 10 miles north in the SR 1 bridge at Jughandle State Park multiple years in a row; this is likely due to the concrete design of the bridge, which holds more heat than a steel or timber bridge (Caltrans Biologist, Jim McIntosh, personal communication, 2023).

Daytime bat surveys were conducted within the proposed project area with a specific focus on the Albion River Bridge in August 2017 and 2020, June 2018, and April 2021. Additional extensive daytime investigations of the bridge were conducted in previous years. Surveys included the bridge and eucalyptus grove, the only sites in the project limits that contain suitable bat habitat. No bat or bat sign (guano, urine staining, or

vocalizations) was observed during the surveys. Absence of guano at the abutments indicates that these structures are not used for either day or night roosting; if bats were to use the bridge at all, the abutments are typically the warmest locations and would be the most likely to be used for roosting. Bats are unlikely to utilize the bridge for roosting (day or night) due to its close proximity to the ocean, where wind, rain and fog create conditions that are too unstable and cool for bat species that require a sheltered warm environment. Night roosting for *Lasiurus* species in the eucalyptus grove is limited due to the lack of fresh water (limiting prey availability), and location on the immediate coastline where wind, rain, and fog create unstable cool conditions. While expected to roost primarily in well-developed wooded riparian areas with greater species diversity near a fresh water source, tree roosting bats, such as western red bat, may roost in tree foliage virtually anywhere in forest habitats.

Pacific Lamprey

Pacific lamprey (*Entosphenus tridentatus*) is a federal species of concern and a CDFW SSC. CDFW classifies the current status of the species as Moderate Concern. Critical habitat for Pacific lamprey has not been designated. Pacific lampreys are parasitic, anadromous fish (born in freshwater streams, migrate out to the ocean, and return to fresh water as mature adults to spawn). Historically, the distribution of Pacific lamprey was thought to be similar to salmon and steelhead; however, recent data indicate that their distribution has been reduced in many areas for most of the same reasons that salmon and steelhead populations have declined, most notably dam construction (Goodman and Reid 2017). Both historical and current abundance and distribution data are lacking. Pacific lamprey is currently found along the coast of the Pacific Ocean from Japan to Baja California (Moyle et al. 2015).

After about one to three years in the ocean, adult Pacific lampreys migrate to freshwater to spawn between February and June. Adults can spawn right away, building a gravel nest by lifting and digging. After hatching, lamprey larvae (ammocoetes) spend a short period in the nest before being washed downstream to slow velocity freshwater areas with sandy bottoms, soft sand, or mud and burrow tail first into the substrate. It is thought that ammocoetes spend the next 5 to 7 years filter feeding in freshwater before metamorphosing into juvenile macropthalmia. Macropthalmia begin their downstream migration to the ocean in winter and spring when rains increase stream flows that passively carry fish to main stem rivers and eventually the ocean. They prey on a wide variety of fish, including salmon (Moyle 2002).

Focused surveys for Pacific lamprey have not been conducted for the proposed project. The CNDDB reports detections of the species approximately 18 miles north of the project BSA in Ten Mile River, and lampreys have been observed as recently as 2020 in Elk Creek, approximately 7.5 miles south of the project BSA, as well within Salmon Creek, approximately 0.3 miles south of the BSA. Although no detections of this species have been reported in Albion River, habitat observed in the Aquatic Species BSA would support migrating adults and lamprey macropthalmia. Ammocoete larvae would be expected further upstream of the proposed project area, outside of the highly tidally influenced portion of the Albion River.

Environmental Consequences

Build Alternatives

Construction Impacts

Obscure Bumble Bee

As construction of the project would take place in suitable habitat for obscure bumble bees, construction activities for all Build Alternatives may result in mortality to individual bees if underground nest colonies or overwintering queens are present within the project footprint. Some project activities, such as proposed shoulder widening, would occur in areas routinely disturbed by mowing, road grading, and other road maintenance activities that result in areas of increased soil compaction, which reduces the likelihood to support ground nests. However, ground disturbance associated with staging areas, as well as proposed construction of temporary access roads and cut and fill earthwork proposed for construction of the new abutments and piers for the Build Alternatives, would have the potential to impact areas of relatively undisturbed and potentially suitable nesting and foraging habitats for obscure bumble bee.

While earthwork activities for all proposed design options would remove some available floral resources or native soils for nesting, standard measures, which are outlined in Section 2.2.5, *Common Design Features of the Build Alternatives*, would be implemented to avoid impacts on obscure bumble bees. This includes requiring pre-construction bumble bee surveys to search for and protect any active bumble bee nests (Standard Measure **BR-2[J]**). In accordance with Measure **AMM-BR-5**, if a nest is discovered within the project footprint, a protective no-work buffer of 50 feet would be established. In addition, Standard Measures **GHG-5** and **BR-4** would require revegetation of disturbed areas with regionally appropriate native plants, as appropriate. Given the low likelihood that nests would be located within the ESL and with implementation of standard measures and Measure **AMM-BR-5,** impacts on obscure bumble bees are anticipated to be minimal.

Amphibians

All Build Alternatives would have a similar potential to affect special status amphibians due to the earthwork and access needed for construction of the new bridge and removal of the existing bridge.

Potential direct impacts from construction activities include injury and mortality of individuals due to crushing from construction equipment and vehicle traffic, and indirect impacts on habitat during removal and disturbance of riparian vegetation. Temporary reduction of the amount of available foraging habitat and reduced cover may expose individuals to predation; however, there is little to no cover adjacent to the water on the south side of the Albion River and more abundant and better-quality habitat available further upstream and outside of the project BSA. Aquatic habitat may also be affected if construction activities result in degradation of the creek and wetland habitat or impact water quality; however, construction BMPs and standard measures outlined in Section 2.2.5 *Common Design Features of the Build Alternatives*, including Standard Measures

WQ-1 and **WQ-2,** would minimize the potential for temporary water quality impacts. Additionally, Standard Measure **BR-2(H)** requires the preparation of an Aquatic Species Relocation Plan, which would require a biological monitor to be present during removal of riparian vegetation, which would minimize impacts on special status amphibians.

Due to the temporary nature of construction and implementation of project BMPs and standard measures, the abundance of suitable habitat in the project vicinity to which amphibians could relocate if necessary, and with the low likelihood of occurrence within the proposed project area, impacts on special status amphibians would be minimal, if not avoided completely, for all Build Alternatives.

Raptors

All Build Alternatives would result in similar impacts to suitable habitat for raptors.

The Build Alternatives would permanently remove the existing bridge and its potential nesting platforms. However, no species of raptor has been documented using the existing bridge structure and none are expected. In addition, replacement with the new bridge would make the loss of potential nesting platforms negligible, as new potential platforms would result from construction of the new bridge piers.

The removal of eucalyptus habitat and the removal and replacement of the current bridge could result in the direct mortality of adults, young, and eggs if raptors were to use these trees as nest locations. However, the likelihood of raptors nesting adjacent to the bridge and within the corridor of SR 1 is very low with based on existing noise levels and the regular disturbance associated with traffic, in addition to the availability of higher quality habitat along the cliffs outside the proposed project area adjacent to the Pacific Ocean and conifer habitat outside the proposed project area. In addition, implementation of standard measures outlined in Section 2.2.5, *Common Design Features of the Build Alternatives*, including Standard Measure **BR-2(C)**, which requires pre-construction surveys for active raptor nests and Standard Measure **BR-2(A)**, which avoids vegetation removal during the nesting season (or requires surveys), would avoid direct impacts to nesting raptors.

Due to the minimal amount of marginal nesting habitat that would be removed as part of the proposed alternatives, the temporary nature of the project, and with the implementation of the standard measures mentioned above, impacts on nesting raptors are not anticipated for any of the proposed alternatives.

There would be no “take” of the fully protected white-tailed kite, which is protected by CDFW under the California Fish and Game Code.

Other Migratory and Non-Migratory Bird Species

All Build Alternatives would have similar minor permanent and temporary impacts on marginal nesting and foraging habitat for migratory and non-migratory birds on the Albion River bridge and within the habitats surrounding the bridge.

The Build Alternatives would permanently remove the existing bridge and potential nesting crevices and ledges; however, replacement with the new bridge would make this loss of habitat negligible as new potential nesting structures would result from construction of the new bridge piers and supporting structure. In addition, no native bird species were observed nesting on the existing Albion River Bridge; therefore, removal of the bridge is not likely to result in removal of nesting habitat for native species.

Vegetation removal and bridge removal could result in the direct mortality of adults, young, and eggs, but the likelihood of bird nesting adjacent to the bridge and within the corridor is very low, especially considering the abundance of higher quality nesting habitat in the surrounding area. Furthermore, standard measures outlined in Section 2.2.5, *Common Design Features of the Build Alternatives*, including avoiding vegetation removal during the breeding season or conducting pre-construction nesting bird surveys (Standard Measure **BR-2[A]**), would result in avoidance of direct impacts to nesting birds.

For all bridge design options, temporary impacts to nesting and foraging habitat would result from vegetation removal, visual harassment, and noise during bridge construction, installation of access roads and equipment staging. In addition, permanent loss of roadside foraging and potential nesting habitat would result from shoulder widening and construction of the bridge approaches. However, there is a low likelihood of increased measurable visual and acoustic impacts due to the existing noise levels that SR 1 experiences, the regular visual disturbance of traffic and pedestrian activity from the neighboring town and campground, and the availability of higher quality habitat associated with the habitats surrounding the project area. In addition, a Bird Exclusion Plan would be prepared if needed (Standard Measure **BR-2[B]**) and temporarily disturbed areas would be revegetated (Standard Measure **BR-4[B]**).

Overall, due to the temporary nature of the project, and with the implementation of the standard measures, impacts on nesting migratory and non-migratory birds and their habitat are anticipated to be minimal for any of the proposed alternatives.

Marine Mammals

Construction of the proposed project has the potential to affect marine mammals within Albion Cove and in the tidally influenced portion of the Albion River. Activities for all Build Alternatives, including ground disturbance, riparian vegetation removal, and on-shore and in-water impact and vibratory pile driving for installation of the new bridge or for construction of temporary structures could lead to unintentional harassment from water quality impacts, visual disturbances, airborne noise, and underwater noise.

Water Quality

Construction activities in the Albion River and on its banks could affect water quality. These activities include vegetation removal; staging, access, construction, and demolition of piers and abutments; in-water temporary pile installation and pier demolition; in-water staging such as installation of cofferdams; and other activities below the high tide line.

While in-water construction activities would not directly prevent movement up the Albion River from Albion Cove, potential impacts on water quality could deter marine mammals such as Pacific harbor seals from traveling upstream to known haul-out or basking locations. However, water quality impacts would be minimized through the implementation of standard measures and BMPs outlined in Section 2.2.5, *Common Design Features of the Build Alternatives*, including Standard Measures **WQ-1** and **WQ-2,** which include sediment control and stabilization measures, and construction waste control measures.

In addition, depths near the beach and entrance to the river mouth are 3.28 feet (1 meter) below sea level, reaching 6.56 feet (2 meters) below sea level at the deepest point in the river mouth and continuing at these shallow depths for approximately 656.17 feet (200 meters) upstream (NOAA Bathymetry 2023). At an average tide (Mean Tide Level [MTL] = 3.18 feet), the majority of the river channel and the area of the Albion Cove closest to the river mouth could be up to approximately 6.46 feet deep.

Given the shallow depths of the Albion River and the eastern part of the cove, especially during the summer months when potential water quality impacts are most likely to occur, it is not anticipated that larger marine mammals, such as the gray whale, would be able enter these areas. While smaller marine mammals, such as harbor porpoise, common bottlenose dolphin, harbor seal, northern elephant seal, and California sea lion have the potential to access the river channel and shallow areas of the cove, there is a low likelihood for these species (with the exception of harbor seals) to be present.

With the standard measures and BMPs that would minimize water quality impacts, and the low probability for most marine mammal species to be present, the potential for water quality impacts to affect marine mammals during construction would be minimal.

Airborne Noise and Visual Disturbance

General construction noise (non-impulsive impact noise) and vibration, artificial nighttime light, and other physical disturbances could harass marine mammals, disrupt or delay normal activities, or deter individuals from using nearby haul-out sites or passing through the proposed project area within the Albion River.

The loudest activities during construction would most likely be from pile driving and demolition. Piles would be installed by impact pile driving, vibratory pile driving and drilling. Pile driving would be needed for construction of the temporary work trestle, falsework, cofferdams and bridge piers. The piers from the old bridge would most likely be removed with a backhoe or excavator mounted demolition hammer.

Marine mammals that do not spend time out of the water, such as gray whale, harbor porpoise, and common bottlenose dolphin, are not anticipated to be affected by airborne noise. However, other species that use haul-outs, including harbor seals and non-harbor seal pinnipeds (northern elephant seals and California sea lions), may be affected. NOAA has developed guidance for analyzing in-air acoustic behavioral response thresholds (Level B) for harbor seals and non-harbor seal pinnipeds such as northern elephant seals and California sea lions (NMFS 2023). Current guidance

establishes 90 dB_{RMS} for harbor seals and 100 dB_{RMS} for non-harbor seal pinnipeds to elicit a behavioral response (i.e., to cause Level B harassment) (Table 56). There is currently no injury threshold established for airborne noise impacts on marine mammals.

It is anticipated that multiple pile driving crews could operate at the same time. To account for noise from multiple pieces of equipment at separate locations, an analysis was conducted to determine the estimated distances of airborne noise to reach the Level B criteria, as shown in Table 57.

Table 56. Airborne Noise Behavioral (Level B) Thresholds

Criterion	Level B Threshold
PTS (injury)	None Established
Behavioral Disruption for Harbor Seals	90 dB_{RMS}
Behavioral Disruption for non-Harbor Seal Pinnipeds	100 dB_{RMS}

Sources: (Caltrans 2024)

dB = decibel, RMS = Root Mean Square

Table 57. Estimated Distances to Airborne Criteria for 2 Pieces of Pile Driving Equipment or 1 piece for Drilling

Hammer Type	Maximum Distance to Threshold (Meters)		Average Distance to Threshold (Meters)	
	90 dB	100 dB	90 dB	100 dB
Vibratory	189	60	106	34
Impact	336	106	238	75
Drilling[1]	75	24	60	19
Demolition Hammer	119	38	42	<15

Source: (Caltrans 2024)

[1] Drilling distances are calculated for a single piece of equipment only.

dB = decibel

In-air acoustic thresholds for harbor seals and non-harbor seal pinnipeds would likely be exceeded with implementation of vibratory and impact pile driving and demolition. Noise produced from drilling would have a much lower potential to affect harbor seals and would be unlikely to affect elephant seals and sea lions due to the much smaller distance that noise would travel.

Pile driving (impact hammer and vibratory) and drilling activities would be intermittent and temporary and would not be expected to cause long-term and permanent behavioral changes. In addition, these activities are in an area that has regular visual and acoustic stressors from human activities such as camping, and recreational and commercial fishing. With consideration of this, and the implementation of the standard measures and BMPs outlined in Section 2.2.5, *Common Design Features of the Build Alternatives*, such as **BR-2**, which requires monitoring for activities such as pile driving and limits the use the artificial lighting, visual and acoustic impacts would be limited. In addition, Measure **AMM-BR-6**, which requires implementation of a Marine Animal Monitoring Plan (MAMP), would minimize exposure of marine mammals from construction noise. The only exception would be harbor seal—due to the abundance and frequent presence of harbor seal in the vicinity of the cove and river, including passage through the river mouth, the MAMP would not apply to this species; pile driving would not stop if it were in the area. Harbor seals are a common species, and it is therefore not anticipated that there would be a population-level effect on Pacific harbor seal.

Hydroacoustic

In addition to the potential for airborne noise impacts discussed above, pile driving would generate hydroacoustic sound that could harass marine mammals with the potential to be in the project area. NMFS recommends classifying marine mammals into distinct species groups when evaluating impulsive and non-impulsive hydroacoustic impacts (NMFS 2023). These species groups and species associated with each group are provided below (Table 58).

Table 58. Marine Mammal Hearing Groups

Hearing Groups	Generalized Hearing Range	Representative Species Potentially Within the Proposed Project Area
Low-frequency (LF) cetaceans	7 Hz to 35 kHz	Gray whale, humpback whale[1]
Mid-frequency (MF) cetaceans	150 Hz to 160 kHz	Southern resident killer whale[1], common bottlenose dolphin
High-frequency (HF) cetaceans	275 Hz to 160 kHz	Harbor porpoise
Phocid pinnipeds (PW) (underwater)	50 Hz to 86 kHz	Northern elephant seal, Pacific harbor seal
Otariid pinnipeds (OW) (underwater)	60 Hz to 39 kHz	California sea lion

Source: (Caltrans 2024)

[1]Humpback whale and southern resident killer whale are federally endangered species, which are discussed in Section 3.4.5, *Threatened and Endangered Species.*

NMFS established specific thresholds for take of different marine mammal species to evaluate when auditory effects are likely to occur, including sound thresholds to elicit behavioral responses (Level B harassment) and different hearing threshold shifts (Level A or B harassment) that could lead to potential injury (NMFS 2023). There are both temporary and permanent hearing threshold shifts. A temporary threshold shift (TTS) can result in temporary hearing loss and is considered Level B harassment. A permanent threshold shift (PTS) has the potential for hearing loss with incomplete recovery (i.e., could be permanent partial or full hearing loss), which is considered Level A harassment. NMFS thresholds address impact hammer pile driving and vibratory pile driving and removal separately. NMFS hearing sound thresholds for impulsive (i.e., impact pile driving) and non-impulsive (e.g., vibratory pile driving) sounds are provided in Table 59 and Table 60.

Table 59. Summary of Behavioral Disruption (TTS) (Level B Harassment) Threshold Criteria

Criterion	Criterion Definition	Threshold
Level B	Behavioral disruption for impulsive noise	160 dB_{RMS}
Level B	Behavioral disruption for continuous noise	120 dB_{RMS}[1]

Source: (NMFS 2023)
[1]The 120 dB threshold may be slightly adjusted if background noise levels are at or above this level.

dB = decibel , RMS = Root Mean Square

Table 60. Summary of Permanent Threshold Shift (Level A) Onset Threshold Criteria

Criterion	PTS Onset (Received Level)	
Hearing Groups	**Impulsive**	**Non-Impulsive**
Low-frequency Cetaceans (LF)	Peak: 219 dB SEL_{cum}: 183 dB	SEL_{cum}: 199 dB
Mid-frequency Cetaceans (MF)	Peak: 230 dB SEL_{cum}: 185 dB	SEL_{cum}: 198 dB
High-frequency Cetaceans (HF)	Peak: 202 dB SEL_{cum}: 155 dB	SEL_{cum}: 173 dB
Phocid Pinnipeds (PW)	Peak: 218 dB SEL_{cum}: 185 dB	SEL_{cum}: 201 dB
Otariid Pinnipeds (OW)	Peak: 232 dB SEL_{cum}: 203 dB	SEL_{cum}: 219 dB

Source: (NMFS 2023)

dB = decibel; RMS = Root Mean Square; SEL_{cum} = Cumulative sound exposure level including weighting function

Due to the topography of Albion Cove combined with the shallow waters and rocky interference within the cove itself, underwater sound is expected to be restricted to the confines of the cove, estimated at approximately 3,937 feet (1,200 meters) from the river mouth and general vicinity of proposed impact pile driving, vibratory pile driving or drilling, and demolition proposed for the various project alternatives. Therefore, the Aquatic Species BSA extends all the way to the outward limits of the cove (3,936 feet). On the upstream side, the underwater sound is expected to be restricted due to a significant channel bend 1,312 feet (400 meters) from the river mouth, defining the upstream side of the Aquatic Species BSA (Figure 76).

Impact pile driving, vibratory installation of sheet piles, and non-impulsive pile driving associated with all bridge design options could potentially exceed the conservative behavioral response thresholds for marine mammals occurring within the proposed project area during construction. Species of marine mammal that come within 823 feet (251 meters) of demolition activities would also be exposed to elevated levels of underwater sound (meet or exceed 120 dB_{RMS}).

None of the Build Alternatives would likely result in Level A PTS Onset for vibratory pile driving unless the species comes into close proximity of the project activity. The only species for which this scenario is likely to occur is harbor seal, as these animals are frequent visitors within the Aquatic Species BSA.

Impact pile driving has a wide range of effect distances (isopleths) for estimated cumulative sound exposure levels (SELs) that define the distance to Level A PTS thresholds if underwater sound were not restricted by Albion Cove (Table 61). For example, cumulative Level A threshold distances for high-frequency cetaceans (harbor porpoise) range from a potential isopleth of 3,589 feet (1,097 meters) for installing 36-inch permanent pile footings in water to a theoretically possible distance of 17,658 feet (5,382 meters; 3.34 miles) for pile driving 60-inch CISS piles in water. In contrast, the distance to Level A cumulative SEL thresholds for Otaridd Pinnipeds (California sea lion) ranges from 118 feet (36 meters) to 577 feet (176 meters) for those same pile-driving scenarios and corresponding design options. Despite the range, it is clear that the larger piles associated primarily with Design Option 3A would be more likely to accumulate to Level A PTS thresholds across all hearing groups.

Table 61. Distance to Permanent Threshold Shift Onset (Level A) and Level B Behavioral Thresholds for Impulsive Noise Sources, with Attenuation

Scenario	Associated Bridge Replacement Options	Distance to Level A PTS Onset Thresholds for Impulsive Noise Sources (meters)										Distance to Level B Behavioral Threshold (meters)
		Low-frequency Cetaceans (gray whale and humpback whale)		Mid-frequency Cetaceans (killer whale, common bottlenose dolphin)		High-frequency Cetaceans (harbor porpoise)		Phocid Pinnipeds (northern elephant seal, Pacific harbor seal)		Otariid Pinnipeds (California sea lion)		
		Peak	SEL_{cum}	Peak	SEL_{cum}	Peak	SEL_{cum}	Peak	SEL_{cum}	Peak	SEL_{cum}	160 dB_{RMS}
Impact Pile Driving												
14-inch Steel Pipe Piles in Water	All	<10	230	<10	<10	<10	274	<10	123	<10	<10	86
Trestle Piles in Water	All	<10	293	<10	<10	16	349	<10	157	<10	11	215
36-inch CISS Piles in Water	1A	<10	921	<10	33	16	1,097	<10	493	<10	36	736
36-inch CISS Piles on Land 25 feet from Water	1A, 2A	<10	314	<10	11	10	375	<10	168	<10	12	464
36-inch CISS Piles on Land 130-180 feet from Water	1A, 1B, 2B	<10	135	<10	<10	<10	161	<10	72	<10	<10	108
60-inch CISS Piles in Water	3A	<10	4,518	<10	161	18	5,382	<10	2,418	<10	176	1,000
60-inch CISS Piles on Land ±50 feet from Water	3A	<10	2,623	<10	93	<10	3,124	<10	1,403	<10	102	789
Demolition												
Hoe Ram Operation	All	<10	576	<10	20	<10	686	<10	308	<10	22	251

Source: (Caltrans 2024)

dB = decibel
PTS = permanent threshold shift
RMS = Root Mean Square
SEL_{cum} = Cumulative sound exposure level including weighting function

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While gray whales may travel close to shore, they migrate south to winter in Mexico between November and mid-February, and migrate north to the Artic for the summer between mid-February and May. Because gray whales would not be expected to be in the area when in-water work is anticipated to occur (June 15 to October 15), it is not anticipated that this species would be affected by underwater noise.

Harbor porpoise, common bottlenose dolphin, Pacific harbor seal, northern elephant seal, and California sea lion have the potential to be within Albion Cove during construction activities in the summer months. Pile driving may exceed the behavioral thresholds (Level B harassment) depending on their proximity to the project. It is unlikely pile driving would exceed the PTS threshold (Level A harassment) for Alternatives 1 and 2. Potential exceedance for construction of Alternative 3 cannot be entirely discounted for any hearing group due to the distance to the PTS threshold. However, potential for impacts from Alternative 3 and the other Build Alternatives would be minimized and avoided by the implementation of standard measures outlined in Section 2.2.5, *Common Design Features of the Build Alternatives*. This includes Standard Measure **BR-2**, which requires hydroacoustic monitoring and use of attenuation devices to minimize sound transmission, as well as a biologist to monitor in-stream construction activities that could potentially impact sensitive biological receptors, such as marine mammals.

In addition to standard measures, Measure **AMM-BR-6** would be implemented, which requires a MAMP. The MAMP would apply to all marine mammals with the exception of Pacific harbor seal. Safety zones for specific species or hearing groups would be designated around in-water activities. In these zones, no impact pile driving would be initiated when the associated species is present. In addition, during impact pile driving, when any marine mammal is detected in its respective safety zone, the work would be halted. Due to the abundance and frequent presence of harbor seal in the vicinity of the cove and river, including passage through the river mouth, pile driving would not stop when harbor seals enter the above-ground noise or underwater noise threshold areas. However, as harbor seals are common, it is not anticipated that there would be a population-level effect this species if present during pile driving activities.

Given the current scope of work and estimated hydroacoustic impacts, there is potential for all Build Alternatives to result in Level B harassment of harbor porpoise, common bottlenose dolphin, Pacific harbor seal, northern elephant seal, and California sea lion. Therefore, all alternatives may “take” these marine mammals under MMPA. Since grey whale migration takes these animals out of the Mendocino County coastal waters during the summer, when project impacts are anticipated, the project would have no “take” of gray whale under MMPA. Caltrans would coordinate with NMFS and apply for the appropriate incidental take authorization (i.e., IHA or LOA) following selection of a preferred alternative.

Bats

All Build Alternatives could temporarily displace available night roosting habitat during night construction and could inhibit foraging during active construction, including during removal of bridge timbers or use of lights on the Albion River Bridge. However, since roosting bats are unlikely to use the bridge where the majority of work activities are anticipated to occur, the potential for impacts would be very low. Vegetation removal, particularly of trees within the eucalyptus grove habitat located north of the Albion River could also potentially disturb or displace individual bats; however, there is suitable roosting and foraging habitat in close proximity to the project BSA for them to relocate.

The Build Alternatives would permanently remove the existing bridge and potential roosting crevices; however, replacement with the new bridge would make this loss of habitat negligible as new potential roosting crevices would result from construction of the new bridge. Additionally, it is highly unlikely the current or future bridge would be used for colony roosts as the cool coastal weather conditions make the bridge less than ideal.

For all Build Alternatives, temporary displacement of bats could result from construction noise and visual harassment. There is a low likelihood of visual and acoustic impacts due to the existing noise levels that SR 1 experiences, the regular visual disturbance of traffic, and the availability of higher quality habitat associated with the habitats surrounding the proposed project area. If disturbed, day and night roosting bats could readily relocate given the availability of suitable roosting and foraging habitat within close proximity to the project site.

Due to the low likelihood that bat colonies would use the habitat on the Albion River Bridge, the limited amount of tree removal for all alternatives, the temporary nature of the project, and with the implementation of the standard measures outlined in Section 2.2.5, *Common Design Features of the Build Alternatives*, including conducting a pre-construction bat survey and the preparation of a Bat Exclusion Plan if bats are present (Standard Measure **BR-2**), impacts on bat species if any, would be negligible for all Build Alternatives.

Pacific Lamprey

Construction activities within and adjacent to the Albion River, such as bridge construction and dewatering for permanent footing construction, pile driving, and bridge demolition, would take place between June 15 to October 15 (Standard Measure **BR-2[K]**), avoiding the primary migration periods of Pacific lamprey within the proposed project area (with adults migrating February through June and juveniles and adults out-migrating during the winter and spring).

Rearing macropthalmia (juveniles) are highly unlikely to be found within the immediate project vicinity due to its tidal location; however, depending on the climactic conditions and weather patterns during construction, migrating lamprey individuals could be subjected to impacts from in-water construction activities during the first few weeks of the summer construction window. Under all Build Alternatives, Pacific lamprey, if

present, could be affected by potential water quality changes, noise and visual disturbance including hydroacoustic noise from pile driving and demolition, direct injury, passage, and habitat impacts.

Given the temporary nature of the work, absence of spawning habitat and rearing habitat for ammocetes (larvae) or macropthalmia (juveniles) within the project BSA or Aquatic Species BSA, and because work in and immediately adjacent to the river would not occur until mid-June when flows are low and most macropthalmia have left the stream system, the potential for encountering any life stage of Pacific lamprey during the June 15 to October 15 work window is very low. With the implementation of standard measures and BMPs, which would require biological monitoring during in-stream construction and preparing a Hydroacoustic Monitoring Plan and Aquatic Species Relocation Plan, or equivalent (See Standard Measure **BR-2**), impacts on Pacific lamprey, if any, are anticipated to be minimal.

In addition, Measure **AMM-BR-7** would be implemented requiring that the construction contractor adhere to USFWS guidance on BMPs to minimize effect to Pacific lamprey (USFWS 2010), further minimizing impacts to this species.

Operational Impacts

No operational impacts are anticipated on special status animal species.

No-Build Alternative

Under the No-Build Alternative, the Albion River Bridge would not be replaced, and special status animals would not be impacted.

Avoidance, Minimization, and/or Mitigation Measures

The following resource-specific measures would be implemented:

AMM-BR-5: If active obscure bumble bee nests are found, a protective no-work buffer of 50 feet would be established until such time as the project biologist determines the buffer is no longer necessary.

AMM-BR-6: A Marine Animal Monitoring Plan (MAMP) would be developed and implemented for marbled murrelets, sea turtles, and marine mammals other than Pacific harbor seal. A biological monitor would be present to monitor for these species during all construction activities that have the potential to produce impulsive hammering sounds within the Albion River channel or Albion Cove, including any vibratory or percussive pile installation, hoe-ramming, or jackhammering. The MAMP would be prepared prior to construction and would include adaptive measures, such as defining a safety zone around in-river activities specific to species or hearing groups. To minimize exposure to marine animals and possible harm from construction activities, no impact pile driving would be initiated when marine animals are detected within their

respective safety zone. In addition, during impact driving, when a marine mammal is detected through on-site monitoring within an identified safety zone, or is about to enter its respective safety zone, pile driving or demolition work would be halted and not resumed until the animal was seen to leave the safety zone on its own, or 30 minutes elapsed since the animal was last seen.

AMM-BR-7: Cofferdams would be installed at low tide if feasible to avoid trapping aquatic species. Once placed, dewatering and relocation efforts would be performed in accordance with all measures outlined in the Aquatic Species Relocation Plan (Standard Measure **BR-2**) and would adhere to Best Management Practices to Minimize Adverse Effects to Pacific Lamprey (*Entosphenus tridentatus*) (USFWS 2010).

1. The orientation, siting, and type of fish screens used for dewatering operations would be selected to minimize potential entrainment of lamprey.

2. Electrofishing would be performed prior to dewatering to relocate ammocoetes within the work zone to a safe area away from the construction site.

3. Dewatering would be performed slowly over several days, or at a minimum overnight, to allow opportunity for any remaining lamprey to relocate on their own.

4. A professional fisheries biologist would be present during channel excavations to sift through removed substrate to salvage any remaining ammocoetes, returning them to the stream channel a safe distance away from the construction site.

3.4.5 Threatened and Endangered Species

Regulatory Setting

The primary federal law protecting threatened and endangered species is the Federal Endangered Species Act (FESA): 16 United States Code (USC) Section 1531, et seq. See also 50 Code of Federal Regulations (CFR) Part 402. This act and later amendments provide for the conservation of endangered and threatened species and the ecosystems upon which they depend. Under Section 7 of this act, federal agencies, such as the Federal Highway Administration (FHWA) (and the Department, as assigned), are required to consult with the United States Fish and Wildlife Service (USFWS) and the National Oceanic and Atmospheric Administration's National Marine Fisheries Service (NOAA Fisheries) to ensure that they are not undertaking, funding, permitting, or authorizing actions likely to jeopardize the continued existence of listed species or destroy or adversely modify designated critical habitat. Critical habitat is defined as geographic locations critical to the existence of a threatened or endangered species. The outcome of consultation under Section 7 may include a Biological Opinion with an Incidental Take Statement or a Letter of Concurrence. Section 3 of FESA defines take as "harass, harm, pursue, hunt, shoot, wound, kill, trap, capture or collect or any attempt at such conduct."

California has enacted a similar law at the state level, the California Endangered Species Act (CESA), California Fish and Game Code Section 2050, et seq. CESA emphasizes early consultation to avoid potential impacts to rare, endangered, and threatened species and to develop appropriate planning to offset project-caused losses of listed species populations and their essential habitats. The California Department of Fish and Wildlife (CDFW) is the agency responsible for implementing CESA. Section 2080 of the California Fish and Game Code prohibits "take" of any species determined to be an endangered species or a threatened species. Take is defined in Section 86 of the California Fish and Game Code as "hunt, pursue, catch, capture, or kill, or attempt to hunt, pursue, catch, capture, or kill." CESA allows for take incidental to otherwise lawful development projects; for these actions an incidental take permit is issued by CDFW. For species listed under both FESA and CESA requiring a Biological Opinion under Section 7 of FESA, the CDFW may also authorize impacts to CESA species by issuing a Consistency Determination under Section 2080.1 of the California Fish and Game Code.

Another federal law, the Magnuson-Stevens Fishery Conservation and Management Act of 1976, commonly referred to as the Magnuson-Stevens Act (MSA), was established to conserve and manage fishery resources found off the coast, as well as anadromous species and Continental Shelf fishery resources of the United States, by exercising (A) sovereign rights for the purposes of exploring, exploiting, conserving, and managing all fish within the exclusive economic zone established by Presidential Proclamation 5030, dated March 10, 1983, and (B) exclusive fishery management authority beyond the exclusive economic zone over such anadromous species, Continental Shelf fishery resources, and fishery resources in special areas.

Affected Environment

The information in this section is based on the Natural Environment Study prepared for the project (Caltrans 2024).

Record searches and habitat assessments were conducted to determine whether threatened and endangered species have the potential to occur within the project area, as described under Section 3.4.3, *Plant Species*, and Section 3.4.4, *Animal Species*. Relevant surveys to determine potential habitat or presence of threatened and endangered species includes floristic surveys and general wildlife habitat assessments and surveys, including protocol-level butterfly surveys.

Species lists based on database searches are provided in Appendix G, *Species Lists*. Tables based on these lists are provided in Appendix L, *Special Status Plant Species with the Potential to Occur in the Project Vicinity*, for plants and Appendix M, *Special Status Wildlife and Critical Habitat with the Potential to Occur in the Project Vicinity*, for animals. These tables include a summary of legal status and habitat requirements, as well as an assessment for the potential of species to occur in the project area.

The project area has potential habitat for 13 threatened and endangered species, as well as Essential Fish Habitat (EFH). The 13 species include Howell's spineflower (*Chorizanthe howellii*), Menzies' wallflower (*Erysimum menziesii*), lotis blue butterfly (*Lycaeides argyrognomon [Plebejus anna] lotis*), Behren's silverspot butterfly (*Speyeria zerene behrensii*), leatherback sea turtle (*Dermochelys coriacea*), bald eagle (*Haliaeetus leucocephalus*), marbled murrelet (*Brachyramphus marmoratus*), humpback whale (*Megaptera novaeangliae*), southern resident killer whale (*Orcinus orca*), California Coastal (CC) Chinook salmon (*Oncorhynchus tshawytscha*), Central California Coast (CCC) coho salmon (*Oncorhynchus kisutch*), Green sturgeon – southern distinct population segment (DPS) (*Acipenser medirostris*), and Northern California (NC) steelhead (*Oncorhynchus mykiss*). These species, as well as EFH, are discussed further below.

The other species listed in Appendix L and Appendix M do not have habitat within the project BSA. Therefore, the project is not anticipated to affect these species, and no further discussion is warranted.

A summary of FESA and CESA conclusions for all listed species is included under *Environmental Consequences.* It is anticipated that Section 7 consultation with USFWS would be required for federally listed species under FESA. In addition, Section 7 consultation with NMFS would be required for federally listed species under FESA, as well as consultation for EFH under the MSA, and coordination for marine mammals under the MMPA. Coordination with CDFW would also be required for potential effects to state listed species under CESA.

Plant Species

Federally and state listed Howell's spineflower (*Chorizanthe howellii*) and Menzies' wallflower (*Erysimum menziesii*) are plant species with potential habitat within the project area.

Howell's Spineflower

Howell's spineflower is a federally endangered and state threatened annual herb endemic to California, found primarily in coastal dunes and adjacent sandy soils of coastal prairies from sea level to 122 feet elevation. This species is at risk from recreational activities, vehicle activity, and invasion by non-native plants.

The project area does include dune and sandy habitats potentially suitable for Howell's spineflower. Dune habitat within the project BSA is small and subject to frequent human use. Howell's spineflower was not found within the project area, and the closest occurrence of the species is a historical record near Jug Handle State Park, approximately 10.5 miles north of the project location. Multiple other extant occurrences of this species are found several miles further north in MacKerricher State Park and Ten-Mile Beach. The species was not detected within the project BSA during appropriately timed botanical surveys in 2013, 2014, 2020, 2021, and 2023.

Menzies' Wallflower

Menzies' wallflower is a federally endangered and state endangered perennial herb found in Northern and Central California at four dune systems along the Pacific Ocean. These four locations are Humboldt Bay in Humboldt County, Ten Mile River in Mendocino County, the Marina Dunes at Monterey Bay, and the Monterey Peninsula in Monterey County. Menzies' wallflower typically blooms from March through April.

The project area does include dune and sandy habitats potentially suitable for Menzies' wallflower. Dune habitat within the project BSA is small and subject to frequent human use. The nearest record of the species is 16 miles north in the vicinity of Glass Beach in Fort Bragg. Similar to Howell's spineflower, there are several more northern occurrences of Menzies' wallflower from MacKerricher State Park and Ten-Mile Beach. The species was not detected within the project BSA during appropriately timed botanical surveys in 2013, 2014, 2020, 2021, and 2023.

Lotis Blue Butterfly and Behren's Silverspot Butterfly

Lotis blue butterfly (*Plebejus [Lycaeides] anna lotis*) and Behren's silverspot butterfly (*Speyeria zerene behrensii*) are both federally listed as endangered. The lotis blue butterfly was listed as an endangered species in 1976 and Behren's silverspot butterfly was listed in 1997. No critical habitat has been designated for either species.

Lotis Blue Butterfly

Historically, the lotis blue butterfly, a subspecies of northern blue butterfly, was found in several coastal locations, primarily in Mendocino County between Point Arena and Fort Bragg, northern Sonoma County, and possibly northern Marin County (USFWS 2007). However, at the time of listing, the lotis blue butterfly was only known from one location, approximately 2 miles north of the town of Mendocino. Despite multiple surveys and the presence of suitable habitat, the species has not been observed at that site or elsewhere since 1983 (USFWS 2007).

Despite the possible historic range along the Mendocino and Sonoma coasts, only three locations have had verified observations or collections of lotis blue butterfly (Arnold, unpublished doc 2019), all located within Mendocino County:

1. Bishop pine and bog site located 2 miles north/northeast of the town of Mendocino;
2. Scholar's bog (or nearby) located east of Fort Bragg; and
3. An unknown location southeast of Point Arena that was likely located east of Point Arena Creek adjacent to an area of pygmy forest.

Due to the historically small population size and limited sightings, specific details about the life history and ecology of the lotis blue butterfly are not fully understood and have been arrived at by assuming similarities with closely related taxa (USFWS 2007). Based on the life history of other subspecies of the northern blue butterfly as well as plant community observations made at sites previously occupied by lotis blue butterfly, the species is considered to be primarily associated with coastal wet meadows and sphagnum willow bogs. The last known site for this species was in a sphagnum bog surrounded by pygmy forest dominated by Bishop pine (*Pinus muricata*) (USFWS 2007). This species of butterfly is not a strong flyer and may have historically relied on a patchwork of suitable habitat within wet meadows/bogs, and grassy openings in closed cone pine forests.

Although not confirmed by rearing studies, the larval food plant (host plant) for the lotis blue butterfly is presumed to be the harlequin lotus (*Hosackia gracilis*); this presumption is based on observations of ovipositing behavior on harlequin lotus as well as the abundance of harlequin lotus at the primary location. Because so little is known of this species, harlequin lotus as a host plant does not necessarily preclude the butterfly from using additional species of legumes (Family Fabaceae) as host plants; for example, other subspecies of the northern blue butterfly are known to use narrow leaved lotus (*Hosackia oblongifolius*) or bog lupine (*Lupinus polyphyllus*) as hosts. The adult flight period for the lotis blue butterfly is from mid-April to early July (Downey 1975). Eggs are laid during the adult flight season on larval host plants (USFWS 1985; Pratt 2003, 2004).

A number of land use factors and drought, combined with the assumed historical rarity of the butterfly, may have combined to contribute to its decline. Habitat loss through

increasing development along the Mendocino coast, anthropomorphic alterations of hydrological regimes (e.g., roads and culverts to collect and divert sheet flow), and suppression of fire and subsequent conifer encroachment into grasslands and meadows may still be threatening the continued persistence of the presumed host plant(s) and habitat of the species and therefore the species itself.

Protocol-level butterfly surveys in suitable habitat were originally conducted in 2014 and 2015 and repeated in 2020 and 2021. Surveys were conducted within the Butterfly BSA, which includes a 330-foot (100 meter) buffer around the ESL (Figure 82). The abundance of harlequin lotus (see Figure 82, and the discussion on this species in Section 3.4.3, *Plant Species*) suggests that the Butterfly Buffer could be used as breeding habitat for the lotis blue butterfly; however, despite the presence of suitable larval host and nectar plants identified as important habitat or food sources, no life stage of this species was observed during butterfly surveys.

Behren's Silverspot Butterfly

Behren's silverspot butterfly's range extends from north of the Russian River (Sonoma County) north to roughly MacKerricher State Park (Mendocino County) (USFWS 2015) and within one mile of the coast. Four sites are known to be occupied by Behren's silverspot butterfly, from Manchester (Mendocino County) south to Salt Point State Park (Sonoma County) (USFWS 2015). There are also historic and potential sites as far north as the town of Mendocino (USFWS 2015), but occupancy is unknown and considered unlikely.

Behren's silverspot butterfly is associated with stabilized coastal dunes and grassland habitats that contain early blue violet (*Viola adunca*), their larval host plant (USFWS 2012). Eggs are laid on early blue violet, and adults hatch in approximately three weeks. The adult flight season is generally from mid-to late June through September or early October, with peaks in mid-July to mid-August (USFWS 2012). Adults can be found foraging a few miles inland from the immediate coast, particularly in pocket meadows, grassy swales, and other sheltered areas (Arnold 2014). Adults require nectar plants, shelter from coastal winds, and inland meadows where adults are active when coastal conditions are foggy (Arnold 2014). Nectar plants include native species such as gum plant (*Grindelia hirsutula*), California aster (*Symphyotrichum chilensis*), coast goldenrod (*Solidago spathulata*), and seaside daisy (*Erigeron glaucus*) as well as non-native species, including milk thistle (*Silybum marianum*), bull thistle (*Cirsium vulgare*), hairy cat's ear (*Hypochaeris radicata*), and groundsel (*Senecio sylvaticus*) (Arnold 2014; USFWS 2012).

As described for lotis blue butterfly, protocol-level butterfly surveys were conducted within the Butterfly BSA. Several populations of nectar plants identified as important habitat or food sources for Behren's silverspot were present. In addition, the Butterfly BSA contained two small patches of early blue violet (Figure 82), a larval host plant for the species. Plant counts for early blue violet ranged from approximately 60 plants total in 2020/2021 to up to 300 plants in 2023; the majority of the plants were found in a small patch southwest of the Albion River Bridge. The limited amount of early blue violet

suggests that this area would more likely be used for foraging as opposed to larval development. If present, the Behren's silverspot butterfly would likely use sheltered pocket meadows located beyond the eastern boundary of the Butterfly Buffer (Arnold 2014) or some of the ornamental flowers found in landscaped yards within the community that are sheltered from strong coastal winds. However, no life stage of Behren's silverspot butterfly was observed in the Butterfly BSA.

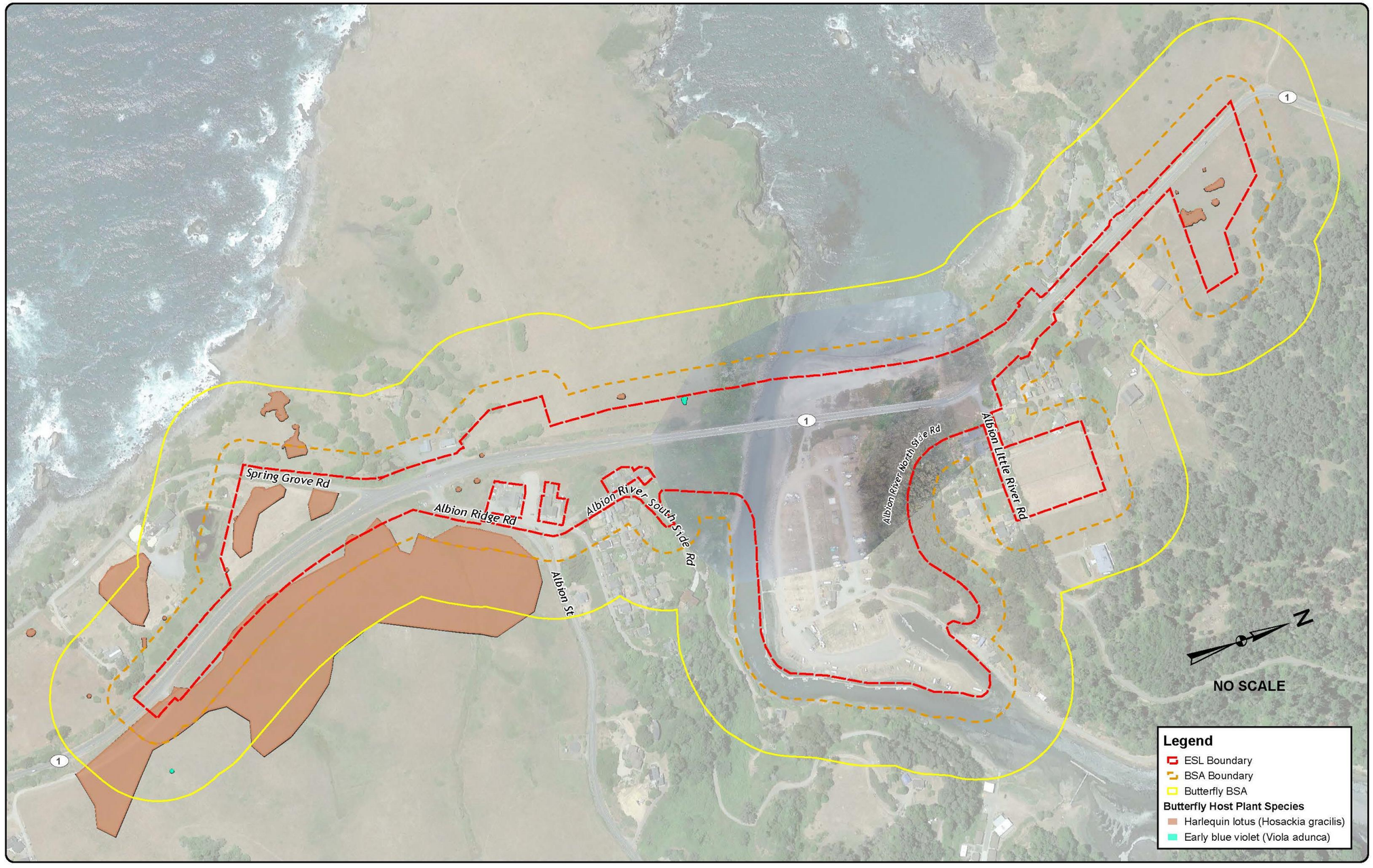


Figure 82. Butterfly Larval Host Plants in the Project Area

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Leatherback Sea Turtle

Leatherback sea turtle (*Dermochelys coriacea*) was federally listed as endangered during the establishment of FESA in 1970 and state listed as endangered under CESA in 2022. It is thought to be distributed globally, with known breeding, foraging, and migratory routes present in the Atlantic, Pacific, and Indian Oceans (NMFS 2013). The Western Pacific breeding population occurs from the waters of British Columbia and Gulf of Alaska to the waters of Chile and New Zealand within the Pacific Ocean (NMFS 2013). The Western Pacific subpopulation is the only leatherback sea turtle population known to forage in waters off the United States west coast, including California. Critical habitat was originally designated in 1978 and was revised in 2012. Leatherback sea turtle critical habitat includes approximately 17,000 square miles along the California Coast, from Point Arena to Point Arguello. This area of critical habitat includes ocean waters between the extreme low water elevation and 9,843 feet (3,000 meters) deep.

Within the Pacific Ocean, female leatherback sea turtles may be considered either winter or summer nesters, with several areas of passage between nesting grounds in the western Pacific and foraging grounds in the eastern Pacific (Saba 2013, Benson et al. 2011). Within the Western Pacific, leatherbacks are known to nest within the tropics and sub-tropics, primarily in Indonesia, Papua New Guinea, the Solomon Islands, and Vanuatu. Foraging (non-nesting) in the Eastern Pacific occurs within the deep and coastal water habitats in higher latitudes and includes the California Current Ecosystem (CCE) located on the West Coast of the United States located from British Columbia and Alaska to Baja California (NMFS 2013). The CCE also incorporates the portion of leatherback sea turtle foraging waters along the Mendocino Coast (Benson et al. 2011, NMFS 2013). Leatherback sea turtles do not breed within the CCE but are known to spend the late summer and early fall months foraging within these waters (Benson et al. 2011). The main areas of high use by leatherback sea turtles within the CCE include the productive waters adjacent to the Columbia River Plume and along the coastal shelf off the coast of Central California. High numbers of leatherback sea turtles have been documented foraging on aggregations of jellyfish between Point Conception and Cape Mendocino from July to October, a time when the CCE exhibits stronger seasonal upwelling (CDFW 2021b). Within these areas of high use, leatherback sea turtles spend their time foraging for gelatinous prey such as Pacific sea nettle (*Chrysaora fuscescens*) and species of moon jelly (*Aurelia* spp.).

Leatherbacks are the largest sea turtles in the world, sometimes measuring 9 feet long and weighing as much as or more than 1,200 pounds. Their life span is not fully known, but biologists believe they live at least 40 years and possibly as long as 100 years. The worldwide population has declined by 95 percent since the 1980s because of commercial fishing, egg poaching, destruction of nesting habitat, degradation of foraging habitat and changing ocean conditions.

No species-specific surveys were conducted for leatherback sea turtles, and they were not documented within the Albion Cove, on the beach, or within the Albion River channel during any previous site visits, and there are no historical observations or official records of them in Albion Cove. Leatherbacks are not known to breed within the

CCE, and only nest within the tropics and sub-tropics. However, leatherbacks are known to frequent waters of the CCE to forage in the summer and fall and there have been both strandings (NMFS 2018) and sightings (Benson et al. 2007) of this species in coastal waters of Mendocino County north of Point Arena. Therefore, while unlikely, there is the potential that adult leatherbacks could briefly enter Albion Cove to forage during their seasonal movements along the Pacific Coast.

The project area is not located within critical habitat for leatherback sea turtle, with the closest critical habitat boundary beginning in Point Arena, California, located approximately 20 miles south of the project area.

Bald Eagle

Although federally delisted, the bald eagle (*Haliaeetus leucocephalus*) is currently listed as endangered under CESA. It is also still federally protected by the Migratory Bird Treaty Act and the Bald and Golden Eagle Protection Act, and is a state fully protected species.

Bald eagles nest in treetops in forested areas adjacent to large bodies of water. They prefer mature coniferous or deciduous trees that protrude above the forest canopy, with good visibility.

Although no species-specific surveys for raptors were conducted, bald eagles have been observed foraging within the Raptor BSA (Figure 75) during 2018, 2020, and 2021 breeding bird surveys. Bald eagles are not thought to nest in the eucalyptus grove habitat within the project BSA, and there are no CNDDB records of bald eagle nesting within a 20-mile radius of the project ESL (CDFW 2023). However, they may forage along the Albion River and outside of the project area in the Pacific Ocean.

Marbled Murrelet

Marbled murrelet (*Brachyramphus marmoratus*) is federally listed as threatened and state listed as endangered. It also has designated critical habitat. It is a small Pacific seabird that breeds along the Pacific coast of North America from the Aleutian Archipelago and southern Alaska south to central California. They have a unique life history strategy in that they feed primarily in nearshore marine waters (within a few miles of shore) but fly inland to nest in mature conifers.

Foraging habitat is variable and depends on season. Murrelets have been found an average of 4.9 miles (7.9 kilometers) from the mouth of drainages used to reach nesting habitat during the day and within the breeding season but ranged further to forage during the non-breeding season (Peery et al. 2009). Distribution in marine waters during the non-breeding season is less studied but appears to include most of the marine areas used for foraging during the breeding season (Raphael et al. 2007). Marbled murrelets pursue prey underwater and have been recorded as spending anywhere from an average of 16 seconds to 23 seconds underwater per dive (Strachan et al. 1995, Peery et al. 2009, respectively). Foraging depths are likely to be variable based on

available prey and season; marbled murrelets have been observed diving in waters as shallow as 3 feet (1 meter) (Strachan et al. 1995), but frequently forage in deeper waters and may have a maximum diving depth of up to 154 feet (47 meters) (Oregon Department of Fish and Wildlife 2018 and citations therein).

Nesting habitat is primarily associated with large tracts of old-growth forest, typically within 50 miles of the shore, characterized by large trees, a multi-storied stand, and moderate to high canopy closure. Marbled murrelets are commonly absent from stands less than 60 acres in size. Nests are not built, but an egg is laid in a depression of moss or other debris on the limb of a large conifer. Suitable nest structures include large mossy horizontal branches, mistletoe (*Phoradendron* spp.) infections, witch's brooms (structural deformities of the tree), and other such structures (NatureServe Explorer 2015). During the March to September breeding season, marbled murrelets typically fly along river corridors for their morning and evening nest visits.

No species-specific surveys were conducted for marbled murrelets as the project area lacks the old growth forest nesting habitat that marbled murrelets prefer, and no marbled murrelet were observed incidentally during any previous survey. There are three nesting locations currently recorded in CNDDB for marbled murrelets in Mendocino County. Of these, the closest documented occurrence is approximately 6.75 miles north along Russian Gulch (CDFW 2023). Russian Gulch State Park, and a large block of land inland and north through the Noyo River and east, north of State Route 20, is designated as critical habitat for marbled murrelet. Additionally, there have been several records of marbled murrelets along the Navarro River, approximately 3.5 miles southeast of the Albion River Bridge.

Forest class size data were used in combination with historical records and analysis of current aerial imagery to assess potentially suitable roosting and nesting habitats. Ground truthing of forest class sizes was done from publicly accessible roads. Potential nesting habitat was identified as coniferous forest approximately 0.26 mile (1,404 feet) from the proposed northern bridge abutment.

The waters offshore of the project area may provide suitable foraging habitat for marbled murrelets; there are verified historical records (CNDDB and USFWS) and unverified, and more recent, eBird observations of marbled murrelets foraging in waters offshore of the Albion River mouth as well as a number of other observations in nearshore waters up and down the coast, including the mouth of Big River to the north of the project area and near the Navarro River mouth to the south of the project area. These records do not provide any estimates of distance offshore.

Marine Mammals

Humpback whales (*Megaptera novaeangliae)* and killer whales (*Orcinus orca*) are federally endangered species that, in addition to being protected under FESA, are protected under the Marine Mammal Protection Act (MMPA). Under this act, it is illegal to "take" a marine mammal without prior authorization from NMFS; NMFS issues incidental take authorizations in the form of either a Letter of Authorization (LOA) or Incidental Harassment Authorization (IHA), which permit the incidental, but not the intentional, take of marine mammals. See Section 3.4.4, *Animal Species*, for more detail on the MMPA, and a discussion of non-listed marine mammals that may be within the area.

While a variety of threatened and endangered marine mammals were identified as potentially being within the project area (Appendix G), most are not present in nearshore shallow environments, and have no habitat in the project area. Only humpback whales and killer whales have the potential to be within the Aquatic Species BSA (Figure 76) and are discussed further below.

Humpback Whale

Humpback whales were originally listed as endangered under the precursor to FESA in 1970, and in 2016, NMFS designated 14 DPSs worldwide for the species, and listed four of these DPSs as endangered and one as threatened. Within U.S. Pacific waters, the federally endangered Central American DPS is composed of whales that breed along the Pacific Coast of Costa Rica, Panama, Guatemala, El Salvador, Honduras, and Nicaragua in the winter, that then migrate to feed almost exclusively offshore of California and Oregon in the summer (NMFS 2015). Similarly, the federally threatened Mexican DPS breeds along the coast of Mexico and the Baja California Peninsula in the winter and migrates to foraging areas from California to the Aleutian Islands (NMFS 2015). Finally, the non-listed Hawaii DPS consists of whales that breed within the main Hawaiian Islands during the winter that then either breed in the North Pacific or migrate to southeast Alaska and British Columbia to feed. The whales from these three DPSs that feed within the U.S. Pacific waters in the summer are referred to by NMFS under the MMPA as the California/Oregon/Washington Stock. Humpback whales feed on small fish and crustaceans offshore of the coast; juvenile humpback whales can be found foraging close to shore. Though Albion Cove is shallow, with a maximum depth of 89 feet at the western edge, juvenile humpback whales may be capable of venturing into the cove. Therefore, there is the potential that humpback whale could be present in the Aquatic Species BSA.

Critical habitat was designated for this species in 2021. Designated critical habitat for the Central America DPS of humpback whales contains approximately 48,521 square nautical miles of marine habitat in the North Pacific Ocean within the portions of the California Current Ecosystem off the coasts of Washington, Oregon, and California. Specific areas designated as critical habitat for the Mexico DPS of humpback whales includes approximately 116,098 square nautical miles of marine habitat in the North Pacific Ocean, including areas within portions of the eastern Bering Sea, Gulf of Alaska,

and California Current Ecosystem. The nearshore boundary of designated critical habitat for either DPS begins at the 164-foot (50-meter) depth contour, which is found approximately 1.4 miles west of the project ESL and well outside of the Aquatic Species BSA.

Southern Resident Killer Whale

Killer whales are distributed throughout the globe. Along the western coast of North America, there are three ecotypes (genetically distinct populations) recognized. These ecotypes include resident, transient, and offshore populations of killer whales. The southern resident killer whale (i.e., Eastern North Pacific Southern Resident Killer Whale stock) is a resident DPS of killer whale that resides along the west coast of the continental United States and Canada. While the majority of resident, transient, and offshore populations are not listed, the southern DPS was federally listed as endangered under FESA in 2006. Critical habitat was designated in 2021 and includes all marine waters between the 20-foot and 656-foot depth contours. This includes the western portion of Albion Cove, which falls within the Aquatic Species BSA.

The southern DPS typically resides within the inland waterways of Washington State and British Columbia during the late spring, summer, and fall (Ford et al. 2000, Krahn et al. 2002), but are known to frequent the coastal waters off Washington and Vancouver Island (Krahn et al. 2002). Details of their winter range are poorly understood; however, there have been documented sightings of winter southern resident killer whales within the Salish Sea and foraging along the Continental Shelf in coastal waters from Vancouver Island, British Columbia to Point Reyes, California (Carretta et al. 2022).

While there is critical habitat for southern resident killer whale in Albion Cove and this species may potentially forage within the deep waters of Albion Cove during winter months, there is no record of this species within the cove or in the nearshore environment in the area.

Chinook Salmon, California Coastal Evolutionarily Significant Unit

The California Coastal (CC) Evolutionarily Significant Unit (ESU) of Chinook salmon (*Oncorhynchus tshawytscha*) (commonly known as CC Chinook salmon) was federally listed as a threatened species in 1999 and the status was reaffirmed in 2011.The ESU contains the most southerly distributed coastal Chinook salmon runs in North America and includes naturally spawned Chinook salmon originating from river and streams south of the Klamath River to the Russian River. Critical habitat for CC Chinook salmon was designated in 2005 and includes the lateral extent of stream channel within designated stream reaches as defined by the ordinary high-water line (33 CFR 329.11) in freshwater areas and the high tide line in tidally influenced portions of their habitats. The Primary Constituent Elements (PCE) / Physical or Biological Features (PBF) identified in the critical habitat designation Included:

- Freshwater spawning sites that supported spawning, incubation and larval development.

- Freshwater rearing sites with sufficient water quantity, quality, floodplain connectivity, and natural cover to support juvenile growth, development, and mobility.
- Freshwater migration corridors free of obstruction and excessive predation with water quantity and quality conditions and natural cover such as submerged and overhanging large wood, aquatic vegetation, large rocks and boulders, side channels, and undercut banks supporting juvenile and adult mobility and survival.
- Estuarine areas free of obstruction and excessive predation with water quality, water quantity, salinity conditions, and sufficient juvenile and adult forage to support juvenile and adult physiological transitions between fresh- and saltwater. Additionally, natural cover such as shade, submerged and overhanging large wood, log jams and beaver dams, aquatic vegetation, large rocks and boulders, side channels, and undercut banks are important characteristics of critical habitat.

The project area also contains EFH for Pacific Coast Salmon, which includes CC Chinook salmon, as designated under the MSA. EFH is discussed separately, below.

In the past, the ESU contained both spring-run and fall-run components, but it is now believed the spring-run component has been extirpated. Fall-run CC Chinook salmon are ocean-type anadromous fish that typically spawn in the lower reaches of rivers and tributaries. Chinook salmon return to their natal streams between September and October. Fall-run CC Chinook salmon adult migration can be later when compared to other fall-run Chinook salmon (e.g., northern California or Oregon), because migratory corridors in the rivers they inhabit typically open later in the season in response to large winter storms (November through January). Late freshwater entry is especially common in watersheds that form seasonal sandbars at the mouth during the dry season (summer to early fall) (CDFW 2016a). Typically, they enter freshwater at an advanced stage of maturity, move rapidly to their spawning areas and spawn within a few weeks of freshwater entry (Healey 1991). Adults die within a few days of spawning. Fry (i.e., young fish) emerge from the gravel in the late winter or spring and initiate outmigration within a week to months of emergence (Moyle et al. 2008). Freshwater residence, including outmigration, usually ranges from two to four months. Similar to adult migration, juvenile outmigration also tends to occur later than other salmonid species, peaking in late May and early June in Mendocino coastal streams. After emergence, Chinook salmon fry seek out areas behind fallen trees, back eddies, undercut banks, and other areas of bank cover. As they grow larger, their habitat preferences change (Everest and Chapman 1972). Juveniles move away from stream margins and begin to use deeper water areas with slightly faster water velocities but continue to use available cover to minimize the risk of predation and reduce energy expenditure.

Water temperature is one of the most important environmental influences on salmonids at all life stages, affecting physiological processes and timing of life history events (Spence et al. 1996). Adult fall-run Chinook salmon tolerate water temperatures ranging from 51 degrees Fahrenheit (°F) to 67°F. Based on studies of steelhead and coho

salmon, water temperature ranging from 50°F to 55°F has been recommended as the optimal thermal range for smoltification and emigration (Department of Water Resources 2002). Juvenile Chinook salmon prefer water temperatures less than 71.6°F.

Most spawning habitat for CC Chinook salmon is in the upper main stems of rivers and lower reaches of coastal creeks. These habitats, when in proper condition, provide stable substrate and sufficient flows into late winter. Once alevins emerge, they become fry, which tend to aggregate along stream edges, seeking cover in bushes, swirling water, and dark backgrounds. Larger juveniles may wind up in the tails of pools or other moderately fast-flowing habitats where food is abundant and there is some protection from predators. As they move downstream, they use more open waters at night, while seeking protected pools during the day. Pools that are cooler than the main river, from upwelling or tributary inflow, may be sought out by migrating juveniles as daytime refuges (Moyle et al. 2008).

CDFW has been conducting annual spawning abundance surveys within the Albion River since approximately 2008. CC Chinook salmon has been documented upstream of the Aquatic Species BSA as recently as the 2010/2011 season. Additionally, CDFW reported occurrences of CC Chinook salmon in Railroad Gulch, a tributary to the Albion River, during a 2015 stream inventory, as well as multiple occurrences of Chinook in an unnamed Albion River tributary as recently as 2016 (CDFW 2016b). CDFW annual abundance estimates within the Albion River had a high of 14 individuals in 2008, two individuals in 2009, and three individuals in 2010, with no individuals documented since the spring/summer of 2011 (pers. comm. Sarah Gallagher). The Albion River within the project Aquatic Species BSA is used by CC Chinook to access upstream spawning areas for rearing and passage during migration and movements to non-natal rearing habitat. Based on CDFW stream inventory reports and surveys, the Albion River Watershed likely supports only small or sporadic populations of CC Chinook salmon (CDFW 2016, pers. comm. Sarah Gallagher). None of the intermittent streams identified within the project area are fish bearing (not perennial, shallow, and two of the three have steep prolonged gradients, while the third one is a channelized connection between wetland features with no connectivity).

All aquatic habitat within the Albion River is considered critical habitat for CC Chinook salmon. This includes all sites from the active channel to the high tide line, which is approximately 9.72 acres within the project BSA. The reach of the Albion River in the Aquatic Species BSA does not provide elements used by salmonids for spawning or rearing and is primarily a pathway for adult and juvenile fish (smolts) as they migrate to upstream spawning areas or leave upstream freshwater rearing habitats to begin their ocean life stages. Habitat within the Aquatic Species BSA could provide temporary resting habitat at its upstream extent, where there are a few locations with shaded riverine aquatic cover along the south bank and deeper pools for juveniles to take refuge from the fast-moving tidal flows within the river channel. Additionally, juvenile CC Chinook may stay within nearshore habitats for several months once they have left upstream rearing habitats; therefore, while unlikely to be within the shallow area of the ESL, which lacks in-stream complexity and cover, has no velocity refugia, lacks

overhanging vegetation, and has high tidal velocities, juvenile chinook may forage within the productive habitats of the kelp beds and rocky reefs of Albion Cove during the early summer months. PCEs within the Aquatic Species BSA include eelgrass.

Coho Salmon, Central California Coast ESU

The Central California Coast (CCC) ESU of coho salmon (*Oncorhynchus kisutch*) (commonly known as CCC coho salmon) was federally listed as endangered in 2005, which was a change from its previously listed status of threatened due to severe population declines between 1996 and 2004. CCC coho salmon are also listed as state endangered. A Recovery Plan was published for the CCC coho in 2012 (NMFS 2012). Critical habitat, designated for CCC ESU coho in 1999, encompasses all accessible reaches of all rivers, including estuarine areas and tributaries, between Punta Gorda and the San Lorenzo River in California.

The following are identified as PCEs/ PBFs for CCC coho:

- Space for individual and population growth, and for normal behaviors
- Food, water, air, light, minerals, or other nutritional or physiological requirements
- Cover or shelter
- Sites for breeding reproduction, or rearing of offspring
- Habitats that are protected from disturbance or are representative of the historic geographical and ecological distributions of this species
- Spawning sites
- Food resources
- Water quality and quantity
- Riparian vegetation

The project area also contains EFH for Pacific Coast Salmon, which includes CCC coho salmon, as designated under the MSA. EFH is discussed separately, below.

In California, coho salmon typically return to their natal streams to spawn after 2 years in the ocean, though some return to spawn after the first year. These are referred to as grilse or jacks (Laufle et al. 1986; CDFG 2002). Adult migration timing varies between tributaries, but generally begins after stream flows increase in late fall and early winter (CDFG 2002). In small coastal streams, flows must be high enough to breach any sandbars that have formed, so migration typically begins mid-November through mid-January (Baker and Reynolds 1986 in CDFG 2002).

Coho salmon typically spawn in smaller streams than Chinook salmon and spawning primarily occurs from November to January but can extend into March under drought conditions (Shapovalov and Taft 1954; CDFG 2002). Fry emerge from gravels between March and July, with peak emergence occurring from March to May, depending on

when the eggs were fertilized and the water temperature during development (Shapovalov and Taft 1954; CDFG 2002). Similar to other salmonids, fry seek out shallow water at stream margins, while larger fish move progressively into deeper water. Juvenile rearing areas include low-gradient coastal streams, wetlands, lakes, sloughs, side channels, estuaries, and low-gradient tributaries to large rivers, beaver ponds, and large slack waters (CDFW 2021a). Rearing in estuaries is limited to freshwater portions (Moyle 2002). Yearling smolts migrate downstream from as early as February to as late as July (Shapovalov and Taft 1954), with peak migration from April to late May/early June (Weitkamp et al. 1995). A small percentage of coho salmon may rear for more than a year in freshwater (CDFG 2002; Bell and Duffy 2007).

Suitable habitat includes streams that contain clean loose gravels free of fine sediment for spawning and egg development, adequate pools and natural instream cover for juveniles, connected alcoves and off channel habitats for juveniles to survive winter flows, and clean, cool, water that flows unimpaired and unconstrained from the headwaters to the ocean (NMFS 2012).

Estuarine usage by CCC coho salmon includes the life stage of smolts and spawners. Smolts undergo a physiological change known as “smoltification” enabling them to transition, in estuaries or lagoons, for a life adapted to saltwater. Smoltification can occur primarily within the freshwater areas, or in the nearshore environment. Estuaries should provide cover and adequate feeding habitats to facilitate the transition into the ocean. Estuaries should be deep to provide cool temperatures and buffered with freshwater to dilute seawater. The quality of these areas has implications to the survival of smolts entering the ocean environment (Final CCC Coho Recovery Plan 2012).

Spawners is the final life-stage of coho salmon. The spawners must migrate upstream after heavy late fall or winter rains which breach sandbars and increase water flow, allowing the fish to move into estuarine portions of the river, and ultimately into spawning grounds found in upper reaches of the rivers or streams (Final CCC Coho Recovery Plan 2012).

CDFW spawning surveys upstream from the Aquatic Species BSA have documented CCC coho regularly within the Albion River since 2008. Adult abundance estimates have a high degree of variability from year to year with the highest adult abundance estimate of 894 documented during the 2012/2013 survey, and lowest abundance estimate of 0 during the 2009/2010 and 2013/2014 seasons. Additionally, CDFW documented approximately 138 young-of-the year salmon in 2015 (CDFW 2015b). The Albion River within the project area is used by adult coho salmon to access upstream spawning areas and by juveniles migrating downstream to the ocean from upstream rearing areas. Based on CDFW survey data (including CDFW Stream Inventory Reports), the Albion River Watershed consistently supports a moderate population of native coho salmon and is thought to be an important watershed for preservation of the CCC DPS; a genetic refugia that may be a vital component of coho salmon recovery along the Mendocino Coast (CDFW 2016, pers. comm. Sarah Gallagher).

All aquatic habitat within the Albion River is considered critical habitat for CCC Coho salmon. This includes all sites from within the active channel to the edge of the riparian zone, or high tide line at this location, which is estimated at approximately 9.72 acres within the project BSA. The reach of the Albion River in the Aquatic Species BSA and project BSA does not provide elements used by salmonids for spawning or high-quality rearing habitat for juvenile fish; however, it does serve as a migratory corridor for adults to travel to upstream reaches of the watershed for spawning, and for juveniles as they move out to sea. The upstream extent of the Aquatic Species BSA is similar to the downstream areas in regard to potential for supporting rearing salmonids, but docks could provide cover and the channel has more complex topography that may be used as velocity refugia; eelgrass is present in both the BSA and Aquatic Species BSA, but eelgrass beds are denser and cover more area upstream of the bridge. Smolts could be present in the estuary prior to moving out to the ocean and then may stay nearshore, potentially within Albion Cove, for several months after out-migrating to the ocean. These young fish could go in and out of the estuary with tidal fluctuations, so they may be present within the Aquatic Species BSA during the summer. PCEs within the Aquatic Species BSA may include eelgrass and riparian habitat within the stream channel and kelp forest and intertidal rocky reefs within Albion Cove.

Green Sturgeon, Southern DPS

The southern DPS of green sturgeon (*Acipenser medirostris*) was federally listed as threatened in 2006. This DPS extends from Graves Harbor, Alaska to Monterey Bay, California, with the only confirmed historical or present spawning population in the Sacramento River (Adams et al. 2007). Critical habitat for the southern DPS of green sturgeon, designated in 2009, encompasses the marine waters of the Pacific Coast from Monterey Bay, California to the Strait of Juan de Fuca in Washington, as well as certain designated coastal bays, rivers, and estuaries including the Sacramento River and its associated tributaries; critical habitat begins from mean lower-low water nearshore and extends to the 60-fathom (360-foot) deep elevation offshore.

Southern DPS green sturgeon may spend as many as 2 to 4 years before or between spawning events, but eventually migrate up the Sacramento River to spawn between late February and late July. The spawning period is March through July, with a peak from mid-April to mid-June. Juveniles migrate out to sea when they are 1 to 4 years old, becoming subadults once they enter marine waters. After outmigration from freshwater, green sturgeons are known to disperse widely in nearshore coastal waters from Mexico to the Bering Sea and are common occupants of bays and estuaries along the western coast of the United States. Adults and subadults typically forage within coastal estuaries such as the Columbia River estuary, Willapa Bay, Grays Harbor, and the Umpqua River estuary (Moser and Lindley 2007; Lindley et al. 2008, 2011; Schreier et al. 2016) during the summer and fall, and within coastal marine areas near Graves Harbor, Graham Island, and Vancouver Island in the winter and spring; although, individuals can potentially be found year-round throughout their range (Lindley et al. 2008). Optimal foraging depths range from 20 to 60 meters (Huff et al. 2011).

Green sturgeon were not documented within the Albion River during previous CDFW salmonid spawning and stream inventory surveys. The closest CNDDB detection of the southern DPS of green sturgeon is approximately 100 miles northwest of the project area in Humboldt Bay. Green sturgeon are only known to breed within the Sacramento River watershed, and adult and juvenile green sturgeon have not been documented, and are not anticipated to be present within, the Albion River or Albion Cove. However, while unlikely, there is the potential that adult and subadult green sturgeon could briefly enter Albion Cove to forage during their spring and fall migrations along the Pacific Coast and could potentially be observed year-round in the coastal waters west of the project area. The Albion River is not included as critical habitat for green sturgeon; however, the Aquatic Species BSA extends out into Albion Cove, which is included as marine critical habitat for the species.

Northern California Steelhead

The Northern California (NC) DPS of steelhead (*Oncorhynchus mykiss*) is listed as federally threatened. Their range spans from coastal river basins from Redwood Creek to the Russian River. Steelhead in the Albion River are winter-run fish (NMFS 2016) that enter coastal streams as sexually mature adults between November and February (Moyle 2002). Successful migration depends on rainfall or snowmelt and sufficient stream flow to provide suitable conditions to upstream spawning areas. Critical habitat for NC steelhead was designated in 2005. The PCE/PBFs identified at the time of designation were:

- Freshwater spawning sites with water quantity and quality conditions and substrate supporting spawning, incubation, and larval development.
- Freshwater rearing sites with:
    - Water quantity and floodplain connectivity to form and maintain physical habitat conditions and support juvenile growth and mobility, water quality and forage to support juvenile development, and natural cover such as shade, submerged and overhanging large wood, log jams and beaver dams, aquatic vegetation, large rocks and boulders, side channels, and undercut banks.
- Freshwater migration corridors free of obstruction and excessive predation with water quantity and quality conditions and natural cover to support juvenile and adult mobility and survival.
- Estuarine areas free of obstruction and excessive predation with:
    - Water quality, water quantity, and salinity conditions supporting juvenile and adult physiological transitions between fresh- and saltwater, natural cover such as submerged and overhanging large wood, aquatic vegetation, large rocks and boulders, side channels, and juvenile and adult forage (including aquatic invertebrates and fishes) supporting growth and maturation.

NC steelhead are born in freshwater streams with newly emerged fry generally occupying shallow waters along stream margins, whereas larger juveniles maintain

territories in faster and deeper water in pools or runs. Juvenile steelhead prefer streams with cool, clear, fast-flowing riffles, ample riparian cover and undercut banks, and abundant food (Moyle 2002). Optimal temperatures for growth vary depending on food availability but generally range from 50°F to 63°F (Moyle et al. 2008). Steelhead typically rear in streams or estuaries for 1 to 2 years before entering the ocean. Smoltification, the physiological process that enables juveniles to survive in the ocean, occurs in early spring. Peak downstream movements typically occur in April or May although young of the year have been reported to migrate to estuaries as early as February and as late as June (Moyle et al. 2008, pers. comm. Sarah Gallagher). While migrating toward the ocean, steelhead smolts may either head straight to the open ocean or stay in estuarine waters for up to nine months (Bond 2006). The role of the Albion River estuary for steelhead survival is rated fair.

CDFW spawning surveys upstream from the Aquatic Species Buffer have documented NC steelhead regularly within the Albion River since 2008. Adult abundance estimates have a high degree of variability from year to year with the highest adult abundance estimate of 182 documented during the 2012/2013 survey, and lowest abundance estimate of 0 during the 2016/2017 season. Additionally, CDFW documented approximately five young-of-the year and four juvenile steelhead in the 1+ age class in 2015 (CDFW 2015b). The Albion River within the project area is used by adult steelhead to access upstream spawning areas and by juvenile steelhead moving downstream to the ocean from upstream rearing areas. Based on CDFW survey data (including CDFW Stream Inventory Reports), the Albion River Watershed consistently supports a small population of steelhead and is thought to be an important watershed for preservation of the Northern California Coast DPS along the Mendocino Coast (CDFW 2016, pers. comm. Sarah Gallagher).

All aquatic habitat within Albion River is considered critical habitat for NC steelhead. This includes all areas below the high tide line of the river and incorporates 9.72 acres within the project BSA. Similar to that described for CCC coho above, the reach of the Albion River in the Aquatic Species BSA does not provide elements used by salmonids for spawning and does not provide high quality rearing habitat for juveniles; however, it does serve as a migratory corridor for both juveniles and adults, and the portion of the Aquatic Species BSA within Albion Cove may provide habitat for steelhead smolts for a short time prior to moving into offshore environments. PCEs may include eelgrass and riparian habitat.

Essential Fish Habitat

The project area includes both Essential Fish Habitat (EFH), which is protected under the MSA, as well as Habitat Areas of Particular Concern (HAPCs), which are discrete subsets of EFH. EFH includes waters and substrate necessary to fish for spawning, breeding, feeding, or growth to maturity, while HAPC are specific types of habitats that provide extremely important ecological functions or are especially vulnerable to degradation. The HAPC designation does not provide additional protection or restrictions upon an area but can help prioritize conservation efforts.

The proposed project occurs in EFH for various federally managed fish species within the Pacific Coast Salmon, Western Coastal Pelagic Species, Highly Migratory Species, and Pacific Groundfish Fishery Management Plans (FMPs).

In addition, there are four types of habitats classified as HAPC in the BSA, including seagrass habitat (e.g. eelgrass [*Zostera* sp.] and surfgrass [*Phyllospadix* sp.]), kelp beds (e.g., *Macrocystis* spp. and *Nereocystis* spp.), estuarine habitat, and rocky reefs. Seagrass, estuarine habitats, and kelp beds are considered HAPC for both Pacific Coast Salmon and Pacific Coast Groundfish species. Rocky reefs are HAPC for Pacific Coast Groundfish. There are no identified HAPC for Coastal pelagic species EFH or for highly migratory species EFH.

EFH and HAPCs are described in more detail below.

Essential Fish Habitat

Pacific Coast Salmon EFH

The Pacific Coast Salmon EFH includes the coastwide combination of all Chinook, coho, and pink salmon stocks and evolutionary units. The entire estuarine section and majority of the project Aquatic Species BSA is designated EFH for CCC Chinook salmon and CCC coho, which are discussed separately in sections above.

Western Coastal Pelagic Species EFH

Western Coastal Pelagic Species EFH includes species such as Pacific sardine, mackerel, northern anchovy, market squid, and krill that live in the water column between the surface and 3,281 feet (1,000 meters/547 fathoms) deep, typically above the continental shelf (NOAA 2023b). The EFH boundary for western coastal pelagic species includes all marine and estuarine waters from the shoreline along the coasts of California, Oregon, and Washington offshore to the limits of the Exclusive Economic Zone above the thermocline where sea surface temperatures range between 50°F to 79°F (10°C to 26°C) (NMFS 2024). Northern anchovy (*Engraulis mordax*) could occur within both the cove and upstream estuary and are known to make up a measurable component of eelgrass community assemblages in estuaries across the state (Sherman and DeBruyckere 2018). Therefore, the Aquatic Species BSA would encompass Coastal Pelagic Species EFH.

Highly Migratory Species EFH

Highly Migratory Species EFH includes species that travel long distances and often cross domestic and international boundaries, including tunas, sharks, swordfish, and billfish. EFH for highly migratory species includes temperate waters on the Pacific Coast. EFH boundaries depend on the species, but are generally limited to deep waters. However, the EFH for juvenile common thresher shark (*Alopias vulpinus*) includes shoreline habitats along the coast of California from depths of 36 feet (11 meters/9 fathoms) and deeper; this includes the westernmost extent of the Aquatic Species BSA.

Pacific Coast Groundfish EFH

Pacific Coast Groundfish EFH includes more than 90 different types of groundfish species, including flatfish, rockfish, sharks, and skates found off the West Coast. Pacific Coast Groundfish EFH includes all waters from the high tide line as well as parts of estuaries to 11,485 feet (3,500 meters) in depth to the upriver extent of saltwater intrusion (NOAA 2005), which is found along the entire California coastline. Due to the high saline nature of the lower Albion River estuary, particularly in the summer when freshwater flows are lowest, the entire Aquatic Species BSA would be considered Pacific Coast Groundfish EFH. Groundfish may move in and out of the Albion River with the tide and could be in the upstream extent of the Aquatic Species BSA as well as throughout the downstream extent within Albion Cove. Based on aquatic communities at the river mouth of a stream with similar conditions to those of the Albion River (Shaughnessy et al. 2017), the fish community within the Aquatic Species BSA may include species aligned with outer shore marine waters, such as rocky reef fish (e.g., cabezon, juvenile rockfish) and beach-sandy bottom fish like English sole.

Habitat Areas of Particular Concern

Seagrass Habitat

Seagrass habitat, including eelgrass and surfgrass, are HAPC for Pacific Coast salmon and Pacific Coast groundfish. In addition, eelgrass beds are considered SNCs, which are further described in Section 3.4.1, *Natural Communities*.

Seagrass habitats are known to have some of the highest primary productivity in the marine environment and provide a significant contribution to the marine and estuarine food webs. Additionally, eelgrass can increase habitat complexity and provide cover for juvenile fish as it forms a three-dimensional structure in an otherwise two-dimensional (sand or mud) environment.

CDFW mapped eelgrass along the Albion River in 2015 and 2022 (CDFW 2015a, 2022). Mapping included all tidal waters within the project BSA and continued over two miles upstream. Mapping indicates that the westernmost limit of eelgrass is located approximately 164.04 feet (50 meters) west of the Albion River Bridge, where it transitions from surfgrass habitat.

Eelgrass in the Albion River estuary has been noted as the most common aquatic plant found (White 1984) and the beds have been estimated over time to cover between 28 acres and over 30 acres within the estuary (Sherman and DeBruyckere 2018). The expansive eelgrass beds are unique to this watershed and can be attributed to unique hydrological features that are present in coastal plain estuaries.

Kelp Beds

Kelp beds, like seagrass, are also considered HAPC for various fish species within the Pacific Groundfish and Pacific Coast Salmon FMPs; they are also one of the most biodiverse and productive ecosystems in the world and provide habitat, food, and refuge to fish, invertebrates, birds, and mammal species.

Canopy kelp beds (bullwhip kelp–*Nereocystis luetkeana*) are present in the project vicinity. Data from 2002, which compiles data from several previous years of mapping, shows the maximum extent of kelp beds at approximately 1,705 feet (520 meters) from the mouth of the Albion River (CDFW 2023). Kelp are annual species, and their abundance, density, and distribution can fluctuate from year to year with changing climactic and ocean conditions. Therefore, despite low densities of kelp in the past decades, canopy kelp and associated marine organisms (such as groundfish and salmon) are considered to be present in the Aquatic Species BSA.

Estuaries

Estuaries are considered HAPC for both Pacific Coast salmon and Pacific Coast groundfish.

Estuaries tend to be shallow, protected, and nutrient rich, and are biologically productive, providing important habitat for marine organisms. The inland extent of the estuary HAPC is defined as the high tide line, or the upriver extent of saltwater intrusion.

During a coastal wetland survey, CDFW estimated that the Albion estuary contained approximately 100 acres of littoral (shoreline) habitat, including extensive areas of eelgrass beds, 11 acres of mud or sand flats, and over 60 acres of marsh. The estuarine habitat in the Aquatic Species BSA includes all portions of the Albion River to the high tide line; it is thought to be less productive than sites upstream due to the change in geomorphology that has occurred due to almost two centuries of anthropomorphic (human-related) disturbance and development.

Rocky Reefs

Rocky reefs, or rocky intertidal areas, are considered HAPC for Pacific Coast groundfish. Rocky reefs include those waters, substrates, and other biogenic features (i.e., features produced by living organisms or by a biological process; essential for maintenance of life) associated with hard substrates below the mean higher high water.

Rocky intertidal areas are common on the Mendocino Coast. They occur on a narrow strip of land between the lowest and highest tide elevations and are of considerable importance to marine life, including functioning as refuges or “nurseries” for juvenile and smaller fish in addition to providing surface area for colonization of algae and invertebrates. The rocky intertidal is home to plants, invertebrates, and fish during high tides. Nearshore rocky reefs are completely submerged, but still receive enough light for photosynthesis. They are inhabited by algae, invertebrates, and groundfish.

The closest mapped and designated rocky reef HAPC areas are located approximately 7.7 miles north of the project area just offshore from Point Cabrillo and 13 miles southwest and further offshore opposite the town of Manchester, adjacent to Point Arena (NOAA 2023a). No surveys were done within Albion Cove and there is no data on smaller occurrences of rocky reef habitats within the project area, and in particular within the Aquatic Species BSA. Therefore, it is assumed that rocky substrates within the BSA are rocky reef habitats, characterized by typical intertidal species assemblages, including algae, nearshore groundfish species or juvenile groundfish, and crab species. Rocky substrates are found within Albion Cove and at the base of the south bank west of the bridge.

Environmental Consequences

Build Alternatives

Construction Impacts

Plant Species

Howell's spineflower and Menzies' wallflower were not documented within or adjacent to the project BSA during floristic surveys conducted for the project. Therefore, proposed construction activities would not be expected to impact these species directly or indirectly.

Under FESA, it has been determined the proposed project would have ***"no effect"*** on Howell's spineflower and Menzies' wallflower and, under CESA, there would be ***no "take"*** of these species.

Lotis Blue Butterfly and Behren's Silverspot Butterfly

Neither lotis blue butterfly or Behren's silverspot butterfly were detected in surveys conducted in 2014, 2015, 2020, and 2021. Considering this in combination with historic survey results at other locations in Mendocino County for both species, it is unlikely that either butterfly would occur within the project area.

However, the Butterfly BSA does support over approximately 13.49 acres of presumed larval host plant (harlequin lotus) habitat for the lotis blue butterfly, with over 3,178 plants, and the Butterfly BSA also supports two occurrences of the Behren's silverspot butterfly larval host plant (early blue violet), with approximately 0.02 acre in size that ranged from approximately 60 scattered plants (2020/2021) up to a more scattered and abundant group of 300 plants (2023) in the Butterfly BSA (Figure 82).

It is anticipated that the project would have temporary impacts on approximately 0.650 acre (with approximately 175 individuals) of lotis blue butterfly larval host plant for all Build Alternatives, primarily associated with staging areas (Figure 80 and Figure 81 in Section 3.4.3, *Plant Species*). When taken in comparison with the total estimated population, temporary impacts would only be on a small fraction of this locally abundant plant; the majority of available plants would be avoided during construction.

For Behren's silverspot butterfly, only one of the two patches is within the ESL. However, this patch is approximately 30 feet east of the closest cut/fill boundary for any alternative. Therefore, no impacts are anticipated to Behren's silverspot butterfly host plant habitat under any Build Alternative.

Standard measures outlined in Section 2.2.5, *Common Design Features of the Build Alternatives*, would minimize impacts for lotis blue butterfly, and protect habitat for both lotis blue butterfly and Behren's silverspot butterfly for all Build Alternatives. Applicable standard measures include **BR-2** through **BR-4**, which involve placement of THVF fencing to limit the extent of ground disturbance, revegetation of temporarily disturbed areas, pre-construction surveys for special status butterflies, and renewed floristic surveys, including for butterfly host plants.

While the impacts to larval host plants for lotis blue butterfly are temporary and would only affect a small fraction of what is available in the vicinity, there is still the potential that lotis blue butterfly habitat may be affected. In addition, while this species has not been observed in Mendocino County since 1983 and are not anticipated to be present within the Butterfly BSA, the density of the larval host plant within the Butterfly Buffer suggests the area could be ideal for breeding if the species were to occur. As such, under FESA, it is anticipated that the project ***may affect, but is not likely to adversely affect*** lotis blue butterfly for all Build Alternatives, pending consultation with USFWS.

Since all impacts to Behren's silverspot butterfly larval host plants would be avoided during construction for all Build Alternatives, impacts to floral resources are relatively minor, and negative past survey data for the species, under FESA, it is anticipated the project would have ***no effect*** on Behren's silverspot butterfly.

Leatherback Sea Turtle

While leatherback sea turtles have the potential to occur within the deeper waters of Albion Cove and further off the coast in the Pacific Ocean where their prey may be found, they are not anticipated to occur within the ESL during construction. Therefore, none of the Build Alternatives are anticipated to directly impact leatherback sea turtle, restrict its passage, or directly impact its foraging habitat. In addition, any water quality impacts within the project footprint are not anticipated to affect individual turtles or accumulate to reduce prey availability or visibility within Albion Cove.

However, all Build Alternatives would have the potential to result in hydroacoustic impacts from pile driving and bridge removal activities that would extend throughout the Aquatic Species BSA; the shape of Albion Cove is anticipated to confine the transmission of underwater sound within its boundaries.

Table 62 provides the permanent threshold shift (PTS) (injury threshold) and temporary threshold shift (TTS) (behavioral threshold) for sea turtles from NMFS (NMFS 2023).

Table 62. Summary of Permanent Threshold Shift and Temporary Threshold Shift Onset Thresholds for Sea Turtles

Threshold	Peak Sound Pressure Level	Cumulative Sound Exposure Level (SEL_{cum})
PTS Onset for Impulsive Sources	232 dB	204 dB
PTS Onset for Non-Impulsive Sources	–	220dB
TTS Onset for Impulsive Sources	226 dB	189 dB
TTS Onset for Non-Impulsive Sources	–	200 dB

Source: NMFS 2023

dB = decibel

The hydroacoustic model does not calculate threshold isopleths (effect distances) specifically for the above criteria. However, the highest potential for elevated underwater sound to reach peak sound pressure levels that exceed PTS thresholds for sea turtles would be restricted to the shallow areas of the Albion River mouth and the portion of the Albion Cove closest to the river mouth.

While data on behavioral reactions of sea turtles to sound sources are limited, underwater sound could potentially elicit a behavioral response within a large isopleth area. Furthermore, cumulative sound exposure levels could accumulate to injury levels within a much larger isopleth than what would be expected for peak sound pressure levels and could potentially extend throughout the confines of Albion Cove within the Aquatic Species BSA.

Standard measures and BMPs outlined in Section 2.2.5, *Common Design Features of the Build Alternatives*, such as hydroacoustic monitoring and the use of attenuation devices during pile driving within the Albion River (below high tide line) would reduce the hydroacoustic impact threshold isopleths in marine waters (Standard Measure **BR-2[F]**), and a biological monitor would be present for in-water construction activities that could impact sensitive biological resources like leatherback sea turtle (Standard Measure **BR-2[F]**). Additional standard measures would protect water quality (Standard Measures **WQ-1** and **WQ-2**) and minimize the use of artificial lighting (Standard Measure **BR-2[I]**), which would prevent impacting the leatherback sea turtle's ability to navigate, if present.

In addition to the standard measures, Measure **AMM-BR-6** would be implemented, which requires a Marine Animal Monitoring Plan (MAMP) for all construction activities that have the potential to produce underwater sound (bridge removal, vibratory pile installation, or percussive pile driving). Adaptive measures, such as defining safety zones for species would be included. No activities that could produce underwater sound would be initiated if a leatherback sea turtle was present within its safety zone, and activities would be halted if it entered that area.

While unlikely, if foraging leatherback sea turtle were to enter Albion Cove during pile driving or bridge demolition for any of the Build Alternatives, they could be affected by underwater noise. Therefore, under FESA, it is anticipated that the project ***may affect, but is not likely to adversely affect*** the leatherback sea turtle, pending consultation with NMFS. As there is no critical habitat within the Aquatic Species BSA, the project would have ***no effect*** on leatherback sea turtle critical habitat.

Bald Eagle

The bald eagle may forage or nest in the Raptor BSA. All Build Alternatives would directly or indirectly impact potential foraging and marginal nesting habitat for the bald eagle. This includes direct impacts resulting from vegetation disturbance or removal during bridge construction and removal, access road construction, and equipment staging. There is a low likelihood of visual and acoustic impacts to bald eagles due to the existing noise levels that SR 1 experiences, the regular visual disturbance of traffic, and the availability of higher quality habitat outside the project area, including the cliffs and conifer habitat adjacent to the Pacific Ocean.

Due to the minimal amount of marginal nesting habitat that would be removed as part of the proposed alternatives, the temporary nature of the project, and the implementation of standard measures, including conducting pre-construction raptor surveys and implementing appropriate conservation measures if raptor nests are identified (Standard Measure **BR-2**), impacts to bald eagles are anticipated to be minimal for any of the proposed alternatives. The replacement of the Albion River Bridge with a new bridge structure would make this loss of habitat negligible as new potential platforms would result from construction of the new bridge piers.

Bald eagles have never been recorded nesting within the Raptor BSA or anywhere in the vicinity. In addition, standard measures, discussed above, would be implemented to avoid impact to nesting bald eagle. Therefore, under CESA, the project would have ***no "take"*** of bald eagle.

Marbled Murrelet

Given there is no suitable nesting habitat within the project area, none of the project Build Alternatives would have direct impacts to nesting marbled murrelets or marbled murrelet habitat. The USFWS Guidance*, Estimating the Effects of Auditory and Visual Disturbance to Northern Spotted Owl and Marbled Murrelets in Northwestern California* (USFWS 2020), was used to assess the potential for indirect effects stemming from project-related auditory and visual impacts on marbled murrelet. A comparison was made between the ambient sound level and the sound level a nesting marbled murrelet would be subjected to as a result of project-generated noise. The ambient (existing) pre-project sound level is estimated as moderate (typically 71 to 80 decibels [dB]) or high (81 to 90 dB) during the summer months. The majority of project-generated noise is estimated to be high (typically 81 to 90 dB), though there is potential for some activities (specifically impact pile driving and hoe-ramming) to reach the very high category (typically 91 to 100 dB) and the low end of the extreme category (101 dB) for brief

periods (USFWS 2020). Basing the harassment distance conservatively with an ambient noise estimation of moderate and construction noise level of extreme, the estimated harassment distance due to project-generated sound levels is 0.25 mile from the source.

The edge of the nearest suitable marbled murrelet nesting habitat occurs approximately 0.26 mile from the proposed bridge alignment for Alternative 2, which is beyond the furthest east extent that the very high to extreme noise levels of pile driving activities would be expected to reach. Because the suitable habitat lies more than 0.25 mile away from the noise source, harassment of nesting marbled murrelets due to project-related noise is not anticipated under any Build Alternative. Most construction activities, particularly those associated with bridge removal, earthwork and paving, fall within the high noise category with an estimated auditory harassment distance of 165 feet, which would not reach suitable marbled murrelet habitat.

Human activities within a visual line-of-sight distance of 328 feet or less from a nest may cause disturbance of marbled murrelets reaching the level of harassment (USFWS 2020). Visual proximity of human activities for this project would be closest at the proposed staging areas on the northeast side of the bridge, which are located approximately 900 feet away from the nearest potential marbled murrelet nesting habitat. In addition, the project area at this location is limited to the open areas of disturbed grassland where vehicles and residences are already located. Thus, no visual disturbance to nesting marbled murrelets is expected from project activities.

As diving seabirds, marbled murrelets spend a significant and repeated time below water during foraging attempts, which may expose foraging birds to sudden or prolonged increases in underwater transmission of anthropogenic (human-made) noise and could result in behavioral or physical responses. In particular, percussive actions during construction such as pile driving could affect foraging murrelets by changing important foraging behaviors, causing stress, causing temporary or permanent hearing loss, or potentially causing physiological stress or injury (U.S. Department of the Navy 2013, 2015).

Underwater noise thresholds for auditory injury, non-auditory injury, and behavioral response for marbled murrelet are presented in Table 63. Table 64 provides the estimated distance to these thresholds for each design option. Underwater noise is anticipated from installing falsework, equipment trestles and permanent pier foundations, as well as removal of the existing bridge, which includes two piers in the water.

Table 63. USFWS Underwater Noise Thresholds for Marbled Murrelet

Effects Type	Threshold
Auditory Injury (cochlear hair loss, recoverable)	202 dB SEL_{cum} [1]
Non-Auditory Injury (barotrauma, significant injury)	208 dB SEL_{cum}
Behavioral Response	150 dB_{RMS} [2]

Source: (Caltrans 2024)

[1]Cumulative sound exposure level (SEL_{cum}) is the cumulative amount of exposure for a single pile driving event within a 24-hour period.

[2]Root mean square (RMS) is equal to the square root of the mean square of a single pile driving impulse pressure event.

Table 64. Estimated Distance to Interim Injury Criteria for Marbled Murrelet

Bridge Design Option	Scenario	Distance to 202 dB SEL_{cum} Criteria (m)	Distance to 208 dB SEL_{cum} Criteria (m)	Distance to 150 dB_{RMS} Behavioral Criteria (m)[1]
All	14-inch Steel Pipe Piles in Water	12	<10	398
All	30-inch Steel Pipe Piles in Water	16	<10	1,000
1A	36-inch CISS Piles in Water	50	20	3,415
1A, 2A	36-inch CISS Piles on Land 25 feet to 100 feet from Water	17	<10	2,154
1A, 1B, 2B	36-inch CISS Piles on Land 130 feet to 180 feet from Water	<10	<10	501
3A	60-inch CISS Piles in Water	245	97	4,642
3A	60-inch CISS Piles on Land ±50 feet from Water	142	57	3,663
All	Hoe Ram	31	12	1,166

Source: (Caltrans 2024)

*Assuming Attenuation for all pile driving below high tide line

[1] Distances would be limited to 1,320 feet (400 meters) upstream and 3,937 feet (1,200) meters into the cove due to obstructions.

Db = decibels; CISS = cast-in-steel-shell; RMS = Root mean square; SEL_{cum} = cumulative sound exposure level

Construction of Design Options 1A and 3A have the greatest potential to exceed the auditory injury threshold (202 dB SEL_{cum}), as the distance to this threshold could extend up to a maximum of 164 feet (50 meters) and 804 feet (245 meters), respectively. However, the cove waters within several hundred feet of the proposed pile locations are very shallow and would not be considered normal foraging habitat for marbled murrelet. In addition, high potential for hydroacoustic noise coincides with high periods of human activity and general construction noise, and marbled murrelets are likely to avoid foraging close to areas of high airborne noise. Therefore, the potential for any design option except Design Option 3A to produce elevated sounds that could cause cumulative injury and that actually reach foraging marbled murrelet would be very low.

Because the isopleths (effect distances) for the non-auditory injury threshold (208 dB SEL_{cum}) calculated for Design Option 3A could extend up to 318 feet (97 meters), past the shallowest waters of the cove, installation of the large 60-inch CISS piles below the high tide line could potentially cause significant injury to non-auditory physiology of murrelets if birds were to forage close enough to the proposed southern footing. The other design options (1A, 1B, 2A, and 2B) are not anticipated to result in potential for non-auditory injury as isopleths are not anticipated to extend beyond the shallow areas of the cove.

Given there would be no potential nest disturbance with this project, lack of suitable nesting habitat within the Raptor BSA, and because foraging murrelets have been very rarely observed in marine waters near the Albion River and are therefore unlikely to be foraging both in the project area and within range of hydroacoustic sound impacts, it is unlikely that there would be any impacts to the species. However, if marbled murrelet were to forage within Albion Cove, they could be within the auditory and non-auditory isopleths for Design Option 3A, and behavioral isopleths for most design options and pile driving scenarios, including demolition activities.

Standard measures outlined in Section 2.2.5, *Common Design Features of the Build Alternatives*, would be implemented as part of the project, which would reduce impacts. These measures include the requirement for use of sound attenuation devices to minimize transmission of underwater sound and hydroacoustic monitoring (Standard Measure **BR-2[F]**), having a biological monitor for in-stream construction activities that may affect sensitive biological receptors like marbled murrelet (Standard Measure **BR-2[G]**) and BMPs to protect water quality (Standard Measures **WQ-1** and **WQ-2**). In addition, a Marine Animal Monitoring Plan would be developed (Measure **AMM-BR-6**) and would include requirements for a biological monitor and restrictions for if a marbled murrelet were to enter an area in which it could be affected by hydroacoustic impacts.

Under FESA, it is anticipated that the Build Alternatives ***may affect, but are not likely to adversely affect*** foraging marbled murrelet, pending consultation with USFWS. There is no critical habitat in the project area; therefore, the Build Alternatives would have ***no effect*** on designated critical habitat for the species.

Under CESA, due to the low likelihood of presence, particularly in the shallow waters within the injury isopleths, and the use of the measures discussed above, the project is anticipated to have ***no "take"*** of marbled murrelets.

Marine Mammals

Construction of the proposed project has the potential to affect humpback whales and southern resident killer whales within Albion Cove, including from effects to water quality, visual disturbances, and underwater noise; airborne noise is not anticipated to affect these species. As potential are similar to those for non-listed marine mammals only a brief summary is provided below; see Section 3.4.4, *Animal Species,* for more details.

Juvenile humpback whales are known to forage close to shore and may be present during the summer, when in-water project activities would occur. If a humpback whale were to enter the cove during pile driving activities for any Build Alternative, it would be subject to temporary behavioral disruption (Level B harassment) and, for Design Option 3A, to cumulative injury thresholds (Level A harassment) due to hydroacoustic impacts. Therefore, while it is unlikely for humpback whale to enter the cove, and standard measures and species-specific measures (Measure **AMM-BR-6**; implementation of a Marine Animal Monitoring Plan) would minimize effects, because there is potential, per FESA, it is anticipated that all Build Alternatives ***may affect, and are likely to adversely affect*** humpback whale. As critical habitat for humpback whale is located offshore, out of the area of potential water quality impacts, the project would have ***no effect*** on humpback whale critical habitat. Under the MMPA, the project **may *"take"*** humpback whale.

While southern resident killer whale has the potential to be within the Aquatic Species BSA, it has not been observed in the vicinity of Albion Cove and would only be expected off California shores in the winter months, when no in-water impacts are anticipated. Therefore, no visual disturbances or hydroacoustic impacts are anticipated on this species. However, critical habitat for killer whale is present within the western portion of the project BSA, which may be exposed to minor and temporary impacts, such as temporary effects to water quality. Based on the above, per FESA, it is anticipated that all Build Alternatives would have ***no effect*** on southern resident killer whale, but all alternatives ***may affect, are not likely to adversely affect*** its critical habitat. The project would have ***no "take"*** of southern resident killer whale under the MMPA.

Caltrans would consult with NMFS under FESA and the MMPA for both the humpback whale and the southern resident killer whale. Under the MMPA, Caltrans would apply for the appropriate incidental take authorization (i.e., IHA or LOA) following selection of a preferred alternative.

Chinook Salmon, California Coastal ESU

Construction activities within and adjacent to the Albion River such as bridge construction, pile driving, and bridge removal would take place between June 15 and October 15, avoiding the primary migration periods of Chinook salmon (with adults migrating upstream November to January and juveniles migrating downstream March through early June). However, while it is unlikely that juvenile or adult fish would stay within the immediate project vicinity due to the lack of riparian habitat, pools, cut banks, and in-stream complexity, juvenile Chinook may transit through the project area during the early summer months, overlapping the beginning of the summer construction window, and thus could be exposed to in-water or nearshore construction activities. Under all Build Alternatives, Chinook salmon, if present, could be affected by potential water quality changes, noise and visual disturbance including hydroacoustic noise from pile driving and bridge removal, direct injury, fish passage, and habitat impacts. These effects are described in more detail below.

Water Quality–Turbidity

Potential water quality impacts for all Build Alternatives are due to activities such as vegetation removal, staging, access, construction and removal of piers and abutments, as well as in-water activities such as temporary pile installation and pier removal, in-water staging such as installation of cofferdams, and other construction activities that may take place below the high tide line.

In general, increases in turbidity or sedimentation due to stormwater runoff or in-water activities have the potential to decrease survivorship of salmonids like CC Chinook salmon due to an increase in sedimentation (water quality). This can lead to a loss or reduction of foraging capability, reduced growth, reduced resistance to disease, displacement of species from established territories, and potential stimulation of downstream migration. The effects of suspended sediments may be sub-lethal or lethal and are generally correlated to the concentration of sediment within the water column. The sub-lethal effects of turbidity generally include avoidance and dispersion, reduced feeding and growth, respiratory impairment, reduced tolerance to disease and toxicants, and physiological stress.

All Build Alternatives would use standard measures and BMPs outlined in Section 2.2.5, *Common Design Features of the Build Alternatives,* such as Standard Measures **WQ-1** and **WQ-2**, to protect water quality. The concentration of suspended sediment and duration of exposure to adults and juvenile salmonids would be expected to be low and below the thresholds for physiological stress. In addition, the total volume of suspended sediment generated by construction activities is not expected to cause substantial sediment deposition, with sediments likely to move downstream into the open ocean. Small numbers of juvenile Chinook salmon that may be exposed to elevated turbidity and suspended sediment immediately down or upstream (depending on tidal direction) of in-water construction activities may be forced to move away from cover and seek suitable habitat upstream or downstream of these areas. The exact number of fish affected cannot be estimated, but any disruptions in normal activities would be highly

transient and temporary and unlikely to decrease the fitness of individual Chinook salmon.

Water Quality–Contaminants

Construction activities that involve the storage, use, or discharge of toxic and other harmful substances near streams and other water bodies (or in areas that drain to them) can result in contamination of water bodies and adverse effects on fish and other aquatic organisms. The operation of heavy equipment, drilling rigs, cranes, and other construction equipment can also result in accidental spills and leakage of fuel, lubricants, hydraulic fluids, and coolants. Other sources of potential contaminants during construction activities include wet concrete, asphalt, and discharges from vehicle and concrete washout facilities.

Under all Build Alternatives, the potential sources of contaminants into the Albion River would primarily include refueling and staging of trucks and heavy equipment within the project ESL (including embankments on the south and north sides) and construction equipment that would be operating from the temporary work trestles above the Albion River year-round. Additionally, turbidity and pollutants associated with “green” concrete (concrete that has cured for less than 24 hours) could potentially contaminate the Albion River. If an accidental spill should occur, there would be a localized, temporary impact to water quality. The potential magnitude of biological effects resulting from the accidental discharge of contaminants depends on numerous factors, including, but not limited to, the proximity of the discharge to water bodies; the type, amount, concentration, and solubility of the contaminant; and the timing and duration of the discharge. The accidental introduction of chemical contamination can alter fecundity, impact survival and growth rates, increase disease, shift biotic communities, and reduce the overall health of migrating salmon and other aquatic species. The level of effect depends on species and life stage sensitivity, duration and frequency of exposure, condition or health of individuals, and physical or chemical properties of the water (e.g., temperature, dissolved oxygen).

The potential exposure of fish to contaminants and other harmful substances would be avoided or minimized through implementation of the project features, standard measures, and BMPs described in Section 2.2.5, *Common Design Features of the Build Alternatives,* such as Standard Measures **WQ-1** and **WQ-2**. Caltrans would require the construction contractor to prepare and implement a Storm Water Pollution Prevention Plan and other construction site BMPs to control stormwater discharges and potential discharges of pollutants into the Albion River or the nearshore marine environment. These BMPs are designed to avoid and minimize the potential for accidental spills, minimize the extent and potential effects of accidental spills, and avoid and minimize the potential for contaminated runoff from waste materials. Implementation of the BMPs, in accordance with an approved Water Protection Plan and other requirements of the Caltrans Statewide National Pollutant Discharge Elimination System (NPDES) Permit, would substantially reduce or eliminate the potential for accidental spills or unintentional discharges of potentially hazardous materials to the Albion River, intermittent streams, wetlands, and drainage channels.

Contaminants generated by traffic due to wear of tires, brakes, and pavement, as well as exhaust emissions and fluid leaks deposited on impervious roadway surfaces, may be carried by stormwater runoff into receiving waters, resulting in chronic to acute effects on aquatic organisms depending on the concentration and duration of contaminant inputs. The existing impervious surface area of the bridge and highway infrastructure within the project limits is 4.67 acres. After construction, the increase in net new impervious surface for the project would be 1.23 acres for Design Options 1A, 1B, and 2B, 1.27 acres for Design Option 2B, and 1.34 acres for Design Option 3A. This increase in impervious surface area means less infiltration of water in areas adjacent to the roadway and more accumulated runoff; thereby leading to a slight increase in accumulated pollutants during winter precipitation events. Wetland fill within the project area could also potentially contribute to an increase in peak flow and higher runoff volumes that can lead to channel scouring and bank erosion that, in turn, can increase sedimentation and turbidity in receiving waters. Wetland fill can also lead to decreased storage capacity and outflow efficiency, thereby negatively affecting floodplain processes that are important for salmonids.

To accommodate increases in stormwater discharge resulting from the additional impervious area, the existing roadway and bridge drainage systems would be modified to provide adequate interception and treatment of stormwater discharges, thereby reducing contaminant levels in stormwater runoff that would eventually infiltrate into the watershed and the marine environment. During construction, existing vegetated areas would be maintained to the maximum extent practicable, and new slopes and temporarily disturbed areas would be stabilized using erosion control products and vegetation planting. Additionally, removal of the existing bridge would bring the south bridge foundation that is currently within the high tide line of the Albion River below grade, and the subsequent new bridge foundations would be located further away from the waterway. This would help to reduce the amount of impervious surface directly adjacent to the waterway. Changes in peak stormwater runoff rates for all Build Alternatives would be offset through permanent design measures such as directing flows through vegetated swales. As such, there would be no detectable change in peak flow or runoff volumes, no decrease in capacity of existing drainage systems, and no substantial change in existing drainage patterns or encroachment of channel flow. After construction, all stormwater conveyance systems and permanent erosion control and stormwater treatment measures would be maintained in compliance with Caltrans' Storm Water Management Program.

With implementation of seasonal restrictions for in-channel work and the standard pollution prevention and control measures identified in Section 2.2.5, *Common Design Features of the Build Alternatives*, in addition to project-specific construction and design measures to control turbidity and stormwater discharges and minimize contaminant inputs, degradation of water quality from construction-related spills is unlikely and any potential risk to individuals or critical habitat of CC Chinook salmon and other aquatic species in the project area would be minimized. Potential effects would likely be limited to temporary displacement (i.e., avoidance) and re-distribution of salmonids immediately downstream or upstream of work areas in response to brief periods of elevated turbidity

and suspended sediment associated with channel-disturbing activities. In addition, no measurable long-term increases in pollutant loading from roadway runoff over the existing condition is expected, as the new bridge would not result in added vehicle trips across the Albion River Bridge and existing roadway and bridge drainage systems would be modified to accommodate the expected increases in stormwater discharge resulting from the additional impervious area.

Noise and Visual Disturbance

For all project alternatives, general construction activities may cause a behavioral response in CC Chinook from noise and visual disturbance during the in-stream work period of June 15 to October 15.

Visual disturbances could result from activities such as partial shading from temporary structures or from the use of artificial nighttime light. Visual disturbances may temporarily harass fish, disrupt or delay normal activities, or increase potential exposure or vulnerability to predators. The potential magnitude of effects depends on a number of factors including the alternative selected, type and intensity of the disturbance, proximity of the action to the water body, timing of actions relative to the occurrence of sensitive life stages, and frequency and duration of activities. For instance, Design Option 3A would be anticipated to have the highest magnitude of visual effect, as construction activities are anticipated to occur over 5 years rather than the 3 years estimated for the other design options. The visual effect on fish would be limited to avoidance behavior in response to movements, noises, and shadows caused by construction personnel and equipment operating in or adjacent to the water body under all Build Alternatives.

Impact noise from activities, such as pile driving, hydraulic hoe-ramming, and jackhammering conducted near or within the wetted channel could have the potential to adversely affect fish (including salmonids) through a broad range of behavioral, physiological, or physical effects (Popper and Hastings 2009). These effects may include behavioral responses, physiological stress, temporary and permanent hearing loss, tissue damage (auditory and non-auditory), and direct mortality depending on the intensity and duration of exposure. In salmonids, the presence of a swim bladder to maintain buoyancy increases their vulnerability to direct physical injury (i.e., tissue and organ damage) from underwater noise (Hastings and Popper 2005). Underwater noise may also damage hearing organs that may temporarily affect hearing sensitivity, communication, and ability to detect predators or prey (Popper and Hastings 2009). Underwater noise may also cause behavioral effects (e.g., startle or avoidance responses) that can disrupt or alter normal activities (e.g., migration, holding, or feeding) or expose individuals to increased predation risk.

In general, among the construction activities likely to generate noise, the use of impact hammers for pile installation of temporary trestles, falsework, or bridge piers, and bridge removal poses the greatest risk to fish because the levels of underwater noise produced by impulsive types of sounds often reach levels of sufficient intensity to potentially injure or kill fish (Popper and Hastings 2009). Other pile driving methods such as vibratory, oscillatory, and drilling methods, generally produce more continuous, lower-energy

sounds below the thresholds associated with injury. There are currently no established noise thresholds associated with continuous sound waves, and vibratory and oscillation methods are generally considered effective measures for avoiding or minimizing the risk of injury to fish from pile-driving noise.

Factors that may influence the magnitude of effects include species, life stage, and size of fish, type and size of pile and hammer, frequency and duration of pile driving, site characteristics (e.g., depth), and distance of fish from the source. Dual interim criteria representing the acoustic thresholds associated with the onset of physiological effects in fish have been established to provide guidance for assessing the potential for injury resulting from pile-driving noise (Fisheries Hydroacoustic Working Group 2008) (Table 65).

Table 65. Interim Criteria for Assessing the Potential for Injury to Fish from Pile Driving

Interim Criteria	Agreement in Principle
Peak Sound Pressure Level (SPL)	206 dB (for all sizes of fish)
Cumulative Sound Exposure Level (SEL_{cum})	187 dB (for fish ≥2 grams) 183 dB (for fish < 2 grams)

Source: (Fisheries Hydroacoustic Working Group 2008)

These dual criteria for impact pile driving only are: (1) 206 dB for peak SPL and (2) 187 dB for SEL_{cum} for fish larger than 2 grams and 183 dB SEL_{cum} for fish smaller than 2 grams. The peak SPL threshold is considered the maximum sound pressure level a fish can receive from a single strike without injury. The cumulative SEL threshold is considered the total amount of acoustic energy a fish can receive from single or multiple strikes without injury. The cumulative SEL threshold is based on the total daily exposure of a fish to noise from sources that are discontinuous (in this case, noise that occurs up to 12 hours a day, with 12 hours between exposures). This presumes that fish can recover from any effects during this 12-hour period.

The potential for injury to fish from exposure to pile driving sounds was evaluated using a spreadsheet model developed by NMFS to calculate the distances from the pile that sound attenuates to below the peak or cumulative criteria. These distances define the area in which the criteria are anticipated to be exceeded and potentially result in injury of fish that may be present. This area is often referred to as the isopleth of impacts. To account for the exposure of fish to multiple pile driving strikes, the model computes a cumulative SEL for multiple strikes based on the single-strike SEL and the estimated number of strikes per day or the pile driving event. The NMFS spreadsheet also employs the concept of “effective quiet.” This assumes that cumulative exposure of fish to pile driving sounds of less than 150 dB SEL does not result in injury.

For consultation purposes, NMFS generally assumes that a noise level of 150 dB RMS is an appropriate threshold for behavioral effects.

Trestles

Temporary equipment, falsework, and/or bridge removal trestles would be necessary for equipment, materials, and/or construction-worker access to the existing bridge and the replacement bridge. Several pile installation methods are currently being proposed, including impact-driven, drilled, and vibratory methods. During construction, site-specific conditions may necessitate small modifications of the proposed trestles. For the purposes of this analysis, driven 30-inch steel pipe piles are assumed to be the preferred method. This method would potentially produce the greatest risk to salmonids, including Chinook salmon, and therefore the most conservative impacts are analyzed in this document. All proposed alternatives would require at least two temporary trestles.

Temporary trestle placement for all Build Alternatives would require a portion of the temporary trestle piles to be installed below the high tide line of the river mouth and Albion Cove. Temporary trestles may be left in place for the duration of the project to facilitate construction activities.

Permanent Bridge Foundations & Footings

Geotechnical investigations would be undertaken to confirm soil conditions and the depth of the underlaying rock, which would refine the preferred pile installation methods. It is anticipated that CIDH piles with rock socket or CISS piles could be used for bridge foundation construction. This analysis assumes that piles would be installed using a vibratory and an impact hammer. Design Options 1A and 3A would have one pier located within the high tide line of the Albion River along the southern bank, and noise impacts (for 36-inch CISS and 60-inch CISS, respectively) would be within the closest proximity to the Albion River for these two design options. For Design Options 1B and 2B, micropiles proposed for installation at the arch touchdowns would be installed on land using a drill rig, and no percussive noise is expected for these design options.

Cofferdams

Two- to three-foot-wide sheet piles would be used to construct cofferdams around the proposed permanent piers below high tide line and around new pier construction within the floodplain to isolate work from the active river channel and potential groundwater infiltration. The sheet piles would be vibrated into the river bottom or sand substrate and a seal course of concrete would be placed. The cofferdam would then be dewatered. Cofferdam placement would potentially be implemented for all proposed alternatives during construction of permanent footings. Negative effects to salmonids are anticipated to be minimal as a result of the low-energy sounds resulting from the vibratory methods.

Impulsive Noise

The primary source of bridge removal noise would be caused by operation of hoe rams to remove the concrete foundations of the current structure to three feet below finished grade. While typical hoe ram operations are quieter than impact pile driving operations, the duration of bridge removal activities and hoe ram operation have the potential to be much longer than the duration of a pile driving operation, and there is a potential to exceed the daily cumulative SEL criteria due to the large number of blows.

Table 66 shows the computed distances to the injury and behavioral thresholds for proposed pile driving at each proposed pile location and removal isopleths from the location of the southern existing bridge footing. The estimates given in Table 66 assume attenuation devices would be employed, and due to the uncertainty of the effectiveness of attenuation devices in shallow water, it was assumed that a maximum of 5 dB reduction could be achieved.

Dewatered cofferdams would provide attenuation during the construction of permanent piers in and immediately adjacent to surface waters for Design Options 1A and 3A, while insulated casings are anticipated to be effective measures to attenuate noise during installation of temporary trestle piles for all design options. Additionally, Table 66 only includes estimates for the 187 dB SEL_{cum} for fish of the larger size class, as salmonid smolts in the project area would be larger than 2 grams in this location and time period.

Table 66. Estimated Distance to Interim Injury Criteria from Impulsive Noise Source for Fish, with Attenuation

Scenario	Associated Bridge Replacement Options	Distance to 206 dB Peak Criteria (meters)	Distance to 187 dB SEL_{cum} Criteria (meters)	Distance to 150 dB RMS Behavioral Criteria (meters)
Pile Driving				
14-inch Steel Pipe Piles in Water	All	<10	86	398
30-inch Steel Pipe Piles in Water	All	<10	159	1,000
36-inch CISS Piles in Water	1A	10	499	3,415
36-inch CISS Piles on Land 25 feet to 100 feet from Water	1A, 2A	<10	170	2,154
36-inch CISS Piles on Land 130 feet to 180 feet from Water	1A, 1B, 2B	<10	73	501
60-inch CISS Piles in Water	3A	10	1,000	4,642
60-inch CISS Piles on Land ±50 feet from Water	3A	<10	580	3,663
Bridge Removal				
Hoe-Ram	All	<10	185	1,166

Source: (Caltrans 2024)

The in-water extent of noise levels exceeding the thresholds shown below represents the maximum isopleths (potential impact areas) that could occur during pile driving or removal. The actual isopleths would most likely be smaller based on the conservative assumptions described above and the presence of a significant channel bend at 1,312 feet (400 meters) upstream and interference from rocks and topography that would limit

potential isopleth distances downstream (west) to within Albion Cove – approximately 3,937 feet (1,200 meters) from the noise source. These maximum distances were used to define the Aquatic Species BSA (Figure 76).

All Build Alternatives could result in a disruption of behavior for fish due to potential hydroacoustic noise impacts that are expected to extend across all of the upstream Aquatic Species BSA and most of the western Aquatic Species BSA as a result of temporary trestle construction and bridge removal.

All Build Alternatives would also have noise impacts for placement of the demolition trestle, bridge removal activities, and permanent foundation installation; however, the potential hydroacoustic impacts to fish associated with permanent foundation installation varies considerably by Build Alternative. For example, the isopleth for the 187 dB SEL_{cum} for cumulative injury associated with permanent foundation installation for Design Option 2B, 240 feet (73 meters), is significantly smaller than that for other Build Alternatives. In comparison, pile driving for installation of the 60-inch CISS pile for Design Option 3A (with a pier below high tide line) could potentially accumulate to the 187 dB SEL_{cum} injury threshold within 3,281 feet (1,000 meters) of the pier on the southern river edge; this area would include the majority of Albion Cove and the entirety of the 1,312 feet (400 meters) upstream Aquatic Species BSA. Vibratory pile driving for items, such as cofferdam placement, would also be likely to elicit behavioral reactions from fish, such as temporary avoidance of the area; however, vibratory methods are unlikely to cause injuries to fish or have persistent effects on local fish populations.

Although construction activities would be scheduled to occur year-round, most of the noise-generating activities that would have potential to cause the greatest disturbance to fish would occur during the in-water construction season (June 15 to October 15), thereby avoiding the primary migration periods of adult and juvenile Chinook salmon in the project area and reducing the possibility that noise or visual impacts would increase the risk of exposure. Cofferdam placement would reduce the hydroacoustic impacts associated with bridge removal and insulated casings or bubble curtains would be used around driven piles in water to further attenuate hydroacoustic noise within the river channel and cove.

Standard measures, outlined in Section 2.2.5, *Common Design Features of Build Alternatives,* such as THVF fencing outside of the project footprint (Standard Measure **BR-4[C]**) and minimizing the use of artificial lighting to the minimum extent required by Cal/OSHA (Standard Measure **BR-2[I]**), would further minimize the visual effects on salmonids. All hydroacoustic activities would be monitored by a trained hydroacoustic specialist during all operations that have the potential to produce impulsive sound waves (to identify when abatement is necessary). In addition, a daily construction time limit (as determined by monitoring) may be required and would be included in the Hydroacoustic Monitoring Plan (Standard Measure **BR-2[F]**).

Direct Injury

Small numbers of juvenile salmonids could be injured or killed by direct contact with construction equipment or materials. However, this is highly unlikely for all Build Alternatives due to low probability of presence during construction work windows and the implementation of standard measures and BMPs outlined in Section 2.2.5, *Common Design Features of Build Alternatives*.

Dewatering at the edge of the active Albion River channel would be required after cofferdam installation around the existing southern pier and locations of new footings for Design Options 1A and 3A below high tide line. No dewatering is anticipated for the construction of Design Options 1B, 2A, and 2B. However, removal of the existing south pier would be required for all design options and may require minimal dewatering. Fish capture and relocation could be required for all proposed alternatives as part of the cofferdam installation if cofferdams are installed at high tide and cofferdams are placed within surface water; however, fish relocation could be avoided entirely if cofferdam installation for bridge removal and new pier construction were to occur at low tide or thereabouts. The existing footing and proposed pier locations are only partially below the high tide line, so the actual area of the active channel impacted would be minimal. Total maximum dewatered areas are estimated at 0.0360 acre of channel below high tide line for Design Option 1A, 0.0087 acre for Design Option 3A, and 0.0350 acre for bridge removal. If installation within the active channel is unavoidable, then fish relocation methods would be outlined as part of the Aquatic Species Relocation Plan (Standard Measure **BR-2[H]**). However, given the very small area and location at the edge of the channel, as well as low potential for fish to be present within this part of the ESL, it is not anticipated that any fish would be trapped and need relocation.

Fish Passage

While the new bridge design for the proposed replacement structure would span the deepest and fastest moving part of the river (thalweg) and the majority of the Albion River and would not influence fish passage, there would be the potential for temporary changes to fish passage resulting from installation of the temporary trestle and falsework. Temporary trestle placement within the river, which is proposed for all project alternatives, could potentially result in minor alterations to the physical and hydraulic conditions associated with temporary trestle piers in the channel and this may increase the vulnerability of Chinook juveniles to predators; however, any changes to hydraulics would be minor and within a very localized area of the temporary trestle piers (Caltrans 2020). For the purposes of this assessment, it is assumed that there could be a minimum of 25 feet between each equipment trestle and falsework bent. Both upstream migrating adults and out-migrating smolts would need to navigate around and through these materials, but they would have more than enough space to pass through the falsework and trestles within the channel habitat.

Potential adverse effects on juvenile Chinook salmon would be minimized by maximizing span lengths to the extent feasible for the temporary piles in the river and installing temporary piles during the in-water work period, thereby minimizing direct impacts to Chinook salmon during construction. Additionally, temporary piers would be placed on either side of the channel thalweg for all proposed design options.

Habitat Impacts

All Build Alternatives would result in minor temporary and permanent impacts within tidal waters, and riparian and eelgrass habitat along the south bank of the Albion River. For all Build Alternatives, temporary disturbances could result during construction of the southern abutment access road and retaining walls, piles for the temporary trestle and/or falsework placement within the Albion River, and from the new pier locations adjacent to the Albion River. Minor permanent impacts on habitat would result from the new bridge foundations for Design Options 1A and 3A. However, the addition of permanent fill below the high tide line for Design Options 1A and 3A (0.037 and 0.009 respectively) would be mostly offset by removing the existing concrete footing on the south bank, which would result in an increase in 0.032 acre of available in-stream habitat. Construction of Design Options 1B, 2A, and 2B would have only temporary impacts in the river channel and would result in a net gain in available in-stream channel habitat. These temporary and permanent impacts for all alternatives would be expected to have minimal effects on the function of the lower Albion River within the Aquatic Species BSA as a migratory corridor and the upstream estuary as a potential transitional rearing area for salmonids.

The Albion River within the Aquatic Species BSA is also designated critical habitat for CC Chinook salmon. The potential effects on critical habitat would be on a very small scale and temporary in nature. With the implementation of standard measures outlined in Section 2.2.5., project activities are unlikely to diminish the value of PCEs of CC Chinook critical habitat. While migratory pathways for salmonids would be temporarily impacted, there would be no changes from existing conditions in salinity, obstructions to passage, measurable changes to shade, primary productivity, or submerged in stream habitat or channel topography. Temporary reductions in riparian bank vegetation may result in minor reductions in allochthonous inputs (invertebrate prey, leaves, seeds, etc.) along a small stretch of channel within the ESL; however, the position of the channel at the river mouth and inflow of marine waters at this location indicates that allochthonous and riparian nutrient cycling typical of upstream habitats may not be the primary source of nutrients within the stream habitat at this location. The potential loss of inputs from upland habitats would be minimal, and post construction efforts to restore slope stability and revegetate slopes would further minimize this potential impact.

Conclusion

Based on the above assessment of effects, it is anticipated that, under FESA, all Build Alternatives ***may affect, and are likely to adversely affect*** CC Chinook salmon, pending consultation with NMFS, due to construction activities, including pile driving, removal of existing concrete piers, and temporary impacts to water quality within the Albion River channel and Albion Cove, where juvenile chinook may be present.

Critical habitat, specifically migration pathways, would be temporarily impacted; however, construction-related impacts are anticipated to be on a small scale relative to the amount of higher quality habitat found in the surrounding Albion River watershed. Therefore, under FESA, the Build Alternatives ***may affect, but are not likely to adversely affect*** CC Chinook designated critical habitat, pending consultation with NMFS.

Under FESA, consultation with NMFS would be required to address potential effects to CC Chinook salmon and designated critical habitat. Measure **AMM-BR-10** would be implemented for federally listed fish species such as CCC Chinook salmon to offset impacts. Potential options to offset effects include improving habitat complexity within the Albion River, or partially funding an important salmonid recovery project.

Coho Salmon, Central California Coast ESU

Construction activities within and adjacent to the Albion River, such as excavation, construction of access roads, installation of cofferdams, pile driving, and bridge removal would take place between June 15 and October 15, avoiding the primary migration periods of CCC coho within the project area (with adults migrating upstream November through January and juveniles migrating downstream February through early June). Activities that would be conducted outside of the active channel, such as construction of soldier pile walls from behind a cofferdam, or that would have limited potential to impact water quality or transmit high levels of underwater sound, are anticipated to occur year-round.

Due to the timing of in-water work and because juvenile coho migrate at night outside of typical construction hours, construction of the proposed project would be unlikely to have direct impacts on migrating juvenile coho salmon. No in-water construction work, including pile driving, bridge removal or earthwork at or below the high tide line, is proposed during the adult migration seasons and no impacts on adult coho are anticipated. However, smolts could be present within the nearshore waters of the Aquatic Species BSA and may move into the Albion River channel and during high tides; therefore, while unlikely that fish would stay in the shallow areas immediately adjacent to piles, low numbers of young coho salmon may be within the Aquatic Species BSA during summer proposed earthwork, pile driving and bridge removal activities. Therefore, under all Build Alternatives, coho salmon could be affected by potential water quality changes, noise and visual disturbance including hydroacoustic noise from pile driving and bridge removal, direct injury, and habitat impacts. These potential effects on the species and its critical habitat would be similar to those identified

for CC Chinook salmon. Effects are anticipated to be minimal due to low probability of presence of the species during construction work windows and the implementation of standard measures and BMPs outlined in Section 2.2.5, *Common Design Features of Build Alternatives.*

Under FESA, based on the above assessment of effects, while unlikely, it is anticipated that all Build Alternatives ***may affect, and are likely to adversely affect*** CCC coho, pending consultation with NMFS, due to construction activities including pile driving, removal of existing concrete piers, and temporary impacts to water quality during early summer when some remaining smolts may be present. Critical habitat would be temporarily impacted; however, construction-related impacts are anticipated to be on a small scale relative to the amount of higher quality habitat found in the surrounding Albion River watershed. Therefore, it is anticipated the Build Alternatives ***may affect, but are not likely to adversely affect*** CCC coho designated critical habitat, pending consultation with NMFS.

Under CESA, based on the above assessment of effects, it is anticipated that implementation of any project design alternative under consideration could conceivably result in ***"take***" of coho salmon due to the potential for underwater sound levels to reach cumulative injury thresholds within the Albion River channel and Albion Cove, where coho smolts may be present.

It is anticipated that consultation with NMFS under FESA would be required to address potential effects to CCC coho salmon and designated critical habitat and a Section 2080.1 Consistency Determination or Incidental Take Authorization with CDFW would also be needed. Measure **AMM-BR-10** would be implemented; this measure includes various potential options to compensate for impacts to species such as CCC coho salmon, including improving habitat complexity or partially funding an important salmonid recovery project.

Green Sturgeon, Southern DPS

As green sturgeon are not anticipated to enter the Albion River and would not be found within the construction footprint, potential impacts would be substantially reduced from those outlined for Chinook and coho salmon and would be similar to the impacts outlined for leatherback sea turtle.

For instance, as green sturgeon likely would only have the potential to occur within Albion Cove and further off the coast in the Pacific Ocean, impacts are not anticipated from direct injury, there would be no restrictions to fish passage, there would be no direct impacts to green sturgeon habitat (including critical habitat), and any water quality changes within the Albion River are not anticipated to affect individuals.

However, all Build Alternatives would have the potential for hydroacoustic impacts from pile driving and bridge removal. These impacts are expected to diminish further from the channel and ESL and into the deeper waters of Albion Cove within the Aquatic Species BSA where green sturgeon would be more likely to be found. In the event that green

sturgeon were to forage within the cove, it is possible that hydroacoustic thresholds would elicit a behavioral response and could reach the cumulative injury threshold of 187 dB SEL_{cum} (Table 66). The chances of green sturgeon being exposed to cumulative injury levels are much greater for Design Options 1A and 3A, which would require installation of 36-inch and 60-inch CISS piles below the high tide line, and therefore have the potential to reach further into the Aquatic Species BSA where green sturgeon would be likely to be foraging. However, any fish foraging within 521 feet (159 meters) of the river mouth, where temporary piles would be driven for all Build Alternatives, could potentially be exposed to elevated sounds that could accumulate to injury levels. Peak dB levels are anticipated to be restricted to the area immediately surrounding the pile driving locations (within 33 feet or less). Since the water depths are very shallow at the river mouth, green sturgeon are unlikely to be present and would not be subject to injury from instantaneous peak sound pressure levels.

The standard measures outlined in Section 2.2.5, *Common Design Features of the Build Alternatives*, such as attenuation measures for pile driving within the Albion River (Standard Measure **BR-2[F]**) and design features such as such as the placement of cofferdams would minimize the potential for hydroacoustic impacts. Additionally, measures such as THVF fencing outside of the project disturbance footprint (Standard Measure **BR-4[C]**) and minimizing the use of artificial lighting to the work area (Standard Measure **BR-2[I]**), would prevent visual effects on green sturgeon.

Under FESA, it is anticipated that all Build Alternatives ***may affect, and are likely to adversely affect*** green sturgeon, pending consultation with NMFS, due to potential for construction activities, such as pile driving and bridge removal, to produce underwater sounds that may accumulate to reach injury thresholds, as well as potential temporary impacts on water quality. Critical habitat would be temporarily impacted, but construction related impacts are anticipated to be on a small scale relative to the amount of high-quality habitat found in the surrounding environment. Therefore, it is anticipated that, under FESA, all Build Alternatives ***may affect, but are not likely to adversely affect*** designated critical habitat of southern DPS green sturgeon.

Northern California Steelhead

Construction activities within and adjacent to the Albion River, such as bridge construction, pile driving, and bridge removal would take place between June 15 and October 15, avoiding the primary migration periods of NC steelhead within the project area (with adults migrating upstream November through February and juveniles migrating downstream February through June). In addition, it is unlikely that juvenile or adult fish would stay within the immediate project vicinity due to the lack of riparian habitat, pools, cut banks, and in-stream complexity. However, because juvenile steelhead may transit through the project area during the early summer months, which overlaps the in-water construction period, and several age classes of steelhead are known to occur in the estuary further upstream during the summer months (pers. Comm. CDFW–Sarah Gallagher 2023), migrating juvenile steelhead could be exposed to in-water or nearshore construction activities during the summer construction window.

Under all Build Alternatives, steelhead, if present, could be affected by potential water quality changes; noise and visual disturbance—including hydroacoustic noise from pile driving and bridge removal—direct injury, and habitat impacts. These effects would be similar to those identified for CC Chinook salmon and CCC coho salmon.

Implementation of standard measures outlined in Section 2.2.5, *Common Design Features of Build Alternatives*, such as the requirement for hydroacoustic monitoring and use of acoustic attenuation devices during pile driving and demolition activities (Standard Measure **BR-2[F]**), preparation of an Aquatic Species Relocation Plan (Standard Measure **BR-2[H]**), and presence of a qualified biologist (Standard Measure **BR-2[G]**) would minimize potential impacts. Additionally, construction activities within and adjacent to the Albion River (such as bridge construction, pile driving, and demolition) would be restricted to the time period between June 15 and October 15 (Standard Measure **BR-2[K]**), avoiding the primary migration periods of NC steelhead within the project area.

Under FESA, it is anticipated that all Build Alternatives ***may affect, and are likely to adversely affect*** NC steelhead, pending consultation with NMFS, due to construction activities, including pile driving, removal of existing concrete piers, and temporary impacts to water quality. It is anticipated that the Build Alternatives ***may affect, but are not likely to adversely affect*** NC steelhead critical habitat under all Build Alternatives. It is anticipated that consultation with NMFS would be required to address potential effects to NC steelhead and its designated critical habitat. Measure **AMM-BR-10** would be implemented for federally listed fish species such as NC steelhead to offset impacts. Potential options to offset effects include improving habitat complexity within the Albion River, or partially funding an important salmonid recovery project.

Essential Fish Habitat

The Build Alternatives have the potential to affect EFH and associated HAPC, as described below.

Essential Fish Habitat

Some elements of EFH could be affected for all Build Alternatives through temporary water quality impacts as well as temporary noise disturbance and visual stressors to fish species within FMPs such that these temporary stressors may adversely affect the ecological functioning of EFH.

Water quality may be temporarily impaired due to short-term, localized increases in turbidity from activities that involve ground disturbance or by contaminants in roadway stormwater or accidental spills during construction which could potentially compromise safe passage conditions. However, standard measures and BMPs, described in Section 2.2.5, *Common Design Features of the Build Alternatives*, would be implemented to protect water quality. This includes Standard Measures **WQ-1** and **WQ-2**, which would minimize the magnitude and duration of any turbidity increases, provide for site stabilization post construction, and ensure proper handling and storage of contaminants to avoid accidental spills. In addition, potential adverse impacts to water quality as a

result of turbidity would be associated primarily with installation of temporary piles, permanent piles (for Design Options 1A and 3A), and installation of cofferdams, and these actions would be temporary and transient. Therefore, impacts to water quality, including from turbidity, would be localized, temporary, and minimal, and thus would only be anticipated to have minimal effects on Pacific Coast Salmon EFH, Pacific Coast Groundfish EFH, and Coastal Pelagic Species EFH; Highly Migratory Species EFH would not be affected, as water quality impacts would not be expected to reach the westernmost portion of the Aquatic Species BSA, where this EFH occurs.

Noise disturbance (e.g., vibration and percussive underwater noise from construction equipment) and visual stressors (e.g., artificial light, sudden movements) near or over watercourses during construction could affect cover/shelter and foraging potential for Pacific Coast salmon and Pacific Coast groundfish, and coastal pelagic species, as well as safe fish passage conditions for Pacific Coast salmon. Highly Migratory Species are not anticipated to be within the Albion River or the project BSA, but underwater sound disturbance from construction activities such as pile driving is anticipated to extend throughout the Aquatic Species BSA and therefore could temporarily impact foraging potential of species within the Highly Migratory Species FMP. With implementation of standard measures, such as Standard Measures **BR-2** and **BR-4**, which include installing THVF to protect sensitive areas, a limited operation period in water, and hydroacoustic monitoring, foraging potential and safe passage conditions would be restored to baseline levels upon completion of construction. Furthermore, species could find refuge in the adjacent and abundant available cover/shelter within surrounding areas of the cove, Pacific Ocean shoreline, and upstream within the Albion River estuary. As such, no measurable, long-term permanent impacts to waters, substrates, food production and availability, and cover conditions from construction activities would be expected; therefore, the project is not anticipated to result in a long-term reduction in Pacific Coast Salmon EFH, Pacific Coast Groundfish EFH, and Coastal Pelagic Species EFH, or Highly Migratory Species EFH.

Due to potential impacts, though minimal and temporary, Caltrans would consult with NMFS for EFH. Under the MSA, it is anticipated the project ***may adversely affect*** Pacific Coast Salmon EFH, Pacific Coast Groundfish EFH, Coastal Pelagic Species EFH, and Highly Migratory Species EFH for all design options, pending consultation.

Habitat Areas of Particular Concern

It is anticipated that the project may affect eelgrass beds, which are part of the seagrass HAPC. All Design Options other than Design Option 2A would include temporary impacts to eelgrass related to construction of temporary trestles, while only Design Option 1A would have permanent impacts associated with installation of permanent piles and a new bridge footing within the channel. In addition, all Build Alternatives may also have temporary indirect impacts to eelgrass related to hydrology and alluvial geomorphology, shading, and water quality and turbidity. See Section 3.4.1, *Natural Communities*, for more detail on potential impacts to eelgrass beds. Surfgrass is located to the west of the existing bridge but may intermix with eelgrass below and west of the bridge. Impacts would be similar to those of eelgrass, particularly on the western

alignment (Design Options 1A and 1B), which is closest to where this community is found. As discussed in Section 3.4.1, in addition to standard measures and BMPs, Measures **AMM-BR-2** and **AMM-BR-3**, among others, would minimize or avoid direct impacts and reduce potential turbidity impacts, and Measure **AMM-BR-8** would be implemented to ensure no net loss of eelgrass or surfgrass.

Kelp beds and rocky reefs are several hundred feet from the river mouth, and therefore would not be permanently impacted by the project. Pile driving into tidal waters of the river mouth for temporary trestles or installation of cofferdams may result in increased sediment transport into the nearshore environment, which could lead to a temporary reduction in water visibility. While this could cause short-term decreases in primary productivity of kelp and algal species, it is anticipated that sediment transport would be minor and transient, particularly due to the high percentage of sand rather than fine sediment in the area.

As the estuary HAPC contains eelgrass beds, impacts to eelgrass beds would apply to the estuary as well. However, as the estuary HAPC is more expansive than eelgrass, it has additional impacts associated with effects to tidal waters, to which all design options have temporary impacts, and Design Options 1A and 3A have permanent impacts. See Section 3.4.2, *Wetlands and Other Waters*, for more detail on impacts to tidal waters.

While all Build Alternatives could affect the various HAPCs within the project area, all Build Alternatives would also result in improved conditions within the estuary due to removal of the current structure, which is known to be leaching contaminants such as lead and arsenic into the area. Removal of the majority of the piers would increase available habitat and may improve the estuary function by creating more natural hydrological conditions.

Summary of FESA and CESA Conclusions

A summary of coordination with federal and state agencies conducted to date is included in Chapter 5, *Comments and Coordination.*

Preliminary effect findings under FESA for federally listed species and critical habitats potentially in the project area are summarized in Table 67. Anticipated take calls for state listed species under CESA are also included in the table. See the sections above for more information on potential effects to these species.

It is anticipated that Caltrans would prepare a Biological Assessment and initiate FESA Section 7 consultation with USFWS and NMFS for potential effects to listed species after a preferred alternative is selected. In addition, Caltrans would coordinate with CDFW to obtain a 2080.1 Consistency Determination or 2081 Incidental Take Permit for the one species with potential state take under CESA, CCC coho salmon.

Caltrans would also consult with NMFS under the MMPA for marine mammals, and the appropriate incidental take authorization (i.e., IHA or LOA) obtained, following selection of a preferred alternative. Additionally, Caltrans would consult with NMFS pursuant to

the MSA for EFH and associated HAPC. EFH include Pacific Coast Salmon EFH, Western Coastal Pelagic Species EFH, Highly Migratory Species EFH, and Pacific Groundfish Fishery EFH. Associated HAPCs include seagrass, kelp, estuaries, and rocky reefs. It is anticipated that the project ***may adversely affect*** EFH.

Table 67. Preliminary FESA and CESA Findings

Common and Scientific Name	Status[1] (federal/state)	FESA Effect Finding	FESA Effect Finding for Critical Habitat	CESA Take Call
Howell's spineflower *Chorizanthe howellii*	FE/ST	No Effect	N/A	No Take
Menzies' wallflower *Erysimum menziesii*	FE/SE	No Effect	N/A	No Take
Lotis blue butterfly *Plebejus [Lycaeides] anna lotis*	FE/--	May Affect, Not Likely to Adversely Affect	N/A	N/A
Behren's silverspot butterfly *Speyeria zerene behrensii*	FE/--	No Effect	N/A	N/A
Leatherback sea turtle *Dermochelys coriacea*	FE/SE	May Affect, Not Likely to Adversely Affect	No Effect (habitat absent)	No Take
Bald eagle *Haliaeetus leucocephalus*	DL/SE	N/A	N/A	No Take
Marbled murrelet *Brachyramphus marmoratus*	FT/SE	May Affect, Not Likely to Adversely Affect	No Effect (habitat absent)	No Take
Humpback whale *Megaptera novaeangliae*	FE/--	May Affect, Likely to Adversely Affect	No Effect (habitat absent)	N/A
Killer whale–Southern Resident Distinct Population Segment (DPS) *Orcinus orca*	FE/--	No Effect	May Affect, Not Likely to Adversely Affect	N/A
Chinook salmon–Central California Coast Evolutionarily Significant Unit (ESU) *Oncorhynchus tshawytscha*	FT/--	May Affect, Likely to Adversely Affect	May Affect, Not Likely to Adversely Affect	N/A
Coho salmon–Central California Coast ESU *Oncorhynchus kisutch*	FE/SE	May Affect, Likely to Adversely Affect	May Affect, Not Likely to Adversely Affect	Take
Green sturgeon–Southern DPS *Acipenser medirostris*	FT--	May Affect, Likely to Adversely Affect	May Affect, Not Likely to Adversely Affect	N/A
Steelhead – Northern California DPS-winter-run *Oncorhynchus mykiss irideus*	FT/--	May Affect, Likely to Adversely Affect	May Affect, Not Likely to Adversely Affect	N/A

[1]Status Definitions: FE = Federally Endangered; FT = Federally Threatened; DL = Delisted; SE = State Endangered; ST = State Threatened

The following are federally listed species and critical habitats identified as potentially occurring in the project vicinity based on database queries. However, none of these species have the potential to be in the project BSA or other relevant BSA (i.e., Raptor, Butterfly or, Aquatic Species) (Appendix L and Appendix M). As a result, under FESA, the project would have ***no effect*** on these threatened or endangered species or their critical habitats: Burke's goldfields (*Lasthenia burkei*), Contra Costa goldfields (*Lasthenia conjugens*), Monterey clover (*Trifolium trichocalyx*), two-forked clover (*Trifolium amoenum*), California red-legged frog (*Rana draytonii*), green sea turtle–East Pacific DPS (*Chelonia mydas*), Olive Ridley sea turtle (*Lepidochelys olivacea*), northwestern pond turtle (*Actinemys marmorata*), Hawaiian petrel (*Pterodroma sandwichensis*), northern spotted owl (*Strix occidentalis caurina*), short-tailed albatross (*Phoebastria albatrus*), western snowy plover–Pacific Coast DPS (*Charadrius nivosus*), yellow-billed cuckoo–Western U.S. DPS (*Coccyzus americanus occidentalis*), blue whale (*Balaenoptera musculus*), fin whale (*Balaenoptera physalus*), Guadalupe fur seal (*Arctocephalus townsendi*), North Pacific right whale (*Eubalaena japonica*), Pacific (Humboldt) marten–Coastal DPS (*Martes caurina*), Point Arena mountain beaver (*Aplodontia rufa nigra*), sei whale (*Balaenoptera borealis*), sperm whale (*Physeter macrocephalus*), and tidewater goby (*Eucyclogobius newberryi*).

The following state listed or state candidate species were identified as potentially occurring in the project vicinity based on database queries. However, none of these species have the potential to be in the project BSA or other relevant BSA (i.e., Raptor, Butterfly or, Aquatic Species) (Appendix L and Appendix M). As a result, under CESA, the project would have **no *"take"*** of the following: Burke's goldfields (*Lasthenia burkei*), Humboldt County milk-vetch (*Astragalus agnicidus*), Monterey clover (*Trifolium trichocalyx*), western bumble bee (*Bombus occidentalis*), little willow flycatcher (*Empidonax traillii brewsteri*), northern spotted owl (*Strix occidentalis caurina*), yellow-billed cuckoo–Western U.S. DPS (*Coccyzus americanus occidentalis*), Guadalupe fur seal (*Arctocephalus townsendi*), Pacific (Humboldt) marten–Coastal DPS (*Martes caurina*), and longfin smelt (*Spirinchus thaleichthys*).

Operational Impacts

Upon completion of the proposed project, no additional operational impacts are anticipated to threatened or endangered species.

No-Build Alternative

Under the No-Build Alternative, the Albion River Bridge would not be replaced, and threatened and endangered species would not be impacted.

Avoidance, Minimization, and/or Mitigation Measures

Applicable measures from other resource categories referenced in this chapter include **AMM-BR-2, AMM-BR-3, AMM-BR-6**, and **AMM-BR-8**. These measures are described in Appendix D, *Avoidance, Minimization, and/or Mitigation Summary*. Additionally, the following resource-specific measure would be implemented:

AMM-BR-10: Caltrans would pursue feasible mitigation opportunities to offset impacts to federally and state listed fish species. Potential options include improving habitat complexity or partially funding an important salmonid recovery project within the area.

Improving habitat complexity would involve working with potential partners to improve portions of the Albion River within the project area. This could include adding large woody debris upstream to increase in-stream complexity and cover for migrating fish and/or rearing juveniles (depending on location) and potentially bioengineering the rock wall within portions of the Albion Campground. It could also include removal of the southern pier that falls within the Albion River for the current bridge, which would add available streambed area within the channel.

Alternatively, impacts could be addressed by partially funding an important salmonid recovery project within the Albion basin or the surrounding HUC 10 watershed.

Potential partners for fish mitigation projects (fish passage and/or habitat restoration/enhancements) in the Albion River or nearby systems (e.g., Navarro River) include, but may not be limited to: The Nature Conservancy, Mendocino Redwood Company, Trout Unlimited, Inc., and The Conservation Fund.

See Appendix D, *Avoidance, Minimization, and/or Mitigation Summary,* for more information on mitigation for federally and state listed fish species and seagrass.

3.4.6 Invasive Species

Regulatory Setting

On February 3, 1999, President William J. Clinton signed Executive Order (EO) 13112 requiring federal agencies to combat the introduction or spread of invasive species in the United States. The order defines invasive species as "any species, including its seeds, eggs, spores, or other biological material capable of propagating that species, that is not native to that ecosystem whose introduction does or is likely to cause economic or environmental harm or harm to human health." Federal Highway Administration (FHWA) guidance issued August 10, 1999, directs the use of the State's invasive species list, maintained by the California Invasive Plant Council (Cal-IPC), to define the invasive species that must be considered as part of the National Environmental Policy Act (NEPA) analysis for a proposed project.

Affected Environment

The information in this section is based on the Natural Environment Study prepared for the project (Caltrans 2024). Assessment of invasive species is based off the project Biological Study Area (BSA), which is described in Section 3.4, *Biological Environment*.

Cal-IPC places invasive plant species into three categories:

- ***High****:* species with severe ecological impacts, high rates of dispersal and establishment, and usually widely distributed
- ***Moderate****:* species with substantial and apparent ecological impacts, moderate to high rates of dispersal, establishment dependent on disturbance, and limited to widespread distribution
- ***Limited:*** species with minor ecological impacts, low to moderate rates of invasion, limited distribution, and locally persistent and problematic

Table 68 lists the plant species identified as invasive by the California Department of Food and Agriculture (CDFA) and Cal-IPC that are known to occur in the project BSA. Seven invasive plant species rated as *High* by Cal-IPC have been documented in the project BSA: ice plant (*Carpobrotus edulis*), jubata grass (*Cortaderia jubata*), Scotch broom (*Cytisus scoparius*), cape ivy (*Delairea odorata*), French broom (*Genista monspessulana*), English ivy (*Hedera helix*), and Himalayan blackberry (*Rubus armeniacus*). Ice plant dominates the plant cover of the small dune habitat found below the existing bridge, forming a thick mat monoculture. Both cape ivy and English ivy grow densely within the understory of the eucalyptus groves on the northern hillside adjacent to the campground. Cape ivy is also abundant on the roadside and cliff edges north of the bridge and, in conjunction with Himalayan blackberry, is found growing throughout the intermittent stream canopy on both the west and east sides of State Route (SR) 1 in riparian habitat composed of ruderal vegetation (west) and dune willow thicket (east). English ivy grows along with the Cal-IPC rated *Moderate* periwinkle (*Vinca major*) in several locations on the southwest road bank, and these species are particularly

abundant across from Albion Ridge Road, growing from the roadside down to the artificial pond (P-1) and landscaped vegetation.

Himalayan blackberry is distributed patchily within the project BSA. It is mainly found growing with coyote brush (*Baccharis pilularis*) on upland roadsides and within native coastal brambles but is also found within and on the edges of wet areas. Notably, Himalayan blackberry is particularly abundant within emergent wetland (EW-5), where it may eventually outcompete the two sensitive native plant species currently found there: fringed cornlily (*Veratrum fimbriatum*) and Point Reyes checkerbloom (*Sidalcea calycosa* ssp. *rhizomata*).

Blue gum eucalyptus (*Eucalyptus globulus*), the single dominant tree species in the project BSA, has a *Limited* rating by Cal-IPC. The eucalyptus grove on the north side of the Albion River is extensive, spanning from the northern bluff, east across the highway to areas north of the campground, and continuing outside of the project BSA.

Table 68. Invasive Plant Species Identified in the Biological Study Area

Species	CDFA	Cal-IPC
Creeping bentgrass (*Agrostis stolonifera*)	–	Limited
Sweet vernal grass (*Anthoxanthum odoratum*)	–	Limited
Prostrate cape weed (*Arctotheca prostrata*)	–	Moderate
Slender oat (*Avena barbata*)	–	Moderate
Black mustard (*Brassica nigra*)	–	Moderate
Common mustard (*Brassica rapa*)	–	Limited
Rattlesnake grass (*Briza maxima*)	–	Limited
Ripgut brome (*Bromus diandrus*)	–	Moderate
Soft chess (*Bromus hordeaceus*)	–	Limited
Italian thistle (*Carduus pycnocephalus*)	C	Moderate
Ice plant (*Carpobrotus edulis*)	–	High
Bull thistle (*Cirsium vulgare*)	C	Moderate
Jubata grass (*Cortaderia jubata*)	–	High
Scotch broom (*Cytisus scoparius*)	–	High
Orchard grass (*Dactylis glomerata*)	–	Limited
Cape ivy (*Delairea odorata*)	B	High
Redstem filaree (*Erodium cicutarium)*	–	Limited
Blue gum eucalyptus (*Eucalyptus globulus*)	–	Limited
Reed fescue (*Festuca arundinacea*)	–	Moderate
Rattail fescue (*Festuca myuros*)	–	Moderate
Italian rye grass (*Festuca perennis*)	–	Moderate
French broom (*Genista monspessulana*)	C	High
Wild geranium (*Geranium dissectum*)	–	Limited
English ivy (*Hedera helix*)	–	High

Species	CDFA	Cal-IPC
Bristly ox-tongue (*Helminthotheca echioides*)	–	Limited
Velvet grass (*Holcus lanatus*)	–	Moderate
Mediterranean barley (*Hordeum marinum* var. *gussoneanum*)	–	Moderate
Klamath weed (*Hypericum perforatum*)	C	Limited
Rough cat's ear (*Hypochaeris radicata*)	–	Moderate
Oxeye daisy (*Leucanthemum vulgare*)	–	Moderate
Hyssop loosestrife (*Lythrum hyssopifolia*)	–	Moderate
California burclover (*Medicago polymorpha*)	–	Limited
Pennyroyal (*Mentha pulegium*)	–	Moderate
Bermuda buttercup (*Oxalis pes-caprae*)	–	Moderate
Harding grass (*Phalaris aquatica*)	–	Moderate
English plantain (*Plantago lanceolata*)	–	Limited
Annual beard grass (*Polypogon monspeliensis*)	–	Limited
Wild radish (*Raphanus sativus*)	–	Limited
Himalayan blackberry (*Rubus armeniacus*)		High
Sheep sorrel (*Rumex acetosella*)	–	Moderate
Curly dock (*Rumex crispus*)	–	Limited
Hairy wallaby grass (*Rytidosperma penicillatum*)	–	Limited
Cut-leaf burnweed (*Senecio glomeratus*)	–	Moderate
Milk thistle (*Silybum marianum*)	–	Limited
Field hedge parsley (*Torilis arvensis*)	–	Moderate
Periwinkle (*Vinca major*)	–	Moderate
Bulbil bugle-lily (*Watsonia meriana)*	–	Limited

Note: The CDFA and Cal-IPC lists assign ratings that reflect their views of the statewide importance of the pest, likelihood that eradication or control efforts would be successful, and present distribution of the pest in the state. These ratings are guidelines that indicate the most appropriate action to take against a pest under general circumstances. The Cal-IPC species list is more inclusive than the CDFA list. CDFA categories indicated in the table are defined as:

B: Eradication, containment, control, or other holding action at the discretion of the county agricultural commissioner.

C: State-endorsed holding action and eradication only when found in a nursery; action to retard spread outside nurseries at the discretion of the county agricultural commissioner.

Cal-IPC categories indicated in the table are defined as follows:

High: Species with severe ecological impacts, high rates of dispersal and establishment, and usually widely distributed.

Moderate: Species with substantial and apparent ecological impacts, moderate to high rates of dispersal, establishment dependent on disturbance, and limited to widespread distribution.

Limited: Species with minor ecological impacts, low to moderate rates of invasion, limited distribution, and locally persistent and problematic.

Invasive bird species identified in or adjacent to the project BSA include house sparrow (*Passer domesticus*) and European starling (*Sturnus vulgaris*). These species are known to compete with native species for resources and are typically associated with human disturbance. They are both cavity-nesting species and readily out-compete native cavity-nesting species for nesting sites by evicting them, destroying their eggs, killing nestlings, and sometimes even killing the incubating female. European starlings pose a threat to a state species of special concern, purple martin (*Progne subis*) (Shuford and Gardali 2008), which is known from the project vicinity. Starlings may pose problems for other cavity-nesters as its population continues to increase.

Environmental Consequences

Build Alternatives

Construction Impacts

The proposed project would temporarily disturb areas during construction for all Build Alternatives; Alternatives 1 and 2 would require approximately three years of construction, while Alternative 3 would require approximately 5 years. Areas where temporary disturbance occurs would be more susceptible to colonization or spread of invasive plants.

Standard measures, as described in Section 2.2.5, *Common Design Features of the Build Alternatives,* would be implemented to reduce the potential for invasive species to spread during and after construction. This includes Standard Measure **BR-3**, which requires non-native species control, including that materials used for erosion control or landscaping not use species listed as invasive, construction equipment would be inspected and cleaned to remove invasive species and/or pathogens before being brought to the project site and prior to removal from the project area, and equipment used in waterways would be decontaminated following CDFW protocols. In addition, following Standard Measure **BR-4**, upon completion of construction, the site would be restored by regrading and stabilizing with a hydroseed mixture of native species along with fast growing sterile erosion control seed, as required by the Erosion Control Plan. The on-site Revegetation Plan for the proposed project would also include an invasive species management component.

The standard measures discussed above would minimize the potential spread of invasive species. Restoration efforts would focus on introducing and maintaining native species.

Operational Impacts

Upon completion of construction, no operational impacts are anticipated.

No-Build Alternative

Under the No-Build Alternative, the Albion River Bridge would not be replaced, and there would be no change from existing conditions.

Avoidance, Minimization, and/or Mitigation Measures

No avoidance, minimization, or mitigation measures are proposed.

3.5 RELATIONSHIP BETWEEN LOCAL SHORT-TERM USES OF THE HUMAN ENVIRONMENT AND THE MAINTENANCE AND ENHANCEMENT OF LONG-TERM PRODUCTIVITY

Implementation of the Albion River Bridge Project would result in attainment of short-term and long-term transportation objectives at the expense of some short-term social, economic, aesthetic, biological resources, noise, water quality, emergency services, and community impacts and long-term cultural resources, and aesthetic impacts. As described in Chapter 1, *Proposed Project*, implementation of the proposed project is necessary to improve the functional, safety, and structural deficiencies of the existing Albion River Bridge.

3.5.1 Build Alternatives

All Build Alternatives would replace the existing Albion River Bridge with a new bridge structure, resulting in similar impacts; however, Alternative 3 would have a longer construction period (i.e., 5 years) than Alternatives 1 and 2 (i.e., 3 years).

Short-term losses would include construction impacts, such as noise from construction equipment and vehicles; traffic delays; utility service disruptions; public access limitations to the Albion River, Albion Beach, and Albion River Cove/Pacific Ocean; and potential economic losses experienced by the community of Albion due to Albion Campground closure during construction.

Short-term benefits would include increased jobs and revenue due to the purchase of goods and services for construction.

Long-term losses would include permanent loss of a historic bridge and potential disturbance of archaeological resources, and permanent impacts on visual/aesthetic resources.

Long-term gains would include constructing a bridge that meets modern safety and design requirements; improvements to motorist, bicyclist, and pedestrian safety and mobility; and improvements to water resources and stormwater management. Benefits associated with the project include reduced risk of economic ramifications associated with potential bridge collapse or failure and reduced maintenance costs and activities.

3.5.2 No-Build Alternative

Under the No-Build Alternative, the Albion River Bridge would not be replaced, and no construction activities would occur. The No-Build Alternative would not change the overall existing conditions and therefore would offer none of the benefits described above for the Build Alternatives or have any of the impacts as described throughout Chapter 3, *Affected Environment, Environmental Consequences, and Avoidance, Minimization, and/or Mitigation Measures*. The bridge would continue to be seismically deficient and vulnerable to sea-level rise, storm surges and tsunami damage., This alternative would do nothing to address the deteriorating condition of the existing bridge resulting in continued concerns over safe and reliable multimodal access while ongoing maintenance costs persist and increase.

3.6 IRREVERSIBLE AND IRRETRIEVABLE COMMITMENTS OF RESOURCES THAT WOULD BE INVOLVED IN THE PROPOSED PROJECT

The Build Alternatives would require a similar commitment of natural, physical, human, and fiscal resources. All Build Alternatives are anticipated to reduce the need for future bridge maintenance activities and resources compared to the No-Build Alternative. However, the Build Alternatives would require the use of considerable amounts of fossil fuels, labor, and highway construction materials, such as cement, aggregate (i.e., sand and gravel), and bituminous materials during construction. Alternative 3 would have a longer construction period (i.e., 5 years) than Alternatives 1 or 2 (i.e., 3 years), requiring a larger commitment of resources than Alternatives 1 and 2.

The production of construction materials requires large amounts of natural resources, including fossil fuels. These materials are generally not retrievable; however, a large portion of them are recyclable. Further, they are not in short supply and their use would not have an adverse effect upon continued availability of these resources.

Construction activities would result in the consumption of non-renewable resources, including water, petroleum products, and electricity. Fossil fuels and electricity would be used to transport workers and materials during construction and future maintenance activities. As discussed in Section 3.3.8, *Energy*, the energy required to construct and maintain the proposed bridge would not be substantial. The amount and rate of consumption of these resources would not result in the unnecessary, inefficient, or wasteful use of such resources.

A large amount of labor would be needed to produce construction materials, remove the existing bridge and infrastructure, construct the new bridge, relocate utilities, and improve approach and access roads. Proposed construction activities would result in beneficial impacts through providing temporary employment opportunities during construction.

Construction would also require a substantial, one-time use of both state and federal funds, which would not be retrievable. The Build Alternatives would require funds for construction, right of way acquisition, and roadway maintenance (i.e., litter removal and sweeping; signs and markers; and pavement, roadside, electrical, and storm maintenance). However, this impact would potentially be reduced by direct and indirect benefits to the local and regional economy due to new construction employment and purchases of construction materials and services and reduced maintenance activities following construction.

Land that is permanently used for the highway facility, which includes the construction of a new bridge along a different alignment, improvements to approach and access roads, and the permanent relocation of utilities, is considered an irreversible commitment. However, if a greater need arises for use of the land or if the highway facility is no longer needed, the land can be converted to another use. At present, there is no reason to believe such a conversion would ever be necessary or desirable.

The commitment of these materials and resources is based on the necessity to replace the bridge for safety purposes and the understanding that residents in the immediate area, region, and state would benefit from the improved quality of the transportation system. These benefits, which consist of improved mobility and safety and reduced maintenance activities, are expected to outweigh the commitment of these materials and resources.

3.7 CUMULATIVE IMPACTS

3.7.1 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 a period of 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.

The California Environmental Quality Act (CEQA) 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 CEQA can be found in Section 15355 of the CEQA Guidelines. A definition of cumulative impacts under the National Environmental Policy Act (NEPA) can be found in 40 Code of Federal Regulations (CFR) Section 1508.7.

3.7.2 Methodology

The resources considered in the cumulative effects analysis follow the eight-step process set forth in the Caltrans' *Guidance for Preparers of Cumulative Impact Analysis* (2005), which was developed in conjunction with the Federal Highway Administration (FHWA) and U.S. Environmental Protection Agency (U.S. EPA).

1. Identify resources to consider in the cumulative impact analysis
2. Define the resource study area (RSA)
3. Describe the current condition and historical context of each resource
4. Identify Project impacts that might contribute to cumulative impacts
5. Identify other reasonably foreseeable future actions that affect each resource
6. Assess potential cumulative impacts
7. Report the results
8. Assess the need for avoidance, minimization, and/or mitigation measures

3.7.3 Cumulative Impact Analysis

Resources Considered

This cumulative impact analysis determines whether the Build Alternatives, in combination with other past, present, or reasonably foreseeable projects, would result in a cumulative effect and, if so, whether the Build Alternatives' contribution to the cumulative impact would be considerable.[14] If the proposed project would not cause direct or indirect impacts on a resource, it would not contribute to a cumulative impact on that resource. Therefore, the cumulative impact analysis focuses only on: 1) those resources significantly impacted by the proposed project; or 2) resources currently in poor or declining health or at risk even if proposed project impacts are relatively small (less than significant).

Resource Study Areas

A separate RSA has been defined for each resource. A description of each RSA is provided in the below assessment of potential cumulative impacts. As a starting point, an evaluation of recently completed, current, and reasonably foreseeable projects along the State Route (SR) 1 corridor and inland along the two major state routes (SR 20 and SR 128) was completed. The evaluation area extended approximately 20 miles from the environmental study limits (ESL), capturing the Land Use Study Area described in Section 3.2.1, *Existing and Future Land Use*, and large segments of the Albion River watershed, Mendocino County Air Quality Management District boundaries, and local populations of special status species.

Current Condition and Historical Context of Resources

The current condition and historical context of the resources are described in the assessment of potential cumulative impacts.

Project Resource Areas with No Contribution to Cumulative Effects

No cumulatively considerable impacts are anticipated for the following resources, as there are no impacts to these resources, effects are localized and temporary, and/or impacts are minor and are not cumulatively considerable when considering other reasonably foreseeable projects.

- Aesthetics with exception of Scenic Vistas and Visual Character
- Air Quality
- Agriculture and Forestry

[14] The No Build Alternative would not include improvements to SR 1 or the Albion River Bridge, would not require construction, and would not contribute to any potential cumulative environmental effects in combination with other projects.

- Biological Resources with exception of Federally Listed Migratory Fish (Salmon and Steelhead), Essential Fish Habitat (EFH), and Eelgrass
- Climate Change
- Coastal Zone
- Community Character and Cohesion
- Energy
- Environmental Justice and Equity
- Geology and Soils
- Greenhouse Gas Emissions
- Hazards and Hazardous Materials
- Hydrology and Water Quality
- Land Use and Planning
- Mineral Resources
- Noise
- Paleontological Resources
- Population and Housing
- Public Services
- Recreation
- Relocations and Real Property Acquisition
- Transportation
- Tribal Cultural Resources
- Utilities and Service Systems
- Wildlife

Project Resources with the Potential to Contribute to Cumulative Effects

Potential cumulative impacts are discussed in further detail below for the following resource areas as they involve potentially significant project impacts, or a resource that is in declining health or at risk, even if the project's potential impacts are less than significant:

- Aesthetics: Scenic Vistas and Visual Character
- Biological Resources: Federally Listed Migratory Fish (Salmon and Steelhead) and EFH, and Eelgrass

- Cultural Resources: Historic (Built Environment) Resources, Historic Resources, and Archaeological Resources

Other Reasonably Foreseeable Projects

Pursuant to CEQA Section 15130(b)(1)(A), this analysis uses the List Approach, which identifies past, present, and reasonably foreseeable projects that could potentially contribute to cumulative impacts.

Based on a review of CEQAnet (2023) and outreach to Mendocino County, no relevant non-transportation land use developments that would contribute to cumulative environmental effects were identified within 20 miles of the proposed project.

Table 69 lists relevant transportation improvement projects within the RSAs. These projects are in various stages of project development, ranging from the early conceptual planning phase to projects that were recently completed. As discussed further below, projects could potentially contribute to a cumulative impact if the project would (1) result in similar permanent impacts within the RSA, or (2) be constructed within the same time period as the proposed project (anticipated to begin in 2027 and end between 2030 and 2032). A spatial representation of these projects is shown in Figure 83.

Table 69. Recently Completed, Present, and Probable Transportation Improvement Projects

Project Name (EA No.)	Route: Post Mile (PM)	Project Location	Type of Work	Estimated Delivery Year	Resources with the Potential to Contribute to Cumulative Effects
Usal Creek Bridge	CR 431; PM 5.93	On Usal Road, CR 431, at PM 5.93	Bridge Replacement	2026	Impacts Analysis Unavailable; Based on scope of work, impacts to Biological Resources- Federally Listed Migratory Fish/EFH anticipated
Men-1 Drainage (01-0L270)	SR 1; PM 0 to end of route	From the Sonoma-Mendocino County line to end of SR 1	Rehabilitate drainage and fish passage	2029	Impacts Analysis Unavailable; Based on the project scope impacts to Biological Resources-Federally Listed Migratory Fish/EFH are anticipated
Men-1 Fish Passage (01-0F650)	SR 1; PM 4.64 and 58.78	At two locations: Location 1 over Fish Rock Gulch (4.64) and location 2 over Creek at PM 58.78	Fish Passage Remediation	2026	Impacts Analysis Unavailable; Based on the project scope impacts to Biological Resources-Federally Listed Migratory Fish/EFH are anticipated

Project Name (EA No.)	Route: Post Mile (PM)	Project Location	Type of Work	Estimated Delivery Year	Resources with the Potential to Contribute to Cumulative Effects
Gualala Shoulders (01-0F710)	SR 1; PM 6.4–6.8 and 9.2–9.5	Near Gualala from 0.3 mile north of Havens Neck Drive to Gypsy Flat Road and from 0.5 to 0.25 mile south of Iversen Road	Widen shoulders	2025	None
Mendocino Vista Points Seal Coat (01-0M040)	SR 1; PM 10.5–74.1	At various locations near Galloway, Caspar and Kibesillah from 0.8 mile south of Schooner Gulch Bridge to 0.9 mile south of Blue Slide Gulch Bridge	Micro-surfacing	Completed in 2023	None
North Point Arena Capitol Preventive Maintenance (CAPM) (01-0J940)	SR 1; PM 15–33.9	Near Point Arena from 0.2 mile south of Iverson Avenue to Philo Greenwood Road	Pavement preservation	2026	Impacts Analysis Unavailable; Based on scope of work minimal to no impacts to resources anticipated
Elk Creek Bridge Replacement (01-0E110)	SR 1; PM 31.35	In Mendocino County near Elk from 0.2 mile south of Elk Creek Bridge to 0.2 mile north of Elk Creek Bridge	Replace bridge	2024	Biological Resources-Federally Listed Migratory Fish/EFH
Men-1 Widen (01-0G600)	SR 1; PM 65.13–65.49	SR 1, PM 65.13 to 65.49	Widen shoulders	Completed in 2023	None
Elk to Mendocino CAPM (01-0H600)	SR 1; PM 33.7–51.0	Near Elk from 0.1 mile north of Greenwood Creek to 0.2 mile north of Little Lake Road	Rehabilitate pavement	2024	None

Project Name (EA No.)	Route: Post Mile (PM)	Project Location	Type of Work	Estimated Delivery Year	Resources with the Potential to Contribute to Cumulative Effects
Navarro Ridge Safety (01-0C550)	SR 1; PM 41.78–42.28	In Mendocino County near Albion from 1.5 miles north of the junction of SR 128 to 0.1 mile south of Navarro Ridge Road	Install metal beam guardrail	2024	None
Navarro Drainage (01-0E940)	SR 1; PM 41.78–42.28	In Mendocino County near Albion at Navarro Ridge Road	Reconstruct drainage	2024	None
Salmon Creek Bridge Replacement (01-40140)	SR 1; PM 42.3–42.4	Near Albion from 2.2 miles north of the SR 128 junction to 0.2 mile north of Salmon Creek	Replace bridge	2030	Impacts Analysis Unavailable; Based on scope of work, impacts to Biological Resources- Federally Listed Migratory Fish/EFH anticipated
Salmon Creek Sandblast Waste Abatement (01-40141)	SR 1; PM 42.4–43.3	Near Albion from 2.2 miles north of the SR 128 junction to 0.2 mile north of Salmon Creek	Lead cleanup	2026	None
Pudding Creek Bridge (01-43480)	SR 1; PM 62.12	In Fort Bragg from Elm Street to Pudding Creek Rd-421	Widen bridge and upgrade bridge rail	Completed in 2023	Biological Resources- Federally Listed Migratory Fish/EFH
Jack Peters Creek Bridge (01-43484)	SR 1; PM 51.3–52.1	Near Fort Bragg at Jack Peters Creek Bridge 10-150	Widen bridge and upgrade bridge	2024	Biological Resources- Federally Listed Migratory Fish/EFH
Fort Bragg ADA (01-0B220)	SR 1; PM 59.8–62.1	In Fort Bragg from SR 20 to Pudding Creek Bridge	Install ADA pedestrian infrastructure	Schedule to be determined	None
Westport Culverts (01-0K170)	SR 1; PM 75.47–84.1	On SR 1 between Blue Side Gulch Bridge and Hardy Creek Bridge.	Rehabilitate drainage systems	2026	Biological Resources- Federally Listed Migratory Fish/EFH
Corrective Maintenance and Pavement Preservation	CR 403; PM 0–3.19	Albion Little River Road, CR 403, PM 0 to 3.19	Chip seal pavement	Completed in 2023	None

Project Name (EA No.)	Route: Post Mile (PM)	Project Location	Type of Work	Estimated Delivery Year	Resources with the Potential to Contribute to Cumulative Effects
Culvert Rehabilitation and Fish Passage (01-0K680)	SR 128; PM 0–50.5	On SR 128 at various locations from junction SR 1 to 2.1 miles east of Mountain House Road-111	Rehabilitate drainage and fish passage	2028	Impacts Analysis Unavailable; Based on scope of work, impacts to Biological Resources- Federally Listed Migratory Fish/EFH anticipated
Boonville CAPM (01-0K000)	SR 128; PM 17.9–30.663	At Reilly Heights and Boonville from Mill Creek Bridge to Robinson Creek Bridge	Capital maintenance	2025	Impacts Analysis Unavailable; Based on scope of work minimal to no impacts to resources anticipated
South Fork Noyo River Micro-Surfacing (01-0M030)	SR 20; PM 2–17.3	Near Whiskey Springs from Porterfield Lane to Chamberlain Creek Bridge	Micro-surfacing	October 2023	None
MEN-20 Culvert Rehab / Replace (01-0M580)	SR 20; PM 7.34–12.97	Various locations on SR 20 from 4.0 miles east of Wildwood Campground to 1.2 miles west of Three Chop Road – Road 8146	Culvert rehabilitation and replacement	2024	None

CR = County Road, EFH = Essential Fish Habitat, PM = post mile; SR = State Route

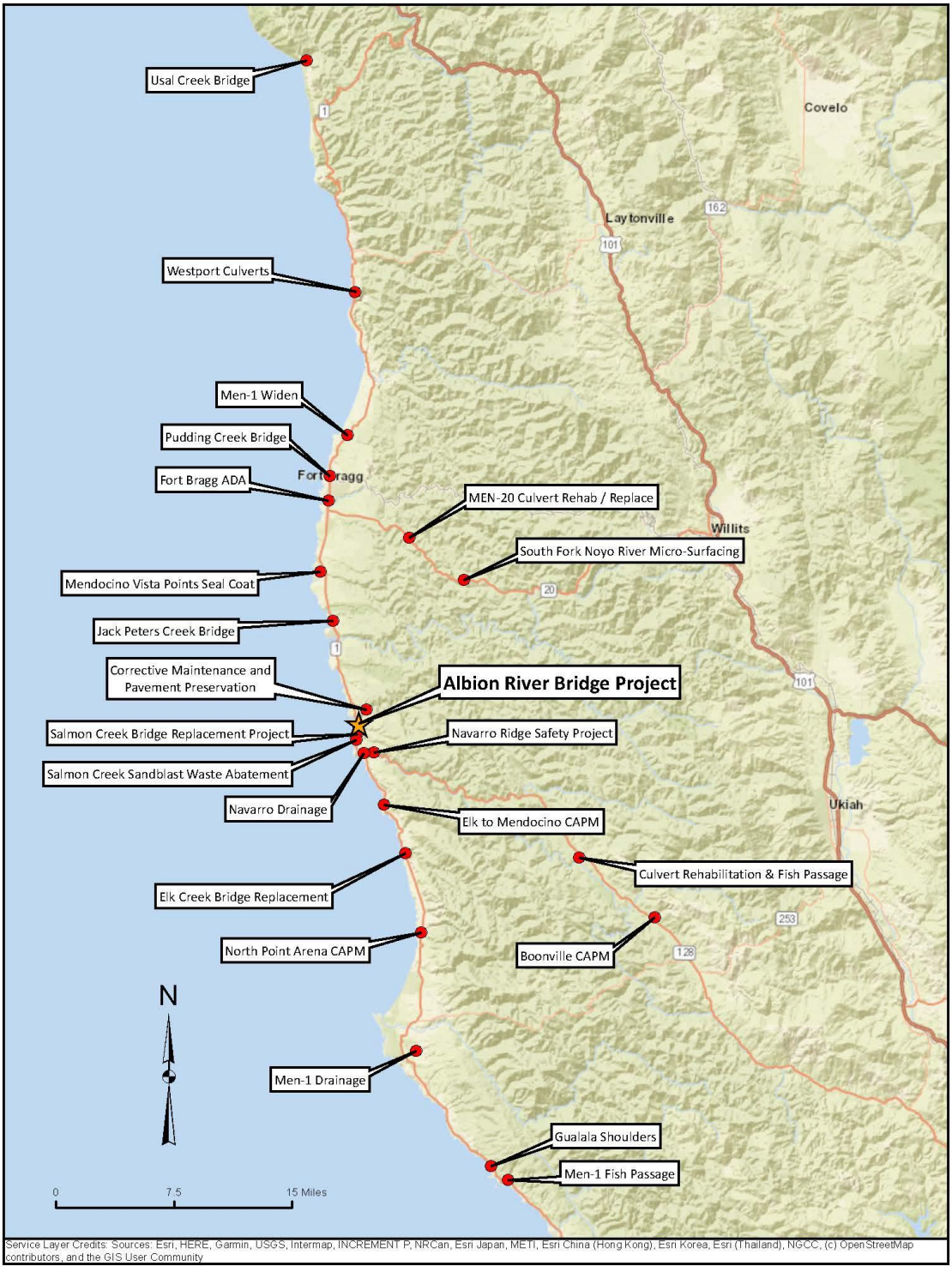


Figure 83. Nearby Projects

Cumulative Impacts Assessment

Aesthetics: Scenic Vistas and Visual Character

RSA

There are two visual assessment units (VAU) that surround the proposed project area. Each VAU is defined by a specific viewshed and has its own visual quality and character. The VAUs are defined as follows:

- VAU 1 is SR 1 in the proposed project corridor, including the Albion River Bridge and the bridge approaches to the north and south. It represents the view from the perspective of motorists and bicyclists from SR 1 approaching the bridge, and of the surrounding area. This is the only ocean view along SR 1 between Salmon Creek, 0.7 mile to the south, and Little River, about 3 miles to the north.
- VAU 2 features views of the bridge from surrounding areas, including Albion Village, Albion River, and Albion Beach. This VAU represents views of the bridge from viewers in surrounding areas such as residents, recreationists, tourists, and local workers.

These VAUs encompass the RSA for aesthetics. Additionally, an aerial view of the bridge was used to determine the overall change of visual character from the proposed project.

Current Condition and Historical Context

The proposed project is located along SR 1 in Mendocino County. Development along this stretch of coast is limited and small in scale, giving the traveler views of coastal hills, forests, rangeland, villages and small towns, and the rugged Pacific coastline. Landscapes in the proposed project vicinity include ocean, river, coastal headlands, prairie grasslands, and coastal forest. While SR 1 is not an officially designated scenic highway within the RSA, it is still considered a highly valued scenic viewpoint for the Albion community.

The bridge, which connects the coastal bluffs across the mouth of the Albion River, is largely comprised of wooden lattice towers that are closely spaced. Looking from Albion River South Side Road facing west, the towers appear to almost merge to form a screen north of the river, blurring the landscape behind it. Despite the contrast between the natural setting and the bridge, the bridge is a highly memorable structure and represents a historical construction style that has become visually distinctive today because it is uncommon. Its distinctiveness confers a sense of place.

Impacts Assessment

The bridge is considered a scenic resource with views from surrounding areas, such as the community of Albion, Albion River, Albion River Campground and Marina, and Albion Flat Beach. As California's last remaining state highway trestle bridge, the Albion River Bridge is an important example of a major period of California history. Removing

the bridge would substantially affect visual character and scenic vistas because of its historical character and memorability.

Conversely, all of the Build Alternatives create visual benefits in that they would open the view under the bridge making the river, cove, and landforms beyond the bridge less obstructed. The river's path would be less visually obstructed, improving the visual continuity between the river and the coastline. Two design options under the Build Alternatives include a spandrel arch design, which is common for more contemporary bridges along the coastline. The arch designs hold architectural interest and better fit into the natural setting; the arch design forms a gateway between Albion Flat Beach and Albion Flat and mimics the curve of adjacent hills. Additionally, a measure is included in the proposed project design (**AMM-AR-3**) to treat the bridge retaining and wing walls with color and texture to blend in with the surrounding environment.

Only the Men-1 Drainage (01-0L270) project overlaps the RSA. This project is not anticipated to result in adverse visual impacts because it is limited to culvert-related work. No other reasonably foreseeable projects (listed in Table 69) are located within the RSA. Therefore, none of the listed reasonably foreseeable projects would result in changes that would affect the historical character or visual memorability near the scenic vantage points at Albion. Although the proposed project would substantially affect visual character and scenic vistas, it would not result in a cumulatively considerable effect to aesthetic resources when combined with other reasonably foreseeable projects.

Biological Resources: Federally Listed Migratory Fish (Salmon and Steelhead) and EFH

RSA

National Marine Fisheries Service (NMFS) delineates eight geographic recovery planning areas for Endangered Species Act (ESA)-listed salmon and steelhead populations on the West Coast. The North Central California Coast recovery planning area extends from Humboldt County south to Aptos Creek. Within that recovery area, California Coastal (CC) Chinook salmon, Central California Coast (CCC) coho salmon, and Northern California (NC) steelhead have relatively similar geographically distinct areas with similar environmental conditions, known as diversity strata. The north-central coastal diversity stratum for all three species, which extends generally along the coast from Navarro River (approximately 2 miles south of the proposed project along SR 1) to Usal Creek (approximately 50 miles north of the proposed project along SR 1), was selected as the RSA for the above-referenced listed migratory fish.

Current Condition and Historical Context

CC Chinook salmon, CCC coho salmon, and NC steelhead have been documented within the Albion River or Albion Cove. The Albion River and nearby Albion Cove provide EFH for these species. The area of the Albion River within the project boundaries encompasses estuarine fish habitats, eelgrass, canopy kelp, and rocky intertidal habitats, and is used as a pathway for fish migration.

Impacts Assessment

The proposed project anticipates avoiding in-water work during primary migration periods, and implementing measures to monitor and attenuate sound, and to relocate trapped species. Additionally, impacts to the aquatic habitat would be temporary and on a relatively small scale relative to the high-quality habitat found in the upstream Albion River watershed.

However, given that juvenile CC Chinook salmon, CCC coho salmon, and/or NC steelhead may transit through or near the proposed project area during the early summer months and could be impacted by underwater sound from in-water or near-shore construction activities and/or be stranded in temporary cofferdams, an incidental "take" could occur.

Other reasonably foreseeable projects within the RSA that are known or anticipated to impact CC Chinook salmon, CCC coho salmon, and/or NC steelhead, include Elk Creek Bridge, MEN 1 Fish Passage, Usal Creek Bridge, Westport Culverts, and Salmon Creek Bridge. Similarly, these projects, along with Jack Peters Bridge, and Pudding Creek Bridge, are anticipated to result in adverse impacts to EFH for Pacific Coast Salmon. However, all of these projects would also implement measures to reduce impacts and be required to fully mitigate for incidental take, and potential adverse effects to EFH would be temporary and minor. Therefore, the proposed project, when combined with other reasonably foreseeable projects, would not result in a cumulatively considerable effect to CC Chinook salmon, CCC coho salmon, and/or NC steelhead or EFH.

Biological Resources: Eelgrass

RSA

A compilation of eelgrass distribution in coastal embayments and estuaries in California by NMFS is provided by EcoAtlas. This compilation identifies that, locally, eelgrass is distributed throughout the Albion River estuary. Therefore, the Albion River estuary was identified as the RSA.

Current Condition and Historical Context

The Albion River within the proposed project's ESL includes estuary habitat with eelgrass close to the south riverbank. Eelgrass is considered a Sensitive Natural Community (SNC), and Habitat Area of Particular Concern (HAPC), which is a subset of EFH; vegetated shallows that support eelgrass are also considered special aquatic sites under the Clean Water Act. Given its contribution to the ecosystem, eelgrass receives special protection under NMFS' *California Eelgrass Mitigation Policy*, which ensures that actions result in "no net loss" of eelgrass habitat function.

Impacts Assessment

Boat traffic, tidal fluctuations, low visibility, and high flow rates within the proposed project's BSA make detailed sampling of eelgrass density and distribution difficult. The best available density and distribution data from focused surveys conducted by

California Department of Fish and Wildlife (CDFW) in 2015 and 2022 eelgrass were used. The proposed project would result in temporary impacts to eelgrass due to temporary work trestles (e.g., temporary displacement, reduced biomass and shoot length as a result of shading) and one Build Alternative, Design Option 1A, would result in and mitigate for a permanent loss of approximately 0.005 acres of eelgrass habitat. The other Build Alternatives would not result in permanent impacts on eelgrass habitat.

No other reasonably foreseeable projects listed in Table 69 are located within the RSA. Furthermore, although not within the RSA, none of the listed reasonably foreseeable projects listed would impact eelgrass. Therefore, the proposed project, when combined with other reasonably foreseeable projects, would not result in a cumulatively considerable effect to EFH.

Cultural Resources

RSA

The RSA lines up with the Area of Potential Effects (APE), which is described in Section 3.2.11, *Cultural Resources*. The APE was determined in consultation with the Project archaeologist and Project Manager as areas within which an undertaking may directly or indirectly cause alterations in the character or use of historic properties, if any such properties exist. This includes, but is not limited to, all ground disturbing activities, utility relocations, access roads, equipment storage or staging areas, and conservation or scenic easements.

Current Condition and Historical Context

The APE lies within land inhabited by the Northern Pomo at the time of European contact. The earliest sustained contact between Europeans and native populations of the northern California coast involved fur trapping parties of the Russian American Company after 1804. Early settlement along the coast was in response to a demand for lumber that followed the discovery of gold in the foothills of California in 1948. The community of Albion developed alongside nineteenth- and early twentieth-century milling operations on Albion Flat – a point bar to the far rear of Albion Cove just east of the mouth of the Albion River. The town of Albion grew to include stores, hotels, and other retail establishments to serve workers at the mill site, with the Albion Lumber Company acquiring and subdividing the original townsite and developing rental housing for its managerial and clerical staff. Residential and commercial development soon expanded; however, the community diminished with the closure of the mill in 1928, which left a small population of farmers, ranchers, and local retailers for the next few decades. Following World War II and into the latter part of the twentieth century, the Mendocino Coast economy dramatically shifted away from resource extraction toward recreation and real estate, producing a growth in the tourism industry and residential subdivisions. This trend was reflected in Albion, where, for example, the former mill site was converted to a campground and fishing village in the mid-1950s, former ranchlands were subdivided, sold off, and developed for non-agricultural purposes, and early twentieth-century residences were used increasingly as seasonal vacation homes and

rental properties. Historic-era resources in the APE are associated with Albion and date from the turn of the twentieth century up to the early 1970s.

One historical (built environment) resource (the Albion River Bridge [10-0136], National Register of Historic Places [NRHP] Reference #100001383) and three potential historical (one historic era and two pre-historic era) resources have been identified within the APE.

Impacts Assessment

The Albion River Bridge, which is listed in the NRHP and the California Register of Historic Resources (CRHR), would be directly affected under all Build Alternatives due to its complete removal.

As California's last remaining state highway trestle bridge, the Albion River Bridge is an important example of a major period of California history. All Build Alternatives would replace and materially alter the qualities that justify the bridge's eligibility for inclusion in the NRHP and CRHR. A Cultural Resources Management Plan (CRMP) would be prepared, which would address the proposed removal of the Albion River Bridge. This would include recordation using Level I or Level II Historic American Engineering Record (HAER) documentation, and additional treatment measures may include public interpretive displays and a short documentary film about the bridge and local Albion community that would be made available for educational and interpretive purposes (Measure **AMM-CR-3**). The final package of mitigation requirements addressing the loss of the NRHP listed bridge would be determined in consultation with the SHPO, consulting tribes, and consulting parties.

Eligibility for inclusion in the NRHP and CRHR and determination of effects on the three unevaluated archaeological sites was not possible due to access restrictions. These sites would be evaluated after right of way or access to private property is obtained. Evaluation of the three sites would be directed by a Phased Programmatic Agreement (PA) negotiated with the SHPO, consulting tribes, and consulting parties (Measures **AMM-CR-1** and **AMM-CR-2**). The CRMP, which would be attached to the Phased PA, would detail the process for evaluating the three archaeological sites and identify processes to identify any previously undiscovered resources, resolve unanticipated adverse effects, and minimize the project's impacts on cultural resources, if possible.

Only the Salmon Creek Sandblast Waste Abatement Project overlaps the RSA and has the potential to affect similar cultural resources. However, the project would not impact the Albion River Bridge or the three unevaluated archaeological sites. In addition, cultural resources associated with the other project would be designated as environmentally sensitive areas and protected. Therefore, the proposed project would not result in a cumulatively considerable effect to historic resources.

Avoidance, Minimization, or Mitigation Measures for Cumulate Impacts

Applicable measures are referenced in this chapter include Measures **AMM-AR-3**, **AMM-CR-1**, **AMM-CR-2** and **AMM-CR-3**. These measures would be implemented and are described in Appendix D, *Avoidance, Minimization, and/or Mitigation Summary*. No additional avoidance, minimization, or mitigation measures beyond those identified earlier in the EIR/EIS are proposed.

Chapter 4 California Environmental Quality Act (CEQA) Evaluation

4.1 DETERMINING SIGNIFICANCE UNDER CEQA

The proposed project is a joint project by the California Department of Transportation (Caltrans) and the Federal Highway Administration (FHWA) and is subject to state and federal environmental review requirements. Project documentation, therefore, has been prepared in compliance with both the California Environmental Quality Act (CEQA) and the National Environmental Policy Act (NEPA). FHWA's responsibility for environmental review, consultation, and any other actions required by applicable federal environmental laws for this project are being, or have been, carried out by Caltrans pursuant to 23 United States Code Section 327 (23 USC 327) and the Memorandum of Understanding dated May 27, 2022, and executed by FHWA and Caltrans. Caltrans is the lead agency under CEQA and NEPA.

One of the primary differences between NEPA and CEQA is the way significance is determined. Under NEPA, significance is used to determine whether an EIS, or a lower level of documentation, will be required. NEPA requires that an EIS 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 CEQA may not be of sufficient magnitude to be determined significant under NEPA. Under NEPA, once a decision is made regarding the need for an EIS, it is the magnitude of the impact that is evaluated and no judgment of its individual significance is deemed important for the text. NEPA does not require that a determination of significant impacts be stated in the environmental documents.

CEQA, 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 EIR must be prepared. Each and every significant effect on the environment must be disclosed in the EIR and mitigated if feasible. In addition, the CEQA Guidelines list a number of mandatory findings of significance, which also require the preparation of an EIR. There are no types of actions under NEPA that parallel the findings of mandatory significance of CEQA. This chapter discusses the effects of this project and CEQA significance.

4.2 SIGNIFICANT IRREVERSIBLE ENVIRONMENTAL CHANGES

Section 15126.2(d) of the CEQA Guidelines requires a discussion of any significant irreversible environmental impacts that would result from implementation of a project. Generally, a project would result in significant irreversible environmental impacts if any of the following would occur:

- The project would involve a large commitment of nonrenewable resources during the initial and continued phases of the project.
- The primary and secondary impacts would generally commit future generations to similar uses (i.e., the project provides access to a previously inaccessible area).
- The project involves uses in which irreversible damage would result from any potential environmental accidents associated with the project.
- The project consumption of resources is not justified (i.e., the project involves wasteful energy use).

Section 3.5, *Relationship between Local Short-Term Uses of the Human Environment and the Maintenance and Enhancement of Long-Term Productivity*, and Section 3.6, *Irreversible and Irretrievable Commitments of Resources that would be Involved in the Proposed Project*, describe the potential long-term commitments of resources of the proposed project if any of the Build Alternatives are implemented. Section 3.3.8, *Energy*, describes the short-term and long-term energy use of the proposed project for each Build Alternative.

The proposed project involves a commitment of a range of natural, physical, human, and fiscal resources. Land used in the construction of the proposed project is considered an irreversible commitment during the period that the land is used for a highway facility. However, if a greater need arises for use of the land or if the highway facility is no longer needed, the land can be converted to another use. At present, there is no reason to believe such a conversion would ever be necessary or desirable.

Considerable amounts of fossil fuels, labor, and highway construction materials such as cement, aggregate, and bituminous material would be used. Additionally, large amounts of labor and natural resources would be used in the making of construction materials. These materials are generally not retrievable; however, a large portion of them are recyclable. Further, they are not in short supply and their use would not have an adverse effect upon continued availability of these resources.

Any construction would also require a substantial one-time use of both state and federal funds, which are not retrievable; savings in energy, time, and ongoing maintenance would help offset this.

The commitment of these resources is based on the concept that residents in the immediate area, region, and state would benefit from the improved quality of the transportation system. These benefits would consist of improved accessibility and safety, which are expected to outweigh the commitment of these resources."

4.3 CEQA ENVIRONMENTAL CHECKLIST

This checklist identifies physical, biological, social, and economic factors that might be affected by the proposed project. In many cases, background studies performed in connection with the projects will indicate that there are no impacts to a particular resource. A NO IMPACT answer in the last column reflects this determination. The words "significant" and "significance" used throughout the following checklist are related to CEQA, not NEPA, impacts. The questions in this form 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 standard measures that are applied to all or most Caltrans projects such as Best Management Practices (BMP) 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 2 and 3 for a detailed discussion of these features. The annotations to this checklist are summaries of information contained in Chapter 3 in order to provide the reader with the rationale for significance determinations; for a more detailed discussion of the nature and extent of impacts, please see Chapter 3. This checklist incorporates by reference the information contained in Chapters 2 and 3.

Avoidance, minimization, and mitigation (AMM) measures specifically prescribed for this project to address potential resource impacts are discussed throughout the document within their relevant sections. These measures are also summarized in Appendix D, *Avoidance, Minimization, and/or Mitigation Summary*.

4.3.1 Aesthetics

Except as provided in Public Resources Code Section 21099, would the project:	CEQA Determination
a) Have a substantial adverse effect on a scenic vista?	Significant and Unavoidable Impact
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
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
d) Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?	Less Than Significant Impact

CEQA Significance Determinations for Aesthetics

This section was prepared using information from the Visual Impact Assessment prepared for the proposed project (Earthview Science 2024). See Section 3.2.10, *Visual/Aesthetics*, for additional information on visual resources.

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. A scenic vista is a publicly accessible viewpoint that provides expansive views of a highly valued landscape. Scenic vistas are available from and toward the Albion River Bridge.

In views from State Route (SR) 1, motorists and bicyclists enjoy brief scenic vistas of the Albion River valley and the Pacific Ocean from the bridge. These are the only ocean views along SR 1 between Salmon Creek, 0.7 mile to the south, and Little River, about 3 miles to the north. Although the proposed bridge's new railing would be relatively see-through, the wider road surface of the new bridge would diminish views from the bridge for motorists. In particular, their view of the Pacific Ocean would be reduced because of the placement of a pedestrian walkway and the pedestrian railing on the west side of the bridge. Although there would be a reduction in visual quality for motorists, there would be potentially enhanced views for bicyclists and pedestrians. Overall, resource change would be moderately low, but because of high viewer sensitivity, the visual impact would be considered moderately high. Because of the moderately low level of resource change, this change would not be a substantial impact on a scenic vista.

The bridge is considered a scenic resource in views from surrounding areas, such as the community of Albion and the Albion River, Albion River Campground and Marina (Albion Campground), and Albion Flat Beach. Removing the existing Albion River Bridge would substantially affect scenic vistas from these locations because of the bridge's historical character and memorability. These intangible qualities of the existing bridge provide a distinctive view and a sense of place that cannot be replicated by the proposed alternatives. However, all of the design options also create visual benefits in that they would open the view under the bridge making the river, cove, and landforms beyond the bridge less obstructed. The river's path would be less visually obstructed, improving the visual continuity between the river and the coastline. In addition, under Measures **AMM-AR-2** and **AMM-AR-3**, aesthetic treatments applied to bridge barrier rails and retaining and wing walls would be treated with color and texture to increase the proposed project's visual compatibility with the surrounding environment.

The visual impacts of the proposed project differ by design option. The non-arch design options (i.e., Design Options 1A, 2A, and 3A) have a utilitarian design with low visual interest and memorability as well as a modern character in this setting. Visual impacts would be high to very high for Design Options 1A and 2A. The visual impact of Design Option 3A, although still high, would be slightly lower because of its symmetry and more harmonious design characteristics.

The arch design options (i.e., Design Options 1B and 2B) would have less visual impact than the non-arch design options (i.e., an average of moderate high). The arch design options are not as memorable or distinctive as the existing bridge and lack historical character. However, they provide architectural interest with their spandrel and arch design and better fit into the natural setting. The arch design forms a gateway between Albion Cove and Albion Flat and mimics the curve of adjacent hills. The visual unity of these designs may be higher than that of the existing bridge because of their harmoniousness in the landscape.

The proposed project would replace the seismically deficient existing wooden trestle bridge with a more modern bridge structure that meets seismic safety standards. Overall, the proposed project would have moderately high permanent visual impacts (see Table 23 and Table 24). Although aesthetic treatments and consideration of materials would be incorporated in the final design, (Mitigation Measures **AMM- AR-1, AMM-AR-2** and **AMM-AR-3)** and other measures for visuals would be taken into consideration (Mitigation Measures **AMM-AR-4**, **AMM-AR-5** and **AMM-AR-6**), the proposed project would not replace the aesthetic qualities of the existing bridge and would therefore have a substantially adverse effect on scenic vistas. Because these measures would not reduce the impact to less than significant, the impact would be significant and unavoidable.

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. Scenic resources in the area include the views of the Pacific Ocean and steep coastal bluffs. The Albion River Bridge would also be considered a scenic resource. SR 1 is not officially designated as a scenic highway, and the proposed project would not be visible from an officially designated state scenic highway. However, for the purpose of this project, given that SR 1 is eligible for designation and with consideration to the value of the Albion River Bridge as a scenic resource, the impact would be significant and unavoidable. Mitigation Measures **AMM-AR-1**, **AMM-AR-2** and **AMM-AR-3**, and other measures would be incorporated into the project to help reduce impacts on scenic resources, including Mitigation Measures **AMM-AR-4**, **AMM-AR-5** and **AMM-AR-6**, but significant impacts would remain. Because the project would not replace the scenic resource qualities of the existing bridge, these measures would not reduce the impact to less than significant and the impact would be significant and unavoidable.

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 proposed project is located in a rural, non-urban area. See Response “a)” above for discussion of views to and from the Albion River Bridge. All Build Alternatives would remove the existing bridge and construct a new bridge. The visual impacts of the proposed project differ by design option. Under all Build Alternatives, the proposed project would substantially degrade the existing visual character or quality of public views of the site and its surroundings. Overall, the proposed project would have moderately high permanent visual impacts (see Table 23 and Table 24). Although aesthetic treatments and consideration of materials would be incorporated in the final design, as required by Mitigation Measures **AMM AR-1, AMM-AR-2** and **AMM-AR-3**, and other measures would be incorporated into the project to help minimize impacts, including Mitigation Measures **AMM-AR-4**, **AMM-AR-5** and **AMM-AR-6**, the proposed project would not replace the aesthetic qualities of the existing bridge and would therefore substantially degrade the existing visual character or quality of public views of the site and surroundings. Because these measures would not reduce the impact to less than significant, the impact would be significant and unavoidable.

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

Less than Significant Impact. Temporary new sources of light and glare would be present during construction, including nighttime work. Standard Measure **AR-2** requires that the construction lighting be limited to within the work area, where feasible. The proposed project would not introduce new permanent lighting nor introduce substantial new sources of glare. Therefore, the impact would be less than significant, and mitigation is not required. To further lessen the potential for impacts from glare, Mitigation Measure **AMM-AR-1** would be implemented which requires selection of materials and finishes used for bridge construction that would reduce the potential for glare.

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

CEQA Significance Determinations for Agriculture and Forestry Resources

This section was prepared using information from the Community Impact Assessment (CIA) prepared for the proposed project (Area West Environmental 2024). See Section 3.2.1, *Existing and Future Land Use*, for information about land use in the project area.

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. No farmland (Prime Farmland, Unique Farmland, or Farmland of Statewide Importance) is present within the environmental study limits (ESL); therefore, there

would be no conversion of farmland to non-agricultural use. Therefore, there would be no impact.

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

No Impact. The ESL does not contain land zoned for agricultural use and there are no parcels enrolled in a Williamson Act contract. Therefore, there would be no impact.

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

No Impact. The ESL does not contain land zoned for forestland, timberland, or timberland zoned timberland production. Therefore, there would be no impact.

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

No Impact. The ESL does not contain forestland, and the proposed project would not convert forestland. Therefore, there would be no impact.

e) Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland to non-agricultural use or conversion of forest land to non-forest use?

No Impact. The proposed project does not involve changes that could result in the conversion of farmland. Therefore, there would be no impact.

4.3.3 Air Quality

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

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

CEQA Significance Determinations for Air Quality

This section was prepared using information from the Air Quality Report prepared for the proposed project (Caltrans 2024a). See Section 3.3.6, *Air Quality*, for additional information. Refer to Section 4.3.8, *Greenhouse Gas Emissions*, and Section 4.5, *Climate Change*, for more information on greenhouse gas (GHG) emissions analysis.

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

Less than Significant Impact. The proposed project is located in the North Coast Air Basin within the jurisdiction of the Mendocino County Air Quality Management District (MCAQMD). MCAQMD regulations in the California State Implementation Plan (SIP) are defined as all the rules and regulations set forth by MCAQMD in Regulation 1 – Air Pollution Control Rules and Regulation 2 – Open Burning. The proposed project is not capacity increasing and would have no operational impact on traffic volumes or fleet mix. Transportation conformity requirements do not apply to the proposed project because the proposed project is located in an attainment/unclassified area for all current National Ambient Air Quality Standards.

Construction would temporarily generate air emissions from operation of construction equipment and vehicle travel around the project site. The average daily construction emissions are provided in Table 36 of Section 3.3.6, *Air Quality*. As described in Section 3.3.6, *Air Quality*, the proposed project would not conflict with any air quality management plan, violate any air quality standard, result in a net increase of any criteria pollutant, or expose sensitive receptors to substantial pollutant concentrations. Therefore, the impact would be less than significant, and mitigation is not required.

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. Mendocino County is classified as attainment or unclassified for all criteria air pollutants at the federal and state levels. Further, the proposed project would not result in changes to the traffic volume, fleet mix, or roadway capacity. As indicated by the modeled emission rates in Table 37 of Section 3.3.6, Air Quality, the proposed project would have no impact on operational emissions relative to the No-Build Alternative. Therefore, there would be no impact.

c) Expose sensitive receptors to substantial pollutant concentrations?

Less than Significant Impact. Sensitive receptors for air emissions include residential areas, schools, hospitals, other health care facilities, child/day care facilities, parks, and playgrounds. The zone of greatest concern for transportation projects is within 500 feet of roadways. Although the Albion River Campground and Marina (Albion Campground) and numerous residences are within 500 feet of the ESL, the proposed project would not result in changes in traffic volumes, vehicle mix, basic project location, or any other factor that would cause a meaningful increase in mobile source air toxics (MSAT) impacts compared to that of the No-Build Alternative. Moreover, U.S. EPA regulations for vehicle engines and fuels will cause overall MSAT emissions to decline significantly over the next several decades. For these reasons, a health risk assessment is not required per FHWA guidance for the proposed project. Though not required, CT-EMFAC2021 was used to estimate MSAT emissions for the Build Alternatives and No-Build Alternative. Modeling results showed that the proposed project would not have an impact on MSAT emissions relative to the No-Build Alternative and that MSAT emissions would decrease over time (Caltrans 2024a).

Short-term degradation of air quality is anticipated during construction. However, these emission increases would be temporary, and the construction contractor would be required to comply with all applicable laws and regulations related to air quality, adhere to the most recent emissions reduction regulations, and restrict idling, as well as develop a Transportation Management Plan (TMP), which would reduce the potential for the proposed project to expose sensitive receptors to air pollutants (see Standard Measures **GHG-1** through **GHG-5**). Therefore, the impact would be less than significant, and mitigation is not required. To further lessen the potential for sensitive receptors to be exposed to pollutants, Measure **AMM-AQ-1** would be implemented, which includes measures to reduce dust and related air quality impacts from construction activities.

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

Less than Significant Impact. The proposed project is located within the unincorporated community of Albion. The surrounding area is primarily rural. As the proposed project would not operationally impact traffic volumes, fleet mix, or roadway capacity, the proposed project would not permanently create a new source of emissions, including objectional odors. In addition, Caltrans Standard Specification Section 14-9.02 (see also Standard Measure **GHG-1**) requires that the construction contractor comply with all applicable air-pollution-control rules, regulations, ordinances, and statutes, which would include MCAQMD Rule 1-400(a), *Public Nuisance*, which states that “a person shall not discharge from any source whatsoever such quantities of air contaminants or other material that cause injury, detriment, nuisance or annoyance to any considerable number of persons or to the public or that endanger the comfort, repose, health or safety of any such persons or the public or that cause or have a natural tendency to cause injury or damage to business or property, (Health and Safety Code, Section 41700).” Therefore, the impact would be less than significant, and mitigation is not required.

4.3.4 Biological Resources

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

CEQA Significance Determinations for Biological Resources

This section was prepared using information from the Natural Environment Study prepared for the proposed project (Caltrans 2024f). See Section 3.4, *Biological Environment*, for additional information on 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, U.S. Fish and Wildlife Service, or NOAA Fisheries (NMFS)?

Record searches and habitat assessments were conducted to determine whether special status species have the potential to be present in the project area. Federal and state lists of potential species in the vicinity are included in Appendix G, *Species Lists*.

The presence of potential habitat for each species and potential to occur are documented in Appendix L, *Special Status Plant Species with the Potential to Occur in the Project Vicinity*, for plants, and Appendix M, *Special Status Wildlife and Critical Habitat with the Potential to Occur in the Project Vicinity*, for animals. Special status plant and animal species with the potential to occur are discussed further below. The project would have no impact under CEQA on species with no potential habitat.

Special Status Plants: Less than Significant Impact

Four special status plant species were detected during seasonally appropriate floristic surveys, including fringed cornlily (*Veratrum fimbriatum*) (California Rare Plant Rank [CRPR] 4.3), harlequin lotus (*Hosackia gracilis*) (CRPR 4.3), Point Reyes checkerbloom (*Sidalcea calycosa* ssp. *rhizomata)* (CRPR 1B.2) and swamp harebell (*Campanula californica*) (CRPR 1B.2).

Both fringed cornlily and swamp harebell are outside of the project footprint and are not anticipated to be affected directly or indirectly. Therefore, the Build Alternatives would have no impact on these species.

Harlequin lotus and Point Reyes checkerbloom are anticipated to be temporarily impacted by all Build Alternatives. For harlequin lotus, impacts would be to approximately 0.650 acre of habitat, primarily from staging. Point Reyes checkerbloom would have approximately 0.002 acre of impacts due to temporary disturbance associated with access for construction of widened road shoulders.

The project would include controlling the spread of invasive species, using temporary high visibility fencing (THVF), using wetland mats, restoring temporarily disturbed areas through a Revegetation Plan following construction, and using species-specific measures to ensure impacts are negligible (Standard Measures **BR-3** and **BR-4**). These aspects of the project would limit and prevent impacts to special status plants.

Overall, the impacts to harlequin lotus and Point Reyes checkerbloom would be small, temporary in nature, and limited through the standard measures incorporated into the project. Therefore, the Build Alternatives would have a less than significant impact on harlequin lotus and Point Reyes checkerbloom.

See Section 3.4.3, *Plant Species,* for more information on special status plants.

Obscure Bumble Bee: Less than Significant Impact

The obscure bumble bee (*Bombus caliginosus*) is a critically imperiled species on the list of California Terrestrial and Vernal Pool Invertebrates of Conservation Priority. The project BSA provides suitable nesting, overwintering, and foraging habitat for obscure bumble bee, and this species was observed in the area in 2022.

The proposed project would have the potential to impact the obscure bumble bee's nesting and foraging habitat under all Build Alternatives. However, all impacts would be small in scale relative to the abundance of this habitat within the project BSA. In

addition, surveys for obscure bumble bee would be conducted prior to construction of work, and work would be stopped if species are discovered during construction (Standard Measure **BR-2**), and disturbed areas would be restored through the Revegetation Plan following construction (Standard Measures **BR-4** and **GHG-5**). Because of this, there is anticipated to be a less than significant impact on obscure bumble bee. Though the project would not require mitigation under CEQA, Measure **AMM-BR-5** would be implemented; 50-foot buffers would be established around any active nests (Measure **AMM-BR-5**).

See Section 3.4.4, *Animal Species*, for more information on obscure bumble bee.

Special Status Amphibians: Less than Significant Impact

Two amphibians considered Species of Special Concern (SSC) by CDFW have the potential to occur within the project BSA: the North Coast clade of foothill yellow-legged frog (*Rana boylii*) and the northern red-legged frog (*Rana aurora*). While it is possible for these species to be present in the project area, it is unlikely due to the high salinity of the Albion River, lack of riparian vegetation and cover within the project BSA, and year-round presence of vehicles and people on the north bank of the Albion River.

If present, both amphibian species have the potential to be directly impacted by construction activities and indirectly impacted through habitat removal and disturbance of riparian vegetation. They may also be affected by impacts to water quality. With the inclusion of standard measures and BMPs as part of the project (including **BR-2[H]**, which requires the preparation of an Aquatic Species Relocation Plan and **WQ-1** and **WQ-2**, which would protect water quality), and given low likelihood of occurrence within the proposed project area and the abundance of suitable habitat in the project vicinity to which amphibians could disperse, impacts on amphibians are anticipated to be minimal, if not avoided completely. Therefore, the project would have a less than significant impact on special status amphibians.

See Section 3.4.4, *Animal Species*, for more information on special status amphibians.

Birds: Less than Significant Impact

Raptors and other migratory and non-migratory birds have the potential to be within the project area. Raptors include the state endangered bald eagle (*Haliaeetus leucocephalus*), state watchlist osprey (*Pandion haliaetus*), state fully protected white-tailed kite (*Elanus leucurus*), as well as formerly fully protected peregrine falcon (*Falco peregrinus*). Non-raptor species include CDFW SSC purple martin (*Progne subis*), and rookery habitat for great blue herons (*Ardea herodias*) and great egrets (*Ardea alba*), among other species.

Construction of the proposed project could result in the direct loss of active nests of birds as a result of tree and vegetation removal, and indirect impacts such as increased noise and visual human activity associated with construction activities.

Conducting pre-construction nesting bird surveys, avoiding vegetation removal during the nesting season, and implementing a Bird Exclusion Plan if needed, and revegetating temporarily disturbed areas (Standard Measures **BR-2** and **BR-4)**, would limit potential impacts on birds. In addition, with consideration of the low likelihood of increased measurable visual and acoustic impacts due to the existing noise levels that SR 1 experiences, the regular visual disturbance of traffic and pedestrian activity from the neighboring town and campground, and the availability of higher quality habitat associated with the habitats surrounding the project area, the proposed project would have a less than significant impact on bird species.

See Section 3.4.4, *Animal Species*, for more information on most raptors and other bird species, and Section 3.4.5, *Threatened and Endangered Species*, for more information on bald eagle.

Marine Mammals: Less than Significant Impact with Mitigation

Marine mammals are protected under the Marine Mammal Protection Act (MMPA). This includes the non-listed gray whale (*Eschrichtius robustus*), harbor porpoise (*Phocoena phocoena*), common bottlenose dolphin (*Tursiops truncatus*), Pacific harbor seal (*Phoca vitulina richardii*), northern elephant seal (*Mirounga angustirostris*), and California sea lion (*Zalophus californianus*), which have the potential to occur in the project area. In addition, federally endangered humpback whale (*Megaptera novaeangliae*) and southern resident killer whale (*Orcinus orca*) have the potential to occur in Albion Cove, and areas below the 20-foot depth contour in the cove are designated as southern resident killer whale critical habitat.

All Build Alternatives have the potential to affect marine mammals through water quality impacts, airborne noise, visual disturbance, and hydroacoustic noise.

Construction of all Build Alternatives could affect water quality, which could affect smaller marine mammals; larger marine mammals, such as whales, are unlikely to be able to enter areas that could be affected by localized water quality impacts during construction. However, standard measures and BMPs implemented as part of the project would minimize water quality impacts by including sediment control and stabilization measures and construction waste control measures (Standard Measures **WQ-1** and **WQ-2**).

Construction of all Build Alternatives could also affect species that spend time out of the water, like Pacific harbor seal, northern elephant seal, and California sea lion through airborne noise. However, airborne noise would be intermittent and temporary, and would not be expected to cause long-term and permanent behavioral changes, and the project is an area that has regular acoustic stressors from human activities. In addition, acoustic monitoring (Standard Measure **BR-2**) would limit effects of airborne noise.

Marine mammals could also be affected by visual changes, such as artificial nighttime light. However, as with noise, visual stressors are common in the area due to human activities, and artificial lighting would be limited (Standard Measure **BR-2**), which would reduce potential for visual impacts.

Humpback whale, harbor porpoise, common bottlenose dolphin, Pacific harbor seal, northern elephant seal, and California sea lion have the potential to be within Albion Cove during construction activities in the summer months and could be affected by hydroacoustic noise. Southern resident killer whale, which would not be present in summer months, would not be affected, though its critical habitat may be temporarily impacted. Project activities could exceed behavioral thresholds of marine mammals, depending on their proximity to construction activity. It is unlikely that activities would reach the level for hearing loss with incomplete recovery (the permanent threshold shift [PTS]) for Alternatives 1 and 2, though cannot be discounted for Alternative 3 due to the long distance to the PTS threshold. However, as noted above, hydroacoustic monitoring and use of attenuation devices to minimize sound transmission would be required as part of the project (**BR-2[F]**), which would limit impacts. In addition, a biologist would monitor in-stream construction activities that could potentially impact sensitive biological receptors to ensure adherence to any permit conditions (**BR-2[G]**).

However, despite the implementation of standard measures and BMPs, there may still be effects to marine mammals. Therefore, Mitigation Measure **AMM-BR-6** would be implemented. Under this measure, a MAMP would be prepared for all marine mammals with the exception of harbor seal, and safety zones would be established around in-river activities specific to species or hearing groups. No impact pile driving would be initiated when marine animals are detected within their respective safety zone. In addition, during impact pile driving, when any marine mammal is detected in its respective safety zone, the work would be halted. Due to the abundance and frequent presence of harbor seal in the vicinity of the cove and river, including passage through the river mouth, it would not be feasible from a constructability standpoint to stop pile driving if harbor seals enter the above-ground noise or underwater noise threshold areas. However, harbor seals are a common species; it is not anticipated that there would be a population-level effect on Pacific harbor seals.

Therefore, with the implementation of **AMM-BR-6**, it is anticipated that impacts on marine mammals would be less than significant with mitigation incorporated.

Caltrans would consult with NMFS on marine mammals under FESA and the MMPA.

See Section 3.4.4, *Animal Species,* for more information on non-listed marine mammals, and Section 3.4.5, *Threatened and Endangered Species*, for additional information on federally listed marine mammals.

Bats: Less than Significant Impact

Three species of bats considered to be SSC by CDFW have the potential to be within the project area, including pallid bat (*Antrozous pallidus*), Townsend's big-eared bat (*Corynorhinus townsendii*), and western red bat (*Lasiurus blossevillii*). Bats would be unlikely to use the bridge for roosting (day and night) due to its close proximity to the ocean, and surveys provided no indication they are using the existing bridge. However, tree roosting bats, such as the western red bat (*Lasiurus blossevillii*), may roost in tree foliage virtually anywhere in forest habitats.

Since roosting bats are unlikely to use the bridge where the majority of work activities are anticipated to occur, the potential impact of these actions would be very low. Vegetation removal, particularly of trees within the eucalyptus grove habitat located north of Albion River, could potentially disturb or displace individual bats. However, there is suitable roosting and foraging habitat within close proximity to the proposed project area for them to relocate.

Given the low likelihood that bat colonies would use the habitat on the Albion River Bridge, the limited amount of tree removal for the proposed project under all Build Alternatives, the temporary nature of construction of the proposed project, and the implementation of standard measures, including conducting a pre-construction bat survey and preparing a Bat Exclusion Plan if needed (Standard Measure **BR-2**), impacts on bat species would be negligible, if any. Therefore, the proposed project would have a less than significant on special status bat species.

See Section 3.4.4, *Animal Species*, for more information on bats.

Lotis Blue Butterfly and Behren's Silverspot Butterfly: Less than Significant Impact

Though unlikely to be present based on survey data, federally endangered lotis blue butterfly (*Plebejus* [*Lycaeides*] *anna lotis*) and Behren's silverspot butterfly (*Speyeria zerene behrensii*) have habitat in the project area.

The project area contains nectar plants for both butterfly species. In addition, the Butterfly BSA supports approximately 13.49 acres of harlequin lotus, a presumed larval host plant for lotus blue butterfly, and approximately 0.02 acre of early blue violet, Behren's silverspot butterfly larval host plant.

It is anticipated that there would be minor temporary impacts on a small amount of lotis blue butterfly larval host plant (harlequin lotus) habitat; impacts would be small in scale relative to the abundance of these plants within the Butterfly BSA. There would be no impact to Behren's silverspot butterfly larval host plant (early blue violet) habitat, as the closest patch is approximately 30 feet from the closest cut/fill boundary for any alternative.

The project would include the placement of THVF fencing to limit the extent of ground disturbance, pre-construction surveys for special status butterflies, renewed floristic surveys (including for butterfly host plants), and revegetation of temporarily disturbed areas (Standard Measures **BR-2** through **BR-4**), which would limit impacts to lotis blue butterfly habitat and protect habitat for both butterfly species for all Build Alternatives. It is anticipated that, due to minimal effects to larval host plant habitat, the project would have a less than significant impact on lotis blue butterfly. The project is anticipated to have no impact on Behren's silverspot butterfly.

Caltrans would consult with USFWS for special status butterflies under FESA.

See Section 3.4.5, *Threatened and Endangered Species*, for additional information on special status butterflies.

Leatherback Sea Turtle: Less than Significant Impact with Mitigation

While unlikely, the federally endangered leatherback sea turtle (*Dermochelys coriacea*) could briefly enter Albion Cove to forage during its seasonal migrations along the Pacific Coast.

If a leatherback sea turtle were to enter Albion Cove during construction, all Build Alternatives may result in hydroacoustic impacts from pile driving and demolition, including behavioral responses or injury. Measures included as part of the project, such as hydroacoustic monitoring and use of attenuation devices during pile driving (Standard Measure **BR-2[F]**), would limit the distance of hydroacoustic impacts. In addition, a biologist would monitor in-stream construction activities that could potentially impact sensitive biological species, including leatherback sea turtles (Standard Measure **BR-2[G]**).

However, there may still be effects to leatherback sea turtles. Therefore, Mitigation Measure **AMM-BR-6** would be implemented, which would further reduce potential impacts on leatherback sea turtle. Under this measure, a Marine Animal Monitoring Plan (MAMP) would be prepared. Adaptive measures, such as defining safety zones for the species would be included. No activities that could produce underwater sound would be initiated if a leatherback sea turtle was present within its safety zone, and activities would be halted if it entered that area.

With the implementation of **AMM-BR-6**, it is anticipated that impacts on leatherback sea turtle would be less than significant with mitigation incorporated.

Caltrans would consult with NMFS on leatherback sea turtle under FESA.

See Section 3.4.5, *Threatened and Endangered Species*, for additional information on leatherback sea turtle.

Marbled Murrelet: Less than Significant Impact with Mitigation

The federally threatened and state endangered marbled murrelet (*Brachyramphus marmoratus*) has no designated critical habitat in the project area, and there is no suitable nesting habitat within the project BSA; the nearest suitable habitat is approximately 0.26 mile from the eastern alignment (Alternative 2), which is beyond the distance at which noise and visual harassment of the species would be anticipated.

However, marbled murrelet has the potential to forage in waters offshore of the Albion River mouth.

Due to the amount of time that marbled murrelets spend foraging underwater, they could be affected by hydroacoustic impacts if present. Construction of Design Options 1A and 3A have the greatest potential to exceed the auditory injury threshold, though cove waters near the area of hydroacoustic noise are shallow and would not be

considered normal foraging habitat for the species. In addition, activities that produce hydroacoustic noise would coincide with high periods of human activity and general construction noise, and marbled murrelets are likely to avoid foraging close to areas of high airborne noise. Therefore, the potential for any design option (except Design Option 3A) to produce elevated sounds that could cause cumulative injury and that actually reach foraging marbled murrelet would be very low. Design Option 3A could have hydroacoustic noise impacts that extend past the shallowest areas of the cove.

The use of sound attenuation devices to minimize transmission of underwater sound, acoustic and hydroacoustic monitoring (Standard Measure **BR-2[F]**) as well as the presence of a biologist to monitor in-stream construction activities that could potentially impact sensitive biological receptors (Standard Measure **BR-2[G]**), would limit impacts to foraging marbled murrelet.

However, while there is a low chance for marbled murrelets to be foraging where there may be impacts from construction, and while standard measures would limit potential impacts, the project may still affect marbled murrelet. Therefore, Mitigation Measure **AMM-BR-6** would be implemented. Under this measure, a MAMP would be prepared. Adaptive measures, such as defining safety zones for the species would be included. No activities that could produce underwater sound would be initiated if marbled murrelet was present within its safety zone, and activities would be halted if it entered that area.

With the implementation of **AMM-BR-6**, it is anticipated that impacts on marbled murrelet would be less than significant with mitigation incorporated.

Caltrans would consult with USFWS for marbled murrelet under FESA.

See Section 3.4.5, *Threatened and Endangered Species*, for additional information on marbled murrelet.

Fish Species: Less than Significant Impact with Mitigation

The project could affect special status fish species present in the Aquatic Species BSA:

- The federal species of concern and CDFW SSC Pacific lamprey (*Entosphenus tridentatus*) may use the Albion River for migration between the ocean and upstream spawning areas. Construction activities within the Albion River, such as pile driving, would take place between June 15 to October 15, avoiding the primary migration periods of Pacific lamprey. However, though unlikely, migrating lamprey could be subject to impacts from in-water construction activities during the first few weeks of the summer construction window depending on the climactic conditions and weather patterns during the year of construction.

- The federally threatened California Coastal (CC) Evolutionarily Significant Unit (ESU) of Chinook salmon (*Oncorhynchus tshawytscha*) uses the Albion River to access upstream spawning areas for rearing and passage during migration and movements to non-natal rearing habitat. All aquatic habitat within the Albion River is considered critical habitat for CC Chinook salmon. Construction activities

within the Albion River would take place between June 15 to October 15, avoiding the primary migration periods of CC Chinook salmon. However, juvenile Chinook salmon may transit through the proposed project area during the early summer months and thus could be subject to exposure to in-water or nearshore construction activities during the summer construction window.

- The federally and state endangered Central California Coast (CCC) Distinct Population Segment (DPS) of coho salmon (*Oncorhynchus kisutch*) uses the Albion River to access upstream spawning and rearing areas and passage during migration to the ocean. All aquatic habitat within the Albion River is considered critical habitat for CCC coho salmon. Due to the timing of in-water work and because juvenile coho salmon migrate at night, construction of the proposed project would be unlikely to have direct impacts on migrating juvenile coho salmon. No in-water construction work at or below the high tide line is proposed during the adult migration seasons and no impacts on adult coho salmon are anticipated. However, smolts could be present within the nearshore waters of the Aquatic Species BSA and may move into the Albion River channel during high tides; therefore, while unlikely that fish would stay in the shallow areas of the channel, low numbers of juvenile CCC coho salmon may be within the Aquatic Species BSA during summer construction activities.

- The federally threatened Southern DPS of green sturgeon (*Acipenser medirostris*) is unlikely to occur in the project area, as they are only known to breed within the Sacramento River watershed and have not been documented in the area. However, it is possible that the species could briefly enter Albion Cover to forage during their spring and fall migrations along the coast. In addition, Albion Cove contains critical habitat for this species.

- The federally threatened Northern California (NC) DPS of steelhead (*Oncorhynchus mykiss irideus*) uses the Albion River to access upstream spawning and rearing areas and migrating downstream to the ocean. All aquatic habitat within the Albion River is considered critical habitat for this species. Construction activities within and adjacent to the Albion River would take place between June 15 to October 15, which would avoid the primary migration periods of NC steelhead within the proposed project area. While unlikely within the immediate project footprint as sufficient bank and tree cover is lacking, juvenile steelhead may also occur within the proposed project area during the summer months and thus could be subject to exposure to in-water construction activities during the summer construction window.

Impacts to special status fish, depending on species, include impacts to water quality, hydroacoustic and visual impacts, direct injury, fish passage, and habitat impacts. However, measures included as part of the project would protect water quality, protect adjacent habitat through installation of THVF fencing, lessen visual disturbance by minimizing use of nighttime lighting, and limit hydroacoustic impacts through monitoring (see Standard Measures **WQ-1** and **WQ-2, BR-2** and **BR-4**). In addition, an Aquatic Species Relocation Plan would be used if needed, and a biological monitor would be

present for in-stream construction activities that could affect fish (Standard Measure **BR-4**). These measures would minimize and avoid potential impacts on special status fish species.

Given the temporary nature of the work, absence of spawning habitat or rearing habitat for Pacific lamprey ammocetes within the project BSA or Aquatic Species BSA, and because work in and immediately adjacent to the river would not occur until mid-June when flows are low and macropthalmia (juvenile lamprey), if present, would have left the stream system, the potential for encountering any life stage of Pacific lamprey during the in-water work window is very low. With the implementation of standard measures, it is anticipated that impacts on Pacific lamprey, if any, are anticipated to be minimal. However, Measure **AMM-BR-7,** which requires that the construction contractor adhere to USFWS guidance on BMPs for Pacific lamprey, would be implemented to further minimize potential impacts on this species.

The proposed project may adversely impact the federally and state listed fish species discussed above. Therefore, Mitigation Measure **AMM-BR-10** would be implemented. Under this measure, Caltrans would pursue mitigation to compensate for impacts to federally and state listed fish through various options, such as improving habitat complexity or partially funding an important salmonid recovery project. With this measure, it is anticipated that the project would have a less than significant impact with mitigation incorporated on federally and/or state-listed fish species.

Caltrans would consult with NMFS for federally listed fish species under FESA, and with CDFW for effects to state listed CCC coho salmon.

See Section 3.4.4, *Animal Species*, for more information on Pacific lamprey, and Section 3.4.5, *Threatened and Endangered Species,* for more information on federally and/or state listed fish.

Essential Fish Habitat: Less than Significant Impact with Mitigation

The project area includes both Essential Fish Habitat (EFH), which is protected under the Magnuson-Stevenson Act (MSA), as well as Habitat Areas of Particular Concern (HAPCs), which are discrete subsets of EFH. EFH in the project area includes Pacific Coast Salmon EFH, Western Coastal Pelagic Species EFH, Highly Migratory Species EFH, and Pacific Groundfish EFH. HAPCs in the area include seagrass habitat, kelp beds, estuarine habitat, and rocky reefs, where seagrass, estuarine habitats, and kelp beds are considered HAPC for both Pacific Coast Salmon and Pacific Coast Groundfish species and rocky reefs are HAPC for Pacific Coast Groundfish. There are no identified HAPC for Coastal pelagic species EFH or highly migratory species EFH.

All Build Alternatives could impact the fish species associated with each EFH through temporary water quality impacts and temporary noise disturbance and visual stressors. These temporary stressors to fish species may adversely impact the ecological functions of EFH. However, the project would include measures to protect water quality, installation of THVF to protect sensitive areas, limit the in-water operation period, and hydroacoustic monitoring to protect aquatic species (see Standard Measures **WQ-1**,

WQ-2, BR-2, and **BR-4**). In addition, foraging potential and safe passage conditions would be restored to baseline levels upon completion of construction. Furthermore, species could find refuge in the abundant available cover/shelter habitat within surrounding areas. As such, no measurable, long-term permanent impacts to waters, substrates, food production and availability, and cover conditions from construction activities would be expected; therefore, the project is not anticipated to result in a long-term reduction in Pacific Coast Salmon EFH, Pacific Coast Groundfish EFH, and Coastal Pelagic Species EFH, or Highly Migratory Species EFH.

Kelp beds and rocky reef HAPCs are far enough away that any impacts to these areas, such as water quality, would be short term and temporary. However, the project may affect the seagrass HAPC through direct and indirect impacts, depending on Build Alternative. Impacts are discussed in in Section 3.4.1, *Natural Communities* and Section 3.4.5, *Threatened and Endangered Species*. As the estuary HAPC contains the seagrass as well, impacts to this HAPC would apply to the estuary HAPC. In addition, the estuary includes tidal waters. Therefore, impacts to tidal waters would be an impact to estuaries; all design options have the potential to impact tidal waters, though impacts are anticipated to be small, and offset by removal of a concrete footing of the existing bridge located on the south bank of the Albion River. These impacts are discussed in greater detail in Section 3.4.2, *Wetlands and Other Waters.*

Due to the sensitivity of seagrass, and particularly the eelgrass associated with this HAPC, it is anticipated that impacts may be significant. Mitigation Measures **AMM-BR-2**, **AMM-BR-3**, and **AMM-BR-8** would be implemented. **AMM-BR-2** and **AMM-BR-3** would be intended to avoid impacts, requiring soil (sand) protection timber crane mats when working adjacent to the channel or below high tide line at low tide and placing temporary trestle piles and permanent bridge foundations outside of eelgrass habitat where feasible to lessen direct impacts, and installing temporary trestle piles during outgoing tides when feasible to deflect turbidity away from upstream eelgrass habitats. **AMM-BR-8** would include following standards outlined in the California Eelgrass Mitigation Policy (CEMP) to ensure “no net loss” of seagrass. With these measures in place, the project would have a less than significant impact with mitigation incorporated on EFH.

Caltrans would consult with NMFS for EFH and associated HAPC under the MSA.

See Section 3.4.1, *Natural* Communities, for more information on eelgrass, and Section 3.4.5, *Threatened and Endangered Species*, for additional information on EFH and associated HAPCs.

b) Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service?

Less than Significant Impact with Mitigation. There are six sensitive natural communities (SNCs) that would be affected by the project, as described in Section 3.4.1, *Natural Communities*. These include coastal silk tassel scrub, coastal brambles, wax myrtle scrub, coastal dune willow thickets, Coast Range stonecrop draperies, and eelgrass beds. Temporary and permanent impacts on these communities are summarized in Table 49.

In addition to SNCs, the project area contains riparian areas adjacent to streams. These overlap the coastal silk tassel scrub, coastal brambles, wax myrtle scrub, and coastal dune willow thicket SNCs. See Section 3.4.2, *Wetlands and Other Waters*, for additional information on riparian habitat, and Table 54 for a summary of impacts.

The project would limit impacts on SNCs and riparian habitat both during and after construction with its measures to prevent invasive non-native species from colonizing disturbed areas, placement of Temporary High Visibility Fencing (THVF) and/or flagging around sensitive communities to prevent unanticipated impacts, and implementation of a Revegetation Plan for restoring disturbed areas (see Standard Measures **BR-3** and **BR-4**).

In addition to standard measures described above, to ensure that impacts to SNCs and riparian habitat are compensated for, Mitigation Measures **AMM-BR-1**, **AMM-BR-8**, and **AMM-BR-9** would be implemented.

While temporary impacts would be restored onsite, permanent impacts to terrestrial SNCs and riparian habitat would be offset under **AMM-BR-1** (SNCs) and **AMM-BR-9** (riparian habitat), which would include purchasing credits from the Mendocino Coast Mitigation bank and/or conducting off-site mitigation; ratios would be determined in coordination with administering agencies during permitting; however, ratios of approximately 1:1 to 2:1 are anticipated for the use of the mitigation bank, and a minimum ratio of 3:1 is anticipated for off-site mitigation.

For the aquatic SNC—eelgrass— **AMM-BR-8** would be implemented, as discussed under the section on EFH above, which includes following the CEMP to ensure no net loss of eelgrass. In addition, Mitigation Measures **AMM-BR-2** and **AMM-BR-3** would help avoid impacts to eelgrass by using soil protection mats and placing structures outside of eelgrass habitat where feasible and installing temporary trestle piles during outgoing tides when feasible.

Based on the above, the impacts to SNCs and riparian habitat would be less than significant with mitigation incorporated.

c) Have a substantial adverse effect on state or federally protected wetlands (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?

Less than Significant Impact with Mitigation. As described in Section 3.4.2, *Wetlands and other Waters*, all Build Alternatives have the potential to have temporary and permanent impacts to wetlands, tidal waters, intermittent streams, ditches, culverts, and coastal wetlands. Impacts are summarized in Table 53 in Section 3.4.2.

As part of the project, bare soil areas would be stabilized over both the short and long term to minimize adverse effects to water quality, THVF would be used to limit ground disturbance to the project footprint, debris containment plans would be implemented as needed so that construction debris does not enter adjacent waters, and a project-specific Revegetation Plan would be prepared, which would require that all wetlands and waters temporarily impacted by construction be revegetated once construction is complete (see Standard Measures **WQ-1**, **WQ-2**, **BR-3**, **BR-4**, and **BR-5**). These elements of the project would minimize impacts both during and after construction.

However, to ensure temporary impacts are restorable, and to ensure no net loss from permanent impacts, Mitigation Measures **AMM-BR-4** and **AMM-BR-9** would be implemented. Under these measures, areas of temporary impacts would be restored to natural contours, and offsite restoration would be pursued for impacts that cannot be restored or replaced onsite. Caltrans plans to use credits from the Mendocino Coast Mitigation Bank to compensate for impacts. Mitigation ratios would be determined in coordination with administering agencies during permitting; however, ratios of approximately 1:1 to 2:1 are anticipated for the use of the mitigation bank.

With the implementation of Mitigation Measures **AMM-BR-4** and **AMM-BR-9**, the project is anticipated to have less than significant impacts with mitigation on wetlands and other waters.

The project would require a Clean Water Act (CWA) Section 401 Water Quality Certification from the North Coast Regional Water Quality Control Board, a CWA Section 404 from USACE, a Section 1602 Streambed Alteration Agreement from CDFW, and a Coastal Development Permit from Mendocino County and/or the California Coastal Commission (CCC).

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?

Less than Significant Impact. Albion Cove and the Albion River within the Aquatic Species BSA provides migration habitat for adult anadromous fish species that migrate upriver into freshwater habitats to spawn and for juvenile salmonids moving downstream to the ocean from upstream rearing areas. This river system provides habitat connectivity to numerous terrestrial and semi-aquatic species that may forage and find cover along the banks of the river. For example, marine mammal species such as Pacific harbor seals travel through the BSA from Albion Cove to upriver sites to feed and bask, using haul-outs approximately 0.4 mile upriver from the BSA.

The proposed project would only have the potential for slight and mostly temporary changes to the migration habitat for anadromous fish species and other marine species as well as terrestrial species that could use riparian habitats. Within the Albion River, temporary piles would be placed 25 to 30 feet apart and would span the deepest and fastest moving part of the river (thalweg), allowing marine species of all sizes to pass below. In addition, pier removal of the existing Albion River Bridge would enhance available habitat for aquatic species and could potentially increase habitat connectivity for terrestrial dune inhabitants, including rodents and invertebrates. Therefore, impacts would be less than significant, and mitigation is not required.

See Section 3.4.1, *Natural Communities,* for additional information on habitat connectivity.

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

No Impact. None of the Build Alternatives conflict with any local policies or ordinances protecting biological resources. See Section 3.2.2, *Consistency with State, Regional, and Local Plans and Program* and Section 3.2.3, *Coastal Zone,* for additional information on local polices.

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. As there are no adopted Habitat Conservation Plans, Natural Community Conservation Plans, or other approved local, regional, or state habitat conservation plan in the project area, there would be no conflict with these plans.

4.3.5 Cultural Resources

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

CEQA Significance Determinations for Cultural Resources

See Section 3.2.11, *Cultural Resources*, for additional information on cultural resources.

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

Significant and Unavoidable Impact. Under CEQA, a significant impact would occur if a proposed project caused a substantial adverse change in the significance of a historical resource pursuant to Section 15064.5 by doing either of the following:

- Demolishing or materially altering the qualities that justify the resource for inclusion or eligibility for inclusion in the CRHR (Section 15064.5[b][2][A], [C]).
- Demolishing or materially altering the qualities that justify the inclusion of the resource in a local register (Section 15064.5[b][2][B]) or its identification as an historical resource in a survey meeting the requirements of California Public Resources Code Section 5024.1(g).

One historical resource (the Albion River Bridge [10-0136, NRHP Reference #100001383]) and three potential archaeological resources (unevaluated archaeological sites CA-MEN-3645 [P-23-00584], CA-MEN-3652H [P-23-005516], and CA-MEN-3653H [P-23-004258]) have been identified within the proposed project's Area of Potential Effects (APE), which was developed in compliance with Section 106 of the National Historic Preservation Act (NHPA).

The Albion River Bridge, which is listed in the National Register of Historic Places (NRHP) and the California Register of Historic Resources (CRHR), would be directly impacted by the proposed project. All Build Alternatives would materially alter the qualities that justify the bridge's eligibility for inclusion in the NRHP and CRHR (36 CFR 60.4 and Section 15064.5[b][2][A], [C]).

All Build Alternatives could alter qualities that would justify the eligibility of the three unevaluated archaeological sites for inclusion in the CRHR, should any of these three sites be determined eligible. The portions of these three sites that could be impacted by the proposed project could not be evaluated regarding their eligibility for the CRHR due to a lack of access to private property. In accordance with Mitigation Measure **AMM-CR-2**, these resources would be evaluated prior to construction, after access is obtained,

and impacts determined under a Phased Programmatic Agreement (PA) and attached Cultural Resources Management Plan (CRMP) for phased identification and impact determinations of potentially eligible resources, which would be developed in consultation with the State Historic Preservation Officer (SHPO), consulting tribes, and consulting parties. If determined eligible for the CRHR, substantial adverse changes to the three archaeological sites would be mitigated through the development of treatment measures, such as data recovery, which would be implemented under the Cultural Resources Management Plan, should such changes be identified. Treatment measures such as data recovery would require consultation with the SHPO, consulting tribes, and consulting parties. Those portions of each site that would not be impacted would be protected with the establishment of ESAs (**AMM-CR-1**).

Measures to mitigate significant impacts on the Albion River Bridge would also be included in the CRMP, along with other measures agreed to in the Phased PA, which would be developed under Stipulation XII.A of the *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 Historic Preservation Act, as it Pertains to the Administration of the Federal-Aid Highway Program in California* (PA). Section 3.2.10, *Cultural Resources*, identifies the process and measures to address both the archaeological sites and the bridge that would be implemented by Caltrans as Mitigation Measure **AMM-CR-2** (i.e., development and implementation of the CRMP) and Mitigation Measure **AMM-CR-3** (treatment measures determined pursuant to Section 106 to resolve impacts on the Albion River Bridge). However, changes to the Albion River Bridge, a NRHP/CRHR-listed resource, remain substantial and adverse even with the implementation of these measures, as the bridge would be removed and replaced under all Build Alternatives. Therefore, the impact would be significant and unavoidable even with mitigation.

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

Less Than Significant Impact with Mitigation. Archaeological resources considered under CEQA may meet the definition of either a historical resource or unique archaeological resource. Impacts on historical resources are described above. Public Resources Code Section 21083.2(g) defines a unique archaeological resource as an archaeological artifact, object, or site about which it can be clearly demonstrated that, without merely adding to the current body of knowledge, there is a high probability that it meets any of the following criteria:

1. It contains information needed to answer important scientific research questions, and there is a demonstrable public interest in that information.
2. It has a special and particular quality, such as being the oldest of its type or the best available example of its type.
3. It is directly associated with a scientifically recognized important prehistoric or historic event or person.

Regarding unique archaeological resources, CEQA states that when a proposed project will cause damage to a unique archaeological resource, reasonable efforts must be made to preserve the resource in place or leave it in an undisturbed state. Under CEQA, a significant impact would occur if a proposed project caused a substantial adverse change in the significance of a unique archaeological resource by:

- Demolishing or materially impairing the characteristics that allow a site to qualify as a unique archaeological resource (California Public Resources Code Section 21083.2[g]).

As described in Section 3.2.10, *Cultural Resources*, portions of three unevaluated archaeological sites (CA-MEN-3645 [P-23-00584], CA-MEN-3652H [P-23-005516], and CA-MEN-3653H [P-23-004258]) have been identified within the APE. The Build Alternatives could potentially demolish and/or materially alter qualities that would justify the eligibility of the three archaeological sites for inclusion in the CRHR or as unique archaeological sites. The portions of these three sites that could be impacted by the proposed project could not be evaluated regarding their eligibility for the CRHR or as unique archaeological sites due to a lack of access to private property. These resources would be evaluated, and impacts determined under a Phased PA and attached CRMP, which would be developed in consultation with the SHPO, consulting tribes, and consulting parties.

Substantial adverse changes to the three archaeological sites would be mitigated through the development of treatment measures, such as data recovery, which would be implemented under the CRMP, should such adverse changes be identified. Therefore, as discussed in Section 3.2.10, *Cultural Resources*, Caltrans would implement Mitigation Measure **AMM-CR-1**, which includes the development and implementation of the CRMP, inclusive of an Archaeological Monitoring Plan (Mitigation Measure **AMM-CR-4**) and inadvertent discovery plan to manage as yet unidentified archaeological resources. Implementation of the measures prescribed in the CRMP would consider, manage, and address any potentially adverse changes to archaeological resources resulting from the proposed project. Therefore, the impact would be less than significant with mitigation incorporated.

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

No Impact. The proposed project area does not include any known cemeteries, burial sites, or human remains, but there is always the potential that buried or submerged cultural resources, including human remains, could be encountered during construction. In the unlikely event that buried human remains are encountered during construction activities, the proposed project would comply with the unanticipated discovery procedures outlined within Caltrans' standard measures and BMPs, including **CR-4**, which are described in Section 3.2.11 *Cultural Resources*. Therefore, there would be no impact.

4.3.6 Energy

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

CEQA Significance Determinations for Energy

This section was prepared using information from the Energy Technical Memo prepared for the proposed project (Caltrans 2024d). See Section 3.3.8, *Energy*, for additional information on energy use and consumption.

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

Less than Significant Impact. During construction, direct energy consumption would primarily occur through operation of heavy-duty construction equipment, material deliveries, and debris hauling. Energy consumption was quantified using Caltrans Construction Emissions Tool (CAL-CET 2021). As shown in Table 47 in Section 3.3.8, *Energy*, the maximum fuel consumption for any alternative from roadway and structure construction would be approximately 237,322 gallons of diesel and approximately 62,919 gallons of gasoline. This represents a small demand on local and regional energy consumption, and this demand would cease once construction is complete. Compared to the diesel and gasoline sales for Mendocino County, the proposed project's energy consumption would represent 1.5 percent of the county's diesel consumption and 0.2 percent of the county's gasoline consumption (California Energy Commission 2023). Moreover, construction-related energy consumption would be temporary and not a permanent new source of energy demand.

The project would not result in changes in traffic volumes, vehicle mix, or any other factor that would cause an increase in direct energy consumption following construction. The intervals between maintenance activities would lengthen compared to existing conditions and the No-Build Alternative because the bridge would be new and require less maintenance. As such, an increase to indirect energy consumption though increased fuel usage for maintenance activities is not anticipated under the Build Alternatives.

The proposed project would not result in an inefficient, wasteful, or unnecessary consumption of energy. Therefore, the impact from construction activities would be less than significant, and mitigation is not required. To further lessen the potential for unnecessary consumption of energy resources, Measure **AMM-AQ-1** would be implemented, which includes measures to limit idling of vehicles during construction.

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

No impact. The project would not conflict with a state or local plan for renewable energy or energy efficiency, such as the 2022 CARB Scoping Plan (CARB 2022), which sets a goal for carbon neutrality by 2045, because the proposed project would not result in a substantial amount or inefficient use of energy during construction or increase capacity and associated energy consumption during operation and maintenance. Therefore, there would be no impact.

4.3.7 Geology and Soils

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

CEQA Significance Determinations for Geology and Soils

This section was prepared using information from the Paleontological Identification and Evaluation Report (Earthview Sciences 2023), the Revised Preliminary Foundation Report (Caltrans 2014b), and Sand Supply Memorandum (Caltrans 2024c) prepared for the proposed project. . See Section 3.3.3, *Geology/Soils/Seismic/Topography*, and Section 3.3.4, *Paleontology*, for additional information on geological and paleontological resources.

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. As no known faults are projecting toward or passing through the proposed project area, the potential for surface rupture due to fault movement is considered low. However, the area generally is in a seismically active region. According to the proposed project's Preliminary Foundation Report (Caltrans 2014b), the San Andreas fault is approximately three miles west of the project area (offshore).

Caltrans' Office of Earthquake Engineering is responsible for assessing the seismic hazard for Caltrans projects, and the proposed project would be designed to meet Caltrans' stringent seismic design criteria. The project would be designed according to Caltrans seismic standards to minimize the risk to construction workers and the traveling public. The project would not be expected to cause potential substantial adverse effects related to a known earthquake fault. Therefore, there would be no impact.

ii. Strong seismic ground shaking?

No Impact. The project is in an area subject to strong ground shaking. The project would replace the existing seismically deficient Albion River Bridge. As noted in Response a), Caltrans' Office of Earthquake Engineering is responsible for assessing the seismic hazard for Caltrans projects, and the replacement bridge would be designed to meet Caltrans's stringent seismic design criteria. As such, the project would not be expected to cause potential substantial adverse effects related to strong seismic ground shaking. Therefore, there would be no impact.

iii. Seismic-related ground failure, including liquefaction?

Less than Significant Impact. As described in the proposed project's Preliminary Foundation Report (Caltrans 2014b), the Albion River channel areas have saturated, loose, granular soils, which may have a moderate to high liquefaction potential to an estimated maximum depth of 50 to 60 feet during strong earthquake ground shaking. However, as noted in Response a), Caltrans' Office of Earthquake Engineering is responsible for assessing the seismic hazard for Caltrans projects, and the replacement bridge would be designed to meet Caltrans' stringent seismic design criteria, which includes consideration for seismic hazards such as liquefaction. As such, the project would not be expected to cause potential substantial adverse effects associated with seismic-related ground failure, including liquefaction. Therefore, the impact would be less than significant, and mitigation is not required.

iv. Landslides?

Less than Significant Impact. The project is in an area prone to landslides. The project's Preliminary Foundation Report (Caltrans 2014b) stated that the south-facing slopes and the west-facing bluff are relatively steep, exceeding 1 Horizontal: 1 Vertical (1H:1V) grade, with slope heights reaching 140 to 150 feet above the valley floor.

According to the California Geological Survey (Fuller et al. 2004), there is evidence of debris slides along the Albion River, particularly above the Albion Flat and around the southern abutment of the existing Albion River Bridge. The Preliminary Foundation Report also noted that the west-facing bluff is underlain by a debris slide and the south-facing slope may contain a dormant landslide.

The project would be designed according to Caltrans Seismic Design Criteria, minimizing the risk of a landslide. All Build Alternatives would be designed and constructed based on recommendations from a final design-level geotechnical report, which would document all potential soil-related constraints and hazards, such as slope instability, and provide geotechnical recommendations for the specific foundation design and earthwork construction. Therefore, the project would have a less than significant impact.

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

Less than Significant Impact. Ground-disturbing earthwork associated with construction activities, including clearing vegetation and regrading, could increase soil erosion rates and the loss of topsoil. However, all Build Alternatives would install permanent shoring as a necessary safety element to stabilize excavations for equipment and worker access along the steep slopes around the new bridge foundations. In addition, the project would be designed to minimize slope failure, settlement, and erosion, and new earthen slopes would be vegetated to reduce erosion potential (see Standard Measure **GS-1)**. The standard measures and BMPs described in Section 3.3.2, *Water Quality and Stormwater Runoff*, related to implementation of the Stormwater Pollution Prevention Plan, would also be implemented, which would minimize and reduce the potential for erosion and the loss of topsoil during and immediately following construction. The design features, standard measures, and water quality BMPs would ensure that the proposed project would not result in substantial soil erosion or the loss of topsoil. Therefore, the impact would be less than significant, and mitigation is not required.

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?

Less than Significant Impact. The project area is prone to landslides and is in an area that may receive strong ground shaking. Some of the Franciscan Complex in the area is potentially unstable due to varying degrees of natural weathering. However, the project would not cause an increase in the degrees of weathering or cause any geologic units to become unstable. In addition, the proposed foundations of the bridge would be anchored into competent bedrock, bypassing any potentially unstable geologic formations. Build Alternatives would also include permanent shoring as a necessary safety element to stabilize excavations for equipment and worker access along the steep slopes around the new bridge foundations.

Caltrans' Office of Earthquake Engineering is responsible for assessing the seismic hazard for Caltrans projects, and the replacement bridge would be designed to meet

Caltrans' stringent seismic design criteria. All Build Alternatives would be designed and constructed based on recommendations from a final design-level geotechnical report, which would document all potential soil-related constraints and hazards, such as slope instability, settlement liquefaction, or related secondary seismic impacts. The proposed project would not be expected to cause the area to become unstable. Therefore, the impact would be less than significant, and mitigation is not required.

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?

Less than Significant Impact. Expansive soil is soil that is prone to expansion or shrinking due to water volume (e.g., clay). The Preliminary Foundation Report (Caltrans 2014b) described hard and soft clay under topsoil and sandy material. However, the bridge foundations are proposed to be in bedrock. In addition, the final design-level geotechnical report would further evaluate expansive and potentially corrosive soils and provide recommendations regarding construction procedures and/or design criteria to reduce the effect of these soils on project development. The proposed project would not be expected to create substantial risk due to expansive soils. Therefore, the impact would be less than significant, and mitigation is not required.

e) Have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems where sewers are not available for the disposal of wastewater?

No Impact. The project would not include a septic system. Therefore, there would be no impact.

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

No Impact. All Build Alternatives would disturb geologic units with a low sensitivity for paleontological resources and have a low potential to affect scientifically significant paleontological resources. Contractors would be required to implement the provisions of Standard Measure **GS-2**, which includes work stoppage and appropriate follow-up if paleontological resources are encountered during project construction. Therefore, there would be no impact.

4.3.8 Greenhouse Gas Emissions

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

CEQA Significance Determinations for Greenhouse Gas Emissions

This section was prepared using information from the Air Quality Report prepared for the proposed project (Caltrans 2024a) and the analysis of GHG emissions provided in Section 4.5, *Climate Change*.

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

Less than Significant Impact. Project construction is expected to begin in 2027. The estimated length of construction for Alternatives 1 and 2 is 3 years, and for Alternative 3 is 5 years. The proposed project would result in the generation of short-term construction related GHG emissions. Construction GHG emissions include emissions produced by on-site construction equipment, and emissions arising from traffic delays due to construction. These emissions would be generated at different levels throughout the construction phase. The construction schedule and activities used in the GHG analysis are consistent with the construction emissions analysis for air quality.

CAL-CET2021 was used to estimate average carbon dioxide (CO_2), methane (CH_4), nitrous oxide (N_2O), Black Carbon (BC), and Hydrofluorocarbon-134a (HFC-134a) emissions from construction activities. Table 70 summarizes estimates of GHG emissions during the construction periods for the proposed project. The carbon dioxide equivalent (CO_2e) produced during construction for the proposed project is estimated to range between approximately 1,839 and 3,173 metric tons depending on the Build Alternative. While construction GHG emissions are only produced for a short time, they have long-term effects in the atmosphere, so cannot be considered “temporary” in the same way as criteria pollutants that subside after construction is completed. Neither Caltrans, nor Mendocino County or MCAQMD have an adopted threshold of significance for construction GHG emissions. Following construction, the proposed project would not increase capacity of the roadway or change travel demands, and the fleet mix would remain the same relative to the No-Build Alternative. GHG emissions would not increase operationally due to the proposed project. With implementation of construction GHG reduction measures, including Standard Measures **GHG-1** through **GHG-5,** which require the contractor to comply with all applicable laws and regulations related to air quality, limit idling, and revegetate disturbed areas to reduce surface warming, the impacts would be less than significant, and mitigation is not required. In addition, Measure **AMM-GHG-1** would be implemented requiring that the construction contractor use Best Management Practices (BMP) to minimize energy consumption,

which would also help reduce GHG emissions. This measure includes using solar-powered equipment if feasible, proper vehicle and equipment maintenance, and recycling of non-hazardous waste.

Table 70. Estimates of Greenhouse Gas Emissions During Construction

Alternative	CO_2 (Ton)	CH_4 (Ton)	N_2O (Ton)	BC (Ton)	HFC-134a (Ton)	CO_2e* (Metric Ton)
1A	2,050	0.048	0.103	0.086	0.046	1,984
1B	2,446	0.063	0.107	0.115	0.050	2,362
2A	1,901	0.046	0.094	0.081	0.042	1,839
2B	2,166	0.054	0.100	0.096	0.044	2,091
3A	3,289	0.082	0.153	0.156	0.062	3,173
Maximum	3,289	0.082	0.153	0.156	0.062	3,173

Source: (Caltrans 2024a)

Notes: * GHG expressed as CO_2e can be estimated by the sum after multiplying each amount of CO_2, CH_4, N_2O, BC and HFC-134a by its GWP. Each GWP of CO_2, CH_4, N_2O, BC and HFC-134a is 1, 25, 298, 460, and 1,430, respectively.

BC = Black Carbon
CH_4 = methane
CO_2 = carbon dioxide
CO_2e = carbon dioxide equivalent
GHG = greenhouse gas
GWP = global warming potential
HFC-134a = Hydrofluorocarbon-134a
N_2O = nitrous oxide

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

Less than Significant Impact. California has enacted aggressive GHG reduction targets, starting with Assembly Bill (AB) 32, the California Global Warming Solutions Act of 2006. AB 32 is California's signature climate change legislation. It set the goal of reducing statewide GHG emissions to 1990 levels by 2020 and required the California Air Resources Board (CARB) to develop a Scoping Plan that describes the approach California will take to achieve that goal and to update it every 5 years. The most recent plan is the 2022 CARB Scoping Plan, which sets a goal for carbon neutrality by 2045. In 2015, Governor Jerry Brown enhanced the overall adaptation planning effort with Executive Order (EO) B-30-15, establishing an interim GHG reduction goal of 40 percent below 1990 levels by 2030, and requiring state agencies to factor climate change into all planning and investment decisions.

Senate Bill (SB) 375, the Sustainable Communities and Climate Protection Act of 2008, furthered state climate action goals by mandating coordinated transportation and land use planning through preparation of Sustainable Communities Strategies (SCS). The CARB sets GHG emissions reduction targets for passenger vehicles for each region. Each regional metropolitan planning organization must include in its regional transportation plan an SCS proposing actions toward achieving the regional emissions reduction targets.[15] The project area is not within the jurisdiction of an MPO and

[15] https://www.arb.ca.gov/cc/sb375/sb375.htm

therefore not subject to CARB GHG reduction targets. However, the Mendocino Council of Governments (MCOG) is the regional transportation planning agency for the project area.

The Mendocino County Regional Transportation Plan and Active Transportation Plan (RTP/ATP) includes policies to reduce GHG emissions (MCOG 2022). As detailed in Section 4.5, *Climate Change*, the primary goal to improve air quality and reduce GHG emissions through a more resilient multimodal transportation network in Mendocino County is aligned with the Governor's EO N-19-19 (Climate Agenda) and EO N-79-20 (Zero-Emission by 2035). Specific objectives and policies are described in Section 4.5.2.

Mendocino County has not established a Climate Action Plan and the Mendocino County Codes do not currently include ordinances that provide mitigation for potential impacts to regional GHG emissions.

The 2008 Mendocino County General Plan includes proposed policies that would address GHG emissions from a variety of sources within the County (County of Mendocino 2020a; 2020b). Proposed polices that relate to transportation and the proposed project are summarized below:

> **RM-43.3**: Adopt measures that reduce the consumption of fossil fuel energy resources.
>
> **DE-145:** Provide pedestrian and bicycle ways along public roadway systems consistent with the community area.
>
> **DE-151.1:** Develop standards that facilitate public transit and alternative transportation modes within multi-modal transportation corridors.

In addition, the Mendocino County Safety Element Update: Climate Vulnerability Assessment Report lists potential adaptation measures that will protect against harm caused by climate change. These measures include funding and implementing infrastructure improvements and structural retrofits for at-risk bridges. Rehabilitation/retrofit of the existing bridge was considered but eliminated from further discussion. See section 2.4, *Alternatives Considered but Eliminated from Further Discussion* and Appendix I, *Consideration of Rehabilitation Alternative* for additional information.

As described under question "a)" above, the proposed project would not result in substantial GHG emissions during construction and would not increase capacity. The project would not conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing GHG emissions and would implement construction GHG reduction measures, including Standard Measures **GHG-1** through **GHG-5**. Therefore, the impact would be less than significant, and mitigation is not required.

4.3.9 Hazards and Hazardous Materials

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

CEQA Significance Determinations for Hazards and Hazardous Materials

The following sections are based on the Initial Site Assessment (ISA) prepared for the proposed project (Geocon Consultants, Inc. 2022). See Section 3.3.2, *Water Quality and Stormwater Runoff*, and Section 3.3.5, *Hazards and Hazardous Materials*, for additional information.

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

Less than Significant Impact. Construction of the proposed project would involve the transportation, storage, and use of common hazardous materials such as fuels and oils to operate construction equipment and vehicles. Accidental releases of small quantities of these substances could contaminate soils and degrade the quality of surface water and groundwater or be released into the air, resulting in a potential public safety hazard. However, consistent with applicable laws and regulations, the transportation, handling, and disposal of these materials would be compliant with regulations enforced by the California Department of Toxic Substance Control's Certified Unified Program Agencies

and California Division of Occupational Safety and Health (Cal-OSHA). In addition, as described in Section 3.3.2, *Water Quality and Stormwater Runoff*, the implementation of standard BMPs would further reduce the potential of accidental release or exposure. Therefore, the impact would be less than significant, and mitigation is not required.

b) Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?

Less than Significant Impact. As described in Section 3.3.5, *Hazardous Waste and Materials*, the proposed project under all Build Alternatives could potentially disturb hazardous materials in the form of asbestos-containing material (ACM) in various bridge components; lead-based paint (LBP) in utility openings or on steel structures; treated wood waste (TWW) in the bridge structure, utility poles, and guardrails; elevated metals (arsenic, lead, zinc, and chromium) in the soil beneath the bridge, aerially deposited lead (ADL) along SR 1 within the ESL, and other contaminated soil. Construction workers could be exposed to hazardous materials during bridge work and other ground-disturbing activities, such as grading, bridge demolition, utility relocation, and/or roadbed resurfacing at any of the areas known to contain hazardous substances.

However, hazardous materials and contaminated soils would be managed and disposed of in accordance with measures described in Section 3.3.4, *Hazardous Waste/Materials*, including Standard Measures **HW-1** through **HW-4,** which would minimize potential impacts to human health and the environment due to accidental release of hazardous materials. Therefore, the impact would be less than significant, and mitigation is not required. To further lessen the potential impact of accidental release of hazardous materials, project-specific Measures **AMM-HW-1** through **AMM-HW-9** would be implemented, which include additional measures related to handling lead-contaminated materials, treated wood waste, and asbestos, including health and safety plan development and notification procedures.

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

Less than Significant Impact. As described in Responses a) and b), construction activities would involve handling hazardous materials, substances, or waste. In addition, demolition activities could result in asbestos and lead emissions. The nearest elementary school is Albion School, which is located at 30400 Albion Ridge Road, approximately 3 miles east of the ESL. Mendocino K-8 School and Mendocino High School are located approximately 6 miles north of the ESL in the village of Mendocino. Albion Biological Field Station, a research and education facility, is located at 34000 Albion Street, approximately 0.3 mile east of the Albion River Bridge. However, the Albion Campground would be used as a staging area for the proposed project, and the ESL is approximately 175 feet from the field station.

As described in the responses to a) and b), transportation, handling, and disposal of hazardous materials would be managed in accordance with applicable laws and regulations. Further, standard measures, including **HW-1** through **HW-4,** would be implemented, which would minimize potential impacts to human health due to accidental release of hazardous materials. In addition, Standard Measure **GHG-1** through **GHG-3** require that the construction contractor comply with all applicable laws and regulations related to air quality, including emissions requirements from portable and stationary equipment. Therefore, the impact would be less than significant, and mitigation is not required. To further lessen the potential for hazardous emissions, project-specific Measures **AMM-HW-1** through **AMM-HW-9** would be implemented, which include additional measures related to handling lead-contaminated materials, treated wood waste, and asbestos, including health and safety plan development and notification procedures.

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?

Less than Significant Impact. As discussed in Section 3.3.5, *Hazardous Waste/Materials*, a review of the Regulatory Release Databases identified the following sites within the records search area with potential environment concerns: the Albion River Bridge (State Route [SR] 1), Former Albion Shell Gas Station (Private Residences; 3300 Highway 1), Albion Grocery, and Albion Campground. Alternatives 1, 2, and 3 include a potential temporary construction easement (TCE) for construction staging on the Former Albion Shell parcel. The ISA (Geocon Consultants, Inc. 2022) for the proposed project determined that these sites represent a low risk to the proposed project.

The current DTSC oversight regulatory status for the Albion River Bridge is listed as “No Evidence of Release” as of December 22, 2022. Deteriorated lead-containing paint on the bridge structure would require abatement prior to any future demolition activities. Treated timbers (and any associated sawdust from cutting) would be properly managed as treated wood waste.

With implementation of Caltrans standard measures (**HW-1** through **HW-4**), the proposed project would not result in a significant hazard to the public or the environment. Therefore, the impact would be less than significant, and mitigation is not required. To further lessen the potential for hazards to the public resulting from activities on a hazardous materials site, project-specific Measures **AMM-HW-1** through **AMM-HW-9** would be implemented, which include additional measures related to handling lead-contaminated materials, treated wood waste, and asbestos, including health and safety plan development and notification procedures.

e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two nautical 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 proposed project is located more than 2 miles from but within the 20:1 conical surface contour of the Little River Airport in Little River, California according to Mendocino County's *Airport Layout and Narrative Report for Little River Airport* (Mendocino County 1996; County of Mendocino Department of Transportation 2013). The proposed project is not located within the 55 CNEL noise contours for the airport. The construction contractor would be required to comply with all applicable federal, state, and local safety regulations and pre-construction notifications. There is no potential for the proposed project to result in a safety hazard or excessive noise for people residing or working in the proposed project area due to its proximity to the Little River Airport. Therefore, there would be no impact.

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

Less than Significant Impact. The 2016 Mendocino County/Operational Area Emergency Operations Plan (Office of the Mendocino County Chief Executive Officer 2016) addresses response to and short-term recovery from disasters and emergency situations affecting the Mendocino County Operational Area. Mendocino County's Multi-Jurisdictional Hazard Mitigation Plan assesses risks posed by natural and human-caused hazards (Mendocino County Executive Office 2021). According to the Emergency Operations Plan (Office of the Mendocino County Chief Executive Officer 2016), SR 1 and U.S Highway (U.S.) 101 are identified as the predominant north-south transportation routes. SR 20 and 128 are the predominant east-west routes.

While the proposed project would require traffic delays, including reversing traffic control, intermittent closures, and one extended closure, a TMP— prepared in accordance with Standard Measure **TT-3**—would minimize construction-related delays. In addition, construction activities would be coordinated with emergency service providers and emergency vehicles would be accommodated through construction (Standard Measure **UE-1**). Following construction, the replacement bridge would be safer for motorists, bicyclists and pedestrians, and more resilient and less susceptible to collapse. Therefore, the impact would be less than significant, and mitigation is not required. To further lessen the potential for interference with an adopted emergency response or evacuation plan, project-specific Measures **AMM-PR-1, AMM-TT-1,** and **AMM-UE-1** would be implemented, which require notification of construction activities and closures, and development of a contingency plan to accommodate emergency vehicles.

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

Less than Significant Impact. The proposed project is located within Moderate and High CAL FIRE Hazard Severity Zones. While the project would require traffic delays, including reversing traffic control, intermittent closures, and one extended closure, A TMP— prepared in accordance with Standard Measure **TT-3**—would minimize construction-related delays. Construction activities would be coordinated with emergency service providers and emergency vehicles, including fire trucks, would have access to SR 1 throughout the construction period (Standard Measure **UE-1**). In addition, the contractor would be required to submit a jobsite fire prevention plan and cooperate with fire prevention authorities in the event of an emergency or wildfire (Standard Measure **UE-3**). Therefore, the impact would be less than significant, and mitigation is not required. To further lessen the potential for impacts involving wildland fires, project-specific Measures **AMM-PR-1, AMM-TT-1,** and **AMM-UE-1** would be implemented, which require notification of construction activities and closures and development of a contingency plan to accommodate emergency vehicles.

4.3.10 Hydrology and Water Quality

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

CEQA Significance Determinations for Hydrology and Water Quality

The following sections are based on the Location Hydraulic Study (Caltrans 2024e), draft Final Hydraulic Report (Caltrans 2024g), and the Water Quality Assessment Report (Caltrans 2023b) prepared for the project. See Section 3.3.1, *Hydrology and Floodplain*, and Section 3.3.2, *Water Quality and Stormwater Runoff*, for additional information.

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

Less than Significant Impact. As described in Section 3.3.2, *Water Quality and Stormwater Runoff*, replacement of the Albion River Bridge could result in temporary impacts on water quality during construction. These impacts can result from sediment discharge from disturbed soil areas (DSA) and construction near water resources and drainage facilities. The proposed project would implement standard temporary water pollution controls and BMPs (see Table 30), permanent design pollution prevention, and post-construction treatment BMPs to avoid substantial degradations to surface and

ground water quality, including soil stabilization, sediment control, wind control, non-stormwater management, waste management, and job site management. Post-construction treatments would be further defined during final design. With the implementation of standard measures, the proposed project is anticipated to be in compliance with applicable water quality standards and waste discharge requirements and would not be expected to substantially degrade surface or ground water quality. Therefore, the impact would be less than significant, and mitigation is not required.

b) Substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin?

Less than Significant Impact. The proposed project's northern limits (PM 43.9 to 44.2) are within the Fort Bragg Terrace Area Groundwater Basin. Water diversion and dewatering within the Albion River would be required for all Build Alternatives (Caltrans 2023b). The proposed project would implement standard temporary water pollution control, permanent design pollution prevention, and post-construction treatment BMPs as described in Standard Measures **WQ-1** and **WQ-2**, and Section 3.3.2*, Water Quality and Stormwater and Runoff*, to avoid substantial decreases in groundwater supplies and substantial interference with groundwater recharge.

Shallow groundwater encountered may be encountered and collected during construction activities. Several options are available for use or disposal of the collected groundwater, including use for dust control, upland disposal, disposal at a publicly owned treatment works, or discharge to surface waters, some of which may require separate permitting and agency coordination. Dewatering of groundwater during construction may be necessary in areas of deep excavation, removal of existing piles and footings, and installation of the spread footing. These activities could result in a temporary drawdown in groundwater, which could temporarily disrupt or alter baseflow in the immediate area. Because this work would only be performed during construction, the groundwater baseflow and quality would return to pre-construction conditions once the dewatering activities are completed. If it is proposed that the project would discharge to receiving waters during potential dewatering operations, Caltrans would obtain the appropriate permit and approval from the North Coast Regional Water Quality Control Board (RWQCB) as stated in Caltrans' *Field Guide to Construction Site Dewatering* (Caltrans 2014a). No groundwater well or other permanent supply well would be developed. Therefore, the impact would be less than significant, and mitigation is not required.

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

i. result in substantial erosion or siltation on- or off-site;

Less than Significant Impact. The project would not substantially alter the existing drainage pattern of the site or area. The proposed project would not temporarily or permanently alter the course of any stream or river. As described in Section 3.3.2,

Water Quality and Stormwater Runoff, the proposed project would implement permanent design pollution prevention BMPs to avoid substantial erosion or siltation on- or off-site. The proposed project would add between 1.23 to 1.34 acres of net new impervious surface area depending on the design option. Post-construction treatment controls would be developed to treat net new impervious surface area within the ESL. Additional studies would be conducted to appropriately site treatment BMPs within the ESL following selection of the preferred alternative. Therefore, the impact would be less than significant, and mitigation is not required.

ii. substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or offsite;

Less than Significant Impact. The project would not substantially alter the existing drainage pattern of the site or area. As described in Section 3.3.1, *Hydrology and Floodplains*, the proposed project would not increase the base flood elevation of any designated floodplain. The proposed project would not impede or redirect flood flows. The proposed project would benefit the existing drainage pattern of the site by reducing the number of bridge piers in the floodplain. Further, the proposed project includes the re-establishment of roadside drainages and culverts, which would be located and sized to accommodate anticipated surface runoff. Runoff from the bridge deck would be captured and routed from the bridge at the abutments and discharged to vegetated or rock lined ditches. The change in impervious surface area associated with each alternative could result in a change to the existing hydrograph, including increases/decreases in low flow and peak flow velocity and volume to the receiving water bodies. As such, the proposed project includes the replacement of drainages and culverts with appropriate design pollution prevention measures and stormwater treatment. Therefore, the impact would be less than significant, and mitigation is not required.

iii. create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff; or

Less than Significant Impact. The project would not substantially alter the existing drainage pattern of the site or area. The proposed project would benefit the existing drainage pattern of the site by reducing the number of bridge piers in the floodplain. Additionally, the drainage improvements along the replacement bridge and realigned roadways would be designed to meet state and local criteria, as appropriate, and to convey runoff using methods that would prevent direct discharge to the Albion River. The proposed project would implement permanent design pollution prevention and post-construction treatment BMPs as described in Section 3.3.2, *Water Quality and Stormwater Runoff*, to reduce pollutant loads in runoff. Therefore, the impact would be less than significant, and mitigation is not required.

iv. impede or redirect flood flows?

No Impact. The project would not substantially alter the existing drainage pattern of the site or area. As described in Section 3.3.1, *Hydrology and Floodplains*, the proposed project would not increase the base flood elevation of any designated floodplain. The proposed project would not impede or redirect flood flows. Reducing the number of bridge piers within the floodplain would prevent impeding or redirection flood flows. Therefore, there would be no impact.

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

No Impact. The existing Albion River Bridge is vulnerable to damage from earthquakes and coastal hazards (e.g., tsunamis, storm surges, sea level rise). The Albion River, Albion Flat, and surrounding bluffs are located within a California Tsunami Hazard Area (California Department of Conservation n.d.). The proposed project would replace the existing bridge with a new bridge that would reduce the vulnerability to damage from earthquakes and coastal hazards. In addition, as described in Section 2.2.5, *Common Design Features of the Build Alternatives*, Standard Measure **WQ-1** would be implemented requiring that an SWPPP be prepared to comply with the applicable conditions of the Construction General Permit in effect at the time of construction. In addition, Standard Measure **WQ-2** would be implemented, requiring that the construction contractor incorporate pollution prevention and design measures consistent with the stormwater management plan in effect at the time of construction. Therefore, there would be no impact.

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

No Impact. The proposed project would comply with the provisions of the Caltrans Statewide National Pollutant Discharge Elimination System Permit (Order 2022-0033-DWQ), effective January 1, 2023. If the proposed project results in a land disturbance of one acre or more, coverage under the Construction General Permit at the time of construction (see Standard Measure **WQ-1**; currently Order 2022-0057-DWQ) is also required. The proposed project would implement the required construction site BMPs as prescribed in the permits, which would avoid conflicts with an adopted Water Quality Control Plan. The northern limits of the proposed project (PM 43.9 to 44.2) are within the Fort Bragg Terrace Area Groundwater Basin. As described in Response (b), any temporary impact to groundwater baseflow or quality would return to pre-construction conditions once project dewatering activities are completed. The proposed project would not impede sustainable groundwater management. Therefore, there would be no impact.

4.3.11 Land Use and Planning

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

CEQA Significance Determinations for Land Use and Planning

This section was prepared using information from the CIA prepared for the proposed project (Area West Environmental 2024). See Section 3.2.1, *Existing and Future Land Use*, and Section 3.2.2, *Consistency with State, Regional, and Local Plans and Programs,* for additional information.

a) Physically divide an established community?

Less than Significant Impact. None of the Build Alternatives would permanently divide an established community. However, during construction all Build Alternatives would include traffic control, which would cause traffic delays. The extended overnight closure would be up to 10 hours. Emergency vehicles would continue to be accommodated across the bridge during closures and all vehicles would be accommodated across the bridge in the event of an evacuation. Pedestrian and bicycle access would be maintained during construction (Standard Measure **TT-1**). In addition, a TMP would be used to manage circulation and access during construction (Standard Measures **TT-3** and **GHG-4**). Ultimately, the proposed project would enhance safety and mobility for vehicles, cyclists, and pedestrians, and improve overall connectivity along a critical link of SR 1. Therefore, the impact would be less than significant, and mitigation is not required. To further lessen the potential for impacts relating to physically dividing an established community, project-specific Measure **AMM-TT-1** would be implemented, which requires development of an emergency response contingency plan in coordination with emergency services.

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. As described in Section 3.2.2, *Consistency with State Regional and Local Plans and Programs*, the proposed project would not conflict with existing land use designations, zoning, or the implementation of the Mendocino County General Plan. The project would not 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. Therefore, there would be no impact.

4.3.12 Mineral Resources

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

CEQA Significance Determinations for Mineral Resources

a) Result in the loss of availability of a known mineral resource that would be a value to the region and the residents of the state?

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. There are no designated mineral resource areas of state or regional importance in the project area, and the proposed project would not impede the extraction of any known mineral resources. There would be no impact.

4.3.13 Noise

Would the project result in:	CEQA Determination
a) Generation of a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?	Less Than Significant Impact
b) Generation of excessive groundborne vibration or groundborne noise levels?	Less Than Significant Impact
c) For a project located within the vicinity of a private airstrip or an airport land use plan or, where such a plan has not been adopted, within two nautical 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

CEQA Significance Determinations for Noise

The following analysis was prepared using information from the Noise Study Report prepared for the proposed project (Caltrans 2024b). See Section 3.3.7, *Noise and Vibration*, for additional information on noise.

a) Generation of a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?

Less than Significant Impact. For all Build Alternatives, noise generated by construction activities would be a function of the noise levels generated by individual pieces of construction equipment, the type and amount of equipment operating at any given time, the timing and duration of construction activities, and the proximity of nearby receptors. Proposed project phases include clearing and grubbing, earthwork, paving, bridge construction (excluding pile driving), and pile driving. Construction noise would primarily result from the operation of heavy-duty off-road construction equipment and arrival and departure of heavy-duty trucks. The noise levels for construction equipment anticipated during each construction phase are presented in Table 40 and Table 41 in Section 3.3.7, *Noise and Vibration*.

The loudest noise-generating construction activity for the proposed project would be pile driving, which would be required during construction of temporary trestles and foundations (abutments and piers) for the new bridge. As indicated in Table 42 in Section 3.3.7, *Noise and Vibration*, hourly average noise levels would be up to 99 dBA $L_{eq[h]}$ at 50 feet from pile driving and maximum noise levels would be up to 101 dBA L_{max} at 50 feet from pile driving. At the closest point, pile driving may occur within 115 feet of residential areas on the south side of the bridge during construction of bridge foundations for Design Option 2B. At this distance, the maximum outdoor noise levels during pile driving would be approximately 94 dBA L_{max}.

The contractor would comply with Caltrans Standard Specifications that require that construction noise not exceed a maximum sound level of 86 dBA at 50 feet from job site activities between the hours of 9:00 p.m. and 6:00 a.m.

According to the Caltrans' Traffic Noise Analysis Protocol for New Highway Construction, Reconstruction, and Retrofit Barrier Projects (Protocol), a permanent operational noise impact occurs when the predicted noise levels with project implementation substantially exceed existing noise levels by 12 dBA or more (Caltrans 2020).

The dominant source of noise in the proposed project area is highway noise. The traffic noise modeling results for existing conditions and design-year conditions with and without the proposed project are presented in Table 46 in Section 3.3.7, *Noise and Vibration*. As discussed in the referenced section, the maximum increase in noise level between existing conditions and the design-year (2051) at the sensitive receptors is predicted to be up to 6 dB depending on the Build Alternative (no increase for Alternative 3 because there is no horizontal alteration of the highway). The predicted noise levels for this project do not substantially exceed the existing noise levels (defined as an increase of 12 dBA or more) at sensitive receptors identified in the project area and noise reducing pavements (i.e., rubberized asphalt) would be used, which have been shown to have at least a 3 dB decrease in noise levels. Therefore, the impact would be less than significant, and mitigation is not required.

While construction and associated noise would be temporary, project-specific Measure **AMM-NOI-1** would be implemented to further lessen potential for noise impacts during construction. This measure requires the construction contractor provide advance notification to interested parties and implement additional noise controls, where practical and feasible, when noise-generating construction activities are necessary outside of the hours of 7:00 a.m. to 7:00 p.m. Monday through Saturday, with no construction on Sundays or federal holidays.

b) Generation of excessive groundborne vibration or groundborne noise levels?

Less than Significant Impact. Construction equipment or activities capable of generating perceptible vibration include excavation equipment, tracked vehicles, vibratory and impact pile drivers, pile extraction equipment, vibratory compaction equipment, blasting, drop balls, and crack-and-seat equipment. The typical vibration levels from representative construction equipment at various distances from the proposed project are presented in Table 43 in Section 3.3.7, *Noise and Vibration*. Vibration levels are highest close to the source, and then attenuate with increasing distance depending on soil conditions.

Construction-related vibration impacts are evaluated in terms of potential structural damage and potential annoyance to nearby residences. In terms of structural damage, impact pile driving that occurs within 130 feet of historic buildings, 110 feet of older residential buildings or 70 feet of new residential and commercial structures has the potential to cause damage. Distances to potential damage for various structure types are shown in

Table 44 in Section 3.3.7, *Noise and Vibration*. Based on the distances shown in

Table 44, it is not anticipated that the proposed impact pile driving, vibratory pile driving, or use of construction equipment would cause structural damage.

In terms of potential annoyance to nearby residences, vibration from impact pile would be considered severe within 85 feet of the pile driving operation and would be barely perceptible beyond 2,500 feet. Vibratory pile driving would be considered severe at distances less than 40 feet and would be barely perceptible beyond 1,115 feet. Vibrations from a hoe ram would be considered severe within 16 feet and would be barely perceptible beyond 455 feet. Distances for potential annoyance to nearby residences are shown in Table 45 in Section 3.3.7, *Noise and Vibration*. Based on the distances shown in Table 45, it is anticipated that the proposed impact pile driving, vibratory pile driving and use of construction equipment for all the Build Alternatives would have the potential for distinctly or strongly perceptible levels at nearby residences. However, any vibration-related impacts would be temporary and transient in nature and would cease at the completion of construction. For Build Alternatives 1 and 2, it is anticipated that a single construction season of pile driving would occur, while for Alternative 3 it is anticipated that two construction seasons of pile driving would occur. For any of the Build Alternatives, only a portion of the pile driving days would occur within the distinctly perceptible threshold distances shown in Table 45, which would be a function of the location of the foundations in relation to nearby residences. Therefore, the impact would be less than significant, and mitigation is not required. To further lessen the potential impacts from groundborne vibration, Measures **AMM-VIB-1** and **AMM-VIB-2** would be implemented, which require a pre-construction survey and vibration monitoring during construction.

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 nautical 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 proposed project is located more than 2 miles from but within the 20:1 conical surface contour for the Little River Airport in Little River, California (County of Mendocino Department of Transportation 2013; Mendocino County 1996). The proposed project is not located within the 55 CNEL noise contours for the airport (Mendocino County 1996). The construction contractor would be required to comply with all applicable federal, state, and local safety regulations and pre-construction notifications. There is no potential for the proposed project to result in a safety hazard or excessive noise for people residing or working in the project area due to its proximity to the Little River Airport. Therefore, there would be no impact.

4.3.14 Population and Housing

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

CEQA Significance Determinations for Population and Housing

This section was prepared using information from the CIA for the proposed project (Area West Environmental 2024).

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 proposed project would replace an existing bridge on an existing highway. It would not change accessibility or influence growth. As such, there would be no impact on growth.

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

Less than Significant Impact. As described in Section 3.2.7, *Relocations and Real Property Acquisition*, the proposed project would require the acquisition of permanent right of way (ROW) and temporary construction easements (TCEs) under all Build Alternatives. Alternative 2 would permanently convert a portion of the campground to a transportation use and require permanent relocation or acquisition of the Albion Campground manager's residence. Alternatives 1 and 3 would require either temporary or permanent relocation of the campground manager's residence during construction, as negotiated with the property owners. Any eligible displaced occupant would be provided relocation assistance in accordance with the Uniform Relocation Assistance and Real Property Acquisition Act of 1970. The proposed project would not displace a substantial number of existing people, necessitating the construction of housing elsewhere. Therefore, the impact would be less than significant, and mitigation is not required.

4.3.15 Public Services

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 following public services:	CEQA Determination
a) Fire protection?	Less Than Significant Impact
b) Police protection?	Less Than Significant Impact
c) Schools?	Less Than Significant Impact
d) Parks?	No Impact
e) Other public facilities?	No Impact

CEQA Significance Determinations for Public Services

This section was prepared using information from the CIA prepared for the proposed project (Area West Environmental 2024). See Section 3.2.8, *Utilities and Emergency Services*, for additional information on emergency services, and Section 3.2.5, *Parks and Recreational Facilities*, for additional information on parks and recreational facilities.

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 following public services:

a) Fire protection?, b) Police protection?, c) Schools?

Less than Significant Impact. No build alternative involves construction of, or alteration to, facilities associated with fire protection, police protection, or schools.

The proposed project could result in traffic delays during construction, which could cause delays to emergency response vehicles, such as fire and police, and to other public service vehicles, like school buses. However, a TMP would be prepared to manage circulation and access during construction (Standard Measures **TT-3** and **GHG-4**). Emergency response agencies in the project area would be notified of the project construction schedule and would have access to SR 1 throughout the construction period (Standard Measure **UE-1**). Additionally, the construction contractor would schedule and conduct work that avoids unnecessary inconvenience to the public and to maintain access to driveways, houses, and buildings within the work zone

(Standard Measure **TT-2**). The contractor would also submit a jobsite fire prevention plan as required by Cal/OSHA before starting any job site activities (Standard Measure **UE-3**).

With the inclusion of standard measures, response times for emergency services would only be minimally impacted. There would be no change to service ratios or other performance objectives for public facilities in general and there would be no need for new or physically altered governmental facilities. Therefore, the impact would be less than significant, and mitigation is not required. To further lessen the potential for impacts to response times for emergency services, project-specific Measures **AMM-PR-1, AMM-TT-1**, and **AMM-UE-1**, would be implemented, which require, among other things, development of a contingency plan in coordination with emergency providers.

d) Parks?

No Impact. Impacts on parks and other recreational facilities are described in Section 3.2.5, *Parks and Recreational Facilities*. There are no public parks in the proposed project area. Therefore, there would be no impact.

e) Other public facilities?

No Impact. The proposed project does not propose, nor would it require provision of new governmental facilities, or physical alteration of existing 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 other public facilities. Therefore, there would be no impact.

4.3.16 Recreation

Question	CEQA Determination
a) Would the project increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?	Less Than Significant Impact
b) Does the project include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment?	Less Than Significant Impact

CEQA Significance Determinations for Recreation

This section was prepared using information from the CIA prepared for the proposed project (Area West Environmental 2024). See Section 3.2.5, *Parks and Recreational Facilities*, for additional information.

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?

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?

Less than Significant Impact. There are no publicly-owned parks or recreational facilities in the proposed project area. However, the Albion River and Albion Flat Beach are used for recreation. The Albion River is under the jurisdiction and management authority of the California Natural Resources Agency as a Wild and Scenic River. The PCBR and planned CCT also use the Albion River Bridge.

All Build Alternatives would temporarily limit and/or restrict public access to the Albion Flat Beach, Albion Campground, and Albion River outlet during construction. However, the public would be notified about construction activities and planned closures (Standard Measure **TT-3**). Additionally, pedestrian and bicycle access would be maintained during construction (Standard Measure **TT-1**). The loss of campsites during the summer construction season could increase demand at other campgrounds. However, this impact would be temporary and is not anticipated to require the construction or expansion of additional recreational facilities given that several other campgrounds are available within 20 miles of the project (see Section 3.2.5, *Parks and Recreational Facilities)*. In addition, the boat launch east of the Albion Campground store would remain open during construction. Therefore, the impact would be less than significant, and mitigation is not required.

4.3.17 Transportation

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

CEQA Significance Determinations for Transportation

This section was prepared using information from the CIA prepared for the proposed project (Area West Environmental 2024). See Section 3.2.8, *Utilities/Emergency Services*, and Section 3.2.8, *Traffic and Transportation/Pedestrian and Bicycle Facilities*, for more information.

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

No Impact. The proposed purpose and need are consistent with statewide, regional, and local planning efforts, such as the Mendocino County RTP/ATP (MCOG 2022). The RTP included a needs assessment for pedestrian improvements and identified a need in the Albion community for wider shoulders along transportation routes and a bicycle crossing on SR 1. The project would include non-motorized and pedestrian facilities in accordance with *Caltrans' Complete Streets – Director's Policy* (DP) *37* and consistent with the public access and public recreation policies in Chapter 3 of the California Coastal Act as well as the Coastal Element of the Mendocino County General Plan (County of Mendocino 2021). The project would widen shoulders on the bridge approaches to 4 feet and the replacement bridge would include 6-foot-wide shoulders and a 6-foot-wide pedestrian walkway. The project is also consistent with the Mendocino County General Plan (County of Mendocino 2009). Consistent with the Mendocino County RTP and General Plan, the proposed project would provide safe access across SR 1 for vehicles, pedestrians and bicyclists. See Section 3.2.2, *Consistency with State Regional and Local Plans and Programs,* for additional information.

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

No Impact. CEQA Guidelines Section 15064.3(b) relates to analyzing transportation impacts and whether a project impacts vehicle miles traveled (VMT). The Build Alternatives would maintain a single lane in either direction, would not change access to the surrounding area or increase roadway capacity, would not change travel demand, or change traffic patterns, therefore would not result in any increase in VMT. Therefore, there would be no impact.

c) Substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?

No Impact. The existing bridge and current roadway approaches do not provide sufficient stopping distance immediately north of the bridge. The Mendocino County Coastal Element states that "a hazardous turn immediately North of the Albion River Bridge is the site of numerous Highway 1 accidents. Spot improvement of this turn should be given high priority by Caltrans." The proposed project would improve the horizontal geometry north of the bridge and would not introduce hazardous geometric design features or incompatible uses. Ultimately, the proposed project would beneficially impact geometric design features. Therefore, there would be no impact.

d) Result in inadequate emergency access?

Less than Significant Impact. During construction, bridge and road closures would be minimized by constructing the replacement bridge prior to removal of the existing bridge. However, all Build Alternatives would include traffic control on SR 1 and the associated traffic delays. A TMP would be prepared for the proposed project in accordance with Standard Measure **TT-3**. Construction activities would be coordinated with emergency service providers and emergency vehicles would be accommodated at all times. Following construction, the proposed safety improvements would reduce maintenance activities and the potential for accidents and collisions on and in the vicinity of the bridge. Therefore, the impact would be less than significant, and mitigation is not required. To further lessen the potential for interference with emergency access, project-specific Measures **AMM-PR-1, AMM-TT-1,** and **AMM-UE-1** would be implemented, which require notification of construction activities and closures, and development of a contingency plan to accommodate emergency vehicles.

4.3.18 Tribal Cultural Resources

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

CEQA Significance Determinations for Tribal Cultural Resources

See Section 3.2.11, *Cultural Resources*, for additional information on 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. In 2014, Assembly Bill 52 (AB 52) added the term “tribal cultural resources” to CEQA, and AB 52 is commonly referenced instead of CEQA when discussing the process to identify tribal cultural resources (as well as identifying measures to avoid, preserve, or mitigate effects to them). Defined in PRC Section 21074(a), a tribal cultural resource is a CRHR 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.

AB 52 applies to any project for which a Notice of Preparation, Notice of Mitigated Negative Declaration or Notice of Negative Declaration was filed on or after July 1, 2015 (Stats. 2114, Ch. 532, Section 11 [c]). The Notice of Preparation for the proposed

project was filed on April 6, 2015, thus AB 52 does not apply to this project and there are no identified impacts to tribal cultural resources from the proposed project. However, as described in Section 3.2.11, *Cultural Resources*, tribal consultation with potentially affected Native American tribes is being conducted for the proposed project pursuant to NRHP Section 106 compliance efforts. This included consulting with tribes regarding the identification of historic properties with tribal traditional cultural significance. No such properties were identified within the project area and therefore, no such properties were identified as being impacted by the proposed project. Therefore, there would be no impact.

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

No Impact. See above. As AB 52 does not apply to the proposed project and there are no identified impacts to tribal cultural resources from the proposed project. Therefore, there would be no impact.

4.3.19 Utilities and Service Systems

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

CEQA Significance Determinations for Utilities and Service Systems

See Section 3.2.8, *Utilities/Emergency Services*, Section 3.3.2, *Water Quality and Stormwater Runoff*, and Section 3.3.5, *Hazardous Waste/Materials*, for additional information.

a) Require or result in the relocation or construction of new or expanded water, wastewater treatment or stormwater drainage, electric power, natural gas, or telecommunications facilities, the construction or relocation of which could cause significant environmental effects?

Less than Significant Impact. The proposed project would require utility relocations, which include the relocation of utility lines, stormwater drainages (including roadside drainages and culverts), and telecommunication lines. Final approval for utility relocations would depend on communication between Caltrans and the respective utility providers. Any required utility coordination and service disruptions would be minimized to the extent feasible and communicated with customers in advance to allow for alternative service arrangements. All utility work would be handled by the utility companies involved. All utility relocations would occur within the ESL. The proposed project would not result in significant environmental effects as it relates to the relocation or construction of new or expanded water, wastewater treatment or stormwater drainage, electric power, natural gas, or telecommunications facilities. Therefore, the impact would be less than significant, and mitigation is not required.

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

Less than Significant Impact. The proposed project consists of replacement of the existing bridge over the Albion River on SR 1. It is anticipated that the proposed project would use up to approximately 16,000 gallons of water per day for dust control, earthwork, concrete placement and curing, and various other construction activities. Water would likely be supplied by on-site dewatering activities, local fire hydrants, and/or water use agreements with a local water district, mutual water company, business(es), and/or residence(s). No onsite well is proposed. Water use would cease following construction and no future development is foreseen. Therefore, the proposed project is expected to have adequate water supply that would be available during normal, dry, and multiple dry years. Therefore, the impact would be less than significant, and mitigation is not required.

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 proposed project consists of replacing an existing bridge over the Albion River on SR 1 and would not generate a need for additional wastewater treatment. Portable toilets serviced by licensed providers would be located on-site and used by project personnel during construction. The Albion River Campground restrooms may also be used subject to approval from the landowner. No wastewater facilities would be required for the operation of the proposed project. Therefore, there would be no impact.

d) Generate solid waste in excess of State or local standards, or in excess of the capacity of local infrastructure, or otherwise impair the attainment of solid waste reduction goals?

No Impact. The proposed project would require the construction of a replacement bridge and removal of the existing Albion River Bridge. All Build Alternatives would generate construction waste. Construction waste determined to be hazardous (e.g., thermoplastic road striping, ADL-contaminated soil, treated wood waste, etc.) would be managed and disposed of in accordance with measures described in Section 3.3.5, *Hazardous Waste/Materials*, including Standard Measures **HW-1** through **HW-4**. Regular construction waste and hazardous waste would be disposed of at appropriately licensed facilities with adequate capacity to receive them. The proposed project would not generate any additional solid waste following construction. Further, where feasible, the project would recycle non-hazardous waste, including construction materials, to reduce disposal offsite, and would not otherwise impair the attainment of solid waste reduction goals. Therefore, there would be no impact.

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

No Impact. The project would comply with all federal, state, and local statutes and regulations regarding the related to solid waste. Therefore, there would be no impact.

4.3.20 Wildfire

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

CEQA Significance Determinations for Wildfire

This section was prepared using information from the CIA prepared for the proposed project (Area West Environmental 2024). See Section 3.2.8, *Utilities/Emergency Services*, for more information. Although the ESL is within Moderate and High fire hazard severity zones, the ESL is in a state responsibility area.

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

Less Than Significant Impact. The California Department of Forestry and Fire Protection (CAL FIRE) provides wildland fire protection during wildfire season and auto aid, with the nearest stations in Mendocino and Point Arena. SR 1 within the proposed project area is a dedicated evacuation route in the event of a wildfire.

The contractor would be required to submit a jobsite fire prevention plan as required by Cal/OSHA before starting any job site activities and would be required to cooperate with fire prevention authorities in the event of an emergency or wildfire (Standard Measure **UE-3**). In addition, emergency responders would be notified of the proposed project's construction schedule and would have access to SR 1 throughout the construction period (Standard Measure **UE-1**). Equipment or materials staging within the temporary construction easement located on the fire station parcel would not interfere with the ability of fire fighters to respond to emergency calls. Therefore, the impact would be less than significant, and mitigation is not required. To further lessen the potential for impacts involving wildland fires, project-specific Measures **AMM-PR-1, AMM-TT-1,** and **AMM-UE-1** would be implemented, which require, among other things, development of a contingency plan in coordination with emergency providers.

b) Due to slope, prevailing winds, and other factors, exacerbate wildfire risks, and thereby expose project occupants to, pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire?

Less Than Significant Impact. The project site is generally humid due to its proximity to the ocean, though site topography includes steep slopes, which could become unstable after a fire event. The contractor would be required to submit a jobsite fire prevention plan as required by Cal/OSHA before starting construction activities, would cooperate with fire prevention authorities, and report fires onsite (Standard Measure **UE-3**). Typical vegetation clearing completed by construction crews, in addition to standard precautions, would reduce the risk of ignition during construction. In the event of a wildfire, no work would continue until the emergency status was lifted. Therefore, the impact would be less than significant, and mitigation is not required.

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. All Build Alternatives would require utility relocations including the relocation of utility lines, stormwater drainages, and telecommunication lines; utility relocations would be coordinated with utility providers (Standard Measure **UE-2**). All Build Alternatives would replace the existing Albion River Bridge with a modern bridge that meets current design and safety standards. No permanent lighting would be installed. Travelers using the bridge after construction would pass through the facility and not remain for extended periods of time. The proposed project would not construct any new housing or commercial facilities. All utilities would be sited and installed in compliance with Caltrans Standard Plans, local utility requirements, and applicable national fire protection standards. Therefore, the impact would be less than significant, and mitigation is not required.

d) Expose people or structures to significant risks, including downslope or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes?

Less Than Significant Impact. Site topography includes steep slopes, which could become unstable after a fire event. The contractor would be required to submit a jobsite fire prevention plan as required by Cal/OSHA before starting construction activities, cooperate with fire prevention authorities, and report fires onsite (Standard Measure **UE-3**). Existing drainage patterns would be maintained. Vegetation removal would be limited to only the amount necessary to facilitate the construction work. Vegetation that is removed or disturbed due to construction would be replaced consistent with Caltrans' *Project Development Procedures Manual, Chapter 29 Landscape Architecture, Section 2, Highway Planting Revegetation*, to the extent practicable. Further, the project would be designed to minimize slope failure, settlement, and erosion using recommended construction techniques and Best Management Practices (BMPs) (Standard Measure **GS-1**). Overall, the Build Alternatives would be more resilient to debris loading following wildfire events, as they involve fewer piers/foundations, are positioned to minimize

encroachment on the floodplain, and include more structurally resilient materials than the existing bridge. Therefore, the impact would be less than significant, and mitigation is not required.

4.3.21 Mandatory Findings of Significance

Question	CEQA Determination
a) Does the project have the potential to substantially degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, substantially reduce the number or restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory?	Significant and Unavoidable Impact
b) Does the project have impacts that are individually limited, but cumulatively considerable? ("Cumulatively considerable" means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects)?	Less than Significant Impact
c) Does the project have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly?	Less than Significant Impact

CEQA Significance Determinations for Mandatory Findings of Significance

a) 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?

Significant and Unavoidable Impact. As described in Section 4.3.1, *Aesthetics*, the existing Albion River Bridge is considered a scenic resource in views from surrounding areas. All Build Alternatives would remove the existing bridge and construct a new bridge. Removing the existing bridge would substantially affect scenic vistas and visual character or quality of public views of the site because of the bridge's historical character and memorability. These intangible qualities of the existing bridge provide a distinctive view and a sense of place that cannot be replicated by the proposed alternatives.

The visual impacts of the proposed project differ by design option. Although Mitigation Measures **AMM-AR-1** through **AMM-AR-6** have been incorporated into the project's design to reduce impacts, the proposed project would not replace the aesthetic qualities of the existing bridge and would therefore have a substantially adverse effect on scenic vistas and would substantially degrade the existing visual character or quality of public views of the site and its surroundings. Therefore, the impact would be significant and unavoidable.

As described in Section 4.3.5, *Cultural Resources*, the Albion River Bridge is listed on the NRHP and the CRHR. As California's last remaining state highway trestle bridge, the Albion River Bridge is an important example of a major period of California history. Under all Build Alternatives, the Albion River Bridge would be completely removed, and the proposed project would result in a significant impact. Implementation of Mitigation Measure **AMM-CR-3** would lessen the impact but would not reduce the impact to a less than significant level. Therefore, the impact would be significant and unavoidable.

b) Does the project have impacts that are individually limited, but cumulatively considerable? ("Cumulatively considerable" means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects)?

Less than Significant Impact. As discussed in Section 3.7, *Cumulative Impacts*, the proposed project, in conjunction with other projects, may affect aesthetics, cultural resources, and biological resources (CC Chinook salmon, CCC coho salmon, and NC steelhead, EFH, and eelgrass). However, it is not anticipated that any of these impacts would be cumulatively considerable when combined with other reasonably foreseeable projects. Therefore, the impact would be less than significant, and no additional mitigation measures are required.

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 proposed project would not have environmental effects that would cause substantial adverse effects on human beings, either directly or indirectly. The proposed project may have potential impacts, directly or indirectly to human beings, with respect to air quality, geology and soils, greenhouse gas emissions/climate change, hazards and hazardous materials, hydrology and water quality, land use and planning, noise, population and housing, recreation, transportation, utilities and service systems, and wildfire. Potential direct and indirect impacts that result from the proposed project, which are primarily temporary during construction, are discussed in detail throughout Chapter 4.0. Caltrans standard measures and BMPs, as well as project-specific measures, would be implemented. Therefore, the impact would be less than significant, and mitigation is not required.

4.4 SENATE BILL 743/INDUCED DEMAND ANALYSIS

Senate Bill (SB) 743 (2013) required the Governor's Office of Planning and Research (OPR) to identify new metrics for identifying and mitigating transportation impacts under CEQA. Under SB 743, CEQA Guidelines Section 15064.3(b) was revised to identify vehicle miles traveled (VMT) as the most appropriate measure of assessing transportation impacts.

None of the Build Alternatives would result in an increase in VMT or are capacity increasing. The Build Alternatives would not add travel lanes or substantially lengthen any roadway, nor would they change travel demands or traffic patterns. Therefore, the proposed project would not induce demand or increase VMT.

The No-Build Alternative would result in the indefinite continuation of routine maintenance and emergency repairs, which could potentially increase as the bridge ages. As the No-Build Alternative would not change existing conditions, it is not anticipated to increase VMT. However, the risk of potential bridge collapse or failure would continue. As SR 1 is the only viable state route between the communities of Albion and Fort Bragg, VMT may increase in the event of a long-term bridge closure.

4.5 CLIMATE CHANGE

Climate change refers to long-term changes in temperature, precipitation, wind patterns, and other elements of the Earth's climate system. The Intergovernmental Panel on Climate Change, established by the United Nations and World Meteorological Organization in 1988, is devoted to greenhouse gas (GHG) emissions reduction and climate change research and policy. Climate change in the past has generally occurred gradually over millennia, or more suddenly in response to cataclysmic natural disruptions. The research of the Intergovernmental Panel on Climate Change and other scientists over recent decades, however, has unequivocally attributed an accelerated rate of climatological changes over the past 150 years to GHG emissions generated from the production and use of fossil fuels.

Human activities generate GHGs consisting primarily of carbon dioxide (CO_2), methane (CH_4), nitrous oxide (N_2O), tetrafluoromethane, hexafluoroethane, sulfur hexafluoride (SF_6), and various hydrofluorocarbons (HFCs). CO_2 is the most abundant GHG; while it is a naturally occurring and necessary component of Earth’s atmosphere, fossil-fuel combustion is the main source of additional, human-generated CO2 that is the main driver of climate change. In the U.S. and in California, transportation is the largest source of GHG emissions, mostly CO_2.

The impacts of climate change are already being observed in the form of sea level rise, drought, more intense heat, extended and severe fire seasons, and historic flooding from changing storm patterns. The most important strategy to address climate change is to reduce GHG emissions. Additional strategies are necessary to mitigate and adapt to these impacts. In the context of climate change “mitigation” involves actions to reduce GHG emissions to lessen adverse impacts that are likely to occur. “Adaptation” is planning for and responding to impacts to reduce vulnerability to harm, such as by adjusting transportation design standards to withstand more intense storms, heat, and higher sea levels. This analysis includes a discussion of both in the context of this transportation project.

4.5.1 Regulatory Setting

Federal

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

The National Environmental Policy Act (NEPA) (42 United States Code [USC] Part 4332) requires federal agencies to assess the environmental effects of their proposed actions prior to making a decision on the action or project. In January 2023, the White House Council on Environmental Quality (CEQ) issued updated and expanded interim National Environmental Policy Act Guidance on Consideration of Greenhouse Gas Emissions and Climate Change (88 Fed. Reg. 1196) (CEQ NEPA GHG Guidance), in accordance with Executive Order (EO) 14057, *Catalyzing Clean Energy Industries and*

Jobs Through Federal Sustainability, 86 FR 70935 (Dec. 13, 2021) and EO 14008, *Tackling the Climate Crisis at Home and Abroad*. The CEQ guidance does not establish numeric thresholds of significance but emphasizes quantifying reasonably foreseeable lifetime direct and indirect emissions whenever possible. This guidance also emphasizes resilience and environmental justice in project-level climate change and GHG analyses.

The Federal Highway Administration (FHWA) 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. FHWA 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 (FHWA 2022). This approach encourages planning for sustainable highways by addressing climate risks while balancing environmental, economic, and social values— "the triple bottom line of sustainability" (FHWA 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.

Early efforts by the federal government to improve fuel economy and energy efficiency to address climate change and its associated effects include The Energy Policy and Conservation Act of 1975 (42 USC Section 6201); and Corporate Average Fuel Economy (CAFE) Standards. The U.S. Department of Transportation's (USDOT's) National Highway Traffic and Safety Administration (NHTSA) sets and enforces CAFE standards for on-road motor vehicles sold in the United States. The Environmental Protection Agency (U.S. EPA) calculates average fuel economy levels for manufacturers, and also sets related GHG emissions standards under the Clean Air Act. Raising CAFE standards leads automakers to create a more fuel-efficient fleet, which improves our nation's energy security, saves consumers money at the pump, and reduces GHG emissions (USDOT 2014). These standards are updated periodically and published through the federal rulemaking process.

State

California has been innovative and proactive in addressing GHG emissions and climate change by passing multiple Senate and Assembly bills (AB) and EOs.

In 2005, EO S-3-05 initially set a goal to reduce California's GHG emissions to 80 percent below year 1990 levels by 2050, with interim reduction targets. Later EOs and Assembly and Senate bills refined interim targets and codified the emissions reduction goals and strategies. The California Air Resources Board (CARB) was directed to create a climate change scoping plan and implement rules to achieve "real, quantifiable, cost-effective reductions of greenhouse gases." Ongoing GHG emissions reduction was also mandated in Health and Safety Code (H&SC) Section 38551(b). In 2022, the California Climate Crisis Act was passed, establishing state policy to reduce statewide human-caused GHG emissions by 85 percent below 1990 levels, achieve net zero GHG emissions by 2045, and achieve and maintain negative emissions thereafter.

Beyond GHG reduction, the State maintains a climate adaptation strategy to address the full range of climate change stressors and passed legislation requiring state agencies to consider protection and management of natural and working lands as an important strategy in meeting the state's GHG reduction goals.

4.5.2 Environmental Setting

The proposed project is located in Mendocino County on State Route (SR) 1 approximately 15 miles south of Fort Bragg. The total length of the proposed project is approximately 1 mile, between post mile (PM) 43.3 and PM 44.2. Within the limits of the proposed project, SR 1 is an undivided conventional highway with two 11- to 12-foot-wide travel lanes and 0- to 4-foot-wide shoulders. State Route 1 is functionally classified as a rural minor arterial. As described in Section 3.2.9, *Traffic and Transportation/Pedestrian and Bicycle Facilities*, traffic is low on SR 1 through the project site and the proposed project is a non-capacity increasing project. SR 1 is the community's only evacuation route within the project area and there are no practicable alternative routes. In the case of a full bridge closure, a detour along other state routes would be approximately 126 miles. The 2022 Regional Transportation Plan (RTP) by Mendocino Council of Governments (MCOG) guides transportation development. The Mendocino County General Plan Circulation, Safety, and Development elements, including Mendocino County's Safety Element Update: Climate Vulnerability Assessment Report, address GHGs in the project area.

GHG Inventories

A GHG emissions inventory estimates the amount of GHGs discharged into the atmosphere by specific sources over a period of time. Tracking annual GHG emissions allows countries, states, and smaller jurisdictions to understand how emissions are changing and what actions may be needed to attain emission reduction goals. U.S. EPA is responsible for documenting GHG emissions nationwide, and the CARB does so for the state of California, as required by H&SC Section 39607.4. Cities and other local jurisdictions may also conduct local GHG inventories to inform their GHG reduction or climate action plans.

National GHG Inventory

The annual GHG inventory submitted by the U.S. EPA to the United Nations provides a comprehensive accounting of all human-produced sources of GHGs in the U.S. Total national GHG emissions from all sectors in 2021 were 5,586.0 million metric tons (MMT), factoring in deductions for carbon sequestration in the land sector. Land Use, Land Use Change, and Forestry provide a carbon sink equivalent to 12 percent of total U.S. emissions in 2021 (U.S. EPA 2023a). While total GHG emissions in 2021 were 17 percent below 2005 levels, they increased by 6 percent over 2020 levels. Of these, 79.4 percent were CO_2, 11.5 percent were CH_4, and 6.2 percent were N_2O; the balance consisted of fluorinated gases. From 1990 to 2021, CO_2 emissions decreased by only 2 percent (U.S. EPA 2023a).

The transportation sector's share of total GHG emissions increased to 28 percent in 2021 and remains the largest contributing sector (Figure 84). Transportation fossil fuel combustion accounted for 92 percent of all CO_2 emissions in 2021. This is an increase of 7 percent over 2020 and is largely due to the rebound in economic activity following the COVID-19 pandemic (U.S. EPA 2023a; 2023b).

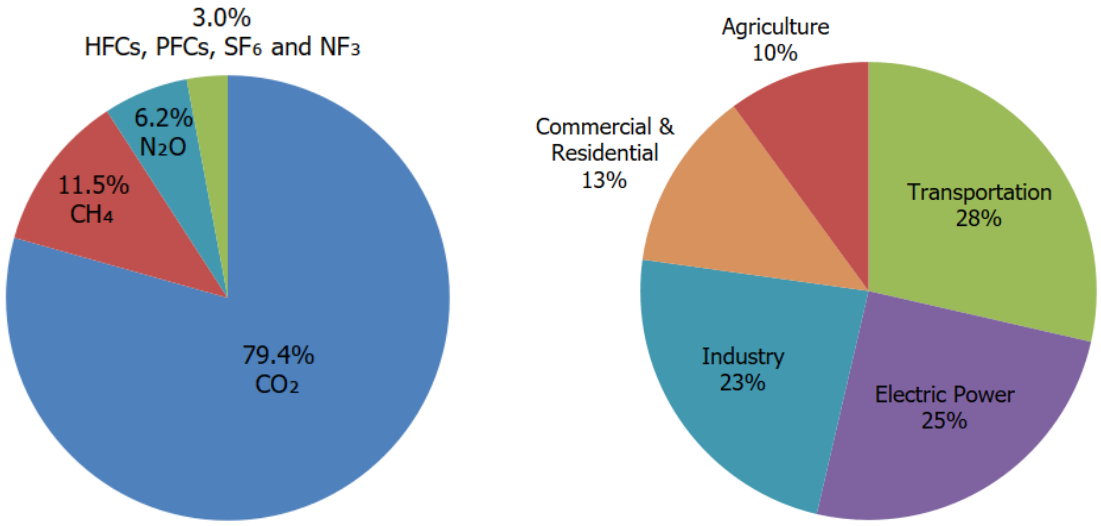


Figure 84. U.S. 2021 Greenhouse Gas Emissions
(Source: U.S. Environmental Protection Agency 2023b)

State GHG Inventory

CARB collects GHG emissions data for transportation, electricity, commercial/residential, industrial, agricultural, and waste management sectors each year. It then summarizes and highlights major annual changes and trends to demonstrate the state's progress in meeting its GHG reduction goals. Overall statewide GHG emissions declined from 2000 to 2020 despite growth in population and state economic output (Figure 85 and Figure 86) (CARB 2022a).

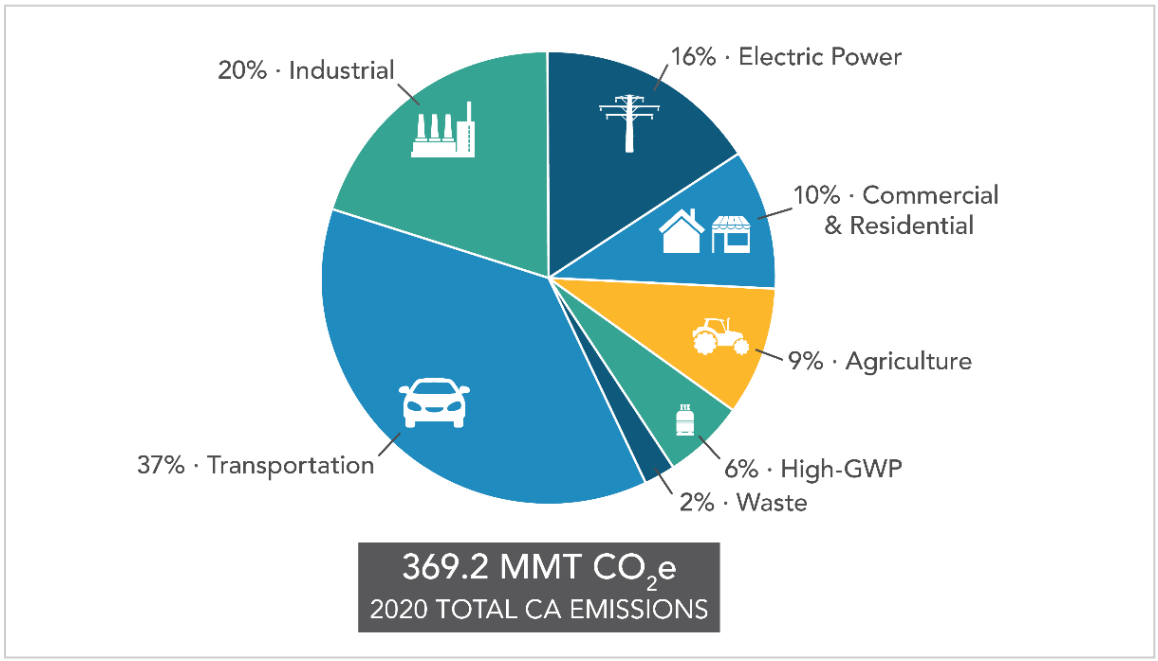


Figure 85. California 2020 Greenhouse Gas Emissions by Scoping Plan Category (Source: CARB 2022a)

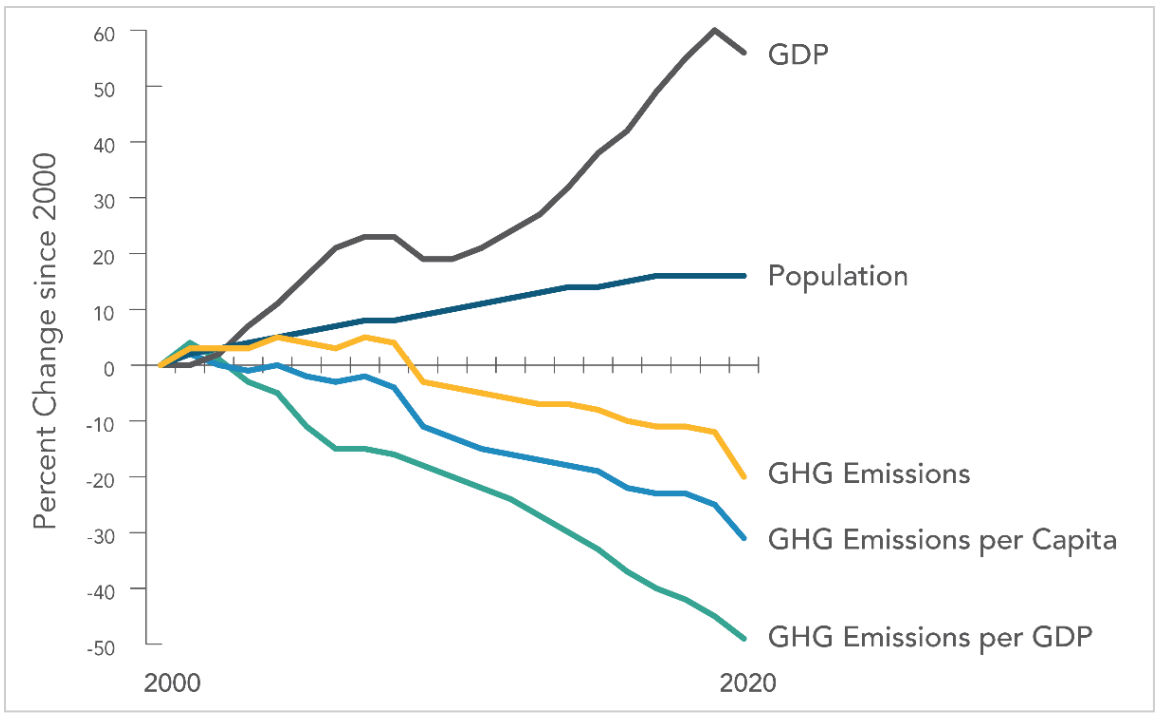


Figure 86. Change in California GDP, Population, and GHG Emissions since 2000 (Source: CARB 2022a)

AB 32 required CARB to develop a Scoping Plan that describes the approach California will take to achieve the goal of reducing GHG emissions to 1990 levels by 2020, and to update it every 5 years. The AB 32 Scoping Plan and the subsequent updates contain the main strategies California will use to reduce GHG emissions. CARB adopted the first Scoping Plan in 2008. The second updated plan, California's 2017 Climate Change Scoping Plan, adopted on December 14, 2017, reflects the 2030 target established in EO B-30-15 and SB 32 (CARB 2017). The *2022 Scoping Plan for Achieving Carbon Neutrality,* adopted September 2022, assesses progress toward the statutory 2030 reduction goal and defines a path to reduce human-caused emissions to 85 percent below 1990 levels and achieve carbon neutrality no later than 2045, in accordance with AB 1279 (CARB 2022b).

Regional Plans

As required by The Sustainable Communities and Climate Protection Act of 2008 (SB 375), CARB sets regional GHG reduction targets for California's 18 metropolitan planning organizations (MPO) to achieve through planning future projects that will cumulatively achieve those goals and reporting how they will be met in the Regional Transportation Plan/Sustainable Communities Strategy (RTP/SCS). Targets are set at a percent reduction of passenger vehicle GHG emissions per person from 2005 levels.

The project area is not within the jurisdiction of an MPO and therefore not subject to CARB GHG reduction targets. However, the MCOG is the regional transportation planning agency (RTPA) for the project area.

The 2022 Mendocino County Regional Transportation Plan and Active Transportation Plan (RTP/ATP) (MCOG 2022) identifies the region's effort in reducing GHG emissions, which includes administering an Active Transportation Program grant, completing a Regional Bikeway Plan, increasing transit use and efficiency, supporting the preservation of rail corridors, developing the Mendocino County Zero Emission Vehicle Regional Readiness Plans and studies, and conducting a feasibility study for "Mobility Solutions for Rural Communities in Inland Mendocino County." The proposed project is listed in the RTP/ATP under Caltrans District 1 Bridge Projects – SHOPP ID 9133.

The RTP/ATP establishes the following goal, objectives, and policies related to climate change:

> **Goal:** Build a combination of transportation facilities that, when evaluated as a group, will result in improved air quality, reduced transportation-related air toxins and greenhouse gas emissions, reduced vehicle miles traveled (VMT), and a more resilient multi-modal transportation network in Mendocino County. This goal supports the Governor's Executive Orders EO N-19-19 (greenhouse gas reduction goals) and EO N-79-20 (zero emission vehicles).
>
> > **Objective CCE 1:** Coordinate transportation planning with air quality planning.

Objective CCE 2: Invest in transportation projects and participate in regional planning efforts that will help Mendocino County residents to proportionately contribute to the California greenhouse gas reduction targets established by AB 32 and SB 375, as well as support Governor's Executive Orders EO N-19-19 and EO-79-20.

Policy CCE 2.1: Evaluate transportation projects based on their ability to reduce Mendocino County's transportation-related GHG emissions and reduce vehicle miles traveled (VMT).

Policy CCE 2.2: Prioritize transportation projects that lead to reduced GHG emissions and reduced VMT, and prioritize projects that can mitigate for VMT increasing projects.

Policy CCE 2.3: Monitor new technologies and opportunities to implement energy efficient and nonpolluting transportation infrastructure.

Policy CCE 2.4: Continue to consider bicycle transportation, pedestrian, and transit projects for funding in the State Transportation Improvement Program (STIP).

Policy CCE 2.5: Continue administrative, planning, and funding support for the region's transit agency, Mendocino Transit Authority.

Policy CCE 2.8: Continue to seek mobility solutions for remote rural areas of the county unable to be served by traditional transit service due to remoteness and low population density.

Policy CCE 2.9: Work with public health agencies and walking and biking groups to encourage more extensive walking and biking for transportation purposes, in support of reducing GHG.

Policy CCE 2.10: Support prioritization of transportation projects that result in reduction of VMT and GHG emissions.

Objective CCE 3: Ensure transportation improvements are subject to adequate environmental review and standards.

Objective CCE 4: Improve resiliency of the region's transportation system to climate-related impacts.

Mendocino County has not established a Climate Action Plan and the Mendocino County Codes do not currently include ordinances that provide mitigation for potential impacts on regional GHG emissions.

The 2008 Mendocino County General Plan includes proposed policies that would address GHG emissions from a variety of sources within the County (County of Mendocino 2020a; 2020b). Proposed polices that relate to transportation and the proposed project are summarized below:

> **RM-43.3:** Adopt measures that reduce the consumption of fossil fuel energy resources.
>
> **DE-145:** Provide pedestrian and bicycle ways along public roadway systems consistent with the community area.
>
> **DE-151.1:** Develop standards that facilitate public transit and alternative transportation modes within multi-modal transportation corridors.

Furthermore, a Climate Vulnerability Assessment is part of the Mendocino County Safety Element Update, which provides a detailed analysis of how severe climate change hazards are likely to be for the county's people and assets (Mendocino County 2021). The Mendocino County Safety Element Update: Climate Vulnerability Assessment Report acknowledges: "Many bridges in the inland and coastal areas of the county are in hazard-prone areas that make them more susceptible to damage. Blocked and impassable bridges are especially harmful for isolated communities that rely on these bridges as key roadway connections to other areas of the county. If one bridge is down along Highway 1, residents and visitors may have to drive hours out of their way to travel inland or evacuate in an emergency." The proposed project would be consistent with the RTP/ATP and Mendocino County General Plan including the Mendocino County Safety Element Update: Climate Vulnerability Assessment Report because operational GHG emissions would not increase; transportation-related safety features would be improved; pedestrian and multimodal facilities have been incorporated; and climate change adaptation has been taken into account when designing the project (see Project Analysis below). The proposed project would reduce the vulnerability of the state highway system by replacing a seismically deficient bridge with a modern bridge that meets modern design and safety standards. A new modern bridge would reduce the probability of delays and closures associated with maintenance or repairs in case the existing bridge fails or collapses.

4.5.3 Project Analysis

GHG emissions from transportation projects can be divided into those produced during operation of the State Highway System (SHS) (operational emissions) and those produced during construction. The primary GHGs produced by the transportation sector are CO_2, CH_4, N_2O, and HFCs. CO_2 emissions are a product of burning gasoline or diesel fuel in internal combustion engines, along with relatively small amounts of CH_4 and N_2O. A small amount of HFC emissions related to refrigeration is also included in the transportation sector. GHGs differ in how much heat each traps in the atmosphere, called global warming potential (GWP). CO_2 is the most important GHG, so amounts of other gases are expressed relative to CO_2, using a metric called "carbon dioxide

equivalent," or CO_2e. The global warming potential of CO_2 is assigned a value of 1, and the GWP of other gases is assessed as multiples of CO_2.

The CEQA Guidelines generally address greenhouse gas emissions as a cumulative impact due to the global nature of climate change (Pub. Resources Code, § 21083(b)(2)). As the California Supreme Court explained, "because of the global scale of climate change, any one project's contribution is unlikely to be significant by itself." (Cleveland National Forest Foundation *v.* San Diego Assn. of Governments (2017) 3 Cal.5th 497, 512). In assessing cumulative impacts, it must be determined if a project's incremental effect is "cumulatively considerable" (CEQA Guidelines Sections 15064(h)(1) and 15130).

To make this determination, the incremental impacts of the project must be compared with the effects of past, current, and probable future projects. Although climate change is ultimately a cumulative impact, not every individual project that emits greenhouse gases must necessarily be found to contribute to a significant cumulative impact on the environment.

Operational Emissions

The purpose of the proposed project is to address functional, safety and structural deficiencies of the Albion River Bridge. The proposed project would not increase the vehicle capacity of any roadway. This type of project generally causes minimal or no increase in operational GHG emissions. The project would not increase vehicle miles traveled (VMT) nor would it increase travel demands or change traffic patterns when compared to the No-Build Alternative.

Under the No-Build Alternative, no construction would be planned at the Albion River Bridge. However, regular maintenance and emergency repairs would continue and could potentially increase as the bridge ages. Equipment and vehicles used for regular and emergency maintenance activities under the No-Build Alternative would continue generating or increasing GHG emissions. Potential future bridge closures would also likely increase emissions due to vehicle delays and congestion. Without a permanent replacement of the bridge, the potential exists for a bridge failure or collapse, resulting in a long-term highway closure that could require a 126-mile detour and associated increased VMT and GHG emissions.

Construction Emissions

Construction GHG emissions would result from material processing and transportation, 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. While construction GHG emissions are only produced for a short time, they have long-term effects in the atmosphere, so cannot be considered "temporary" in the same way as criteria pollutants that subside after construction is completed.

Use of long-life pavement, improved traffic management plans, and changes in materials, can also help offset emissions produced during construction by allowing longer intervals between maintenance and rehabilitation activities.

As described in Section 4.3.8, *Greenhouse Gas Emissions*, construction is expected to begin in 2027 (Caltrans 2024a). The estimated length of construction is 3 years for Alternatives 1 and 2, and 5 years for Alternative 3. CAL-CET2021 was used to estimate average carbon dioxide (CO_2), methane (CH_4), nitrous oxide (N_2O), Black Carbon (BC), and Hydrofluorocarbon-134a (HFC-134a) emissions from construction activities. The carbon dioxide equivalent (CO_2e) produced during construction is estimated to range between approximately 1,839 and 3,173 metric tons depending on design option (Table 71).

Table 71. Estimates of GHG Emissions during Construction

Design Option	CO2 (Ton)	CH4 (Ton)	N2O (Ton)	BC (Ton)	HFC-134a (Ton)	CO_2e* (Metric Ton)
1A	2,050	0.048	0.103	0.086	0.046	1,984
1B	2,446	0.063	0.107	0.115	0.050	2,362
2A	1,901	0.046	0.094	0.081	0.042	1,839
2B	2,166	0.054	0.100	0.096	0.044	2,091
3A	3,289	0.082	0.153	0.156	0.062	3,173
Maximum	3,289	0.082	0.153	0.156	0.062	3,173

Source: (Caltrans 2024a)
Notes: * GHG expressed as CO2e can be estimated by the sum after multiplying each amount of CO_2, CH_4, N_2O, BC and HFC-134a by its GWP. Each GWP of CO_2, CH_4, N_2O, BC and HFC-134a is 1, 25, 298, 460, and 1,430, respectively.
BC = Black Carbon
CH_4 = methane
CO_2 = carbon dioxide
CO_2e = carbon dioxide equivalent
GHG = greenhouse gas
GWP = global warming potential
HFC-134a = Hydrofluorocarbon-134a
N_2O = nitrous oxide

All construction contracts include Caltrans Standard Specifications related to air quality. Section 14-9.02, Air Pollution Control, requires contractors to comply with all air pollution control rules, regulations, ordinances, and statutes (Standard Measure **GHG-1**). Sections 7-1.02A and 7-1.02C, Emissions Reduction, require contractors to comply with all laws applicable to the project and to certify they are aware of and would comply with all CARB emission reduction regulations (Standard Measure **GHG-3**). Other standard measures that the construction contractor would be required to comply with include restricting idling to 5 minutes (Standard Measure **GHG-2**), use of a Transportation Management Plan (TMP) to minimize delays and idling emissions (Standard Measure **GHG-4**), and revegetation and landscaping for disturbed areas (Standard Measure **GHG-5**). In addition, Measure **AMM-GHG-1** would be implemented requiring that the construction contractor use Best Management Practices (BMPs) to minimize energy consumption, which also help reduce GHG emissions, including

limiting idling, using solar-powered equipment if feasible, proper vehicle and equipment maintenance, and recycling of non-hazardous waste.

CEQA Conclusion

While the proposed project would result in GHG emissions during construction, it is anticipated that the project would not result in any increase in operational GHG emissions. The proposed 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 GHG reduction measures, the impact would be less than significant.

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

4.5.4 Greenhouse Gas Reduction Strategies

Statewide Efforts

In response to AB 32, the Global Warming Solutions Act, California is implementing measures to achieve emission reductions of GHGs that cause climate change. Climate change programs in California are effectively reducing GHG emissions from all sectors of the economy. These programs include regulations, market programs, and incentives that will transform transportation, industry, fuels, and other sectors to take California into a sustainable, cleaner, low-carbon future, while maintaining a robust economy (CARB 2022c). Major sectors of the California economy, including transportation, will need to reduce emissions to meet 2030 and 2050 GHG emissions targets. The Governor's Office of Planning and Research identified five sustainability pillars in a 2015 report: (1) increasing the share of renewable energy in the State's energy mix to at least 50 percent by 2030; (2) reducing petroleum use by up to 50 percent by 2030; (3) increasing the energy efficiency of existing buildings by 50 percent by 2030; (4) reducing emissions of short-lived climate pollutants; and (5) stewarding natural resources, including forests, working lands, and wetlands, to ensure that they store carbon, are resilient, and enhance other environmental benefits (California Governor's Office of Planning and Research 2015).

The transportation sector is integral to the people and economy of California. To achieve GHG emission reduction goals, it is vital that the state build on past successes in reducing criteria and toxic air pollutants from transportation and goods movement. GHG emission reductions will come from cleaner vehicle technologies, lower-carbon fuels, and reduction of vehicle miles traveled (VMT). Reducing today's petroleum use in cars and trucks is a key state goal for reducing greenhouse gas emissions by 2030 (California Environmental Protection Agency 2015).

In addition, SB 1386 (Wolk 2016) established as state policy the protection and management of natural and working lands and requires state agencies to consider that policy in their own decision making. Trees and vegetation on forests, rangelands, farms,

and wetlands remove carbon dioxide from the atmosphere through biological processes and sequester the carbon in above- and below-ground matter.

Subsequently, Governor Gavin Newsom issued Executive Order N-82-20 to combat the crises in climate change and biodiversity. It instructs state agencies to use existing authorities and resources to identify and implement near- and long-term actions to accelerate natural removal of carbon and build climate resilience in our forests, wetlands, urban greenspaces, agricultural soils, and land conservation activities in ways that serve all communities and in particular low-income, disadvantaged, and vulnerable communities. To support this order, the California Natural Resources Agency (2022) released *Natural and Working Lands Climate Smart Strategy*, with a focus on nature-based solutions.

Caltrans Activities

Caltrans continues to be involved on the Governor's Climate Action Team as the CARB works to implement EOs S-3-05 and S-01-07 and help achieve the targets set forth in AB 32. EO B-30-15, issued in April 2015, and SB 32 (2016), set an interim target to cut GHG emissions to 40 percent below 1990 levels by 2030. The following major initiatives are underway at Caltrans to help meet these targets.

Climate Action Plan for Transportation Infrastructure

The California Action Plan for Transportation Infrastructure (CAPTI) builds on executive orders signed by Governor Newsom in 2019 and 2020 targeted at reducing GHG emissions in transportation, which account for more than 40 percent of all polluting emissions, to reach the state's climate goals. Under CAPTI, where feasible and within existing funding program structures, the state will invest discretionary transportation funds in sustainable infrastructure projects that align with its climate, health, and social equity goals (California State Transportation Agency 2021).

California Transportation Plan

The California Transportation Plan (CTP) is a statewide, long-range transportation plan to meet our future mobility needs and reduce GHG emissions. It serves as an umbrella document for all the other statewide transportation planning documents. The CTP 2050 presents a vision of a safe, resilient, and universally accessible transportation system that supports vibrant communities, advances racial and economic justice, and improves public and environmental health. The plan's climate goal is to achieve statewide GHG emissions reduction targets and increase resilience to climate change. It demonstrates how GHG emissions from the transportation sector can be reduced through advancements in clean fuel technologies; continued shifts toward active travel, transit, and shared mobility; more efficient land use and development practices; and continued shifts to telework (Caltrans 2021a).

Caltrans Strategic Plan

The Caltrans 2020–2024 Strategic Plan includes goals of stewardship, climate action, and equity. Climate action strategies include developing and implementing a Caltrans Climate Action Plan; a robust program of climate action education, training, and outreach; partnership and collaboration; a VMT monitoring and reduction program; and engaging with the most vulnerable communities in developing and implementing Caltrans climate action activities (Caltrans 2021b).

Caltrans Policy Directives and Other Initiatives

Caltrans Director's Policy 30 (DP-30) Climate Change (June 22, 2012) established a Caltrans policy to ensure coordinated efforts to incorporate climate change into Departmental decisions and activities. Other Director's policies promote energy efficiency, conservation, and climate change, and commit Caltrans to sustainability practices in all planning, maintenance, and operations. *Caltrans Greenhouse Gas Emissions and Mitigation Report* (Caltrans 2020) provides a comprehensive overview of Caltrans' emissions and current Caltrans procedures and activities that track and reduce GHG emissions. It identifies additional opportunities for further reducing GHG emissions from Department-controlled emission sources, in support of Caltrans and State goals.

Project-Level GHG Reduction Strategies

The proposed project includes features, such as wider shoulders and a pedestrian walkway, which would support and encourage pedestrian, bicycle, and multimodal transportation. The following measures would also be implemented in the project to reduce GHG emissions and potential climate change impacts from the project:

> Standard Measure **GHG-1:** Caltrans Standard Specification "Air Quality" requires compliance by the contractor with all applicable laws and regulations related to air quality (Caltrans Standard Specification [SS] 14-9).
>
> Standard Measure **GHG-2:** Compliance with Title 13 of the California Code of Regulations (CCR), which includes restricting idling of diesel-fueled commercial motor vehicles and equipment with gross weight ratings of greater than 10,000 pounds to no more than 5 minutes.
>
> Standard Measure **GHG-3:** Caltrans Standard Specification "Emissions Reduction" ensures construction activities adhere to the most recent emissions reduction regulations mandated by the California Air Resource Board (CARB) (Caltrans SS 7-1.02C).
>
> Standard Measure **GHG-4:** Use of a Transportation Management Plan (TMP) to minimize vehicle delays and idling emissions. As part of this, traffic would be scheduled and directed to reduce congestion and related air quality impacts caused by idling vehicles along the highway during peak travel times.

Standard Measure **GHG-5:** All areas temporarily disturbed during construction would be revegetated with appropriate native species, as appropriate. Landscaping reduces surface warming and, through photosynthesis, decreases carbon dioxide (CO_2). This replanting would help offset any potential CO_2 emissions increase.

Project-Specific Measure **AMM-GHG-1:** The use of construction BMPs would minimize energy consumption from construction activities, including but not limited to:

1. Limit idling of vehicles and equipment.
2. Using solar-powered equipment, if feasible (example - signal boards).
3. Regular vehicle and equipment maintenance.
4. If feasible, recycle non-hazardous waste and excess materials to reduce disposal offsite.

In addition, with innovations such as longer pavement lives, improvement in traffic management, and changes in materials, energy consumption can be offset to some degree by longer intervals between maintenance and other project features.

4.5.5 Adaptation

Reducing GHG emissions is only one part of an approach to addressing climate change. Caltrans must plan for the effects of climate change on the state's transportation infrastructure and strengthen or protect the facilities from damage. Climate change is expected to produce increased variability in precipitation, rising temperatures, rising sea levels, variability in storm surges and their intensity, and in the frequency and intensity of wildfires. Flooding and erosion can damage or wash out roads; longer periods of intense heat can buckle pavement and railroad tracks; storm surges combined with a rising sea level can inundate highways. Wildfire can directly burn facilities and indirectly cause damage when rain falls on denuded slopes that landslide after a fire. Effects will vary by location and may, in the most extreme cases, require that a facility be relocated or redesigned. Furthermore, the combined effects of transportation projects and climate stressors can exacerbate the impacts of both on vulnerable communities in a project area. Accordingly, Caltrans must consider these types of climate stressors in how highways are planned, designed, built, operated, and maintained.

Federal Efforts

Under NEPA Assignment, Caltrans is obligated to comply with all applicable federal environmental laws and FHWA NEPA regulations, policies, and guidance. Caltrans practices generally align with the 2023 CEQ interim NEPA Guidance on Consideration of Greenhouse Gas Emissions and Climate Change, which offers recommendations for additional ways of evaluating project effects related to GHG emissions and climate change. These recommendations are not regulatory requirements.

The *Fifth National Climate Assessment*, published in 2023, presents the most recent science and "analyzes the effects of global change on the natural environment, agriculture, energy production and use, land and water resources, transportation, human health and welfare, human social systems, and biological diversity; [It] analyzes current trends in global change, both human-induced and natural, and projects major trends for the subsequent 25 to 100 years … to support informed decision-making across the United States." Building on previous assessments, it continues to advance "an inclusive, diverse, and sustained process for assessing and communicating scientific knowledge on the impacts, risks, and vulnerabilities associated with a changing global climate" (U.S. Global Change Research Program 2023). The U.S. Department of Transportation recognizes the transportation sector's major contribution of GHGs that cause climate change and has made climate action one of the department's top priorities (USDOT 2023). FHWA's policy is to strive to identify the risks of climate change and extreme weather events to current and planned transportation systems. FHWA has developed guidance and tools for transportation planning that fosters resilience to climate effects and sustainability at the federal, state, and local levels (FHWA 2022).

The National Oceanic and Atmospheric Administration provides sea level rise projections for all U.S. coastal waters to help communities and decision-makers assess their risk from sea level rise. Updated projections through 2150 were released in 2022 in a report and online tool (National Oceanic and Atmospheric Administration 2022).

State Efforts

Climate change adaptation for transportation infrastructure involves long-term planning and risk management to address vulnerabilities in the transportation system. A number of state policies and tools have been developed to guide adaptation efforts.

California's Fourth Climate Change Assessment (Fourth Assessment) (2018) provides information to help decision-makers across sectors and at state, regional, and local scales protect and build the resilience of the state's people, infrastructure, natural systems, working lands, and waters. The Fourth Assessment reported that if no measures are taken to reduce GHG emissions by 2021 or sooner, the state is projected to experience an up to 8.8 degrees Fahrenheit increase in average annual maximum daily temperatures; a two-thirds decline in water supply from snowpack resulting in water shortages; a 77 percent increase in average area burned by wildfire; and large-scale erosion of up to 67 percent of Southern California beaches due to sea level rise. These effects will have profound impacts on infrastructure, agriculture, energy demand, natural systems, communities, and public health (State of California 2018).

Sea level rise is a particular concern for transportation infrastructure in the coastal zone. Major urban airports will be at risk of flooding from sea level rise combined with storm surge as early as 2040; San Francisco airport is already at risk. Miles of coastal highways vulnerable to flooding in a 100-year storm event will triple to 370 by 2100, and 3,750 miles will be exposed to temporary flooding. The Fourth Assessment's findings

highlight the need for proactive action to address these current and future impacts of climate change.

To help actors throughout the state address the findings of California's Fourth Climate Change Assessment, AB 2800's multidisciplinary Climate-Safe Infrastructure Working Group published *Paying it Forward: The Path Toward Climate-Safe Infrastructure in California*. This report provides guidance on assessing risk in the face of inherent uncertainties still posed by the best available climate change science. It also examines how state agencies can use infrastructure planning, design, and implementation processes to respond to the observed and anticipated climate change impacts (Climate-Safe Infrastructure Working Group 2018)

EO S-13-08, issued in 2008, directed state agencies to consider sea level rise scenarios for 2050 and 2100 during planning to assess project vulnerabilities, reduce risks, and increase resilience to sea level rise. It gave rise to the 2009 *California Climate Adaptation Strategy*, the Safeguarding California Plan, and a series of technical reports on statewide sea level rise projections and risks, including the *State of California Sea-Level Rise Guidance Update* in 2018. The reports addressed the full range of climate change impacts and recommended adaptation strategies. The current *California Climate Adaptation Strategy* incorporates key elements of the latest sector-specific plans, such as the *Natural and Working Lands Climate Smart Strategy*, *Wildfire and Forest Resilience Action Plan*, *Water Resilience Portfolio,* and the CAPTI (described above). Priorities in the 2023 *California Climate Adaptation Strategy* include acting in partnership with California Native American Tribes, strengthening protections for climate-vulnerable communities that lack capacity and resources, implementing nature-based climate solutions, using best available climate science, and partnering and collaboration to best leverage resources (California Natural Resources Agency 2023).

EO B-30-15 recognizes that effects of climate change threaten California's infrastructure and requires state agencies to factor climate change into all planning and investment decisions. Under this EO, the Office of Planning and Research published *Planning and Investing for a Resilient California: A Guidebook for State Agencies*, to encourage a uniform and systematic approach to building resilience (California Governor's Office of Planning and Research 2017).

SB 1 Coastal Resources: Sea Level Rise (Atkins 2021) established statewide goals to "anticipate, assess, plan for, and, to the extent feasible, avoid, minimize, and mitigate the adverse environmental and economic effects of sea level rise within the coastal zone." As the legislation directed, the Ocean Protection Council collaborated with 17 state planning and coastal management agencies to develop the *State Agency Sea-Level Rise Action Plan for California* in February 2022. This plan promotes coordinated actions by state agencies to enhance California's resilience to the impacts of sea level rise (California Ocean Protection Council 2022).

Caltrans Adaptation Efforts

Caltrans Vulnerability Assessments

Caltrans completed climate change vulnerability assessments to identify segments of the State Highway System vulnerable to climate change effects of precipitation, temperature, wildfire, storm surge, and sea level rise (Caltrans 2019).

The climate change data in the assessments were developed in coordination with climate change scientists and experts at federal, state, and regional organizations at the forefront of climate science. The findings of the vulnerability assessments guide analysis of at-risk assets and development of Adaptation Priority Reports as a method to make capital programming decisions to address identified risks.

Caltrans Sustainability Programs

The Director's Office of Equity, Sustainability, and Tribal Affairs supports implementation of sustainable practices at Caltrans. The *Sustainability Roadmap* is a periodic progress report and plan for meeting the Governor's sustainability goals related to EOs B-16-12, B-18-12, and B-30-15. The Roadmap includes designing new buildings for climate change resilience and zero-net energy, and replacing fleet vehicles with zero-emission vehicles (Caltrans 2023).

Project Adaptation Analysis

Projects must consider future climate conditions in planning and design decisions, although climate-change risk analysis involves uncertainties as to the timing and intensity of potential risks. The proposed project has been evaluated for climate change risks related to sea level rise, precipitation and flooding, wildfire, and temperature.

Sea Level Rise

The existing Albion Bridge is located along the marine terrace and bluffs adjacent to the immediate coastline of the Pacific Ocean. The proposed project is located in the coastal zone and subject to the Coastal Zone Management Act of 1972, as discussed in Section 3.2.3, *Coastal Zone*. The bridge is approximately 155 feet above the Albion River, spanning a relatively narrow canyon. The Albion River outlets to the Pacific Ocean, approximately 170 feet downstream of the bridge. The Albion River is tidally influenced and subject to flow reversal. Topography within the project area ranges from approximately 0 to 180 feet above mean sea level.

Sea level rise has been considered in the development of the Build Alternatives. Sea level rise is assessed in the project's draft Final Hydraulic Report (Caltrans 2024d), using guidance from the 2018 Caltrans and Ocean Protection Council (OPC) SLR Guidance Manual. "Medium-High Risk Aversion" values are used per the permit requirements from the California Coastal Commission. The closest tidal benchmark for the project is located at Arena Cove, CA (Station # 9416841). The projected sea level rise for Arena Cove is shown in Figure 87. Under the medium-high risk aversion projection, the sea level rise would be 0.7 foot in 2030 (closest year to the design year) and 5.4 to 6.7 feet in 2100, assuming an approximate 75-year serviceable life for the proposed structure (Caltrans 2024d). Data visualizations of sea level rise from NOAA's Sea Level Rise Viewer are shown at 1 foot and 7 feet (Figure 88 and Figure 89). Higher values could occur from strong storms, high tide events, wind waves, and high flow events on the rivers.

		Probabilistic Projections (in feet) (based on Kopp et al. 2014)					*H++ scenario (Sweet et al. 2017) *Single scenario*
		MEDIAN	**LIKELY RANGE**		**1-IN-20 CHANCE**	**1-IN-200 CHANCE**	
		50% probability sea-level rise meets or exceeds...	*66% probability sea-level rise is between...*		*5% probability sea-level rise meets or exceeds...*	*0.5% probability sea-level rise meets or exceeds...*	
				Low Risk Aversion		**Medium - High Risk Aversion**	**Extreme Risk Aversion**
High emissions	2030	0.3	0.2 -	0.5	0.5	0.7	1.0
	2040	0.5	0.3 -	0.7	0.9	1.2	1.6
	2050	0.7	0.5 -	1.0	1.2	1.8	2.6
Low emissions	2060	0.8	0.5 -	1.1	1.4	2.2	
High emissions	2060	1.0	0.6 -	1.3	1.7	2.5	3.7
Low emissions	2070	0.9	0.5 -	1.3	1.8	2.9	
High emissions	2070	1.2	0.8 -	1.7	2.2	3.3	5.0
Low emissions	2080	1.0	0.6 -	1.6	2.1	3.6	
High emissions	2080	1.5	1.0 -	2.2	2.8	4.3	6.4
Low emissions	2090	1.2	0.7 -	1.8	2.5	4.5	
High emissions	2090	1.8	1.1 -	2.6	3.4	5.4	8.0
Low emissions	2100	1.3	0.7 -	2.1	3.0	5.4	
High emissions	2100	2.1	1.3 -	3.1	4.1	6.7	9.9
Low emissions	2110*	1.4	0.8 -	2.2	3.1	6.0	
High emissions	2110*	2.3	1.5 -	3.2	4.2	7.0	11.6
Low emissions	2120	1.5	0.9 -	2.5	3.6	7.1	
High emissions	2120	2.6	1.8 -	3.8	5.0	8.2	13.9
Low emissions	2130	1.7	0.9 -	2.8	4.1	8.1	
High emissions	2130	2.9	1.9 -	4.3	5.7	9.7	16.2
Low emissions	2140	1.8	0.9 -	3.1	4.6	9.4	
High emissions	2140	3.2	2.1 -	4.8	6.5	11.1	18.7
Low emissions	2150	1.9	0.9 -	3.4	5.1	10.7	
High emissions	2150	3.6	2.3 -	5.4	7.3	12.6	21.5

Figure 87. Projected Sea Level Rise (in feet) for Arena Cove (California Ocean Protection Council 2018)

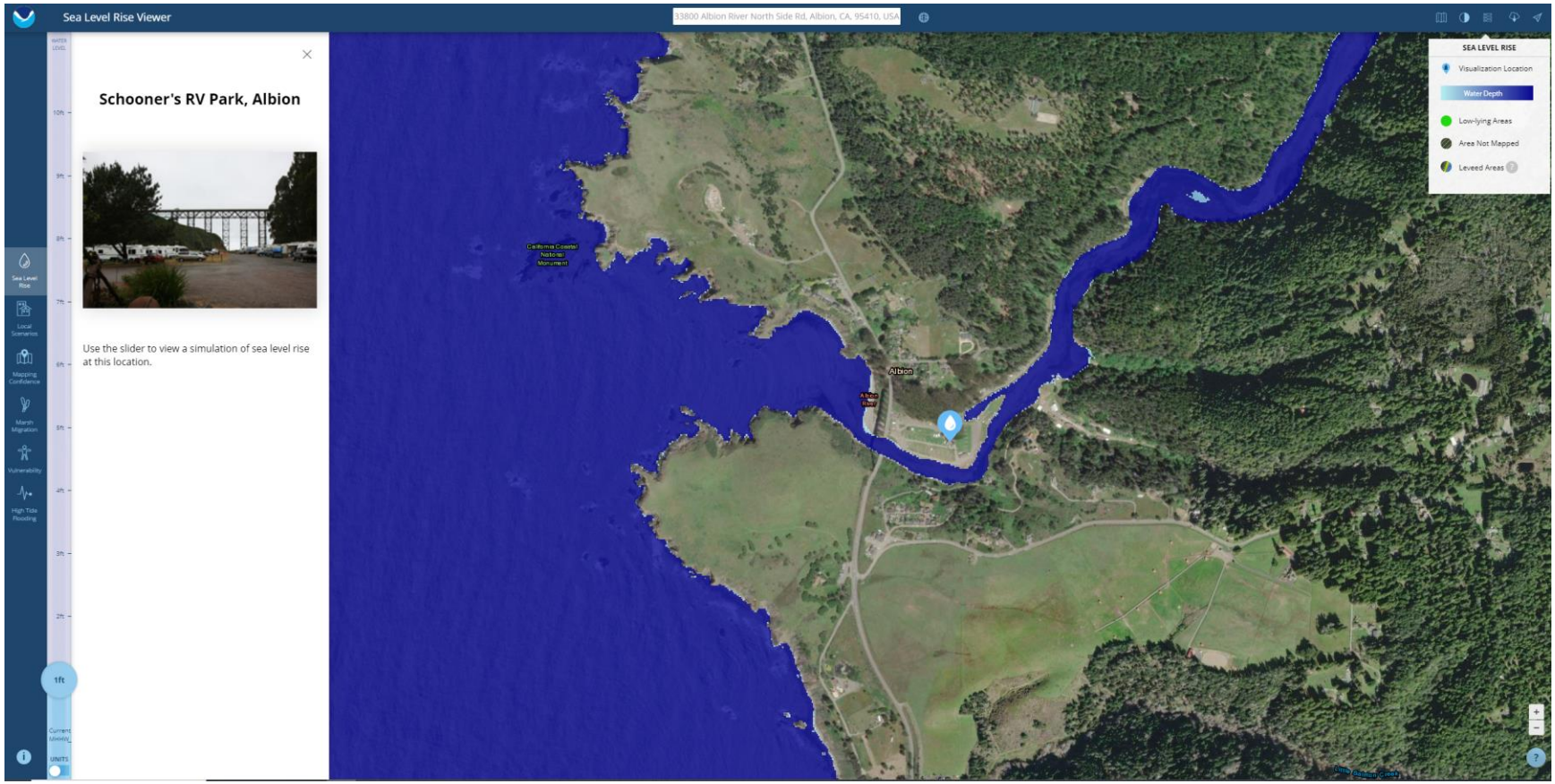


Figure 88. Sea Level Rise at Albion Bridge at 1 foot (NOAA 2023)

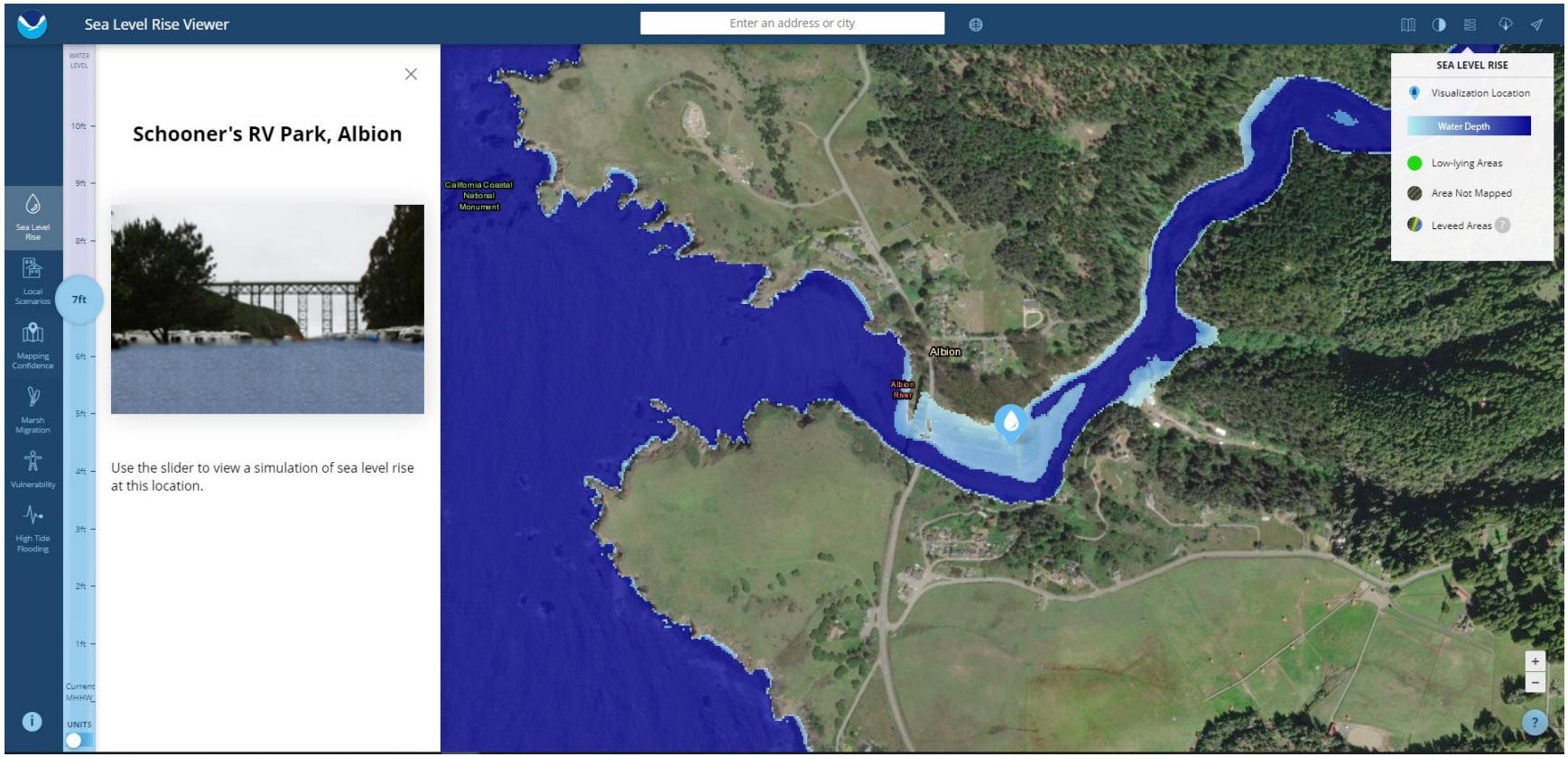


Figure 89. Sea Level Rise at Albion Bridge at 7 feet (NOAA 2023)

All Build Alternatives were designed to withstand future sea level rise conditions. The Build Alternatives would be constructed using materials that are less susceptible to corrosion (i.e., concrete columns and foundations) and the bridge abutments would be located beyond the Albion River flow and sea level rise inundation zone so that there would be no potential for local scour at the abutments. For foundational elements that are intersected by flow and subject to scour, the bridge pier caps would be constructed deep enough below ground to avoid the projected short-term scour depths. Sheet pile cofferdams would be integrated into the design for all Build Alternatives to withstand potential scour at bridge foundations that may be exposed to flood flows. Long-term contraction scour or degradation is not expected for any of the Build Alternatives (Caltrans 2024c).

Table 72 summarizes the water surface elevations at the lowest chord of the proposed replacement structures and available freeboard for each Design Option (Caltrans 2024d). According to the project's Location Hydraulic Study (Caltrans 2024b), none of the Build Alternatives would change the water surface elevation (11.2+ feet) at the upstream edge of the existing bridge, and there would be relatively no change to the lateral extents of the floodplain from existing to proposed conditions under any Design Option.

Table 72. Hydraulic Results by Design Option

Design Option	Design Flood Discharge (cubic feet per second) for Q100	Soffit Elevation (feet)	Water Surface Elevation (feet)[a]	Maximum Channel Velocity (feet per second)	Available Freeboard (feet)
1A	10377	142.4	11.0	8.1	131.4
1B	10377	157.3	11.0	8.1	146.3
2A	10377	137.0	11.3	7.4	125.7
2B	10377	158.5	11.2	7.6	147.3
3A	10377	149.4	11.1	7.7	138.3

Source: (Caltrans 2024d)

[a] This is the water surface elevation at the upstream location for the bottom of the box girder for Design Options 2A and 2B. The water surface elevation at the upstream edge of deck of the existing bridge would be the same (11.2+ feet) for all alternatives.

In addition to sea level rise, Caltrans requires a hazard tsunami evaluation for bridges within 5 miles of the coast. The tsunami hazard for a bridge is evaluated with a 5 percent probability of being exceeded in 50 years. As stated in the draft Final Hydraulic Report (Caltrans 2024d), the conservative estimate maximum wave height elevation is 41.0-foot NAVD88, with a wave velocity of 43.7 feet per second. New bridges should be designed so that the tsunami flows are below the soffit (or bottom girder flange). This condition is met for all Build Alternatives.

Tsunami effects and wave runup elevations are shown in Table 73. As stated in the project's draft Final Hydraulic Report, the Caltrans Memo to Designers 16-1 lists the general criteria for setting the soffit elevation are to pass the greater of (1) Design Flood (typically Q50 + 2 feet of freeboard), or (2) Base Flood (Q100 without freeboard). The hydraulic results indicate this general freeboard criterion is met for all Build Alternatives, including in tsunami and wave run-up conditions.

Table 73. Tsunami Effects and Wave Runup Results by Design Option

Design Option	Tsunami Effects - Total Water Height Elevation	Wave Runup Elevation (1% Annual Chance)	Tsunami Effects Available Freeboard (feet)	Wave Runup Available Freeboard (feet)
1A	44.0	49.9	98.4	92.5
1B	44.0	49.9	113.3	107.4
2A	44.0	49.9	93.0	87.1
2B	44.0	49.9	114.5	108.6
3A	44.0	49.9	105.4	99.5

Source: (Caltrans 2024d)

Precipitation and Flooding

As stated in the project's Preliminary Drainage Report (Caltrans 2024c), the mean annual precipitation is 40.24 and 41.28 inches at the Fort Bragg N and Pt Area monitoring stations, respectively. Rainfall occurs mainly in the winter months. The District Climate Change Vulnerability Assessment for Caltrans District 1 evaluates the percentage change in the 100-year storm rainfall event for 2025, 2055, and 2085. In the project area, the change in rainfall for a 100-year storm rainfall event is expected to increase up to 4.9 percent by 2025 (which is the mid-point year for 2010 to 2039), up to 4.9 percent by 2055 (which is the mid-point year for 2040 to 2069), and between 5.0 and 9.9 percent by 2085 (which is the mid-point year for 2070 to 2099) (Caltrans 2019). More frequent flooding and landslides may result in more state highway system road closures and need for emergency response. The Build Alternatives have been designed to accommodate future rainfall projections, including new and upsized culverts and stormwater treatment controls.

The proposed project is located within and above a mapped FEMA floodplain, designated as Zone A. Zone A is a 100-year floodplain without base flood elevations. The area approximately 25 feet west of the bridge is designated Zone VE, which is a coastal hazard area with a 1-percent annual chance of experiencing floods. Zone VE is a Special Flood Hazard Area with a higher risk of damage from waves than, for example, Zone AE. As described above, there would be relatively no change in the lateral extents of the flow boundaries from existing to proposed conditions. Through hydraulic modeling, it was determined that the proposed project would not require FEMA map revisions to the floodplain (Caltrans 2024d).

The Build Alternatives involve fewer piers/foundations, are positioned to minimize encroachment on the floodplain, and include more structurally resilient materials than the existing bridge. The existing bridge structure has approximately 15 rows of timber or concrete tower supports within the floodplain, which would be removed after the new

structure is constructed, except for the foundation located on the north bank of the Albion River, which would remain for channel stability purposes.

Flooding and extreme weather events may disrupt construction activities and damage equipment and facilities used during the construction period. Changes in the frequency or intensity of these events are uncertain during the construction period. However, these events are typical for the region and are expected to be managed through existing construction management procedures, including appropriate construction scheduling, contingency budgeting, and emergency management protocols. The project proposes to implement Measure **AMM-HF-1** during construction, which requires monitoring of the project on a regular basis and, during flood risk warning, to assess the potential for debris loading and implement measures to remove staged materials and racked debris that pose a threat to structures and channel/bank stability.

Wildfire

As described in Section 4.3.20, *Wildfire*, the proposed project is located within Moderate and High CAL FIRE Threat Zones. The proposed project is not located within a Very High Fire Hazard Severity Zone. This segment of SR 1 is not considered to be a roadway exposed to risk of wildfire in 2025, 2055, or 2085, per the District Climate Change Vulnerability Assessment for Caltrans District 1.

The Build Alternatives incorporate the use of fire-resistant materials (i.e., concrete and steel) and incorporate a defensible space on either side of the bridge including a clear recovery zone with strict limitations on vegetation. The Build Alternatives involve widening the bridge lanes and shoulders and providing a separated pedestrian walkway, which would better accommodate emergency evacuation along SR 1 in the event of a wildfire. Following fire events, burned areas are more susceptible to erosion and landslides. The Build Alternatives are more resilient to debris loading following wildfire events, as they involve fewer piers/foundations, are positioned to minimize encroachment on the floodplain, and include more structurally resilient materials than the existing bridge.

Caltrans Standard Specification 7-1.02M(2) "Fire Protection” requires a Fire Prevention Plan be prepared as required by Cal/OSHA, cooperation with fire prevention authorities, and reporting procedures for fires on site. During construction, typical vegetation clearing completed by construction crews, in addition to standard precautions, would reduce the risk of ignition during construction. The project proposes to implement Measure **AMM-TT-1**, which requires that a contingency plan that would include provisions for access across the bridge for all vehicles during an evacuation (i.e., wildfires). The project also proposes to maintain access to the Albion Little River Fire Protection District at all times during construction (**AMM-UE-1**).

Temperature

As stated in the project's Preliminary Drainage Report (Caltrans 2024c), the average monthly minimum January temperature is 39.9 and 40.2 degrees, and the average monthly maximum September temperature is 65.6 and 66.7 degrees, respectively. The District Climate Change Vulnerability Assessment for Caltrans District 1 evaluates the change to both minimum and maximum temperatures compared to historical averages (1975 to 2004). Temperatures are rising for both metrics. In the project area, by 2025, the minimum temperature is expected to rise by 0 to 3.9 degrees Fahrenheit (°F) and the average maximum temperature is expected to rise by anywhere from 0 to 5.9 °F. By 2055, the projected rise for the minimum temperature is 2 to 5.9 °F and the average maximum is 2 to 9.9 °F. Finally, by 2085, the expected temperature rise is 4 to 9.9 °F for the minimum temperature and 6 to 11.9 °F for the maximum temperature metric. Given the relatively low baseline temperatures in the region, this range of temperature changes during the project's lifetime would not likely require adaptive changes in pavement or bridge design or maintenance practices.

Chapter 5 Comments and Coordination

Early and continuing coordination with the general 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, cooperating agency meetings, public meetings, and public notices. This chapter summarizes the results of Caltrans' efforts to fully identify, address, and resolve project-related issues through early and continuing coordination.

5.1 NOTICE OF PREPARATION, NOTICE OF INTENT, AND PUBLIC SCOPING MEETINGS

The following provides information regarding the agency and public scoping processes for the development of the draft environmental document. The Notice of Preparation (NOP) and Notice of Intent (NOI) with Scoping Summary Report, and comments received for the proposed project are available in Appendix F, *Public Outreach and Scoping*.

5.1.1 Notice of Preparation

Caltrans posted an NOP of a Draft Environmental Impact Report (EIR) for the proposed project with the State Clearinghouse (SCH) on April 6, 2015 (SCH#: 2015042016). The comment period for the NOP was from April 7, 2015, to May 7, 2015. Public notices for the scoping comment period and public open house/scoping meeting were published in the *Mendocino Beacon* and *Fort Bragg Advocate-News* on April 9, 2015, which are included in Appendix F. A public meeting was held on April 14, 2015, at Albion Elementary School and an agency meeting was held on April 15, 2015, at the Caltrans Maintenance Office in Ukiah. A total of 36 written comments (letters, emails, or comment cards) were received during the scoping period for the NOP, including from agencies, tribes, and local residents.

5.1.2 Notice of Intent

With consideration given to the historic designation of the Albion River Bridge in 2017, as well as the public and agency comments received during the scoping period for the NOP, Caltrans determined that an Environmental Impact Statement (EIS) should be prepared. The Federal Highway Administration (FHWA), on behalf of Caltrans, published an NOI to prepare a Draft EIS for the proposed project on April 19, 2022 (87 Federal Register 23313–23314). The comment period for the NOI was from April 15, 2022, to May 16, 2022, but was extended through May 20, 2022. Public notices for the

federal scoping comment period were published in the *Mendocino Beacon* and the *Fort Bragg Advocate-News* on April 14 and April 28, 2022. In addition, a direct mail brochure was mailed to more than 500 community residents, businesses, property owners, and stakeholder contacts on the interested parties list and within a 1.5-mile radius of the proposed project on April 20, 2022. Information was also disseminated on Caltrans' Facebook, Instagram, and Twitter social media outlets. The project webpage was updated to include information for the public regarding the proposed project and served as an online informational resource for the virtual public scoping meeting and public comment period. In addition, Caltrans held a virtual public scoping meeting for the proposed project on May 5, 2022, and a virtual agency scoping meeting on May 3, 2022. A total of 59 comments were received during the scoping period for the NOI (44 written and 15 verbally during the scoping meeting). Following the public scoping period for the EIS, Caltrans finalized a Scoping Summary Report for the proposed project in December 2022 (Caltrans 2022a).

5.2 23 USC 139 COORDINATION PLAN

Under Section 6002 of the Safe, Accountable, Flexible, Efficient Transportation Equity Act – A Legacy for Users (SAFETEA-LU) of 2005, all EISs for which an NOI is published in the Federal Register after August 10, 2005, must follow SAFETEA-LU requirements for the preparation of a Coordination Plan. A Coordination Plan was prepared for the proposed project (Caltrans 2022b) in August 2022. The Coordination Plan defines the process by which Caltrans would communicate information about the proposed project to cooperating and participating agencies, other interested agencies, and the public.

Under NEPA Assignment, Caltrans is the lead agency for the proposed project. Cooperating and participating agencies are defined as follows:

- *Cooperating Agency:* Any federal agency, other than the lead agency, which has jurisdiction by law or special expertise with respect to any environmental impact in a proposed project. State, tribal, or local agencies may become cooperating agencies by agreement with the lead agency.
- *Participating Agency:* Any federal, state, tribal, local, or regional government agencies that may have an interest in the project.

Invitation letters were sent on March 23, 2022, to agencies and Native American tribes inviting them to be cooperating/participating agencies. An email reminder was subsequently sent to agencies and tribes requesting a response to Caltrans' invitation. Table 74 identifies the cooperating and participating agencies for the project.

Coordination with cooperating and participating agencies is ongoing. An agency coordination meeting was held on November 23, 2023, to discuss revisions to the proposed project's purpose and need statement, Construction Manager/General Contractor (CM/GC) involvement in the project, and the design options that were being carried forward into this draft environmental document. An additional agency coordination meeting was held on April 15, 2024, to discuss the draft impacts analysis and avoidance, minimization, and mitigation measures.

Table 74. Cooperating and Participating Agencies

Agency	Role [1, 2]
California Department of Transportation	Lead Agency
Advisory Council on Historic Preservation [3]	Cooperating Agency, Participating Agency
National Park Service [3]	Cooperating Agency, Participating Agency
Federal Emergency Management Agency [3]	Cooperating Agency, Participating Agency
U.S. Army Corps of Engineers	Cooperating Agency, Participating Agency
U.S. Coast Guard	Cooperating Agency, Participating Agency
U. S. Department of Agriculture Natural Resources Conservation Service [3]	Cooperating Agency, Participating Agency
U.S. Fish and Wildlife Service	Cooperating Agency, Participating Agency
U.S. Environmental Protection Agency	Cooperating Agency, Participating Agency
National Oceanic and Atmospheric Administration National Marine Fisheries Service	Cooperating Agency, Participating Agency
California Coastal Commission	Participating Agency
California Department of Fish and Wildlife	Participating Agency
California North Coast Regional Water Quality Control Board	Participating Agency
Mendocino County Planning and Building Services Public Works	Participating Agency

Notes:

1. To become a participating agency, state, tribal, local, or regional government agencies must respond in writing. Federal agencies are participating agencies unless they decline in writing.
2. Upon request from lead agency, Federal agencies with jurisdiction by law are cooperating agencies and Federal agencies with special expertise may be cooperating agencies.
3. Agency did not respond to invitation.

5.3 AGENCY CONSULTATION AND COORDINATION

Caltrans has been coordinating with agencies throughout the development of the proposed project. In addition to coordination efforts discussed in Section 5.2, *23 USC Coordination Plan*, Table 75 summarizes most, but not all, engagement with agencies to date.

Various permits and approvals are needed from local, federal, and state agencies. These permits and approvals are summarized in Table S-2 in Section S.4, *Coordination with Public and Other Agencies.*

Caltrans would prepare Biological Assessments and initiate Federal Endangered Species Act (FESA) Section 7 consultation with both the U.S. Fish and Wildlife Service (USFWS) and the National Marine Fisheries Service (NMFS) for potential effects to federally listed species once a preferred alternative is selected. In addition, Caltrans would consult with NMFS for activities that could adversely affect Essential Fish Habitat under the Magnuson-Stevenson Act and for marine mammals under the Marine Mammal Protection Act, and would coordinate with the California Department of Fish and Wildlife (CDFW) for potential "take" for state listed species under the California Endangered Species Act (CESA).

Consultation with the SHPO, as required under Section 106 of the National Historic Preservation Act and Section 4(f) of the Department of Transportation Act, is ongoing for the proposed project. Additional information on coordination with the SHPO is included in Section 3.2.11, *Cultural Resources,* and provided in Attachment 1: Letters and Other Correspondence of Appendix A, *Section 4(f)*.

Caltrans has received a preliminary determination from U.S Coast Guard (USCG) for navigational clearance for temporary and permanent bridges and will apply for a bridge permit after completion of the final environmental document.

The Albion River is designated as a State Wild and Scenic River. Caltrans contacted the California Natural Resources Agency (CNRA) regarding the proposed project in 2023; the CNRA did not have concerns related to the proposed project. As described in Appendix A, *Section 4(f)*, the Albion River is also a Section 4(f) resource under CNRA's jurisdiction. The proposed project would have a *de minimis* impact on the Albion River under all Build Alternatives. Caltrans would seek CNRA concurrence regarding this *de minimis* impact determination following public circulation of the draft environmental document and prior to finalizing the environmental document.

Other permits, as described in Table S-2, would be obtained after completion of the final environmental document, prior to implementation of the proposed project.

Table 75. Summary of Agency Coordination-Personnel, Date, and Coordination Effort

Personnel	Date	Coordination Effort
Caltrans USFWS	4/30-5/1/2013	Phone and email correspondence on the need to conduct focused surveys for federally listed butterfly species.
Caltrans USFWS	5/15/2013	Email correspondence with USFWS regarding potential project impacts to tidewater goby.
Caltrans CDFW	3/10/2015	Email correspondence with CDFW regarding marine mammal consultation needs.
Caltrans SHPO	10/15/2015	Caltrans submitted letter to SHPO to initiate consultation for proposed geotechnical investigations at the Albion River Bridge and seek concurrence on non-eligibility of CA-MEN-3645 for NRHP status and Effects finding of geotechnical investigations.
Caltrans SHPO	12/9/2015	Response letter from SHPO; research was reviewed, and the investigation was sufficient. SHPO concurred with Effects finding and that the evaluated portion of CA MEN-3645 was not eligible for listing int the NRHP.
Caltrans USFWS	3/26/2017	Site visit with USFWS to review potential impacts to federally listed species.
Caltrans NMFS	6/22/2017	Phone conversation with NMFS to discuss the potential for marine mammals to be near the project site. NMFS suggested studying auditory impacts to all 5 marine mammal auditory groups.
Caltrans CDFW NMFS ICF SLC CCC	6/28/2017	Site visit with CDFW, NMFS, SLC, CCC, ICF and Caltrans to discuss bridge replacement and potential mitigation at Schooners Landing.
Caltrans NMFS	7/11/2019	Phone conversation with NMFS to discuss Habitat Areas of Particular Concern, eelgrass, and consideration for Chinook salmon.
USFWS Caltrans	1/19/2021	Meeting to discuss future survey efforts and consultation needs for listed butterfly species.
USFWS Caltrans	2/03/2021	Meeting to discuss future survey efforts and consultation needs for listed butterfly species.
NMFS Caltrans	06/02/2021	Meeting to discuss potential for NMFS listed species within the Albion River and Albion Cove.
USFWS Caltrans	06/14/2021	Meeting to confirm effect determinations for USFWS listed species.

Personnel	Date	Coordination Effort
NMFS Caltrans	06/26/2021	Email to request technical assistance on MMPA process and potential species within the project area.
NMFS Caltrans	07/08/2021	Email to request technical assistance on the MMPA process
CDFW Caltrans	11/9/2022	Meeting to discuss new candidate endangered species under CESA and current proposed treatment and pre-construction survey proposal.
Caltrans Compass Land CCC North Coast Staff	1/23/2023	Early coordination meeting with California Coastal Commission staff.
Caltrans USCG	1/26/2023	Meeting to discuss design alternatives, temporary work trestles, and minimum navigational clearance requirements.
CDFW Caltrans	1/27/2023	Site visit to review habitats, jurisdictional areas, discuss construction scenarios, access, and estimated work schedule. Walked below existing bridge and visited intermittent stream at PM 44.03.
USACE Caltrans	2/14/2023, 2/27/2023	Emails to confirm HTL as extent of 404 jurisdiction within tidal waters.
Caltrans NMFS	2/3 – 6/2/2023	Emails to request technical assistance regarding eelgrass impacts flow chart, species presence, jurisdiction, and determinations.
Caltrans Compass Land CCC North Coast Staff	4/25/2023	Meeting to discuss design alternatives, public access, and temporary construction-related closures of the Albion campground, beach, and river.
Caltrans USFWS	5/23/2023	Email to request technical assistance related to marbled murrelet presence and potential for hydroacoustic impacts.
Caltrans CDFW	5/31/2023	Meeting (office hours) to review proposed project work schedule with respect to in-water work windows; discussion of marbled murrelet and avoidance of take with marine animal monitoring plan; discussion regarding fish presence and consideration of intertidal and surf grass habitats.
Caltrans NMFS	6/5/2023	Emails regarding information on hydroacoustic thresholds for sea turtles and feedback regarding potential for leatherback sea turtles to be present w/in Albion Cove.
Caltrans NMFS	6/7/2023	Follow up email (to Jeremy Pohlman's previous correspondence) regarding marine mammal presence and permitting.

Personnel	Date	Coordination Effort
Caltrans CDFW	6/23/2023	Email correspondence regarding potential for salmonids to be present within the immediate project area (Aquatic Species Buffer) during anticipated pile driving and demolition activities.
Caltrans CDFW	6/28/2023	CDFW office-hour meeting to discuss probability of different species of fish to be present within the project area during proposed in-water work activities.
Caltrans SHPO	6/30/23	Caltrans submitted letter to SHPO requesting concurrence on the expanded APE that encompassed staging areas, updated cultural resource survey efforts, and concurrence that the 33 historic-era resources evaluated are not eligible to the NRHP.
Caltrans CNRA	7/24/2023	Correspondence with CNRA regarding Wild and Scenic Rivers.
Caltrans SHPO	8/4/2023	In a letter, SHPO agreed that expanded APE is appropriate for the project, and that the 33 historic-era, built-environment structures do not qualify as historic properties under Section 106.
Caltrans CDFW NMFS	9/13/2023	Virtual meeting to discuss anticipated mitigation requirements to compensate for potential state “take” of CCC coho salmon. Caltrans presented several ideas for upstream habitat enhancement for fish (LWD cover) and discussed feasibility considerations and limitations of eelgrass mitigation within the Albion River.
Caltrans CCC	1/18/2024	Meeting to discuss sand supply for the Albion Beach with CCC staff.
Caltrans CCC	3/26/2024	Meeting to discuss coastal policy consistency and climate change considerations.
Caltrans CDFW	4/15/2024	Meeting to discuss draft biological mitigation measures and compensatory mitigation options.

Caltrans = California Department of Transportation, CCC = California Coastal Commission, CDFW = California Department of Fish and Wildlife, NMFS = National Marine Fisheries Service USFWS = U.S. Fish and Wildlife Service

5.4 TRIBAL ENTITIES

Consultation with Native American tribes is required under NHPA Section 106 in accordance with 36 Code of Federal Regulations (CFR) Part 800. Information regarding consultation is provided in Attachment 1: Letters and Other Correspondence of Appendix A, *Section 4(f)*.

The CEQA NOP for the proposed project was filed prior to the effective date for Assembly Bill (AB) 52. Therefore, tribal consultation is being conducted under Section 106 of the NHPA, not CEQA.

5.5 GENERAL PUBLIC

Caltrans has been engaging with the public about the proposed project throughout the life of the project. This has taken place through community meetings, as well as a project website where interested parties can sign up to receive notifications when there are new events or if updates have been posted on the website. Public outreach events are summarized in Table 76.

Table 76. Summary of Public Outreach Events

Date	Outreach Event
5/7/2009	Public Meeting – Albion River and Salmon Creek bridges
4/10/2014	Informational Meeting (40 attendees)
4/24/2014	Informational Meeting (16 attendees)
4/14/2015	Public Scoping Meeting – Notice of Preparation of Environmental Impact Report (33 attendees)
3/23/2017	Public Meeting – Informational Meeting (35 attendees)
5/9/2017	Public Meeting – Community Impact Assessment (30 attendees)
7/27/2017	Field Review Meeting – Geotechnical Investigation
7/27/2017	Public Meeting – Follow-up Community Impact Assessment (23 attendees)
11/14/2017	Public Meeting – Bridge Inspections and Maintenance (37 attendees)
4/17/2018	Informational Open House – Revised Geotechnical Investigation (14 attendees)
9/19/2019	Public Meeting – State Route 1 Safety Improvement Projects (24 attendees)
5/5/2022	Virtual Public Scoping Meeting – NOI to prepare EIS and Section 4(f) Evaluation
11/21/2022	Press release announcing the selection of Granite Construction Company as the Construction Manager/General Contractor (CM/GC) for the proposed project. The CM/GC method includes the contractor early in the design process to incorporate the contractor's perspective in the planning process.
April 2024	CTC Town Hall Meeting and Project Tour

Members of the public will have the opportunity to comment on the proposed project during public circulation of the draft environmental document. The draft environmental document will be circulated for public comments for 60 days. Comments can be submitted via post mail to Liza Walker, North Region 1 Environmental, California Department of Transportation, 1656 Union Street, Eureka, CA, 95501, or via email to albionbridge@dot.ca.gov.

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Chapter 6 List of Preparers

The following Caltrans staff and consultants contributed to the preparation of this EIR/EIS.

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William Bertucci, Engineering Geologist. Contribution: Preliminary Foundation Report

Christopher Dennis, Senior Engineering Geologist Branch Chief. Contribution: Air Quality Report and Noise Study Report

Sheila Enright, Hydraulic Engineer. Contribution: Location Hydraulic Study

Christian Figuero, Senior Engineering Geologist Branch Chief. Contribution: Initial Site Assessment and Paleontological Identification Report/Paleontological Evaluation Report

Dawn Graydon, Environmental Scientist (Biologist). Contribution: Natural Environment Study and Aquatic Resources Delineation Report

John Huang, Senior Materials and Research Engineer. Contribution: Preliminary Foundation Report

Jeff Juarez, Landscape Associate. Contribution: Visual Impact Assessment

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David Lemon, Principal Architectural Historian. Contribution: Cultural Resources and Tribal Cultural Resources Compliance

Ginger Lu, PE. Contribution: Revised Final Hydraulic Report

Corey Matson, PE, Design Engineer. Contribution: Design, Location Hydraulic Study, Preliminary Drainage Report with Floodplain Evaluation Report Summary, and Public Access Feasibility Report

Ronald McGaugh, PE, Transportation Engineer. Contribution: Draft Final Hydraulic Report

Jeremy Miller-Schulze, Hydraulics Engineer. Contribution: Preliminary Drainage Report with Floodplain Evaluation Report Summary

Sung Moon, PE, Senior Transportation Engineer. Contribution: Preliminary Foundation Report

Jamie Lusk, Transportation Engineer. Contribution: Work Zone Operations and Traffic Management

Tony Nedwick, Structure Hydraulics & Hydrology Branch Chief. Contribution: Draft Final Hydraulic Report

Julie Nellis, Senior Right of Way Agent. Contribution: Right of Way Coordination and Relocation Impact Memorandum

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Oscar Rodriguez, NPDES Coordinator. Contribution: Water Quality Assessment Report

Matt Simmons, Right of Way Agent. Contribution: Relocation Impact Memorandum

Paul Sundberg, PG, Hazardous Waste/Paleontology Coordinator. Contribution: Initial Site Assessment Memorandum

Kim Tanksley, Associate Environmental Planner/Archaeologist. Contribution: Cultural Resources and Tribal Cultural Resources

Kenneth Williams, Engineering Geologist Specialist. Contribution: Sand Supply Memorandum

Austin Young, PE, Bridge Design Branch Chief. Contribution: Design

Philip Zerkel, North Region Hydraulics. Contribution: Preliminary Drainage Report

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Alisa Reynolds, Senior Principal, Cultural Resources. Contribution: Section 4(f)

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Victoria Hsu, Senior Air Quality Specialist. Contribution: Air Quality, Energy, Greenhouse Gas, and Climate Change for Administrative Draft EIR/EIS

Allyson Jeffers, Strategic Communications Coordinator. Contribution: EIS Scoping

Rutika Jhaveri, GIS Analyst. Contribution: GIS for Administrative Draft EIR/EIS

Tanya Kalaskar, Environmental Planner. Contribution: Noise for Administrative Draft EIR/EIS

Catherine LaFata, Transportation Equity Director. Contribution: QA/QC Administrative Draft EIR/EIS (Independent Technical Review)

John Lloyd, Cultural Resources Section Manager. Contribution: Cultural Resources and Paleontological Resources for Administrative Draft EIR/EIS

Harrison Qui, Environmental Planner. Contribution: Community Impacts for Administrative Draft EIR/EIS

Ruchi Shrivastava, Transportation Planner. Contribution: Traffic and Transportation for Administrative Draft EIR/EIS

Dan Williams, Biologist. Contribution: Biological Resources for Administrative Draft EIR/EIS

Area West

Aimee Dour-Smith, Senior Project Manager/Planner. Contribution: Community Impact Assessment

Kim Mays, Environmental Planner. Contribution: Community Impact Assessment

Earthview Sciences

Maria Elena Conserva, PhD, Senior Paleontologist/Senior Visual Analyst. Contribution: Paleontology Identification/Evaluation Report, Visual Impact Assessment

GeoCon Consultants, Inc.

John E. Juhrend, PE, CEG, Senior Engineer. Contribution: Phase I Initial Site Assessment

ICF

Jeff Peters, Geomorphologist. Contribution: Draft Hydraulics and Sediment Analysis Report

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Chapter 7 Distribution List

The following entities received printed or electronic copies of this document or the Notice of Availability of this document:

7.1 FEDERAL AGENCIES

Federal Agency/Address	Federal Agency/Address
Advisory Council on Historic Preservation 1100 Pennsylvania Avenue NW, Suite 803 Washington, DC 2004	Environmental Protection Agency, Headquarters e-NEPA system
Environmental Protection Agency, Region IX Attn: Carolyn Mulvihill 75 Hawthorne Street San Francisco, CA 94105	Federal Emergency Management Agency Regional Director 1111 Broadway, Suite 1200 Oakland, CA 94607-4052
Federal Highway Administration 1200 New Jersey Ave., SE Washington, DC 20590	Federal Highway Administration – California Division Attn: Shawn Oliver, Env Program Manager 650 Capitol Mall, Suite 4-100 Sacramento, CA 95814-4708
National Marine Fisheries Service Attn: Elena Meza Santa Rosa Field Office 777 Sonoma Avenue, Room 325 Santa Rosa, CA 95404	U.S. Army Corps of Engineers San Francisco Regulatory District Attn: Michael Orellana 1455 Market Street, 8th Floor San Francisco, CA 94103-1398
U.S. Coast Guard Commander 11th Coast Guard District Attn: Carl T. Hausner, Chief, Bridge Section U.S. Coast Guard Island, Bldg 50-2 Alameda, CA 94501	U.S. Fish and Wildlife Service Attn: Greg Schmidt Arcata Fish and Wildlife Office 1655 Heindon Road Arcata, CA 95521

7.2 STATE AGENCIES

State Agency/Address	State Agency/Address
California Air Resources Board 1001 I Street #2828 Sacramento, CA 95814	California Coastal Commission North District Office Attn: Abbie Strickland 1385 Eighth Street, Suite 130 Arcata, CA 95521
California Department of Boating and Waterways Attn: Ramona Fernandez One Capitol Mall - Suite 410 Sacramento, CA 95814	California Department of Fish and Wildlife Attn: Greg O'Connell 619 Second Street Eureka, CA 95501
California Department of Fish and Wildlife 601 Locust Street Redding, CA 96001	California Department of Forestry and Fire Protection Attn: Joe Tyler, Director/Fire Chief PO Box 944246

State Agency/Address	State Agency/Address
	Sacramento, CA 94244-2460
California Department of Toxic Substances Control 700 Heinz Avenue, Suite 700 Berkley, CA 94710-2721	California Highway Patrol 540 South Orchard Avenue Ukiah, CA 95482-5021
California Native Plant Society 2707 K Street, Suite 1 Sacramento, CA 95816-5113	California Natural Resources Agency Attn: Secretary for Natural Resources 1416 Ninth Street, Suite 1311 Sacramento, CA 95814
California Office of Historic Preservation Attn: Julianne Polanco State Historic Preservation Officer (SHPO) PO Box 942896 Sacramento, CA 94296	California State Coastal Conservancy 1515 Clay Street, 10th Floor Oakland, CA 94612
California State Lands Commission 100 Howe Avenue, Suite 100 South Sacramento, CA 95825	California Transportation Commission Commission Chair 1120 N Street MS 52 Sacramento, CA 95814
Native American Heritage Commission Attn: Raymond C. Hitchcock, Executive Secretary 1550 Harbor Blvd, Suite 100 West Sacramento, CA 95691	Regional Water Quality Control Board (RWQCB) – North Coast Attn: Susan Stewart 5551 Skylane Blvd., Suite A Santa Rosa, CA 95403-1072

7.3 REGIONAL/COUNTY/LOCAL AGENCIES

Regional/County/Local Agency/Address	Regional/County/Local Agency/Address
Albion Little River Fire Protection District 33900 West Street Albion, CA 95410	Mendocino County Air Quality Management District 306 East Gobbi Street Ukiah, California 95482
Mendocino County Department of Transportation 340 Lake Mendocino Drive Ukiah, California, 95482	Mendocino County Planning and Building Services 860 North Bush Street Ukiah, CA 95482
Mendocino County Office of Emergency Services 951 Low Gap Road Ukiah, CA 95482	Mendocino County Sheriff 951 Low Gap Road Ukiah, CA 95482
Mendocino County Transit Authority 241 Plant Rd Ukiah, CA 95482	Mendocino Council of Governments Attn: Nephele Barrett 525 South Main Street, Suite B Ukiah, CA 95482

7.4 ELECTED OFFICIALS

Office/Address	Office/Address
Mendocino County Board of Supervisors 5th District Mendocino County Board of Supervisors 501 Low Gap Road, Room 1010 Ukiah, CA 95482	Office of State Assembly Member Jim Wood 2nd Assembly District Ukiah Valley Conference Center 200 S. School St. Suite D Ukiah, CA 95482
Office of State Senator Mike McGuire 2nd Senate District 1036 5th Street, Suite D Eureka, CA 95501	Office of United States Congress Jared Huffman California 2nd Congressional District Fort Bragg District Office PO Box 2208 Fort Bragg 95437

7.5 TRIBAL GOVERNMENTS

Tribal Office/Address	Tribal Office/Address
Coyote Valley Band of Pomo Indians Attn: Michael Hunter PO Box 39 Redwood Valley, CA 95470	Coyote Valley Band of Pomo Indians Attn: Priscilla Hunter PO Box 39 Redwood Valley, CA 95470
Guidiville Band of Pomo Indians Attn: Donald Duncan PO Box 339 Talmage, CA 95481	Guidiville Band of Pomo Indians Attn: Meyo Marrufo PO Box 339 Talmage, CA 95481
Guidiville Band of Pomo Indians Attn: Merline Sanchez PO Box 339 Talmage, CA 95481	Hopland Band of Pomo Indians Attn: Ramon Billey 3000 Shanel Road Hopland, CA 95449
Hopland Band of Pomo Indians Attn: Sonny Elliott 3000 Shanel Road Hopland, CA 95449	Inter-Tribal Sinkyone Wilderness Council Attn: Hawk Rosales PO Box 1523 Ukiah, CA 95482
Kashia Band of Pomo Indians of Stewarts Point Rancheria Attn: Emilio Valencia, Director of Environmental Planning 1420 Guerneville Road, Suite 1 Santa Rosa CA 95403	Laytonville Rancheria/Cahto Indian Tribe Attn: Mary Norris PO Box 1239 300 Cahto Drive Laytonville, CA 95454
Laytonville Rancheria/Cahto Indian Tribe Attn: Richard Smith PO Box 1239 Laytonville, CA 95454	Manchester-Point Arena Rancheria Attn: Jaime Cobarrubia PO Box 623 Point Arena, CA 95468

Tribal Office/Address	Tribal Office/Address
Manchester-Point Arena Rancheria Attn: Nelson Pinota PO Box 623 Point Arena, CA 95468	Native American Tribal Councils Inter-Tribal Council of California 3425 Arden Way Sacramento, CA 95825
Noyo Indian Colony Attn: Harriet Stanley-Rhoades PO Box 91 Fort Bragg, CA 95437	Pinoleville Pomo Nation Attn: Leona Williams, Angela James 500 B Pinoleville Drive Ukiah, CA 95482
Potter Valley Tribe Attn: Salvador Rosales 2251 South State Street Ukiah, CA 95482	Potter Valley Tribe Attn: Greg Young 2251 South State Street Ukiah, CA 95482
Redwood Valley Rancheria of Pomo Attn: Tribal Historic Preservation Office, Elizabeth Hansen 3250 Road I Redwood Valley, CA 95470	Redwood Valley Rancheria of Pomo Attn: Josh Martinez 3250 Road I Redwood Valley, CA 95470
Redwood Valley Rancheria of Pomo Attn: Debra Ramirez 3250 Road I Redwood Valley, CA 95470	Robinson Rancheria of Pomo Indians Attn: Beniakem Cromwell, Chairman PO Box 4015 Nice, CA 95464
Round Valley Indian Tribes Attn: Patricia Rabano 77826 Covelo Road Covelo, CA 94328	Round Valley Indian Tribes Attn: James Russ 77826 Covelo Road Covelo, CA 94328
Round Valley Indian Tribes Attn: Kenneth Wright 77826 Covelo Road Covelo, CA 94328	She Bel Na Band of Pomo Attn: Shirley Harbor 19121 Olsen Lane Fort Bragg, CA 95437
Sherwood Valley Band of Pomo Attn: Melanie Rafranan, 190 Sherwood Hill Drive Willits, CA 95490	Sherwood Valley Band of Pomo Attn: Michael Firzgerral 190 Sherwood Hill Drive Willits, CA 95490
Sherwood Valley Band of Pomo Attn: Valerie Stanley, THPO 190 Sherwood Hill Drive Willits, CA 95490	Yokayo Tribe PO Box 362 Talmage, CA 95481

7.6 UTILITIES

Utility	Address
AT&T Attn: Casey Hailey, Public Works Coordinator 2125 Occidental Rd Santa Rosa CA 95401	Comcast 825 Chadbourne Rd Fairfield CA 94534
Pacific Gas & Electric Company PO Box 997300 Sacramento, CA 95899-7300	

7.7 INTERESTED PARTIES

Name/Address	Name/Address
Abolhassan Astaneh-Asl 209 Vernal Dr Alamo CA 94507	Alan Erwin & Mary Louise Barker 4424 Terra Granada Dr #3b Walnut Creek CA 94595-4043
Albion Bridge Stewards PO 363 Albion CA 95410	Alden J B Hughes 3720 Albion Little River Rd Albion CA 95410
Alene L Lander PO Box 378 Little River CA 95456-0378	Alexander Degrassi & Margaret Alison PO Box 772 Redwood Valley CA 95470-0772
Alexandra Keenum PO Box 192 Albion CA 95410	Alexis Akima Loudon PO Box 204 Mendocino CA 95460-0204
Alf Martha Trust PO Box 361 Little River CA 95456-0361	Alison Gardner PO Box 838 Albion CA 95410-0838
Alison Trick-Thornton PO Box 599 Albion CA 95410	Alvin R Cadd & J 4 Alice 1845 Highway 128 Geyserville CA 95441
Amy Whiteley 9964 Troon Ct Windsor CA 95492-7987	Annessa Musgrove PO Box 2946 Fort Bragg CA 95437
Annemarie Weibel PO Box 566 Albion CA 95410	Anthony Gatchal PO Box 787 Albion CA 95410
Anthony R & Lisa T Geer PO Box 688 Albion CA 95410-0688	Arthur Charles Piscitell Trust PO Box 222 Albion CA 95410-0222

Name/Address	Name/Address
Ashok Khosla 4651 Albion Little River Rd Little River CA 95456-9631	Augason 2010 Trust 2688 Elliot St Santa Clara CA 95051-1848
Balbiar Singh PO Box 889 Albion CA 95410-0889	Barry H & Jana D Collins 915 Krentz Ln Yuba City CA 95993-6012
Beth M Bosk PO Box 702 Mendocino CA 95460-0702	Beverly Karkruff PO Box 417 Albion CA 95410
Big River Partners LLC 12985 Spenceville Rd Penn Valley CA 95946	Brent & Susanne Family Trust 5086 Debron Ct Pollock Pines CA 95726-9500
Brent & Susanne Fox Fam Trust 6264 Lynx Trl Pollock Pines CA 95726-9541	Brian Larry Stevenson & Cruser Darla PO Box 531 Little River CA 95456-0531
Brian Smirke & Kathrin Toschka 5331 Monterey Rd Los Angeles CA 90042-4915	Bruce & Madelyn Glickfeld 28907 Grayfox St Malibu CA 90265-4254
Bruce A Mcnab & Alinka Flaminia 142 Greenbrier Ct Aptos CA 95003-5717	Brunhilde K Funke PO Box 337 Albion CA 95410-0337
Bryan T Paulson PO Box 339 Albion CA 95410-0339	Carmen Teresa Goodyear PO Box 51 Albion CA 95410-0051
Carol F Smith 12985 Spenceville Rd Penn Valley CA 95946-8962	Carol Smith PO Box 4 Rio Oso CA 95674
Carole Wolff Barnes 7140 Bell River Way Sacramento CA 95831-3350	Chakakis C & 2021 Living Trust 11253 Bay Laurel St Dublin CA 94568-5525
Charles F Lane & Carleen E Cottees PO Box 85 Astoria OR 97103-0085	Charles G Godefroy & Dianne 3746 Modoc Pl Davis CA 95618-5077
Charles Hasty 7350 N Highway 1 Little River CA 95456-9516	Charles W Deleo 2868 Cattail Cove St Laughlin NV 89029-1250
Christopher A Murphy 19150 Summers Ln #a Fort Bragg CA 95437-9236	Cindy C Kung 1060 Madrone Ave Vallejo CA 94592-1166

Name/Address	Name/Address
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Dall & Associates 930 Florin Rd #200 Sacramento CA 95831	Daniel & Carol Clary PO Box 700 Albion CA 95410
Daniel G Miller 16842 Escalon Dr Encino CA 91436-3834	Daniel Peter Dobon & Dels Ol Mary 110 Via Ensueno San Clemente CA 92672-2456
Dave L & Julia A Arnold 751 Sequoia Blvd Tracy CA 95376-4349	David & Susan Preston 1732 Carmelo Dr Carmichael CA 95608-5719
David H & Cathy B Jones PO Box 609 Mendocino CA 95460-0609	David Werner PO Box 552 Albion CA 95410-0552
Deborah & Steve Wolfe PO Box 93 Albion CA 95410	Derek S Magdalik PO Box 832 Albion CA 95410-0832
Diana Stroupe 31350 Sherwood Road Fort Bragg CA 95437	Doell Alan R & Susan P Trust 3182 Campus Dr San Mateo CA 94403-3123
Dominique Schwartz PO Box 729 Albion CA 95410-0729	Donald M Falk & Sarah Weinstein 4416 Harbord Dr Oakland CA 94618-2207
Donna Feiner PO Box 887 Mendocino CA 95460-0887	Dorothy Martino 159 Inman Dr Decatur GA 30030-3831
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Duggan Family Trust 1791 Kirkland Ave San Jose CA 95125-1873	Earl R & Betty J Latham PO Box 730 Albion CA 95410-0730
Ellen & Martin P Montgomery 825 Lozanos Rd Newcastle CA 95658-9531	Ellen Athens PO Box 1386 Mendocino CA 95460

Name/Address	Name/Address
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Erik Hawley & Gwen Lowery PO Box 640 Albion CA 95410	Eugene M & Elisabeth Brings PO Box 582 Mendocino CA 95460-0582
Eva Anderson 32101 Middle Ridge Rd Albion CA 95410	Flurry D Healy PO Box 1114 Mendocino CA 95460-1114
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Gene M & Alice M Frazell 145 Ruby Dr Lakeport CA 95453-4939	Gillian Sankoff 2048 Rittenhouse Sq Philadelphia PA 19103-5621
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Grady G Gauthier & Justine A Lemos PO Box 556 Albion CA 95410-0556	Hans J Stuliken & Sarah E Bond-Stuliken 1764 Oak Way Chico CA 95926-9663
Havana & Efron Davidson PO Box 610 Little River CA 95456-0610	Henry Maureen 2017 Trust 99 S Raymond Ave #307 Pasadena CA 91105-2046
Hodson S B & Michaelson Trust PO Box 559 Mendocino CA 95460-0559	Howard B & Marsha S Guyer PO Box 203 Albion CA 95410-0203
Howard S & Ying Lee Pines 8752 Terrace Dr El Cerrito CA 94530-2725	Itelman Amit 2535 W Temple St Los Angeles CA 90026-4819
J Flint & Janet Pulskamp 43 Johnson St Windsor CA 95492-7415	James J & Shirley J Hollowed PO Box 603 Albion CA 95410-0603
James M Sansi PO Box 155 Albion CA 95410-0155	James Teffetelier & Shaun English 433 Redhead Ct #0 Roseville CA 95747-4655
Janet Eklund PO Box 186 Albion CA 95410	Jason D Brooks & Anne R Powers PO Box 340 Albion CA 95410-0340

Name/Address	Name/Address
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Jeremy Isenberg 240 Polhemus Ave Atherton CA 94027	Jeri Hegenbah & Alan Sherman PO Box 463 Albion CA 95410
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Jo Bradley PO Box 357 Little River CA 95456	Joel Schwartz & Lawrence Glenn Marquardt PO Box 901 Albion CA 95410-0901
John & Catherine Danhakl 17717 Calle de Palermo Pacific Palisades CA 90272	John & Diana Johansen PO Box 490 Albion CA 95410
John & Kathryn Hughes PO Box 760 Albion CA 95410	John A & Jann D Sterling 34 Governors Point Rd Harpswell ME 04079-4340
John F & Brenda J Hall PO Box 353 Albion CA 95410-0353	John H & Carol Lillis PO Box 670 Albion CA 95410-0670
John R & Stacy Oakley PO Box 211 Albion CA 95410-0211	Jonathan K & Melanie A Burgess 28493 Big Basin Way Boulder Creek CA 95006-8502
Jose E & Diana M Garcia 21 Sunlit Cir Sacramento CA 95831-1656	Josh Davis & Carolyn P Latkin PO Box 123 Albion CA 95410-0123
Joyce B Rosenstiel PO Box 42 Emerald Hills CA 94062-	Juan Figueroa 1446 Hamilton Way San Jose CA 95125-4439
Judith A & Patrick M Clemons 6143 3rd Ave Sacramento CA 95817-2601	Judith Anita Mangini PO Box 1613 Mendocino CA 95460-1613
Judith F Katz 65 Spanish Garden Dr Chico CA 95928-8332	Jul Niemier & Mary Bobbitt 2811 20th St San Francisco CA 94110-2825

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Karen Rakofsky PO Box 21 Albion CA 95410	Kay Baumeister PO Box 280 Albion CA 95410
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Kenneth J & Eleanor M Ferrell 1400 Montego #135 Walnut Creek CA 94598-2935	Kenneth M & Sandra G Wortzel PO Box 158 Albion CA 95410-0158
Kenneth R & Kerry A Wesela 906 5th Ave Redwood City CA 94063-4014	Kenneth R Turner PO Box 609 Albion CA 95410-0609
Kenneth W & Wendy R Bailey PO Box 1113 Gualala CA 95445-1113	Kevin S Horowitz & Harriet Holliday 2601 Silverado Trl N Saint Helena CA 94574-9766
Kevin Wendt & David Bramblett 4831 64th St Sacramento CA 95820-5849	Kight Anne D Living Trust 27019 Albion Ridge Rd Albion CA 95410-9750
Kirk P Kenyon 264 Lovers Ln Boulder Creek CA 95006-9543	Kirt & Coralie Morse PO Box 154 Philo CA 95466-0154
Kunz M E & E M Living Trust 3244 E Kerckhoff Ave Fresno CA 93702-2704	Kurt Kenyon 264 Lovers Lane Boulder Creek CA 95006
Larry R & Candance B Cadd 3650 Highway 128 Geyserville CA 95441-9432	Laura Bohen PO Box 436 Albion CA 95410-0436
Lauren Knapp 2509 Castro Way Sacramento CA 95818-3225	Laurna Dempsey 20701 Rasmussen Ln Fort Bragg CA 95437-3929
Lea Christensen 43300 Little River Airport Rd #28 Little River CA 95456	Lee L Lehman-Becker 33901 Frog Pond Rd Little River CA 95456

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Lee Sue L Herrmann 853 Upland Rd Emerald Hills CA 94062-3043	Lee Zabin PO Box 455 Albion CA 95410-0455
Lenore N Sutton 2600 18th St #10 San Francisco CA 94110-2164	Leonardo Bowers 29801 Navarro Ridge Rd Albion CA 95410
Leslie B & Daniel C Gates PO Box 910 Albion CA 95410-0910	Leslie Kashiwada 17050 Boice Lane Fort Bragg CA 95437
Leslie W Greene & Adan G Romo 9 Seville Way San Mateo CA 94402-2830	Lillybeck Eric Living Trust 35 Fagan Dr Hillsborough CA 94010-6112
Linda Perkins & Bill Heil PO Box 467 Albion CA 95410	Livingston P L & A M Liv Trust PO Box 394 Albion CA 95410-0394
Lowery-Hawley Living Trust PO Box 640 Albion CA 95410-0640	Maeve P Croghan PO Box 269 Mackinac Island MI 49757-0269
Malpiede M A & C D Joint Trust 2936 Hartley Dr Santa Rosa CA 95405-5130	Mansor Shokohi PO Box 419 Little River CA 95456
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Maria Hansen PO Box 326 Albion CA 95410	Marie Jennie Koskela PO Box 55 Albion CA 95410-0055
Marilyn Magoffin 30560 Middle Ridge Rd Albion CA 95410	Mario A & Joanne L Abreu PO Box 673 Albion CA 95410-0673
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Martin A & Karen R Hafer 6465 Shoal Creek Street Cir Bradenton FL 34202-1713	Mark Funke PO Box 337 Albion CA 95410
Mary Ann & Louis F Parlapiano PO Box 313 Little River CA 95456-0313	Martin Reimann & Oliver Schilke 6353 W Sweetwater Dr Tucson AZ 85745-9371

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Michael & Susan Kitahara PO Box 713 Albion CA 95410-0713	Meredith Smith PO Box 1054 Mendocino CA 95460-1054
Michael Earl Crowell PO Box 82 Albion CA 95410-0082	Michael A Depinna PO Box 216 Alameda CA 94501-9316
Michael T & Julie A Nonella 4589 Hall Rd Santa Rosa CA 95401-5675	Michael Marr 43 Hillside Ave Portsmouth RI 02871-5013
Miguel Elac PO Box 326 Albion CA 95410	Michael T Issel PO Box 894 Albion CA 95410-0894
Miller Marion E Living Trust PO Box 811 Albion CA 95410-0811	Milazzo Cristich Trust 1638 Broken Bow Rd Gardnerville NV 89410-5673
Nancy Chao PO Box 606 Albion CA 95410	Monique Lowy Kaufman 1536 Francisco St San Francisco CA 94123-2207
Nathaniel H Reagan & Julian J H Cressman 81 Oakdale Ave Mill Valley CA 94941-1236	Nancy Jane Fish PO Box 368 Albion CA 95410-0368
Nicholas Owen Pillsbury PO Box 418 Albion CA 95410-0418	Neil Schneider 2441 Prince St Berkeley CA 94705-2021
Norman E & Avonola Lawler 1924 Montair Ave Long Beach CA 90815-3011	Norma Lee Andres 16401 Pine Drive Fort Bragg CA 95437
Paul N & Janis P Boothe 440 Chimney Hill Dr College Station TX 77840-1832	Partricia Dunbar Living Trust PO Box 533 Little River CA 95456-0533
Paul Winter 1578 Cunningham Way Santa Rosa CA 95403-2342	Paul William Kaufman & Myra Kathleen Daunders PO Box 331 Little River CA 95456-0331
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Name/Address	Name/Address
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Richard G Mclellan 2379 Panorama Ter Los Angeles CA 90039-2559	Raymond A Yates PO Box 9 Albion CA 95410-0009
Richard J & Kathleen T Roberts 603 Paso Nogal Rd Pleasant Hill CA 94523-1634	Richard Hautala & Dawn Aksamit PO Box 2270 Fort Bragg CA 95437-2270
Richard T & Kathleen C Montiero 28 Fafnir Pl Pleasant Hill CA 94523-1710	Rita Crane PO Box 91 Albion CA 95410
Robert F & Carol F Rogina 1790 Acorn Way Ukiah CA 95482-4102	Robert L & Marguerite C Horton 7822 Lopez Ct Sacramento CA 95829-6590
Robert L Hsiao 4 Tidewater Dr Redwood City CA 94065-2235	Robert Lee Jones 1280 Hamilton Ave Palo Alto CA 94301-3120
Robert Mark & Mari E Haddox PO Box 452 Little River CA 95456-0452	Robert Steven & D Franceschini 1650 E Hill Rd Willits CA 95490-9725
Robert Timothy Scully 32191 Albion Ridge Rd Albion CA 95410-9752	Roberto Felici 33700 Frog Pond Rd Little River CA 95456
Rod Corimer PO Box 850 Albion CA 95410	Roger C Perry PO Box 525 Little River CA 95456-0525
Ron Stark 30500 Middle Ridge Rd Albion CA 95410	Ronald Blum & Mary C Mendoza 196 Randall St San Francisco CA 94131-2765
Ronald W Ault PO Box 654 Laytonville CA 95454-0654	Ronnie Karish 27500 Philo Greenwood Rd Elk CA 95432
Royce Loewen PO Box 567 Albion CA 95410	Ryan W & Erin L Mcnabb 1200 Eleventh St Lakeport CA 95453-4110
Sakina Bush 1184 N. Main St. #38 Fort Bragg CA 95437	Sally M Benson PO Box 400 Albion CA 95410-0400

Name/Address	Name/Address
Samuel & Marcy Hawkins PO Box 507 Little River CA 95456-0507	Sandra Darbonne PO Box 1921 Mendocino CA 95460-1921
Sara Marian Crystal 36 Randwick Ave Oakland CA 94611-5724	Scott A Gienger PO Box 550 Albion CA 95410-0550
Shane Kerwin & Maritha Eva PO Box 435 Little River CA 95456-0435	Shannon Mabry 142 Sequoia Cir Santa Rosa CA 95401-9176
Sharon Hansen & Tom Wodetzki 31901 Middle Ridge Rd Albion CA 95410	Sherf M J & M Living Trust PO Box 512 Little River CA 95456-0512
Shirley & Jim Hollowed PO Box 603 Albion CA 95410	Shokohi Mansor PO Box 866 Albion CA 95410-0866
Silvio L & Martha L Nonella PO Box 720 Ukiah CA 95482-0720	Simply Green Inc 7051 N Highway 1 Little River CA 95456
Sinsheimer Of Pinkston Livi Trust 2915 Pine Ave Berkeley CA 94705-2331	David & Allison Spampanato 3930 Albion Little River Rd Albion CA 95410
Stacy Bomhof 1821 Sabrina Ter Corona Del Mar CA 92625-1819	Stanley Nylander 28 Fafnir Place Pleasant Hill CA 94523
Stanley Sylvia Jean Summers 32945 Albion Ridge Rd Albion CA 95410-9758	Stella M Salo PO Box 124 Albion CA 95410-0124
Stephen & Alene Lees 73 Raposa Vis Novato CA 94947-2110	Stephen A Ricks 17717 Calle De Palermo Pacific Palisades CA 90272-2008
Stephen H Taplin 1989 Sulphur Springs Ave Saint Helena CA 94574-	Steve Heckeroth 30151 Navarro Ridge Rd Albion CA 95410
Steven E Acker & Barbara Faulkner PO Box 325 Albion CA 95410-0325	Steven Jay Harry & Elizabeth Ashley 807 W Live Oak St Austin TX 78704-5032
Stone Family Trust PO Box 604 Albion CA 95410-0604	Sum & Jenny Seto 2655 Bush St San Francisco CA 94115

Name/Address	Name/Address
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Taber Family Trust 5366 Stonehurst Dr Martinez CA 94553-9721	Tarra Benoist 33280 Albion Ridge Rd Albion CA 95410-9735
Ted Williams PO Box 18 Albion CA 95410	Tennyson Family Trust 480 Sprauer Rd Petaluma CA 94952-8101
Terrence Obrien White PO Box 643 Albion CA 95410-0643	Terrence Surles & Sally Benson PO Box 215 Albion CA 95410-0215
Theodore Hanner 412 S Mcpherson St Fort Bragg CA 95437-4924	Theodore W Wagner 19665 Forest Ave Castro Valley CA 94546-3521
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Tim A Fish & Anthony A Gatchalian PO Box 787 Albion CA 95410-0787	Tobin & Kristine Hahn PO Box 2411 Mendocino CA 95460-2411
Toby Malina 33801 Navarro Ridge Rd Albion CA 95410	Toby Wayne & Katherine Alice Robbins PO Box 4 Albion CA 95410-0004
Van L Phillips PO Box 2370 Borrego Springs CA 92004-2370	Vern & Gail Bean PO Box 730 Albion CA 95410
Victor Simon PO Box 98 Albion CA 95410	Vijna S Mathew 3060 Rustic Manor Cir Reno NV 89509-3849
Virginia Harrison 2823 Benvenue Ave Berkeley CA 94705-2103	Virginia Reed 32101 Middle Ridge Road Albion CA 95410
Volk A C & B M Living Trust PO Box 446 Albion CA 95410-0446	Walter Donat 126 Perthwood Dr Troutman NC 28166-8645
Warren De Smidt Box 523 Albion CA 95410	Wendy Meyer PO Box 98 Albion CA 95410

Name/Address	Name/Address
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William R Thomas 27193 Baileys Neck Rd Easton MD 21601-8501	William W Lee 1998 Broadway #1501 San Francisco CA 94109-2207
Woodson Stanley Thornton & Deane Trick Alison PO Box 599 Albion CA 95410-0599	Zachary M & Kristina E Jones PO Box 2496 Fort Bragg CA 95437-2496
Zollinger Ann Trust PO Box 427 Albion CA 95410-0427	Zomala Abell PO Box 915 Albion CA 95410-0915
Thomas Freund 45621 Cypress Dr Mendocino CA 95460	Elaine Kirkpatrick 3245 Albion Ridge Rd Albion CA 95410
Carrie Durkee 28350 Albion Ridge Rd Albion CA 95410	Sara Fowler PO Box 1956 Mendocino CA 95460
Olyn Garfield 33857 East Ln Albion CA 95410	Philip Brown 33831 East Ln Albion CA 95410
Susan Waterfall & Allan Pollack 3250 Albion Ridge “B” Rd Albion CA 95410	Arlene Reiss 32500 Middle Ridge Rd Albion CA 95410
Sharlene Dillon via e-mail	Kyra Rice via e-mail
Joy Lopez via e-mail	Rick Hemmings via e-mail
Dobie Dolphin via e-mail	Annie Lee via e-mail
Susan Waterfall via e-mail	Gretchen Imlay via e-mail
Norman de Vall via e-mail	Laurie York via e-mail
Kate O’Connor via e-mail	

7.8 OTHER GROUPS, BUSINESSES, & ENTITIES

Groups, Businesses, Entities/Address	Groups, Businesses, Entities/Address
Albion River Campground and Marina 33800 Albion River North Side Road Albion, CA 95410	SCP Mendocino Coast Lodge 3790 N Hwy 1 Albion, California 95410
Albion River Watershed Protection Association/ Friends of Salmon Creek PO Box 661 Albion, CA 95410	Audubon Society Mendocino Coast Audubon Society PO Box 2292 Fort Bragg CA 95437
Center for Biological Diversity 1212 Broadway St #800 Oakland CA 94612	Leonard Green & Partners Attn: John Danhakl 11111 Santa Monica Blvd Ste 2000 Los Angeles, CA 90025
Pacific Union College Albion Biological Field Station Attn: Sheldon Shultz PO Box 86 34000 Albion Street Albion, CA 95410	Rawles Hinkle Carter Attn: Silvio L & Martha L Nonella PO Box 720 Ukiah, CA 95482-0720
Sierra Club, Mendocino Group Attn: Mary Walsh PO Box 522 Mendocino, CA 95460	Sum Seto Properties LLC Attn: Sum & Jenny Seto 2655 Bush Street San Francisco, CA 94115
The Ledford House Restaurant 3000 N. Highway 1 Albion CA 95410	The Nature Conservancy 830 S St Sacramento CA 95811
The Mendocino Land Trust 215 S Main St Fort Bragg CA 95437	

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Chapter 8 References

1.0 Proposed Project

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