Toro Creek Southbound Bridge Replacement Project

Bridge replacement project on State Route 1 in San Luis Obispo County
05-SLO-001-32.6
Project ID: 0523000125
Project EA: 05-1R100

Initial Study with Proposed Mitigated Negative Declaration

Volume 2 of 2

Collection of Technical Studies

Prepared by the
State of California Department of Transportation

January 2024

General Information About This Document

What's in this document:

The California Department of Transportation (Caltrans) has prepared an Initial Study, which examines the potential environmental impacts of alternatives considered for the proposed project. This document contains copies of all the technical studies that was prepared for the project and is a component of the Initial Study.

Technical Studies Included:

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

Matthew Fowler
Environmental Branch Chief
Caltrans District 5
50 Higuera Street
San Luis Obispo, California, 93401
805-779-0793
matt.c.fowler@dot.ca.gov

Air Quality, Greenhouse Gas, and Noise Technical Memo

Memorandum

Making Conservation a California Way of Life

To: GERAMALDI GERAMALDI
Environmental Scientist
Caltrans D5 Environmental

Date: September 25, 2023

From: RUBEN ATILANO, PE
Transportation Engineer
Caltrans D5 Environmental Engineering
805-305-9781 | ruben.atilano@dot.ca.gov

File No.: 05-SLO-001-PM 32.6
05-1R100
Project # 0523000125

Subject: **AIR QUALITY, GREENHOUSE GAS, AND NOISE TECHNICAL MEMO, TORO CREEK SB BRIDGE REPLACEMENT**

Environmental Engineering has reviewed the above-referenced project in San Luis Obispo County. The proposed new structure would be 131 feet long, 43 feet wide, and a 3-span bridge with 2 supporting column bents. The structure itself would accommodate the standard 5 feet wide inside shoulder, two 12 feet wide lanes, and have a right shoulder width of 10 feet which meets the minimum outside shoulder width requirement. The bridge railing will be the California ST-75, a metal 'see-through' railing type.

An approximately 1-foot roadway profile adjustment is anticipated to be required as the voided slab bridge will need allow for the passage of the projected 100-year base flood elevation below the bridge soffit.

The existing abutment slopes are lined with concreted rock for erosion protection. As part of the new bridge structure, the existing concreted rock would be removed and replaced with rock slope protection (RSP) or as required to prevent erosion and scour of the abutment slopes.

Approach slabs as well as the adjacent roadway portions would be modified to allow for conforming of the roadway into to the new bridge. Existing guard railing will be removed and upgraded with Midwest Guardrail System. Temporary median crossovers (detours) immediately to the south and north of the Toro Bridge are proposed during construction.

SUMMARY OF IMPACTS

The project will not realign or add capacity to the highway, as such there will be no long-term impacts to local air quality or an increase in post-project noise

levels. Short-term impacts to local air and noise quality are discussed later in this memo. This project does not anticipate any long-term water quality impacts.

AIR QUALITY

REGULATORY FRAMEWORK

San Luis Obispo County is located in the South-Central Coast Air Basin (SCCAB) and the San Luis Obispo Air Pollution Control District (SLOAPCD) regulates air quality in the SCCAB. The County is non-attainment for the State Ambient Air Quality Standards for Ozone and Particulate Matter (PM_{10}). It is in attainment for the State $PM_{2.5}$ standards. The County is in attainment for all Federal standards (NAAQS) except the eastern portion of the County is non-attainment for the Federal 8-hour Ozone standard. This project is located in the western portion of San Luis Obispo County, as such, conformity analysis does not apply to this project.

PERMANENT (LONG-TERM) IMPACTS

Since no additional lanes or capacity are being added to the highway, there will be no difference in long-term air emissions with or without the proposed project. No further long-term air quality analysis is required.

TEMPORARY (CONSTRUCTION) IMPACTS

With almost every construction project, there will be a short-term temporary increase in air emissions and fugitive dust during the construction period. Use of equipment during project construction can generate fugitive dust that may have substantial temporary impacts on local air quality if large amounts of excavation, grading, material transport, and subsequent fill operations are necessary. It is known there will be earthwork required, dust generation would be expected.

Due to use of standard construction dust and emission minimization practices and procedures, it is anticipated that project emissions of particulate matter (dust) and equipment emissions will be well within the SLOAPCD daily thresholds, see Table 1 SLOAPCD thresholds and project construction emissions. Further, construction emissions are calculated and discussed in the GHG analysis.

Table1: Threshold Levels

Pollutant	Threshold	Project Emissions
NOX & ROG	137 lbs/day	8.481 lbs/day
Fugitive PM_{10}	2.5 tons/quarter	0.009 tons/quarter
Greenhouse Gases (CO_2, CH_4, N_2O, HFC)	1125 MT CO_2-e/year	254 MT CO_2-e/year

Minimization

To minimize dust emissions from the project, Section 14-9.02 (Air Pollution Control) of the 2022 Standard Specifications states that the contractor is responsible for complying with all local air-pollution-control rules, regulations, ordinances, and statutes that apply to work performed under the Contract, including those provided in Govt Code § 11017 (Pub Cont Code § 10231). Additionally, the project level SWPPP will address water pollution control measures that cross correlate with standard dust emission minimization measures such as covering soil stockpiles, watering haul roads, watering excavation and grading areas, and so on. By incorporating appropriate engineering design and storm water Best Management Practices during construction, minimal short-term air quality impacts are anticipated.

Greenhouse Gas Discussion

Greenhouse gas emission discussion has been included in this technical memo utilizing the "Interim guidance: determining CEQA significance for Greenhouse gas emissions for projects on the State Highway System". No modeling of operational related GHG emissions was conducted for this project consistent with the above referenced guidance.

Construction emissions are the inevitable result of construction processes such as operation of construction equipment, worker travel, and materials transport and processing. All projects requiring analysis for CEQA involve some level of construction emissions. Projects that do not add motor vehicle capacity will generally not increase operational GHG emissions. However, these projects will generate construction emissions. Construction emissions must be quantified using the SMAQMD RCEM or CAL-CET, or equivalent.

Construction Climate Change emissions were estimated using the CAL-CET modeling tool utilizing default settings for a Bridge Construction & Preservation project. For example, the estimated average Carbon Dioxide emissions is 246 tons/year, and the construction phase is approximately 250 working days. Additionally, the estimated average Carbon Dioxide Equivalent emissions is approximately 280 tons generated over the 250 days construction period. Note

that these estimates are based on assumptions made during the environmental planning phase of the project and is considered a "ballpark" of energy usage

Table 2: Project Related Construction Emission Estimates

Metric	CO2	CH4	N2O	HFC
Daily Average (lbs/day)	1969	0.044	0.095	0.106
Max Daily Average (lbs/day)	3482	0.094	0.155	0.231
Annual Average (tons/year	246	0.006	0.012	0.013

Estimated using Caltrans Construction Emissions Tool, 2021

NOISE

Regulatory Setting

Noise analysis under the California Environmental Quality Act (CEQA) may be required regardless of whether or not the project is a Type I project. The CEQA noise analysis is completely independent of the 23 CFR 772 analysis done for NEPA. Under CEQA, the baseline noise level is compared to the build noise level. The assessment entails looking at the setting of the noise impact and then how large or perceptible any noise increase would be in the given area. Key considerations include: the uniqueness of the setting, the sensitive nature of the noise receptors, the magnitude of the noise increase, the number of residences affected, and the absolute noise level. The significance of noise impacts under CEQA are addressed in the environmental document rather than the NSR. Even though the NSR (or noise technical memorandum) does not specifically evaluate the significance of noise impacts under CEQA, it must contain the technical information that is needed to make that determination in the environmental document.

Under 23 CFR 772.7, projects are categorized as ***Type I, Type II,*** or ***Type III projects***. FHWA defines a Type I project as a proposed Federal or Federal-aid highway project for the construction of a highway on a new location, the physical alteration of an existing highway where there is either a substantial horizontal or substantial vertical alteration. A Type II project involves construction of noise abatement on an existing highway with no changes to highway capacity or alignment.

A Type III project is a project that does not meet the classifications of a Type I or Type II project. Type III projects do not require a noise analysis. This project would be considered Type III.

Affected Environment

The project site is located on the coast between Morro Bay and Cayucos. Land surrounding the project is mostly flat with some rolling hills and mostly undeveloped, with the beach and Pacific Ocean on the west and the Santa Lucia Mountain Range to the east. No sensitive receptors were identified during the preparation of this study.

Permanent (Long-term) Impacts

Since no capacity will be added to the highway, and because the highway will not be realigned, this is considered a Type III project. Local noise levels will be the same after completion of the project as they were before. Long-term noise abatement measures will not be recommended with this project.

Temporary (Construction) Impacts

It is inevitable that local noise levels in the vicinity of the construction will experience a short-term increase due to construction activities. The amount of construction noise will vary with the particular activities and associated models and types of equipment used by the contractor. Caltrans policy states that normal construction equipment should not emit noise levels greater than 86-dBA at 50-feet from the source during the hours of 9 PM to 6 AM.

The project will require nighttime work. Potential impacts at any given sensitive receptor location are expected to be very short-term in duration. However, following minimization measure shall be implemented, as provided below.

Minimization

Adverse noise impacts from construction are not anticipated because construction would be temporary and intermittent, conducted in accordance with Caltrans Standard Specifications, and because local noise levels are significantly influenced by local traffic noise. To minimize impacts on resident's normal nighttime sleep activities it is recommended that whenever possible construction work be done during the day. If nighttime construction is necessary, the noisiest construction activities should be done as early in the evening as possible. Caltrans Standard Specifications (Section 14-8.02) requires the contractor to control and monitor noise resulting from work activities and not to exceed 86 dBA Lmax at 50 feet from the job site from 9:00 p.m. to 6:00 a.m.

Include the following general measures in the RE binder and implement as appropriate to further minimize temporary construction-noise impacts.

- Notify the public in advance of the construction schedule when construction noise and upcoming construction activities likely to produce an adverse noise environment are expected. This notice shall be given two weeks in advance. Notice should be published in local news media of the dates and duration of proposed construction activity. The District 5 Public Information Office posts notice of the proposed construction and potential community impacts after receiving notice from the Resident Engineer.
- Shield loud pieces of stationary construction equipment if complaints are received.
- Locate portable generators, air compressors, etc. away from sensitive noise receptors as feasible.
- Limit grouping major pieces of equipment operating in one area to the greatest extent feasible.
- Use newer equipment that is quieter and ensure that all equipment items have the manufacturers' recommended noise abatement measures, such as mufflers, engine covers, and engine vibration isolators intact and operational. Internal combustion engines used for any purpose on or related to the job shall be equipped with a muffler or baffle of a type recommended by the manufacturer; and,
- Consult District noise staff if complaints are received during the construction process.

No further minimization measures are recommended.

cc: Project File
Matt Fowler - Environmental Planning (email only)
Karl Mikel - Environmental Engineering (email only)

Climate Change Report

Climate Change Report

Toro Creek Southbound Bridge Replacement Project

Bridge replacement project on State Route 1 in San Luis Obispo County

District 5
05-SLO-001-32.6
Project EA: 05-1R100
project ID: 0523000125

Prepared by the State of California Department of Transportation

Geramaldi
Environmental Scientist

January 10, 2024

Table of Contents

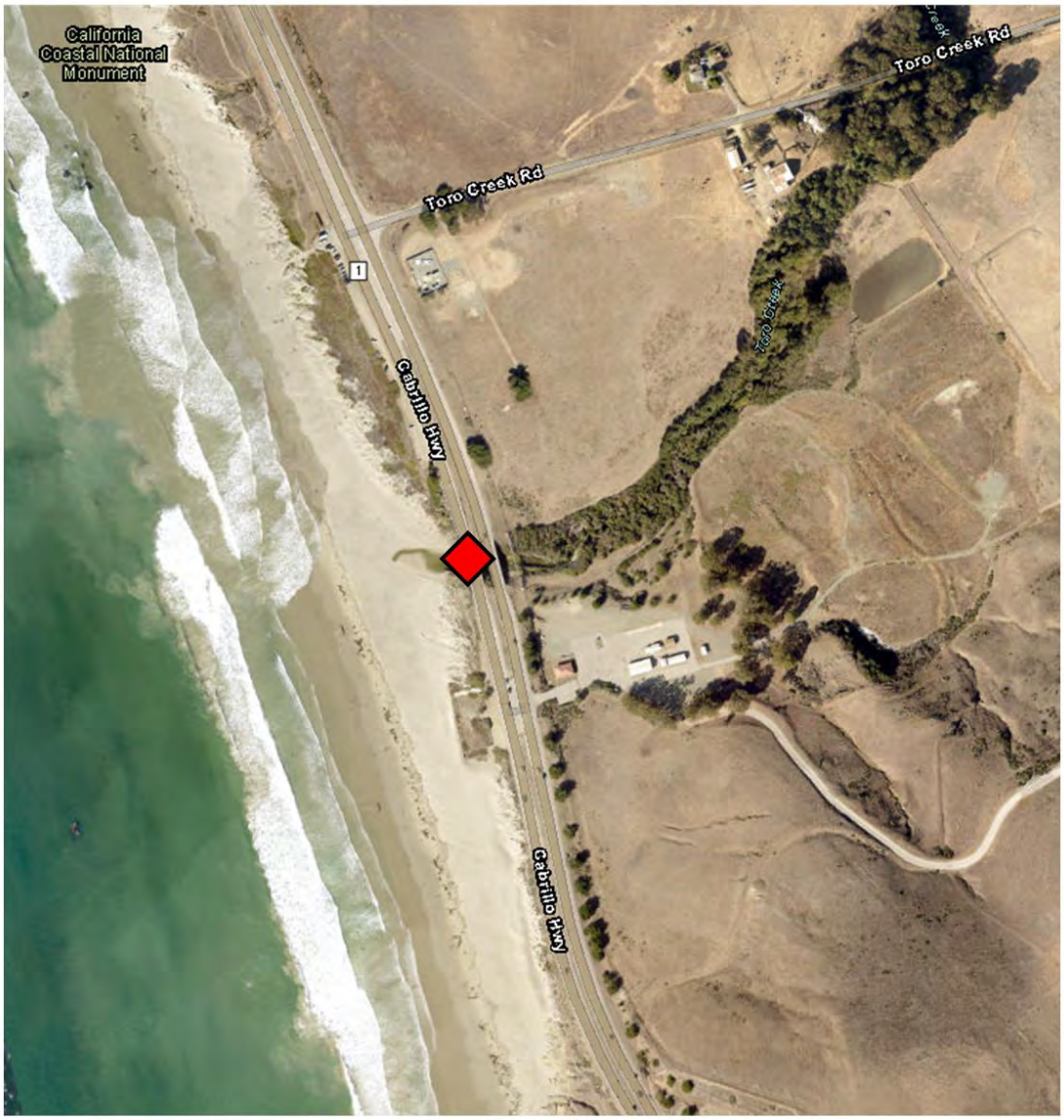
Summary

The purpose of this Climate Change Report is to evaluate the potential for the Toro Creek Southbound Bridge Replacement Project to contribute to greenhouse gas emissions and affect climate change. This Climate Change Report has been prepared to provide information for the National Environmental Policy Act (NEPA) and California Environmental Quality Act (CEQA) environmental document and review process, in accordance with California Department of Transportation (Caltrans) regulation, policy and guidance.

Project Description

The California Department of Transportation (Caltrans) proposes to replace the existing southbound bridge (bridge number 49-0068L) at Toro Creek on State Route 1 (SR-1) in San Luis Obispo County at postmile 32.6. This portion of SR-1 is a conventional highway that runs along the California coast, having two lanes of travel in each direction with the occasional at-grade intersections, turn pockets, and pullouts. The project site is adjacent to the beach, within the city of Morro Bay, and just south of the town of Cayucos. The project proposes to remove the existing southbound bridge structure and construct a new bridge structure in its place. Project activities will involve vegetation clearing, vegetation replanting, pavement removal, pavement repaving, pavement restriping, bridge aesthetic treatments, grading, slope stabilization, erosion control, temporary water diversion, temporary construction access, temporary construction staging sites, and temporary traffic control.

Project Map


California Coastal National Monument
Toro Creek Rd
Toro Creek Rd
1
Toro Creek
Gabrillo Hwy
Gabrillo Hwy
Postmile 32.6, Toro Creek Bridge, Southbound
N
Not to Scale

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 CO_2 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, 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 will include a discussion of both in the context of this transportation project.

Regulatory Setting

For a full list of laws, regulations, and guidance related to climate change (GHGs and adaptation), please refer to Caltrans’ Standard Environmental Reference (SER), Chapter 16, Climate Change.

Federal

To date, no national standards have been established for nationwide mobile-source GHG reduction targets, 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 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 rise, 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 National Highway Traffic and Safety Administration (NHTSA) sets and enforces corporate average fuel economy (CAFÉ) 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 for vehicles 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 (U.S. DOT 2014). These standards are periodically updated 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 and executive orders (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 (ARB) 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.

Environmental Setting

The project is located on SR-1, in San Luis Obispo County, at postmile 32.6. This portion of SR-1 is a conventional highway, having two lanes of travel in each direction, with the occasional at-grade intersections, turn pockets, and pullouts. This portion of SR-1 runs parallel to the California coastline. The project is located within the coastal zone.

The project area is adjacent to the beach on the west side, with gently sloping low hills and shallow valleys along the east side. Most of the vegetation in the project area is predominantly grass, with a sporadic mix of shrubs and trees throughout the landscape.

The average high temperature in the region is about 60 degrees Fahrenheit, with an average low temperature of about 50 degrees Fahrenheit. The region gets an average of about 2 to 3 inches of rain annually. The winds in the region are typically from the west, moving eastward during the summer, and from the north, moving southward during the winter.

The project is located in a semi-rural area with a mix of open spaces used for recreation and residential areas. The project is located on the north end of Morro Bay and is just south of Cayucos. The project area is frequently visited by tourists, often those who sightsee along SR-1. The tourism industry is a large contributor to the local economy of the project area. Traffic in the region consists primarily of local residences and local business operations, with tourist traffic typically at its highest during weekends and holidays. Tourist visitation is particularly high during the summer months, when school is not in session and people from the nearby inland areas head to the coastal areas to cool off.

For many of the coastal communities in the region, SR-1 is the primary north-south access route. The nearest alternate north-south route in the region is US-101. There are two highways, SR-41 and SR-46, that provide east-west access for the region. Both SR-41 and SR-46 connect SR-1 in the coastal region with US-101 in the inland region.

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

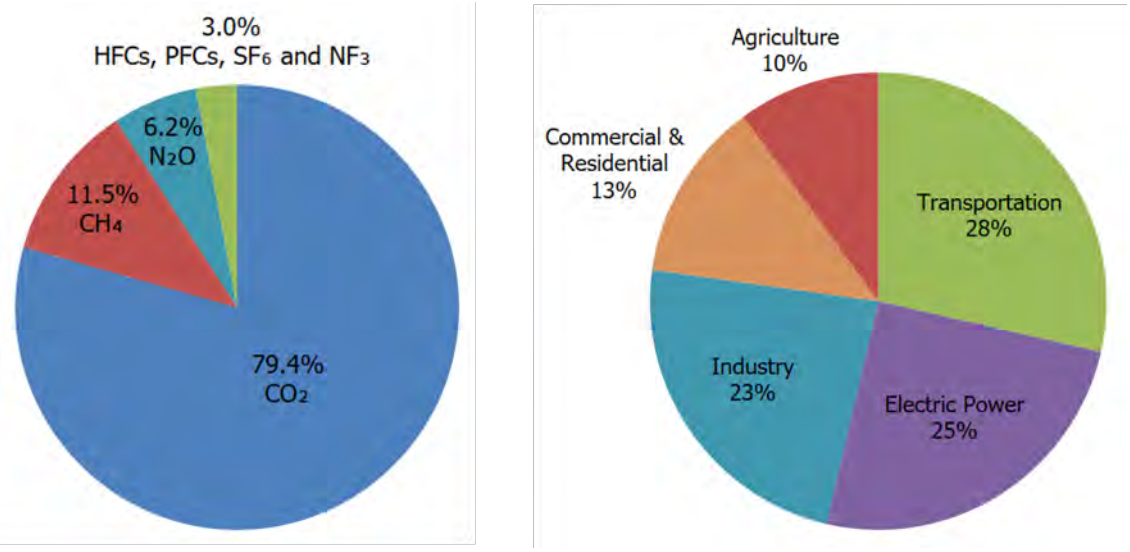
changing and what actions may be needed to attain emission reduction goals. U.S. EPA is responsible for documenting GHG emissions nationwide, and the ARB does so for the state of California, as required by H&SC Section 39607.4. Cities and other local jurisdictions may also conduct local GHG inventories 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 United States. 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% of total U.S. emissions in 2021 [U.S. EPA 2023a].) While total GHG emissions in 2021 were 17% below 2005 levels, they increased by 6% over 2020 levels. Of these, 79.4% were CO_2, 11.5% were CH_4, and 6.2% were N_2O; the balance consisted of fluorinated gases. From 1990 to 2021, CO_2 emissions decreased by only 2% (U.S. EPA 2023a).

The transportation sector's share of total GHG emissions increased to 28% in 2021 and remains the largest contributing sector (Figure 1). Transportation fossil fuel combustion accounted for 92% of all CO_2 emissions in 2021. This is an increase of 7% over 2020, largely due to the rebound in economic activity following the COVID-19 pandemic (U.S. EPA 2023a, 2023b)).

Figure 1. U.S. 2021 Greenhouse Gas Emissions (Source: U.S. EPA 2023b)



State GHG Inventory

ARB 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 3) (ARB 2022a).

Figure 2. California 2020 Greenhouse Gas Emissions by Economic Sector (Source: ARB 2022a)

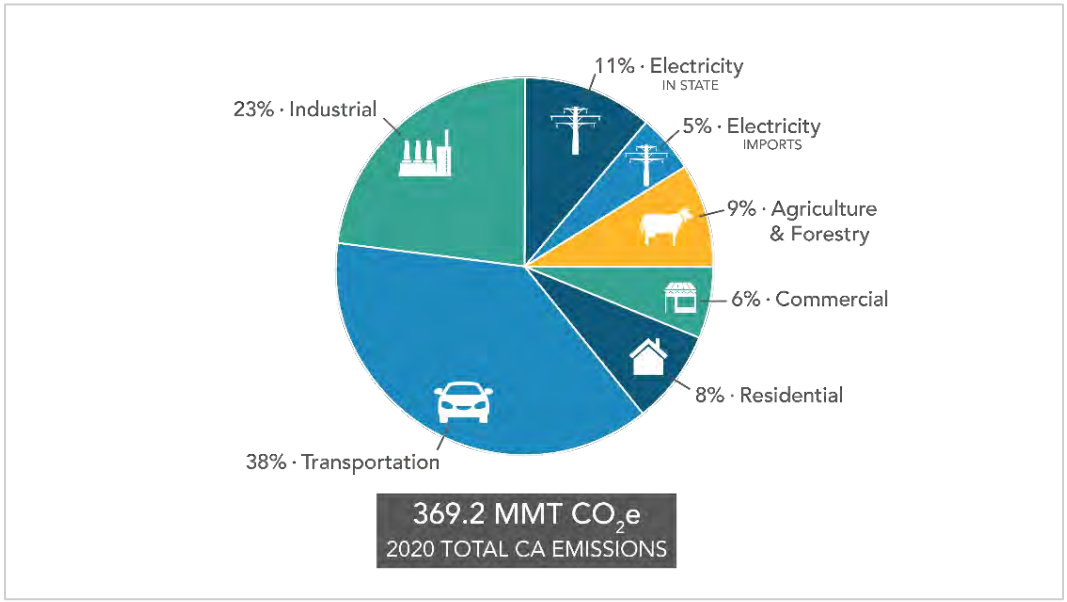
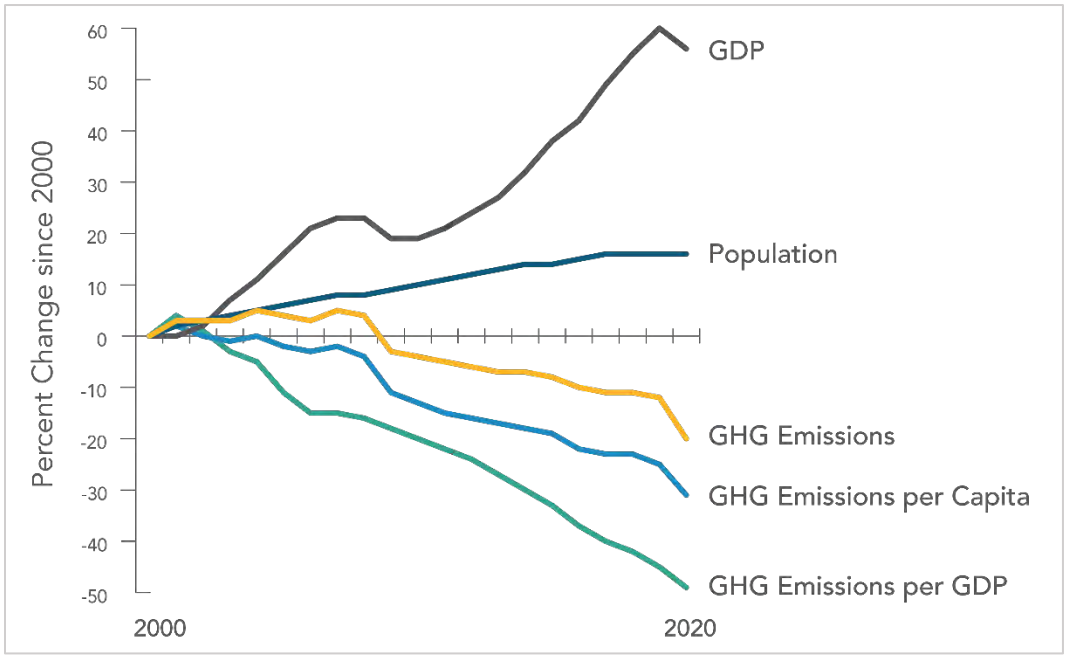


Figure 3. Change in California GDP, Population, and GHG Emissions since 2000 (Source: ARB 2022a)



AB 32 required ARB 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. ARB 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. 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 (ARB 2022b).

Regional Plans

As required by *The Sustainable Communities and Climate Protection Act of 2008*, ARB sets regional GHG reduction targets for California's 18 metropolitan planning organizations (MPOs) 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 applicable MPO for the project location is the San Luis Obispo Council of Governments (SLOCOG), and its 2023–2045 RTP was adopted in June of 2023, which includes the SCS. The regional reduction target for SLOCOG is 11 percent by 2035. The following are GHG reduction policy objectives and action strategies found in SLOCOG's 2023–2045 RTP that are related to the project:

Policy Objectives

- 1.3 Increase infrastructure resiliency to environmental changes and natural disasters.
- 6.1 Integrate environmental considerations in all stages of planning and implementation.
- 7.1 Invest strategically to optimize transportation system performance.

Action Strategies

- 7.2 Support the implementation of the SCS by incentivizing the incorporation of context sensitive Complete Streets designs into the construction, reconstruction, or retrofit of streets and highways.
- 8.8 Provide operational improvement to U.S.101 and major local streets to reduce congestion through lower-cost alternatives (that do not induce regional VMT).
- 9.5 Facilitate a comprehensive multimodal corridor planning process to identify infrastructure needs for priority corridors that have the highest levels of congestion.

- 10.2 Support development of an efficient network of streets, bikeways, and shared use paths that improve non-motorized mobility and access to job centers, schools, transit, services, and recreational opportunities.
- 10.3 Leverage opportunities to incorporate bicycle and pedestrian improvements into pavement maintenance and preservation projects on local and state facilities.
- 12.31 Make strategic investments to maintain, enhance, and modernize the multimodal freight transportation system to optimize integrated network efficiency, improve travel time reliability, and to achieve congestion reduction.
- 12.38 Protect, maintain, and improve multimodal access to Morro Bay and Port San Luis Harbors.

The City of Morro Bay has a Climate Action Plan (CAP) in place that was adopted in January 2014. The CAP is a long-range plan to reduce GHG emissions from operations and activities within Morro Bay and to prepare for the anticipated effects of climate change. The city is committed to reducing its GHG emissions by 15 percent below 2005 levels by 2020 and has developed climate action measures to reach those goals. These measures are organized into the following focus areas: city government operations, energy, transportation and land use, off-road, solid waste, and tree planting. The following are climate action measures from the CAP that are related to the project.

Climate Action Measures

- TL-1.2 Incorporate bicycle facility improvements in to pavement resurfacing, restriping, and signalization operation where the safety and convenience of users can be improved within the scope of work.
- O-1 Reduce GHG emissions from construction vehicles and equipment by requiring various actions as appropriate to the construction project.

Project Analysis

GHG emissions from transportation projects can be divided into those produced during operation and use 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, or 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 project is to replace the existing southbound Toro Creek bridge to address the poor health of the existing structure. The new southbound bridge structure would be similar in design and size as the existing bridge. The project will not alter the capacity or alignment of the highway and would not affect existing traffic volumes or VMT for the region. Therefore, the project is not anticipated to have any considerable effect on operational 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 GHG emissions produced during construction by allowing longer intervals between maintenance and rehabilitation activities.

Construction Climate Change emissions were estimated using the CAL-CET modeling tool, utilizing default settings for a Bridge Construction and Preservation project. For example, the estimated average Carbon Dioxide emissions are 246 tons per year, and the construction phase is approximately 250 working days. Additionally, the estimated average Carbon Dioxide Equivalent emission is approximately 280 tons generated over the 250-day construction period. Note that these estimates are based on assumptions made during the environmental planning phase of the project and are considered a "ballpark" of energy usage.

All project construction contracts include the following Caltrans Standard Specification that would contribute to the reduction of construction GHG emissions:

- 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 will comply with all ARB emission reduction regulations.
- Section 12, Temporary Traffic Control, to ensure that traffic flows remain open throughout construction with the implementation of a Transportation Management Plan prepared specifically for the project.
- Section 14-9.02, Air Pollution Control, require contractors to comply with all air pollution control rules, regulations, ordinances, and statutes.
- Section 14-10, Solid Waste Disposal and Recycling, requires the project to recycle greater quantities of construction waste.
- Section 21-2.02K, Compost, will guide the inclusion of compost or mulch in the landscape plan where it is appropriate to improve carbon sequestration rates in soils and reduce organic waste.

Certain common construction practices and regulations, such as equipment idling restrictions, that reduce construction vehicle emissions would also help reduce GHG emissions.

Results

The proposed project will not result in any increase in operational GHG emissions as the project will not alter existing highway capacity or alignment. While the proposed project will result in GHG emissions during construction, The project will implement GHG reduction measures in order to reduce construction related GHG emissions. Therefore, the project is not anticipated to generate considerable amounts of GHG emissions that would have a notable effect on climate change.

However, Caltrans is firmly committed to implementing measures to help reduce GHG emissions. These measures are outlined in the following section.

Greenhouse Gas Reduction Strategies

Statewide Efforts

In response to Assembly Bill 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 (ARB 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 (OPR 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 released *Natural and Working Lands Climate Smart Strategy* (California Natural Resources Agency 2022).

Caltrans Activities

Caltrans continues to be involved on the Governor's Climate Action Team as the ARB 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 policy to ensure coordinated efforts to incorporate climate change into Caltrans 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 project will include Caltrans Standard Specifications listed under the Construction Emission section to help reduce the project's GHG emissions.

In addition, the following project specific measures will also be implemented to further reduce GHG emissions and potential climate change impacts from the project.

GHG-1 Limit idling to 5 minutes for delivery and dump trucks and other diesel-powered equipment not utilized in active operations.

GHG-2 Reduce the need for transport of earthen materials by balancing cut and fill quantities.

GHG-3 Use accelerated bridge construction method when feasible to reduce construction duration.

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 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 (U.S. DOT 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 (NOAA 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% increase in average area burned by wildfire; and large-scale erosion of up to 67% 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.

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.

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.

Project Adaptation Analysis

Sea Level Rise

The project is located within the coastal zone that is managed by the City of Morro Bay Local Coastal Program (LCP). The project will require a Coastal Development Permit (CDP) from the city.

The project is located adjacent to beaches and is approximately 250 to 350 feet from the coast line. The elevation of the project area ranges from 10 to 30 feet above sea level, with the elevation of the existing bridge at approximately 20 feet above sea level.

The State of California Sea Level Rise Guidance (updated 2018) provides guidance for analyzing the risk associated with sea-level rise (SLR) and outlines five steps to evaluate SLR risk at a given location.

Step 1: Identify the nearest tide gauge

The SLR Guidance indicates that the Port San Luis tide gauge is the nearest to the project area and SLR projections for this tide gauge will be used for the SLR evaluation.

Step 2: Evaluate project lifespan

The typical design life for concrete bridge structures is 75 years; however, the actual service life of the bridge structure may be less. The existing southbound bridge was constructed in 1962 and has not yet reached a 75-year design life. The new southbound bridge is anticipated to have a service life of about 50 to 60 years and is anticipated to continue to operate up to 2085.

Step 3: Identify range of SLR projections

The 2080 high emission scenario was used to identify the worst-case SLR projection that would be encountered during the lifespan of the project. The projected SLR in the project area is likely to be 2.1 feet (low risk), while there is a 1 in 200 chance that SLR can reach 4.3 feet (medium-high risk). Under the most extreme scenario (H++), SLR is projected to reach 6.4 feet (extreme risk) in the project area.

Step 4: Evaluate potential impacts and adaptive capacity on the project

Under the extreme risk scenario, SLR in the region is projected to rise by 6.4 feet over the next 60 years. Since the elevation of the project area is at least 10 feet above sea level and the elevation of the existing bridge at least 20 feet above sea level, the projected 6.4 feet in SLR is not anticipated to result in considerable or immediate impacts to the project.

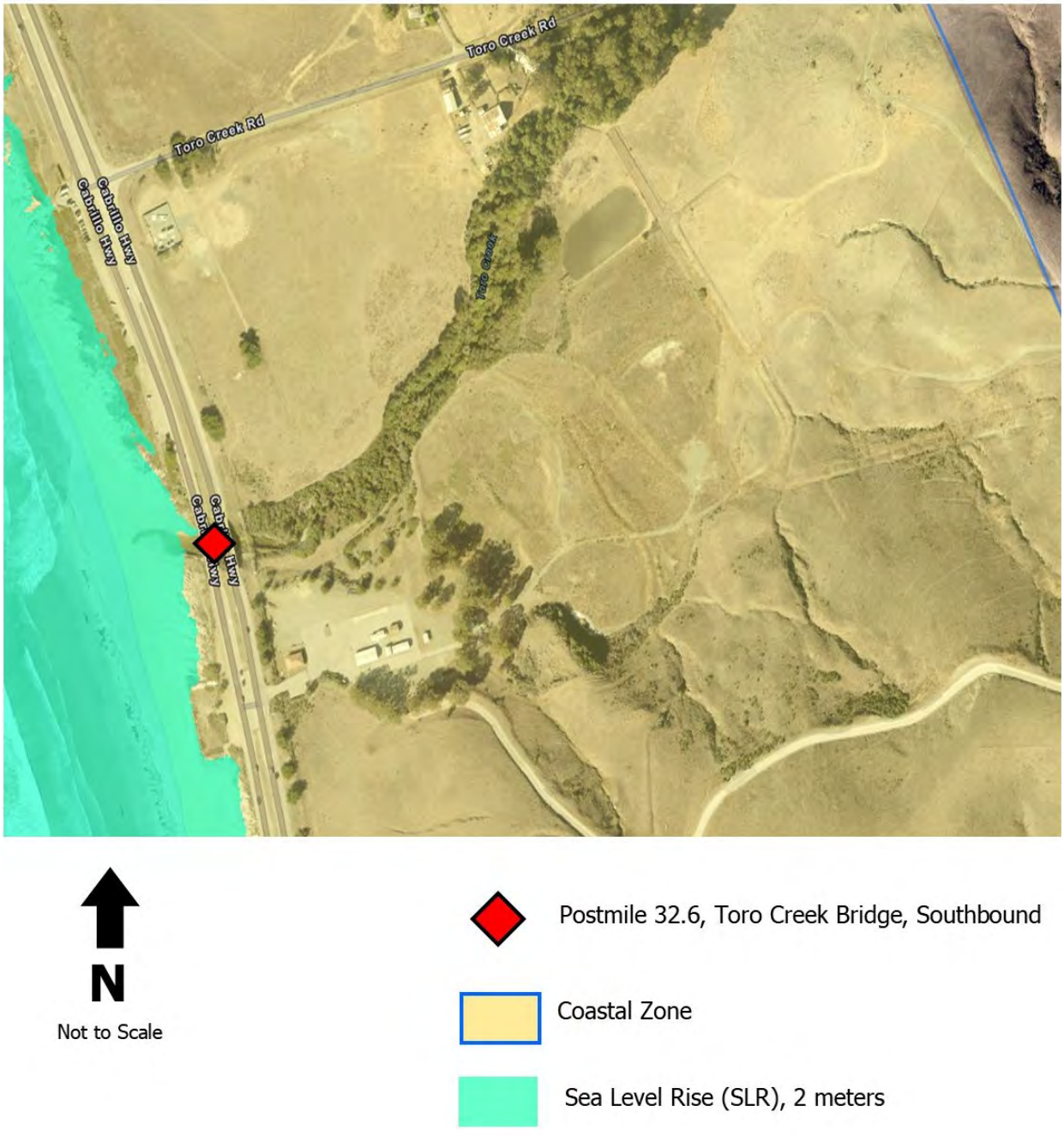
In the next 60 years, it can be anticipated that the bridge constructed by this project will come close to the end of its service life, and a new bridge will likely need to be

constructed to replace the aging bridge. The new future bridge would likely be designed with consideration for future SLR scenarios and projections.

Step 5: Select a SLR projection appropriate for the project

The projected SLR under the extreme risk scenario for the project is presented in Figure 4. Based on the SLR projection, it is anticipated that SLR encroachment will not be a notable concern at the project location.

Figure 4. Sea Level Rise Projection Map



Precipitation and Flooding

The entire central coast region is projected to see an annual average increase in precipitation, with the more mountainous and coastal areas experiencing the greatest changes. The average annual precipitation for San Luis Obispo County is projected to increase by about 17.2 to 19.9 inches by 2080. While the average rainfall is not expected to change drastically, the variance between wet and dry years may become more extreme, leading to more dry years and heavier storm events. A measure used to describe extreme rainfall is the 100-year storm event. A 100-year storm event generates rainfall that, on average, is exceeded every 100 years, so its average occurrence is 100 years. This means that there is a 1 percent chance for a 100-year storm event to occur in any given year. Heavy rain events can cause flooding, landslides, and washouts that could affect transportation facilities.

The project has been designed to take into account the potential effects of a 100-year storm event. The new bridge would be designed to mitigate the effects of heavy rains, flooding, landslides and washouts. The project is located in a flood zone, and the existing southbound Toro Creek Bridge is able to accommodate a 100-year flood event with no effect on flood flows. The new southbound Toro Creek Bridge will be slightly wider and longer when compared to the existing southbound bridge and will also be able to accommodate a 100-year flood event with no effect on flood flows. The project is not anticipated to be affected by extreme precipitation of flood events.

Wildfire

Wildfires directly affect highways by burning infrastructure such as wooden posts for signs and guardrails. Wildfires indirectly affect highways because they can contribute to the risk of landslides and flooding exposure by burning off soil-stabilizing vegetation and reducing the capacity of soils to absorb rainfall.

The area around the project presents a relatively low risk of wildfires. The project is located adjacent to a beach with little or no vegetation that could potentially act as fuel for wildfires. Most of the vegetation around the project is concentrated in the creek and riparian areas. While there will always be the opportunity for wildfires to occur resulting from construction activities, the project will include Caltrans Standard Specification 7-1.02M(2), which mandates fire prevention procedures during construction, including a fire prevention plan.

Temperature

The global average temperature is expected to rise due to increased concentrations of GHG in the atmosphere. The annual average maximum temperature for San Luis Obispo County is projected to rise to about 74.7 to 77.4 degrees Fahrenheit by 2080.

An increase in temperature over time can affect pavement curing, quality, and durability. Future temperature projections are considered when selecting pavement design, with the average maximum temperature and the minimum air temperature being the focus.

The new pavement used for the project will be designed to withstand increased regional temperatures. In addition, roadway pavements are often replaced every 20 to 40 years so they can be adapted to future temperature changes. The project is not anticipated to be affected by rising temperatures.

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Geotechnical Reports

The following are a collection of Geotechnical Reports that has been collected for the project.

State of California
DEPARTMENT OF TRANSPORTATION

California State Transportation Agency

Memorandum

Serious Drought.
Help Save Water!

To: GARY JOE
Branch Chief
Office of Bridge Design-North & Central
Design Branch 17
Division of Engineering Services

Date: January 17, 2017

File: 05–SLO–1-PM 32.61
Toro Creek Bridge Widen or Replace
Br. No. 49-0068R
EA 05-0L7210
EFIS ID 0515000097

From: **DEPARTMENT OF TRANSPORTATION**
DIVISION OF ENGINEERING SERVICES
GEOTECHNICAL SERVICES
OFFICE OF GEOTECHNICAL DESIGN WEST

Subject: Preliminary Foundation Report for Toro Creek Bridge (Br. No. 49-0068R)

A Preliminary Foundation Report (PFR) is provided for the above referenced project. The proposed project is located in San Luis Obispo County between the communities of Morro Bay and Cayucos. Rehabilitation or replacement of the Toro Creek Bridge is proposed. Review of published geologic data, review of as-built plans, review of bridge maintenance records, and a field reconnaissance were performed to prepare this Preliminary Foundation Report. The purpose of this report is to document geotechnical conditions and provide preliminary foundation recommendations. This report supersedes any previous planning or design communications.

The following publications were used to assist in the preparation of this report:

1. *Caltrans Seismic Design Criteria 1.7, Office of Earthquake Engineering, April 2013.*
2. *Geologic Map of the Morro Bay North Quadrangle, San Luis Obispo County, California,* Dibblee Foundation Map DF-215, Dibblee Geologic Foundation, T. W. Dibblee and J. A. Minch, 2006.
3. *Geotechnical Manual*, (September 2010).
4. *Foundation Report Preparation for Bridge Foundations, December 2009.*

Project Description

The existing Toro Creek Right Bridge was constructed in 1941. It is a two-lane 130 foot long, 6 span continuous cast-in-place reinforced concrete structure. The seven column bents are supported on driven reinforced concrete pile extensions. The end-spans are cantilevered. The Planning Study dated December 2014 presents three alternatives. Alternative 1 is a symmetrical widening of approximately 9.5 feet to the east and to the west. Alternatives 2 and 3 are replacement scenarios, with the new 131 foot long structure located on the same alignment as the existing structure. Alternative 2 is a 45.25 foot wide structure and Alternative 3 is a 48.0 foot wide structure.

The elevations referenced in this report in regards to the as-built boreholes are based on the NGVD 29 (vertical datum). The Preliminary Seismic Recommendations (March 28, 2014) do not provide datum or ground surface elevation information for the CPT soundings.

Exceptions to Policy

There are no requested exceptions to Geotechnical Services policy.

Field Investigation and Testing Program

There was no subsurface investigation performed in support of this report. A site visit was performed on January 3, 2017. Approximately 2 feet of surface water was observed in the channel on the day of the field review. The water was not flowing because the creek outlet to the ocean was blocked by a sandy beach.

Laboratory Testing Program

No laboratory testing was performed at this preliminary project stage.

Site Geology and Subsurface Conditions

Regional Setting and Area Geology

Preliminary information regarding the site characteristics was obtained from published geologic maps and previously completed geotechnical investigations and reports.

The project is located in the Coast Ranges geomorphic province of California. According to the Geologic Map of the Morro Bay Quadrangle (T.W. Dibblee, 2006), surficial materials at the site are Quaternary Alluvium consisting of gravel, sand and clay. Franciscan Melange and Serpentinite rock are exposed on the nearby hillsides. Franciscan Melange underlies the alluvium. The Franciscan Melange is described by Dibblee as "severely deformed rocks, mostly graywacke and sheared argillite; includes tectonic fragments of chert, greenstone, graywacke, serpentine and blueschist".

The original bridge maintenance record describes the waterway as "sufficient, velocity moderately low, sandy gravel". Subsequent bridge maintenance records describe the channel condition as "ocean beach, sand".

Subsurface Conditions

No subsurface investigation field investigation was performed for the development of this report. No subsurface field investigation was performed for the design and construction of the existing structure, the right Toro Creek Bridge. One rotary borehole was drilled in March 1957 for design and construction of the existing adjacent left structure. Three dynamic cone penetrometer

soundings were also advanced as part of the 1957 field investigation. Two cone penetrometer soundings were performed in the number 2 northbound lane adjacent to Abutments 1 and 7 of the right Toro Creek Bridge in support of the Preliminary Seismic Recommendations, dated March 28th 2014.

In summary, the 1957 rotary borehole shown on the LOTB for the left structure, describes the soil from the ground surface in the channel (approximately elevation 6.5 feet) to approximately elevation -14 feet as sand and silty sand with some pebble gravel. Between elevation -14 and approximately elevation -26 feet, the soil was described as clayey silt with some pebble gravel. The consistency of the soils generally increases with depth. Below elevation -26 feet, to elevation -35, the lowest elevation reached by borehole B-3, the material is described as friable shale.

Groundwater

Groundwater was recorded on the 1957 LOTB at "creek surface elevation +3". The 2014 Preliminary Seismic Recommendations provides a groundwater elevation of 9 feet. This is also the reported elevation of surface water in the Toro Creek channel at the time of the 2014 investigation. It is reasonable to expect the highest groundwater elevation to be approximately the highest elevation of the surface water in the Toro Creek channel. The elevation of the surface water in the Toro Creek channel is influenced by creek flows, tidal levels and the occasional presence of a beach that blocks creek discharges into the ocean. At times when the water level in the creek is declining, the groundwater elevation may be higher than the surface water elevation.

Scour Evaluation

A Hydraulics Report was not provided to assist with preparation of this report. A memorandum titled "Preliminary Unknown Foundation Evaluation for the Scour Critical Program" (March 4, 2003) states "subsurface materials at the site are potentially scourable from the ground surface to the top of the Shale (approximately 30 feet) at an approximate elevation of -25 feet". It is expected that a Hydraulics Report will further evaluate this concern.

Bridge maintenance records indicate that "no major issues of scour/hydraulic concern have been recorded at this bridge since 1941". Channel cross section surveys show that the channel has degraded approximately 2.5 feet between 1941 and 2005. The October 26th 2009 Bridge Inspection Report indicates that the SM&I Hydraulics Office performed a scour evaluation of this location. The bridge was determined to not be scour critical.

A short battered concrete cast-in-place retaining wall protects the south creek bank below the bridge, between bents 2 and 3. The north creek bank is protected with stacked concrete rubble bank protection, between bents 5 and 6. The southern bank of the channel upstream of the bridge is protected from erosion by concrete rubble. The northern bank of the channel upstream of the bridge is heavily vegetated with trees and brush.

Surface run-off has eroded material from beneath both Abutment 1 and Abutment 7. This has resulted in minor pile exposure at Bent 2. Maintenance personnel have corrected the deficiency with the placement of sacked concrete.

Corrosion Evaluation

A corrosion evaluation was not performed for the design of the existing structure and is not within the scope of this investigation. Corrosion tests will be conducted on selected soil samples that will be collected during the foundation investigation. Consideration will also be given to testing surface water samples and groundwater samples for corrosion potential. Test results will be conveyed in the Foundation Report.

Preliminary Seismic Recommendations

In accordance with the *2009 Caltrans Seismic Design Procedure*, Table 1 provides the relevant active and potentially active faults that are located in the vicinity of the project site. The Caltrans ARS Online Tool was used to develop ARS curves for deterministic and probabilistic seismic prediction models. An average shear wave velocity of 1080 feet/sec (329 m/s) was estimated for the upper 100 feet (30 meters) of subsurface materials anticipated at the project site. A basin factor of 1.0 was utilized. A near fault adjustment was applied to the spectral accelerations.

The resulting design envelope ARS curve is based on an envelope of the deterministic events on the Cambria Fault and the Oceanic – West Huasna Fault, and the probabilistic event associated with a 5% probability of exceedance in 50 years (corresponding to a 975 year return period). The Oceanic – West Huasna Fault contributes the spectral accelerations for periods from 0.01 to 0.2 second. The Cambria Fault contributes the spectral accelerations for periods from 0.25 to 2.0 seconds. The probabilistic event contributes spectral accelerations longer than 2.0 seconds. The estimated peak ground acceleration is 0.50g. The preliminary recommended design spectral acceleration curve and data points are provided in Attachment 1. This curve will be re-evaluated after the field investigation.

Table 1: Active and Potentially Active Faults

Fault Name	Fault Type	Moment magnitude of maximum credible earthquake	Distance from fault to project site (miles)	Deterministic Peak ground acceleration (gravity)
Cambria Fault	Normal	6.3	0.16	0.50
Oceanic – West Huasna Fault	Reverse	6.9	3.80	0.50

Ground Rupture

The Cambria Fault is shown by the Caltrans ARS On-line tool to be located as close as 0.16 mile from the project location. However, the structure does not lie within an Alquist-Priolo Earthquake Fault Zone, and the USGS Quaternary Fault and Fold Database does not show a fault within 1000 feet of the structure in the "Historic" and "Holocene to Latest Pleistocene" databases. Per Caltrans practices (MTD 20-10), a Fault Rupture Report is not required to evaluate the ground rupture hazard.

Liquefaction

Liquefaction is a near-total loss of soil strength due to an increase in pore water pressure during cyclic loading, such as occurs during an earthquake. In general, soils with a plasticity index of 12 or less that have the potential of being saturated are evaluated for liquefaction susceptibility.

Based on an inspection of the log for borehole B-3 on the left bridge as-built LOTB, and the 2014 CPT soundings, the soils from the highest anticipated groundwater elevation to approximately elevation -15 feet may be liquefiable. The Preliminary Seismic Recommendations (March 28, 2014) conclude that potentially liquefiable layers are present from approximately elevation -38 feet to 9 feet at the southern bridge approach. Similarly, potentially liquefiable layers are identified between approximately elevations -39 and 9 feet at the northern bridge approach. A detailed analysis of the liquefaction susceptibility will be undertaken as part of the design work. It is anticipated that boreholes, soil sampling and laboratory testing will be required to perform this analysis.

As-Built Foundation Data

The bents of the existing structure are supported on 16 inch octagonal precast concrete pile extensions. The plans indicate the piles have butt diameters of 16 inches and tip diameters of 6 inches. The as-built records do not indicate the tip elevations of the piles, but the plans indicate the use of 60 foot long test piles at Bents 2 and 6. The plans provide a pile design loading of 30 tons, and that the piles were driven to a 35 tons bearing value. The driving records for the left bridge suggest that the piles for the left bridge were driven into material described as clayey silt and/or rock on the 1957 LOTB.

Preliminary Foundation Recommendations

The following discussion addresses the foundation system alternatives for the support of the bridge widening and the bridge replacement alternatives. This discussion is based upon the as-built subsurface boring and soundings, and the Planning Study dated December 2014. The "Preliminary Foundation Design Data Sheet" (per MTD 3-1, Attachment 1) was not provided to Geotechnical Services. The selection of the most appropriate and cost efficient foundation system will depend greatly on the likelihood and extent of liquefiable soils and factored foundation load demands. Greater depths and thicknesses of liquefiable soils may prompt

selection of a structure replacement alternative, and the use of permanently cased large diameter drilled shafts with rock sockets or CISS piles. If the potential liquefaction impacts are minimal, then a widening strategy using driven displacement piles, similar to the existing foundations, may be appropriate.

Alternative 1 – Bridge Widening

The existing structure is supported with driven concrete displacement piles. If the potential impacts of liquefaction and scour are minimal, supporting the left side and right side widenings of the right bridge with driven displacement piles, such as Alternative V, X or Y, Class 140 or Class 200 piles, would be appropriate. Driven non-displacement piles such as H piles and Alternative W Class 140 and Class 200 piles may also be suitable if vertical and lateral load demands can be met without substantial penetration into rock. These piles will derive the majority of their axial compressive resistance from end bearing.

The Alternative 1 Planning Study shows the structure supported with 5 foot diameter permanently cased CIDH piles with 4 foot diameter rock sockets. This foundation system is suitable, particularly if the design requires resistance to higher axial and lateral load demands and downdrag loads due to liquefaction. Cast-in-steel-shell (CISS) piles are an alternative to the CIDH pile with rock socket, if axial tension load demands do not require substantial pile penetration into the shale rock.

Small diameter drilled shafts, those with diameters of 18 inches and less, are not suitable for structure support due to the construction effort associated with the expected presence of groundwater, the presence of caving susceptible soils and the rock socket. Spread footings are not a suitable foundation support system due to the low shear strength and liquefaction susceptibility of the near surface soils.

Alternatives 2 and 3 – Bridge Replacement

The Planning Studies for the replacement structure alternative show three span structures supported on four 2 foot diameter columns. Each column is shown to be supported on a 3 foot diameter permanently cased CIDH pile with a 2 foot diameter rock socket. The top of the steel casing is depicted below the original ground surface. This alternative is feasible for the foundation conditions, but will require construction equipment and activities in the creek channel.

Cast-in-steel-shell (CISS) piles are an alternative to the CIDH pile with rock socket, if axial tension load demands do not require pile penetration into the shale rock. It may advantageous to extend the steel shell above the original ground surface to minimize site disturbance. Similarly, driven non-displacement piles such as Alternative W Class 200 may be suitable if axial tension demands and lateral load demands can be resisted.

Although the foundation conditions are suitable for the use of driven Caltrans Standard Plan

displacement piles, load demands may exceed the resistances available for this pile type. Small diameter drilled shafts, those with diameters of 18 inches and less, are not suitable for structure support due to the construction effort associated with the expected presence of groundwater, presence of caving susceptible soils and the rock socket. Spread footings are not a suitable foundation support system due to the low shear strength and liquefaction susceptibility of the near surface soils.

Approach Fill Earthwork

It is anticipated that fills less than 10 feet in height will be placed to accommodate the widened or wider structure. The fill delay period, between placement of fill and construction of the abutments will be determined after the field investigation and soil laboratory testing.

Additional Field Work and Laboratory Testing

The available site information will not provide adequate data to complete the design recommendations for the widening or replacement of the Toro Creek Bridge. A geotechnical field investigation consisting of approximately four borings and soundings will be required. The boreholes or soundings may be located in the median or on the outside shoulder, immediately south of Abutment 1 and immediately north of Abutment 7. It is anticipated that physical access to the Toro Creek channel will not be available. The number of boreholes and their locations will depend upon the scope of the project (widening or replacement) and the foundation system selected.

Caltrans District 5 Environmental will need to provide an approved and signed environmental document that addresses all of the proposed exploratory work. The project is currently in the "0" phase, so it is likely that exploratory drilling will occur in the "1" phase. If the design team wishes to advance the exploratory drilling to the project "0" phase, then the permitting process should begin as soon as possible. The District Project Manager must initiate the process of obtaining drilling clearances (environmental document for drilling) so that drilling and foundation design recommendations can be completed as soon as possible. For foundation investigation details, the District Project Manager may contact the Office of Geotechnical Design West.

Laboratory testing to further evaluate liquefaction potential will be performed on samples collected from the field investigation. The testing will include several Atterberg Limit and Particle Analysis tests. Corrosion testing of soil and water samples representing the subsurface conditions will also be performed for design. Soil and rock strength tests may also be required to design the deep foundation elements.

The request for the Foundation Report should include all data required for design of the foundation. This includes the General Plan, foundation locations, and foundation load demands for the Service-1, Strength and Extreme Event limit states. The data should be provided in the format shown in Memo to Designers 3-1. If foundation data such as p-y and t-z curves is required, please indicate this in the Foundation Report request.

Any questions regarding the above recommendations should be directed to Ron Richman (805) 549-3385.

REGISTERED PROFESSIONAL ENGINEER
RONALD L. RICHMAN
No. CE039869
Exp 12/31/17
CIVIL ENGINEERING
STATE OF CALIFORNIA

REGISTERED GEOLOGIST
RONALD L RICHMAN
No. 6802
Exp 3/31/18
STATE OF CALIFORNIA

Signed 1/17/2017

RON RICHMAN, P.E., No. 039869, P. G. 6802
Senior Materials & Research Engineer
Office of Geotechnical Design-West

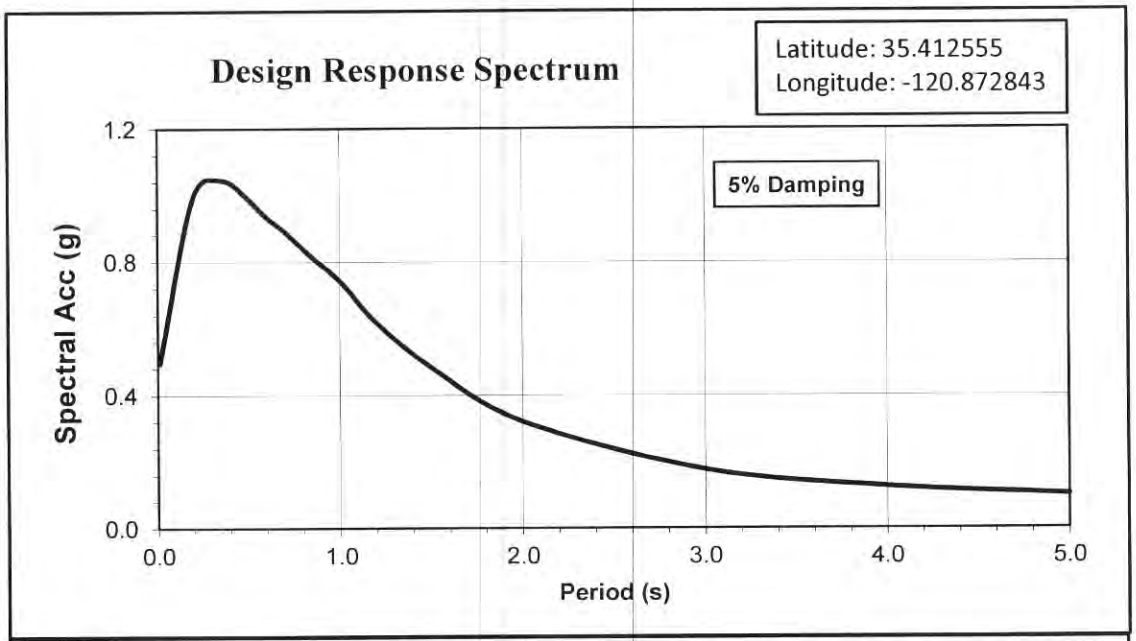
c: Geodog
Tim Pokrywka
David Rasmussen, Project Manager
Andrew Tan, Project Liaison Engineer, PPRM
Ted Mooradian, Central Region Materials Engineer

LIST OF ATTACHMENTS

Design Response Spectrum — Attachment 1

Seismic Design Data for *Toro Creek Bridge Widen or Replace (Bridge No. 49-0068R)*

Period (s)	Spectral Acceleration, Sa(g)
0.010	0.495
0.050	0.608
0.100	0.759
0.150	0.898
0.200	1.000
0.250	1.042
0.300	1.048
0.400	1.037
0.500	0.989
0.600	0.934
0.700	0.890
0.850	0.813
1.000	0.742
1.200	0.617
1.500	0.483
2.000	0.321
3.000	0.177
4.000	0.126
5.000	0.102



The Design Response Spectrum is the upper envelope of the deterministic and probabilistic response spectrum, but not less than the Minimum Deterministic Spectrum for California. The deterministic spectrum is obtained by using the average using the 2008 Campbell-Bozorgnia and the 2008 Chiou-Youngs ground motion prediction equations. Probabilistic response spectrum is obtained for 5 percent probability of exceedance in 50 years from the 2008 USGS Interactive

Seismic Loading Table (per MTD 1-47)

Soil Profile (VS30): 1080 ft/s

Magnitude: **Mmax = 6.3 (deterministic for periods between 0.25 and 2.0 seconds)**

PGA: 0.50g

M e m o r a n d u m

Flex your power!
Be energy efficient!

To: FOAD AL-HAMDANI
Design Engineer, Branch Y
Design Office II
Central Region-Project Development Division

Date: March 28, 2014

File: 05-SLO-001, 058
Various Locations
Toro Creek Bridge
SLO-001-PM 32.61
Bridge No. 49-0068R
Project ID 0512000120

From: **DEPARTMENT OF TRANSPORTATION**
DIVISION OF ENGINEERING SERVICES
GEOTECHNICAL SERVICES

Subject: Preliminary Seismic Recommendations

Scope of Work

Preliminary Seismic Recommendations are provided for Toro Creek Bridge as part of a barrier upgrade and bridge widening project. The project proposes widening of existing bridge structures to meet standard shoulder widths and upgrade non-standard barrier rails at two locations on Highway 1 and one location on Highway 58 in San Luis Obispo County. Review of published geologic data and previous geotechnical reports, field reconnaissance, and geotechnical analysis were performed as part of the geotechnical investigation.

The purpose of this report is to document subsurface geotechnical conditions, make preliminary seismic recommendations, and identify the need for additional investigations and studies.

Existing Facilities and Proposed Improvements

The existing Toro Creek Right Bridge is a six-span structure, approximately 130 feet long, consisting of a continuously reinforced concrete slab with cantilevered end spans. Bents are supported on 16” driven octagonal reinforced concrete piles of variable lengths near 60 feet. The as-built General Plan for the right bridge, dated 1940, indicates that the piles were designed with a bearing value of 30 tons. Log of Test Borings were not completed for the right bridge, but the LOTB for the left bridge, constructed in 1960, indicates that the piles appear to be founded in shale, and likely derive the majority of their axial resistance from tip resistance.

Widening of the bridge to both sides and replacement of the existing barrier to meet current design standards is proposed. Construction of new bent foundations will be required to support additional loads from the widening. Replacement of the bridge is also being considered in the event that the existing foundations do not provide adequate lateral and axial resistance for the design seismic criteria. The goal of this report and the supporting investigation is to provide a

preliminary assessment of the potential for liquefaction, and then use that information to determine if the existing bridge can accommodate the widening, or if replacement is required.

Pertinent Reports and Investigations

The following publications were used to assist in the assessment of site conditions:

1. *Preliminary Foundation and Preliminary Seismic Reports.* Richman, Ron. EA 05-0L720K. June 6, 2005.

2. Dibblee, T.W., and Minch, J.A., 2006, Geologic map of the Morro Bay North quadrangle, San Luis Obispo County, California: Dibblee Geological Foundation, Dibblee Foundation Map DF-215, scale 1:24,000

3. Idriss, IM and Boulanger, RW (2006). "Semi-empirical procedures for evaluating liquefaction potential during earthquakes." Journal of Soil Dynamics and Earthquake Engineering, Elsevier, 26, 115-130.

Physical Setting

Climate

The regional climate for coastal San Luis Obispo County is moderate due to the proximity to the Pacific Ocean. Average high temperatures in the summer are in the high 60's Fahrenheit, and average high temperatures in winter months are in the lower 60's Fahrenheit. Winter average lows are in the 40's Fahrenheit, while summer low temperatures average in the lower 50's Fahrenheit. Average annual rainfall is about 17 inches, and occurs mostly as rainfall between November and April.

Topography and Drainage

The existing Toro Creek Right Bridge carries the northbound lanes of Highway 1 over Toro Creek, which drains from the mountains of the Coast Range west toward the Pacific. The project area is located on a gently sloping coastal terrace that has been locally incised by smaller tributary drainages to Toro Creek.

Regional and Site Geology

The project area lies within the Coast Ranges Geomorphic Province, characterized by northwest trending mountain ranges, controlled by movement along a system of similarly trending faults. The project site is underlain by Quaternary-aged alluvial deposits. Geologic mapping of the area indicates that alluvial deposits are present in the existing creek channel and consist of cooble-pebble gravel, sand, silt, and clay. Terrace deposits form the gently sloping plains around the creek channel and consist of cobble-pebble gravel, sand, silt, and some clay. Refer to the attached geologic map.

The 1960 as-built Log of Test Borings for the left bridge indicates that the site is underlain by approximately 20 feet of alluvium in the creek channel, consisting of medium dense sand with some silt and gravel. Underlying the alluvium, approximately 14 feet of terrace deposits consisting of firm clayey silt with some pebble gravel were encountered, and the boring was terminated in dark gray shale at approximately 40 feet below the ground surface in the creek channel. One mud rotary boring was logged visually and three dynamic cone penetrometer soundings were performed at the site in 1957 for the left bridge.

Site Investigation

Subsurface Investigation

Two cone penetrometer test (CPT) soundings were performed at each end of the bridge on March 4, 2014 to assess liquefaction potential and provide soil strength parameters for use in foundation design. Refer to Table 1 for details of the CPT soundings.

Table 1. Subsurface Exploration Summary

Sounding ID	*Completion Date*	*Approximate Ground Elevation (ft)*	*Termination Depth (ft)*
CPT-14-003	3-4-2014	23.09	61.4
CPT-14-004	3-4-2014	22.82	62.4

Groundwater Observations

Groundwater elevations were estimated by observing the level of the water in the creek and sounding the open holes after withdrawing the cone with an electronic water level logger. Groundwater was determined to be at approximately the elevation of the creek, or elevation 9 feet on the date of the subsurface investigation. Soils must be below the groundwater table for liquefaction to occur.

Preliminary Seismic Recommendations

Based on the *Caltrans Seismic Design Procedure*, the following active and potentially active faults are located within the vicinity of the project site. The Caltrans ARS Online Tool was used to develop ARS curves for deterministic and probabilistic seismic prediction models. Because only preliminary subsurface data has been collected at this time, an estimated shear wave velocity of 1837 ft/sec (560 m/sec) was used to approximate a Type C Soil based upon *NEHRP* classification. Deterministic methods control the response spectra at all periods, the preliminary design ARS curves are presented in figure 1. A basin factor of 1.0 was assumed for this location and the Caltrans ARS Online Tool applied a near fault factor to the data.

Table 2. Active and Potentially Active Faults

Fault Name	*Fault Type*	*Moment magnitude of maximum credible earthquake*	*Distance from fault to project site (miles)*	*Peak ground acceleration T=0 sec (gravity)*
Los Osos 2011	Reverse	6.9	1.6	0.49
Oceana-West Huasna	Reverse	6.9	1.8	0.51
Cambria	Normal	6.3	0.2	0.52
USGS 5% in 50 yr. Hazard	N/A	N/A	N/A	0.35

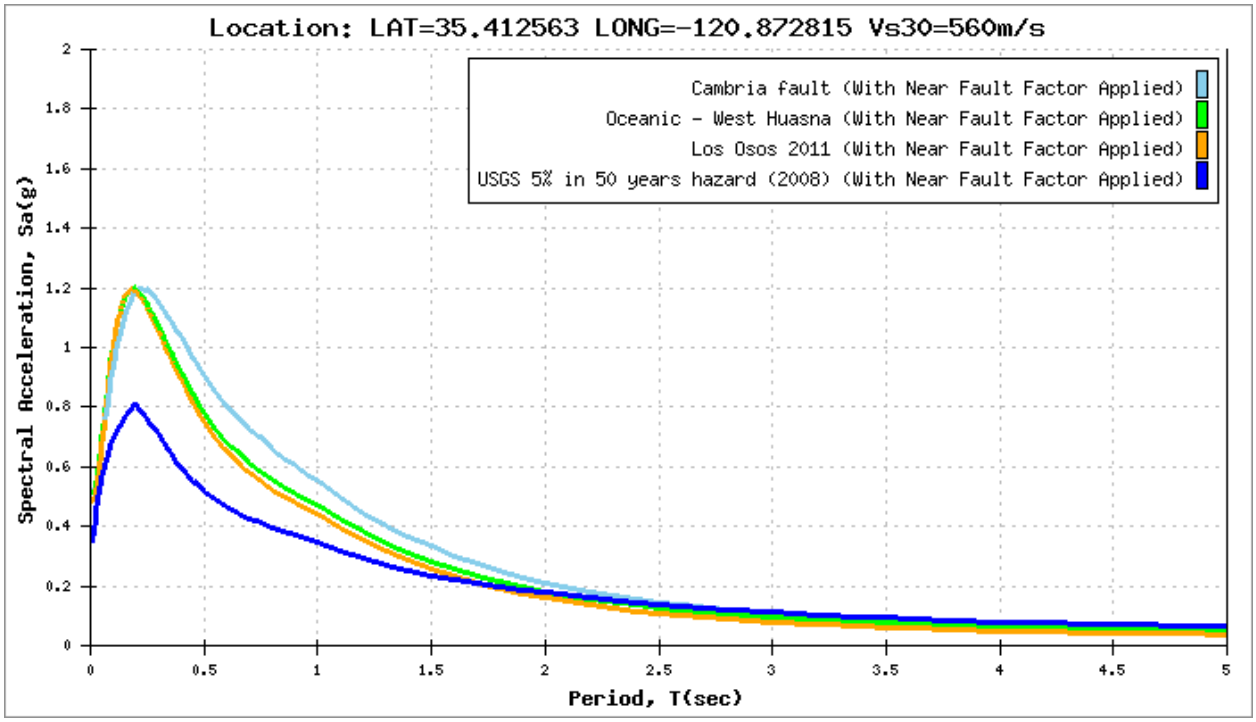


Figure 1. Preliminary ARS Curves

Liquefaction is the partial or complete loss of soil shear strength due to the build-up of excess pore water pressure during a seismic event. Soils with a potential for liquefaction are loose cohesionless soils below the groundwater table. Based on soil types and site conditions encountered at the project site, potential for liquefaction is high due to the loose nature of the soils and depth to groundwater.

A liquefaction triggering analysis using the methods recommended by Idriss and Boulanger (2006) was performed using data collected with the CPT soundings. The method requires calculation of a cyclic stress ratio (CSR) and cyclic resistance ratio (CRR), which are used to compute a factor of safety against liquefaction equal to resistance/demand = CRR/CSR. When the safety factor is less than 1.0, liquefaction is possible. The triggering criteria of I_c greater than or equal to 2.6 was increased to 3.0 to account for encountered alluvial soils that were determined to be liquefiable based on strength parameters, but contained a proportion of fines or contained fines with high plasticity that caused the calculated I_c to be just greater than 2.6. Based on the results of the analysis, potentially liquefiable layers are present from approximately

elevation -38 to 9 feet at the southern bridge approach, and from approximately elevation -39 to 9 feet at the northern bridge approach. Refer to the attached plots representing the results of the liquefaction analyses.

Additional Investigations and Analyses

Because the piles appear to be founded in Franciscan rock, axial resistance during the design seismic event is likely adequate. However, lateral resistance of the piles durng a seismic event was likely not considered in the original design, and may not be adequate in the event of liquefaction. The CPT triggering analyses were performed using soil classification and characterization of the fines solely from the data collected with the CPT. In order to perform a more detailed analyses and consider the effects of the proportions and plasticity of the fines present in the alluvial soils, power borings and laboratory testing of soil samples at representative depths will be required. However, based on the preliminary analyses and information contained in the as-built LOTB, liquefiable soils are present at the site.

If you have any questions or comments, please contact Ryan Turner at (805) 549-3750 or Michael Finegan at (805) 549-3194.

RYAN TURNER, P.E., G.E.
Transportation Engineer Civil
Geotechnical Design – North
Branch D

MICHAEL S. FINEGAN, P.E.
Branch Chief
Geotechnical Design – North
Branch D

c: Job File / Branch D Records
Structure Construction RE Pending File (email RE_pending_file@dot.ca.gov)
Craig Whitten / DES Office Engineer
Andrew Tan / PCE
Eric Karlson/ DME

LIST OF ATTACHMENTS

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
05	SLO	1 & 58	Var		

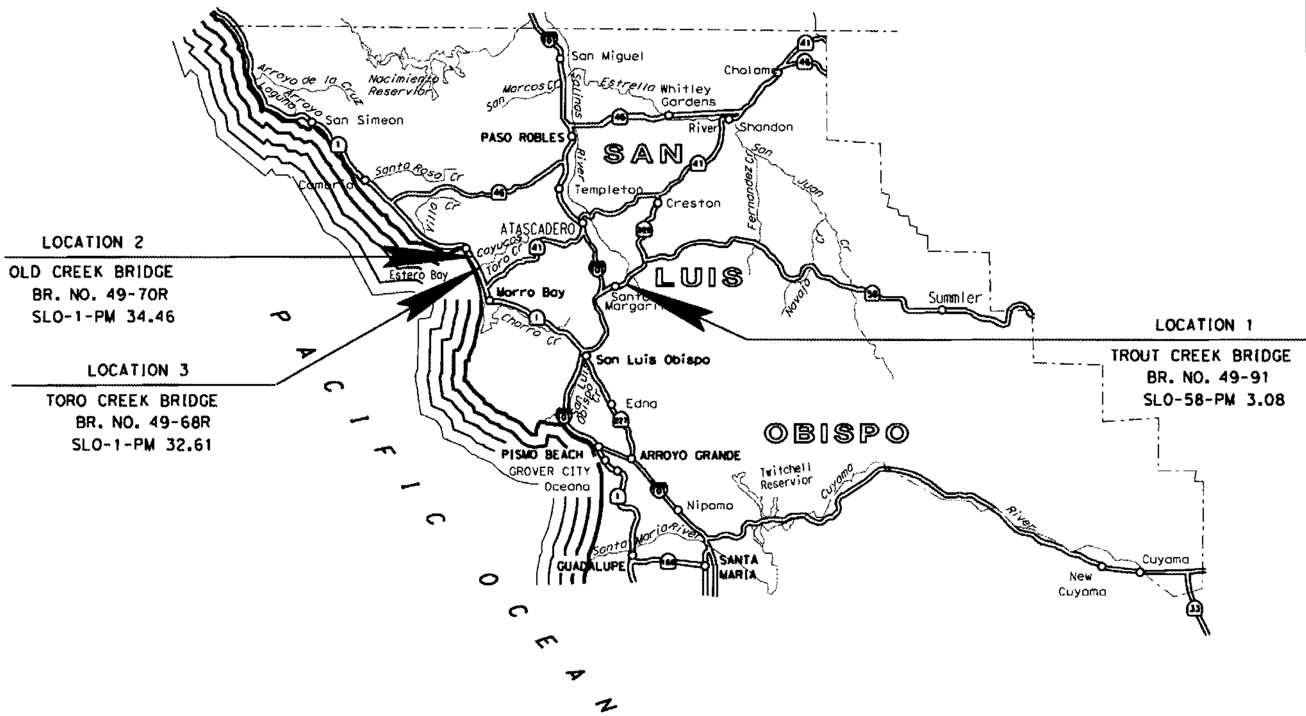
INDEX OF PLANS

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

PROJECT PLANS FOR CONSTRUCTION ON
STATE HIGHWAY

ON ROUTES 1 AND 58 IN SAN LUIS OBISPO COUNTY AT VARIOUS LOCATIONS

TO BE SUPPLEMENTED BY STANDARD PLANS DATED 2010



PROJECT ENGINEER DATE
REGISTERED CIVIL ENGINEER

PLANS APPROVAL DATE

THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.

REGISTERED PROFESSIONAL ENGINEER No. Exp. CIVIL STATE OF CALIFORNIA

PROJECT MANAGER

DESIGN ENGINEER FOAD N AL-HAMDANI

THE CONTRACTOR SHALL POSSESS THE CLASS (OR CLASSES) OF LICENSE AS SPECIFIED IN THE "NOTICE TO BIDDERS."

CONTRACT No.	05-0L7204
PROJECT ID	0512000102

LAST REVISION 12-12-12 DATE PLOTTED => $DATE TIME PLOTTED => $TIME

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STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION - DIVISION OF STRUCTURES

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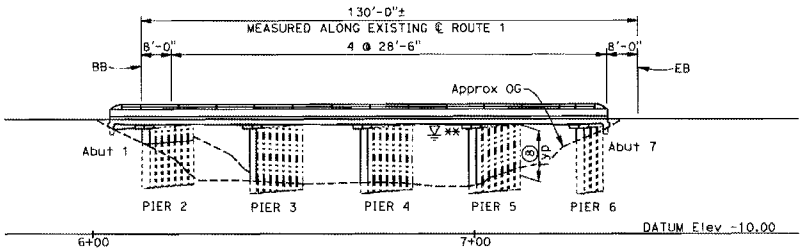

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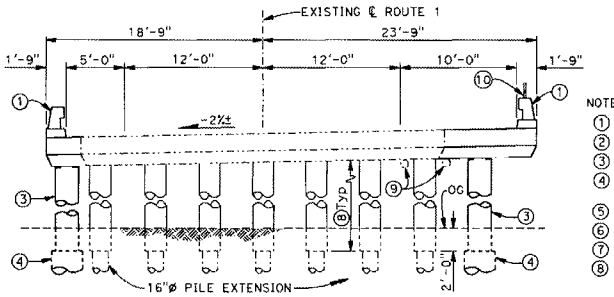

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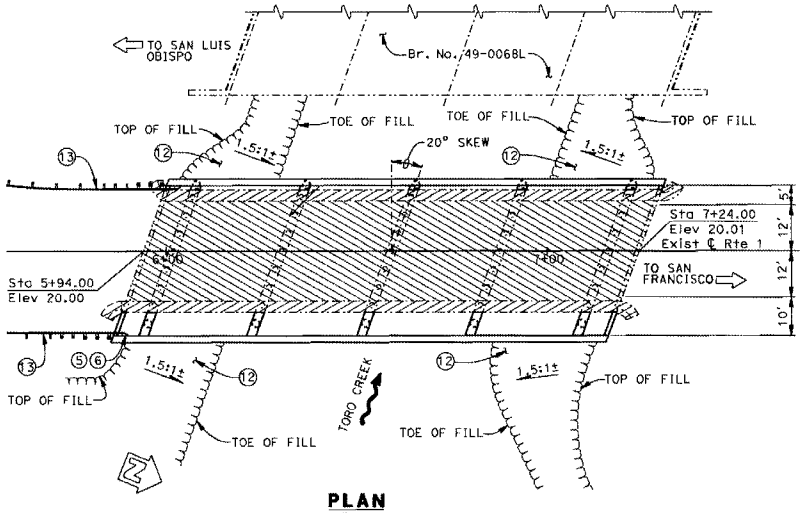

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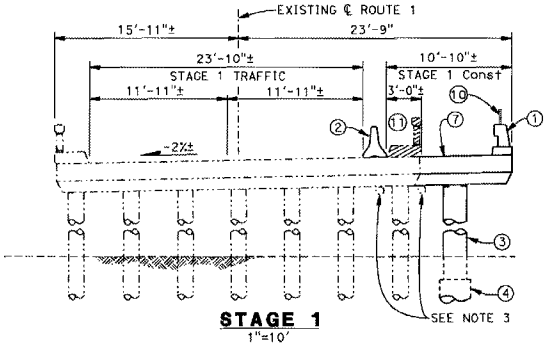

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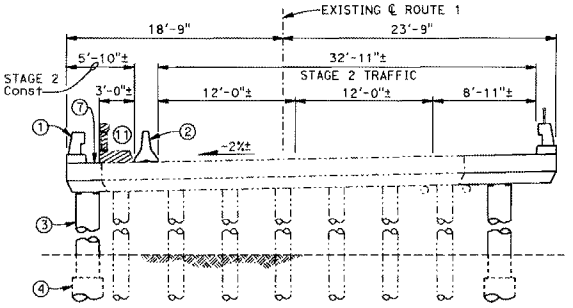

STAGE 2
1"=10'

NOTES:
1. Concrete Barrier, Type 80
2. Temporary Railing, Type K
3. 24"ø Concrete Pile extension
4. 32"ø CIDH Concrete Pile with permanent Steel Casing
5. Paint "Br No. 49-0068R"
6. Paint "Toro Creek Bridge"
7. Match existing cross slope
8. Limit of remove unsound concrete and repair with "Vector Galvanode Jacket", all existing columns
9. Existing 8" sewer mains
10. Tubular Hand Railing
11. Refinish Bridge Deck
12. Extend existing RSP to 5' beyond EOD
13. MBGR, see "ROAD PLANS"

Indicates removal of existing asphalt concrete overlay

Indicates removal of existing concrete barrier and curb.

---- Indicates Existing Structure

—— Indicates New Consturction

** HW Elev= 15.80' Includes 55" future sea level rise

ASSUMPTIONS:
1. Assumed work window in the creek restricted to dry season.
2. Intermittent lane closures will be required for construction operations.
3. Temporary relocation of sewer main at existing edge of deck required at owner's expense.

DATE OF ESTIMATE	07-10-13
BRIDGE REMOVAL	= 0
STRUCTURE DEPTH	= 1'-6" Max
LENGTH	= 130'-0"
WIDTH	= 11'-0"
AREA	= 1,430 sf
COST/ Sqft INCLUDING 10% MOBILIZATION & 25% CONTINGENCY	= $739
TOTAL COST	= $1,057,000

DESIGNED BY	I. Cherniogio	DATE 6/13
DRAWN BY	A. Onodera	DATE 6/13
CHECKED BY	R. Simmons	DATE 6/13
APPROVED	G. Joe	DATE 6/13

STRUCTURE DESIGN BRANCH 17

ALTERNATIVE 1A
PLANNING STUDY
TORO CREEK BRIDGE (WIDEN)

UNIT: 3586	BRIDGE No. 49-0068R
SCALE: AS NOTED	PROJECT No. & PHASE: 0512000102

CONTRACT No.: 05-0L7200

STRUCTURES DESIGN ADVANCE PLANNING STUDY SHEET (ENGLISH) (REV. 08-09-10)

FILE => 49-0068r-aps-al-01.dgn

USERNAME => s127131 DATE PLOTTED => 18-JUN-2013 TIME PLOTTED => 11:39

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION - DIVISION OF STRUCTURES

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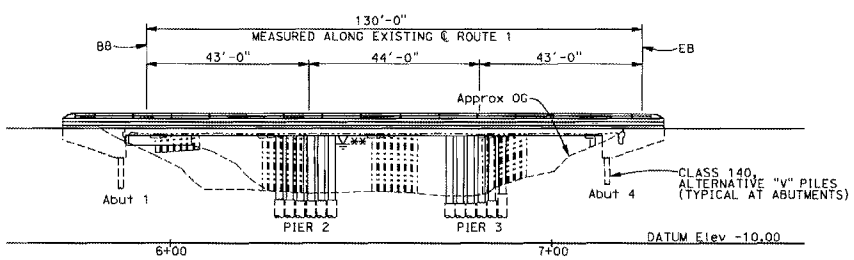

ELEVATION
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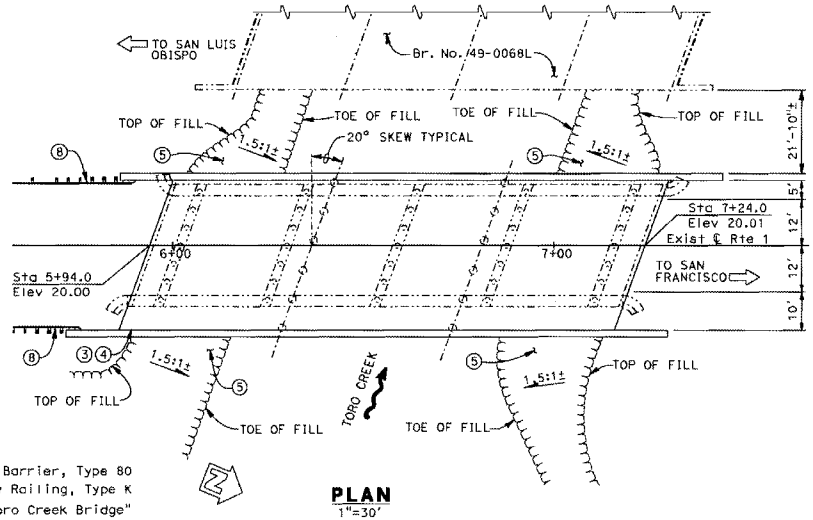


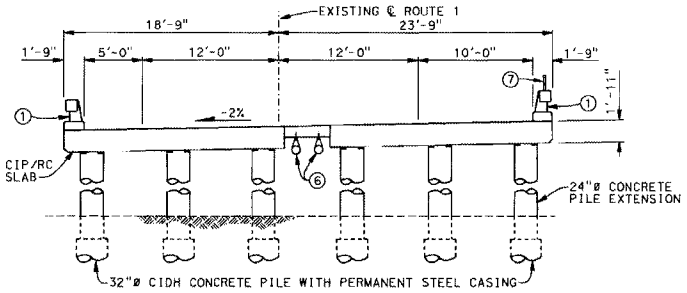
PLAN
1"=30'

NOTES:
1. Concrete Barrier, Type 80
2. Temporary Railing, Type K
3. Paint "Toro Creek Bridge"
4. Paint "Br No. 49-0068R"
5. Existing broken concrete riprap to be removed and replaced with RSP to 5 ft beyond edge of deck
6. Relocate existing sewer mains
7. Tubular Hand Railing
8. MBGR, see "ROAD PLANS"

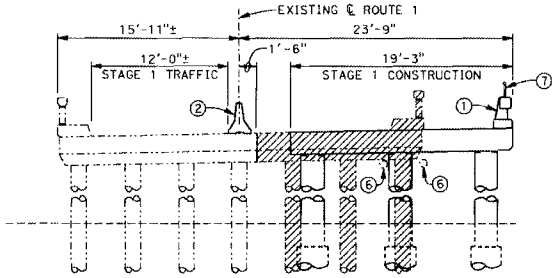
Indicates Removal of Existing Structure
Indicates Existing Structure
Indicates New Consturction
** HW Elev= 15.80' includes 55" future sea level rise

ASSUMPTIONS:
1. Assumed work window in the creek restricted to dry season.
2. Intermittent lane closures will be required for construction operations.
3. Relocation of sewer mains at owners expense.

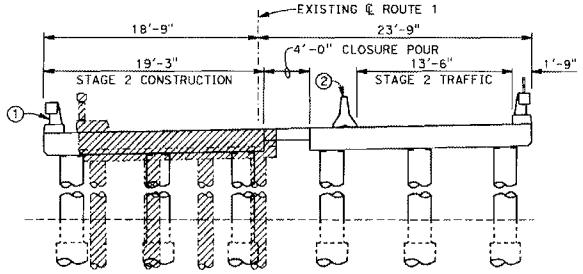
DATE OF ESTIMATE	07-10-13
BRIDGE REMOVAL	= 4095 sf
STRUCTURE DEPTH	= 1'-11"
LENGTH	= 130'-0"
WIDTH	= 42'-6"
AREA	= 5525 sf
COST/ ☐ft INCLUDING 10% MOBILIZATION & 25% CONTINGENCY	= $282
TOTAL COST	= $1,559,000



TYPICAL SECTION
1"=10'



STAGE 1
1"=10'



STAGE 2
1"=10'

DESIGNED BY	I. Cherniaglo	DATE	6/13
DRAWN BY	A. Onodera	DATE	6/13
CHECKED BY	R. Simmons	DATE	6/13
APPROVED	G. Joe	DATE	6/13

STRUCTURE DESIGN BRANCH 17

ALTERNATIVE 2
PLANNING STUDY
TORO CREEK BRIDGE (REPLACE)

UNIT: 3586	BRIDGE No. 49-0068R
SCALE: AS NOTED	PROJECT No. & PHASE: 0512000102

CONTRACT No.: 05-0L7200

STRUCTURES DESIGN ADVANCE PLANNING STUDY SHEET (ENGLISH) (REV. 08-09-10)

FILE => 49-0068r-aps-al+02.dgn

USERNAME => s1127131 DATE PLOTTED => 18-JUN-2013 TIME PLOTTED => 11:39

LEGEND

Qa | Qs

SURFICIAL DEPOSITS

Qa *Alluvium, gravel, sand, clay*
Qs *Sand, of shifting coastal dunes*

sp | sc

SERPENTINE
age late Jurassic?

sp *Serpentinite, hydrothermally metamorphosed from ultramafic igneous rocks such as dunite or diabase, blue green, amorphous hydrous magnesium silicate, with specks of magnetite; massive, severely sheared and slickensided*
sc *Serpentinite, in part altered to silica carbonate rock, massive, veined, iron stained*

fm | fg | fs | fc

FRANCISCAN ROCKS
Marine, eugeosynclinal sedimentary and volcanic rocks

fm *Melange of severely deformed rocks, mostly graywacke and sheared argillite; includes tectonic fragments of chert, greenstone, graywacke, serpentine and blueschist*
fg *Greenstone, altered from basalt, moderately sheared*
fs *Graywacke sandstone, gray, hard, massive; shattered*
fc *Chert, green to red, brittle, bedded; contorted*

Geologic Map
Dibblee & Minch, 2006
05-SLO-001, 058

BRIDGE DEPARTMENT

V	SLO	1

FED. ROAD DIST. NO.	STATE	PROJ. NO.	FEDERAL AID PROJ.	SHEET NO.	TOTAL SHEETS
7	CAL.				

DIST.	COUNTY	ROUTE	SECTION	SHEET NO.	TOTAL SHEETS
5	SLO	101	E	66	6

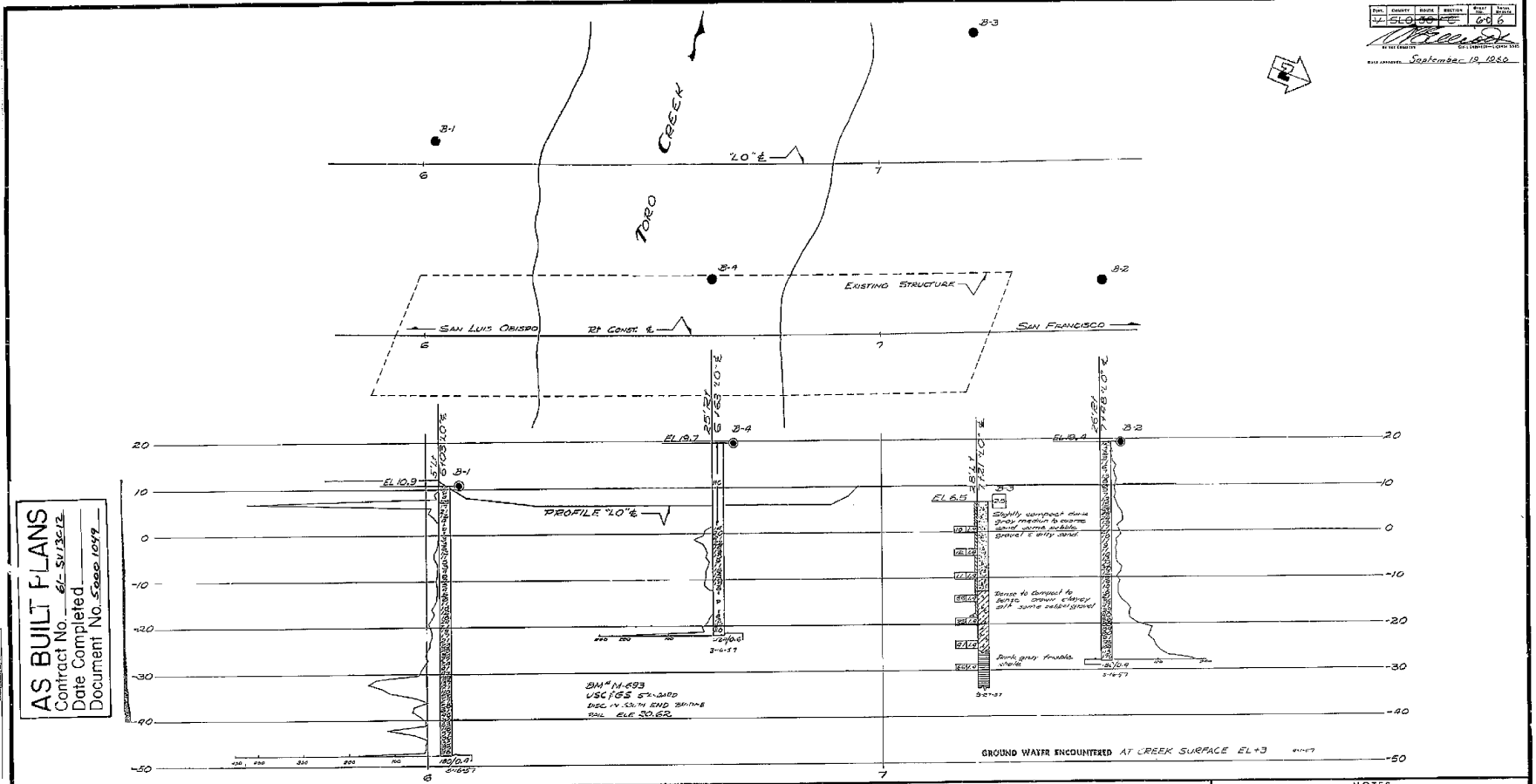
DISTRICT ENGINEER — CIVIL ENGINEER — CONTROL TITLE

DATE APPROVED: September 19, 1960

AS BUILT PLANS
Contract No. 61-SV13612
Date Completed
Document No. 5000 1049

FIELD STUDY	N. Adam 3-57
DRAWN	N. Adam 8-57
CHECKED	M. Ellis 8-57

Approved for Submittal by: C.H. Schumacher — Chief Bridge Engineer



CLASSIFICATION OF MATERIAL BASED ON STANDARD GRADE SIZE LIMITS

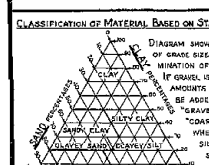


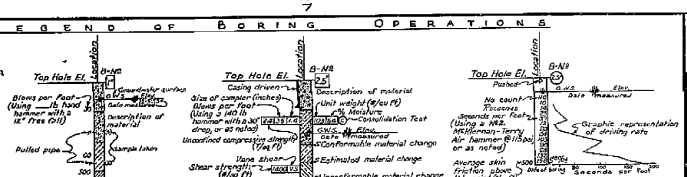
DIAGRAM SHOWING THE BASIS FOR ESTIMATES OF GRADE SIZE DISTRIBUTION USED IN DETERMINATION OF CLASS NAMES. IF GRAVEL IS PRESENT IN APPRECIABLE AMOUNTS THE TERM "GRAVELLY" MAY BE ADDED TO THE CLASS NAME, VIZ. "GRAVELLY SAND." THE TERMS "COARSE," "MEDIUM" AND "FINE" WHEN USED TO DESCRIBE SAND, SILT AND GRAVEL REFER TO STANDARD GRADE SIZE LIMITS.

LEGEND OF EARTH MATERIALS

- GRAVEL
- SAND
- SILT
- CLAY
- SANDY CLAY OR CLAYEY SAND
- SANDY SILT OR SILTY SAND
- SILTY CLAY OR CLAYEY SILT
- PEAT AND/OR ORGANIC MATTER
- FILL MATERIAL
- IGNEOUS ROCK
- SEDIMENTARY ROCK
- METAMORPHIC ROCK

LEGEND OF BORING OPERATIONS

- PEAT OR ASSY BORING
- PENETROMETER
- 2½" CONE PENETROMETER
- SAMPLER BORING (DRY)
- ROTARY BORING (WET)
- AUGER BORING (DRY)
- JET BORING
- CORE BORING
- TEST PIT



NOTES

The contractor's attention is directed to Section 2, Article (c) of the Standard Specifications and to the Special Provisions accompanying this set of plans.

Classification of earth material as shown on this sheet is based upon field inspection and is not to be construed to imply mechanical analysis.

STATE OF CALIFORNIA
DEPARTMENT OF PUBLIC WORKS
DIVISION OF HIGHWAYS

TORO CREEK BRIDGE

LOG OF TEST BORINGS

SCALE 1"=10' | BRIDGE 99-88 L | FILE 41 | DRAWING 0-5364-6

PREL. DRAWING NO. P-5364 | 6

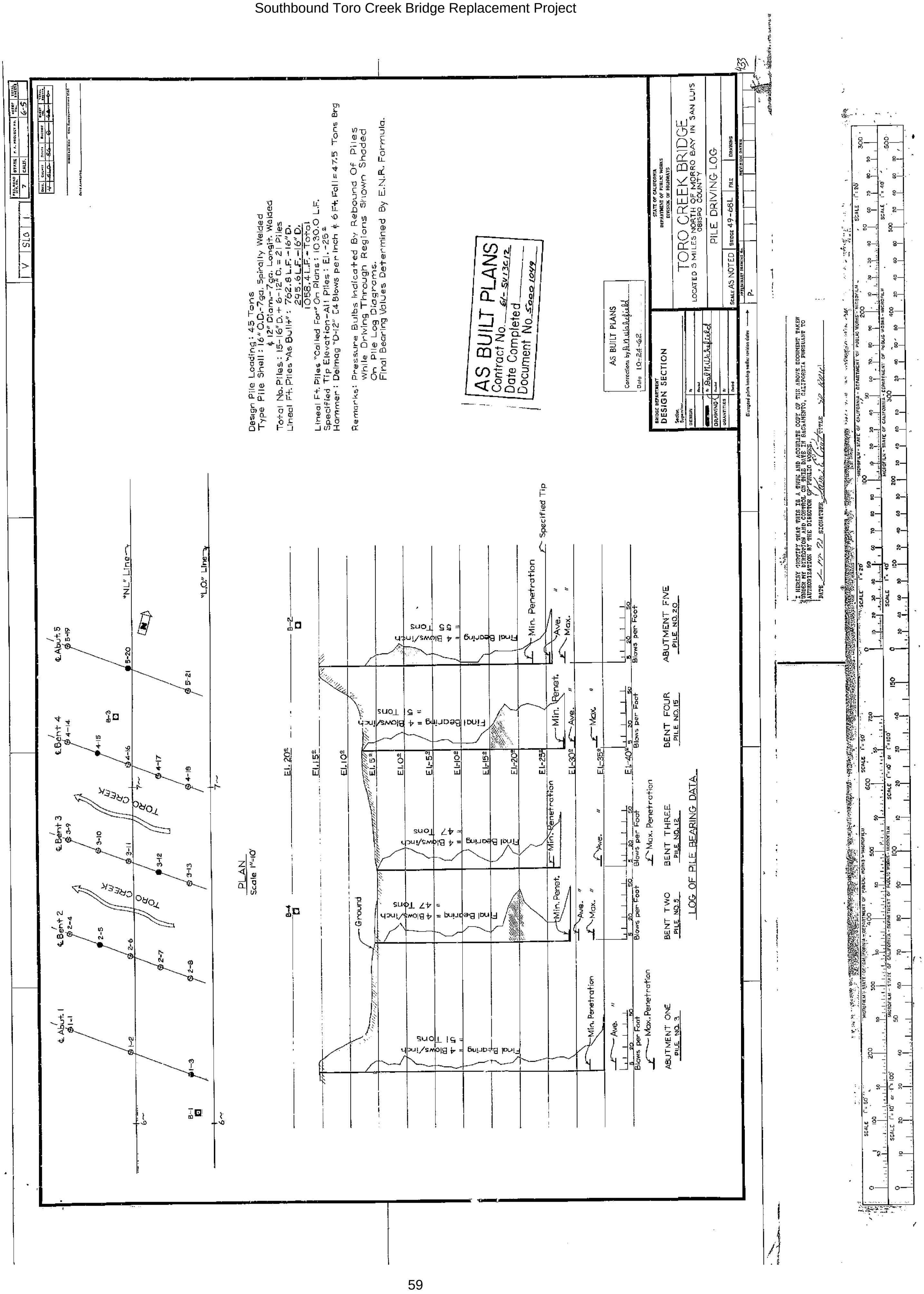
PR-5364-B 437

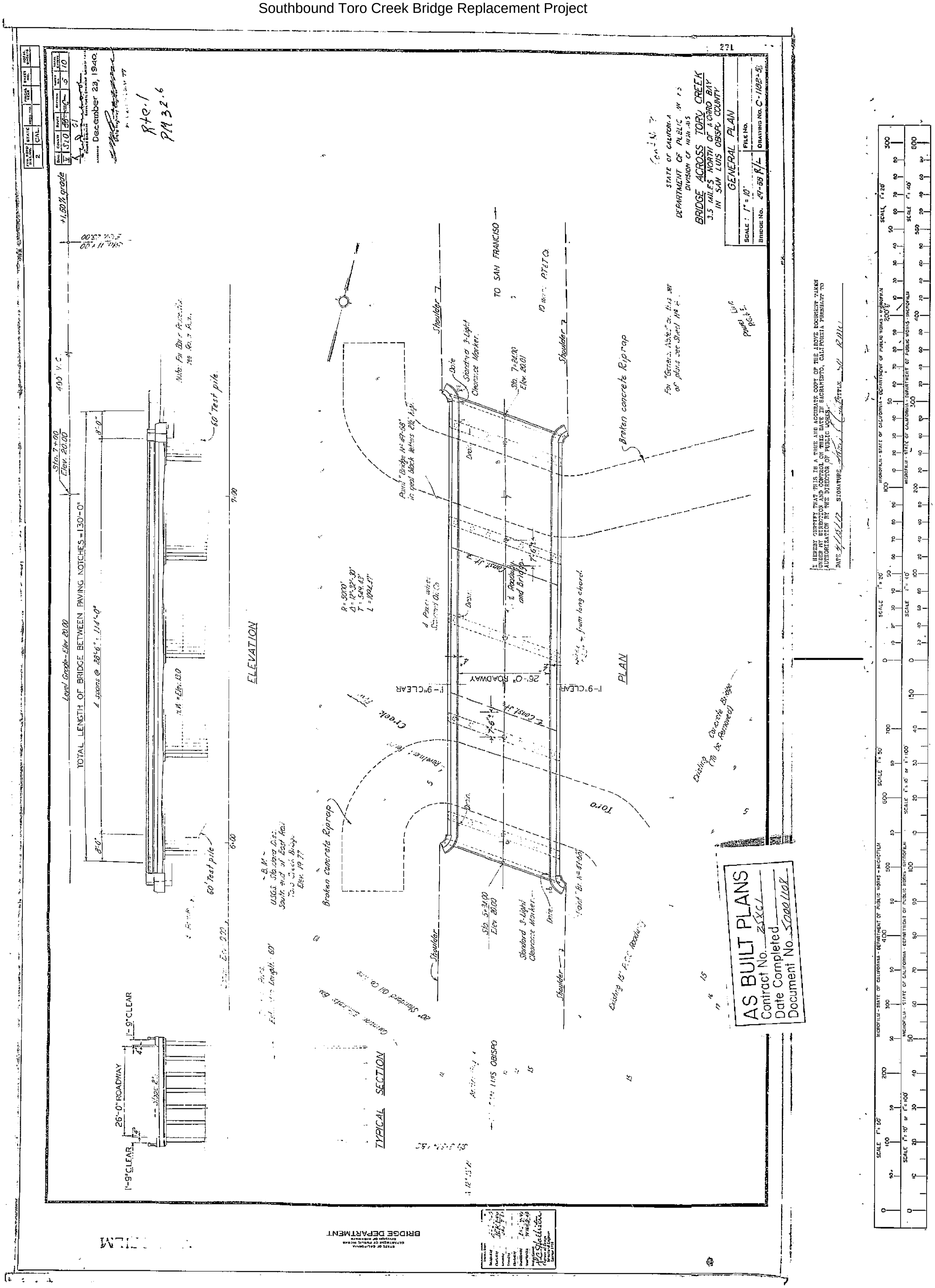
125

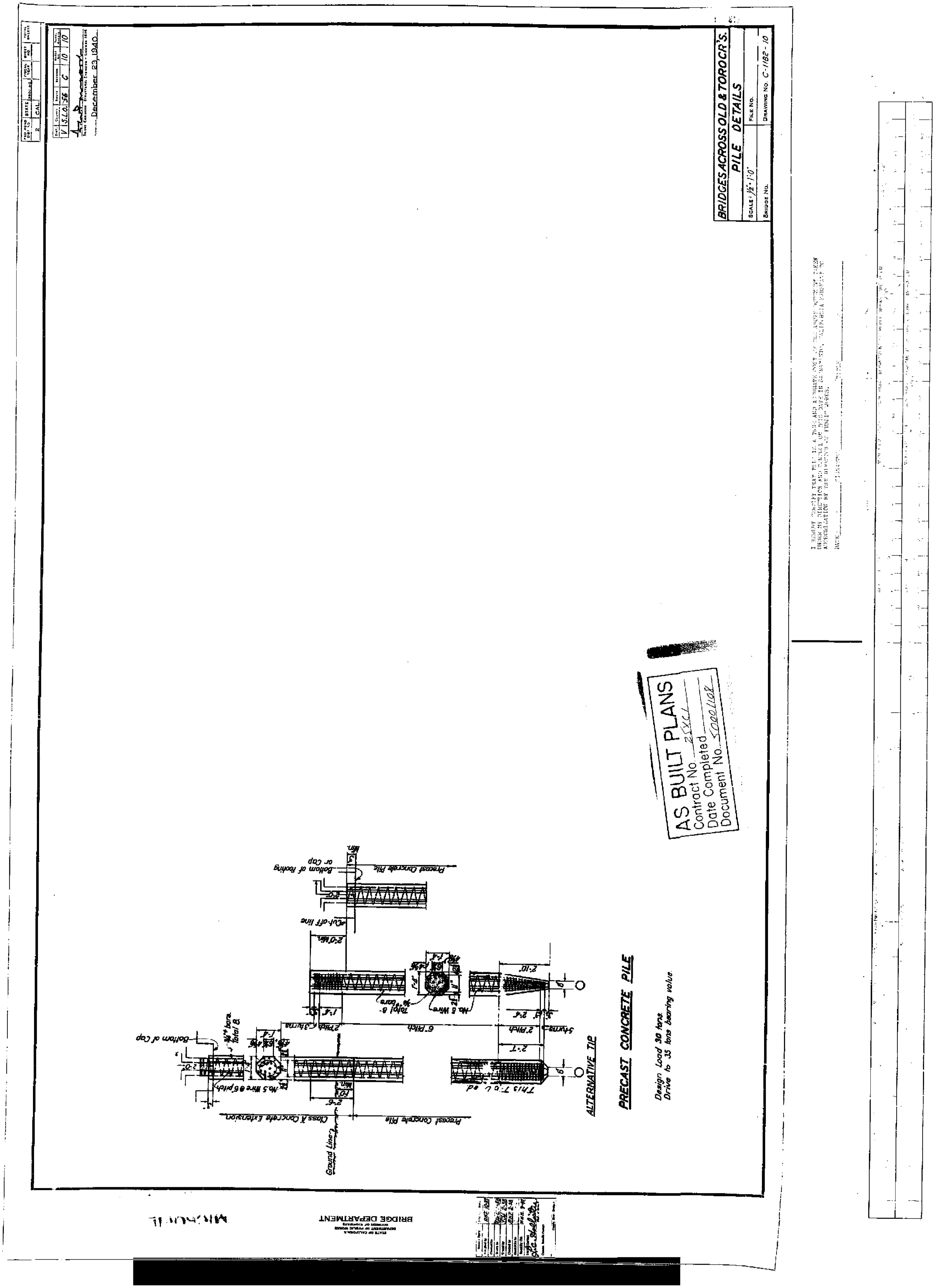
I HEREBY CERTIFY THAT THIS IS A TRUE AND ACCURATE COPY OF THE ABOVE DOCUMENT TAKEN UNDER MY DIRECTION AND CONTROL ON THIS DATE IN SACRAMENTO, CALIFORNIA PURSUANT TO AUTHORIZATION BY THE DIRECTOR OF PUBLIC WORKS.

DATE 1/11/63 SIGNATURE M. Ellis TITLE Sr Bridge Engr

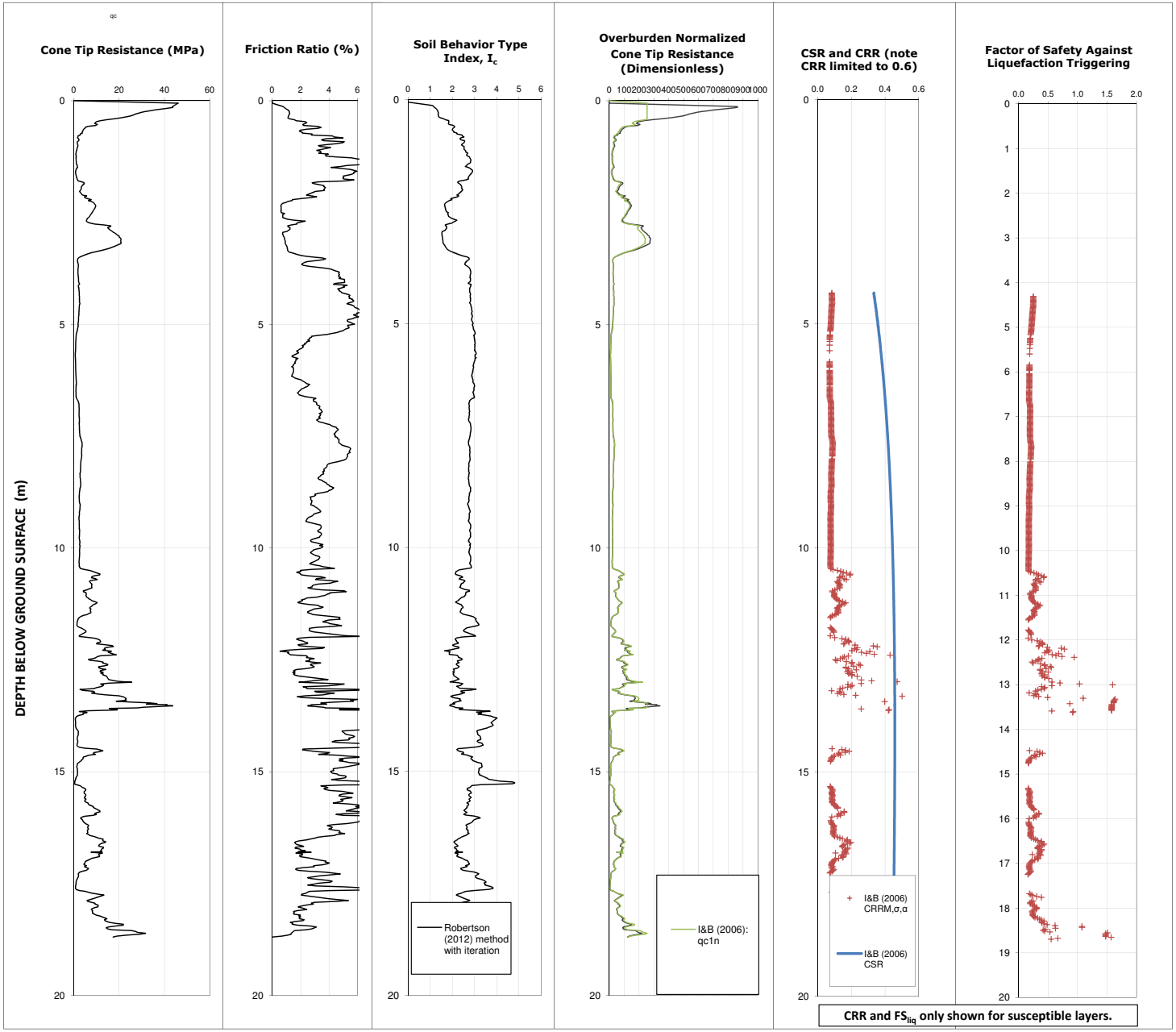
MICROFILM - STATE OF CALIFORNIA - DEPARTMENT OF PUBLIC WORKS - MICROFILM


TORO CREEK BRIDGE
LOCATED 3 MILES NORTH OF MORRO BAY IN SAN LUIS OBISPO COUNTY
PILE DRIVING LOG
AS BUILT PLANS
PLAN
Scale 1"=10'
LOG OF PILE BEARING DATA
ABUTMENT ONE
BENT TWO
BENT THREE
BENT FOUR
ABUTMENT FIVE
Design Pile Loading: 45 Tons
Total No. Piles: 15-16" D. + 6-12" D. = 21 Piles
Hammer: Delmag "D-12"
Final Bearing Values Determined By E.N.R. Formula.
"NL" Line
"LO" Line
TORO CREEK
Specified Tip
Min. Penetration
Max. Penetration
Blows per Foot
Ground

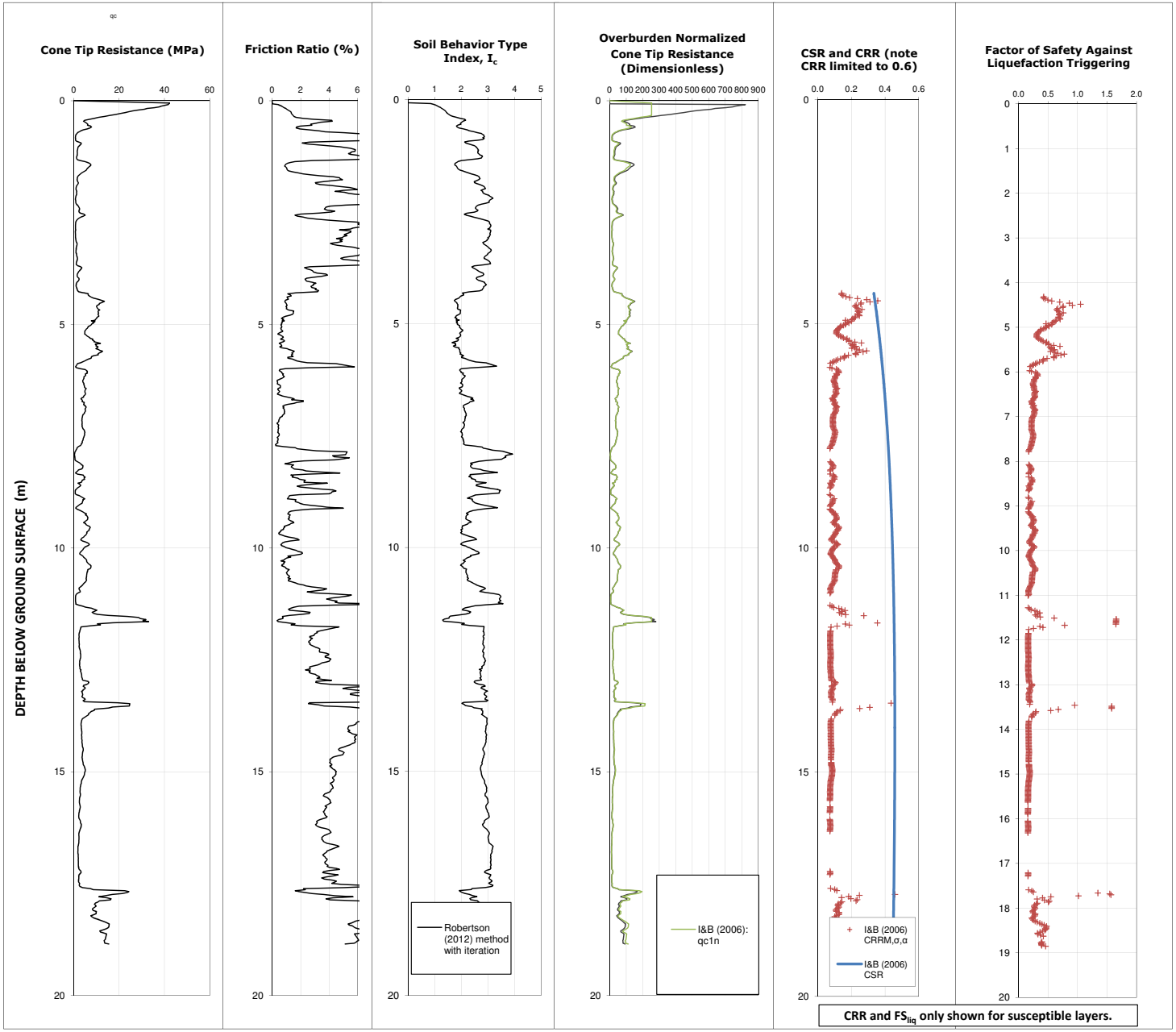

STATE OF CALIFORNIA
DEPARTMENT OF PUBLIC WORKS
DIVISION OF HIGHWAYS
BRIDGE ACROSS TORO CREEK
3.5 MILES NORTH OF MORRO BAY
IN SAN LUIS OBISPO COUNTY
GENERAL PLAN
ELEVATION
PLAN
TYPICAL SECTION
TOTAL LENGTH OF BRIDGE BETWEEN PAVING NOTCHES = 130'-0"
26'-0" ROADWAY
1'-9" CLEAR
TO SAN FRANCISCO
Broken concrete Riprap
60' Test pile
December 23, 1940
AS BUILT PLANS
Contract No.
Date Completed
Document No.
BRIDGE DEPARTMENT


BRIDGES ACROSS OLD & TORO CR'S.
PILE DETAILS
SCALE: 1/2" = 1'-0"
DRAWING No. C-1182-10
December 23, 1940
AS BUILT PLANS
Contract No.
Date Completed
Document No.
PRECAST CONCRETE PILE
ALTERNATIVE TIP
Design Load 30 tons
Drive to 35 tons bearing value
Precast Concrete Pile
Bottom of Footing or Cap
Cut-off line
Ground Line
Class A Concrete Extension
Bottom of Cap
6" Pitch
No. 6 Wire
BRIDGE DEPARTMENT

CPT
Toro Creek
25F03-02B
CPT-14-003
Ic=3.0



CPT
Toro Creek
25F03-02B
CPT-14-004
Ic=3.0



To: GARY JOE, BRANCH CHIEF
Office of Bridge Design – North and Central
Design Branch 17
Division of Engineering Services

Date: December 11, 2018

File: 05-SLO-001-32.61
Toro Creek Bridge
49-0068R
05-0L721
0515000097

Atten: Carla Yu, Project Manager

From: DEPARTMENT OF TRANSPORTATION
DIVISION OF ENGINEERING SERVICES
GEOTECHNICAL SERVICES DESIGN WEST, BRANCH E

Subject: **INFILTRATION REPORT FOR TORO CREEK BRIDGE (REPLACEMENT), SAN LUIS OBISPO COUNTY**

On October 8, 2018 personnel from the Office of Geotechnical Design West, Branch E conducted a water infiltration test at the subject site. The purpose of the work was to evaluate the infiltration rate of water into the subsurface materials as an indicator for dewatering of the site during bridge construction of a replacement bridge. The infiltration test method was selected opposed to conducting a well drawdown and recovery test to avoid issues related to discharge or disposal of the groundwater developed by the pumping test procedures. The monitoring well used for this test was drilled as a part of the geotechnical investigation for this project and is located in the center median, at the north end of Toro Creek Bridge (Br. No. 49-0068R).

The testing procedure consisted of pumping water into a previously installed monitoring well to establish a head of liquid above the water table and measuring the rate at which the water infiltrated into the surrounding strata. At the time the tests were conducted the groundwater level in the well was measured at 14.2 feet. below the surface grade, or at the standing water level in the lagoon pond under the bridge, and the total depth of the well was 33.8 feet. The 14.2 feet. deep volume of free well head space available for testing was calculated at 17.53 gallons, less solids of the well packing sand. Approximately 125 gallons were placed into the well until the water level reached the top of well pipe (0.5 feet below the surface). Then the rate at which the water level dropped was recorded at 15 second intervals due to the rapid rate at which it was dropping. Two tests were successively run with the results of the second test used to establish the infiltration rate.

Based on results of the second test, the infiltration rate will be 7.4 in./min. for an initial rate and 0.83 in./min. for steady state. However, since the well took 125 gallons (7 well volumes) just to raise the water to the surface at the start, both tests indicate that the formation can absorb or

produce more water at substantially higher rates than what are indicated by these test results. The reported test data and results are attached to this memo.

An actual drawdown and well recovery test can be performed if more reliable information is required to evaluate the potential of dewatering the subsurface for the construction project. Storage, treatment, and permits will be necessary to discharge the water developed by the test procedure back into the surface water of the creek/lagoon pond. Should you have any questions or comments, please contact OGDW Monica Cortez at (805)549-3405 or Doug Cook at (805) 549-3729.

Monica A. Cortez, E.I.T.
Transportation Engineer Civil
Geotechnical Design – West, Branch E

K. Douglas Cook, C.E.G
Engineering Geologist
Geotechnical Design – West, Branch E

Attachment

(1) Infiltration Test Data and Graphs (2 sheets)

Geotechnical Archive

MNC

Project : Toro Creek Infiltration
Test Date: 10/8/18
PQ Casing Dia. (in) : 5.5
Inner Pipe Dia. (in) : 2

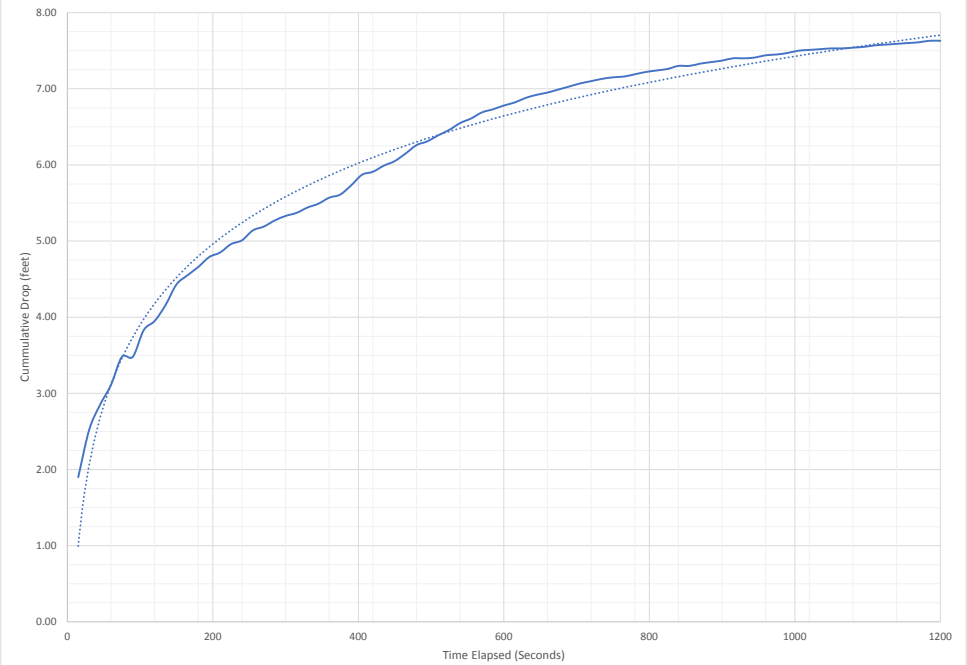
EFIS : 0515000097
Tested by : MC
Depth of Hole (ft) : 33.78
Depth to Water (ft) : 14.2

EA : 05-0L721
Soil Type Tested: loose to medium dense clayey sand with gravel, moist to wet, fine to coarse grained.

Test Run 1 **Vol. Used (gals)** 125

Vwell =	4048.4	cuin
	17.526	gal
	2.3428	cuft
	23.7583	cuin/in

Time (sec)	Depth to Water (ft)	Water Level Drop (ft)	Elapsed Time (min)	Cummulative Drop
0	6.50	--	**0**	--
15	8.40	1.90		1.90
30	9.02	0.62		2.52
45	9.35	0.33		2.85
60	9.61	0.26	**1**	3.11
75	9.98	0.37		3.48
90	9.98	0.00		3.48
105	10.33	0.35		3.83
120	10.45	0.12	**2**	3.95
135	10.66	0.21		4.16
150	10.93	0.27		4.43
165	11.05	0.12		4.55
180	11.16	0.11	**3**	4.66
195	11.29	0.13		4.79
210	11.35	0.06		4.85
225	11.46	0.11		4.96
240	11.51	0.05	**4**	5.01
255	11.64	0.13		5.14
270	11.69	0.05		5.19
285	11.77	0.08		5.27
300	11.83	0.06	**5**	5.33
315	11.87	0.04		5.37
330	11.94	0.07		5.44
345	11.99	0.05		5.49
360	12.07	0.08	**6**	5.57
375	12.11	0.04		5.61
390	12.23	0.12		5.73
405	12.37	0.14		5.87
420	12.41	0.04	**7**	5.91
435	12.49	0.08		5.99
450	12.55	0.06		6.05
465	12.65	0.10		6.15
480	12.76	0.11	**8**	6.26
495	12.81	0.05		6.31
510	12.89	0.08		6.39
525	12.96	0.07		6.46
540	13.05	0.09	**9**	6.55
555	13.11	0.06		6.61
570	13.19	0.08		6.69
585	13.23	0.04		6.73
600	13.28	0.05	**10**	6.78
615	13.32	0.04		6.82
630	13.38	0.06		6.88
645	13.42	0.04		6.92
660	13.45	0.03	**11**	6.95
675	13.49	0.04		6.99
690	13.53	0.04		7.03
705	13.57	0.04		7.07
720	13.60	0.03	**12**	7.10
735	13.63	0.03		7.13
750	13.65	0.02		7.15
765	13.66	0.01		7.16
780	13.69	0.03	**13**	7.19
795	13.72	0.03		7.22
810	13.74	0.02		7.24
825	13.76	0.02		7.26
840	13.80	0.04	**14**	7.30
855	13.80	0.00		7.30
870	13.83	0.03		7.33
885	13.85	0.02		7.35
900	13.87	0.02	**15**	7.37
915	13.90	0.03		7.40
930	13.90	0.00		7.40
945	13.91	0.01		7.41
960	13.94	0.03	**16**	7.44
975	13.95	0.01		7.45
990	13.97	0.02		7.47
1005	14.00	0.03		7.50
1020	14.01	0.01	**17**	7.51
1035	14.02	0.01		7.52
1050	14.03	0.01		7.53
1065	14.03	0.00		7.53
1080	14.04	0.01	**18**	7.54
1095	14.05	0.01		7.55
1110	14.07	0.02		7.57
1125	14.08	0.01		7.58
1140	14.09	0.01	**19**	7.59
1155	14.10	0.01		7.60
1170	14.11	0.01		7.61
1185	14.13	0.02		7.63
1200	14.13	0.00	**20**	7.63



Average Rate for 1 ft.	0.467	ft/min
	5.60	in/min
	672	ft/day
Initial Rate mins. 1 to 7		

Average Rate for 0.5 ft.	0.074	ft/min
	0.89	in/min
	107	ft/day
Steady State Rate mins.12 to 18		

Project : Toro Creek Infiltration
Test Date: 10/8/18
PQ Casing Dia. (in) : 5.5
Inner Pipe Dia. (in) : 2

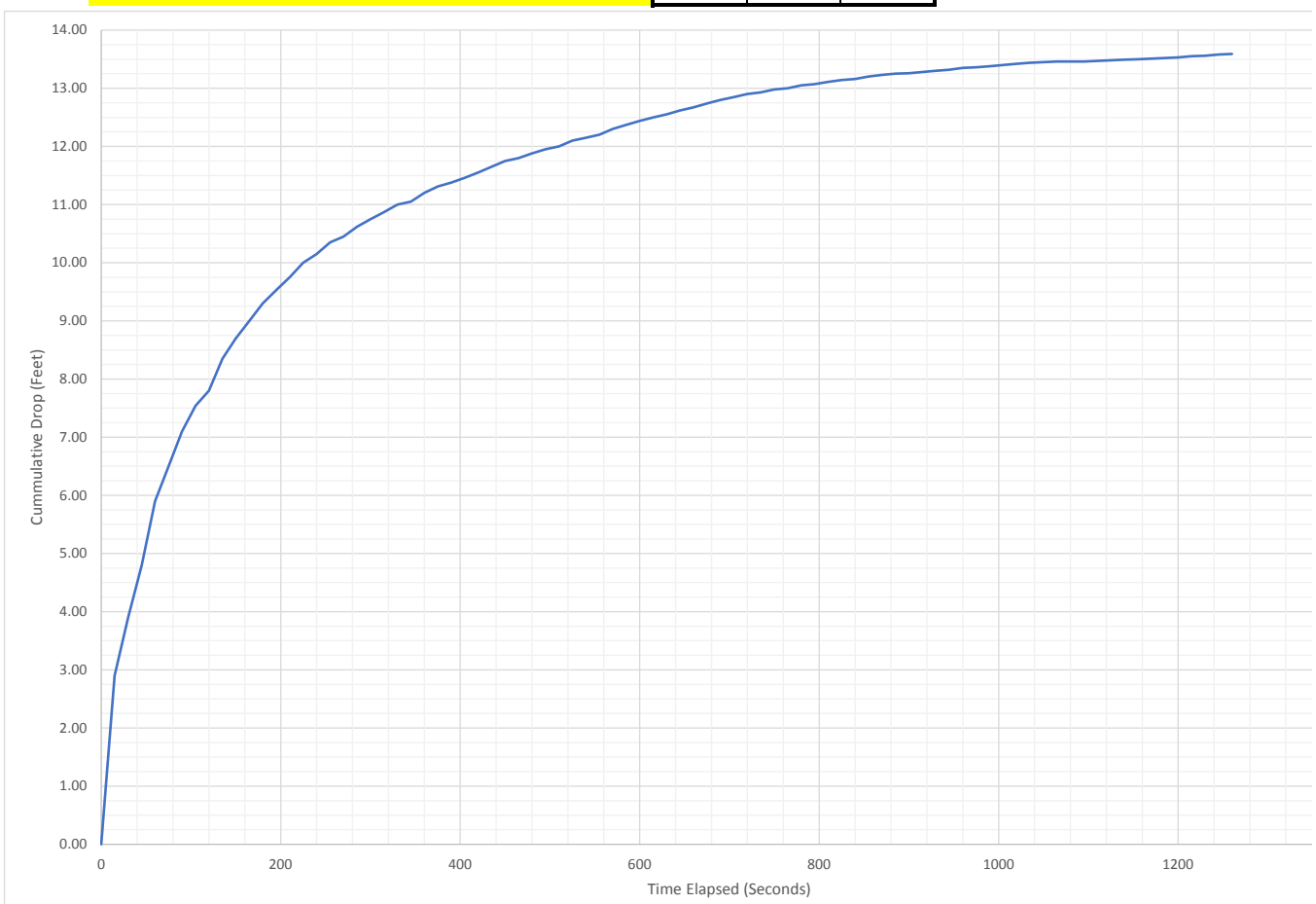
EFIS : 0515000097
Tested by : MC
Depth of Hole (ft) : 33.78
Depth to Water (ft) : 14.2

EA : 05-0L721
Soil Type Tested: loose to medium dense clayey sand with gravel, moist to wet, fine to coarse grained.

Test Run **2** **Vol. Used (gals)** 125

Vwell =	4048.41	cuin
	17.5256	gal
	2.34283	cuft
	23.7583	cuin/in

Time (sec)	Depth to Water (ft)	Water Level Drop (ft)	Elapsed Time (min)	Cummulative Drop (ft)
0	0.00	--		--
15	2.90	2.90		2.90
30	3.90	1.00		3.90
45	4.80	0.90		4.80
60	5.90	1.10	**1**	5.90
75	6.50	0.60		6.50
90	7.10	0.60		7.10
105	7.54	0.44		7.54
120	7.80	0.26	**2**	7.80
135	8.35	0.55		8.35
150	8.70	0.35		8.70
165	9.00	0.30		9.00
180	9.30	0.30	**3**	9.30
195	9.53	0.23		9.53
210	9.75	0.22		9.75
225	10.00	0.25		10.00
240	10.15	0.15	**4**	10.15
255	10.35	0.20		10.35
270	10.45	0.10		10.45
285	10.62	0.17		10.62
300	10.75	0.13	**5**	10.75
315	10.87	0.12		10.87
330	11.00	0.13		11.00
345	11.05	0.05		11.05
360	11.20	0.15	**6**	11.20
375	11.31	0.11		11.31
390	11.38	0.07		11.38
405	11.46	0.08		11.46
420	11.55	0.09	**7**	11.55
435	11.65	0.10		11.65
450	11.75	0.10		11.75
465	11.80	0.05		11.80
480	11.88	0.08	**8**	11.88
495	11.95	0.07		11.95
510	12.00	0.05		12.00
525	12.10	0.10		12.10
540	12.15	0.05	**9**	12.15
555	12.20	0.05		12.20
570	12.30	0.10		12.30
585	12.37	0.07		12.37
600	12.44	0.07	**10**	12.44
615	12.50	0.06		12.50
630	12.55	0.05		12.55
645	12.62	0.07		12.62
660	12.67	0.05	**11**	12.67
675	12.74	0.07		12.74
690	12.80	0.06		12.80
705	12.85	0.05		12.85
720	12.90	0.05	**12**	12.90
735	12.93	0.03		12.93
750	12.98	0.05		12.98
765	13.00	0.02		13.00
780	13.05	0.05	**13**	13.05
795	13.07	0.02		13.07
810	13.11	0.04		13.11
825	13.14	0.03		13.14
840	13.16	0.02	**14**	13.16
855	13.20	0.04		13.20
870	13.23	0.03		13.23
885	13.25	0.02		13.25
900	13.26	0.01	**15**	13.26
915	13.28	0.02		13.28
930	13.30	0.02		13.30
945	13.32	0.02		13.32
960	13.35	0.03	**16**	13.35
975	13.36	0.01		13.36
990	13.38	0.02		13.38
1005	13.40	0.02		13.40
1020	13.42	0.02	**17**	13.42
1035	13.44	0.02		13.44
1050	13.45	0.01		13.45
1065	13.46	0.01		13.46
1080	13.46	0.00	**18**	13.46
1095	13.46	0.00		13.46
1110	13.47	0.01		13.47
1125	13.48	0.01		13.48
1140	13.49	0.01	**19**	13.49
1155	13.50	0.01		13.50
1170	13.51	0.01		13.51
1185	13.52	0.01		13.52
1200	13.53	0.01	**20**	13.53
1215	13.55	0.02		13.55
1230	13.56	0.01		13.56
1245	13.58	0.02		13.58



Average Rate for 2 ft.	0.618	ft/min
	7.42	in/min
	891	ft/day
Initial Rate mins. 3 to 6		

Average Rate for 0.5 ft.	0.069	ft/min
	0.83	in/min
	99	ft/day
Steady State Rate mins.13 to 20		

Historic Properties Survey Report

HISTORIC PROPERTY SURVEY REPORT

Southbound Toro Creek Bridge Replacement Project
State Route 1 – Post Miles 32.5 – 32.7, San Luis Obispo County, District 5

EA 05-1R100
Project Number 05-2300-0125
05-SLO-1-PM 32.5/32.7

Prepared for:
Krista Kiaha
Heritage Resources Coordinator
California Department of Transportation
District 5, San Luis Obispo

Prepared by:
Robert Johnson-Ramirez
Associate Environmental Planner
PQS – Lead Archaeological Surveyor
California Department of Transportation
District 5, San Luis Obispo

Lindsay Kozub
PQS Principal Architectural Historian
California Department of Transportation
District 5, San Luis Obispo

Reviewed by:
Kaya Wiggins
PQS Principal Investigator -Prehistoric Archaeology
California Department of Transportation
District 5, San Luis Obispo

October 2023

1. UNDERTAKING DESCRIPTION AND LOCATION

District	County	Route	Post Mile(s)	EA	E-FIS Project Number
05	SLO	001	32.5/32.7	05-1R100	05-2300-0125

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 U.S.C. 327 and the Memorandum of Understanding dated May 27, 2022 and executed by FHWA and Caltrans.

The studies for this undertaking were carried out in a manner consistent with Caltrans' regulatory responsibilities under Section 106 of the National Historic Preservation Act (36 CFR Part 800) and pursuant to the January 2014 *First Amended Programmatic Agreement among the Federal Highway Administration, the Advisory Council on Historic Preservation, the California State Historic Preservation Officer, and the California Department of Transportation Regarding Compliance with Section 106 of the National Historic Preservation Act* (Section 106 PA). as well as under Public Resources Code 5024 and pursuant to the January 2015 *Memorandum of Understanding Between the California Department of Transportation and the California State Historic Preservation Office Regarding Compliance with Public Resources Code Section 5024 and Governor's Executive Order W-26-92, addended 2019* (5024 MOU) as applicable.

Project Description:

The project proposes to address the poor bridge health of the existing Southbound Toro Creek Bridge (BR. No. 49-0068L) and upgrade nonstandard bridge railing and existing geometric features via replacement of the existing bridge structure and associated adjacent roadway approaches (Attachment A).

The proposed new structure would be 131 feet long, 43 feet wide, and a 3-span bridge with 2 supporting column bents. The structure itself would accommodate the standard 5 feet wide inside shoulder, two 12 feet wide lanes, and have a right shoulder width of 10 feet which meets the minimum outside shoulder width requirement. The bridge railing will be the California ST-75, a metal 'see-through' railing type. An approximately 1-foot roadway profile adjustment is anticipated to be required as the voided slab bridge will need allow for the passage of the projected 100-year base flood elevation below the bridge soffit. Existing guard railing will be removed and upgraded with Midwest Guardrail System. Approach slabs as well as the adjacent roadway portions would be modified to allow for conforming of the roadway into to the new bridge. The existing abutment slopes are lined with concreted rock for erosion protection. As part of the new bridge structure, the existing concreted rock would be removed and replaced with rock slope protection (RSP) or as required to prevent erosion and scour of the abutment slopes. Temporary median crossovers (detours) immediately to the south and north of the Toro Bridge are proposed during construction.

The horizontal and vertical extent of the project is 1,600 linear feet of highway, extending a maximum of forty (40) feet from edge of pavement on the western side of the highway, and the maximum depth of disturbance is three (3) feet deep below current grade. Ground disturbance for the bridge replacement, temporary detour, and road signs will be constructed in previously disturbed soils, within the existing right of way. The full project description can be found in the attached Archaeological Survey Report (Johnson-Ramirez 2023) (Attachment C).

2. AREA OF POTENTIAL EFFECTS

In accordance with Section 106 PA Stipulation VIII.A, the Area of Potential Effects (APE) for the project was established in consultation with Krista Kiaha – District 5 Heritage Resources Coordinator/PQS Principal Investigator Prehistoric Archaeology, and Carla Yu, Project Manager, on 10/2/2023. The APE map can be found in Figure 3, of Attachment A.

The APE was established as to include the entirety of the archaeological site CA-SLO-879/H in addition to the project Area of Direct Impact (ADI). The archaeological deposit at CA-SLO-879/H has been attested to exist from the ground surface to 90 cmbs within the eastern Caltrans right of way (Enright and Schinsing 2017) and up to 30 cmbs (Dietler and Laurie 2010) immediately west of the southbound Caltrans right of way. The Northbound Toro Creek Bridge Replacement Project (05-0L721) occurred directly east of the current project and both projects have similar construction footprints. During the replacement of the northbound Toro Creek bridge no intact archaeological deposits associated with CA-SLO-879/H were encountered during construction (Nicchitta 2023). Because the project does not have potential to indirectly affect any historic-period built-environment resources outside of the ADI, the Architectural APE boundary is coterminous with the ADI boundary.

3. CONSULTING PARTIES / PUBLIC PARTICIPATION

☒ Native American Heritage Commission

Native American Heritage Commission. Contact: Cody Campagne. May 18, 2023.

Provided a list of consulting tribes that are traditionally and culturally affiliated with the geographic area of the project.

Sacred Lands File check was positive.

Attachment 3: Appendix C

☒ Native American Tribes, Groups and Individuals

Consultation will continue through the construction phase of the project and is ongoing, current consultation has been summarized below (Attachment 3: Appendix C).

Barbareño/ Ventureño Band of Mission Indians **-** Annette Ayala, CRM Committee Chair and Dayna Barrios, Chairperson: No comments to date.

Chumash Council of Bakersfield **-** Julio Quair, Chairperson: No comments to date.

Coastal Band of the Chumash Nation **-** Mia Lopez, Chairperson and Gabe Frausto, Vice Chair: No comments to date.

Northern Chumash Tribal Council **-** Violet Walker, Chairperson and Ernest Houston, Cultural Monitor: Mr. Houston requested pertinent project reports, permits when available, avoidance and mitigation consultation, and tribal monitoring during construction monitoring.

Salinan Tribe of Monterey, San Luis Obispo Counties **-** Patti Dunton, Tribal Administrator: Recommends all ground disturbance monitored by the tribe.

San Luis Obispo County Chumash Council **–** No contact given.

Santa Ynez Band of Chumash Indians **-** Kenneth Kahn, Chairperson and Wendy Teeter, Tribal Archaeologist: Requests consultation on the project through construction.

Tule River Indian Tribe **-** Neil Peyron, Chairperson: No comments to date.

Xolon-Salinan Tribe **-** Penny Hurt, Cultural Preservation Administrator and Karen White, Chairperson: Xolon Salinan have important ancestral ties to the land and recommend monitoring during ground disturbance.

yak titᵛu titᵛu yak tiłhini– Northern Chumash Tribe **-** Mona Tucker, Chairperson; Kelsey Shaffer, Tribal Member; Lorie Lathrop-Laguna, Tribal Member; Lisa Lathrop, Tribal Member; Haylee Bautista, Tribal Member; and Willow Olivas-Manos, Tribal Member: Recommend all ground disturbance monitored by the tribe.

4. SUMMARY OF IDENTIFICATION EFFORTS

- ☒ National Register of Historic Places (NRHP)
- ☒ California Register of Historical Resources (CRHR)
- ☒ National Historic Landmark (NHL)
- ☒ California Historical Landmarks (CHL)
- ☒ California Points of Historical Interest
- ☒ California Historical Resources Information System (CHRIS)
- ☒ Caltrans Historic Bridge Inventory
- ☒ Caltrans Cultural Resources Database (CCRD)
- ☒ Other Sources consulted:
    - Framefinder Historic Aerials UCSB https://mil.library.ucsb.edu/ap_indexes/FrameFinder/
    - Caltrans Document Retrieval System - District 5 As-Builts
- ☒ Results:

  Two (2) resources have been identified within the APE, the multicomponent site CA-SLO-879/H and the Southbound Toro Creek Bridge (49-0068L).

  CA-SLO-879/H has been recorded as a large, complex habitation/village site with multiple loci. Site constituents include: milling stations, midden deposits, flaked stone and groundstone, beads, bone tools, marine shell deposits, as well as human remains. The site is located on both sides of Toro Creek, situated on an alluvial terrace, and

extends up the creek approximately 1 kilometer into the beginning of Toro Creek Canyon. Estero Marine Terminal Shore Plant is part of CA-SLO-879/H and represents the historic era component of the resource. It was established by Standard Oil Company starting in 1929 as a crude oil tanker loading facility. The facility was used and modified over time and in the 1990s Chevron Corporation, the current owner, began the decommissioning process of the facility. Evaluations conducted in 2004 and 2017 concluded that the property was not eligible for listing in the National Register of Historic Places (NRHP) or the California Register of Historical Resources due to lack of integrity (FHWA 2017_0306_002; SHPO concurrence 8/10/2017).

The portion of CA-SLO-879/H closest to/within the API has undergone many studies (See Attachment A). Robert Gibson (1980) completed auger excavations approximately ten (10) meters east of the ROW of Highway 1 from PM 32.7 to 32.8, on the northern edge of the NB Highway 1. Gibson encountered intact cultural deposits in most excavations. In 1994, eighteen (18) auger borings were excavated in or in the immediate vicinity of the project area, all south of Toro Creek (Fugro West, Inc. 1994). Thirteen (13) of the eighteen (18) excavated auger borings were sterile with no (0) cultural material recovered; three (3) found minimal materials within disturbed deposits; and two (2) (at the marine terminal on the east side of Highway 1) had intact deposits. Lloyd, Schuldenrein, Price (2005) completed studies within the Chevron Marine terminal, consisting of mechanical trenching and hand excavated units which indicated a midden layer was present in most locations at the Chevron property east of Highway 1. Dietler and Laurie (2010), encountered a single (1) flake in a standard test unit, just west of the ROW at PM 32.7 on the northside of the SB Toro Creek Bridge, and expanded the site boundary from the east side of Highway 1 to include this find, encompassing the highway corridor and the landform north of Toro Creek Bridge, west of Highway 101 (See Attachment C; Dietler and Laurie 2010). Thor Conway (2011) completed testing and monitoring of remediation activities within the Estero Marine Terminal on the south side of Toro Creek, east of Highway 1 (and the Caltrans ROW), and encountered both intact and disturbed cultural deposits

Excavation completed by Mikkelsen and Berg (2016) for the Morro Bay to Cayucos Connector Project occurred within the ADI, on the north side of the southbound bridge, west of Highway 1, produced sterile results or disturbed cultural deposits west of the ROW from the north side of the SB Toro Creek Bridge as it meets land - until PM 32.7 (Project Limits) (See attachment B; Mikkelsen and Berg 2016). Intact deposits were encountered west of the ROW and north of the Project limits (See attachment B; Mikkelsen and Berg 2016). During consultation with the SHPO for the Morro Bay to Cayucos Connector Project (FHWA_2017_0306_002), the Estero Marine Terminal Shore Plant was determined to be ineligible according to the National Register of Historic Places (NRHP) criteria. However, pursuant to Stipulation VIII.C.4 of the Section 106 PA, CA-SLO-879/H was assumed eligible for listing on the NRHP for the purposes of the Morro Bay to Cayucos Connector Project under Criterion D.

Testing by Applied Earthworks, Inc. in 2016 was conducted for the Northbound Toro Creek Bridge Replacement Project (EA 05-0L721) on a portion of archaeological site, CA-SLO- 879/H, located in the current project Study Area, but was limited to the Caltrans ROW on the eastern side of Highway 101. The Caltrans Phase II evaluation

found that the portion of the site within the Caltrans right of way has sustained major impacts through infrastructure development: utilities, roadway and bridge construction, and the portion of the site does not contribute to the qualities for which the site is considered eligible to the NRHP. Caltrans was denied access to portions of the site located outside of our ROW by the neighboring property owner, Chevron's Estero Marine Terminal, during this time. However, Chevron had previously conducted archaeological testing on CA-SLO-879/H, within their property and outside of Caltrans ROW, and determined that the site appeared eligible to the NRHP, but Chevron nor their consultant never consulted with SHPO on this determination.

For the Northbound Toro Creek Bridge Replacement Project (EA 05-0L721), CA-SLO-879/H was assumed eligible under Criterion D for the purposes of the project based on the work done by Chevron (Conway 2011; Lloyd et a. 2005). For the current undertaking, pursuant to Stipulation VIII.C.4 of the Section 106 PA, based on work completed by Mikkelsen and Berg (2016) and Dietler and Laurie (2010), CA-SLO-879/H has been assumed eligible for listing on the National Register of Historic Places under Criterion D in coordination with the Caltrans Cultural Studies Office (CSO) (Attachment H).

For the current undertaking the western boundary of CA-SLO-879/H is partially located within the ADI, however, the portion of CA-SLO-879/H within the ADI is highly disturbed due to the construction of the modern Highway 1 and placement of multiple utilities. The project will have No Adverse Effect on the site, as impacts will be limited to the portions of the site within our ROW that do not contribute to the qualities for which the site appears to be eligible. The characteristics that make CA-SLO-879/H potentially eligible to the NRHP lie outside of the ADI and outside of the Caltrans right of way and can be protected from project impacts through the establishment of an Archaeological Monitoring Area (AMA) and an Environmentally Sensitive Area (ESA).

A pedestrian archaeological survey for the current undertaking was conducted on September 13, 2023, by Caltrans archaeologist Robert Johnson-Ramirez. During the pedestrian survey no cultural materials were encountered. On the eastern side of the study area, along the northbound lanes, moderate visibility was encountered, with portions of the ground surface obscured by seasonal grasses. On the western side of the study area, modern marine shell was visible sporadically on the ground surface. Surface visibility in the right of way along the southbound lanes was excellent as much of the surface is barren and continuously used for beach parking. Beyond the right of way, to the west, portions of the natural landform exist. It was clear that most of the right of way along the southbound lanes and western portion of the study area has been subject to multiple cut/fill events. This was clearly visible when comparing the elevation of the roadway to the shoulder and the natural landforms to the west. Introduced aggregate was also present within the visible soils inspected in most of the right of way.

No new subsurface studies at CA-SLO-879/H were required for the current undertaking because the Area of Potential Effect (APE) was previously studied ending with negative results; and the project is located within the previously disturbed

highway corridor and adjacent right of way (Mikkelsen et. al 2001;Fugro and West 2004; Applied Earthworks 2016; Dietler and Laurie 2010).

The archaeological deposit at CA-SLO-879/H has been attested to exist from the ground surface to 90 cmbs within the eastern ROW (Enright and Schinsing 2017) and up to 30 cmbs (Dietler and Laurie 2010) immediately west of the southbound ROW. The Northbound Toro Creek Bridge Replacement Project (05-0L721) occurred directly east of the current project and both projects have similar construction footprints. During the replacement of the northbound Toro Creek bridge no intact archaeological deposits associated with CA-SLO-879/H were encountered during construction (Nicchitta 2023).

The highway corridor within the project ADI has been significantly disturbed, sustained by the construction and maintenance of the existing highway, placement of multiple utilities, and construction of large oil pipelines. Impacts proposed within the identified boundaries of CA-SLO-879/H include the placement of overlay within an existing parking area on the western shoulder of Highway 1 and excavation within the existing highway footprint to create a temporary detour lane on the northern half of the study area. The temporary detour lane construction will involve the excavation of up to two feet of disturbed soils for a temporary detour within the existing highway and median of the alignment. As-built records from 1962 show approximately between ten (10) and four (4) feet of fill and aggregate base had been laid for the existing roadway alignment (Attachment C- Appendix A: Figure 4). The new southbound bridge structure is proposed to be raised up to two feet to meet One Hundred Year Flood requirements. Fill soils will be employed to elevate the bridge and road surfaces on either bridge approach resulting in minimal excavation. Currently, the proposed depth of disturbance to establish a detour within the existing highway alignment is within the known fill from the bridge's construction in 1962 (Attachment C – Appendix A: Figure 4).

The existing bridge structure, and majority of the ADI for the proposed project, are not within the recorded boundary of CA-SLO-879/H, however, for the current undertaking, due to the nature CA-SLO-879/H and importance to the local Native American community Environmentally Sensitive Area (ESA) designations will be made on the both sides of the ROW within the project ADI as it correlates to the existing site boundary of CA-SLO-879/H. Furthermore, archaeological and tribal monitoring will be required for all project ground disturbance, even outside of the known resource boundary.

It should be noted that this location is between the ethnographic boundaries of the Chumash and Salinan groups, however no distinct difference of the material culture investigated at CA-SLO-879/H has been noted by previous investigations. Historic use of the landscape by the Salinan descendants after the collapse of the mission system has been documented until the 1930s, when a contentious court battle had them removed from the land permanently. In and around the location of CA-SLO-879/H is extremely culturally sensitive.

The Southbound Toro Creek Bridge (49-0068L) was constructed in 1962, when Highway 1 was widened. Located at PM 32.61 on State Route 1 in San Luis Obispo

County, the Southbound Toro Creek Bridge is listed in the Caltrans Historic Bridge Inventory as a Category 5 bridge, meaning it is not eligible for listing in the National Register. The bridge has been modified in the last 60 years, and has received asphalt concrete resurfacing, replacement of damaged sections of railings, and repair of cracks and spalling.

The Southbound Toro Creek Bridge is a four-span continuous reinforced concrete slab bridge on reinforced concrete five-column pile bents and pile abutments with monolithic wingwalls. As a common bridge type, the bridge does not possess any significant aesthetic or engineering characteristics that would make it a representative or distinctive example of the concrete slab type of bridge and does not exhibit associations with significant events or individuals in history. The bridge was listed as Category 5 in both the initial 1986 Historic Bridge Inventory and in the 2005 statewide inventory update. Architectural and historical review of the bridge for the current project confirmed its Category 5 status. The bridge is not considered a historical resource for the purposes of CEQA.

References:

Andrew Hope

2004 *Caltrans Statewide Historic Bridge Inventory Update: Survey and Evaluation of Common Bridge Types.* Sacramento, California Department of Transportation, 2004, p. 9, http://dot.ca.gov/hq/env/cultural/history/cso_common_br_types_2004.pdf.

California Department of Transportation

N/A Caltrans Bridge Inspection Records Information System (BIRIS).

2003 *http://dot.ca.gov/hq/env/cultural/history/cso_context_study_1936_1959.pdf*. Page 58.

Dietler, J., and L. Laurie

2010 *Extended Phase I Study of CA-SLO-879 for the Morro Bay to Cayucos Connector Project, City of Morro Bay and the Town of Cayucos, San Luis Obispo County, California*. On file at the Central Coast Information Center, University of California, Santa Barbara.

Enright, E., and S.M. Schinsing

2017 *Extended Phase I Report and Archaeological Evaluation Report P-40-000879 (CA-SLO-879/H) Toro Creek Bridge Replacement Project State Route 1, Cayucos/Morro Bay, San Luis Obispo County, California. On file at the Central Coast Information Center, University of California, Santa Barbara.*

JRP Historical Consulting

N/A *Historic Context Statement: Roadway Bridges of California: 1936-1959*, Sacramento, California.

Mikkelsen, P., and J. Berg

2016 *Phase II Studies at CA-SLO-879 for the Morro Bay to Cayucos Connector Project, San Luis Obispo County, California.* On file at the Central Coast Information Center, University of California, Santa Barbara.

Nicchita, S.

2023 *Archaeological Monitoring Services for the TO15 Toro Creek Bridge (#49-0068R0 Replacement and Utilities Relocation Project*, San Luis Obispo County, California. Albion Environmental, Inc. San Luis Obispo, California.

Price, B.A., R. Baloian, and P. Beedle

2004 *Historical Resources Analysis for the Estero Marine Terminal Source Removal Project, San Luis Obispo County, California*.

Rivers, B., and G. Farris

1994 Ethnography. In *Toward a Prehistory of Morro Bay: Phase II Archaeological Investigation for the Highway 41 Widening Project*, pp. 10-28. California Department of Transportation, San Luis Obispo.

Simone, S.

2016 *Archaeological site record for CA-SLO-879/H.* On file at Applied Earthworks, Inc. 811 El Capitan Way, Suite 100, San Luis Obispo, California 93401.

Singer, C.

1987 *Cultural Resources Survey and Impact Assessment for the Proposed Toro Canyon Well Site and Pipeline, San Luis Obispo County, California*.

West, Fugro

1994 *Final Report, Cultural Resources Monitoring for the Soil and Groundwater Investigation Project, Site CA-SLO-879, Chevron Estero Marine Terminal, San Luis Obispo County, California*. On file at the Central Coast Information Center, University of California, Santa Barbara.

5. PROPERTIES IDENTIFIED

☒ Caltrans, in accordance with Section 106 PA Stipulation VIII.C.5 has determined there are cultural resources within the APE that were **previously determined not eligible** for inclusion in the NRHP with SHPO concurrence and those determinations remain valid. Copy of SHPO/Keeper correspondence is attached

- Estero Marine Terminal Shore Plant (historic component of CA-SLO-879/H) was previously determined as not eligible to the National Register of Historic Places (Attachment F)

☒ Bridges listed as **Category 5** (previously determined not eligible for listing in the NRHP) in the Caltrans Historic Bridge Inventory are present within the APE and those determinations remain valid. Appropriate pages from the Caltrans Historic Bridge Inventory are attached.

- Toro Creek Bridge #49-0068L.

☒ The following properties within the APE are **considered eligible** for inclusion in the NRHP for the purposes of this project only because evaluation was not possible, in accordance with Section 106 PA Stipulation VIII.C.4.

- CA-SLO-879/H; precolonial component (CSO approval Attachment H).

6. FINDING FOR THE UNDERTAKING

☒ Caltrans, pursuant to Section 106 PA Stipulation X.B.1.a/b and Attachment 5, has determined a **Finding of No Adverse Effect with Standard Conditions - ESA**, is appropriate for this undertaking, and requests CSO's approval of this finding. Kaya

Wiggins, who meets the PQS Standards in Section 106 PA Attachment 1 as a Principal Investigator – Prehistoric Archaeology, has reviewed the attached documentation and determined that it is adequate.

7. CEQA CONSIDERATIONS

☒ Caltrans PQS has determined that there are resources in the project area that **are not significant resources** under CEQA; see Section 5.

- Toro Creek Bridge #49-0068L (Category 5 Bridge).
- Estero Marine Terminal Shore Plant (SHPO Determination -Attachment F)

☒ Caltrans PQS has determined that there are resources in the project area that **are historical resources** for the purposes of CEQA; see Section 5.

Caltrans PQS staff has determined for historic resource CA-SLO-879/H, there is no substantial adverse change, because the impacts to the following historical resources within the Project Area limits will be avoided through the establishment of Environmentally Sensitive Areas (ESA), enforcement measures and conditions (See ESA Action Plan: Attachment D). Krista Kiaha, who meets the Professionally Qualified Staff Standards in Section 106 Programmatic Agreement Attachment 1 as a Principal Investigator, has reviewed the attached documentation and determined that it is adequate.

There will be no substantial adverse change to CA-SLO-879/H as the portion of the archaeological site located within the ADI does not contribute to the qualities for which the site is considered eligible to the National Register/California Register. The portion of the site that lies outside of the ADI and contributes to the qualities for which the site is considered eligible will be protected by avoidance measures through the establishment of an ESA. An ESA Action Plan for the Southbound Toro Creek Bridge Replacement Project will be prepared along with the Finding of Effect document (forthcoming).

8. LIST OF ATTACHED DOCUMENTATION

☒ Project Vicinity, Location, and APE Maps – Attachment A (Figures 1, 2, and 3)

☒ Caltrans Historic Bridge Inventory Sheet – Attachment B

☒ Archaeological Survey Report (ASR) – Attachment C

☒ Environmentally Sensitive Area (ESA) Action Plan – Attachment D

☒ CSO Approval of Assumption of Eligibility – Attachment E

☒ Other:

- Estero Marine Terminal SHPO Determination – Attachment F
- Archaeological Monitoring Letter Report for Northbound Toro Creek Bridge Replacement Project (Nicchitta 2023) – Attachment G
- Extended Phase I/Archaeological Evaluation Report (Enright and Schinsing 2017) – Attachment H
- Phase II Studies at CA-SLO-879/H for the Morro Bay to Cayucos Connector Project, San Luis Obispo County, California (Mikkelsen and Berg, 2017) – Attachment I
- Extended Phase I Study of CA-SLO-879 for the Morro Bay to Cayucos Connector Project, City of Morro Bay and Town of Cayucos, San Luis Obispo County, California (SWCA, 2010) – Attachment J
- Cultural Resources Monitoring Report for the Estero Marine Terminal Berm Construction Project, Morro Bay, San Luis Obispo County, California (Fugro-West, 1993) – Attachment K

9. HPSR PREPARATION AND CALTRANS APPROVAL

Prepared by: Robert Johnson-Ramirez 10/12/2023
Robert Johnson-Ramirez, District 5 Caltrans PQS Lead Archaeological Surveyor Date

Prepared by: Lindsay Kozub 10/13/2023
Lindsay Kozub, District 5 Caltrans PQS Principal Architectural Historian Date

Reviewed for
Approval by: Kaya Wiggins 10/13/2023
District 5 Caltrans PQS Principal Investigator – Prehistoric Archaeology Date
Kaya Wiggins

Approval by: Krista Kiaha 10/12/2023
Krista Kiaha Date Date
Cultural Resource Branch Chief
Heritage Resources Coordinator
Caltrans District 5

Initial Site Assessment

Memorandum

Making Conservation a California Way of Life

To: GERAMALDI
Environmental Scientist
Caltrans D5 Environmental Planning

Date: November 28, 2023

From: DAMARIS WYATT
Engineering Geologist
Caltrans D5 Environmental Engineering
805-459-0207 | damaris.wyatt@dot.ca.gov

File No.: 05-SLO-1 PM 32.6
Project EA 05-1R100
Project # 0523000125

Subject: **INITIAL SITE ASSESSMENT, PROJECT EA 05-1R100, TORO CREEK SOUTHBOUND BRIDGE REPLACEMENT**

The purpose of this Initial Site Assessment (ISA) is to identify potential sources of hazardous materials, hazardous waste, or contamination within or near the proposed project, provide recommendations for further testing that may be needed to investigate and define hazardous waste or materials during the project design phase, and provide a summary of the Standard Special Provisions (SSPs) that should be included in the construction contract for the proper management of hazardous waste during project construction.

Project Description

The project proposes to address the poor bridge health of the existing southbound Toro Creek Bridge (BR. No. 49-0068L) and upgrade nonstandard bridge railing and existing geometric features via replacement of the existing bridge structure and associated adjacent roadway approaches.

The proposed new structure would be 131 feet long, 43 feet wide, and a 3 span bridge with 2 supporting column bents. The structure itself would accommodate the standard 5 feet wide inside shoulder, two 12 feet wide lanes, and have a right shoulder width of 10 feet which meets the minimum outside shoulder width requirement.

The bridge railing will be the California ST-75, a metal 'see-through' railing type. An approximately 1-foot roadway profile adjustment is anticipated to be required as the voided slab bridge will need to allow for the passage of the

projected 100 year base flood elevation below the bridge soffit. The existing abutment slopes are lined with concreted rock for erosion protection. As part of the new bridge structure, the existing concreted rock would be removed and replaced with rock slope protection (RSP) or as required to prevent erosion and scour of the abutment slopes. Approach slabs as well as the adjacent roadway portions would be modified to allow for conforming of the roadway to the new bridge. Existing guard railing will be removed and upgraded with Midwest Guardrail System. Temporary median crossovers (detours) immediately to the south and north of the Toro Bridge are proposed during construction.

Existing Conditions

The proposed project is located in San Luis Obispo County, within the city of Morro Bay and just south of the town of Cayucos. State Route 1 at the project location is an express way with two lanes of travel in each direction, with occasional at-grade crossings, turn pockets, and pullouts. The project is located on a portion of State Route 1 that runs along the California coast, and the project site is adjacent to the beach as Toro Creek flows directly to the Pacific Ocean. The project is surrounded by open spaces used for recreation and livestock operations. The area surrounding the project location formerly hosted the Estero Bay Chevron Marine Terminal.

Records Search

A review of environmental records and agency databases (e.g., GeoTracker, EnviroStor, CalGEM, Pipelines) identified two contaminant cleanup sites within 1,000 feet of the project limits. Both sites are associated with hydrocarbon transportation operations. The Texaco Estero Bay Tank Farm case is located approximately 300 feet northeast of the northernmost extent of the project's Area of Potential Impact (API) and approximately 800 feet northeast of the northernmost extent of project earthwork. The Estero Bay Chevron Marine Terminal case is located approximately 800 feet northeast of the southernmost extent of the project's API and approximately 400 feet southwest of the southernmost extent of project earthwork. Figure 1 shows the location of both sites in relation to the project's API and extent of earthwork. Both sites are closed cases that have been remediated via removal of contaminated soils and groundwater.

Figure 1 Project Location Map

Information available on GeoTracker indicates that a petroleum hydrocarbon plume associated with the Estero Bay Chevron Marine Terminal case was observed in the subsurface from the surface to approximately 10 to 15 feet

below grade within 400 feet of the proposed bridge excavation areas. While this case is considered closed by the State Water Resources Control Board, contamination associated with this site may still be present in soils and groundwater within portions of Caltrans' right of way that are encompassed by the project's APl. A site-specific survey and assessment for hydrocarbon-contaminated soils will be completed during PS&E. Caltrans has standard procedures in place in the event that hydrocarbon contaminated soils are unearthed during project construction. Standard Specification 14-11.02 provides procedures to be followed for unanticipated discoveries of contaminated soils or groundwater.

Discussion of Routine Hazardous Waste Issues

The following section describes contaminants and waste streams that are frequently encountered or produced by Caltrans projects. Investigation of these routine issues (when required) is typically conducted during the project design phase. Standard Special Provisions (SSPs) have been developed for the proper handling, treatment, and disposal of these routine hazardous materials/wastes during construction to protect the health of workers, the public, and the environment.

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

Soils with elevated lead concentrations may be present within the project limits. An ADL investigation for the replacement of the northbound Toro Creek Bridge (BR. No. 49-0068R) identified the presence of regulated ADL soils in the vicinity of the project. ADL may therefore be present in shallow soils along the shoulders of the southbound Toro Creek Bridge.

During the project design phase, the hazardous waste specialist will work with the project design team to determine the extent to which such soils will be disturbed during construction, and whether soil will be exported from the project or reused onsite. A site-specific ADL assessment that includes soil sampling will be performed to document lead concentrations so the material can be properly handled, reused, or disposed of. The appropriate SSPs for ADL soil management will be determined during the project design phase.

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

Traffic striping on the southbound Toro Creek Bridge was most recently replaced during reconstruction of the northbound Toro Creek Bridge in 2022 (EA 05-0L721). The residue from removal of the existing traffic paint and thermoplastic within the project limits is therefore presumed to be a non-hazardous waste. The appropriate SSPs for removal of traffic stripe and pavement markings will be determined during the project design phase once the removal method is known (e.g., separate removal of the paint/stripe, or cold planning or grinding).

In addition, a Lead Compliance Plan will need to be developed and implemented by the construction contractor and should be included as a bid item ($5000).

Naturally Occurring Asbestos (NOA): Naturally occurring asbestos refers to silicate minerals that occur as asbestiform fibers and are found as a natural component of soils or rocks. Disturbance of rocks containing NOA can release asbestos fibers into the air, which pose a human health risk when inhaled. In District 5, NOA can be found within serpentine and ultramafic rocks of the Coast Ranges, and within fault zones.

A review of geologic mapping and mineral hazard maps indicates that while NOA bearing rock units are found in the vicinity of the project, no NOA is present within the project's area of potential impact. Project activities are unlikely to encounter NOA.

Lead-containing paint (LCP) and Asbestos containing materials (ACM): Bridges and structures may have materials with lead-containing paint and asbestos. Removal and replacement of the southbound Toro Creek bridge will cause disturbances that will require testing for LCP and ACM.

A site-specific LCP/ACM survey and assessment will be completed during PS&E.

Treated Wood Waste (TWW): Caltrans guardrail supports and signposts are frequently wood that has been treated with chemical preservatives to prevent rot or insect attack. Treated wood waste is considered to be a California hazardous waste.

A desktop survey using Google street view indicates that treated wood guardrails are present within the project limits, and the project environmental request form indicates that this guardrail will be removed and replaced as part of the project. The amount of TWW generated by the project will be determined in the project design phase. Because TWW will be disposed of as part of the project, SSP 14-11.14 should be included in the construction contract for proper management and disposal of TWW.

Conclusions and Recommendations

A Preliminary Site Investigation that will assess ADL in soil and ACM and LCP in the southbound Toro Creek Bridge (BR. No. 49-0068L) will be conducted during the project design phase after the 60% constructability review.

While routine hazardous waste issues may be encountered during construction, all hazardous wastes and materials would be appropriately handled, treated, and disposed of (if required) following appropriate Caltrans SSPs that will be determined during the design phase. With implementation of these SSPs, adverse effects to human health and the environment would not be expected.

This ISA memo was prepared using project plans and project description dated June 2023. If there is a change in the nature or scope of this project, a supplemental hazardous waste assessment may be required.

cc: Project File
Matt Fowler - Environmental Planning (email only)
Karl Mikel - Environmental Engineering (email only)

Location Hydraulic Study

LOCATION HYDRAULIC STUDY

Toro Creek Southbound Bridge Replacement
Bridge Number 49-0068L

05-1R100-SLO-1-PM 32.6

October 2, 2023

Table of Contents

1.0 INTRODUCTION

1.1 Purpose and Scope

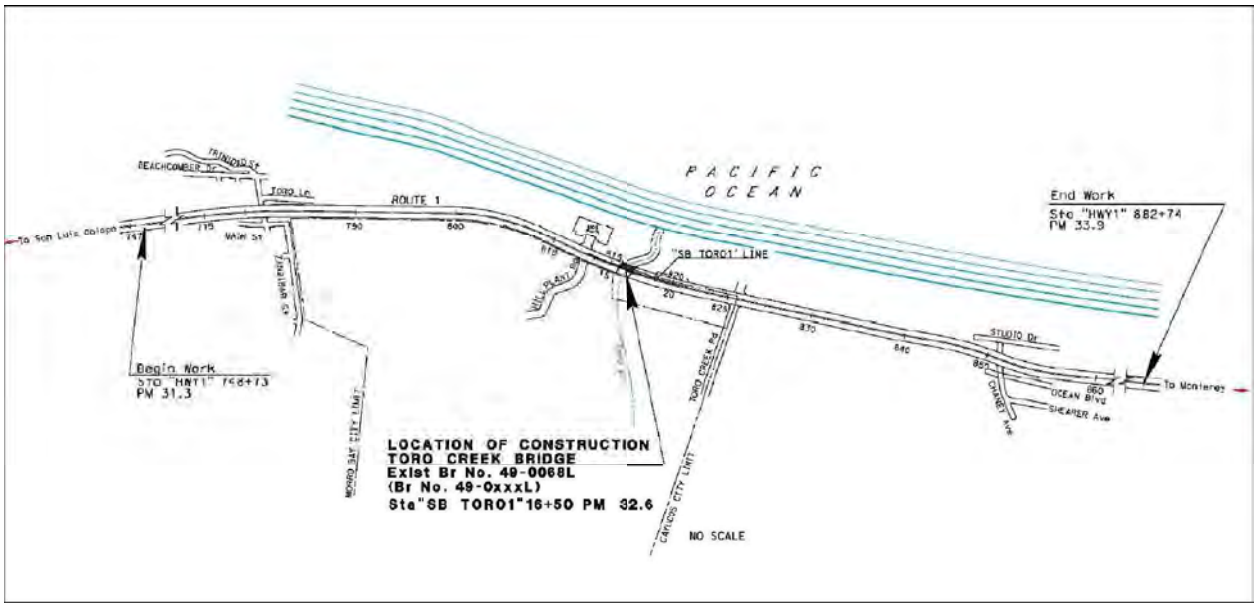
The purpose of this study is to identify encroachments created by this project on the base (100 year) floodplain. This study was prepared in accordance with Title 23 - Code of Federal Regulations, Part 650 (23 CFR, Part 650).

1.2 Project Description

This project proposes to replace the existing southbound (SB) bridge (Bridge No. 49-0068L) crossing Toro Creek on State Route (SR) 1 at post mile (PM) 32.6. The proposed new structure would be 131 feet long, 43 feet wide, and a 3 span bridge with 2 supporting column bents. The structure itself would accommodate the standard 5 feet wide inside shoulder, two 12 feet wide lanes, and have a right shoulder width of 10 feet which meets the minimum outside shoulder width requirement. The bridge railing will be the California ST-75, a metal 'see-through' railing type.

An approximately 1-foot roadway profile adjustment is anticipated to be required. The existing abutment slopes are lined with concreted rock for erosion protection. As part of the new bridge structure, the existing concreted rock would be removed and replaced with rock slope protection (RSP) or as required to prevent erosion and scour of the abutment slopes. Approach slabs, as well as the adjacent roadway portions, would be modified to allow for conforming of the roadway into to the new bridge. Existing guard railing will be removed and upgraded with Midwest Guardrail System.

FIGURE 1: PROJECT LOCATION MAP



1.3 Project Background

The existing SB Toro Creek bridge was constructed in 1962. Structures Maintenance and Investigation downgraded the SB bridge condition to poor during the 2021 bi-annual inspection of the bridge. The new adjacent northbound (NB) Toro Creek Bridge (49-0275R) just completed construction earlier this year.

District 5 Maintenance initiated a new project to repair the SB Toro Creek bridge as part of the 2026 SHOPP development. The Project Development Team (PDT) proposed revalidating the existing environmental studies and documents while they are still valid, rather than creating a new bridge replacement project. However, it was determined that an accelerated project development process would be more prudent as the project is located in the coastal zone with public scenic areas.

2.0 FLOODPLAIN CHARACTERISTICS

2.1 Designated Floodplains

For this evaluation, the Flood Insurance Rate Maps (FIRM) were consulted, the FEMA hydraulic calculations were reviewed, and a field trip was performed. The FIRM #06079C0811H, dated May 16, 2017, designates this area as Zone AE and Zone A.

The 1% annual chance flood (100-year flood), also known as the base flood, is the flood that has a 1% chance of equaled or exceeded in any given year. The Special Flood Hazard Area is the area subject to flooding by the 1%, annual chance flood. Areas of Special Flood Hazard include Zones A, AO, AH, A1-A30, AE, A99, AR, AR/AE, AR/AO, AR/A1-A30, AR/A, V, VE, and V1-V30. The Base Flood Elevation is the water-surface elevation of the 1% annual chance flood.

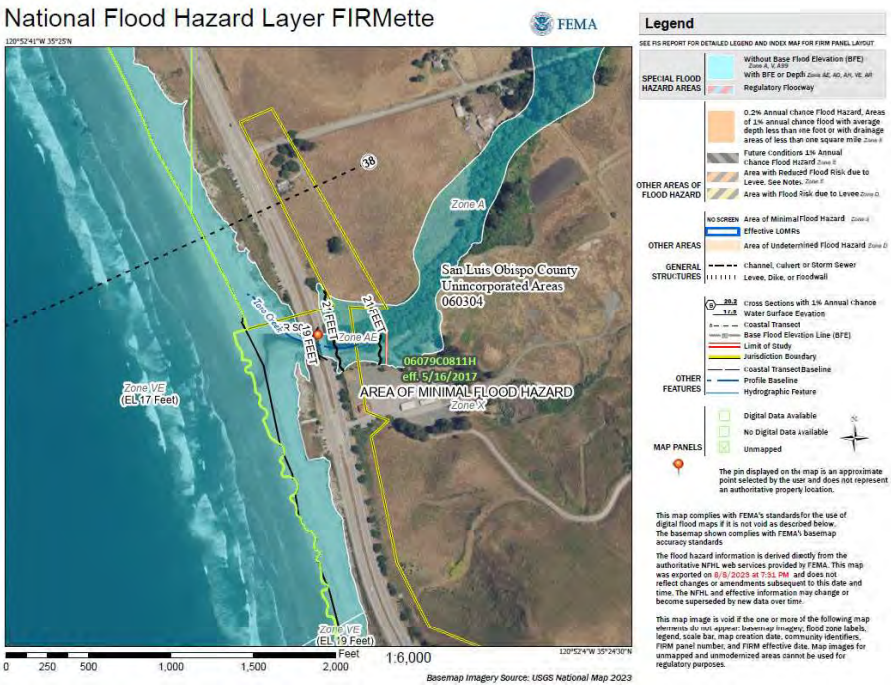
Zone AE

The base floodplain where base flood elevations are provided.

Zone A

Areas with a 1% annual chance of flooding and a 26% chance of flooding over the life of a 30-year mortgage. Detailed analyses are not performed, and no depths or base elevations are provided.

Figure 2: Boundaries of 100 Year Floodplain



2.2 Flood History

Streamflow throughout most of San Luis Obispo County is highly seasonal and the runoff from all the streams is very small. Significant stream flows occur only during and immediately following precipitation because climatic and drainage area characteristics are not conducive to continuous runoff. During large storms, streamflow increases rapidly in response to effective precipitation. The Cayucos Creek Watershed lies within the southern portion of the California Coast Range. The watershed is bounded to the west by Pacific Ocean and the east by the Santa Lucia Mountain Range. The watershed contains four major drainages: Cayucos Creek, Old Creek, Toro Creek and Morro Creek, the latter of which borders and shares some attributes with the Morro Bay watershed. The major causes of riverine flooding in the county are undersized channels, the obstructions within them, small bridge openings at several highways, small culverts across local roads, and dense vegetation growth in the channels. This is not the case at the project site; the bridge and creek have the capacity to pass the 100 year flow with no significant affect to the floodplain.

2.2 Floodplain Encroachments

23 CFR, Part 650, defines significant encroachments and risks for the base floodplain. An encroachment is any work done within the limits of the floodplain. A significant encroachment is one, which could significantly interrupt a route required for emergency operations, pose a significant risk, or significantly impact natural and beneficial floodplain values. Risks are consequences of encroachments that could lead to flooding which would cause property loss or hazard to life.

Title 44 – Code of Federal Regulations, Part 60 (44 CFR, Part 60) places requirements on development within FEMA base floodplains and regulatory floodways. Development is allowed in the floodplain only if it does not cause flood elevations to rise more than one foot. Development in a floodway is prohibited unless it would not result in any increase to base flood elevations.

This project will replace the SB Toro Creek Bridge with a slightly wider and longer structure. The existing bridge is 40 feet wide by 116.67 feet long, and consists of a 1.21 feet thick concrete deck slab with a 2" asphalt concrete overlay. This 4 span structure is founded on 1.33' diameter driven concrete piles within the streambed.

The proposed new structure would be 43 feet wide by 131 feet long, and consist of a voided slab deck. The proposed 3 span structure is anticipated to be founded on 60" cast in drilled hole (CIDH) concrete piles with a 48" CIDH rock socket at the pier supports. RSP will be replaced on the channel banks upstream and downstream of the bridge.

This will result in an increase in the cross sectional area within Toro Creek.

3.0 PROJECT CONCLUSIONS

3.1 Risk Assessment

The proposed project transversely encroaches the floodplain. To eliminate or minimize any increase in surface water elevation, the bridge will be high enough to allow the 100 year flow to pass. The project does not constitute a significant floodplain encroachment as defined in Section 650.105q of CFR 23.

3.2 Summary

There are no major hydraulic concerns and no major channel degradation within the last 70 plus years. The proposed bridge will pass the 100 year flow and meet all current standards.

4.0 REFERENCES

1. Title 23 - Code of Federal Regulations, Part 650
2. Title 44 – Code of Federal Regulations, Part 60
3. San Luis Obispo County, California and Incorporated Areas Flood Insurance Study (May 16, 2017) by Federal Emergency Management Agency (FEMA)
4. FEMA Flood Insurance Rate Map (FIRM), San Luis Obispo and Incorporated Areas, Panel 811 of 2050

5.0 ATTACHMENTS

1. FEMA Flood Insurance Rate Map (FIRM), San Luis Obispo and Incorporated Areas, Panel 811 of 2050
2. Floodplain Evaluation Report Summary
3. Technical Information for Location Hydraulic Study

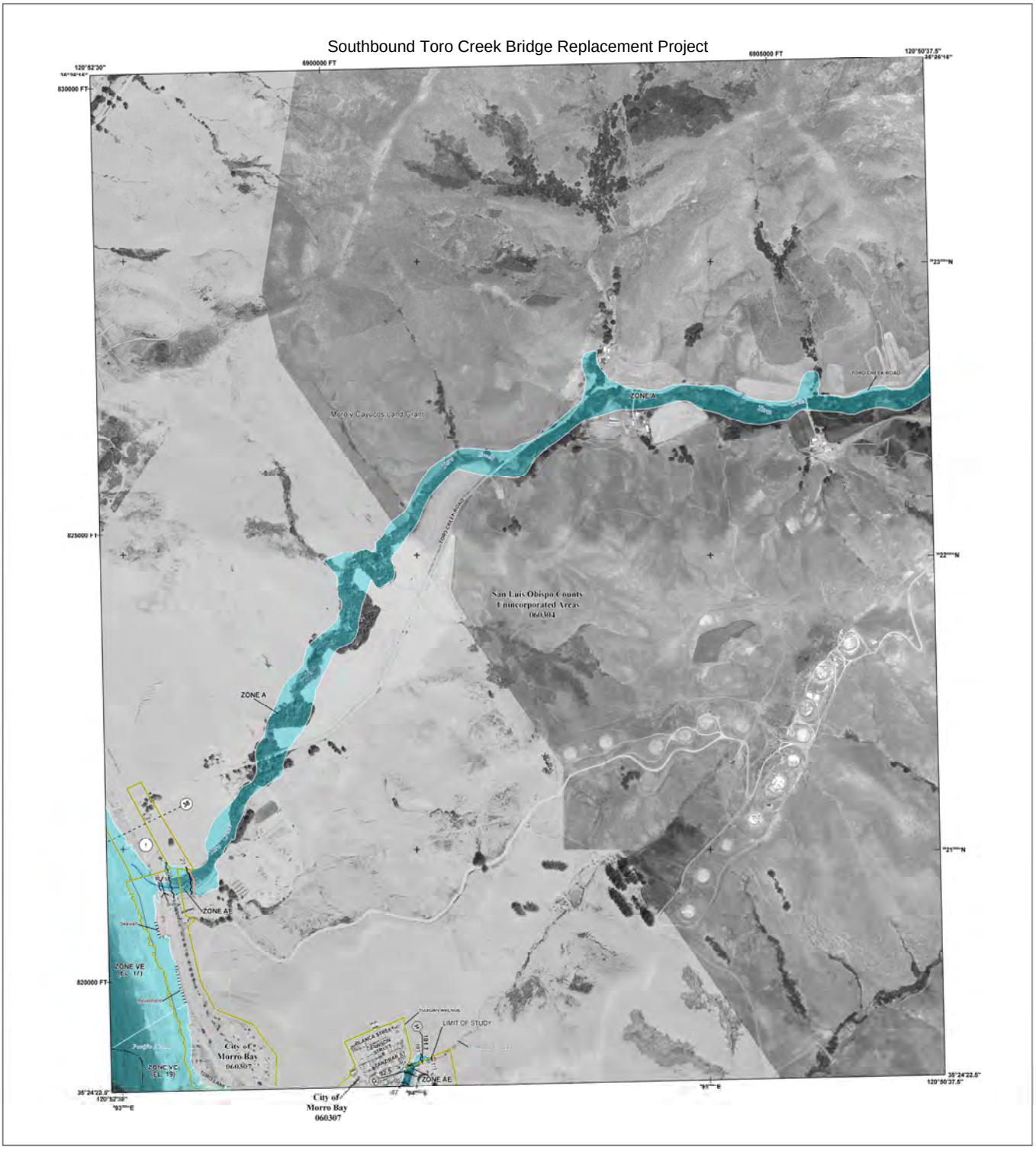
Study Prepared by:

Jose A. Banuelos

10/03/2023

Jose A. Banuelos, PE
Caltrans District 5 Hydraulics
San Luis Obsipo, CA

Date



FLOOD HAZARD INFORMATION

SEE FIS REPORT FOR DETAILED LEGEND AND INDEX MAP FOR FIRM PANEL LAYOUT

THE INFORMATION DEPICTED ON THIS MAP AND SUPPORTING DOCUMENTATION ARE ALSO AVAILABLE IN DIGITAL FORMAT AT

HTTP://MSC.FEMA.GOV

SPECIAL FLOOD HAZARD AREAS
- Without Base Flood Elevation (BFE)
- With BFE or Depth
- Regulatory Floodway
- 0.2% Annual Chance Flood Hazard, Areas of 1% annual chance flood with average depth less than one foot or with drainage areas of less than one square mile
- Future Conditions 1% Annual Chance Flood Hazard

OTHER AREAS OF FLOOD HAZARD
- Area with Reduced Flood Risk due to Levee
- See Notes

OTHER AREAS
- NO SCREEN — Area of Minimal Flood Hazard
- Area of Undetermined Flood Hazard

GENERAL STRUCTURES
- Channel, Culvert, or Storm Sewer
- Accredited or Provisionally Accredited Levee, Dike, or Floodwall
- Non-accredited Levee, Dike, or Floodwall
- Cross Sections with 1% Annual Chance Water Surface Elevation (BFE)
- Coastal Transect
- Coastal Transect Baseline
- Profile Baseline
- Hydrographic Feature
- Base Flood Elevation Line (BFE)

OTHER FEATURES
- Limit of Study
- Jurisdiction Boundary

NOTES TO USERS

For information and questions about this Flood Insurance Rate Map (FIRM), available products associated with this FIRM, including historic versions, the current map date for each FIRM panel, how to order products or the National Flood Insurance Program (NFIP) in general, please call the FEMA Map Information eXchange at 1-877-FEMA-MAP (1-877-336-2627) or visit the FEMA Flood Map Service Center website at http://msc.fema.gov. Available products may include previously issued Letters of Map Change, a Flood Insurance Study Report, and/or digital versions of this map. Many of these products can be ordered or obtained directly from the website.

Communities annotated on adjacent FIRM panels must obtain a current copy of the adjacent panel as well as the current FIRM Index. These may be ordered directly from the Flood Map Service Center at the number listed above.

For community and countywide map dates refer to the Flood Insurance Study report for this jurisdiction.

To determine if flood insurance is available in this community, contact your insurance agent or call the National Flood Insurance Program at 1-800-638-6620.

Base map information shown on this FIRM was provided from: Coastal California LiDAR and Digital Imagery dated 2011 (USDA NAIP 2012 imagery is used in areas not covered by the Coastal California digital imagery).

SCALE

1 inch = 500 feet 1:6,000

0 500 1,000 2,000 Feet

0 125 250 500 Meters

PANEL LOCATOR

FEMA

National Flood Insurance Program

NATIONAL FLOOD INSURANCE PROGRAM

FLOOD INSURANCE RATE MAP

SAN LUIS OBISPO COUNTY, CALIFORNIA

and Incorporated Areas

PANEL 811 OF 2050

COMMUNITY	NUMBER	PANEL	SUFFIX
MORRO BAY, CITY OF	060307	0811	G
SAN LUIS OBISPO COUNTY, UNINCORPORATED AREAS	060304	0811	G

VERSION NUMBER 2.3.2.2

MAP NUMBER 06079C0811G

MAP REVISED May 16, 2017

Floodplain Evaluation Report Summary

Dist. 05 Co. SB Rte. 1 PM 32.6

Project No. 05-1R1000 Culvert/Bridge Nos. 49-0068L

Limits In San Luis Obispo County, Near Morro Bay on Highway 1 at Toro Creek

Floodplain Description Project is located in a designated area as Zone AE and Zone A, which are both special flood hazard areas. Zone AE has defined Base Flood Elevations while Zone A does not. (Toro Creek PM 32.6)

		Yes	No
1.	Is the proposed action a longitudinal encroachment of the base floodplain?		X
2.	Are the risks associated with the implementation of the proposed action significant?		X
3.	Will the proposed action support probable incompatible floodplain development?		X
4.	Are there any significant impacts on natural and beneficial floodplain values?		X
5.	Routine construction procedures are required to minimize impacts on the floodplain. Are there any special mitigation measures necessary to minimize impacts or restore and preserve natural and beneficial floodplain values? If yes, explain - Stream bed and bank contours shall be restored to original condition outside of proposed improvements.	X	
6.	Does the proposed action constitute a significant floodplain encroachment as defined in 23 CFR, Section 650.105(q).		X
7.	Are Location Hydraulic Studies that document the above answers on file? If not explain.	X	

PREPARED BY:

Jose A. Banuelos — 10/03/2023

Signature - Hydraulic Engineer — Date

Matthew Fowler — 10/05/2023

Signature - Environmental Branch Chief — Date

Marissa Nishikawa — 10/03/2023

Signature - Project Engineer — Date

Technical Information for Location Hydraulic Study

Dist. 05 Co. SLO Rte. 1 P.M. 32.6

EA 05-1R1000 Bridge No. 49-0068L

Floodplain Description: Project is located in a designated area as Zone AE and Zone A, which are both special flood hazard areas. Zone AE has defined Base Flood Elevations while Zone A does not. (Toro Creek PM 32.6)

1. Description of Proposal (include any physical barriers i.e. concrete barriers, soundwalls, etc. and design elements to minimize floodplain impacts)

   The project proposes to replace the existing southbound bridge crossing Toro Creek on Route 1 at post mile 32.62. The profile will be raised approximately 1 foot. Existing rock slope protection will be replaced.

2. ADT: Current: 12,900 (Year 2019) Projected: 13,532 (Year 2058)

3. Hydraulic Data: Base Flood Q_{100} = 11,900 cfs

   WSE_{100} = 21.0 feet The flood of record, if greater than Q_{100}: N/A
   Q = N/A WSE = N/A
   Are NFIP maps available? Yes X No
   Are NFIP studies available? Yes X No

	Yes	No
4. Is the highway location alternative within a regulatory floodway?		X
5. Attach map with flood limits outlined showing all building or other improvements within the base floodplain.		
A. Residences?		X
B. Other Buildings?		X
C. Crops?	X	
D. Natural and beneficial Floodplain values?	X	
6. Type of Traffic:		
A. Emergency supply or evacuation route?	X	
B. Emergency vehicle access?	X	
C. Practicable detour available?		X
D. School bus or mail route?	X	

7. Estimated duration of traffic interruption for 100-year event 0 hours.

Technical Information for Location Hydraulic Study

8. Estimated value of Q100 flood damages (if any) – moderate risk level.

A. Roadway	$ 0
B. Property	$ 0
Total	$ 0

9. Assessment of Level of Risk

Low X Moderate _____ High _____

For High Risk projects, during design phase, additional Design Study Risk Analysis may be Necessary to determine design alternative.

PREPARED BY:

Jose A. Banuelos — 10/03/2023

Signature – Hydraulic Engineer (Item Numbers 3, 4, 5, 7, 9) — Date

Is there any longitudinal encroachment, significant encroachment, or any support of incompatible Floodplain development? No X Yes _____

If yes, provide evaluation and discussion of practicability of alternatives in accordance with 23 CFR 650.113

Information developed to comply with the Federal requirement for the Location Hydraulic Study shall be retained in the project files.

Marissa Nishikawa — 10/03/2023

Signature – District Project Engineer (Item Numbers 1, 2, 6, 8) — Date

05-1R100 Location Hydraulic Study

Final Audit Report 2023-10-05

Created:	2023-10-03
By:	Jose Banuelos (s145628@dot.ca.gov)
Status:	Signed
Transaction ID:	CBJCHBCAABAA8oSo6KBCUSteK4A-yUccHbka7UtDOfOg

"05-1R100 Location Hydraulic Study" History

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Natural Environment Study

Toro Creek Southbound Bridge Replacement Project

NES

Natural Environment Study

Including Jurisdictional Waters Assessment

SLO-1-32.6

District 5 - SLO

Project Number 0523000125 / EA 05-1R100

November 2023

Caltrans
CALIFORNIA DEPARTMENT OF TRANSPORTATION

Natural Environment Study

November 2023

STATE OF CALIFORNIA
Department of Transportation

Prepared By: Shelby Sanchez Date: 11/6/2023
Shelby Sanchez
Environmental Scientist / Biologist
California Department of Transportation- District 5
(805) 459-9345

Recommended for Approval By: Sarah Sandstrom Date: 11/6/23
Sarah Sandstrom
Senior Environmental Scientist / Aquatic Resource Biologist
California Department of Transportation- District 5
(559) 908-2709

Approved By: Jennifer Moonjian Date: 11/6/2023
Jennifer Moonjian
Senior Environmental Scientist Supervisor
California Department of Transportation- District 5
(805) 779-0756

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Summary

The California Department of Transportation (Caltrans), in conjunction with the Federal Highway Administration (FHWA), proposes the Toro Creek Southbound Bridge Replacement Project at post-mile (PM) 32.6 on State Route 1 (SR-1), between the city of Morro Bay and the city of Cayucos within San Luis Obispo County. The proposed project limits encompass the Toro Creek bridge, adjacent land, and the median adjacent to the bridge.

The proposed project will include replacing the southbound bridge structure, replacing the bridge railing, removing and replacing the existing rock slope protection (RSP), conforming approach slabs, replacing the existing guardrail, and installing temporary median crossovers for construction activities.

A query of the California Department of Fish and Wildlife (CDFW) California Natural Diversity Database (CNDDB) was initially conducted in April 2023 and updated in October 2023 (Appendix A). Official species lists/updates were also requested from the U.S. Fish and Wildlife Service (USFWS) (Appendix B) and National Marine Fisheries Service (NMFS) in April 2023 and updated in October 2023 (Appendix C).

The studies conducted for this Natural Environment Study (NES) included botanical surveys for sensitive plant species, general reconnaissance-level wildlife surveys, and a jurisdictional delineation. A list of species observed is included as Appendix D. Photo documentation of the project area is included as Appendix E.

Impacts to jurisdictional waters within the project biological study area (BSA) have been quantified based on proposed ground disturbance and vegetation disturbance. These impact areas are a subset of the BSA and represented as the Area of Potential Impact (API), which was overlain with habitat mapping. The API includes potential disturbance areas for both permanent and temporary impacts and assumes the maximum amount of disturbance/impact associated with construction of the project (including cut and fill, staging, and access).

Permanent impacts will result from shoulder widening. Sources of temporary impacts will result from equipment access, staging, the temporary diversion of Toro Creek, and worker foot-traffic. Trucks, bulldozers, backhoes, compactors, asphalt concrete rollers, clamshells, excavators, compressors, man lifts, scrapers,

pavers, water trucks, sweepers, and any other equipment necessary during construction will be used. Access will occur from SR-1 with the associated pullout areas and median. Equipment will be temporarily staged within ruderal/disturbed portions of the work area. Two Monterey cypress trees (*Hesperocyparis macrocarpa*) and two Ngaio trees (*Myoporum laetum*) will be removed to construct the new bridge. All riparian vegetation will be avoided by project activities.

Impacts to Natural Communities, Jurisdictional Waters, and Critical Habitat

Jurisdictional Waters/Natural Community/Critical Habitat	Permanent Impacts		Temporary Impacts	
	Square Feet	Acre(s)	Square Feet	Acre(s)
CCC/RWQCB/CDFW stream, wetlands, streambank, and riparian jurisdictional areas	-	-	26,191	0.60
USACE jurisdictional other waters and wetlands[1]	-	-	14.740	0.34
Stream +wetlands + streambank (Developed/RSP) + riparian	-	-	26,191	0.60
Stream	-	-	17,740	0.34
Central coastal scrub	106.71	0.002	5,761.50	0.132
Southern foredune	178.21	0.004	11,993	0.28
Unvegetated sand	-	-	929.12	0.02
Ruderal/disturbed	7,028.77	0.161	90,261	2.07
Steelhead critical habitat	-	-	17,740	0.40
Tidewater goby critical habitat	-	-	17,740	0.40

[1] Includes/overlaps areas of USACE jurisdictional wetlands/other waters and extends above the OHWM to the top of bank or outer edge of riparian vegetation, whichever is greater.

The proposed project occurs in a Flexible implementation Connectivity Opportunity defined by the Areas of Conservation Emphasis (ACE) Model and has no fish passage constraints defined by Calfish Passage Assessment Database (PAD). Impacts to wildlife connectivity are not anticipated. Measures will be implemented to avoid/minimize the spread of invasive species throughout the BSA.

Environmentally Sensitive Area (ESA) fencing will be installed along the maximum disturbance limits to minimize disturbance to sensitive habitats/vegetation. Special Provisions for the installation of ESA fencing will be included in the Construction Contract and will be identified on the project plans. Prior to the start of construction activities, ESA areas will be delineated in the field and will be approved by the Caltrans environmental division.

The Federal Endangered Species Act (FESA) Section 7 effects determination is that the proposed project may affect, is likely to adversely affect, tidewater goby (Eucyclogobius newberryi), steelhead-south-central California coast DPS (Oncorhynchus mykiss irideus pop. 9), and California red-legged frog *(Rana draytonii*). The FESA Section 7 effects determination is that the proposed project may affect, and is likely to adversely affect designated critical habitat for steelhead and tidewater goby. There is no critical habitat for California red-legged frog within the BSA.

The FESA Section 7 effects determination is that the proposed project may affect, but is not likely to adversely affect the following listed species: southwestern willow flycatcher (*Empidonax traillii extremus*), and least Bell's vireo (*Vireo bellii pusillus*). There is no critical habitat for southwestern willow flycatcher or least Bell's vireo in the BSA.

Due to a lack of suitable habitat and/or no observations during appropriately-timed floristic surveys, the FESA Section 7 effects determination is that the proposed project will have no effect on the following federally listed plant taxa or their critical habitat: Morro manzanita (*Arctostaphylos morroensis*), marsh sandwort (*Arenaria paludicola*), California jewelflower (*Caulanthus californicus*), Chorro Creek bog thistle (*Cirsium fontinale var. obispoense*), salt marsh bird's-beak (*Chloropyron maritimum*), Indian Knob mountainbalm (*Eriodictyon altissimum*), spreading navarretia (*Navarretia fossalis*), and California seablite (*Suaeda californica*).

Due to a lack of suitable habitat, the FESA Section 7 effects determination is that the proposed project will have no effect on the following federally listed animal taxa: vernal pool fairy shrimp (*Branchinecta lynchi*), monarch (*Danaus plexippus plexippus pop. 1*), Morro shoulderband (*Helminthoglypta walkeriana*), California tiger salamander (*Ambystoma californiense*), Foothill yellow-legged frog (*Rana boylii*), Morro Bay kangaroo rat (*Dipodomys heermannii morroensis*), giant kangaroo rat (*Dipodomys ingens*), southern sea otter (*Enhydra lutris nereis*), San

Joaquin kit fox (*Vulpes macrotis mutica*), marbled murrelet (*Brachyramphus marmoratus*), western snowy plover (*Charadrius nivosus nivosus*), yellow-billed cuckoo (*coccyzus americanus*), California condor (*Gymnogyps californianus*), California clapper rail *(Rallus longirostris obsoletus*), California Ridgway's rail (*Rallus obsoletus obsoletus*) and California least tern (*Sterna antillarum browni*).

Clean Water Act (CWA) Section 404/401 permits and a California Fish and Game Code Section 1602 Streambed Alteration Agreement will be required for this project.

A Coastal Development Permit will be required for this project.

Essential Fish Habitat (EFH) for Pacific Coast groundfish species occurs at the proposed project location. EFH consultation with NMFS will be required.

Table of Contents

List of Figures

List of Tables

List of Abbreviated Terms

Abbreviation	Term
A	suitable habitat absent
ac	acre(s)
API	area of potential impact
BMPs	Best Management Practices
BSA	Biological Study Area
Cal-IPC	California Invasive Plant Council
Caltrans	California Department of Transportation
CCA	California Coastal Act
CCC	California Coastal Commission
CDFG	California Department of Fish and Game
CDFW	California Department of Fish and Wildlife
CDP	Coastal Development Permit
CEQA	California Environmental Quality Act
CESA	California Endangered Species Act
CFR	Code of Federal Regulations
CH	critical habitat
CNDDB	California Natural Diversity Database
CNPS	California Native Plant Society
CWA	Clean Water Act
DPS	distinct population segment
^{o}F	degrees Fahrenheit
EFH	Essential Fish Habitat
ESA	Environmentally Sensitive Area
ESHA	Environmentally Sensitive Habitat Area
FESA	Federal Endangered Species Act
FGC	California Fish and Game Code
FHWA	Federal Highway Administration
ft	foot/feet
ft^2	square foot/feet
GIS	Geographic Information System
HCP	habitat conservation plan
HP	suitable habitat present
IPaC	Information, Planning, and Conservation System
MBTA	Migratory Bird Treaty Act
MMP	Mitigation and Monitoring Plan
MMPA	Marine Mammal Protection Act
MSFCMA	Magnuson-Stevens Fishery Conservation and Management Act
NCCP	natural community conservation plan
NES	Natural Environment Study
NEPA	National Environmental Policy Act
NISC	National Invasive Species Council
NMFS	National Marine Fisheries Service

Abbreviation	Term
OHWM	ordinary high-water mark
P	taxon present
PA&ED	Project Approval and Environmental Document project phase
PBF	physical and biological feature
PDT	project development team
PM	postmile
RHA	Rivers and Harbors Act
RSA	Resource Study Area (for cumulative impacts analysis)
RWQCB	Regional Water Quality Control Board
SR	State Route
SSC	Species of Special Concern
USACE	U.S. Army Corps of Engineers
USC	United States Code
USFWS	U.S. Fish and Wildlife Service
USGS	U.S. Geological Survey

Chapter 1. Introduction

The California Department of Transportation (Caltrans), in conjunction with the Federal Highway Administration (FHWA), proposes the Toro Creek Southbound Bridge Replacement Project. This Natural Environment Study (NES) provides technical information and reviews the project to assess its effects on special-status species. The NES has been prepared to provide information for the National Environmental Policy Act (NEPA) and California Environmental Quality Act (CEQA) environmental review processes, with California Department of Transportation (Caltrans) regulation, policy, and guidance.

1.1 Project History

In 2022 and 2023, Caltrans replaced the State Route (SR) 1 northbound bridge at Toro Creek after routine inspections determined that the bridge was seismically deficient and required improvements to upgrade the railing. After construction was completed in spring 2023, habitat restoration activities began in summer 2023.

Inspections also determined that the existing SR-1 southbound bridge at Toro Creek has poor bridge health, nonstandard bridge railing, and a nonstandard outside shoulder width. These deficiencies are associated with non-recoverable corrosion and the bridge no longer meets current Manual for Assessing Safety Hardware (MASH) standards.

1.2 Project Description

Caltrans proposes the Toro Creek Southbound Bridge Replacement Project at post-mile (PM) 32.6 on SR-1, between the city of Morro Bay and the city of Cayucos within San Luis Obispo County. The proposed project limits encompass the southbound Toro Creek overcrossing bridge and adjacent areas needed for staging and construction.

The proposed project will include replacing the southbound bridge structure, replacing the bridge railing, removing and replacing the existing rock slope protection (RSP), conforming approach slabs, replacing the existing guardrail, and installing temporary median crossovers for the duration of construction activities.

The new proposed structure would be approximately 131-feet in length, 43-feet in width, and consist of a three-span bridge with two supporting column bents. Once complete, the bridge structure will have a five-foot-wide inside shoulder, two twelve-foot-wide lanes, a ten-foot-wide outside shoulder, and California ST-75 railing. Approximately 1-foot of a roadway profile adjustment is anticipated to conform the bridge slab to meet the projected 100-year base flood elevation requirements.

Beneath the new structure, the existing abutment slopes lined with concreted rock will be removed and replaced with RSP to prevent erosion and scour of the abutment slopes. The new guardrail will be upgraded to Midwest Guardrail System. Additionally, approach slabs and the adjacent roadways will be modified to conform to the new bridge with temporary median crossovers immediately north and south of the existing bridge to allow for detours.

1.3 Project Alternatives

There are two alternatives being considered for this project: One "Build" (Viable) alternative (Alternative 1) and the "No-Build" alternative (Alternative 2). Preliminary project plans for the build alternative are included in Appendix F. Alternative 1 would consist of replacing the existing bridge and upgrading its associated features. Alternative 2, the "no-build" alternative, would maintain the status quo, and the bridge would not be improved.

1.3.1. Alternative 1: Build

Alternative 1 would consist of constructing southbound bridge structure, replacing the bridge railing, removing and replacing the existing rock slope protection (RSP), conforming approach slabs, replacing the existing guardrail, and installing temporary median crossovers for construction activities. The upgraded bridge structure would be approximately 131-feet in length, 43-feet in width, and a three span bridge with two supporting column bents. Once complete, the bridge structure will have a five-foot-wide inside shoulder, two twelve-foot-wide lanes, a ten-foot-wide outside shoulder, and California ST-75 railing.

1.3.2. Alternative 2: No Build

The no-build alternative would maintain the status quo and leave the existing bridge as is and would not replace or upgrade any safety features. This

alternative would not meet the project purpose and need because the current bridge is deteriorating and will result in non-recoverable corrosion. The existing bridge width and railing would also be left as nonstandard and would no longer meet the current Manual for Assessing Safety Hardware (MASH) standards.

1.4 Construction Staging, Storage Areas, and Access

Construction staging and storage will occur within the Caltrans Right-of-Way (ROW) in paved areas or in areas that have been previously disturbed. Streambed access will be facilitated by utilizing the median between the north and southbound bridges and immediately west of the southbound bridge. Any other potential staging areas will be approved by Caltrans Environmental.

1.5 Environmentally Sensitive Area Fencing

Environmentally Sensitive Area (ESA) fencing would be installed throughout areas of the project to limit construction activities and protect habitats of concern. Special Provisions for the installation of ESA fencing and silt fencing shall be included in the Construction Contract for this project and identified on the project plans. ESAs will also be delineated in the field and will be approved by the project environmental division prior to beginning any construction activities including equipment storage.

1.6 Construction Work Schedule

Construction is projected to begin in April 2025, take approximately 250 working days, and is anticipated to be completed in December 2026 with a one-year plant establishment period.

1.7 Stream Diversion and Dewatering

To isolate the construction site from flowing water, a stream diversion and dewatering will be required.

Diversion of Toro Creek would likely include temporary cofferdams positioned upstream and downstream of the existing Toro Creek southbound bridge with a diversion pipe connecting the upstream and downstream areas to isolate the project area within the creek. Prior to and during installation of the diversion, qualified biologists would relocate any species within the area to be isolated. The temporary stream diversion shall be timed to occur between June 1 and October 31 in any given year, or as otherwise directed by the regulatory

agencies, when surface flows are likely to be at a seasonal minimum. The diversion dams would span the width of the creek from bank to bank and remain in place until in-stream construction activities are complete and would be designed to ensure flows do not overtop or circumvent the diversion dams.

The diversion dams could consist of gravel filled bags or k-rail and may need to be lined with plastic (i.e., visqueen or equivalent) to help make them watertight. Exact configuration (i.e., dimension, size, materials, etc.) of the diversion dams is not known at this time.

During installation of the temporary diversion dams, any stream flow would be redirected through the work area via a temporary culvert/pipe with watertight joints. The diversion pipe would be properly sized to accommodate flows. The gravity outlet would be designed to match the ambient flow of the creek and to prevent erosion and scour. The size and configuration of the pipe may be adjusted as necessary to accommodate field conditions.

Once the diversion is installed and all species have been relocated, the work site would be completely isolated from the wetted channel. If residual water is present within the site after installation of the diversion or if groundwater intrusion is encountered during construction, the site may be filled with clean washed gravel or dewatered using pumps. Due to the highly permeable soils at the project location, and the proximity to groundwater, dewatering of the entire project area may be infeasible. Instead, it is likely that dewatering of specific work areas will occur as needed for construction activities. Dewatering would likely be accomplished by pumping the water from inside the temporary cofferdam confines with low horsepower pumps and hoses. The pumps, if used, would have protective screens at intake ends to prevent fish and other aquatic species from entering the pumps.

To capture water-born sediment, water would be pumped to a temporary sediment basin, adjacent uplands, or a Baker tank system would be used for filtration. Dewatering discharge points would be placed downstream of the dewatered area at locations where the discharge would not result in erosion or scour. If a sediment basin is used, it would be maintained as necessary to ensure adequate functionality.

Upon completion of diversion activities, the contractor would remove all equipment and infrastructure associated with the diversion in a manner that will minimize adverse impacts to water quality and its beneficial uses and to ensure

that stream contours are returned to pre-construction conditions as close as possible.

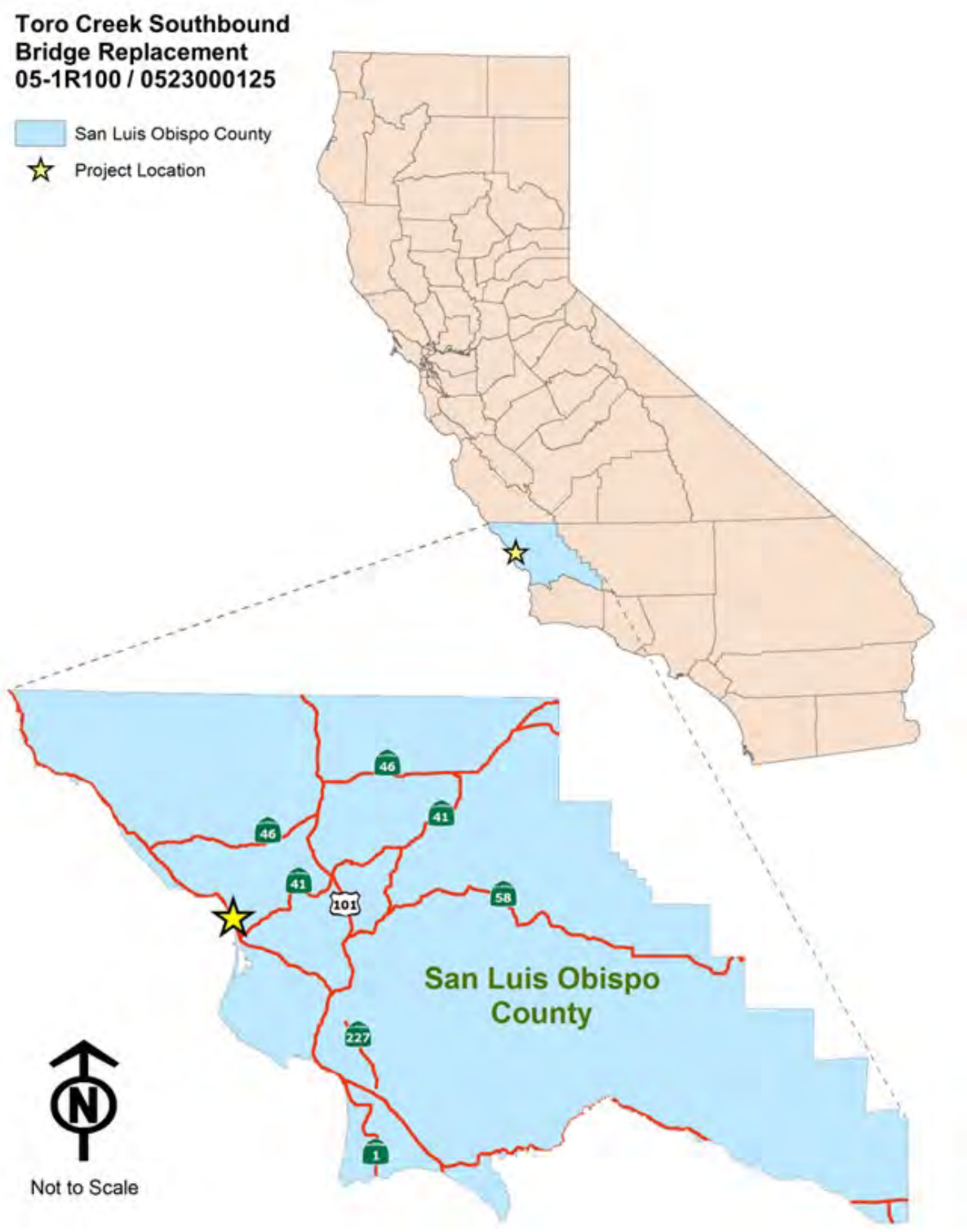

Figure 1: Project Location Map

Chapter 2. Study Methods

2.1. Regulatory Requirements

2.1.1. Federal Policies and Regulations

2.1.1.1. National Environmental Policy Act

NEPA directs "a systematic, interdisciplinary approach" to planning and decision making and requires environmental statements for "major federal actions significantly affecting the quality of the human environment." Implementing regulations by the Council on Environmental Quality (40 Code of Federal Regulations (CFR) Parts 1500-1508) requires federal agencies to identify and assess reasonable alternatives to proposed actions that will restore and enhance the quality of the human environment and avoid or minimize adverse environmental impacts. Federal agencies are directed to emphasize significant environmental issues in project planning and to integrate impact studies required by other environmental laws and Executive Orders into the NEPA process, which is considered to be an overall framework for the environmental evaluation of federal actions.

2.1.1.2. Clean Water Act Section 404 / Rivers and Harbors Act Section 10

The U.S. Army Corps of Engineers (USACE) is responsible for the issuance of permits for the placement of dredged or fill material into "Waters of the United States" pursuant to Section 404 of the Clean Water Act (CWA) (33 United States Code (USC) 1344).

Federally regulated wetlands are "waters of the United States" that are identified as areas inundated or saturated by surface or groundwater at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions. Wetlands generally include swamps, marshes, and similar areas but can also include other periodically inundated areas that produce wetland conditions. Federally regulated "other waters" are bound by an ordinary high-water mark (OHWM) and lack one or more of the three recognized wetland indicators (i.e., wetland vegetation, hydric soils, and/or wetland hydrology). The federal jurisdictional status of water features and their connectivity have been the subject of numerous recent court rulings. Rules defining the extent of USACE jurisdictions and situations requiring case-by-case evaluation have changed recently, and procedures are

expected to be further modified in the near future. Further evaluations will be assessed if required as rulings are updated.

In any event where project activities would result in placement of fill or other impacts to "waters of the U.S." (wetlands or non-wetland other waters), the project could be subject to either a general or an individual permit or may be exempt from regulatory requirements under Section 404 of the CWA based on review by the USACE. If certain conditions are met, some activities are granted a blanket authorization under the provisions of a general permit through the nationwide permitting system.

Section 10 of the Rivers and Harbors Act (RHA) pertains to construction affecting navigable waters and any obstruction, excavation, or filling. Navigable waters are defined as those subjected to the ebb and flow of the tide and susceptible to use in their natural condition or by reasonable improvements as means to transport interstate or foreign commerce. The USACE grants or denies permits based on the effects on navigation. Most activities covered under this act are also covered under Section 404 of the CWA. All activities involving navigable waters of the United States require a Section 10 permit.

Caltrans may assume the jurisdictional findings in the preliminary jurisdictional determination in the Wetland Assessment or jurisdictional limits can be confirmed upon Caltrans' request for field verification by USACE staff.

2.1.1.3. CWA Section 401

Section 401 of the CWA ensures that federally permitted activities comply with the federal CWA and state water quality laws. Section 401 is implemented through a review process that is conducted by the California Regional Water Quality Control Board (RWQCB) and is triggered by the Section 404 permitting process.

2.1.1.4. Federal Endangered Species Act

The Federal Endangered Species Act (FESA) provides legal protection for plants and animals that are in danger of extinction and classified as either threatened or endangered. FESA Section 7 requires federal agencies to make a finding on all federal actions as to the potential to jeopardize the continued existence of any listed species potentially affected by the action, including the approval by an agency of a public or private action, such as

FHWA funding or the issuance of a permit by USACE. Critical habitat is defined in FESA Section 3 as: (i) The specific areas within the geographic area occupied by a species at the time it is listed in accordance with the Act, on which are found those physical or biological features (I) essential to the conservation of the species and (II) that may require special management considerations or protection; and (ii) specific areas outside the geographic area occupied by a species at the time it is listed, upon a determination that such areas are essential for the conservation of the species.

FESA Section 7 requires that federal agencies shall, in consultation with the United States Fish and Wildlife Service (USFWS) and National Marine Fisheries Service (NMFS), ensure that any action they authorize, fund, or carry out is not likely to jeopardize the continued existence of a listed species or result in the destruction or adverse modification of critical habitat. Per FESA Section 9, it is unlawful to ”remove and reduce to possession” federally listed plant species from areas under federal jurisdiction. FESA Section 9 also protects federally listed fish and wildlife species from unlawful “take.” “Take” is defined by FESA as “to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to attempt to engage in any such conduct.” The USFWS and NMFS regulate activities that may result in take of federally endangered or threatened species, or candidate species. The documentation submitted to USFWS and/or NMFS analyzing impacts to federally listed species and critical habitat is typically a Biological Assessment. Once USFWS and/or NMFS review a Biological Assessment for a project, they may issue a federal Biological Opinion and Incidental Take Statement under FESA Section 7 that includes provisions for legal take, provided that specific mitigation measures are employed for construction.

2.1.1.5. Magnuson-Stevens Fishery Conservation and Management Act

The Magnuson-Stevens Fishery Conservation and Management Act (MSFCMA) requires federal agencies such as FHWA, and Caltrans through NEPA Assignment, to consult with the Secretary of Commerce regarding any action or proposed action authorized, funded, or undertaken by that agency that may adversely affect Essential Fish Habitat (EFH); EFH means those waters and substrate necessary to fish for spawning, breeding, feeding or growth to maturity. Federal agencies may use existing consultation/environmental review procedures, such as biological assessments, to satisfy the MSFCMA consultation requirements.

2.1.1.6. Migratory Bird Treaty Act

The federal Migratory Bird Treaty Act (MBTA) protects all migratory birds, including their eggs, nests, and feathers. The MBTA was originally drafted to end the commercial trade in bird feathers popular in the latter part of the 1800s. The MBTA is enforced by the USFWS, and potential constraints to species protected under this law may be evaluated by the USFWS during the consultation process. Project-related impacts to nesting birds will need to be avoided.

2.1.1.7. Marine Mammal Protection Act

The Marine Mammal Protection Act (MMPA) establishes a federal responsibility to conserve marine mammals, with management by the Department of Commerce (under NMFS) for cetaceans and pinnipeds other than walrus. The Department of the Interior (under USFWS) is responsible for all other marine mammals, including sea otter, walrus, polar bear, dugong and manatee. The MMPA is the main regulatory vehicle that protects marine mammals and their habitats in an effort to main sustainable populations. The MMPA requires consultation on any action that may adversely affect marine mammals and provides a mechanism for “incidental” take of species not listed under the FESA.

2.1.1.8. Executive Order 11990 – Protection of Wetlands

Executive Order 11990 was issued by President Carter on May 24, 1977 and established a national policy to avoid adverse impacts on wetlands whenever there is a practicable alternative. On federally funded projects, impacts on wetlands must be identified. Alternatives that avoid wetlands must be considered. If wetland impacts cannot be avoided, then all practicable measures to minimize harm must be included.

2.1.1.9. Section 9 of Rivers and Harbors Act and the General Bridge Act of 1946

The U.S. Coast Guard regulates structures in navigable waters under Section 9 of the Rivers and Harbors Act and the General Bridge Act of 1946. Under the General Bridge Act, the U.S. Coast Guard requires the approval of location and plans of bridges prior to the start of construction (33 U.S.C. § 525). Under 33 CFR § 2.34, the U.S. Coast Guard defines "waters subject to tidal influence" and "waters subject to the ebb and flow of high tide" as “waters below mean high water."

2.1.1.10. Executive Order 13112 – Invasive Species

Executive Order 13112 was issued by President Clinton on February 2, 1999, 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." FHWA guidance issued August 10, 1999, directs the use of the State's invasive species list, maintained by the California Invasive Species Council, to define the invasive plants that must be considered as part of the NEPA analysis for a proposed project. Under this Executive Order, federal agencies cannot authorize, fund, or carry out actions that it believes are likely to cause or promote the introduction or spread of invasive species in the United States or elsewhere unless all reasonable measures to minimize risk of harm have been analyzed and considered.

2.1.2. State of California Policies and Regulations

2.1.2.1. California Environmental Quality Act

Guidance for determining California Environmental Quality Act (CEQA) significance thresholds is based on Appendix G of the State CEQA Guidelines. Using these guidelines, activities requiring CEQA review within the project study area would have a significant impact on biological resources if they would:

- 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 (CDFW) or the USFWS;

- Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, or regulations or by the CDFW or USFWS;

- Have a substantial adverse effect on federally protected wetlands as defined by CWA Section 404;

- Interfere substantially with the movement of any resident or migratory species of wildlife, wildlife corridors, or wildlife nursery sites;

- Conflict with any local policies or ordinances protecting biological resources;

- Conflict with the provisions of an adopted Habitat Conservation Plan (HCP), Natural Community Conservation Plan (NCCP) or other approved state, regional, or local habitat conservation plan.

2.1.2.2. California Fish and Game Code Section 1602

Section 1602 of the State of California Fish and Game Code (FGC) requires any person, state or local agency, or public utility proposing a project that may affect a river, stream, or lake to notify the CDFW before beginning the project. If activities will result in the diversion or obstruction of the natural flow of a stream; substantially alter its bed, channel, or bank; impact riparian vegetation; or, adversely affect existing fish and wildlife resources, a Streambed Alteration Agreement is required, which lists CDFW conditions of approval relative to the project.

2.1.2.3. Other Sections of the California FGC

CFGC Sections 3503 and 3503.3 state that it is unlawful to take, possess, or needlessly destroy the nest or eggs of any bird, except as otherwise provided by the code or any regulation made pursuant thereto. CFGC Section 3511 lists "fully protected" birds and prohibits take of these species. The definition of take under the code means to “hunt, pursue, catch, capture, or kill, or attempt to hunt, pursue, catch, capture, or kill.” Section 3513 prohibits take or possession of any migratory non-game bird, as designated in the MBTA, or any part of such migratory non-game bird, except as provided by rules and regulations adopted by the Secretary of the Interior under provisions of the MBTA. Other regulations such as CFGC section 4150 and Title 14, Section 251.1 of the California Code of Regulations afford protections to indigenous non-game mammal species such as bats, regardless of their listing status. Currently, CDFW is unable to authorize incidental take of fully protected species; however, recent legislature will reclassify the status of these species through 2033.

2.1.2.4. Porter-Cologne Water Quality Control Act

Under California’s Porter-Cologne Water Quality Control Act (Porter-Cologne), discharges to wetlands and other “waters of the state” are subject

to state regulation. Under California State law, discharges of "waste" (including clean fill, riprap or other revetment, excavation sidecasting, dredge spoils, soil displaced while clearing vegetation, etc.) where it could affect waters of the State must first file a report with the appropriate RWQCB, which will regulate the discharge as necessary to protect the beneficial uses of the waters. Discharging without filing the required report may result in civil penalties and the discharger may be also required to remove the discharged material and restore the condition of the water body.

In general, the RWQCBs will regulate discharges to isolated waters in much the same way as they do for federal-jurisdictional waters, using Porter-Cologne rather than CWA authority. The RWQCB issues a Waste Discharge Requirements permit that contains various conditions (best management practices, compensatory mitigation) that mitigate potential impacts to waters of the state.

2.1.2.5. California Coastal Act

The California Coastal Act (CCA) of 1976 mandates that local governments prepare a land use plan and schedule of implementing actions to carry out the policies of the CCA. The CCA places the highest priority on the preservation and protection of natural resources, including Environmentally Sensitive Habitat Areas (ESHAs) (e.g., wetlands and dunes).

2.2. Studies Required

A query of the CNDDB was originally conducted in April 2023 and updated in October 2023 for the search area encompassing the following U.S. Geological Survey (USGS) California quadrangles: Cayucos, Morro Bay North, and Morro Bay South. The CNDDB list of special-status plants, animals, and sensitive natural communities documented to occur within the queried quadrangles is included as Appendix A. A request for an official USFWS species list from the Ventura USFWS Office was initially made online on in April 2023, via the USFWS Information, Planning and Conservation System (IPaC) website (IPaC 2023). The official USFWS list was received via the IPAC website in April 2023 and updated in October 2023. The official USFWS species list is included in Appendix B. A request for an official NMFS species list from the Long Beach NMFS Office was originally submitted via email in April 2023 and updated in October 2023. The official NMFS list was is also included in Appendix C.

The studies conducted for this project included botanical surveys for sensitive plant species and general reconnaissance-level wildlife surveys. Botanical surveys for sensitive plants and reconnaissance wildlife surveys were conducted by Shelby Sanchez, Sarah Sandstrom, Jessica Copeland, and Corey Mead (Caltrans Biologists) in April, June, and August 2023 (Table 1). The botanical surveys were floristic (i.e., conducted when target species would be flowering and identifiable) following the guidelines of USFWS (2000) and CDFW (formerly California Department of Fish and Game [CDFG] 2009). Plants were identified with dichotomous keys using The Jepson Manual: Vascular Plants of California (Baldwin et al. 2012). A list of species observed is included as Appendix D. General reconnaissance-level wildlife surveys coincided with the botanical surveys and species that were observed were documented.

Photo documentation of the project area is included as Appendix E.

2.3. Personnel and Survey Dates

Table 1 summarizes biological survey efforts conducted to date.

Table 1. Survey Tasks, Dates, Personnel, and Methodology

Study or Survey	Date	Personnel	Methodology
Botanical Survey; Reconnaissance Wildlife Survey	March 27, 2013	Geoff Hoetker, Paul Holmes	USFWS (2000) and CDFW (CDFG 2009) for plants; no protocol for wildlife.
Botanical Survey; Reconnaissance Wildlife Survey	May 29, 2013	Geoff Hoetker	USFWS (2000) and CDFW (CDFG 2009) for plants; no protocol for wildlife.
Botanical Survey; Reconnaissance Wildlife Survey	July 26, 2013	Geoff Hoetker	USFWS (2000) and CDFW (CDFG 2009) for plants; no protocol for wildlife.
Roosting Bat Survey	May 6, 2014	Geoff Hoetker, Jennifer Moonjian	No formal protocol.
Botanical Survey; Reconnaissance Wildlife Survey	April 19, 2016	Paul Andreano	USFWS (2000) and CDFW (CDFG 2009) for plants; no protocol for wildlife.
Botanical Survey; Bat Exit and Acoustic Survey	May 12, 2016	Paul Andreano	USFWS (2000) and CDFW (CDFG 2009) for plants; no formal protocol for bats.
Botanical Survey; Wetland Delineation; Ordinary High Water Mark (OHWM) Delineation	June 17-18, 2016	Paul Andreano	USFWS (2000) and CDFW (CDFG 2009) for plants; Environmental Laboratory (1987), USACE (2008) for wetlands. USACE (2010) for OHWM.
Botanical Survey; Reconnaissance Wildlife Survey	July 7, 2016	Paul Andreano	USFWS (2000) and CDFW (CDFG 2009) for plants; no protocol for wildlife.
Botanical Survey; Reconnaissance Wildlife Survey	August 23, 2016	Paul Andreano	USFWS (2000) and CDFW (CDFG 2009) for plants; no protocol for wildlife.
Botanical Survey; Reconnaissance Wildlife Survey	June 8, 2023	Shelby Sanchez	USFWS (2000) and CDFW (CDFG 2009) for plants; no protocol for wildlife
Botanical Survey; Reconnaissance Wildlife Survey	June 21, 2023	Shelby Sanchez Sarah Sandstrom	USFWS (2000) and CDFW (CDFG 2009) for plants; no protocol for wildlife
Botanical Survey; Reconnaissance Wildlife Survey	August 23, 2023	Shelby Sanchez Jessica Copeland Cory Mead	USFWS (2000) and CDFW (CDFG 2009) for plants; no protocol for wildlife

2.4. Limitations That May Influence Results

Surveys were timed to optimize the potential for confirming presence/absence of special-status plant and animal species and were conducted under favorable weather conditions. Special-status plant species with the potential to occur in the project area may be annual species that may be difficult to detect following seasons of abnormal rainfall, or during those times of the year when particular species do not typically flower. Storm conditions during the 2023 winter season brought high levels of rain and increased water levels within Toro Creek. The shape and location where Toro Creek enters the Pacific Ocean was shifted several hundred feet further north as a result of the storms. However, water levels did not impact the growth or visibility of surrounding vegetation in the BSA and were sufficient to provide adequate survey conditions compared to previous drought years. Botanical surveys were timed to accommodate the flowering periods for species with the potential to occur within the BSA.

Special-status animal species with the potential to occur in the project area may be cryptic or transient, migratory species. The population size and locations of special-status species may also fluctuate dramatically through time. This may lower the predictive value of known species' locations as indicators of future occurrences. Although no active bird nests were observed among the bridges, trees, shrubs, and other vegetation within the project area during surveys, nesting has been documented occurring in these area in the past. Regulatory agencies may require that botanical and wildlife surveys be repeated prior to construction.

Chapter 3. Environmental Setting

3.1 Description of the Existing Biological and Physical Conditions

3.1.1. Biological Study Area

The Area of Potential Impact (API) is within the BSA and comprises potential disturbance for both permanent and temporary indirect impacts and assumes the maximum amount of disturbance/impact associated with construction of the project. The Biological Study Area (BSA) is defined as the area that may be directly, indirectly, temporarily, or permanently impacted by construction, construction-related activities, and a buffer to encompass all indirect effects to surrounding natural areas (Figure 2). The size of the BSA is approximately 810,738.29 square feet (18.61 acres) and includes a polygon encompassing the proposed project location and staging/access areas. This includes the adjacent riparian habitats, upstream areas, and downstream areas adjacent to the project footprint.

3.1.2. Physical and Biological Site Conditions

The BSA occurs along SR-1 at the Toro Creek undercrossing in the city of Morro Bay. Toro Creek originates approximately 7 miles northeast of the BSA in the Los Padres National Forest and terminates at the Pacific Ocean adjacent to the BSA. The BSA is aligned with sand dunes on the western edge, a stream under the existing northbound and southbound bridges (No. 49-0068L and No. 49-0068R), and scrub habitat on the eastern edge.

The northern and southern ends of the BSA consist of the paved roadway and ruderal habitat that transitions to non-native grassland.

Winter low temperatures in this region average 57 degrees Fahrenheit (ºF) and summer high temperatures average 66 ºF, with annual precipitation averaging 17.4 inches with more precipitation originating from fog and marine layers.

3.1.3. Natural Communities

Natural communities are mapped in Figure 2. Representative photos are included in Appendix E. A description of the natural communities/habitats present within the BSA follows.

Figure 2a. Biological Study Area (BSA) and Habitat Maps

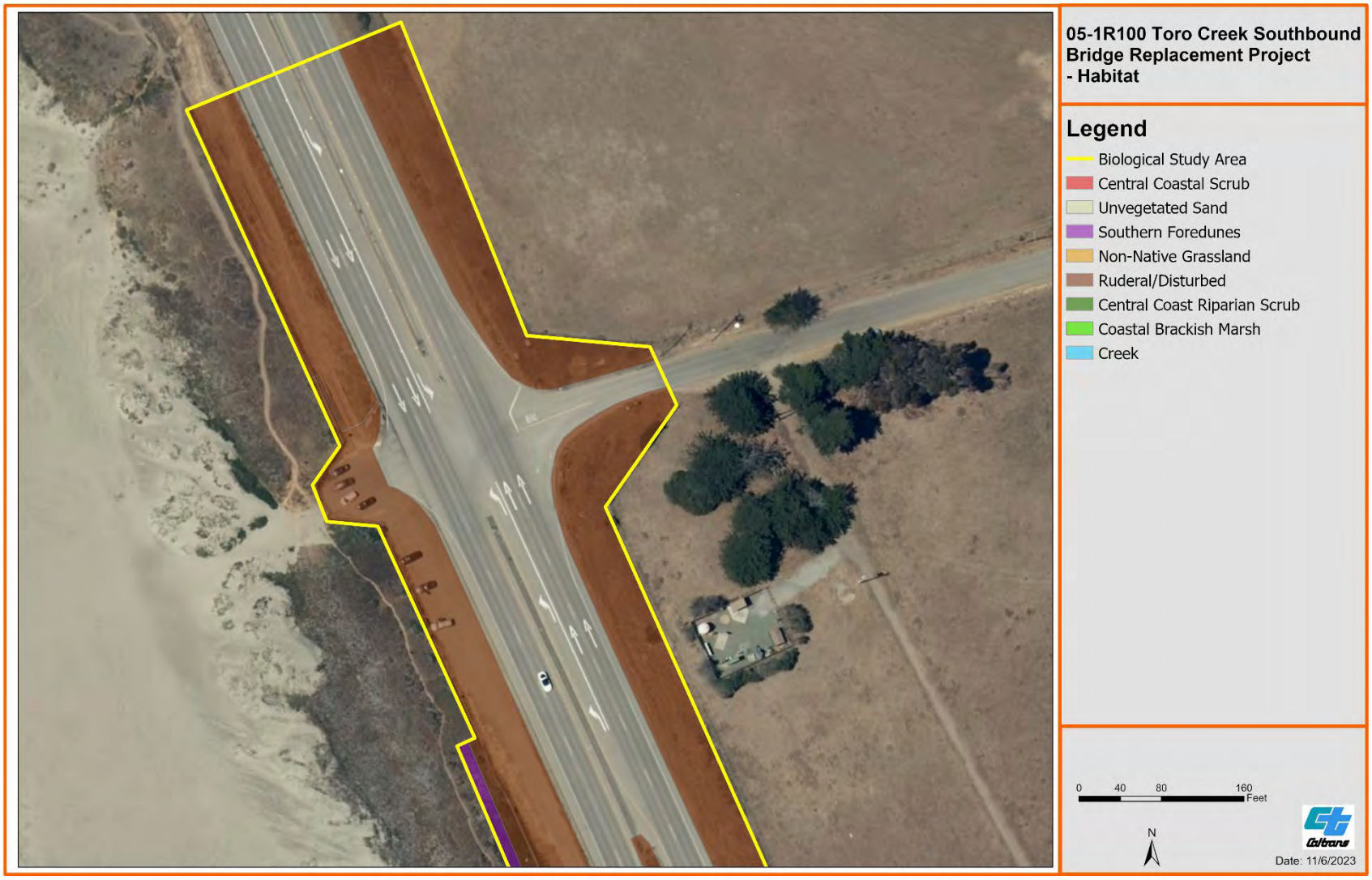

Figure 2b. Biological Study Area (BSA) and Habitat Maps

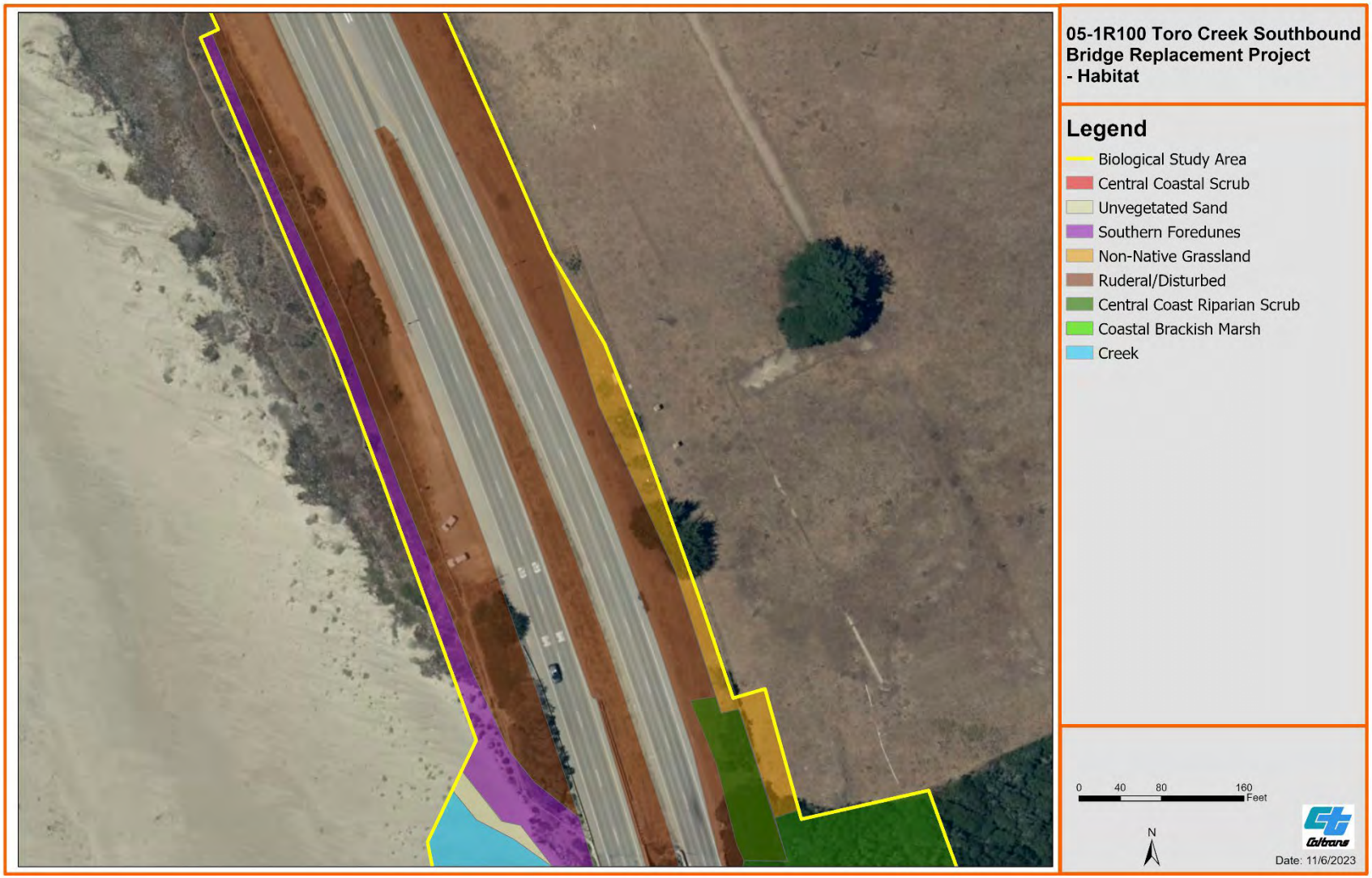

Figure 2c. Biological Study Area (BSA) and Habitat Maps

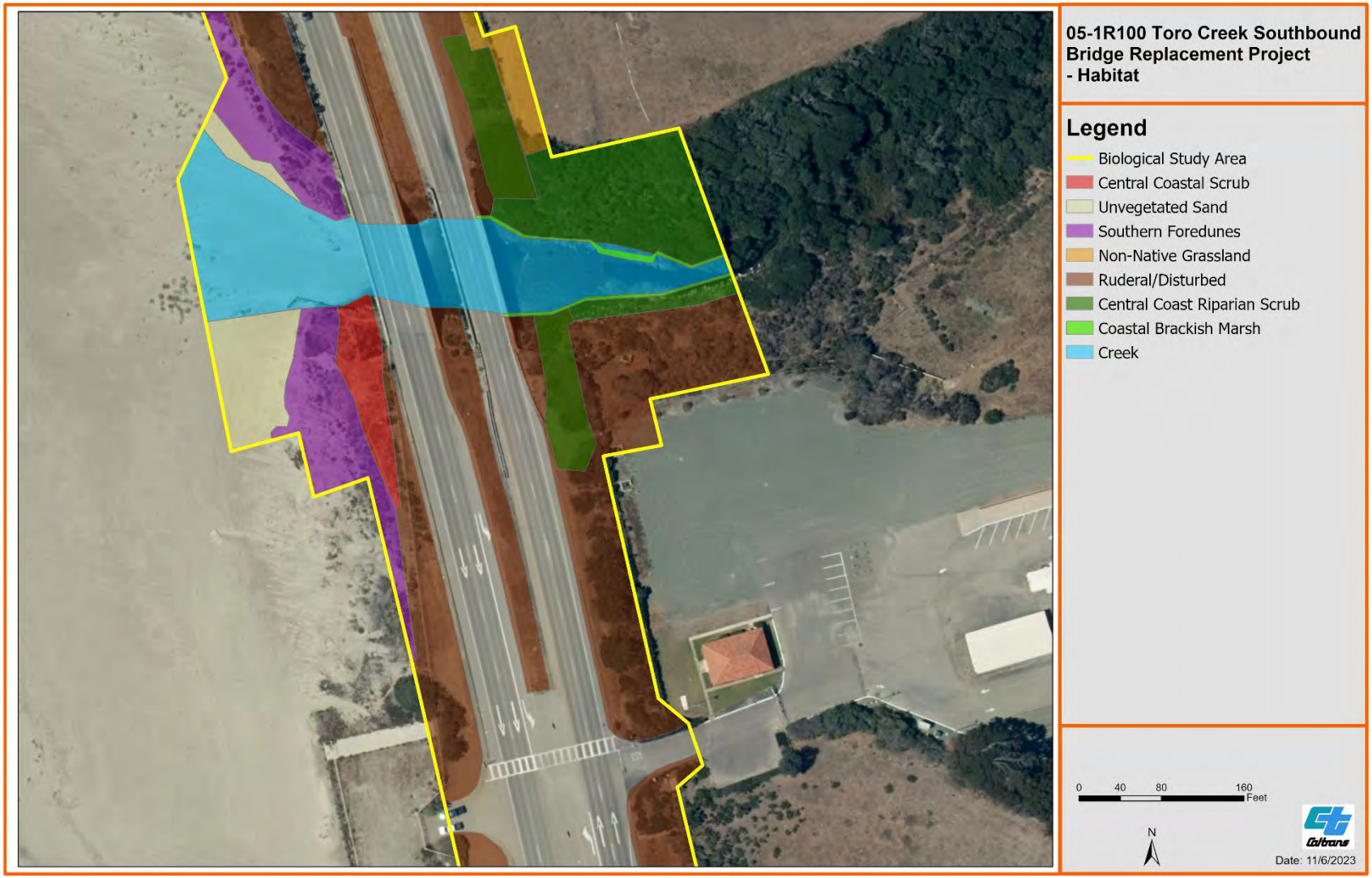

Figure 2d. Biological Study Area (BSA) and Habitat Maps

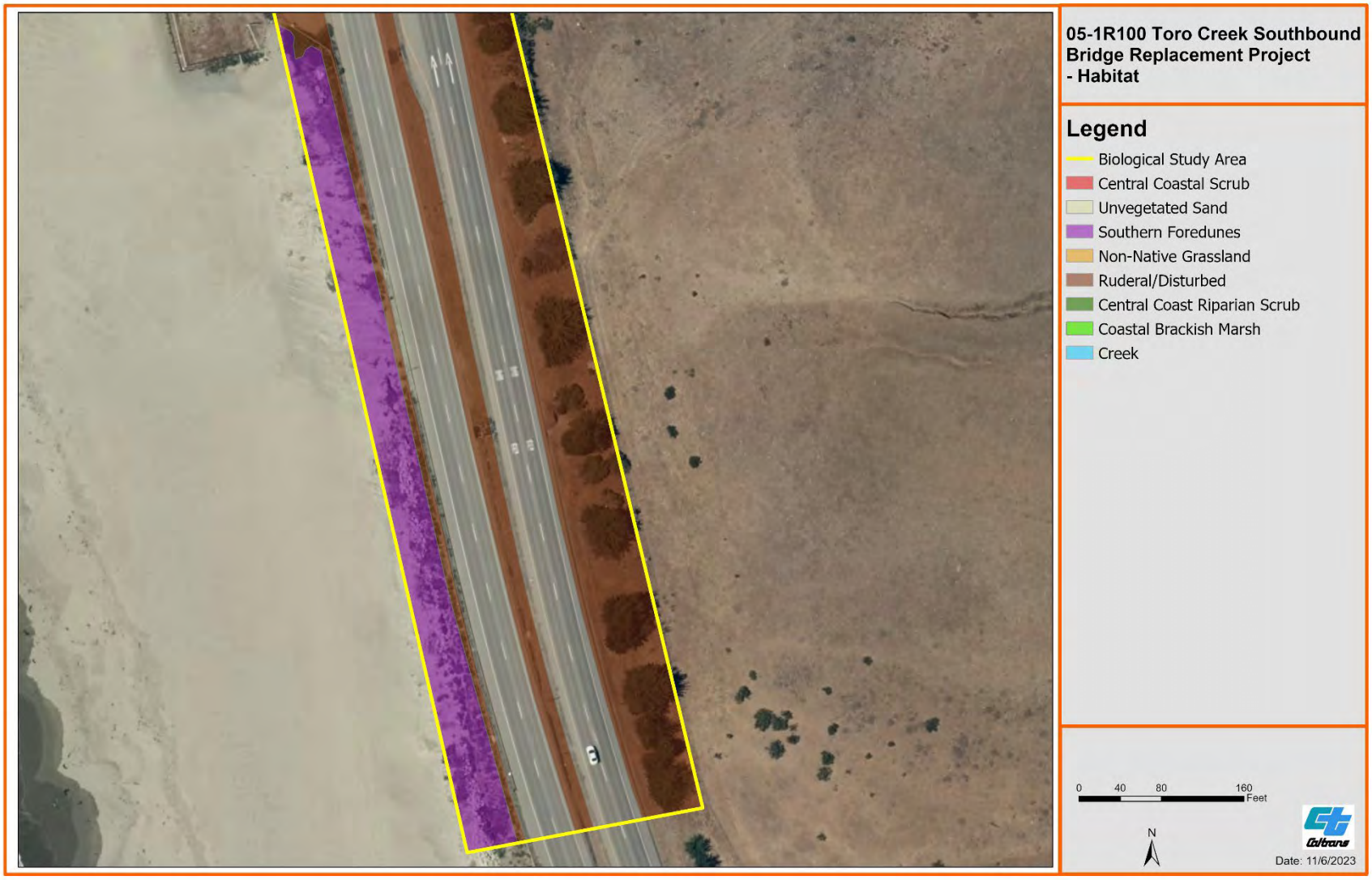

Figure 2e. Biological Study Area (BSA) and Habitat Maps

3.1.3.1. Stream

Within the BSA, Toro Creek runs under the northbound and southbound bridges ranging from approximately 25-feet to 100-feet wide. The wetted portion of the channel supports habitat for steelhead, tidewater goby, and other fish species.

3.1.3.2. Coastal Brackish Marsh

East of the northbound bridge and upstream of the creek outlet, are intermittent fringes of Coastal Brackish Marsh (Holland 1986)/*Bolboschoenus maritimus* Alliance (Sawyer et al. 2009). The habitat is characterized by salt grass (*Distichlis spicata*), common toad rush (*Juncus bufonius*) and broadleaf cattail (*Typha latifolia*) lining the edge of the wetted channel. Coastal Brackish Marsh commonly occurs at the interior edges of coastal bays and estuaries.

3.1.3.3. Central Coastal Scrub

Between the southern foredunes and coastal brackish marsh habitats is Central Coastal Scrub (Holland 1986)/*Baccharis pilularis* Alliance (Sawyer et al. 2009). This habitat is dominated by coyote brush (*Baccharis pilularis*) and sawtoothed goldenbush (*Hazardia squarrosa*) interspersed with lesser amounts of marsh Baccharis.

3.1.3.4. Central Coast Riparian Scrub

The area east of the northbound bridge and upstream of the creek outlet is most similar to Central Coast Riparian Scrub (Holland 1968)/*Salix lasiolepis* Shrubland Alliance (Sawyer et al. 2009). This habitat is dominated by Arroyo willow (Salix lasiolepis) adjacent to Toro Creek and has an understory consisting of California blackberry (Rubus ursinus). Central Coast Riparian Scrub is typically found at the mouths of perennial and intermittent streams between the San Francisco Bay Area and Point Conception. The portion of this habitat within the BSA and API was re-planted in August 2023 as mitigation following the disturbance from the northbound bridge project and will not be impacted during the southbound bridge project activities.

3.1.3.5. Non-Native Grassland

Adjacent to SR-1, the northern and southern portions of the BSA are Non-native Grassland (Holland 1986)/California Annual Grassland – *Avena* Semi-natural Herbaceous Stands (Sawyer et al. 2009). These areas are dominated by slim oat (*Avena barbata*), ripgut brome (*Bromus diandrus*), and soft brome (*Bromus hordeaceus*).

3.1.3.6. Southern Foredunes

Downstream of Toro Creek and west of the southbound bridge is dominated by sandy beach areas and Southern Foredunes (Holland 1986)/*Ambrosia chamissonis* Herbaceous

Alliance. This habitat community is described as having less wind exposure than active dune habitat and limited ground water availability. This area is dominated by red sand verbena (*Abronia maritima*), sea rocket (*Cakile maritima*), beach saltbush (*Atriplex leucophylla*), beach evening-primrose (*Camissonia cheiranthifolia*), and salt grass (*Distichlis spicata*).

3.1.3.7. Sandy Beach

Downstream of Toro Creek and west the southbound bridge is sandy beach habitat. This area intermixes with the western edge of southern foredune habitat. This habitat is subjected to high human disturbances and does not support plant species but can support sensitive animal species such as western snowy plovers (*Charadrius nivosus nivosus*).

3.1.3.8. Ruderal/Disturbed

Ruderal/disturbed vegetation lines the edges of SR-1. These areas are dominated by weedy species such as brome grass, slender wild oat, black mustard, and bull thistle. These areas also contain ornamental/planted rows of Monterey cypress and Monterey pine. These areas are subjected to routine disturbance from vehicle and pedestrian traffic and have minimal potential to support habitat for sensitive species.

3.1.4. Migration and Travel Corridors

Toro Creek supports a migration corridor for amphibians, birds, and mammals. Fish and amphibian migration is occasionally possible along Toro Creek from the creek mouth at the Pacific Ocean to upstream approximately 4.6 miles up the watershed. Birds and mammals use the riparian habitat of Toro Creek for migration and foraging. Nesting habitat is also present within the vegetation surrounding the creek. Terrestrial wildlife connectivity is likely maintained across SR-1 along Toro Creek and its riparian corridor under the bridge crossing. The Areas of Conservation Emphasis (ACE) model considers the BSA as having a connection with implementation flexibility opportunity and the project will not impact wildlife connectivity.

3.1.5. Federally Designated Critical Habitat

The project BSA occurs within the following federally designated critical habitat unit for south-central California coast steelhead: Estero Bay Hydrologic Unit 3310, Toro Hydrologic Sub-area 331018. This critical habitat unit supports Physical and Biological Features (PBFs) for one or more life stages of steelhead (NMFS 2005).

The BSA also occurs within the following federally designated critical habitat unit for tidewater goby: Unit SLO-8, Toro Creek. This unit is comprised of approximately 9 ac and was occupied at the time of listing (USFWS 2013). Usually, SLO–8 possesses a sandbar across the mouth of the lagoon or estuary during the late spring, summer, and fall that closes or partially closes the lagoon or estuary, and thereby provides relatively stable conditions

(PBF1c). The SLO-8 unit also possesses PBF 1a (substrates [e.g., sand, silt, mud] suitable for the construction of burrows for reproduction) and PBF 1b (submerged and emergent aquatic vegetation that provides protection from predators and high flow. This unit is separated from the nearest extant subpopulation which lies 1.8 mi to the north at Old Creek (not designated as critical habitat).

The BSA occurs adjacent to the following federally designated critical habitat unit for western snowy plover: Unit CA-28, Toro Creek. This unit is comprised of approximately 34 acres (ac), was occupied at the time of listing, is currently occupied, and prior to 2000 was an important breeding area that supported as many as 16 breeding birds. However, USFWS has reported that breeding has not occurred at this unit between 2007 and 2012 with 121 wintering birds with one nest containing two chicks from an unknown nest was observed in 2016. No occurrences have been reported after 2016 (USFWS 2023). This unit is an important wintering area with up to 121 Pacific Coast western snowy plovers recorded in a single season (USFWS 2007). This unit includes the following PBFs essential to the species: areas of sandy beach above and below the high-tide line with occasional surf-cast wrack (i.e., seaweed) supporting small invertebrates and generally barren to sparsely vegetated terrain (USFWS 2012).

Further discussion of critical habitat and physical and biological features are included in Chapter 4 for each of the federally listed species.

3.1.6. Invasive Species

A total of 20 invasive plant species as identified by the online California Invasive Plant Council (Cal-IPC) Database (2023) were observed within the BSA (Table 2). One exotic plant species with an invasiveness rating of “high” was observed in the BSA: cape ivy (Delairea odorata). A total of 10 plant species were observed within the BSA with a Cal-IPC rating of “Moderate” and 9 species were observed with an invasiveness rating of “Limited.” The distribution of invasive plant species is sparsely scattered throughout the BSA and most common in ruderal/disturbed areas along the edges of SR-1.

Table 2. Plants Observed in the BSA that are included in the California Invasive Plant Council's Invasive Plant Inventory

Scientific Name	Common Name	Family	Origin/Status
Avena barbata	slim oat	Poaceae	Cal-IPC: Moderate
Brassica nigra	black mustard	Brassicaceae	Cal-IPC: Moderate
Bromus diandrus	ripgut brome	Poaceae	Cal-IPC: Moderate
Bromus hordeaceus	soft brome	Poaceae	Cal-IPC: Limited
Cakile maritima	sea rocket	Brassicaceae	Cal-IPC: Limited
Carduus pycnocephalus	Italian thistle	Asteraceae	Cal-IPC: Moderate
Carpobrotus chilensis	sea fig	Aizoaceae	Cal-IPC: Moderate
Cirsium vulgare	bull thistle	Asteraceae	Cal-IPC: Moderate
Delairea odorata	cape ivy	Asteraceae	Cal-IPC: High
Festuca perennis	Italian rye grass	Poaceae	Cal-IPC: Moderate
Foeniculum vulgare	sweet fennel	Apiaceae	Cal-IPC: Moderate
Lobularia maritima	sweet alyssum	Brassicaceae	Cal-IPC: Limited
Lythrum hyssopifolia	hyssop loosestrife	Lythraceae	Cal-IPC: Limited
Medicago polymorpha	bur clover	Fabaceae	Cal-IPC: Limited
Myoporum laetum	Ngaio tree	Scrophulariaceae	Cal-IPC: Moderate
Oxalis pes-caprae	Bermuda buttercup	Oxalidaceae	Cal-IPC: Moderate
Polypogon monspeliensis	rabbitsfoot grass	Poaceae	Cal-IPC: Limited
Raphanus sativus	wild radish	Brassicaceae	Cal-IPC: Limited
Silybum marianum	milk thistle	Asteraceae	Cal-IPC: Limited
Tetragonia tetragonoides	New Zealand spinach	Aizoaceae	Cal-IPC: Limited

3.2 Regional Species and Habitats/Natural Communities of Concern

"Regional species" and "habitats of concern," as used within this NES, are terms synonymous with "special-status" or "sensitive" species and habitats. Special-status species include taxa that are 1) federally or state listed as endangered, threatened, or rare; 2) candidates for federal or state listing as endangered, threatened, or rare; 3) proposed for federal or state listing as endangered, threatened, or rare; or, 4) considered special concern species by the federal government (i.e., former USFWS Federal Species of Concern) and the CDFW (i.e., California Species of Special Concern (SSC)), or those that appear on the CNDDB Special Animals List (CDFW 2023). Sensitive species also include taxa afforded protection or considered sensitive under various laws (i.e., NEPA, CEQA, MBTA) or under sections of the California Fish and Game Code (i.e., nesting birds), and those taxa recognized as locally important or sensitive by the California Native Plant Society (CNPS) (CNPS 2023) or the

scientific community. Sensitive natural communities/habitats include those that are regulated or considered sensitive by federal, state, and/or local agencies or NEPA/CEQA. The known occurrences of sensitive species have been inventoried and mapped, to varying degrees of accuracy, by the CNDDB (2023).

3.2.1. Regional Plant Species of Concern

The CNDDB (2023) documents 43 special-status plant taxa (federally listed, state listed, and/or CNPS List 1B, 2, or 4) as occurring within the search area. The official federal species list for the vicinity of the project area received from USFWS included 4 additional federally listed species (USFWS 2023) (Appendix B). The names and legal status of each of the special-status plant taxa considered are included in Table 3, as well as a general description of the habitat requirements for each. Also included is a determination whether suitable habitat is present (HP) or absent (A), whether the taxon is present (P), and/or whether the BSA is located within a federally designated critical habitat unit (CH). The rationale section summarizes the potential for each taxon to occur in the BSA or be affected by the project.

3.2.2. Regional Animal Species of Concern

The CNDDB (2023) documents 13 special-status animal taxa (federally listed, state-listed, California Fully Protected, SSCs, CNDDB Special Animals, and/or protected by the MBTA and FGC) as occurring within the search area. The official federal species list for the vicinity of the project area received from USFWS also included an additional 12 federally listed species (USFWS 2023) (Appendix B). The "other nesting birds" category was added for the numerous species of birds with potential for occurrence in the BSA that are protected by the MBTA and FGC Section 3503, and the "other roosting bats" category was added for the various species of bats that are protected by CEQA and known to roost in bridges. The names and legal status of each of these special-status animal taxa are identified in Table 4, as well as a general description of the habitat requirements for each. Also included is a determination whether suitable habitat is present (HP) or absent (A), whether the taxon is present (P), and/or whether the BSA is located within a federally designated critical habitat unit (CH). The rationale section summarizes the potential for each taxon to occur in the BSA or be affected by the project.

3.2.3. Regional Habitats of Concern

The CNDDB (2023) documents 6 regional habitats of concern that are considered sensitive as occurring within the search area. The names of the habitats of concern considered are included in Table 5, as well as a general description of the habitat types. Also included is a determination whether these habitats are present (HP) or absent (A). The rationale section summarizes the potential for these habitats to occur in the BSA or be affected by the project.

Table 3. Regional Plant Species of Concern

Common / Scientific Name	Federal / State / CNPS Status	General Habitat Description	Habitat Present / Absent	Rationale
Hoover's bent grass Agrostis hooveri	-- / -- / 1B.2	Perennial herb; occurs in chaparral, cismontane woodland, closed-cone coniferous forest, valley and foothill grassland; usually found in sandy sites. Flowers April - July. 20-2000 feet (6-610 meters).	A	▪ No suitable chaparral, cismontane woodland, coniferous forest, or grassland habitat present within the BSA. ▪ Not observed during appropriately timed botanical surveys. ▪ No CNDDB records within 3.0 miles of the BSA. ▪ No further studies recommended.
Arroyo de la Cruz manzanita *Arctostaphylos cruzensis*	-- / -- / 1B.2	Perennial evergreen shrub; occurs in broad-leafed upland forest, coastal bluff scrub, closed-cone coniferous forest, chaparral, coastal scrub, and valley and foothill grassland; found in sandy soil. Flowers December-March. 196-1017 feet (60-310 meters).	A	▪ BSA is outside of the species' elevation range. ▪ No CNDDB records within 3.0 miles of the BSA. ▪ BSA is outside of the species' elevation range. ▪ No further studies recommended.
Morro manzanita *Arctostaphylos morroensis*	FT / -- / 1B.1	Perennial evergreen shrub; occurs in chaparral (maritime), cismontane woodland, coastal dunes, coastal scrub and Baywood fine sand. Flowers December-March. 1-673 feet (5-205 meters).	A	▪ No suitable Baywood fine sand habitat present within the BSA. ▪ No CNDDB records within 3.0 miles of the BSA. ▪ Not observed during appropriately timed botanical surveys. ▪ No further studies recommended. ▪ The FESA effects determination is that the project will have no effect on the species.
Oso manzanita *Arctostaphylos osoensis*	-- / -- / 1B.2	Perennial evergreen shrub; occurs in chaparral and cismontane woodland; found in dacite porphyry buttes. Flowers February-March. 311-1640 feet (95-500 meters).	A	▪ BSA is outside of the species' elevation range. ▪ No CNDDB records within 3.0 miles of the BSA. ▪ BSA is outside of the species' elevation range. ▪ No further studies recommended.
Pecho manzanita *Arctostaphylos pechoensis*	-- / -- / 1B.2	Perennial evergreen shrub; occurs in closed-cone coniferous forest, chaparral, and coastal scrub. Flowers November-March. 410-2789 feet (125-850 meters).	A	▪ BSA is outside of the species' elevation range. ▪ No CNDDB records within 3.0 miles of the BSA. ▪ BSA is outside of the species' elevation range. ▪ No further studies recommended.
dacite manzanita *Arctostaphylos tomentosa ssp. daciticola*	-- / -- / 1B.1	Perennial evergreen shrub; occurs in chaparral, cismontane woodland. Only known from one site in SLO County on dacite porphyry buttes. Flowers March - May. 328-984 feet (100-300 meters).	A	▪ No suitable chaparral or cismontane woodland habitat present within the BSA. ▪ No CNDDB records within 3.0 miles of the BSA. ▪ BSA is outside of the species' elevation range. ▪ No further studies recommended.

Common / Scientific Name	Federal / State / CNPS Status	General Habitat Description	Habitat Present / Absent	Rationale
Coulter's saltbush *Atriplex coulteri*	-- / -- / 1B.2	Perennial herb; occurs in coastal bluff scrub, coastal dunes, coastal scrub, valley and foothill grassland. Found on ocean bluffs, ridgetops, as well as alkaline & low places. Alkaline or clay soils. Flowers March - October. 10-1510 feet (3-460 meters).	HP	▪ Suitable coastal dune and coastal scrub habitat present within the BSA. ▪ No CNDDB records within 3.0 miles of the BSA. ▪ Not observed during appropriately timed botanical surveys. ▪ No further studies recommended.
marsh sandwort *Arenaria paludicola*	FE / SE / 1B.1	Perennial stoloniferous herb; occurs in sandy areas and openings in freshwater or brackish marshes and swamps. Flowers May-August. 1-558 feet (3-170 meters).	HP	▪ Suitable brackish marsh habitat present within the BSA. ▪ No CNDDB records within 3.0 miles of the BSA. ▪ Not observed during appropriately timed botanical surveys. ▪ No further studies recommended. ▪ The FESA effects determination is that the project will have no effect on the species. ▪ The CESA determination is that the project will have no take on the species.
Miles' milk-vetch *Astragalus didymocarpus var. milesianus*	-- / -- / 1B.2	Annual herb; occurs in coastal scrub; clay soil. Flowers March-June. 65-295 feet (20-90 meters).	A	▪ BSA is outside of the species' elevation range. ▪ No CNDDB records within 3.0 miles of the BSA. ▪ Not observed during appropriately timed botanical surveys. ▪ No further studies recommended.
Cambria morning-glory *Calystegia subacaulis ssp. episcopalis*	-- / -- / 4.2	Perennial rhizomatous herb; occurs in chaparral, cismontane woodland, coastal prairie, and valley and foothill grassland; usually clay soil. Flowers March-July. 98-1640 (30-500 meters).	A	▪ BSA is outside of the species' elevation range. ▪ No recent (1936) CNDDB records within 3.0 miles of the BSA. ▪ Not observed during appropriately timed botanical surveys. ▪ No further studies recommended.
Hardham's evening-primrose Camissoniopsis hardhamiae	-- / -- / 1B.2	Annual herb; occurs in chaparral, cismontane woodland. Found on sandy, decomposed carbonate. Tend to appear after disturbance/fire. Flowers March - May. 459-3100 feet (140-945 meters).	A	▪ BSA is outside of the species' elevation range. ▪ No CNDDB records within 3.0 miles of the BSA. ▪ Not observed during appropriately timed botanical surveys. ▪ No further studies recommended.

Common / Scientific Name	Federal / State / CNPS Status	General Habitat Description	Habitat Present / Absent	Rationale
California jewelflower *Caulanthus californicus*	FE / SE / 1B.1	Occurs in chenopod scrub, valley and foothill grassland, pinyon and juniper woodland. Found in various valley habitats in both the central valley and Carrizo Plain. Flowers February - May. 200-3280 feet (61-1000 meters).	A	▪ BSA is outside of the species' elevation range. ▪ No CNDDB records within 3.0 miles of the BSA. ▪ Not observed during appropriately timed botanical surveys. ▪ No further studies recommended. ▪ The FESA effects determination is that the project will have no effect on the species. ▪ The CESA determination is that the project will have no take on the species.
San Luis Obispo owl's-clover *Castilleja densiflora* ssp. *obispoensis*	-- / -- / 1B.2	Annual herb; occurs in meadows and seeps and valley and foothill grassland; sometimes serpentinite soil. Flowers March-May. 32-1312 feet (10-400 meters).	A	▪ No suitable meadows, seeps, or grassland habitat present within the BSA. ▪ No recent (1940) CNDDB records within 3.0 miles of the BSA. ▪ Not observed during appropriately timed botanical surveys. ▪ No further studies recommended.
Chorro Creek bog thistle *Cirsium fontinale* var. *obispoense*	FE / SE / 1B.2	Perennial herb; occurs in chaparral, cismontane woodland, coastal scrub, and valley and foothill grassland; serpentine seeps and drainages. Flowers February-September. 114-1247 feet (35-380 meters).	A	▪ BSA is outside of the species' elevation range. ▪ No CNDDB records within 3.0 miles of the BSA. ▪ Not observed during appropriately timed botanical surveys. ▪ No further studies recommended. ▪ The FESA effects determination is that the project will have no effect on the species. ▪ The CESA determination is that the project will have no take on the species.
coastal goosefoot *Chenopodium littoreum*	-- / -- / 1B.2	Annual herb; occurs in coastal dunes. Flowers April - August. 35-100 feet (10-31 meters).	HP	▪ Suitable coastal dune habitat present within the BSA. ▪ No CNDDB records within 3.0 miles of the BSA. ▪ Not observed during appropriately timed botanical surveys. ▪ No further studies recommended.
dwarf soaproot *Chlorogalum pomeridianum var. minus*	-- / -- / 1B.2	Perennial bulbiferous herb; occurs in chaparral. Found on serpentine. Flowers May - August. 1000-3281 feet (304-1000 meters).	A	▪ BSA is outside of the species' elevation range. ▪ No CNDDB records within 3.0 miles of the BSA. ▪ Not observed during appropriately timed botanical surveys. ▪ No further studies recommended.

Common / Scientific Name	Federal / State / CNPS Status	General Habitat Description	Habitat Present / Absent	Rationale
salt marsh bird's-beak *Chloropyron maritimum* ssp. *maritimum*	FE / SE / 1B.2	Annual herb (hemiparasitic); occurs in coastal dunes, marshes and swamps (coastal salt). Flowers May-October. 0-98 feet (0-30 meters).	HP	▪ Suitable coastal dune habitat within the BSA. ▪ No CNDDB records within 3.0 miles of the BSA. ▪ Not observed during appropriately timed botanical surveys. ▪ No further studies recommended. ▪ The FESA effects determination is that the project will have no effect on the species. ▪ The CESA determination is that the project will have no take on the species.
Brewer's spineflower *Chorizanthe breweri*	-- / -- / 1B.3	Annual herb; occurs in chaparral, cismontane woodland, coastal scrub, closed-cone coniferous forest. Found on rocky or gravelly serpentine sites; usually in barren areas. Flowers April - August. 150-2625 feet (45-800 meters).	A	▪ BSA is outside of the species' elevation range. ▪ No CNDDB records within 3.0 miles of the BSA. ▪ Not observed during appropriately timed botanical surveys. ▪ No further studies recommended.
compact cobwebby thistle *Cirsium occidentale* var. *compactum*	-- / -- / 1B.2	Perennial herb; occurs in chaparral, coastal dunes, coastal prairie, coastal scrub. Found on dunes and on clay in chaparral; also in grassland. Flowers April - June. 1-492 feet (4-150 meters).	HP	▪ Suitable dune habitat within the BSA. ▪ No CNDDB records within 3.0 miles of the BSA. ▪ Not observed during appropriately timed botanical surveys. ▪ No further studies recommended.
Cuesta Ridge thistle *Cirsium occidentale* var. *lucianum*	-- / -- / 1B.2	Perennial herb; occurs in chaparral. Found in openings, on serpentinite, on steep rocky slopes and along disturbed roadsides. Flowers April - June. 1640-2460 feet (500-750 meters).	A	▪ BSA is outside of the species' elevation range. ▪ No CNDDB records within 3.0 miles of the BSA. ▪ Not observed during appropriately timed botanical surveys. ▪ No further studies recommended.
dune larkspur *Delphinium parryi* ssp. *blochmaniae*	-- / -- / 1B.2	Perennial herb; occurs in chaparral (maritime), coastal dune. Found in rocky areas and dunes. Flowers April - June. 0-66 feet (0-200 meters).	HP	▪ Suitable coastal dune habitat within the BSA. ▪ No CNDDB records within 3.0 miles of the BSA. ▪ Not observed during appropriately timed botanical surveys. ▪ No further studies recommended.
Eastwood's larkspur *Delphinium parryi ssp. eastwoodiae*	-- / -- / 1B.2	Perennial herb; occurs in chaparral (openings), and valley and foothill grassland; on serpentinite soil in coastal areas. Flowers February-March. 246-1640 feet (75-500 meters).	A	▪ No suitable chaparral or grassland habitat within the BSA. ▪ Nearest CNDDB records is approximately 0.5 miles south of the BSA based on an approximate location from 1960. ▪ Not observed during appropriately timed botanical surveys. ▪ No further studies recommended.

Common / Scientific Name	Federal / State / CNPS Status	General Habitat Description	Habitat Present / Absent	Rationale
umbrella larkspur *Delphinium umbraculorum*	-- / -- / 1B.2	Perennial herb; occurs in chaparral, cismontane woodland. Found in mesic sites. Flowers April - June. 400-5250 feet (400-1600 meters).	A	▪ BSA is outside of the species' elevation range. ▪ No CNDDB records within 3.0 miles of the BSA. ▪ Not observed during appropriately timed botanical surveys. ▪ No further studies recommended.
beach spectaclepod *Dithyrea maritima*	-- / ST / 1B.2	Perennial rhizomatous herb; occurs in coastal dunes, coastal scrub. Found on sea shores, on sand dunes, and sandy places near the shore. Flowers March - May. 10-165 feet (3-50 meters).	HP	▪ Suitable coastal dune habitat within the BSA. ▪ No CNDDB records within 3.0 miles of the BSA. ▪ Not observed during appropriately timed botanical surveys. ▪ No further studies recommended. ▪ The CESA determination is that the project will have no take on the species.
Betty's dudleya *Dudleya abramsii ssp. bettinae*	-- / -- / 1B.2	Perennial herb; occurs in chaparral, coastal scrub and valley and foothill grassland; serpentinite and rocky soil. Flowers May-July. 65-590 feet (20-180 meters).	A	▪ No suitable serpentinite or rocky soil within the BSA. ▪ Nearest CNDDB records is approximately 0.7 miles northeast of the BSA. ▪ Not observed during appropriately timed botanical surveys. ▪ No further studies recommended.
mouse-gray dudleya *Dudleya abramsii ssp. murina*	-- / -- / 1B.3	Perennial leaf succulent; occurs in chaparral, cismontane woodland, and valley and foothill grassland; serpentinite soil. Flowers May-June. 295-1457 feet (90-444 meters).	A	▪ BSA is outside of the species' elevation range. ▪ Nearest CNDDB records is approximately 3.0 miles southeast of the BSA. ▪ Not observed during appropriately timed botanical surveys. ▪ No further studies recommended.
Blochman's dudleya *Dudleya blochmaniae ssp. blochmaniae*	-- / -- / 1B.1	Perennial herb; occurs in coastal bluff scrub, chaparral, coastal scrub, and valley and foothill grassland; rocky, clay, or serpentinite soil. Flowers April-June. 16-1476 feet (5-450 meters).	HP	▪ Suitable coastal scrub habitat within the BSA. ▪ Nearest CNDDB record is approximately 0.7 miles north of the BSA. ▪ Not observed during appropriately timed botanical surveys. ▪ No further studies recommended.
Blochman's leafy daisy *Erigeron blochmaniae*	-- / -- / 1B.2	Perennial rhizomatous herb; occurs in coastal dunes and coastal scrub. Flowers June-August. 10-148 feet (3-45 meters).	HP	▪ Suitable coastal dune and coastal scrub habitat within the BSA. ▪ Nearest CNDDB record is approximately 1.5 miles south of the BSA. ▪ Not observed during appropriately timed botanical surveys. ▪ No further studies recommended.

Common / Scientific Name	Federal / State / CNPS Status	General Habitat Description	Habitat Present / Absent	Rationale
Indian Knob mountainbalm *Eriodictyon altissimum*	FE / SE / 1B.1	Perennial evergreen shrub; occurs in chaparral (maritime), cismontane woodland, coastal scrub. Found on ridges in open, disturbed areas within chaparral on Pismo sandstone. Flowers March - June. 262-886 feet (	A	▪ BSA is outside of the species' elevation range. ▪ No CNDDB records within 3.0 miles of the BSA. ▪ Not observed during appropriately timed botanical surveys. ▪ No further studies recommended. ▪ The FESA effects determination is that the project will have no effect on the species. ▪ The CESA determination is that the project will have no take on the species.
San Joaquin spearscale *Extriplex joaquinana*	-- / -- / 1B.2	Annual herb; occurs in chenopod scrub, meadows and seeps, playas, and valley and foothill grassland; alkaline soil. Flowers April-October. 3-2740 feet (1-835 meters).	A	▪ No suitable chenopod scrub, meadow, seep, playa, or grassland habitat within the BSA. ▪ No CNDDB records within 3.0 miles of the BSA. ▪ Not observed during appropriately timed botanical surveys. ▪ No further studies recommended.
Ojai fritillary *Fritillaria ojaiensis*	-- / -- / 1B.2	Perennial bulbiferous herb; occurs in broadleaved upland forest (mesic), chaparral, lower montane coniferous forest, cismontane woodland. Usually found in loamy soil; sometimes on serpentine; sometimes along roadsides. Flowers February - May. 738-3280 feet (225-1000 meters).	A	▪ BSA is outside of the species' elevation range. ▪ No CNDDB records within 3.0 miles of the BSA. ▪ Not observed during appropriately timed botanical surveys. ▪ No further studies recommended.
Kellogg's horkelia *Horkelia cuneata* var. *sericea*	-- / -- / 1B.1	Perennial herb; occurs in closed-cone coniferous forest, coastal scrub, coastal dunes, chaparral. Found in old dunes, coastal sandhills; openings. Flowers April - September. 32-656 feet (10-200 meters).	HP	▪ Suitable coastal scrub and coastal dune habitat within the BSA. ▪ No CNDDB records within 3.0 miles of the BSA. ▪ Not observed during appropriately timed botanical surveys. ▪ No further studies recommended.
Coulter's goldfields *Lasthenia glabrata ssp. coulteri*	-- / -- / 1B.1	Annual herb; occurs in coastal salt marshes, playas, vernal pools. Found in alkaline soils in playas, sinks, and grasslands. Flowers February - June. 5-4005 feet (1-1221 meters).	A	▪ No suitable salt marsh, playa, or vernal pool habitats present within the BSA. ▪ No CNDDB records within 3.0 miles of the BSA. ▪ Not observed during appropriately timed botanical surveys. ▪ No further studies recommended.
Jones's layia *Layia jonesii*	-- / -- / 1B.2	Annual herb; occurs in chaparral and valley and foothill grassland; clay or serpentine soil. Flowers March-May. 16-1312 feet (5-400 meters).	A	▪ No suitable chaparral or grassland habitat within the BSA. ▪ Nearest CNDDB record is approximately 0.6 miles southeast of the BSA. ▪ Not observed during appropriately timed botanical surveys. ▪ No further studies recommended.

Common / Scientific Name	Federal / State / CNPS Status	General Habitat Description	Habitat Present / Absent	Rationale
Santa Lucia bush-mallow *Malacothamnus palmeri* var. *palmeri*	-- / -- / 1B.2	Perennial deciduous shrub; occurs in rocky chaparral. Found on dry rocky slopes, mostly near summits, but occasionally extending down canyons to the sea. Flowers May - July. 196-1181 feet (60-360 meters).	A	▪ BSA is outside of the species' elevation range. ▪ No CNDDB records within 3.0 miles of the BSA. ▪ Not observed during appropriately timed botanical surveys. ▪ No further studies recommended.
Palmer's Monardella *Mondardella palmeri*	-- / -- / 1B.2	Perennial rhizomatous herb; occurs in cismontane woodland, chaparral. Found on serpentine; associated with sargent cypress forests. Flowers June - August. 656-2625 feet (200-800 meters).	A	▪ BSA is outside of the species' elevation range. ▪ No CNDDB records within 3.0 miles of the BSA. ▪ Not observed during appropriately timed botanical surveys. ▪ No further studies recommended.
spreading navarretia *Navarretia fossalis*	FT / -- / 1B.1	Annual herb; occurs in chenopod scrub, marshes and swamps (shallow .freshwater), playas, and vernal pools. Flowers April-June. 98-2149 feet (30-655 meters).	A	▪ BSA is outside of the species' elevation range. ▪ No CNDDB records within 3.0 miles of the BSA. ▪ Not observed during appropriately timed botanical surveys. ▪ No further studies recommended. ▪ The FESA effects determination is that the project will have no effect on the species.
coast woolly-heads *Nemacaulis denudata var. denudata*	-- / -- / 1B.2	Annual herb' occurs in coastal dunes. Flowers April - September. 0-330 feet (0-100 meters).	HP	▪ Marginally suitable coastal dune habitat present within the BSA. ▪ No CNDDB records within 3.0 miles of the BSA. ▪ Not observed during appropriately timed botanical surveys. ▪ No further studies recommended.
Diablo Canyon blue grass *Poa diaboli*	-- / -- / 1B.2	Perennial rhizomatous herb; occurs in chaparral (mesic sites), cismontane woodland, coastal scrub, closed-cone coniferous forest. Found on shale, sometimes in burned areas. Flowers March - April. 393-1312 feet (120-400 meters).	A	▪ BSA is outside of the species' elevation range. ▪ No CNDDB records within 3.0 miles of the BSA. ▪ Not observed during appropriately timed botanical surveys. ▪ No further studies recommended.
adobe sanicle *Sanicula maritima*	-- / SR / 1B.1	Perennial herb; occurs in meadows and seeps, valley and foothill grassland, chaparral, coastal prairie. Found in moist clay or ultramafic soils. Flowers February - May. 98-787 feet (30-240 meters).	A	▪ No suitable moist clay or ultramafic soils within the BSA. ▪ No CNDDB records within 3.0 miles of the BSA. ▪ Not observed during appropriately timed botanical surveys. ▪ No further studies recommended.

Common / Scientific Name	Federal / State / CNPS Status	General Habitat Description	Habitat Present / Absent	Rationale
chaparral ragwort *Senecio aphanactis*	-- / -- / 2B.2	Annual herb.; occurs in chaparral, cismontane woodland, coastal scrub. Found on drying (sometimes) alkaline flats. Flowers January - May. 49-2625 feet (15-800 meters).	A	▪ No suitable alkaline flats within the BSA. ▪ No CNDDB records within 3.0 miles of the BSA. ▪ Not observed during appropriately timed botanical surveys. ▪ No further studies recommended.
most beautiful jewelflower *Strepthanthus albidus* ssp. *peramoenus*	-- / -- / 1B.2	Annual herb; occurs in chaparral, valley and foothill grassland, cismontane woodland. Found in serpentine outcrops, on ridges and slopes. Flowers March - October. 311-3280 feet (95-1000 meters).	A	▪ No suitable chaparral, grassland, or cismontane woodland habitat within the BSA. ▪ No CNDDB records within 3.0 miles of the BSA. ▪ Not observed during appropriately timed botanical surveys. ▪ No further studies recommended.
California seablite *Suaeda californica*	FE / -- / 1B.1	Perennial evergreen shrub; occurs in marshes and swamps, coastal salt marsh. Flowers July-October. 0-50 feet (0-15 meters).	HP	▪ Suitable marsh habitat within the BSA. ▪ Nearest CNDDB record is approximately 2.8 miles south of the BSA. ▪ Not observed during appropriately timed botanical surveys. ▪ No further studies recommended. ▪ The FESA effects determination is that the project will have no effect on the species.

Table 4. Regional Animal Species of Concern

Common / Scientific Name	Federal / State / Status	General Habitat Description	Habitat Present / Absent	Rationale
Invertebrates				
vernal pool fairy shrimp *Branchinecta lynchi*	FT / -- / --	Endemic to the grasslands of the Central Valley, Central Coast mountains, and South Coast mountains, in astatic rain-filled pools. Inhabit small, clear-water sandstone-depression pools and grassed swale, earth slump, or basalt-flow depression pools.	A	▪ No suitable vernal pool habitat within the BSA. ▪ No CNDDB records within 3.0 miles of the BSA. ▪ No further studies recommended. ▪ The FESA effects determination is that the project will have no effect on the species.
monarch-California overwintering population *Danaus plexippus plexippus pop. 1*	FC / -- / --	Winter roosting sites extend along the coast from northern Mendocino to Baja California, Mexico. Roosts located in wind-protected tree groves (eucalyptus, Monterey pine, cypress), with nectar and water sources nearby.	A	▪ No suitable overwintering habitat within the BSA. ▪ Nearest CNDDB record is approximately 0.3 miles northeast of the BSA. ▪ No further studies recommended. ▪ The FESA effects determination is that the project will have no effect on the species.
Morro shoulderband *Helminthoglypta walkeriana*	FT / -- / --	Restricted to the coastal strand in the immediate vicinity of Morro Bay. Inhabits the duff beneath *Haplopappus, Salvia, Dudleya,* and *Mesembryanthemum*.	A	▪ No suitable duff habitat within the BSA. ▪ Nearest CNDDB record is approximately 1.7 miles southeast of the BSA. ▪ Not observed during surveys. ▪ No further studies recommended. ▪ The FESA effects determination is that the project will have no effect on the species.
Fish				

tidewater goby *Eucyclogobius newberryi*	FE, CH / -- / SSC	Occurs in brackish water habitats along the California Coast from Agua Hedionda Lagoon, San Diego county to the mouth of the Smith River. Found in shallow lagoons and lower stream reaches; they need fairly still but not stagnant water & high oxygen levels.	HP, P, CH	▪ Suitable habitat is present within the BSA.
				▪ Critical habitat is designated within the BSA.
				▪ Focused aquatic surveys were not conducted, but the species is known to occur within the BSA.
				▪ The FESA effects determination is the project:
				  ▪ May affect and is likely to adversely affect tidewater goby; and,
				  ▪ May affect and is likely to adversely affect tidewater goby critical habitat.
				▪ Avoidance/minimization measures recommended.

Common / Scientific Name	Federal / State / Status	General Habitat Description	Habitat Present / Absent	Rationale

steelhead-south-central California coast DPS
Oncorhynchus mykiss irideus pop. 9
	FT / -- / --	Federal listing refers to runs in coastal basins from the Pajaro River south to, but not including, the Santa Maria River. The species needs adequate streamflow for return passage to streams and rivers to spawn. Require cool, clean water.	HP, P, CH	▪ Suitable habitat is present within the BSA.
				▪ Critical habitat is designated within the BSA.
				▪ Focused aquatic surveys were not conducted, but the species is known to occur within the BSA.
				▪ The FESA effects determination is the project:
				  ▪ May affect and is likely to adversely affect steelhead; and,
				  ▪ May affect and is likely to adversely affect steelhead critical habitat.
				▪ Avoidance/minimization measures recommended.

Amphibians				
California tiger salamander *Ambystoma californiense*	FE / ST / --	Occurs in grasslands or oak woodlands that support natural ephemeral pools or ponds that mimic them; in coastal areas from Mendocino to San Diego counties. Lives in existing small mammal burrows in terrestrial habitats & will migrate over 1 km to breed. May also be found in crevices in logs, piles of lumber, and shrink-swell cracks in the ground.	A	▪ No suitable grassland or oak woodland habitat present within the BSA. ▪ No CNDDB records within 3.0 miles of the BSA. ▪ Not observed during general wildlife surveys. ▪ No further studies recommended. ▪ The FESA effects determination is that the project will have no effect on the species. ▪ The CESA determination is that the project will have no take on the species.
lesser slender salamander *Batrachoseps minor*	-- / -- / SCC	Occurs in moist locations in forests of mixed oak, tanbark oak, sycamore, and laurel. Typically found above 1300 feet (400 meters).	A	▪ BSA is outside of the species' elevation range. ▪ No CNDDB records within 3.0 miles of the BSA. ▪ Not observed during general wildlife surveys. ▪ No further studies recommended.
Foothill yellow-legged frog *Rana boylii*	FCE / SE / SSC	Lowlands and foothills in or near permanent sources of deep water with dense, shrubby or emergent riparian vegetation. Partly shaded streams and riffles. Needs some cobble-sized substrate for egg-laying. Near sea level to 6,370 feet (1942 meters).	A	▪ No suitable lowland or foothill habitat present within the BSA. ▪ No CNDDB records within 3.0 miles of the BSA. ▪ Not observed during general wildlife surveys. ▪ No further studies recommended. ▪ The FESA effects determination is that the project will have no effect on the species. ▪ The CESA determination is that the project will have no take on the species.

Common / Scientific Name	Federal / State / Status	General Habitat Description	Habitat Present / Absent	Rationale
California red-legged frog *Rana draytonii*	FT / -- / SCC	Endemic to California and northern Baja California. Typically found in or near water but can move overland. Frequently found in woods adjacent to streams. Breeds in permanent or ephemeral water sources, optimally in aquatic habitats with little or no flow, the presence of surface water to at least early June, surface water depths to at least 2.3 feet, and the presence of fairly sturdy underwater supports such as cattails.	HP, P	▪ Suitable habitat present within the BSA. ▪ Species is known to occur within the BSA. ▪ No protocol surveys were conducted and presence within the BSA is inferred. ▪ The FESA effects determination is that the project may affect, and is likely to adversely affect California red-legged frog. ▪ Avoidance and minimization measures recommended.
Coast Range newt *Taricha torosa*	-- / -- / SA	Breeds in ponds, reservoirs, and slow-moving streams. Frequently found in terrestrial habitats.	HP	▪ Suitable habitat present within the BSA. ▪ Not observed during surveys, ▪ Avoidance and minimization measures recommended.
Reptiles				
northern California legless lizard *Anniella pulchra*	-- / -- / SSC	Occurs from the southern edge of the San Joaquin River in northern Contra Costa County south to the Ventura County, in sandy soil and sparsely vegetated areas of beach dunes, scrub, woodlands, and sandy washes. They prefer soils with a high moisture content.	HP (Marginal)	▪ Marginally suitable dune and scrub habitat present within the BSA. ▪ No CNDDB records within 3.0 miles of the BSA. ▪ Not observed during general wildlife surveys. ▪ Avoidance and minimization measures recommended.
southwestern pond turtle *Actinemys pallida*	FP / -- / SSC	Occurs in quiet waters of ponds, marshes, rivers, streams, and irrigation ditches, usually with aquatic vegetation, below 6,000 ft. Needs basking sites and suitable upland habitat like sandy banks or grassy open fields up to 0.3 mi from water for egg-laying.	HP, P	▪ Suitable habitat present within the BSA. ▪ Species is known to occur within the BSA. ▪ No protocol surveys were conducted and presence within the BSA is inferred. ▪ The FESA effects determination is that the project may affect, and is likely to adversely affect southwestern pond turtle ▪ Avoidance and minimization measures recommended.
Coast horned lizard *Phrynosoma blainvillii*	-- / -- / SCC	Inhabits open areas of sandy soil and low vegetation in valleys, foothills and semiarid mountains, typically in sandy washes with scattered shrubs. This species is found along the Pacific coast from Baja California north to the San Francisco Bay area, and inland as far north as the Shasta Reservoir and as far south as Baja California.	A	▪ The BSA is not located within valley, foothill, or semiarid mountains. ▪ Nearest CNDDB record is approximately 1.6 miles southeast of the BSA. ▪ Not observed during general wildlife surveys. ▪ No further studies recommended.
Mammals				

Common / Scientific Name	Federal / State / Status	General Habitat Description	Habitat Present / Absent	Rationale
pallid bat *Antrozous pallidus*	-- / -- / SSC	Deserts, grasslands, shrublands, woodlands & forests. most common in open, dry habitats with rocky areas for roosting. Roosts must protect bats from high temperatures. Day roosts are in caves, crevices, mines, and occasionally in hollow trees and buildings. Night roosts may be in more open sites, such as porches and buildings. Very sensitive to disturbance of roosting sites.	HP	▪ Suitable roosting habitat present within the BSA on bridge. ▪ No CNDDB records within 3.0 miles of the BSA. ▪ No roosts observed during general wildlife surveys. ▪ No further studies recommended.
Morro Bay kangaroo rat *Dipodomys heermannii morroensis*	FE / SE / --	Coastal sage scrub on the south side of Morro Bay. Needs sandy soil, but not active dunes, prefers early seral stages. Utilize burrows for young and inactivity, eat mainly seeds and vegetation.	A	▪ No suitable sage scrub habitat. Project is north of Morro Bay. ▪ No CNDDB records within 3.0 miles of the BSA. ▪ Not observed during general wildlife surveys. ▪ No further studies recommended. ▪ The FESA effects determination is that the project will have no effect on the species. ▪ The CESA determination is that the project will have no take on the species.
giant kangaroo rat *Dipodomys ingens*	FE / SE / --	Annual grasslands in colonies isolated on the western side of the San Joaquin Valley, including the Carrizo Plain, the Elkhorn Plain, and the Kettleman Hills. Marginal habitat in alkali scrub. Need level terrain & sandy loam soils for burrowing.	A	▪ BSA is outside of the species' range. ▪ No CNDDB records within 3.0 miles of the BSA. ▪ Not observed during general wildlife surveys. ▪ No further studies recommended. ▪ The FESA effects determination is that the project will have no effect on the species. ▪ The CESA determination is that the project will have no take on the species.
southern sea otter *Enhydra lutris nereis*	FT / -- / --	Kelp forests and shallow waters along California coastline from San Mateo County to Santa Barbara County.	A	▪ No suitable sea water habitat within the BSA. ▪ Not observed during general wildlife surveys. ▪ No further studies recommended. ▪ The FESA effects determination is that the project will have no effect on the species.
big free-tailed bat *Nyctinomops macrotis*	-- / -- / SSC	In a wide variety of habitats including Ponderosa pine, Douglas fir, Sonora desertscrub. Prefer rugged, rocky terrain. Roosts in buildings, caves, high cliff and rocky outcrop crevices, and occasionally in holes in trees.	A	▪ No suitable foraging or high roost habitat within the BSA. ▪ No CNDDB records within 3.0 miles of the BSA. ▪ No roosts observed during general wildlife surveys. ▪ No further studies recommended.

Common / Scientific Name	Federal / State / Status	General Habitat Description	Habitat Present / Absent	Rationale
San Joaquin kit fox *Vulpes macrotis mutica*	FE / ST / --	Annual grasslands or grassy open stages with scattered shrubby vegetation. Need loose-textured sandy soils for burrowing, and suitable prey base.	A	▪ BSA is outside of the species' range. ▪ No CNDDB records within 3.0 miles of the BSA. ▪ Not observed during general wildlife surveys. ▪ No further studies recommended. ▪ The FESA effects determination is that the project will have no effect on the species. ▪ The CESA determination is that the project will have no take on the species.
Birds				
Cooper's hawk *Accipiter cooperi*	-- / -- / WL	Inhabits woodland of open, interrupted or marginal type. Nest sites mainly in riparian growths of deciduous trees, as in canyon bottoms on river flood-plains; also, live oaks.	HP (Marginal)	▪ Marginally suitable riparian habitat present within the BSA. ▪ No CNDDB records within 3.0 miles of the BSA. ▪ Not observed during general wildlife surveys. ▪ Avoidance and minimization measures recommended.
tricolored blackbird *Agelaius tricolor*	-- / ST / SSC	Highly colonial species, most numerous in Central Valley & vicinity. Largely endemic to California. Breeds in large freshwater marshes. Requires open water, protected nesting substrate of cattails or bulrushes, & foraging area with insect prey within a few km of the colony.	HP (Marginal)	▪ Suitable riparian habitat present within the BSA. ▪ No CNDDB records within 3.0 miles of the BSA. ▪ Not observed during general wildlife surveys. ▪ Avoidance and minimization measures recommended. ▪ The CESA determination is that the project will have no take on the species.
marbled murrelet *Brachyramphus marmoratus*	FT / SE / --	Predominantly in Pacific Northwest, but small populations and migratory stops in old-growth coniferous forests of Monterey County and Central and Southern California coast. Can nest 150 ft high in Douglass fir and coastal redwood forests; areas characterized by large trees, multiple canopy layers, and moderate to high canopy closure. Winters at sea.	A	▪ BSA is outside of the species' range. ▪ No CNDDB records within 3.0 miles of the BSA. ▪ Not observed during general wildlife surveys. ▪ No further studies recommended. ▪ The FESA effects determination is that the project will have no effect on the species. ▪ The CESA determination is that the project will have no take on the species.

Common / Scientific Name	Federal / State / Status	General Habitat Description	Habitat Present / Absent	Rationale
western snowy plover *Charadrius nivosus nivosus*	FT, CH / -- / SSC	Sandy beaches, salt pond levees & shores of large alkali lakes. Needs sandy, gravelly or friable soils for nesting.	HP (Marginal)	▪ Nesting historically occurred adjacent to the BSA. Nesting has not been observed since 2007. Snowy plover critical habitat exists adjacent to the BSA but will not be impacted by project activities. ▪ Not observed during general wildlife surveys. ▪ Avoidance and minimization measures recommended. ▪ The FESA effects determination is that the project will have no effect on the species or its critical habitat.
northern harrier *Circus hudsonius*	-- / -- / SSC	Inhabits marshes, fields, and prairies with good ground cover. Nesting typically occurs in marshes but will nest in dry, open fields.	A	▪ No suitable nesting habitat present within the BSA. ▪ Not observed during general wildlife surveys. ▪ No expected to occur within the BSA. ▪ No further studies recommended.
yellow-billed cuckoo *Coccyzus americanus*	FT / SE / --	Riparian forest nester, along the broad, lower flood-bottoms of larger river systems. Nests in riparian jungles of willow, often mixed with cottonwoods, with lower story of blackberry, nettles, or wild grape.	HP (Marginal)	▪ Marginally suitable nesting habitat present within the BSA. ▪ No CNDDB records within 3.0 miles of the BSA. ▪ Not observed during general wildlife surveys. ▪ No expected to occur within the BSA. ▪ Avoidance and minimization measures recommended. ▪ The FESA effects determination is that the project will have no effect on the species. ▪ The CESA determination is that the project will have no take on the species.
southwestern willow flycatcher *Empidonax traillii extimus*	FE / SE / --	Breeds in marshes and riparian areas, while wintering in shrubby clearings and early successional growth. Nests are near water and low, especially in crotch of trees or bushes. Habitat patches of .25 acres and 30ft minimum width.	HP (Marginal)	▪ Marginally suitable nesting habitat present within the BSA. ▪ No CNDDB records within 3.0 miles of the BSA. ▪ Not observed during general wildlife surveys. ▪ Avoidance and minimization measures recommended. ▪ The FESA effects determination is that the project will have no effect on the species. ▪ The CESA determination is that the project will have no take on the species.

Common / Scientific Name	Federal / State / Status	General Habitat Description	Habitat Present / Absent	Rationale
California condor *Gymnogyps californianus*	FE / SE / --	Require vast expanses of open savannah, grasslands, and foothill chaparral in mountain ranges of moderate altitude. Deep canyons containing clefts in the rocky walls provide nesting sites. Forages up to 100 miles from roost/nest.	A	▪ No suitable nesting habitat present within the BSA. ▪ No CNDDB records within 3.0 miles of the BSA. ▪ Not observed during general wildlife surveys. ▪ Not expected to occur within the BSA. ▪ No further studies recommended. ▪ The FESA effects determination is that the project will have no effect on the species. ▪ The CESA determination is that the project will have no take on the species.
California black rail *Laterallus jamaicensis coturniculus*	-- / ST / --	Inhabits freshwater marshes, wet meadows & shallow margins of saltwater marshes bordering larger bays. Needs water depths of about 1 inch that do not fluctuate during the year & dense vegetation for nesting habitat.	A	▪ No suitable nesting habitat present within the BSA. ▪ No CNDDB records within 3.0 miles of the BSA. ▪ Not observed during general wildlife surveys. ▪ Not expected to occur within the BSA. ▪ No further studies recommended. ▪ The CESA determination is that the project will have no take on the species.
California clapper rail *Rallus longirostris obsoletus*	FE / SE / --	Salt-water & brackish marshes traversed by tidal sloughs in the vicinity of San Francisco Bay; extirpated from other areas in California. Most often build their nests near tidal sloughs, using cordgrass, pickleweed, and small amounts of other plants, and usually hide beneath a canopy of vegetation.	A	▪ No suitable nesting habitat present within the BSA. ▪ No CNDDB records within 3.0 miles of the BSA. ▪ Not observed during general wildlife surveys. ▪ Not expected to occur within the BSA. ▪ No further studies recommended. ▪ The FESA effects determination is that the project will have no effect on the species. ▪ The CESA determination is that the project will have no take on the species.
California Ridgway's rail *Rallus obsoletus obsoletus*	FE / SE / FP	Inhabits salt marshes along the Pacific Coast as well as brackish and freshwater marshes inland. Nests within marsh vegetation on banks or in the upper reaches of high tide.	A	▪ No suitable nesting habitat present within the BSA. ▪ No CNDDB records within 3.0 miles of the BSA. ▪ Not observed during general wildlife surveys. ▪ Not expected to occur within the BSA. ▪ No further studies recommended. ▪ The FESA effects determination is that the project will have no effect on the species. ▪ The CESA determination is that the project will have no take on the species.

Common / Scientific Name	Federal / State / Status	General Habitat Description	Habitat Present / Absent	Rationale
California least tern *Sterna antillarum browni*	FE / SE / --	Largely a coastal species that feeds on fish and nests on sandy dunes or beaches and on bare or sparsely vegetated, flat substrates such as alkali flats, landfills, or paved areas. Once a common species in California; currently nesting colonies are isolated from San Francisco south to Baja California.	A	▪ No suitable colonial nesting habitat present within the BSA. ▪ No CNDDB records within 3.0 miles of the BSA. ▪ Not observed during general wildlife surveys. ▪ No expected to occur within the BSA. ▪ No further studies recommended. ▪ The FESA effects determination is that the project will have no effect on the species. ▪ The CESA determination is that the project will have no take on the species.
Least Bell's vireo *Vireo bellii pusillus*	FE / SE / --	Dense, low, shrubby vegetation, generally early successional stages in riparian areas, brushy fields, young second-growth forest or woodland, scrub oak, coastal chaparral, and mesquite brushlands, often near water in arid regions. Builds its nests with lichens and mosses. Summer resident of Monterey county and Central & Southern California coasts in low riparian areas in vicinity of water or in dry river bottoms; below 2000 ft.	HP (Marginal)	▪ Marginally suitable nesting habitat present within the BSA. ▪ No CNDDB records within 3.0 miles of the BSA. ▪ Not observed during general wildlife surveys. ▪ Avoidance and minimization measures recommended. ▪ The FESA effects determination is that the project will have no effect on the species. ▪ The CESA determination is that the project will have no take on the species.
other nesting birds Class Aves	MBTA / -- / CDFG Section 3503	Various habitats (nesting).	HP	▪ Marginally suitable nesting habitat present on bridge structure and surrounding vegetation within the BSA. ▪ Avoidance and minimization measures recommended.

Table 5. Regional Habitats of Concern

Habitat/Natural Community	Habitat/Natural Community Description	Habitat Present/ Absent	Rationale
Central dune scrub	A dense coastal scrub community of scattered shrubs, subshrubs, and herbs generally less than 1m tall and often developing considerable cover. Diagnostic species include mock heather (*Ericameria ericoides*), dune bush lupine (*Lupinus chamissonis*), and coastal sagewort (*Artemisia pycnocephala*). Restricted to the coastal strip roughly between Bodega Bay and Point Conception on stabilized backdune slopes, ridges, and flats. Blowouts often recolonized by foredune species, or (where the blowout reaches the groundwater table) by freshwater marsh taxa around a Dune Slack Pond or Lake. Intergrades toward the coast with Foredunes and away from the coast with Coastal Scrub, Maritime Chaparral, or Coastal Sage-Chaparral Scrub.	A	▪ This habitat does not occur within the BSA. ▪ No further studies recommended.
Central maritime chaparral	A variable sclerophyll scrub of moderate to high cover (50-100%) dominated by forms of woolyleaf manzanita (*Arctostaphylos tomentosa*) plus one or more other narrowly distributed manzanita. Occurs on well-drained, sandy substrates within the zone of summer coastal fog incursion. Fire appears necessary for continued reproduction. Intergrades on more mesic, less sandy sites with Monterey Pine Forest, Bishop Pine Forest, and Monterey Pygmy Cypress Forest; with Chamise and Upper Sonoran Mixed Chaparral on stonier sites out of the foggy area; and with Lucian Coastal Scrub closer to the coast or on shaley substrates. Survives at scattered locations near Monterey and Ft. Ord, and in southern San Luis Obispo and northern Santa Barbara counties.	A	▪ This habitat does not occur within the BSA. ▪ No further studies recommended

Habitat/Natural Community	Habitat/Natural Community Description	Habitat Present/ Absent	Rationale
Coastal and valley freshwater marsh	A perennial community of emergent monocots typically between 13-17 feet (4-5 meters) tall that form mostly complete canopies. Dominated by *Scirpus* and *Typha* species. Occurs in freshwater marsh sites that lack significant currents but are permanently flooded by freshwater. Commonly found along the Pacific Coast and in coastal valleys near river mouths and margins of lakes and streams from Sacramento to the San Juaquin River Delta.	A	▪ This habitat does not occur within the BSA. ▪ No further studies recommended
Coastal brackish marsh	Dominated by perennial, emergent, herbaceous monocots to 2m tall. Cover is often complete and dense. Similar to Salt Marshes and to Freshwater Marshes with some plant characteristic of each. Similar to Coastal Salt Marshes, but brackish from freshwater input. Salinity may vary considerably and may increase at high tide or during seasons of low freshwater runoff or both. Usually intergrades with Coastal Salt Marshes toward the ocean and occasionally with Freshwater Marshes at the mouths of rivers. Occurs usually at the interior edges of coastal bays and estuaries or in coastal lagoons. Adjacent to several Salt Marshes (52100, 52120). Most extensively developed around Suisun Bay at the mouth of the Sacramento-San Joaquin Delta.	P	▪ A small amount of Coastal Brackish Marsh occurs within the BSA at Toro Creek. ▪ Avoidance and minimization measures recommended.

Habitat/Natural Community	Habitat/Natural Community Description	Habitat Present/ Absent	Rationale
Northern coastal salt marsh	Highly productive, herbaceous and suffrutescent, salt-tolerant hydrophytes forming moderate to dense cover and up to 1m tall. Most species are active in summer, dormant in winter. Usually segregated horizontally with cordgrass (*Spartina* spp.) nearer the open water, pickleweed (*Salicornia* spp.) at mid-littoral elevations, and a richer mixture closer to high ground. Usually found along sheltered inland margins of bays, lagoons, and estuaries from the Oregon border south to about Pt. Conception. In these areas, hydric soils are subject to regular tidal inundation by salt water for at least part of each year. Intergrades with Southern Coastal Salt Marsh over a considerable portion of the south central coast. Extensively developed around Humboldt Bay and other Humboldt Co. areas; Tomales Bay, Marin Co.; Elkhorn Slough, Monterey Co.; Morro Bay, San Luis Obispo Co.; and very extensively in the San Francisco Bay Area.	A	▪ This habitat does not occur within the BSA. ▪ No further studies recommended
Valley needlegrass grassland	A perennial grassland community of native and introduced annual grasses occurring between perennial bunchgrasses. Commonly dominated by *Stipa pulchra* that is lower in cover than the surrounding annual grasses. Usually occurs in fine-textured (clay) soils that are moist during winter but very dry during summer. Occurs around the Sacramento, San Joaquin, and Salinas Valleys as well as the Los Angeles Basin. Often interdigitates with oak woodland communities on moister and better drained sites.	A	▪ This habitat does not occur within the BSA. ▪ No further studies recommended

Chapter 4. Results: Biological Resources, Discussion of Impacts and Mitigation

4.1 Habitats and Natural Communities of Special Concern

Estimated permanent and temporary impacts are quantified in Table 6 and displayed in Figure 3.

Table 6. Impacts to Natural Communities, Jurisdictional Waters, and Critical Habitat

Jurisdictional Waters/Natural Community/Critical Habitat	Permanent Impacts		Temporary Impacts	
	Square Feet	Acre(s)	Square Feet	Acre(s)
CCC/RWQCB/CDFW stream, wetlands, streambank, and riparian jurisdictional areas	-	-	26,191	0.60
USACE jurisdictional other waters and wetlands[1]	-	-	14.740	0.34
Stream +wetlands + streambank (Developed/RSP) + riparian	-	-	26,191	0.60
Stream	-	-	17,740	0.34
Central coastal scrub	106.71	0.002	5761.50	0.132
Southern foredune	178.21	0.004	11,993	0.28
Unvegetated sand	-	-	929.12	0.02
Ruderal/disturbed	7,028.77	0.161	90,261	2.07
Steelhead critical habitat	-	-	17,740	0.40
Tidewater goby critical habitat	-	-	17,740	0.40

[1] Includes/overlaps areas of USACE jurisdictional wetlands/other waters and extends above the OHWM to the top of bank or outer edge of riparian vegetation, whichever is greater.

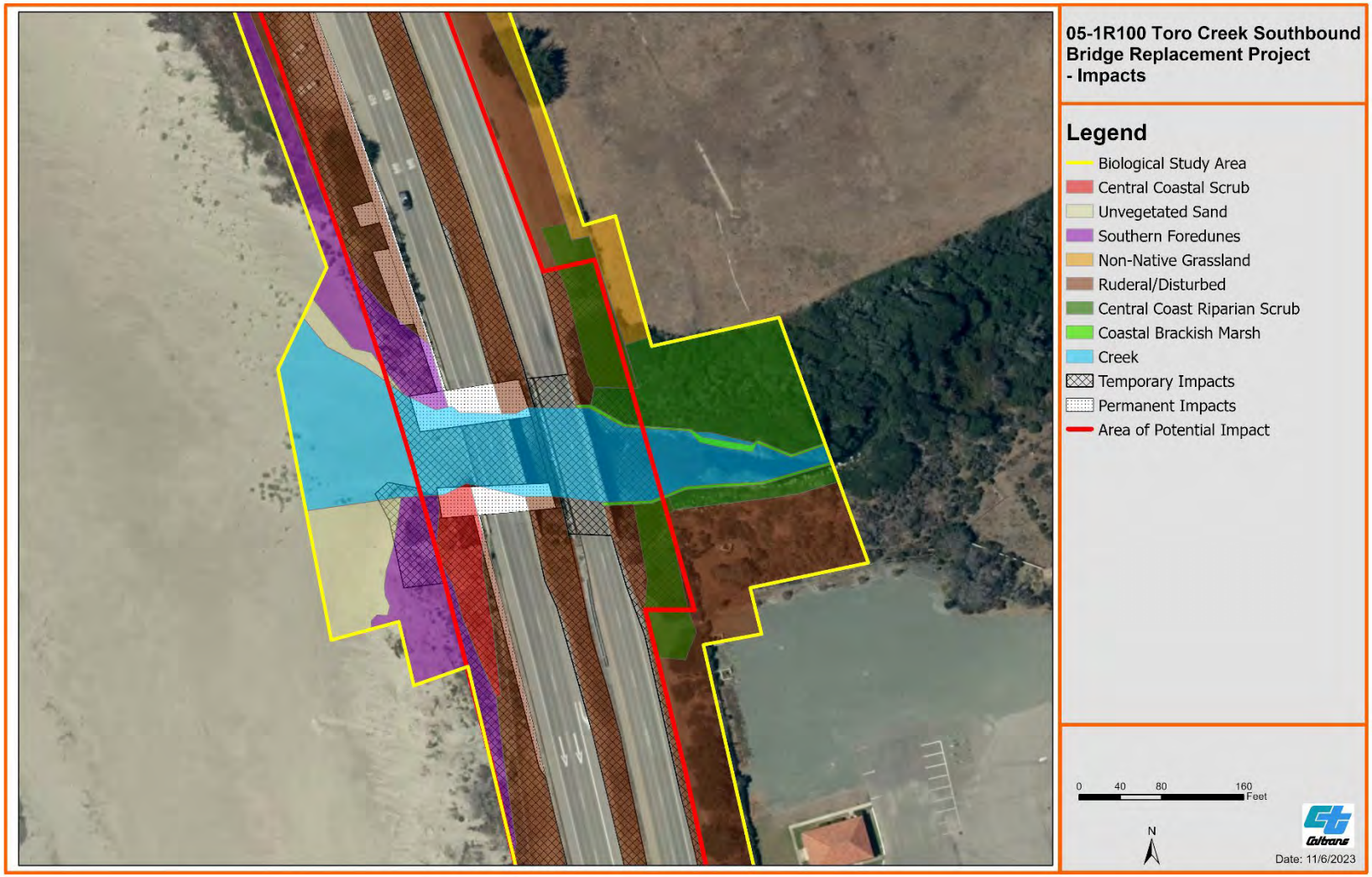

Figure 3. Potential Impacts to Natural Communities, Jurisdictional Waters, and Critical Habitat

Impacts have been quantified based on estimated ground disturbance, disturbed vegetation, etc. These impact areas are represented as the area of potential impact (API), which was overlain with habitat mapping (Figure 2) and preliminary jurisdictional determination mapping (Figure 3) in ArcMap™ Geographic Information System (GIS) software to quantify project impacts.

Permanent impacts will consist of outside shoulder widening. Temporary impacts will consist of staging areas, access roads, and the dewatered/work area.

Sources of temporary impacts would be primarily from excavation, diversion, clearing of vegetation, and the use of construction equipment and associated worker foot-traffic. Trucks, bulldozers, backhoes, compactors, asphalt concrete rollers, clamshells, excavators, compressors, man lifts, scrapers, pavers, water trucks, sweepers, and any other equipment necessary in the course of construction would be used. Equipment would be temporarily staged along ruderal/disturbed edges of SR-1.

ESA fencing would be installed along the maximum disturbance limits to minimize disturbance to adjacent habitats/vegetation. Special Provisions for the installation of ESA fencing shall be included in the Construction Contract and will be identified on the project plans. Prior to the start of construction activities, ESA areas will be delineated in the field and will be approved by the Caltrans environmental division.

Ruderal/disturbed areas and ornamental vegetation are not considered sensitive natural communities and are not discussed further in this section. Certain special-status species may have the potential to occur in one or more of the habitats described and these species are discussed later in this document. Seeps and drainages are discussed as potentially jurisdictional waters. The BSA does not occur within a known wildlife corridor and no wildlife connectivity impacts are anticipated. Certain invasive or weedy plants occur within the BSA and measures will be implemented to avoid and minimize the spread of these species throughout the BSA.

A Resource Study Area (RSA) was defined using the Toro Creek watershed (Figure 4). All foreseeable projects within the RSA were analyzed for potential impacts to sensitive species to assess any cumulative impacts the project may have on the associated habitat due to the proposed project.

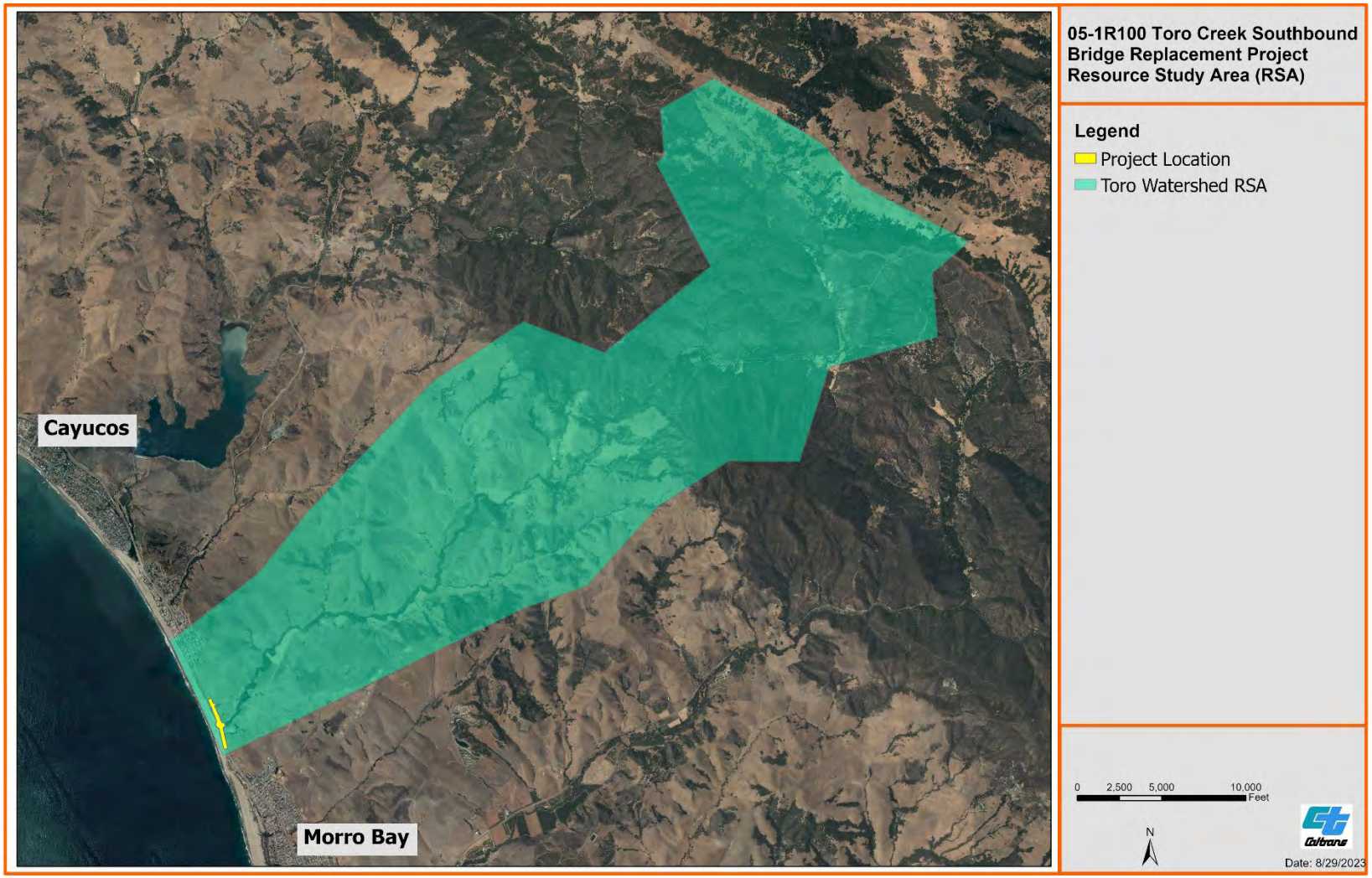

Figure 4. Resource Study Area (RSA)

4.1.1. Discussion of Potential USACE/RWQCB Jurisdictional Wetlands/Other Waters, CDFW Jurisdictional Areas, and CCC Wetlands/ESHAs

Jurisdictional USACE wetlands include areas 1) where all three wetland parameters (i.e., hydrophytic vegetation, hydric soil, and wetland hydrology) are present, and 2) are either confined within the OHWM of a drainage feature or exhibit connectivity to jurisdictional waters. Areas within the OHWM of drainages with connectivity to jurisdictional waters but lacking one or more of the three wetland parameters are typically delineated as USACE "other waters." For the purposes of this NES, RWQCB jurisdiction is treated as equivalent to USACE jurisdiction for CWA Section 401/404 permitting purposes, except that the RWQCB also regulates the streambank and riparian zone. CDFW jurisdiction encompasses rivers, streams, and lakes extending from the thalweg (lowest bed elevation) to the top of the surrounding banks and/or outer edge of adjacent riparian vegetation, whichever is greater. RWQCB and CDFW jurisdiction are equivalent within the BSA. CCC jurisdiction includes ESHAs such as streams, wetlands, riparian vegetation, and dune vegetation areas.

4.1.1.1. Survey Results

Potential jurisdictional waters and riparian habitat were delineated for the Jurisdictional Delineation Report (Appendix G and Figure 3). Approximately 14,740 ft^2 (0.34 ac) of potential USACE jurisdictional other waters and approximately 277 ft^2 (<0.01 ac) of potential USACE jurisdictional wetlands were delineated within the API. These areas are also regulated by the RWQCB, CDFW, and CCC. Approximately 26,191 ft^2 (0.6 ac) of CDFW/CCC jurisdictional areas along the riparian corridor of Toro Creek were also delineated a. Southern foredune plant community habitat was mapped within the western portion of the BSA near the downstream edge of Toro Creek.

4.1.1.2. Project Impacts

Estimates of impacts to potential jurisdictional waters and riparian habitat (Table 6) were determined by overlaying the project API with the preliminary jurisdictional determination map prepared for the Jurisdictional Delineation Report (Appendix G), as shown in Figure 3. Temporary impacts to jurisdictional areas will occur due to temporary access, cut/fill, and temporary stream diversion implemented to construct the project.

Approximately 14,740 ft^2 (0.34 ac) of potential USACE jurisdictional other waters and approximately 277 ft^2 (<0.01 ac) of potential USACE jurisdictional wetlands along Toro Creek would be temporarily impacted. Approximately 26,191 ft^2 (0.60 ac) of RWQCB/CDFW/CCC jurisdictional areas along the riparian corridor of Toro Creek would also be temporarily impacted. Additionally, approximately 11,993 ft^2 (0.28 acres) of southern foredune habitat are anticipated to be temporarily impacted by project activities.

Net permanent impacts to jurisdictional areas and foredune habitat areas are not anticipated. The proposed RSP and new bridge piers will be replaced in a similar footprint.

4.1.1.3. Avoidance and Minimization Efforts

The proposed project will impact potential USACE jurisdictional other waters, USACE jurisdictional wetlands, and RWQCB/CDFW/CCC jurisdictional and CCC ESHA areas within the API. A variety of avoidance and minimization measures will be implemented to reduce the potential impacts to these jurisdictional and ESHA foredune areas resulting from the project:

1. Prior to construction, Caltrans shall obtain a Section 404 Nationwide Permit from USACE, a Section 401 Water Quality Certification from RWQCB, a Section 1602 Streambed Alteration Agreement from CDFW, and a Coastal Development Permit (or Waiver) from the CCC. All permit terms and conditions will be incorporated and implemented.

2. Prior to construction, Caltrans shall prepare a Mitigation and Monitoring Plan (MMP) to mitigate impacts to vegetation and natural habitats. The MMP shall be consistent with federal and state regulatory requirements and will be amended with any regulatory permit conditions, as required. Caltrans shall implement the MMP as necessary during construction and immediately following project completion.

3. A portion of the API overlaps compensatory mitigation areas from the Northbound Toro Creek Bridge Replacement Project. Impacts to this newly installed vegetation will be avoided to the maximum extent practical. A higher mitigation ratio will apply for any impacts to this area.

4. Prior to any ground-disturbing activities, ESA fencing shall be installed around jurisdictional waters, coastal zone ESHAs, and the dripline of trees to be protected within the project limits. Caltrans-defined ESAs shall be noted on design plans and delineated in the field prior to the start of construction activities.

5. The temporary stream diversion shall be timed to occur between June 1 and October 31 in any given year, or as otherwise directed by the regulatory agencies, when the surface water is likely to be dry or at seasonal minimum. Deviations from this work window will only be made with permission from the relevant regulatory agencies.

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

7. During construction, erosion control measures shall be implemented. Silt fencing, fiber rolls, and barriers shall be installed as needed between the

project site and jurisdictional other waters and riparian habitat. At a minimum, erosion controls shall be maintained by the contractor on a daily basis throughout the construction period.

8. During construction, the staging areas shall conform to Best Management Practices (BMPs) applicable to attaining zero discharge of stormwater runoff. At a minimum, all equipment and vehicles shall be checked and maintained by the contractor on a daily basis to ensure proper operation and avoid potential leaks or spills.

9. Stream contours shall be restored as close as possible to their original condition.

4.1.1.4. Compensatory Mitigation

Compensatory mitigation for permanent impacts is required to prevent a net loss of wetlands or other aquatic resource acreage, function, and value. Several types of compensatory mitigation are available to offset impacts on waters of the United States, including creation, restoration, enhancement, and preservation. Compensatory mitigation can either be on-site or offsite, although on-site mitigation is typically preferred.

The impacts to jurisdictional waters would be of limited scale, consisting of the temporary diversion of Toro Creek, removal of vegetation, and installation of piers to accommodate the bridge improvements. Restoration of temporary impacts is proposed at a 1:1 ratio (acreage) and compensatory mitigation for permanent impacts is proposed at a 3:1 ratio (acreage). Higher ratios for restoration and compensatory mitigation would apply to any temporary or permanent impacts to the mitigation planting area from the Northbound Toro Creek Bridge Replacement Project.

Replacement plantings will be detailed in Caltrans' Landscape Architecture Landscape Planting Plan and the final MMP. The MMP will be developed in coordination with a biologist and will include developed planting specifications and grading plans to ensure survival of planted vegetation and re-establishment of functions and values. The final MMP will detail restoration and/or mitigation commitments and will be consistent with standards and mitigation requirements from the USACE, RWQCB, CCC, and CDFW. The MMP will be prepared when full construction plans are prepared and will be finalized through the permit review process with regulatory agencies.

4.1.1.5. Cumulative Impacts

The RSA under consideration for USACE/RWQCB/CDFW Jurisdictional Areas, and CCC Wetlands/ESHAs cumulative impacts analysis is the Toro Creek watershed (Figure 4).

Reasonably foreseeable projects within the RSA that may contribute to direct or indirect cumulative impacts to the existing jurisdictional waters and riparian habitat include the following:

1. Toro Creek Preserve Acquisition Project. The County of San Luis Obispo intends to acquire (over many years) approximately 283 acres to create a preserve between Morro Bay and Cayucos. The area includes the coastline between the two cities and portions of Toro Creek. The project will help protect habitat for special-status species and protect public access to the adjacent beach. The acquisitions are not anticipated to significantly impact jurisdictional waters or riparian habitat.

2. County of San Luis Obispo's Morro Bay to Cayucos Trail Connector Project. The project proposes to construct a Class I bicycle and pedestrian corridor that connects the communities of Morro Bay and Cayucos. The project would include constructing a bridge immediately west of the existing SR-1 Toro Creek southbound bridge. Construction of the bridge would result in the removal of approximately 0.17 acre of riparian vegetation along the creek and will be designed to avoid all other aquatic features. The project proposes mitigation measures and anticipates impacts to jurisdictional areas would be less than significant.

3. Caltrans' Off-site Mitigation for Piedras Blancas Realignment at Toro Creek. The project proposes to restore a total of 2.4 acres of heavily grazed non-native coastal grasslands with native riparian scrub and coastal prairie habitat. Additionally, the project proposes to enhance approximately 6.8 acres of riparian habitat by controlling invasives within Toro Creek. Project activities will result in temporary upland impacts for construction access but will result in increased native cover, water quality improvements, and increased opportunity for native wildlife, including pollinators. The project will not result in any significant impacts to jurisdictional areas.

4.1.2. Discussion of Federally Designated Critical Habitat

Federally designated critical habitat was assessed for three species within the BSA (Chapter 3.1.5): snowy plover, tidewater goby, and steelhead. Critical habitat for steelhead was designated in 2005 (NMFS 2005). Critical habitat for tidewater goby was first designated in 2008 (44 units), and then again in 2013 (21 additional units) (USFWS 2013). Along the west coast of California, critical habitat for both species currently remains stable but faces threats from ongoing and future impacts including coastal development projects, water diversions, grazing, introduced species, drought conditions, and climate change (NMFS 2005; USFWS 2013).

4.1.2.1. Survey Results

Federal fish and wildlife agencies consider the physical and biological features (PBF) essential to the conservation of the species that may require special

management considerations or protection to be the PBFs laid out in the appropriate quantity and spatial arrangement essential to the conservation of the species. The PBFs that were assessed to occur at the proposed project location are described below.

1. Western snowy plover PBF (that includes areas of sandy beach above the hightide line with occasional surf-cast wrack (i.e., seaweed) supporting small invertebrates and barren to sparsely vegetated terrain);

2. Tidewater goby PBF 1a (substrates suitable for the construction of burrows for reproduction in the BSA) and usually supports PBF 1c (presence of a sandbar across the mouth of a lagoon that closes or partially closes the lagoon; this occurs seasonally in the BSA); and,

3. South-central California coast steelhead PBF 2 (freshwater rearing sites in the BSA), PBF 3 (freshwater migration corridors free of obstruction in the BSA), and periodically supports PBF 4 (estuarine areas free of obstruction in the BSA; these occur when the sandbar is absent and there is connectivity to the Pacific Ocean).

4.1.2.2. Project Impacts

Based on the disturbance footprint of the API, estimated permanent and temporary impacts to federally designated critical habitat have been quantified in Table 6 and include the following:

Western snowy plover critical habitat exists adjacent to the BSA, however it will not be impacted by project activities. None of the 34 ac (13.76 ha) within western snowy plover critical habitat Unit CA-28 will be impacted with the proposed project. Considered in this context, the FESA Section 7 effects determination is that the proposed project will have no effect on western snowy plover critical habitat.

As a result of project activities approximately 0.4 ac of tidewater goby critical habitat will be temporarily impacted. Of the 9.5 ac (3.84 ha) within tidewater goby critical habitat Unit SLO-8, the total impacts associated with the proposed project equate to approximately 4.1% of this critical habitat unit. Considered in this context, the FESA Section 7 effects determination is that the proposed project may affect, and is likely to adversely affect, tidewater goby critical habitat.

Approximately 0.4 ac (247.64 linear ft) would be temporarily impacted. Of the 22.15 total miles (116,926 linear ft) of stream within south-central California coast steelhead critical habitat Unit 3310 (which includes Toro Creek), the total impacts associated with the proposed project equate to approximately 0.40 % of this critical habitat unit. Considered in this context, the FESA Section 7 effects determination is that the proposed project may affect, and is likely to adversely affect, south-central California coast steelhead critical habitat.

4.1.2.3. Avoidance and Minimization Measures

Numerous measures in Chapter 4 of this NES that apply to jurisdictional waters, tidewater goby, steelhead, California red-legged frog, nesting birds, and other taxa, are also applicable to federally designated critical habitat. These measures have been assessed as sufficient to minimize impacts to tidewater goby and steelhead critical habitat**.**

4.1.2.4. Compensatory Mitigation

The compensatory mitigation described in Chapter 4.1.1.4 will also mitigate for the impacts to tidewater goby and steelhead critical habitat. As such, with the implementation of the described mitigation, no additional compensatory mitigation is required and none is proposed.

4.1.2.5. Cumulative Impacts

The RSA identified for steelhead critical habitat and tidewater goby critical habitat cumulative impacts analysis is the Toro Creek watershed (Figure 4). Toro Creek consists of approximately 12.2 miles of linear stream and drains a watershed of approximately 15 square miles (Becker and Reining 2008). It enters the Pacific Ocean about four miles north of the town of Morro Bay.

Critical habitat for steelhead and tidewater goby is a stable resource within the RSA, due to the rural character of the area and overall lack of historic and proposed development. Current threats to critical habitat within the RSA stem from the erosion and soil compaction that result from cattle crazing. As the Toro Creek Southbound Bridge Replacement project will require temporary and permanent impacts to steelhead and tidewater goby critical habitat, the project is contributing to a cumulative impact to these resources in the RSA. However, because these impacts are very small relative to the available steelhead and tidewater goby critical habitat in the RSA, the contribution to cumulative impacts to these resources in the RSA is not considered substantial.

Reasonably foreseeable projects within the RSA that may contribute to direct or indirect cumulative impacts to the existing jurisdictional waters and riparian habitat include the following:

1. The County of San Luis Obispo intends to acquire (over many years) approximately 283 acres to create a preserve between Morro Bay and Cayucos. The area includes the coastline between the two cities and portions of Toro Creek. The project will help protect habitat for special-status species and protect public access to the adjacent beach. The acquisitions are not anticipated to significantly impact steelhead or tidewater goby critical habitat.

2. County of San Luis Obispo's Morro Bay to Cayucos Trail Connector Project. The project proposes to construct a Class I bicycle and pedestrian corridor that connects the communities of Morro Bay and Cayucos. The project would include constructing a bridge immediately west of the existing SR-1 Toro Creek southbound bridge. Construction of the bridge would result in the removal of approximately 0.17 acre of riparian vegetation along the

creek and will be designed to avoid all other aquatic features. The project proposes mitigation measures and anticipates impacts to jurisdictional areas would be less than significant.

3. Caltrans' Off-site Mitigation for Piedras Blancas Realignment at Toro Creek. The project proposes to restore a total of 2.4 acres of heavily grazed non-native coastal grasslands with native riparian scrub and coastal prairie habitat. Additionally, the project proposes to enhance approximately 6.8 acres of riparian habitat by controlling invasives within Toro Creek. Project activities will result in temporary upland impacts for construction access but will result in increased native cover, water quality improvements, and increased opportunity for native wildlife, including pollinators. The project will not result in any significant impacts to steelhead or tidewater goby critical habitat.

4.1.2. Discussion of Essential Fish Habitat

Pacific Coast Groundfish Essential Habitat was Initially designated in 1998 as Amendment 11 to the Pacific Coast Groundfish Fishery Management Plan (PCMCP) (first adopted in 1982) and was amended under the Magnuson-Stevens Fishery Conservation and Management Act (MSFCA). Groundfish species addressed in this plan includes approximately 90 species of various elasmobranchs, groundfish, rockfish, and flatfish that occur within the range of the designation.

4.1.2.1. Survey Results

The upper reach of groundfish Essential Fish Habitat (EFH) is defined as the mean higher-high water (MHHW). The National Oceanic and Atmospheric Administration (NOAA) Port San Luis (9412110) Tidal Datum has recorded the value of MHHW as 5.33 feet and the highest astronomical tide (HAT) as 7.11 feet. Although the confluence of Toro Creek and the Pacific Ocean lies below the MHHW, precipitation can cause the creek to fall within the limits of EFH. Additionally, starry flounder species were observed during relocation efforts for the construction of the Toro Creek northbound bridge. This further indicates that Toro Creek can be considered EFH.

4.1.2.2. Project Impacts

The PCMCP analyzes the impacts of Roadbuilding and Maintenance under Appendix D: Nonfishing Effects on West Coast Groundfish Essential Fish Habitat and Recommended Conservation Measures. The plan lists the following potential Adverse Impacts that could result from roadbuilding: increased deposition of fine sediments, changes in water temperature, elimination or introduction of migration barriers, changes in streamflow, introduction of non-native plant species, and changes in channel configuration. The proposed project activities will result in the temporary stream diversion and/or dewatering, which would temporarily alter quality of aquatic habitat and result in a temporary loss of service for groundfish and other aquatic organisms. Diversion and/or dewatering

and construction within Toro Creek in areas occupied by groundfish could result in direct impacts to the species in the form of injury or mortality if present.

4.1.2.3. Avoidance and Minimization Measures

Numerous measures in Chapter 4 of this NES that apply to jurisdictional waters, tidewater goby, and steelhead are also applicable to Essential Fish Habitat. These measures have been assessed as sufficient to minimize impacts to EFH.

4.1.2.4. Compensatory Mitigation

Compensatory mitigation is not anticipated for groundfish EFH as the proposed project will only temporarily impact to Toro Creek. Mitigation is proposed in Chapter 4.1.1.3. and potential additional mitigation requirements will be assessed in coordination with cooperating agencies.

4.1.2.5. Cumulative Impacts

The RSA under consideration for Essential Fish Habitat cumulative impacts analysis is the Toro Creek watershed (Figure 4).

Reasonably foreseeable projects within the RSA that may contribute to direct or indirect cumulative impacts to EFH include the following:

1. The County of San Luis Obispo intends to acquire (over many years) approximately 283 acres to create a preserve between Morro Bay and Cayucos. The area includes the coastline between the two cities and portions of Toro Creek. The project will help protect habitat for special-status species and protect public access to the adjacent beach. The acquisitions are not anticipated to significantly impact EFH.

2. County of San Luis Obispo's Morro Bay to Cayucos Trail Connector Project. The project proposes to construct a Class I bicycle and pedestrian corridor that connects the communities of Morro Bay and Cayucos. The project would include constructing a bridge immediately west of the existing SR-1 Toro Creek southbound bridge. Construction of the bridge would result in the removal of approximately 0.17 acre of riparian vegetation along the creek and will be designed to avoid all other aquatic features. The project will not impact EFH.

3. Caltrans' Off-site Mitigation for Piedras Blancas Realignment at Toro Creek. The project proposes to restore a total of 2.4 acres of heavily grazed non-native coastal grasslands with native riparian scrub and coastal prairie habitat. Additionally, the project proposes to enhance approximately 6.8 acres of riparian habitat by controlling invasives within Toro Creek. Project activities will result in temporary upland impacts for construction access but will result in increased native cover, water quality improvements, and increased opportunity for native wildlife, including pollinators. The project will not result in any significant impacts to EFH.

4.1.3. Discussion of Invasive Species

4.1.3.1. Survey Results

A total of 20 invasive plant species as identified by the online Cal-IPC California Invasive Plant Inventory Database (2023) were observed within the BSA.

4.1.3.2. Project Impacts

Ground disturbance and other aspects of project construction (e.g., erosion control, landscaping) could potentially spread or introduce invasive species within the BSA. As described previously in Chapter 3.1.6, the distribution of most invasive plant species is sparsely scattered throughout the BSA and most common in ruderal/disturbed areas along the edges of SR-1.

4.1.3.3. Avoidance and Minimization Measures

The following avoidance and minimization measures will be implemented:

1. During construction, Caltrans will ensure that the spread or introduction of invasive exotic plant species will be avoided to the maximum extent possible.

2. Only clean fill shall be imported. When practicable, invasive exotic plants in the project site shall be removed and properly disposed. All invasive vegetation removed from the construction site shall be taken to a landfill to prevent the spread of invasive species. If soil from weedy areas must be removed off-site, the top six inches containing the seed layer in areas with weedy species shall be disposed of at a landfill. Inclusion of any species that occurs on the Cal-IPC Invasive Plant Inventory in the Caltrans erosion control seed mix or landscaping plans for the project shall be avoided.

3. To minimize the introduction of invasive plant species, all vehicles, machinery, and equipment shall be in a clean and soil free condition before entering the project limits. Construction equipment shall be certified as "weed-free" by Caltrans before entering the construction site.

4.1.3.4. Compensatory Mitigation

No compensatory mitigation for invasive plant species is proposed.

4.1.3.5. Cumulative Impacts

With implementation of the above avoidance and minimization measures, no adverse cumulative impacts involving invasive species are anticipated.

4.2. Special Status Plant Species

4.2.1. Discussion of Special Status Plant Species

4.2.1.1. Survey Results

Botanical surveys were conducted within the BSA during 2013, 2016, and on April 21, June 8, June 21, and August 23 in 2023. While potential habitat occurs within the BSA for several special status taxa included in Table 3, none of these taxa were observed within the BSA during botanical surveys (Appendix D) and none are anticipated to occur. No federally designated critical habitat for federally listed plant species occurs within the BSA.

4.2.1.2. Project Impacts

The proposed project is not anticipated to impact any special-status plant species. Although the BSA supports suitable habitat for several special-status plant species, none were observed during appropriately-timed floristic surveys and none are expected to occur within the BSA. Of the federally listed plant species included in Table 3, the FESA Section 7 effects determination is the proposed project will have no effect on marsh sandwort (*Arenaria paludicola*), California jewelflower (*Caulanthus californicus*), Chorro Creek bog thistle (*Cirsium fontinale var. obispoensis*), salt marsh bird's-beak (*Chloropyron maritimum ssp. maritimum*), Indian Knob mountainbalm (*Eriodictyon altissimum*), spreading Navarretia (*Navarretia fossalis*), and California seablite (*Suaeda californica*).

4.2.1.3. Avoidance and Minimization Measures

No avoidance/minimization measures are required.

4.2.1.4. Compensatory Mitigation

No compensatory mitigation for special-status plant species is required and none is proposed.

4.2.1.5. Cumulative Impacts

No adverse cumulative impacts to special-status plant species are anticipated.

4.3. Special Status Animal Species

4.3.1. Discussion of South-central California Coast Steelhead DPS (*Oncorhynchus mykiss irideus*)

Steelhead trout (*Oncorhynchus mykiss irideus*) are the anadromous (ocean-going) form of rainbow trout. Adults spawn in freshwater, and juveniles rear in freshwater before out-migrating to the ocean to mature and then return to freshwater as adults to reproduce. Steelhead historically ranged from Alaska southward to the California-Mexico border and were the only abundant

salmonid species that occurred naturally within the coast ranges of southern California (NMFS 2012).

The south-central coast steelhead evolutionarily significant unit (ESU) was listed as threatened on August 18, 1997. The original ESU boundaries during the first listing of 1997 were from the Pajaro River (Monterey County) south to (but not including) the Santa Maria River (San Luis Obispo County). During the time between the initial listing and a subsequent re-listing in 2006, NMFS adopted the "distinct population segment" (DPS) designation for steelhead to replace the ESU designation to be consistent with the listing policies and practices of the USFWS (NMFS 2012). The south-central California coast steelhead DPS is also considered a California Species of Special Concern (SSC) by CDFW (CDFG 2011).

Optimal instream habitat for steelhead throughout its entire range on the Pacific Coast can generally be characterized by clear, cool water with abundant cover (i.e., submerged branches, rocks, logs), well-vegetated stream margins, relatively stable water flow, and a 1:1 pool-to-riffle ratio (Raleigh et al. 1984); however, steelhead can also occupy reaches of streams containing less than optimal habitat.

Early CDFW stocking records indicated that the Toro Creek steelhead population was supplemented with 10,000 juveniles in 1932 and 8,000 juveniles in 1933 (Titus el a. 2010). CDFW first surveyed the lowermost 9.94 mi (16 km) of Toro Creek in 1962 and determined that rearing conditions for juvenile steelhead were poor because of extremely low flow conditions at that time. No pollution was seen in the headwater or canyon sections of Toro Creek, but in the lower section, grazing cattle polluted the stream with sediment and excrement. The lagoon area was polluted with an oily-brine outfall from the Standard Oil Company's El Estero pumping station. No juvenile steelhead/rainbow trout were seen in the lower creek section, and only a few in the canyon section. Low trout abundance was attributed to several years of persistently low flow conditions resulting from drought, exacerbated by agricultural diversions (Titus el a. 2010).

4.3.1.1. Survey Results

Although no intensive survey methods (e.g., seine-netting or dip-netting) were conducted, steelhead have been opportunistically observed in Toro Creek over the years (personal communication with Caltrans biologists). Additionally, Toro Creek is known to support steelhead and steelhead critical habitat features (Titus et al. 2010, Becker and Reining 2008, NMFS 2005) and their presence is inferred.

The Toro Creek BSA was determined to support the following PBFs described above: PBF 2, PBF 3, and at least periodically supports PBF 4 (estuarine areas free of obstruction in the BSA; these occur when the sandbar is absent and there is connectivity to the Pacific Ocean).

4.3.1.2. Project Impacts

The proposed bridge improvements at Toro Creek will require stream diversion and/or dewatering, which would temporarily alter the quality of aquatic habitat

and result in a temporary loss of service for steelhead and other aquatic organisms. Diversion, dewatering and construction within Toro Creek in areas occupied by steelhead could result in direct impacts to the species in the form of injury or mortality as steelhead, if present, stranded in residual wetted areas are captured, handled, and relocated. Bridge improvement activities and construction equipment access into the stream channel to conduct work will require the removal of vegetation. The removal of vegetation near the stream channel could affect microhabitat temperature regulation characteristics. However, the west side of the bridge lacks existing riparian vegetation and if vegetation removal does occur, the effects would be confined to the east side of the bridge and would be temporary. Additionally, vegetation would be restored within a relatively short timeframe (1 year) following construction completion.

Erosion and sedimentation in Toro Creek could also occur, which could directly and indirectly impact steelhead. However, the stream channel is typically dry downstream from the project area during the summer months when the work would occur, so the effects of erosion and sedimentation would be negligible.

While the placement of diversion dams and dewatering within the wetted portions of Toro Creek would result in a temporary loss of service for steelhead, the extent and effect of this are estimated to be minor. Diversion dams and dewatering would be a temporary impact to steelhead critical habitat of approximately 17,740 ft^2 (0.4 ac) and 167 linear ft. The act of diversion and dewatering and its eventual dismantling and restoration of normal flows could also produce direct or indirect effects that could impact the structure of the streambed substrate or increase turbidity. These impacts would likely be temporary and rectified once the pre-construction stream flow conditions are restored.

4.3.1.3. Hydro-acoustic Impacts

At this time, proposed columns will be supported by cast in drilled hole piles. However, if pile driving is used, it could result in additional impacts to steelhead due to underwater noise pressure. Sound generated by percussive pile driving has the potential to affect fish in several ways. Potential effects range from alteration of behavior to physical injury or mortality. These effects depend on the intensity and characteristics of the sound, the distance and location of the fish in the water column relative to the sound source, the size and mass of the fish, and the fish's anatomical characteristics (Caltrans 2015).

If any pile driving is proposed by the project, it will likely utilize vibration to initially sink the piles, then impact hammering will be used, if necessary, to achieve the total load resistance required. Water within the creek bed will be diverted at the time of pile driving. Areas within diversion dams that have been dewatered down to the mud line substantially reduce underwater pile driving sound and offer the best isolation that can be provided (Caltrans 2015). Vibratory hammers produce less sound than impact hammers and are often employed as a measure to reduce the potential for adverse effects on fish that can result from

impact pile driving. If pile driving is proposed, a hydroacoustic analysis of pile driving sound levels will be conducted by Caltrans and submitted to NMFS, along with a Biological Assessment, during formal Section 7 consultation.

Based on the disturbance footprint of the API, the estimated permanent and temporary impacts to federally designated critical habitat for south-central California coast steelhead are 0.05 ac (218.4 linear ft) and 0.394 ac (247.64 linear ft), respectfully (Table 6).

The FESA Section 7 effects determination is that the proposed project may affect, and is likely to adversely affect, south-central California coast steelhead and its critical habitat. The basis for this determination is that steelhead presence has been inferred and critical habitat PBFs are present and there would be potential for take of the species during diversion and dewatering activities to allow for the proposed bridge improvements.

4.3.1.4. Avoidance and Minimization Efforts

In addition to the previously proposed measures, the following measures will serve to further avoid or minimize impacts to steelhead within the API:

1. Prior to construction, Caltrans shall acquire incidental take authorization for steelhead from NMFS through a FESA Section 7 Biological Opinion and Incidental Take Statement.

2. Prior to initiation of stream diversion/dewatering, a qualified biologist shall conduct an informal worker environmental training program including a description of steelhead, its legal/protected status, proximity to the project site, avoidance/minimization measures to be implemented during the project, and the implications of violating FESA and permit conditions.

3. During construction, in-stream work shall take place between June 1 and October 31 in any given year, when the surface water within drainages is likely to be dry or at seasonal minimum. Deviations from this work window will only be made with permission from Caltrans and the relevant regulatory/resource agencies.

4. During in-stream work, a Caltrans-approved biologist shall be retained with experience in steelhead biology and ecology, aquatic habitats, biological monitoring (including diversion/dewatering), and capturing, handling, and relocating fish species. During in-stream work, the biological monitor(s) shall continuously monitor placement and removal of any required stream diversions to capture stranded steelhead and other native fish species and relocate them to suitable habitat as appropriate. The biologist(s) shall capture steelhead stranded as a result of diversion/dewatering and relocate steelhead to suitable instream habitat outside of the work area, using methods approved by the appropriate regulatory agencies, which may include providing aerated water in buckets for transport and ensuring adequate water temperatures during

transport. The biologist shall note the number of steelhead observed in the affected area, the number of steelhead relocated, and the date and time of the collection and relocation.

5. During in-stream work, if pumps are incorporated to assist in temporarily dewatering the site, intakes shall be completely screened with no larger than 3/32-inch (2.38 mm) wire mesh to prevent steelhead and other sensitive aquatic species from entering the pump system. Pumps shall release the additional water to a settling basin or tan, allowing the suspended sediment to settle out prior to re-entering the stream(s) outside of the isolated area. The form and function of all pumps used during the dewatering activities shall be checked daily, to ensure a dry work environment and minimize adverse effects to aquatic species and habitats.

6. The biological monitor shall monitor erosion and sediment controls to identify and correct any conditions that could adversely affect steelhead or steelhead habitat. The biological monitor shall be granted the authority to halt work activity as necessary and to recommend measures to avoid/minimize adverse effects to steelhead and steelhead habitat.

7. Caltrans shall provide NMFS a written summary of work performed (including biological survey and monitoring results), BMPs implemented (i.e., use of biological monitor, flagging of project areas, erosion and sedimentation controls) and supporting photographs. Furthermore, the documentation describing listed species surveys and re-location efforts (if appropriate) shall include name(s) of the Caltrans-approved biologist(s), location and description of area surveyed, time and date of survey, all survey methods used, a list and tally of all sensitive animal species observed during the survey, a description of the instructions/recommendations given to the applicant during the project, and a detailed discussion of capture and relocation efforts (if appropriate).

8. Dewatering and pile driving with impact hammers shall be limited to the low-flow period between June 1 and October 31, thus avoiding adult steelhead spawning migration and peak smolt emigration.

9. When driving piles, the contractor shall limit the number of daily strikes based on results of the hydroacoustic analysis conducted for the project.

10. Sound attenuating devices shall be utilized if possible.

4.3.1.5. Compensatory Mitigation

The compensatory mitigation described in Section 4.1.1.4 will also mitigate for the impacts to steelhead. As such, with the implementation of the described mitigation, no additional compensatory for steelhead is required and none is proposed.

4.3.1.6. Cumulative Impacts

The RSA under consideration for steelhead cumulative impacts analysis is the Toro Creek watershed (Figure 4).

Several follow-up surveys of Toro Creek were conducted by CDFW between 1973 and 1978, including electrofishing surveys in 1974 and 1978. In these reports, Toro Creek was characterized as a short, low flow, coastal steelhead stream with limited spawning area with readily accessible spawning and rearing habitat and no barriers to migration (Titus el a. 2010). The 1978 CDFW report noted that "localized heavy grazing pressure, especially in the lower section of Toro Creek, resulted in removal of riparian vegetation and fecal pollution. The creek was also polluted with urban debris." A relatively large juvenile population was attributed to observed high quality habitat conditions, including an abundance of aquatic insect prey and observed juvenile production in Toro Creek. The size of the juvenile production corresponded to an estimated adult steelhead production of about 1,400 fish (Titus el a. 2010). Adult steelhead runs in Toro Creek supported an abundant and popular fishery during the 1970's. A stream inventory was conducted by California Conservation Corps (CCC) staff in 2000 on Toro Creek to document habitat conditions. The resulting report recommends treating sources of stream bank erosion and states, "There are sections where the stream is being impacted from cattle in the riparian zone. Alternatives should be explored with the grazer and developed if possible" (Becker and Reining 2008).

In 2002, NMFS conducted an extensive O. mykiss population survey (targeted primarily at juveniles) of most of the coastal watersheds within the South-Central California Coast Steelhead Recovery Planning Area (Becker and Reining 2008). Of the 39 watersheds in which steelhead were known to have occurred historically, nearly all were still occupied by either native resident O. mykiss or steelhead. Toro Creek was occupied by steelhead at the time and multiple age classes were observed (NMFS 2002).

Steelhead trout along Toro Creek are included in the south-central California coast DPS. Within a historical context, population levels and habitat quality for this DPS began trending substantially downward in the early 20th century, eventually leading to the original listing of the south-central California steelhead ESU (the predecessor to the DPS) as federally endangered under FESA in 1997 (NMFS 1997), designation of critical habitat in 2005 (NMFS 2005), and a final listing determination for the DPS in 2006 (NMFS 2006). Risks and limiting factors for the DPS include numerous minor habitat blockages throughout the region, dewatering from irrigation and urban water diversions, and habitat degradation in the form of agricultural and urban development on floodplains and riparian areas, and artificial breaching of estuaries during periods when they are normally closed off from the ocean by a sandbar (Good et al. 2005).

According to the latest available status review (NMFS 2023), there is little new evidence to suggest that the status of the south-central California coast steelhead DPS has changed appreciably since the last status review was completed in 2011. New information available on anadromous runs since the

2011 review found that the population warranted continued protection as a threatened species under FESA (NMFS 2023).

Toro Creek is characterized as a Core 3 population within the South-Central California Coast Steelhead Recovery Planning Area (NMFS 2013). While recovery actions on Core 3 populations are not assigned the same priority as Core 1 and 2 populations, these populations may be important in providing connectivity between populations and genetic diversity across the Recovery Planning Area, and therefore are an important part of the overall biological recovery strategy.

Reasonably foreseeable projects within the RSA that may contribute to direct or indirect cumulative impacts to Toro Creek include the following:

1. The County of San Luis Obispo intends to acquire (over many years) approximately 283 acres to create a preserve between Morro Bay and Cayucos. The area includes the coastline between the two cities and portions of Toro Creek. The project will help protect habitat for special-status species and protect public access to the adjacent beach. The acquisitions are not anticipated to significantly impact steelhead or its habitat.

2. County of San Luis Obispo's Morro Bay to Cayucos Trail Connector Project. The project proposes to construct a Class I bicycle and pedestrian corridor that connects the communities of Morro Bay and Cayucos. The project would include constructing a bridge immediately west of the existing SR-1 Toro Creek southbound bridge. Construction of the bridge would result in the removal of approximately 0.17 acre of riparian vegetation along the creek and will be designed to avoid all other aquatic features. The project will not impact steelhead or its habitat.

3. Caltrans' Off-site Mitigation for Piedras Blancas Realignment at Toro Creek. The project proposes to restore a total of 2.4 acres of heavily grazed non-native coastal grasslands with native riparian scrub and coastal prairie habitat. Additionally, the project proposes to enhance approximately 6.8 acres of riparian habitat by controlling invasives within Toro Creek. Project activities will result in temporary upland impacts for construction access but will result in increased native cover, water quality improvements, and increased opportunity for native wildlife, including pollinators. The project will not result in any significant impacts to steelhead or its habitat.

While construction activities for the Toro Creek Southbound Bridge Replacement project could contribute to cumulative effects (e.g., injury and/or mortality, temporary habitat disturbance) that could adversely affect steelhead in the RSA, the potential for adverse cumulative impacts are estimated to be very low considering the relatively small amount of potential habitat that would be affected in relation to the total amount of habitat that occurs in the RSA, and the low amount of take that would likely occur as a result of this project.

The proposed Toro Creek Bridge Replacement project, when considered in a cumulative effects context, is not anticipated to result in substantially adverse cumulative impacts to steelhead because the project would be small in scale, would result in mostly temporary impacts, and compensatory mitigation would be implemented to offset impacts to vegetation.

4.3.2. Discussion of Tidewater Goby (*Eucyclogobius newberryi*)

The tidewater goby is a small (rarely exceeding 2 in), gray-brown, euryhaline (salt-tolerant) fish. It is a federally endangered species and is considered a California SSC by CDFW. The species is endemic to coastal lagoons, estuaries, and backwater marshes of California; very few tidewater goby have ever been captured in the marine environment (Swift et al. 1989), and this species rarely occurs in the open ocean. Many populations are isolated along the California coast by open ocean and are subject to intermittent extirpations; those populations with other nearby populations are able to be recolonized (USFWS 2013).

The tidewater goby is typically found within the estuarine habitat of lower reaches of coastal streams (Swift et al. 1989). In coastal areas where the topography is steep and precipitation relatively low, the habitats occupied by tidewater goby may be a few acres in size, and may only extend a few hundred feet inland from the ocean, with backwater marshes small or absent. In other coastal settings where topography is less steep and precipitation is more abundant, surface streams are larger, coastal lagoons or estuaries may be hundreds of acres in size and extend many miles inland, and may include extensive backwater marshes (USFWS 2013).

Common features of tidewater goby habitat include shallow water with little to no flow and fine sediment such as sand, mud, or muddy gravel. The species tends to avoid currents and concentrate in slack-water areas (USFWS 2013). The tidewater goby is most commonly found in waters with relatively low salinities (less than 10 to 12 parts per thousand [ppt]), but can tolerate a wide range of salinities, and is frequently found in coastal habitats with higher salinity levels up to 42 ppt (USFWS 2013). The tidewater goby also occurs in freshwater streams up-gradient and tributary to brackish habitats with salinities less than 0.5 ppt (USFWS 2013).

The eggs of the tidewater goby are laid in burrows excavated by male fish. Burrows most commonly occur in areas with relatively unconsolidated, clean, coarse sand (Swift et al. 1989), and in silt or mud (Wang 1982). Male tidewater gobies remain in the burrow to guard the eggs attached to the burrow, and care for the embryos for approximately 9 to 11 days until they hatch (USFWS 2013). They rarely emerge from the burrow to feed (Swift et al. 1989). Tidewater goby larvae occupy the water column after eggs hatch (Wang 1982), then move to bottom substrate as they mature.

4.3.2.1. Survey Results

Approximately 1,542 Tidewater goby were observed/relocated during relocation efforts in Toro Creek during the construction of the northbound bridge in 2022. As a result, no protocol surveys were conducted and presence within the BSA is inferred.

Additionally, federally designated critical habitat for tidewater goby occurs in the BSA at Toro Creek, which supports tidewater goby PBF 1a (substrates suitable for the construction of burrows for reproduction in the BSA) and at least periodically supports PBF 1c (presence of a sandbar across the mouth of a lagoon that closes or partially closes the lagoon; this occurs seasonally in the BSA).

4.3.2.2. Project Impacts

Similar to the impacts described previously for steelhead, retrofitting the Toro Creek Southbound Bridge will require stream diversion and/or dewatering, which could temporarily alter aquatic habitat quality and result in a temporary loss of service for tidewater goby and other aquatic organisms.

The required stream diversion/dewatering would temporarily alter quality of aquatic habitat and result in a temporary loss of service for tidewater goby and other aquatic organisms. Bridge improvement activities and construction equipment access into the stream channel to conduct work will require the removal of vegetation. The removal of vegetation near the stream channel could affect microhabitat temperature regulation characteristics. However, the west side of the bridge lacks existing riparian vegetation and if vegetation removal does occur, the effects would be contained to the east side of the bridge and would be temporary. Additionally, vegetation would be restored within a relatively short timeframe (within 1 year) following construction completion.

Diversion/dewatering and construction within Toro Creek in areas occupied by tidewater goby could result in direct impacts to the species in the form of injury or mortality during capture, handling, and relocation activities. Erosion and sedimentation could also occur, which could directly or indirectly affect water quality for tidewater goby downstream. However, there is typically no stream channel present downstream during summer months due to the presence of a seasonal beach berm; therefore, sedimentation effects would be negligible.

While the placement of cofferdams and dewatering within the wetted portions of Toro Creek would result in a temporary loss of service for tidewater goby, the extent and effect of this are estimated to be minor, anticipated to be a temporary impact to approximately 17195 ft^2 (0.394 ac) and a permanent impact of approximately 2200 ft^2 (0.05 ac). The act of diversion/dewatering and its eventual dismantling and restoration of normal flows could also produce direct or indirect effects that could impact the structure of the streambed substrate or increase turbidity. These impacts would, however, be temporary and rectified once the pre-construction stream flow conditions are restored.

The FESA Section 7 effects determination is that the proposed project may affect, and is likely to adversely affect, tidewater goby. The basis for this determination is that tidewater goby presence has been inferred; however, it is anticipated that there would be a low potential for take of the species because stream diversion/dewatering would occur during the driest time of the year. The FESA Section 7 effects determination is that the proposed project may affect, and is likely to adversely affect, tidewater goby critical habitat.

4.3.2.3. Avoidance and Minimization Measures

In addition to the previously proposed measures, the following measures, including several adapted from USFWS (Farris 2013), will serve to further avoid or minimize impacts to tidewater goby within the API:

1. Prior to construction, Caltrans shall acquire incidental take authorization for tidewater goby from USFWS through a FESA Section 7 Biological Opinion and Incidental Take Statement.

2. Prior to initiation of stream diversion/dewatering, a qualified biologist shall conduct an informal worker environmental training program including a description of tidewater goby, its legal/protected status, proximity to the project site, avoidance/minimization measures to be implemented during the project, and the implications of violating FESA and permit conditions.

3. Prior to initiation of stream diversion/dewatering, a USFWS-approved biologist(s) shall install 1/8 inch block nets outside the impact areas and across the stream a minimum of 20 feet above and below the locations proposed for stream diversion/dewatering. If widely separated sites are involved, more than one set of block nets shall be placed to protect the work area. The nets shall be installed on the first day of work and monitored thereafter for the duration of the work.

4. Once the block nets are secured, the USFWS-approved biologist(s) shall remove all tidewater gobies found between the block nets using a 1/8 inch seine and dip nets, and relocate tidewater gobies to suitable habitat outside of the proposed project site.

5. Should dewatering occur, any pumps used shall be fitted with anti-entrapment device(s) to prevent tidewater gobies from being drawn into the pump or impinged on intake screening. As dewatering proceeds, the USFWS-approved biologist(s) shall remove by hand or net all tidewater gobies found and relocate them to suitable habitat downstream of the proposed project site.

6. A USFWS-approved biologist shall remain onsite and observe for tidewater gobies and turbidity levels within the work areas during all creek dewatering activities, and shall capture and relocate tidewater gobies to suitable habitat as necessary.

7. Caltrans shall provide USFWS a written summary of work performed (including biological survey and monitoring results), BMPs implemented (i.e., use of biological monitor, flagging of project areas, erosion and sedimentation controls) and supporting photographs. Furthermore, the documentation describing listed species surveys and re–location efforts (if appropriate) shall include name(s) of the USFWS-approved biologist(s), location and description of area surveyed, time and date of survey, all survey methods used, a list and tally of all sensitive animal species observed during the survey, a description of the instructions/recommendations given to the applicant during the project, and a detailed discussion of capture and relocation efforts (if appropriate).

4.3.2.4. Compensatory Mitigation

The compensatory mitigation described in Chapter 4.1.1.4 will also mitigate for the impacts to tidewater goby. As such, with the implementation of the described mitigation, no additional compensatory is required and none is proposed.

4.3.2.5. Cumulative Impacts

The RSA under consideration for tidewater goby cumulative impacts analysis is the Toro Creek watershed (Figure 4). Toro Creek is specifically labeled as tidewater goby Central Coast Recovery Sub-Unit CC 3e (USFWS 2005). Available tidewater goby habitat in Sub-Unit CC 3e (near the mouth of Toro Creek) encompasses approximately 0.1 to 0.5 hectares (0.5 to 1.2 acres) (USFWS 2005). The Sub-Units such as Toro Creek, with close proximity to Morro Bay, appear to have been adversely affected by human activity (USFWS 2005).

Historically, tidewater goby population density in Toro Creek has been characterized as rare with intermittent presence (USFWS 2005). The nearest other extant population approximately 1.2 miles to the north at Willow Creek (USFWS 2005). Other than competition/predation from non-native species, other potential threats within the RSA include habitat degradation via water diversions and groundwater pumping (USFWS 2005). No other pertinent population data for tidewater goby within the RSA could be found during the literature review for this NES.

Reasonably foreseeable projects within the RSA that may contribute to direct or indirect cumulative impacts to Toro Creek include the following:

1. The County of San Luis Obispo intends to acquire (over many years) approximately 283 acres to create a preserve between Morro Bay and Cayucos. The area includes the coastline between the two cities and portions of Toro Creek. The project will help protect habitat for special-status species and protect public access to the adjacent beach. The acquisitions are not anticipated to significantly impact tidewater goby or its habitat.

2. County of San Luis Obispo's Morro Bay to Cayucos Trail Connector Project. The project proposes to construct a Class I bicycle and pedestrian corridor that connects the communities of Morro Bay and Cayucos. The project would include constructing a bridge immediately west of the existing SR-1 Toro Creek southbound bridge. Construction of the bridge would result in the removal of approximately 0.17 acre of riparian vegetation along the creek and will be designed to avoid all other aquatic features. The project will not impact tidewater goby or its habitat.

3. Caltrans' Off-site Mitigation for Piedras Blancas Realignment at Toro Creek. The project proposes to restore a total of 2.4 acres of heavily grazed non-native coastal grasslands with native riparian scrub and coastal prairie habitat. Additionally, the project proposes to enhance approximately 6.8 acres of riparian habitat by controlling invasives within Toro Creek. Project activities will result in temporary upland impacts for construction access but will result in increased native cover, water quality improvements, and increased opportunity for native wildlife, including pollinators. The project will not result in any significant impacts to tidewater goby or its habitat.

While construction activities for the Toro Creek Southbound Bridge Replacement project could contribute to cumulative effects (e.g., injury and/or mortality, temporary habitat disturbance) that could adversely affect tidewater goby in the RSA, the potential for adverse cumulative impacts are estimated to be very low considering the relatively small amount of potential habitat that would be affected in relation to the total amount of habitat that occurs in the RSA, and the low amount of take that would likely occur as a result of this project.

When considered in a cumulative context, the proposed Toro Creek Southbound Bridge Replacement project is not anticipated to result in substantially adverse cumulative impacts to tidewater gobies because the project would be small in scale, would result in mostly temporary impacts, and compensatory mitigation would be implemented to offset impacts to Toro Creek and associated riparian vegetation.

4.3.3. Discussion of Southwestern Pond Turtle (*Actinemys pallida*)

The southwestern pond turtle (*Actinemys pallida*) is a federally proposed threatened species by USFWS and an SSC by CDFW. It is a medium-sized (to 8.5 inches) olive, brown, or blackish turtle with a relatively low carapace (shell) occasionally without pattern but usually with a network of spots, lines, or dashes of brown or black often radiating from the growth centers of the carapace shields (Stebbins 2003).

Pond turtle species range includes most Pacific slope drainages between the Oregon and Mexican borders (Jennings and Hayes 1994). However, the former species has been split into two species. Southwestern pond turtles are restricted to the central coast of California between San Francisco Bay, the Mojave River,

and Baja California. Pond turtles live where water persists year-round in ponds along foothill streams or in broad washes near the coast. The ponds favored by turtles typically support emergent and floating vegetation such as cattails and algal mats. They also bask on half-submerged logs, rocks, or flat shorelines close to the edge of water. The southwestern pond turtle is mostly aquatic, leaving its aquatic site to reproduce, estivate, and over-winter. It may overwinter on land or in water but may remain active in water during the winter season. In warmer areas along the central and southern California coast, pond turtles may be active all year (Zeiner et al. 1990).

Breeding for pond turtles occurs typically in late April to July. Upland nesting sites are required near the aquatic site, and are typically located in open, clay or silt slopes to ensure proper incubation temperature (Jennings and Hayes 1994). Nesting typically occurs in sunny areas within approximately 15 to 330 ft of water (occasionally up to 1.25 mi). Eggs hatch in late fall or overwinter and hatch in early spring of the following year. Some females double clutch during the year.

4.3.3.1. Survey Results

No southwestern pond turtles were observed in the BSA during surveys for this project or during the construction of the northbound bridge. However, suitable aquatic habitat occurs within the BSA for the species. There are two 1988 CNDDB occurrence records for southwestern pond turtle in Toro Creek, approximately 1,500 feet upstream (CNDDB 2023). Presence of the species is inferred within the BSA.

4.3.3.2. Project Impacts

Project construction could result in the injury or mortality of southwestern pond turtle (if present) during diversion and dewatering. The potential need to capture and relocate these species would subject these animals to stresses that could result in adverse effects; however, the species would not be expected to occur on the beach downstream from the project area. Injury or mortality could occur via accidental crushing by worker foot-traffic or construction equipment. Erosion and sedimentation could also occur, which would directly or indirectly affect water quality. The potential for these impacts is anticipated to be low due to no observations of the species within the BSA during surveys, but this could change through time, where these species could potentially expand populations or colonize within the stream in the BSA.

The FESA Section 7 effects determination is that the proposed project may affect, and is likely to adversely affect, southwestern pond turtle. The basis for this determination is that suitable habitat for western pond turtle exists within the BSA and there would be potential for take of the species during construction.

4.3.3.3. Avoidance and Minimization Measures

The measures recommended in the following chapter (Chapter 4.3.4.3.) for California red-legged frogs will be applicable for southwestern pond turtle.

Additional Avoidance and Minimization measures may be added during consultation with USFWS.

4.3.3.4. Compensatory Mitigation

The compensatory mitigation described in Chapter 4.1.1.4 will also mitigate for the impacts to southwestern pond turtle. With the implementation of the described mitigation, no additional compensatory is required and none is proposed.

4.3.4.5. Cumulative Impacts

1. The County of San Luis Obispo intends to acquire (over many years) approximately 283 acres to create a preserve between Morro Bay and Cayucos. The area includes the coastline between the two cities and portions of Toro Creek. The project will help protect habitat for special-status species and protect public access to the adjacent beach. The project is not anticipated to significantly impact aquatic and upland habitat conditions for southwestern pond turtle but will preserve the land in its natural condition.

2. County of San Luis Obispo's Morro Bay to Cayucos Trail Connector Project. The project proposes to construct a Class I bicycle and pedestrian corridor that connects the communities of Morro Bay and Cayucos. The project would include constructing a bridge immediately west of the existing SR-1 Toro Creek southbound bridge. Construction of the bridge would result in the removal of approximately 0.17 acre of riparian vegetation along the creek and will be designed to avoid all other aquatic features. The project proposes avoidance and mitigation measures and anticipates impacts to southwestern pond turtle would be less than significant.

3. Caltrans' Off-site Mitigation for Piedras Blancas Realignment at Toro Creek. The project proposes to restore a total of 2.4 acres of heavily grazed non-native coastal grasslands with native riparian scrub and coastal prairie habitat. Additionally, the project proposes to enhance approximately 6.8 acres of riparian habitat by controlling invasives within Toro Creek. Project activities will result in temporary upland impacts for construction access but will result in increased native cover, water quality improvements, and increased opportunity for native wildlife, including pollinators. The project will not result in any significant impacts to southwestern pond turtle.

While construction activities for the Toro Creek Southbound Bridge Replacement project could contribute to cumulative effects (e.g., injury and/or mortality, temporary habitat disturbance) that could adversely affect southwestern pond turtle in the RSA, the potential for adverse cumulative impacts are estimated to be very low considering the relatively small amount of potential habitat that would be affected in relation to the total amount of habitat that occurs in the RSA, and the low potential for mortality and/or injury that would likely occur as a result of this project.

When considered in a cumulative context, the proposed Toro Creek Southbound Bridge Replacement project is not anticipated to result in substantially adverse cumulative impacts to southwestern pond turtle. The proposed project would be small in scale, would result in mostly temporary impacts, and compensatory mitigation would be implemented to offset impacts to Toro Creek and no impacts would occur to riparian vegetation.

4.3.4. Discussion of Coast Range Newt (*Taricha torosa*)

The Coast Range newt (*Taricha torosa*) is a stocky, medium-sized salamander that occurs along the Coast Ranges and Sierra Nevada. It is yellowish-brown to dark brown above, pale yellow to orange below. The species occurs primarily along the Coast Ranges, primarily in valley-foothill hardwood, valley-foothill hardwood-conifer, coastal scrub and mixed chaparral (Zeiner et al. 1990). Terrestrial individuals are relatively inactive in subterranean refuges most of the year (late spring to the fall). Individuals in uplands seek cover under surface objects such as rocks and logs, or in mammal burrows, rock fissures, or human-made structures such as wells.

Coast Range newt migration from upland refugia to aquatic breeding localities typically occurs day and night during winter and spring (Jennings and Hayes 1994). Breeding and egg-laying occur in intermittent streams, rivers, permanent and semi-permanent ponds, lakes and large reservoirs. Once arriving at breeding sites, adults may remain in or near ponds and streams for several weeks. Breeding and egg-laying may extend from fall through late spring depending on the locality. Females deposit egg clusters in shallow water on the submerged portion of emergent vegetation, on submerged vegetation, and on the underside of rocks. Adults migrate back to subterranean refuges in the spring, where they spend the summer estivating. Larvae hatch from eggs after incubating for about four to six weeks (Jennings and Hayes 1994). Aquatic larvae find cover beneath submerged rocks, logs, debris, and undercut banks and normally transform in the summer or fall of their first year. Inactive juveniles probably remain in moist areas under objects near breeding ponds or streams until they nest in spring or summer (Zeiner et al. 1990).

4.3.4.1. Survey Results

No Coast Range newt life stages were observed in the BSA during surveys for this project or during the construction of the northbound bridge. However, suitable aquatic habitat occurs within the BSA for the species. There are CNDDB occurrence records for Coast Range newt in Toro Creek (CNDDB 2016). Presence of the species is inferred within the BSA.

4.3.4.2. Project Impacts

Project construction could result in the injury or mortality of Coast Range newt (if present) during diversion/dewatering. The potential need to capture and relocate the species would subject these animals to stresses that could result in adverse effects; however, the species is not expected to occur on the beach

downstream from the project area, so effects of sedimentation would be negligible. Injury or mortality could occur via accidental crushing by worker foot-traffic or construction equipment. Erosion and sedimentation could also occur, which would directly or indirectly affect water quality. The potential for these impacts is anticipated to be low due to no observations of the species within the BSA during surveys, but this could change through time, where these species could potentially expand populations or colonize within the stream in the BSA.

4.3.4.3. Avoidance and Minimization Measures

The following avoidance and minimization measure is recommended for coast range newt:

1. Prior to construction, a biologist determined qualified by Caltrans shall survey the API and, if present, capture and relocate any Coast Range newts to suitable habitat downstream of the API. Observations of SSCs or other special-status species shall be documented on CNDDB forms and submitted to CDFW upon project completion. If these species or other SSC aquatic species are observed during construction, they will likewise be relocated to suitable upstream habitat by a qualified biologist.

4.3.4.4. Compensatory Mitigation

The compensatory mitigation described in Chapter 4.1.1.4 will also mitigate for the impacts to Coast Range Newt. With the implementation of the described mitigation, no additional compensatory is required and none is proposed.

4.3.4.5. Cumulative Impacts

The RSA under consideration for Coast Range newt and western pond turtle cumulative impacts analysis is the Toro Creek watershed (Figure 4).

No pertinent population data for Coast Range newt specific to the RSA could be found during the literature review for this NES. However, threats to potential habitat for Coast Range newt within the RSA are low, due to the rural character of the area and overall lack of historic and proposed development. Similar to the threats facing steelhead and tidewater goby critical habitat discussed above, current threats to potential Coast Range newt habitat within the RSA stem from the erosion and soil compaction that result from cattle crazing. As the Toro Creek Southbound Bridge Replacement project will require temporary and permanent impacts to potential habitat for Coast Range newt, the project is contributing to a cumulative impact to these species in the RSA. However, because these impacts are very small relative to the available habitat in the RSA, the contribution to cumulative impacts to these resources in the RSA is not considered substantial.

Reasonably foreseeable projects within the RSA that may contribute to direct or indirect cumulative impacts to Toro Creek include the following:

1. The County of San Luis Obispo intends to acquire (over many years) approximately 283 acres to create a preserve between Morro Bay and

Cayucos. The area includes the coastline between the two cities and portions of Toro Creek. The project will help protect habitat for special-status species and protect public access to the adjacent beach. The project is not anticipated to significantly impact stream and microhabitat conditions for aquatic and semi-aquatic species would but will preserve the land in its natural condition.

2. County of San Luis Obispo's Morro Bay to Cayucos Trail Connector Project. The project proposes to construct a Class I bicycle and pedestrian corridor that connects the communities of Morro Bay and Cayucos. The project would include constructing a bridge immediately west of the existing SR-1 Toro Creek southbound bridge. Construction of the bridge would result in the removal of approximately 0.17 acre of riparian vegetation along the creek and will be designed to avoid all other aquatic features. The project proposes avoidance and mitigation measures and does not anticipate impacts to aquatic or semi-aquatic species.

3. Caltrans' Off-site Mitigation for Piedras Blancas Realignment at Toro Creek. The project proposes to restore a total of 2.4 acres of heavily grazed non-native coastal grasslands with native riparian scrub and coastal prairie habitat. Additionally, the project proposes to enhance approximately 6.8 acres of riparian habitat by controlling invasives within Toro Creek. Project activities will result in temporary upland impacts for construction access but will result in increased native cover, water quality improvements, and increased opportunity for native wildlife, including pollinators. The project will not result in any significant impacts to coast range newt.

While construction activities for the Toro Creek Southbound Bridge Replacement project could contribute to cumulative effects (e.g., injury and/or mortality, temporary habitat disturbance) that could adversely affect these species in the RSA, the potential for adverse cumulative impacts are estimated to be very low considering the relatively small amount of potential habitat that would be affected in relation to the total amount of habitat that occurs in the RSA, and the low potential for mortality and/or injury that would likely occur as a result of this project.

When considered in a cumulative context, the proposed Toro Creek Southbound Bridge Replacement project is not anticipated to result in substantially adverse cumulative impacts to Coast Range newts. The proposed project would be small in scale, would result in mostly temporary impacts, and compensatory mitigation would be implemented to offset impacts to Toro Creek and no impacts would occur to riparian vegetation.

4.3.5. Discussion of California Red-legged Frog (*Rana draytonii*)

The California red-legged frog is federally threatened and considered an SSC by CDFW. It is recognized by the reddish color that forms on the underside of its legs

and belly and the presence of a diagnostic dorsolateral fold. The California red-legged frog historically ranged from Marin County southward to northern Baja California (Stebbins 2003). Presently, Monterey, San Luis Obispo, and Santa Barbara counties support the largest remaining California red-legged populations within California.

California red-legged frogs use a variety of areas, including aquatic, riparian, and upland habitats. They prefer aquatic habitats with little or no flow, the presence of surface water to at least early June, surface water depths to at least 2.3 ft, and the presence of fairly sturdy underwater supports such as cattails (Typha spp.). The largest densities of this species are typically associated with dense stands of overhanging willows and an intermixed fringe of sturdy emergent vegetation (Jennings and Hayes 1994). The California red-legged frog typically breeds from January to July, with peak breeding occurring in February and March. Softball-sized egg masses are attached to subsurface vegetation, and hatched tadpoles require 11 to 20 weeks to metamorphose. Metamorphosis typically occurs from July to September.

The California red-legged frog uses both riparian and upland habitats for foraging, shelter, cover, and non-dispersal movement. Upland refugia may be natural, such as the spaces under boulders or rocks and organic debris (e.g., downed trees or logs), or manmade, such as certain industrial debris and agricultural features (e.g., drains, watering troughs, abandoned sheds, or stacks of hay or other vegetation); the California red-legged frog will also use small mammal burrows and moist leaf litter as refugia (USFWS 2010). Adults are predominantly nocturnal, while juveniles can be active at any time of day. Riparian habitat degradation, urbanization, predation by bullfrogs, and historic market harvesting have all reportedly contributed to the decline of the species.

4.3.5.1. Survey Results

No protocol surveys were conducted for California red-legged frog and presence is inferred in the BSA. There are known occurrence records for California red-legged frog at Toro Creek (CNDDB 2016) and one adult was observed during pre-construction survey efforts for replacement of the northbound bridge in 2022. The critical habitat unit near Toro Creek area begins approximately 0.3 mi east of the Toro Creek BSA and will be completely avoided.

4.3.5.2. Project Impacts

Similar to the impacts described previously for Coast Range newts and southwestern pond turtles, project construction could result in the injury or mortality of California red-legged frogs (if present) during diversion/dewatering of Toro Creek. The potential need to capture and relocate California red-legged frogs would subject these animals to stresses that could result in adverse effects. Injury or mortality could occur via accidental crushing by worker foot-traffic or construction equipment. Erosion and sedimentation could also occur, which would directly or indirectly affect water quality. The potential for these impacts is anticipated to be low due to a single observation of the species within the BSA

during surveys and prior construction activities of the northbound bridge, but this could change through time, where the species could potentially expand populations.

The FESA Section 7 effects determination is that the proposed project may affect, and is likely to adversely affect, California red-legged frog. The basis for this determination is that California red-legged frog has been inferred and there would be potential for take of the species during construction.

Critical habitat near the Toro Creek area begins approximately 0.3 mi east of the Toro Creek BSA; therefore, no critical habitat will be impacted in the Toro Creek API.

4.3.5.3. Avoidance and Minimization Efforts

Caltrans anticipates the proposed project will qualify for FESA incidental take coverage under the Programmatic Biological Opinion for Projects Funded or Approved under the Federal Highway Administration's Federal Aid Program (USFWS 2011). The following measures are the applicable measures from the Programmatic Biological Opinion that will be implemented for this project:

1. Only USFWS-approved biologists shall participate in activities associated with the capture, handling, and monitoring of California red-legged frogs.

2. Ground disturbance shall not begin until written approval is received from the USFWS that the biologist is qualified to conduct the work.

3. A USFWS-approved biologist shall survey the project area no more than 48 hours before the onset of work activities. If any life stage of the California red-legged frog is found and these individuals are likely to be killed or injured by work activities, the approved biologist shall be allowed sufficient time to move them from the site before work begins. The USFWS-approved biologist shall relocate the California red-legged frogs the shortest distance possible to a location that contains suitable habitat and will not be affected by the activities associated with the project. The relocation site shall be in the same drainage to the extent practicable. Caltrans shall coordinate with USFWS on the relocation site prior to the capture of any California red-legged frogs.

4. Before any activities begin on a project, a USFWS-approved biologist shall conduct a training session for all construction personnel. At a minimum, the training shall include a description of the California red-legged frog and its habitat, the specific measures that are being implemented to conserve the California red-legged frog for the current project, and the boundaries within which the project may be accomplished. Brochures, books, and briefings may be used in the training session, provided that a qualified person is on hand to answer any questions.

5. A USFWS-approved biologist shall be present at the work site until all California red-legged frogs have been removed, workers have been instructed, and disturbance of the habitat has been completed. After this time, Caltrans shall designate a person to monitor on-site compliance with all minimization measures. The USFWS-approved biologist shall ensure that this monitor receives the training outlined in measure 4 above and in the identification of California red-legged frogs. If the monitor or the USFWS-approved biologist recommends that work be stopped because California red-legged frogs would be affected in a manner not anticipated by Caltrans and USFWS during review of the proposed action, they shall notify the resident engineer immediately. The resident engineer shall resolve the situation by requiring that all actions that are causing these effects be halted. When work is stopped, the USFWS shall be notified as soon as possible.

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

7. Without the express permission of USFWS, all refueling, maintenance and staging of equipment and vehicles shall occur at least 60 ft from the riparian habitat or water bodies and not in a location from where a spill would drain directly toward aquatic habitat. The monitor shall ensure contamination of habitat does not occur during such operations. Prior to the onset of work, Caltrans shall ensure that a plan is in place for prompt and effective response to any accidental spills. All workers shall be informed of the importance of preventing spills and of the appropriate measures to take should a spill occur.

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

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

10. Caltrans shall attempt to schedule work for times of the year when impacts to the CRLF would be minimal. For example, work that would affect large pools that may support breeding would be avoided, to

the maximum degree practicable, during the breeding season (November through May). Isolated pools that are important to maintain CRLFs through the driest portions of the year would be avoided, to the maximum degree practicable, during the late summer and early fall. Habitat assessments, surveys, and technical assistance between Caltrans and the USFWS during project planning shall be used to assist in scheduling work activities to avoid sensitive habitats during key times of year.

11. To control sedimentation during and after project completion, Caltrans shall implement BMPs shall be implemented outlined in any authorizations or permits, issued under the authorities of the Clean Water Act received for the project. If BMPs are ineffective, Caltrans shall attempt to remedy the situation immediately, in coordination with USFWS.

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

13. Unless approved by USFWS, water shall not be impounded in a manner that may attract California red-legged frogs.

14. A USFWS-approved biologist shall permanently remove any individuals of exotic species, such as bullfrogs (*Rana catesbeiana*), signal and red swamp crayfish (*Pacifasticus leniusculus*; *Procambarus clarkia*), and centrarchid fishes from the project area, to the maximum extent possible. The USFWS-approved biologist shall be responsible for ensuring his or her activities are in compliance with the California Fish and Game Code.

15. If Caltrans demonstrates that disturbed areas have been restored to conditions that allow them to function as habitat for the California red-legged frog, these areas will not be included in the amount of total habitat permanently disturbed.

16. To ensure that diseases are not conveyed between work sites by the USFWS-approved biologist, the fieldwork code of practice developed by the Declining Amphibian Task Force shall be followed at all times.

17. Project sites shall be revegetated with an assemblage of native riparian, wetland, and upland vegetation suitable for the area. Locally collected plant materials shall be used to the extent practicable. Invasive, exotic plants shall be controlled to the maximum extent practicable. This measure shall be implemented in all areas disturbed by activities associated with the project, unless USFWS and Caltrans determine that it is not feasible or practical.

18. Caltrans shall not use herbicides as the primary method to control invasive, exotic plants. However, if it is determined that the use of herbicides is the only feasible method for controlling invasive plants at a specific project site; it will implement the following additional protective measures for the California red-legged frog:

    a. Caltrans shall not use herbicides during the breeding season for the California red-legged frog;

    b. Caltrans shall conduct surveys for the California red-legged frog immediately prior to the start of herbicide use. If found, California red-legged frogs shall be relocated to suitable habitat far enough from the project area that no direct contact with herbicide would occur;

    c. Giant reed and other invasive plants shall be cut and hauled out by hand and painted with glyphosate-based products, such as Aquamaster® or Rodeo®;

    d. Licensed and experienced Caltrans staff or a licensed and experienced contractor shall use a hand-held sprayer for foliar application of Aquamaster® or Rodeo® where large monoculture stands occur at an individual project site;

    e. All precautions shall be taken to ensure that no herbicide is applied to native vegetation;

    f. Herbicides shall not be applied on or near open water surfaces (no closer than 60 ft from open water);

    g. Foliar applications of herbicide shall not occur when wind speeds are in excess of 3 mi per hour;

    h. No herbicides shall be applied within 24 hours of forecasted rain;

    i. Application of all herbicides shall be done by qualified Caltrans staff or contractors to ensure that overspray is minimized, that all applications is made in accordance with the label recommendations, and with implementation of all required and reasonable safety measures. A safe dye shall be added to the mixture to visually denote treated sites. Application of herbicides

shall be consistent with the U.S Environmental Protection Agency's Office of Pesticide Programs, Endangered Species Protection Program county bulletins;

j. All herbicides, fuels, lubricants, and equipment shall be stored, poured, or refilled at least 60 ft from riparian habitat or water bodies in a location where a spill would not drain directly toward aquatic habitat. Prior to the onset of work, Caltrans shall ensure that a plan is in place for a prompt and effective response to accidental spills. All workers shall be informed of the importance of preventing spills and of the appropriate measures to take should a spill occur.

Upon completion of the project, Caltrans shall ensure that a Project Completion Report is completed and provided to USFWS, following the template provided with the Programmatic Biological Opinion. Caltrans shall include recommended modifications of the protective measures if alternative measures would facilitate compliance with the provisions of this consultation.

4.3.5.4. Compensatory Mitigation

The compensatory mitigation described in Chapter 4.1.1.4 will also mitigate for the impacts to California red-legged frog. As such, with the implementation of the described mitigation, no additional compensatory is required and none is proposed.

4.3.5.5. Cumulative Impacts

The RSA under consideration for California red-legged frog cumulative impacts analysis is the Toro Creek watershed (Figure 4). This area occurs within California red-legged frog Recovery Unit 5 - Central Coast, Core Area 22 - Estero Bay, which is recognized as a core area source population and provides connectivity between known populations (USFWS 2002a).

No pertinent population data for California red-legged frog specific to the RSA could be found during the literature review for this NES. However, threats to potential habitat for California red-legged frog within the RSA are low, due to the rural character of the area and overall lack of historic and proposed development. Similar to the threats facing steelhead and tidewater goby critical habitat discussed above, current threats to potential California red-legged frog habitat within the RSA stem from the erosion and soil compaction that result from cattle crazing. As the Toro Creek Southbound Bridge Replacement project will require temporary and permanent impacts to potential habitat for California red-legged frog, the project is contributing to a cumulative impact to this species in the RSA. However, because these impacts are very small relative to the available habitat in the RSA, the contribution to cumulative impacts to this resource in the RSA is not considered substantial.

Reasonably foreseeable projects within the RSA that may contribute to direct or indirect cumulative impacts to Toro Creek include the following:

1. The County of San Luis Obispo intends to acquire (over many years) approximately 283 acres to create a preserve between Morro Bay and Cayucos. The area includes the coastline between the two cities and portions of Toro Creek. The project will help protect habitat for special-status species and protect public access to the adjacent beach. The project is not anticipated to significantly impact stream and microhabitat conditions for aquatic and semi-aquatic species would but will preserve the land in its natural condition.

2. County of San Luis Obispo's Morro Bay to Cayucos Trail Connector Project. The project proposes to construct a Class I bicycle and pedestrian corridor that connects the communities of Morro Bay and Cayucos. The project would include constructing a bridge immediately west of the existing SR-1 Toro Creek southbound bridge. Construction of the bridge would result in the removal of approximately 0.17 acre of riparian vegetation along the creek and will be designed to avoid all other aquatic features. The project proposes avoidance and mitigation measures and does not anticipate impacts to aquatic or semi-aquatic species.

3. Caltrans' Off-site Mitigation for Piedras Blancas Realignment at Toro Creek. The project proposes to restore a total of 2.4 acres of heavily grazed non-native coastal grasslands with native riparian scrub and coastal prairie habitat. Additionally, the project proposes to enhance approximately 6.8 acres of riparian habitat by controlling invasives within Toro Creek. Project activities will result in temporary upland impacts for construction access but will result in increased native cover, water quality improvements, and increased opportunity for native wildlife, including pollinators. The project will not result in any significant impacts to California red-legged frog.

While construction activities could contribute to cumulative effects (e.g., injury and/or mortality, temporary habitat disturbance) that could adversely affect California red-legged frog, the potential for adverse cumulative impacts are estimated to be very low considering the relatively small amount of potential habitat that would be affected in relation to the total amount of habitat that occurs in the region, and the low amount of take that would likely occur.

When considered in a cumulative context, the proposed Toro Creek Southbound Bridge Replacement project is not anticipated to result in substantially adverse cumulative impacts to California red-legged frog. The proposed project would be small in scale, would result in mostly temporary impacts, and compensatory mitigation would be implemented to offset impacts to Toro Creek and no impacts would occur to riparian vegetation.

4.3.6. Discussion of Western Snowy Plover (Charadrius alexandrinus nivosus)

The Pacific coast population of the western snowy plover was listed as federally threatened in 1993. This population is defined as those individuals that nest within

50 miles of the Pacific Ocean on the mainland coast, peninsulas, offshore islands, bays, estuaries, or rivers of the U.S and Baja California, Mexico (USFWS 1993). There are at least 159 current or historical western snowy plover breeding or wintering locations on the U.S. Pacific coast (USFWS 2007).

The western snowy plover is a small shorebird in the family Charadriidae, weighing from 1.2 to 2 ounces and ranging in length from 5.9 to 6.6 in (USFWS 2007). It is pale gray-brown above and white below, with a white hindneck collar and dark lateral breast patches, forehead bar, and eye patches. The bill and legs are blackish. The Pacific coast population of the western snowy plover breeds primarily on coastal beaches from southern Washington to southern Baja California, Mexico. Sand spits, dune-backed beaches, beaches at creek and river mouths, and salt pans at lagoons and estuaries are the main coastal habitats for nesting (USFWS 2007). Less common nesting habitats include bluff-backed beaches, dredged material disposal sites, salt pond levees, dry salt ponds, and river bars.

Nesting western snowy plovers at coastal locations consist of both year-round residents and migrants. Migrants begin arriving at breeding areas in central California as early as January, with main arrival from early March to late April. Some individuals nest at multiple locations during the same year, and birds may continue arriving through June. The earliest nests on the California coast occur during the first week of March in some years and by the third week of March in most years (Page et al. 1995). Peak initiation of nesting is from mid-April to mid-June.

Nesting typically occurs in flat, open areas with sandy or saline substrates. Nests consist of a shallow scrape or depression, sometimes lined with beach debris. Driftwood, kelp, and dune plants may provide chicks cover from predators. Nests are usually within 328 feet of water, but can be several hundred meters away when there is no vegetative barrier between the nest and water. The usual clutch size is three eggs with a range from two to six. Both sexes incubate the eggs, with the female tending to incubate during the day and the male at night. Hatching lasts from early April through mid-August, with chicks reaching fledging age approximately one month after hatching. In California, the breeding season is long enough for some females to triple brood and for some males to double brood (Page et al. 1995).

4.3.6.1. Survey Results

The Toro Creek BSA is within proximity to western snowy plover habitat. No protocol surveys were conducted and no western snowy plovers, nests, or other nesting bird species were observed during reconnaissance surveys of the BSA.

The Toro Creek BSA was determined to support the western snowy plover PBF that includes areas of sandy beach above the high-tide line with occasional surf-cast wrack (i.e., seaweed) supporting small invertebrates and barren to sparsely vegetated terrain.

The last nesting record reported along this ½ mile stretch of beach in the CNDDB is from 2020 (CNDDB 2023). Prior to this occurrence, the previous nesting observation was in 2012 along the beach. Additional non-nesting observations of the species were 2016, 2017, and 2018. It is possible that western snowy plovers could forage and/or winter along sandy beach areas adjacent to Toro Creek, but these areas will be avoided by the project. The foredune habitat adjacent to the project site that will be impacted is located adjacent to the existing highway and is elevated from the sandy beach. The beach near Toro Creek is frequently used as a "dog beach" and therefore is likely to preclude the presence of western snowy plover.

4.3.6.2. Project Impacts

The FESA Section 7 effects determination is that the proposed project will have no effect on western snowy plover. The basis for this determination is that the only suitable habitat is located in the western portion of the BSA and API, covers a small area (12,922 square feet), and not contiguous. These fragments of foredune and sandy beach habitat are also elevated from more contiguous habitat and adjacent to the existing highway. Although the BSA occurs adjacent to a federally designated critical habitat unit for western snowy plover, the last recorded occurrence in CNDDB is from 2016. More importantly, the area is known to have very high human and dog disturbance, which can preclude nesting and increase nest abandonment. Impacts associated with the API will be confined to the Toro Creek channel for bridge work along with access adjacent to the bridge.

Based on the disturbance footprint of the Toro Creek API, there will be no permanent or temporary impacts to designated critical habitat for western snowy plover associated with this project.

4.3.6.3. Avoidance and Minimization Measures

Due to the proximity of this project to western snowy plover critical habitat, the following measure will be applied to completely avoid adverse effects to western snowy plover:

1. If western snowy plover is observed within 100 ft of the API during the course of construction, a qualified biologist shall implement an exclusion zone and work shall be avoided within the exclusion zone until the snowy plover is located greater than 100 ft from project-related disturbance. If an active western snowy plover nest is observed within 100 ft of the API, all project activities shall immediately cease and USFWS and Caltrans shall be contacted within 48 hours. Caltrans shall then reinitiate FESA Section 7 formal consultation with USFWS for western snowy plover and implement additional avoidance/minimization measures as necessary.

4.3.6.4. Compensatory Mitigation

Since there are no potential impacts to this species, no compensatory mitigation is required.

4.3.6.5. Cumulative Impacts

Since there will be no effect to western snowy plovers, there will be no contributions to any cumulative impacts to the species, therefore an analysis of cumulative impacts is not required.

4.3.7. Discussion of Least Bell's Vireo (*Vireo bellii pusillus*), Southwestern Willow Flycatcher (*Empidonax traillii extimus*), Cooper's Hawk (*Accipiter cooperii*), Tricolored Blackbird (*Agelaius tricolor*), and Other Nesting Birds

Nesting bird species are addressed as a group because they have similar habitat requirements, project-related impacts, and avoidance and minimization measures.

Least Bell's Vireo The least Bell's vireo is a federal and state endangered species. Federal critical habitat has been designated for the species but does not overlap with the BSA. The least Bell's vireo subspecies is the grayest of the four subspecies and is about 4 inches long with a 7 inches wingspan. Historically, the least Bell's vireo was a common to locally abundant species in lowland riparian habitat, ranging from coastal southern California through the Sacramento and San Joaquin Valleys. By the time of listing in 1986, the least Bell's vireo had been extirpated from most of its historic range. Populations were confined to eight counties south of Santa Barbara, with the majority of birds occurring in San Diego County. The population decline was the likely result of nest parasitism by brown-headed cowbirds (Molothrus ater) and habitat conversion to agriculture (USFWS 1998).

Least Bell's vireos require riparian areas to breed and typically inhabit structurally diverse woodlands along watercourses. They occur in a number of riparian habitat types, including cottonwood-willow woodlands/forests, oak woodlands, and mule fat scrub. Several investigators have attempted to identify the habitat requirements of the least Bell's vireo by comparing characteristics of occupied and unoccupied sites and have focused on two features that appear to be essential: 1) the presence of dense cover within 3 to 6 ft of the ground, where nests are typically placed; and, 2) a dense, stratified canopy, which is needed for foraging (USFWS 1998).

Least Bell's vireos usually arrive in California during mid- to late-March. They build their nests in a variety of plants that provide concealment in the form of dense foliage. The nests are open-cup nests placed in the horizontal fork of a tree or shrub branch and bound at the rim. Females typically lay clutches of two to four eggs, and incubation takes 14 days. Nestlings fledge 10 to 12 days after hatching. Their primary diet is insects.

Southwestern Willow Flycatcher The southwestern willow flycatcher is a federal and state endangered species. Federal critical habitat has been designated for the species, but not within the BSA. The southwestern willow flycatcher is one of several subspecies of the willow flycatcher, three of which occur in California (Hubbard 1987, Unitt 1987). The southwestern willow flycatcher is generally paler than other willow flycatcher subspecies, and also differs in morphology. The willow flycatcher's primary "fitz-bew" song distinguishes it from all other Empidonax flycatchers and other bird species (USFWS 2002).

The historical breeding range of the southwestern willow flycatcher included southern California, southern Nevada, southern Utah, Arizona, New Mexico, western Texas, southwestern Colorado, and extreme northwestern Mexico (USFWS 2002). The current range is similar to the historical range, but the quantity of suitable habitat is heavily reduced from historical levels. The southwestern willow flycatcher occurs from near sea level to over 8,500 ft, but is primarily found in lower elevation riparian habitats. In Santa Barbara County, it is known to occur along the Santa Ynez River system. The southwestern willow flycatcher usually breeds in patchy to dense riparian habitats along streams or other wetlands, near or adjacent to surface water or underlain by saturated soil. General unifying characteristics of flycatcher habitat can be identified, in which occupied sites usually consist of dense vegetation in the patch interior, or an aggregate of dense patches interspersed with openings (USFWS 2002). In most cases this dense vegetation occurs within the first 10 to 13 ft above ground. These dense patches are often interspersed with small openings, open water, or shorter/sparser vegetation, creating a mosaic that is not uniformly dense. Nest sites typically have dense foliage from the ground level up to approximately 3 ft above ground, although dense foliage may exist only at the shrub level, or as a low dense canopy (USFWS 2002).

Southwestern willow flycatchers typically arrive on breeding grounds between early May and early June. Male flycatchers generally arrive first at a breeding site, establish territories, and females arrive a week or two later. The flycatcher builds a small open cup nest, constructed of leaves, grass, fibers, feathers, and animal hair; coarser material is used in the nest base and body, and finer materials in the nest cup (USFWS 2002). Nests are approximately 8 centimeters (cm) and have 2 to 15 cm (1 to 6 in) of loose material dangling from the bottom (or none, in tamarisk-dominated habitats) (USFWS 2002). Typical placement is in the fork of small-diameter (e.g., 0.4 in), vertical or nearly vertical branches (USFWS 2002). Females typically lay one egg per day, until the nest contains 3 or 4 eggs. Incubation lasts 12 to 13 days. Nestlings fledge 12 to 15 days after hatching. Fledglings stay close to the nest and each other for 3 to 5 days. Insects are typical food items.

Cooper's Hawk The Cooper's hawk is included on the CDFW Watch List. It is a fairly large accipiter hawk that ranges throughout the United States and is widely distributed throughout California. Adults are slender, crow-sized birds with short, rounded wings and a long, white-tipped tail rounded at the tip. The Cooper's hawk occupies forests and woodlands, especially near edges. The species is

rarely found in areas without dense tree stands or patchy woodland habitat. Nests are built in deciduous trees usually 20 to 50 ft above ground (Zeiner, et al. 1990). Breeding occurs March to August, peaking from May to July. Incubation lasts 35 to 65 days, and young hatch and fledge approximately five to eight weeks later.

Tricolored Blackbird The tricolored blackbird is a state threatened species and native to California. It's appearance is similar to the red-winged blackbird but with broad white median coverts on the males and lack of rufus tones on the females. While small nesting colonies exist in Oregon, Washington, Nevada, and Baja California, 99% of nesting colonies exist in California. Tricolored blackbirds are known to reside in California's Central Valley throughout the year and breed from March through August. The species form the largest breeding colonies in North America, nesting in small to moderately sized wetland features. The nests are built between 2 centimeters and 1.5 meters above the ground, as well as up to 3 meters above the ground in willow canopies. Throughout the winter, tricolored blackbirds inhabit grasslands and agricultural fields with other blackbird species. Due to this habitat composition, tricolored blackbird populations continue to decrease from human activities resulting in habitat loss (Shuford 2008).

The species described above are each protected by the MBTA and California Fish and Game Code Section 3503. In addition to these species, numerous other nesting bird species protected by these two regulatory laws have the potential to nest in habitats within the BSA.

4.3.7.1. Survey Results

Potential nesting habitat for least Bell's vireo, southwestern willow flycatcher, and tricolored blackbird exists withing the riparian vegetation on the eastern portion of the BSA. Potential nesting habitat for other protected bird species occurs in trees, shrubs, and under the bridges within the BSA. Cliff swallow nesting has historically occurred under both bridges. Common birds observed within the BSA included species such as American crow (*Corvus brachyrhynchos*), Brewer's blackbird (*Euphagus cyanocephalus*), and cliff swallow (*Petrochelidon pyrrhonota*).

4.3.7.2. Project Impacts

The removal of vegetation could directly impact active bird nests and any eggs or young residing in nests. Indirect impacts could also result from noise and disturbance associated with construction, which could alter perching, foraging, and/or nesting behaviors. The implementation of the avoidance and minimization measures such as appropriate timing of vegetation removal, pre-activity surveys, and exclusion zones will reduce the potential for adverse effects to nesting bird species.

4.3.7.3. Avoidance and Minimization Efforts

The following measures apply to all birds protected by the MBTA and California Fish and Game Code. The list of birds protected by these regulatory laws is extensive, and not all birds protected by these laws are included in Table 5. There are no formal survey protocols for most of these bird species, but CDFW typically requires pre-construction nesting bird surveys and avoidance of impacts to active bird nests.

1. Prior to construction, vegetation removal shall be scheduled to occur from October 1 to January 31 outside of the typical nesting bird season, if possible, to avoid potential impacts to nesting birds. If tree removal or other construction activities are proposed to occur within 100 ft of potential habitat during the nesting season (February 1 to September 30), a nesting bird survey shall be conducted by a biologist determined qualified by Caltrans no more than three (3) days prior to construction. If an active nest is found, Caltrans shall coordinate with CDFW to determine an appropriate buffer based on the habits and needs of the species. The buffer area shall be avoided until a qualified biologist has determined that juveniles have fledged.

2. During construction, active bird nests shall not be disturbed and eggs or young of birds covered by the MBTA and California Fish and Game Code shall not be killed, destroyed, injured, or harassed at any time. Readily visible exclusion zones where nests must be avoided within 100 ft of disturbance shall be established by a qualified biologist using ESA fencing. Work in exclusion zones shall be avoided until young birds have fledged (permanently left the nest) or the qualified biologist has determined that nesting activity has otherwise ceased.

3. All clearing/grubbing and vegetation removal shall be monitored and documented by the biological monitor(s) regardless of time of year.

4. If least Bell's vireo and/or southwestern willow flycatcher are observed within 100 ft of the API during the course of construction, a qualified biologist shall implement an exclusion zone and work shall be avoided within the exclusion zone until the least Bell's vireo and/or southwestern willow flycatcher is located greater than 100 ft from project-related disturbance. If an active least Bell's vireo and/or southwestern willow flycatcher nest is observed within 100 ft of the API, all project activities shall immediately cease and USFWS and Caltrans shall be contacted within 48 hours. Caltrans shall then reinitiate FESA Section 7 formal consultation with USFWS for least Bell's vireo and/or southwestern willow flycatcher and implement additional measures as necessary.

5. It is recommended that birds be excluded from the existing bridge prior to its demolition. Nesting bird exclusion methods may include, installation of exclusion materials, or other methods approved by CDFW. Installation of exclusion materials shall occur outside of the typical nesting season (i.e., implement exclusion methods from October 1 to January 31).

6. Trees to be removed shall be noted on design plans. Prior to any ground-disturbing activities, ESA fencing shall be installed around the dripline of trees to be protected within project limits.

4.3.7.4. Compensatory Mitigation

With the implementation of the above avoidance and minimization measures, no impacts to least Bell's vireo, southwestern willow flycatcher, tricolored blackbird, or any other nesting birds are anticipated. No compensatory mitigation is required.

4.3.7.5. Cumulative Impacts

As impacts to nesting birds will be avoided, and potential impacts to nesting habitat will be mitigated, no adverse cumulative impacts to least Bell's vireo, southwestern willow flycatcher, tricolor blackbird, or any other nesting birds are anticipated.

4.3.8. Discussion of Pallid Bat (*Antrozous pallidus*), Townsend's Big-eared Bat (*Corynorhinus townsendii*), and Other Roosting Bats

Roosting bat species are addressed as a group because they have similar habitat requirements, project-related impacts, and avoidance and minimization measures. Bats utilize space for different roosting purposes such as thermal regulation, protection from predators, and for rearing young. Bats typically use day roosting sites for caring for young and sleeping while night roosting sites are typically used for resting and digesting food. Maternity roosting varies seasonally and is typically associated with bat colonies (Caltrans 2004).

The pallid bat is considered an SSC by CDFW. Pallid bats range over much of the western United States, from central Mexico to British Columbia (Zeiner et al., 1990). They are found throughout California, especially in lowland areas below 6,400 ft. Pallid bats are apparently not migratory, but make local, seasonal movements. This nocturnal species resides in colonies consisting of a dozen to over 100 individuals. Pallid bats roost in deep crevices, caves, mines, rock faces, bridges and buildings. Like many bat species, pallid bats maintain both day and night roosts. Night roosts are used for feeding and are typically 0.25 mi from the day roosts, which are used for sleeping. Their primary food source is ground dwelling insect species including crickets, grasshoppers, beetles, and centipedes. They maintain nursery colonies with 30 to over 100 individuals. Females have one to two pups for each pregnancy, usually born between mid to late June.

Townsend's big-eared bat is considered an SSC by CDFW. The Townsend's big-eared bat requires caves, mines, tunnels, buildings, or other human-made structures for roosting. It may use separate sites for night, day, hibernation, or maternity roosts. Maternity roosts are the most important limiting resource and are found in caves, tunnels, mines, and buildings. Small clusters or groups (usually fewer than 100 individuals) of females and young form the maternity colony.

Maternity roosts are in relatively warm sites. Most mating occurs from November to February. Births occur in May and June, peaking in late May. This species is extremely sensitive to disturbance of roosting sites (Zeiner et al., 1990). A single visit may result in abandonment of the roost. Numbers reportedly have declined steeply in California.

4.3.8.1. Survey Results

The Toro Creek bridges were assessed as the most likely features within the BSA capable of providing habitat for roosting bats. Bridges frequently have structural features that are similar to natural roosts, and the large mass (particularly in concrete bridges) offers the thermal buffering that roosting bats require; also, bridges frequently serve to replace natural roosts in anthropogenically-altered landscapes (Johnston et al. 2004).

The bridges were surveyed for roosting bats and bat signs (e.g., guano, grease or urine stains, prey remains) during the general wildlife survey efforts for the northbound bridge construction in 2013-2022, as well as the survey efforts in 2023 (Table 1). An emergence survey was conducted for the southbound bridge in July 2021. No roosting bats or bat sign were observed within the BSA during any surveys. The Toro Creek bridges could support roosting near the abutments, but the proximity to the coast, presence of coastal winds, and disturbances from humans and dogs (the beach near Toro Creek is frequently used as a "dog beach") may also preclude the presence of roosting bats at this location.

4.3.8.2. Project Impacts

Although no bat roosts or roost signs were observed during surveys, bats do have the potential to utilize space under the existing bridges for either night or day roosting. Direct impacts to bats could result during removal of the existing bridges if bats are found to be roosting in these areas. These direct effects would result in the injury or mortality of bats or harassment that could alter roosting behaviors. Indirect impacts could also result from noise and disturbance associated with construction, which could also alter roosting behaviors. The implementation of pre-activity surveys and exclusion zones (if necessary) will reduce the potential for adverse effects to roosting bat species.

4.3.8.3. Avoidance and Minimization Efforts

Due to the presence of potential roosting habitat within the BSA, the following measures will be applied to completely avoid adverse effects to roosting bats:

1. Prior to construction, vegetation removal shall be scheduled to occur from September 2 to January 31 outside of the typical maternity roosting season, if possible, to avoid potential impacts to roosting bats. If tree removal, bridge deconstruction, or other construction activities are proposed to occur within 100 ft of potential habitat during the nesting season (February 1 to September 1), a roosting bat survey shall be conducted by a biologist determined qualified by Caltrans within fourteen (14) days prior to construction. If an active roost is found, a

qualified Caltrans biologist will determine an appropriate buffer based on the habits and needs of the species. The buffer area shall be avoided until a qualified biologist has determined that roosting activity has ceased.

2. During construction, active roosts shall not be disturbed or destroyed. Readily visible exclusion zones where roosts shall be established by a qualified biologist using ESA fencing. The size/radius of the exclusion zone(s) shall be determined by a qualified biologist.

3. If bats are found by a qualified biologist to be maternity roosting, active bat maternity roosts shall not be disturbed until pups are volant (capable of flight).

4.3.8.4. Compensatory Mitigation

Since there are no impacts anticipated for pallid bat, Townsend's Big-eared bat, or any other roosting bats, no compensatory mitigation is required.

4.3.8.5. Cumulative Impacts

Since no bat roosts were detected during surveys, no direct or indirect impacts to bats are anticipated, and therefore, a cumulative impact analysis is not required

Chapter 5. Conclusions and Regulatory Determinations

5.1. Federal Endangered Species Act Consultation Summary

An official USFWS species list for the project area was received through the USFWS IPaC website (IPaC 2023) on October 3, 2023. An official NMFS species list for the project area was received through the NMFS species list request email (NMFS 2023) on October 3, 2023.

The Federal Endangered Species Act (FESA) Section 7 effects determination is that the proposed project may affect, is likely to adversely affect, tidewater goby (*Eucyclogobius newberryi*), steelhead-south-central California coast DPS (*Oncorhynchus mykiss irideus* pop. 9), California red-legged frog *(Rana draytonii*), and southwestern pond turtle (*Actinemys marmorata*). The FESA Section 7 effects determination is that the proposed project may affect, and is likely to adversely affect designated critical habitat for steelhead and tidewater goby. There is no critical habitat for California red-legged frog or southwestern pond turtle within the BSA.

The FESA Section 7 effects determination is that the proposed project may affect, but is not likely to adversely affect the following listed species: southwestern willow flycatcher (*Empidonax traillii extremus)* and least Bell's vireo (*Vireo bellii pusillus*). There is no critical habitat for southwestern willow flycatcher or least Bell's vireo in the BSA.

Due to a lack of suitable habitat and/or no observations during appropriately-timed floristic surveys, the FESA Section 7 effects determination is that the proposed project will have no effect on the following federally listed plant taxa or their critical habitat: Morro manzanita (*Arctostaphylos morroensis*), marsh sandwort (*Arenaria paludicola*), California jewelflower (*Caulanthus californicus*), Chorro Creek bog thistle (*Cirsium fontinale var. obispoense*), salt marsh bird's-beak (*Chloropyron maritimum*), Indian Knob mountainbalm (*Eriodictyon altissimum*), spreading navarretia (*Navarretia fossalis*), and California seablite (*Suaeda californica*).

Due to a lack of suitable habitat, the FESA Section 7 effects determination is that the proposed project will have no effect on the following federally listed animal taxa: vernal pool fairy shrimp (*Branchinecta lynchi*), monarch (*Danaus plexippus plexippus pop. 1*), Morro shoulderband snail (*Helminthoglypta walkeriana*), California tiger salamander (*Ambystoma californiense*), Foothill yellow-legged

frog (*Rana boylii*), Morro Bay kangaroo rat (*Dipodomys heermannii morroensis*), giant kangarro rat (*Dipodomys ingens*), southern sea otter (*Enhydra lutris nereis*), San Joaquin kit fox (*Vulpes macrotis mutica*), marbled murrelet (*Brachyramphus marmoratus*), western snowy plover (*Charadrius nivosus nivosus*), yellow-billed cuckoo (*coccyzus americanus*), California condor (*Gymnogyps californianus*), California clapper rail *(Rallus longirostris obsoletus*), California Ridgway's rail (*Rallus obsoletus obsoletus*) and California least tern (*Sterna antillarum browni*).

5.2. Essential Fish Habitat Consultation Summary

Essential Fish Habitat (EFH) exists for Pacific Coast groundfish species at the proposed project location. EFH consultation with NMFS will be required.

5.3. California Endangered Species Act Consultation Summary

The proposed project may impact least Bell's vireo which is a state listed species. Nesting surveys for least Bell's vireo and other nesting birds will be completed during the typical nesting bird season (February 15-September 1) prior to construction. If least Bell's vireo are found to be present within the project area, then California Endangered Species Act (CESA) coordination will be required.

5.4. Wetlands and Other Waters Coordination Summary

Executive Order 1990 was issued on May 24, 1977, directing federal agencies to avoid, to the extent possible, the long- and short-term adverse impacts associated with the destruction or modification of wetlands and to avoid direct or indirect support of new construction in wetlands wherever there is a practicable alternative.

Wetlands, other waters, and riparian areas under the jurisdiction of USACE, RWQCB, CDFW, and CCC will be impacted by the proposed project. Summaries of jurisdictional wetlands/waters and riparian habitat within the BSA and anticipated impacts are included in Table 4. The proposed project will require a CWA Section 404 permit from USACE, a CWA Section 401 Water Quality Certification from RWQCB, a Fish and Game Code Section 1602 Streambed Alteration Agreement from CDFW, US Coast Guard approval, and a Coastal Development Permit/Waiver from CCC. The Jurisdictional Delineation Report is included in Appendix G. Restoration and compensatory mitigation for impacts to other waters is discussed in Chapter 4.1.2.

5.5. Invasive Species

The National Invasive Species Council (NISC) was established by Executive Order 13112 to ensure that federal programs and activities to prevent and control invasive species are coordinated, effective, and efficient. NISC members are the Secretaries and Administrators of 13 federal departments and agencies that provide high-level coordination on invasive species. The NISC is co-chaired by the Secretaries of Commerce, Agriculture, and the Interior. Executive Order 13112 defines invasive species as "…an alien (or non-native) species whose introduction does or is likely to cause economic or environmental harm or harm to human health." Avoidance and minimization measures have been included in this NES to control the spread of invasive plants, as described in Chapter 3.1.6.

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Appendix A CNDDB Species List

Selected Elements by Common Name

California Department of Fish and Wildlife

California Natural Diversity Database

Query Criteria: Quad IS (Cayucos (3512048) OR Morro Bay North (3512047))

Species	Element Code	Federal Status	State Status	Global Rank	State Rank	Rare Plant Rank/CDFW SSC or FP
adobe sanicle *Sanicula maritima*	PDAPI1Z0D0	None	Rare	G2	S2	1B.1
Betty's dudleya *Dudleya abramsii ssp. bettinae*	PDCRA04011	None	None	G4T2	S2	1B.2
Blochman's dudleya *Dudleya blochmaniae ssp. blochmaniae*	PDCRA04051	None	None	G3T2	S2	1B.1
Blochman's leafy daisy *Erigeron blochmaniae*	PDAST3M5J0	None	None	G2	S2	1B.2
California red-legged frog *Rana draytonii*	AAABH01022	Threatened	None	G2G3	S2S3	SSC
California seablite *Suaeda californica*	PDCHE0P020	Endangered	None	G1	S1	1B.1
Cambria morning-glory *Calystegia subacaulis ssp. episcopalis*	PDCON040J1	None	None	G3T2?	S2?	4.2
chaparral ragwort *Senecio aphanactis*	PDAST8H060	None	None	G3	S2	2B.2
Chorro Creek bog thistle *Cirsium fontinale var. obispoense*	PDAST2E162	Endangered	Endangered	G2T2	S2	1B.2
coast horned lizard *Phrynosoma blainvillii*	ARACF12100	None	None	G4	S4	SSC
compact cobwebby thistle *Cirsium occidentale var. compactum*	PDAST2E1Z1	None	None	G3G4T2	S2	1B.2
Cuesta Ridge thistle *Cirsium occidentale var. lucianum*	PDAST2E1Z6	None	None	G3G4T2	S2	1B.2
dune larkspur *Delphinium parryi ssp. blochmaniae*	PDRAN0B1B1	None	None	G4T2	S2	1B.2
Eastwood's larkspur *Delphinium parryi ssp. eastwoodiae*	PDRAN0B1B2	None	None	G4T2	S2	1B.2
globose dune beetle *Coelus globosus*	IICOL4A010	None	None	G1G2	S1S2	
Jones' layia *Layia jonesii*	PDAST5N090	None	None	G2	S2	1B.2
Kellogg's horkelia *Horkelia cuneata var. sericea*	PDROS0W043	None	None	G4T1?	S1?	1B.1
lesser slender salamander *Batrachoseps minor*	AAAAD02170	None	None	G1	S1	SSC
Miles' milk-vetch *Astragalus didymocarpus var. milesianus*	PDFAB0F2X3	None	None	G5T2	S2	1B.2
monarch - California overwintering population *Danaus plexippus plexippus pop. 1*	IILEPP2012	Candidate	None	G4T1T2Q	S2	

Species	Element Code	Federal Status	State Status	Global Rank	State Rank	Rare Plant Rank/CDFW SSC or FP
Morro Bay blue butterfly *Icaricia icarioides moroensis*	IILEPG801B	None	None	G5T2	S2	
Morro shoulderband *Helminthoglypta walkeriana*	IMGASC2510	Threatened	None	G2	S2	
most beautiful jewelflower *Streptanthus albidus ssp. peramoenus*	PDBRA2G012	None	None	G2T2	S2	1B.2
mouse-gray dudleya *Dudleya abramsii ssp. murina*	PDCRA04012	None	None	G4T2	S2	1B.1
Northern California legless lizard *Anniella pulchra*	ARACC01020	None	None	G3	S2S3	SSC
northern harrier *Circus hudsonius*	ABNKC11011	None	None	G5	S3	SSC
obscure bumble bee *Bombus caliginosus*	IIHYM24380	None	None	G2G3	S1S2	
Ojai fritillary *Fritillaria ojaiensis*	PMLIL0V0N0	None	None	G3	S3	1B.2
pallid bat *Antrozous pallidus*	AMACC10010	None	None	G4	S3	SSC
Palmer's monardella *Monardella palmeri*	PDLAM180H0	None	None	G2	S2	1B.2
San Joaquin spearscale *Extriplex joaquinana*	PDCHE041F3	None	None	G2	S2	1B.2
San Luis Obispo owl's-clover *Castilleja densiflora var. obispoensis*	PDSCR0D453	None	None	G5T2	S2	1B.2
San Luis Obispo pyrg *Pyrgulopsis taylori*	IMGASJ0A50	None	None	G1	S1	
sandy beach tiger beetle *Cicindela hirticollis gravida*	IICOL02101	None	None	G5T2	S2	
Santa Lucia bush-mallow *Malacothamnus palmeri var. palmeri*	PDMAL0Q0B5	None	None	G3T2Q	S2	1B.2
steelhead - south-central California coast DPS *Oncorhynchus mykiss irideus pop. 9*	AFCHA0209H	Threatened	None	G5T2Q	S2	
tidewater goby *Eucyclogobius newberryi*	AFCQN04010	Endangered	None	G3	S3	
tricolored blackbird *Agelaius tricolor*	ABPBXB0020	None	Threatened	G1G2	S2	SSC
umbrella larkspur *Delphinium umbraculorum*	PDRAN0B1W0	None	None	G3	S3	1B.3
Wawona riffle beetle *Atractelmis wawona*	IICOL58010	None	None	G3	S1S2	
western pond turtle *Emys marmorata*	ARAAD02030	None	None	G3G4	S3	SSC

Selected Elements by Common Name

California Department of Fish and Wildlife

California Natural Diversity Database

Species	Element Code	Federal Status	State Status	Global Rank	State Rank	Rare Plant Rank/CDFW SSC or FP
western snowy plover	ABNNB03031	Threatened	None	G3T3	S3	SSC
Charadrius nivosus nivosus						

Record Count: 42

Appendix B USFWS Species List

United States Department of the Interior

FISH AND WILDLIFE SERVICE
Ventura Fish And Wildlife Office
2493 Portola Road, Suite B
Ventura, CA 93003-7726
Phone: (805) 644-1766 Fax: (805) 644-3958
Email Address: FW8VenturaSection7@FWS.Gov

In Reply Refer To: October 03, 2023
Project Code: 2023-0067149
Project Name: Toro Creek SB Bridge Replacement

Subject: List of threatened and endangered species that may occur in your proposed project location or may be affected by your proposed project

To Whom It May Concern:

The enclosed list identifies species listed as threatened and endangered, species proposed for listing as threatened or endangered, designated and proposed critical habitat, and species that are candidates for listing that may occur within the boundary of the area you have indicated using the U.S. Fish and Wildlife Service's (Service) Information Planning and Conservation System (IPaC). The species list fulfills the requirements under section 7(c) of the Endangered Species Act (Act) of 1973, as amended (16 U.S.C. 1531 et seq.). Please note that under 50 CFR 402.12(e) of the regulations implementing section 7 of the Act, the species list should be verified after 90 days. We recommend that verification be completed by visiting the IPaC website at regular intervals during project planning and implementation for updates to species lists following the same process you used to receive the enclosed list. Please include the Consultation Tracking Number in the header of this letter with any correspondence about the species list.

Due to staff shortages and excessive workload, we are unable to provide an official list more specific to your area. Numerous other sources of information are available for you to narrow the list to the habitats and conditions of the site in which you are interested. For example, we recommend conducting a biological site assessment or surveys for plants and animals that could help refine the list.

If a Federal agency is involved in the project, that agency has the responsibility to review its proposed activities and determine whether any listed species may be affected. If the project is a major construction project*, the Federal agency has the responsibility to prepare a biological assessment to make a determination of the effects of the action on the listed species or critical habitat. If the Federal agency determines that a listed species or critical habitat is likely to be adversely affected, it should request, in writing through our office, formal consultation pursuant to section 7 of the Act. Informal consultation may be used to exchange information and resolve conflicts with respect to threatened or endangered species or their critical habitat prior to a

written request for formal consultation. During this review process, the Federal agency may engage in planning efforts but may not make any irreversible commitment of resources. Such a commitment could constitute a violation of section 7(d) of the Act.

Federal agencies are required to confer with the Service, pursuant to section 7(a)(4) of the Act, when an agency action is likely to jeopardize the continued existence of any proposed species or result in the destruction or adverse modification of proposed critical habitat (50 CFR 402.10(a)). A request for formal conference must be in writing and should include the same information that would be provided for a request for formal consultation. Conferences can also include discussions between the Service and the Federal agency to identify and resolve potential conflicts between an action and proposed species or proposed critical habitat early in the decision-making process. The Service recommends ways to minimize or avoid adverse effects of the action. These recommendations are advisory because the jeopardy prohibition of section 7(a)(2) of the Act does not apply until the species is listed or the proposed critical habitat is designated. The conference process fulfills the need to inform Federal agencies of possible steps that an agency might take at an early stage to adjust its actions to avoid jeopardizing a proposed species.

When a proposed species or proposed critical habitat may be affected by an action, the lead Federal agency may elect to enter into formal conference with the Service even if the action is not likely to jeopardize or result in the destruction or adverse modification of proposed critical habitat. If the proposed species is listed or the proposed critical habitat is designated after completion of the conference, the Federal agency may ask the Service, in writing, to confirm the conference as a formal consultation. If the Service reviews the proposed action and finds that no significant changes in the action as planned or in the information used during the conference have occurred, the Service will confirm the conference as a formal consultation on the project and no further section 7 consultation will be necessary. Use of the formal conference process in this manner can prevent delays in the event the proposed species is listed or the proposed critical habitat is designated during project development or implementation.

Candidate species are those species presently under review by the Service for consideration for Federal listing. Candidate species should be considered in the planning process because they may become listed or proposed for listing prior to project completion. Preparation of a biological assessment, as described in section 7(c) of the Act, is not required for candidate species. If early evaluation of your project indicates that it is likely to affect a candidate species, you may wish to request technical assistance from this office.

Only listed species receive protection under the Act. However, sensitive species should be considered in the planning process in the event they become listed or proposed for listing prior to project completion. We recommend that you review information in the California Department of Fish and Wildlife's Natural Diversity Data Base. You can contact the California Department of Fish and Wildlife at (916) 324-3812 for information on other sensitive species that may occur in this area.

[*A Biological Assessment is required for construction projects (or other undertakings having similar physical impacts) that are major Federal actions significantly affecting the quality of the

human environment as defined in the National Environmental Policy Act (42 U.S.C. 4332(2)(c)). For projects other than major construction activities, the Service suggests that a biological evaluation similar to a Biological Assessment be prepared to determine whether the project may affect listed or proposed species and/or designated or proposed critical habitat. Recommended contents of a Biological Assessment are described at 50 CFR 402.12.

Attachment(s):

- Official Species List
- Bald & Golden Eagles
- Migratory Birds
- Wetlands

OFFICIAL SPECIES LIST

This list is provided pursuant to Section 7 of the Endangered Species Act, and fulfills the requirement for Federal agencies to "request of the Secretary of the Interior information whether any species which is listed or proposed to be listed may be present in the area of a proposed action".

This species list is provided by:

Ventura Fish And Wildlife Office
2493 Portola Road, Suite B
Ventura, CA 93003-7726
(805) 644-1766

PROJECT SUMMARY

Project Code: 2023-0067149
Project Name: Toro Creek SB Bridge Replacement
Project Type: Bridge - Replacement
Project Description: The proposed project is for the replacement of the existing Toro Creek Bridge (49-0068L) on State Route 1 in San Luis Obispo County.
Project Location:

The approximate location of the project can be viewed in Google Maps: https://www.google.com/maps/@35.41255515,-120.87293268037243,14z

Counties: San Luis Obispo County, California

ENDANGERED SPECIES ACT SPECIES

There is a total of 23 threatened, endangered, or candidate species on this species list.

Species on this list should be considered in an effects analysis for your project and could include species that exist in another geographic area. For example, certain fish may appear on the species list because a project could affect downstream species.

IPaC does not display listed species or critical habitats under the sole jurisdiction of NOAA Fisheries[1], as USFWS does not have the authority to speak on behalf of NOAA and the Department of Commerce.

See the "Critical habitats" section below for those critical habitats that lie wholly or partially within your project area under this office's jurisdiction. Please contact the designated FWS office if you have questions.

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1. NOAA Fisheries, also known as the National Marine Fisheries Service (NMFS), is an office of the National Oceanic and Atmospheric Administration within the Department of Commerce.

MAMMALS

NAME	STATUS
Giant Kangaroo Rat *Dipodomys ingens* No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/6051	Endangered
San Joaquin Kit Fox *Vulpes macrotis mutica* No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/2873	Endangered

BIRDS

NAME	STATUS
California Clapper Rail *Rallus longirostris obsoletus* No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/4240	Endangered
California Condor *Gymnogyps californianus* Population: U.S.A. only, except where listed as an experimental population There is **final** critical habitat for this species. Your location does not overlap the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/8193	Endangered
California Least Tern *Sterna antillarum browni* No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/8104	Endangered
Least Bell's Vireo *Vireo bellii pusillus* There is **final** critical habitat for this species. Your location does not overlap the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/5945	Endangered
Marbled Murrelet *Brachyramphus marmoratus* Population: U.S.A. (CA, OR, WA) There is **final** critical habitat for this species. Your location does not overlap the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/4467	Threatened
Southwestern Willow Flycatcher *Empidonax traillii extimus* There is **final** critical habitat for this species. Your location does not overlap the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/6749	Endangered
Western Snowy Plover *Charadrius nivosus nivosus* Population: Pacific Coast population DPS-U.S.A. (CA, OR, WA), Mexico (within 50 miles of Pacific coast) There is **final** critical habitat for this species. Your location overlaps the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/8035	Threatened
Yellow-billed Cuckoo *Coccyzus americanus* Population: Western U.S. DPS There is **final** critical habitat for this species. Your location does not overlap the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/3911	Threatened

AMPHIBIANS

NAME	STATUS
California Red-legged Frog *Rana draytonii* There is **final** critical habitat for this species. Your location does not overlap the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/2891	Threatened
California Tiger Salamander *Ambystoma californiense* Population: U.S.A. (Central CA DPS) There is **final** critical habitat for this species. Your location does not overlap the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/2076	Threatened
Foothill Yellow-legged Frog *Rana boylii* Population: South Coast Distinct Population Segment (South Coast DPS) No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/5133	Proposed Endangered

FISHES

NAME	STATUS
Tidewater Goby *Eucyclogobius newberryi* There is **final** critical habitat for this species. Your location overlaps the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/57	Endangered

SNAILS

NAME	STATUS
Morro Shoulderband (=banded Dune) Snail *Helminthoglypta walkeriana* There is **final** critical habitat for this species. Your location does not overlap the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/2309	Threatened

INSECTS

NAME	STATUS
Monarch Butterfly *Danaus plexippus* No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/9743	Candidate

CRUSTACEANS

NAME	STATUS
Vernal Pool Fairy Shrimp *Branchinecta lynchi* There is **final** critical habitat for this species. Your location does not overlap the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/498	Threatened

FLOWERING PLANTS

NAME	STATUS
California Jewelflower *Caulanthus californicus* No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/4599	Endangered
California Seablite *Suaeda californica* Population: No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/6310	Endangered
Chorro Creek Bog Thistle *Cirsium fontinale var. obispoense* No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/5991	Endangered
Marsh Sandwort *Arenaria paludicola* No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/2229	Endangered
Salt Marsh Bird's-beak *Cordylanthus maritimus ssp. maritimus* No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/6447	Endangered
Spreading Navarretia *Navarretia fossalis* There is **final** critical habitat for this species. Your location does not overlap the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/1334	Threatened

CRITICAL HABITATS

There are 2 critical habitats wholly or partially within your project area under this office's jurisdiction.

NAME	STATUS
Tidewater Goby *Eucyclogobius newberryi* https://ecos.fws.gov/ecp/species/57#crithab	Final
Western Snowy Plover *Charadrius nivosus nivosus* https://ecos.fws.gov/ecp/species/8035#crithab	Final

BALD & GOLDEN EAGLES

Bald and golden eagles are protected under the Bald and Golden Eagle Protection Act[1] and the Migratory Bird Treaty Act[2].

Any person or organization who plans or conducts activities that may result in impacts to bald or golden eagles, or their habitats[3], should follow appropriate regulations and consider implementing appropriate conservation measures, as described below.

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1. The Bald and Golden Eagle Protection Act of 1940.
2. The Migratory Birds Treaty Act of 1918.

3. 50 C.F.R. Sec. 10.12 and 16 U.S.C. Sec. 668(a)

There are bald and/or golden eagles in your project area.

For guidance on when to schedule activities or implement avoidance and minimization measures to reduce impacts to migratory birds on your list, click on the PROBABILITY OF PRESENCE SUMMARY at the top of your list to see when these birds are most likely to be present and breeding in your project area.

NAME	BREEDING SEASON
Bald Eagle *Haliaeetus leucocephalus* This is not a Bird of Conservation Concern (BCC) in this area, but warrants attention because of the Eagle Act or for potential susceptibilities in offshore areas from certain types of development or activities.	Breeds Jan 1 to Aug 31
Golden Eagle *Aquila chrysaetos* This is not a Bird of Conservation Concern (BCC) in this area, but warrants attention because of the Eagle Act or for potential susceptibilities in offshore areas from certain types of development or activities. https://ecos.fws.gov/ecp/species/1680	Breeds Jan 1 to Aug 31

PROBABILITY OF PRESENCE SUMMARY

The graphs below provide our best understanding of when birds of concern are most likely to be present in your project area. This information can be used to tailor and schedule your project activities to avoid or minimize impacts to birds. Please make sure you read the supplemental information and specifically the FAQ "Proper Interpretation and Use of Your Migratory Bird Report" before using or attempting to interpret this report.

Probability of Presence (▪)

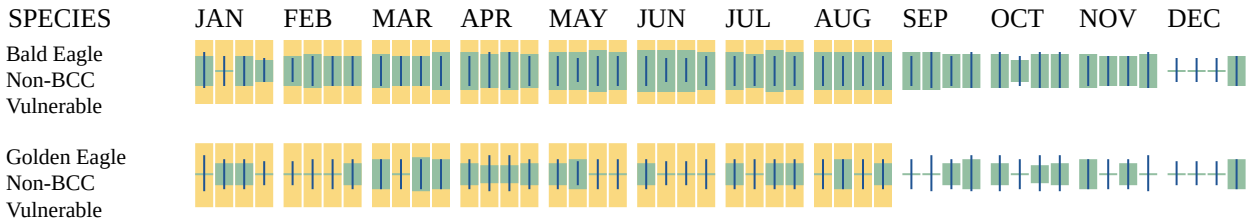
Green bars; the bird's relative probability of presence in the 10km grid cell(s) your project overlaps during that week of the year.

Breeding Season (▪)
Yellow bars; liberal estimate of the timeframe inside which the bird breeds across its entire range.

Survey Effort (|)
Vertical black lines; the number of surveys performed for that species in the 10km grid cell(s) your project area overlaps.

No Data (–)
A week is marked as having no data if there were no survey events for that week.

▪ probability of presence ▪ breeding season | survey effort – no data



Additional information can be found using the following links:

- Eagle Managment https://www.fws.gov/program/eagle-management
- Measures for avoiding and minimizing impacts to birds https://www.fws.gov/library/collections/avoiding-and-minimizing-incidental-take-migratory-birds
- Nationwide conservation measures for birds https://www.fws.gov/sites/default/files/documents/nationwide-standard-conservation-measures.pdf
- Supplemental Information for Migratory Birds and Eagles in IPaC https://www.fws.gov/media/supplemental-information-migratory-birds-and-bald-and-golden-eagles-may-occur-project-action

MIGRATORY BIRDS

Certain birds are protected under the Migratory Bird Treaty Act[1] and the Bald and Golden Eagle Protection Act[2].

Any person or organization who plans or conducts activities that may result in impacts to migratory birds, eagles, and their habitats[3] should follow appropriate regulations and consider implementing appropriate conservation measures, as described below.

---

1. The Migratory Birds Treaty Act of 1918.
2. The Bald and Golden Eagle Protection Act of 1940.
3. 50 C.F.R. Sec. 10.12 and 16 U.S.C. Sec. 668(a)

For guidance on when to schedule activities or implement avoidance and minimization measures to reduce impacts to migratory birds on your list, click on the PROBABILITY OF PRESENCE SUMMARY at the top of your list to see when these birds are most likely to be present and breeding in your project area.

NAME	BREEDING SEASON
Allen's Hummingbird *Selasphorus sasin* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/9637	Breeds Feb 1 to Jul 15

NAME	BREEDING SEASON
Bald Eagle *Haliaeetus leucocephalus* This is not a Bird of Conservation Concern (BCC) in this area, but warrants attention because of the Eagle Act or for potential susceptibilities in offshore areas from certain types of development or activities.	Breeds Jan 1 to Aug 31
Belding's Savannah Sparrow *Passerculus sandwichensis beldingi* This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA https://ecos.fws.gov/ecp/species/8	Breeds Apr 1 to Aug 15
Black Oystercatcher *Haematopus bachmani* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/9591	Breeds Apr 15 to Oct 31
Black Skimmer *Rynchops niger* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/5234	Breeds May 20 to Sep 15
Black Turnstone *Arenaria melanocephala* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.	Breeds elsewhere
Bullock's Oriole *Icterus bullockii* This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA	Breeds Mar 21 to Jul 25
California Gull *Larus californicus* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.	Breeds Mar 1 to Jul 31
California Thrasher *Toxostoma redivivum* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.	Breeds Jan 1 to Jul 31
Clark's Grebe *Aechmophorus clarkii* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.	Breeds Jun 1 to Aug 31
Common Yellowthroat *Geothlypis trichas sinuosa* This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA https://ecos.fws.gov/ecp/species/2084	Breeds May 20 to Jul 31
Golden Eagle *Aquila chrysaetos* This is not a Bird of Conservation Concern (BCC) in this area, but warrants attention because of the Eagle Act or for potential susceptibilities in offshore areas from certain types of development or activities. https://ecos.fws.gov/ecp/species/1680	Breeds Jan 1 to Aug 31

NAME	BREEDING SEASON
Lawrence's Goldfinch *Carduelis lawrencei* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/9464	Breeds Mar 20 to Sep 20
Marbled Godwit *Limosa fedoa* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/9481	Breeds elsewhere
Nuttall's Woodpecker *Picoides nuttallii* This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA https://ecos.fws.gov/ecp/species/9410	Breeds Apr 1 to Jul 20
Oak Titmouse *Baeolophus inornatus* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/9656	Breeds Mar 15 to Jul 15
Olive-sided Flycatcher *Contopus cooperi* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/3914	Breeds May 20 to Aug 31
Short-billed Dowitcher *Limnodromus griseus* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/9480	Breeds elsewhere
Tricolored Blackbird *Agelaius tricolor* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/3910	Breeds Mar 15 to Aug 10
Western Grebe *aechmophorus occidentalis* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/6743	Breeds Jun 1 to Aug 31
Willet *Tringa semipalmata* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.	Breeds elsewhere
Wrentit *Chamaea fasciata* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.	Breeds Mar 15 to Aug 10

PROBABILITY OF PRESENCE SUMMARY

The graphs below provide our best understanding of when birds of concern are most likely to be present in your project area. This information can be used to tailor and schedule your project activities to avoid or minimize impacts to birds. Please make sure you read the supplemental information and specifically the FAQ "Proper Interpretation and Use of Your Migratory Bird Report" before using or attempting to interpret this report.

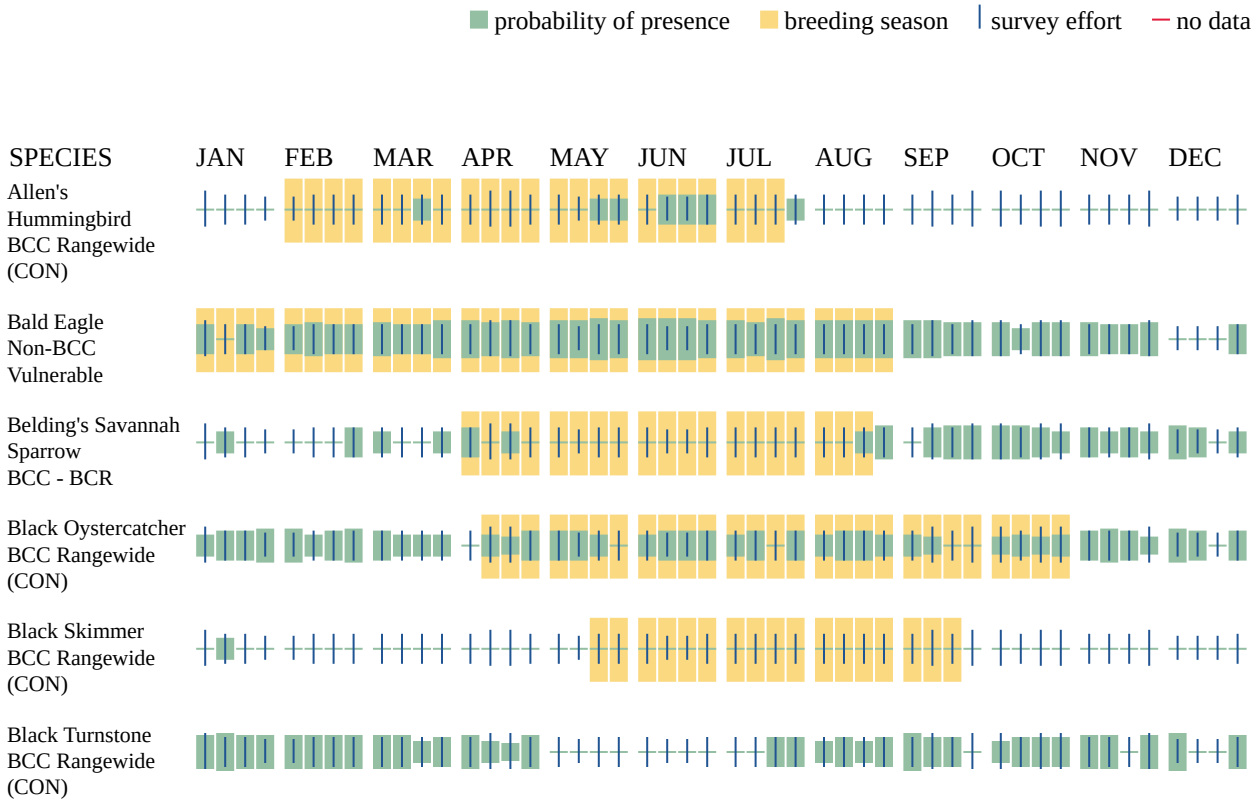
Probability of Presence (■)

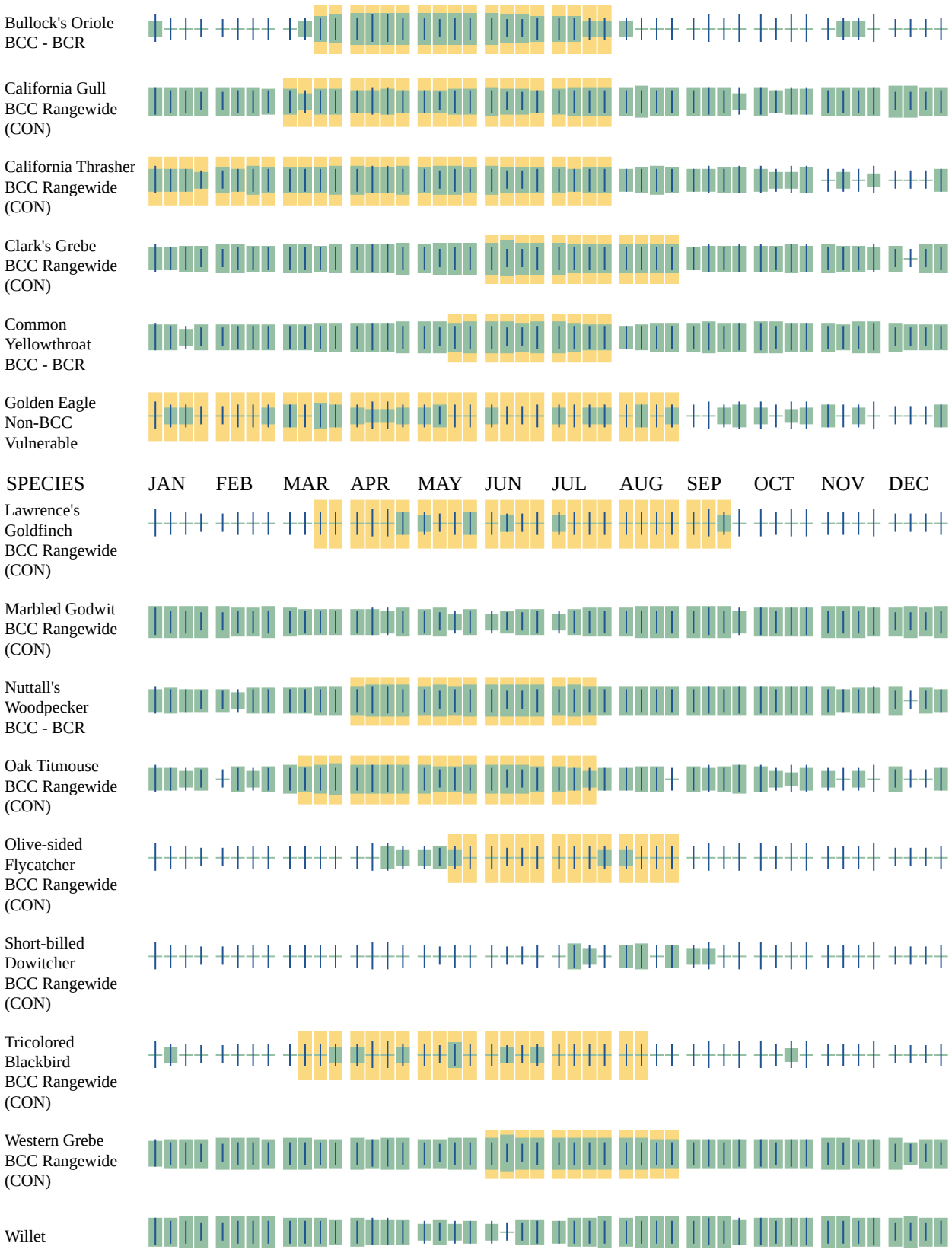
Green bars; the bird's relative probability of presence in the 10km grid cell(s) your project overlaps during that week of the year.

Breeding Season (■)
Yellow bars; liberal estimate of the timeframe inside which the bird breeds across its entire range.

Survey Effort (|)
Vertical black lines; the number of surveys performed for that species in the 10km grid cell(s) your project area overlaps.

No Data (–)
A week is marked as having no data if there were no survey events for that week.




Bullock's Oriole
BCC - BCR
California Gull
BCC Rangewide
(CON)
California Thrasher
BCC Rangewide
(CON)
Clark's Grebe
BCC Rangewide
(CON)
Common
Yellowthroat
BCC - BCR
Golden Eagle
Non-BCC
Vulnerable
SPECIES
JAN
FEB
MAR
APR
MAY
JUN
JUL
AUG
SEP
OCT
NOV
DEC
Lawrence's
Goldfinch
BCC Rangewide
(CON)
Marbled Godwit
BCC Rangewide
(CON)
Nuttall's
Woodpecker
BCC - BCR
Oak Titmouse
BCC Rangewide
(CON)
Olive-sided
Flycatcher
BCC Rangewide
(CON)
Short-billed
Dowitcher
BCC Rangewide
(CON)
Tricolored
Blackbird
BCC Rangewide
(CON)
Western Grebe
BCC Rangewide
(CON)
Willet

BCC Rangewide (CON)

Wrentit BCC Rangewide (CON)

Additional information can be found using the following links:

- Eagle Management https://www.fws.gov/program/eagle-management
- Measures for avoiding and minimizing impacts to birds https://www.fws.gov/library/collections/avoiding-and-minimizing-incidental-take-migratory-birds
- Nationwide conservation measures for birds https://www.fws.gov/sites/default/files/documents/nationwide-standard-conservation-measures.pdf
- Supplemental Information for Migratory Birds and Eagles in IPaC https://www.fws.gov/media/supplemental-information-migratory-birds-and-bald-and-golden-eagles-may-occur-project-action

WETLANDS

Impacts to NWI wetlands and other aquatic habitats may be subject to regulation under Section 404 of the Clean Water Act, or other State/Federal statutes.

For more information please contact the Regulatory Program of the local U.S. Army Corps of Engineers District.

Please note that the NWI data being shown may be out of date. We are currently working to update our NWI data set. We recommend you verify these results with a site visit to determine the actual extent of wetlands on site.

ESTUARINE AND MARINE WETLAND

- M2USP
- E2USN

ESTUARINE AND MARINE DEEPWATER

- E1UBL

FRESHWATER FORESTED/SHRUB WETLAND

- PFO/SSC

IPAC USER CONTACT INFORMATION

Agency: California Department of Transportation District 5
Name: Shelby Sanchez
Address: 50 Higuera Street
City: San Luis Obispo
State: CA
Zip: 93401
Email shelby.sanchez@dot.ca.gov
Phone: 8054599345

Appendix C NMFS Species List

From: NMFS SpeciesList - NOAA Service Account
To: Sanchez, Shelby@DOT
Subject: Federal ESA - - NOAA Fisheries Species List Re: Official Species List Request
Date: Tuesday, April 11, 2023 8:08:29 AM

EXTERNAL EMAIL. Links/attachments may not be safe.

Please retain a copy of each email request that you send to NOAA at nmfs.wcrca.specieslist@noaa.gov as proof of your official Endangered Species Act SPECIES LIST. The email you send to NOAA should include the following information: your first and last name; email address; phone number; federal agency name (or delegated state agency such as Caltrans); mailing address; project title; brief description of the project; and a copy of a list of threatened or endangered species identified within specified geographic areas derived from the NOAA Fisheries, West Coast Region, California Species List Tool. You may only receive this instruction once per week. If you have questions, contact your local NOAA Fisheries liaison.

From: Sanchez, Shelby@DOT
To: nmfs.wcrca.specieslist@noaa.gov
Subject: Official Species List Request
Date: Tuesday, April 11, 2023 8:08:00 AM

Hello,

I am requesting an official ESA species list for the species under NMFS purview in California in the following quads.

Agency Name and Address:
California Department of Transportation
50 Higuera St.
San Luis Obispo, CA 93401

Point of Contact:
Shelby Sanchez
Environmental Scientist
Caltrans, District 5
shelby.sanchez@dot.ca.gov
(805) 459-9345

Quad Name **Cayucos**
Quad Number **35120-D8**

ESA Anadromous Fish

SONCC Coho ESU (T) -
CCC Coho ESU (E) -
CC Chinook Salmon ESU (T) -
CVSR Chinook Salmon ESU (T) -
SRWR Chinook Salmon ESU (E) -
NC Steelhead DPS (T) -
CCC Steelhead DPS (T) -
SCCC Steelhead DPS (T) - **X**
SC Steelhead DPS (E) -
CCV Steelhead DPS (T) -
Eulachon (T) -
sDPS Green Sturgeon (T) - **X**

ESA Anadromous Fish Critical Habitat

SONCC Coho Critical Habitat -
CCC Coho Critical Habitat -
CC Chinook Salmon Critical Habitat -
CVSR Chinook Salmon Critical Habitat -
SRWR Chinook Salmon Critical Habitat -
NC Steelhead Critical Habitat -
CCC Steelhead Critical Habitat -
SCCC Steelhead Critical Habitat - X
SC Steelhead Critical Habitat -
CCV Steelhead Critical Habitat -
Eulachon Critical Habitat -
sDPS Green Sturgeon Critical Habitat -

ESA Marine Invertebrates

Range Black Abalone (E) - X
Range White Abalone (E) -

ESA Marine Invertebrates Critical Habitat

Black Abalone Critical Habitat - X

ESA Sea Turtles

East Pacific Green Sea Turtle (T) - X
Olive Ridley Sea Turtle (T/E) - X
Leatherback Sea Turtle (E) - X
North Pacific Loggerhead Sea Turtle (E) - X

ESA Whales

Blue Whale (E) - X
Fin Whale (E) - X
Humpback Whale (E) - X
Southern Resident Killer Whale (E) - X
North Pacific Right Whale (E) - X
Sei Whale (E) - X

Sperm Whale (E) - X

ESA Pinnipeds

Guadalupe Fur Seal (T) - X

Essential Fish Habitat

Coho EFH -
Chinook Salmon EFH -
Groundfish EFH - X
Coastal Pelagics EFH - X
Highly Migratory Species EFH - X

MMPA Species (See list at left)

ESA and MMPA Cetaceans/Pinnipeds

See list at left and consult Monica DeAngelis
monica.deangelis@noaa.gov
562-980-3232

MMPA Cetaceans - X
MMPA Pinnipeds - X

Quad Name **Morro Bay North**
Quad Number **35120-D7**

ESA Anadromous Fish

SONCC Coho ESU (T) -
CCC Coho ESU (E) -
CC Chinook Salmon ESU (T) -
CVSR Chinook Salmon ESU (T) -
SRWR Chinook Salmon ESU (E) -
NC Steelhead DPS (T) -
CCC Steelhead DPS (T) -
SCCC Steelhead DPS (T) - X
SC Steelhead DPS (E) -

CCV Steelhead DPS (T) -
Eulachon (T) -
sDPS Green Sturgeon (T) - X

ESA Anadromous Fish Critical Habitat

SONCC Coho Critical Habitat -
CCC Coho Critical Habitat -
CC Chinook Salmon Critical Habitat -
CVSR Chinook Salmon Critical Habitat -
SRWR Chinook Salmon Critical Habitat -
NC Steelhead Critical Habitat -
CCC Steelhead Critical Habitat -
SCCC Steelhead Critical Habitat - X
SC Steelhead Critical Habitat -
CCV Steelhead Critical Habitat -
Eulachon Critical Habitat -
sDPS Green Sturgeon Critical Habitat -

ESA Marine Invertebrates

Range Black Abalone (E) - X
Range White Abalone (E) -

ESA Marine Invertebrates Critical Habitat

Black Abalone Critical Habitat -

ESA Sea Turtles

East Pacific Green Sea Turtle (T) - X
Olive Ridley Sea Turtle (T/E) - X
Leatherback Sea Turtle (E) - X
North Pacific Loggerhead Sea Turtle (E) - X

ESA Whales

Blue Whale (E) - X

Fin Whale (E) - X

Humpback Whale (E) - X

Southern Resident Killer Whale (E) - X

North Pacific Right Whale (E) - X

Sei Whale (E) - X

Sperm Whale (E) - X

ESA Pinnipeds

Guadalupe Fur Seal (T) - X

Essential Fish Habitat

Coho EFH -

Chinook Salmon EFH -

Groundfish EFH - X

Coastal Pelagics EFH - X

Highly Migratory Species EFH - X

MMPA Species (See list at left)

ESA and MMPA Cetaceans/Pinnipeds

See list at left and consult Monica DeAngelis
monica.deangelis@noaa.gov
562-980-3232

MMPA Cetaceans - X

MMPA Pinnipeds - X

Quad Name **Morro Bay South**

Quad Number **35120-C7**

ESA Anadromous Fish

SONCC Coho ESU (T) -

CCC Coho ESU (E) -

CC Chinook Salmon ESU (T) -

CVSR Chinook Salmon ESU (T) -
SRWR Chinook Salmon ESU (E) -
NC Steelhead DPS (T) -
CCC Steelhead DPS (T) -
SCCC Steelhead DPS (T) - X
SC Steelhead DPS (E) -
CCV Steelhead DPS (T) -
Eulachon (T) -
sDPS Green Sturgeon (T) - X

ESA Anadromous Fish Critical Habitat

SONCC Coho Critical Habitat -
CCC Coho Critical Habitat -
CC Chinook Salmon Critical Habitat -
CVSR Chinook Salmon Critical Habitat -
SRWR Chinook Salmon Critical Habitat -
NC Steelhead Critical Habitat -
CCC Steelhead Critical Habitat -
SCCC Steelhead Critical Habitat - X
SC Steelhead Critical Habitat -
CCV Steelhead Critical Habitat -
Eulachon Critical Habitat -
sDPS Green Sturgeon Critical Habitat -

ESA Marine Invertebrates

Range Black Abalone (E) - X
Range White Abalone (E) -

ESA Marine Invertebrates Critical Habitat

Black Abalone Critical Habitat -

ESA Sea Turtles

East Pacific Green Sea Turtle (T) - X
Olive Ridley Sea Turtle (T/E) - X

Leatherback Sea Turtle (E) - X

North Pacific Loggerhead Sea Turtle (E) - X

ESA Whales

Blue Whale (E) - X

Fin Whale (E) - X

Humpback Whale (E) - X

Southern Resident Killer Whale (E) - X

North Pacific Right Whale (E) - X

Sei Whale (E) - X

Sperm Whale (E) - X

ESA Pinnipeds

Guadalupe Fur Seal (T) - X

Essential Fish Habitat

Coho EFH -

Chinook Salmon EFH -

Groundfish EFH - X

Coastal Pelagics EFH - X

Highly Migratory Species EFH - X

MMPA Species (See list at left)

ESA and MMPA Cetaceans/Pinnipeds

See list at left and consult Monica DeAngelis
monica.deangelis@noaa.gov
562-980-3232

MMPA Cetaceans - X

MMPA Pinnipeds - X

Appendix D List of Species Observed in the BSA

Scientific Name	Common Name	Family	Origin/Status
Plants			
Abronia maritima	red sand verbena	Nyctaginaceae	Native
Atriplex leucophylla	beach saltbush	Chenopodiaceae	Native
Avena barbata	slim oat	Poaceae	Cal-IPC: Moderate
Baccharis pilularis	coyote brush	Asteraceae	Native
Brassica nigra	black mustard	Brassicaceae	Cal-IPC: Moderate
Bromus diandrus	ripgut brome	Poaceae	Cal-IPC: Moderate
Bromus hordeaceus	soft brome	Poaceae	Cal-IPC: Limited
Camissoniopsis cheiranthifolia	beach evening-primrose	Onagraceae	Native
Cakile maritima	sea rocket	Brassicaceae	Cal-IPC: Limited
Carduus pycnocephalus	Italian thistle	Asteraceae	Cal-IPC: Moderate
Carpobrotus chilensis	sea fig	Aizoaceae	Cal-IPC: Moderate
Ceanothus thyrsiflorus var. thyrsiflorus	blue blossom	Rhamnaceae	Native
Cirsium vulgare	bull thistle	Asteraceae	Cal-IPC: Moderate
Delairea odorata	cape ivy	Asteraceae	Cal-IPC: High
Distichlis spicata	salt grass	Poaceae	Native
Euphorbia peplus	petty spurge	Euphorbiaceae	Non-native
Festuca perennis	Italian rye grass	Poaceae	Cal-IPC: Moderate
Foeniculum vulgare	sweet fennel	Apiaceae	Cal-IPC: Moderate
Hazardia squarrosa	sawtoothed goldenbush	Asteraceae	Native
Hesperocyparis macrocarpa	Monterey cypress	Cupressaceae	Native
Hordeum murinum	wall barley	Poaceae	Non-native
Juncus bufonius	common toad rush	Juncaceae	Native
Leptospermum laevigatum	Australian tea tree	Myrtaceae	Non-native
Lobularia maritima	sweet alyssum	Brassicaceae	Cal-IPC: Limited
Lupinus bicolor	annual lupine	Fabaceae	Native
Lysimachia arvensis	scarlet pimpernel	Myrsinaceae	Non-native
Lythrum hyssopifolia	hyssop loosestrife	Lythraceae	Cal-IPC: Limited
Malva parviflora	cheeseweed mallow	Malvaceae	Non-native
Matricaria discoidea	pineapple weed	Asteraceae	Native
Medicago polymorpha	bur clover	Fabaceae	Cal-IPC: Limited
Melilotus indicus	sourclover	Fabaceae	Non-native
Myoporum laetum	Ngaio tree	Scrophulariaceae	Cal-IPC: Moderate
Oxalis pes-caprae	Bermuda buttercup	Oxalidaceae	Cal-IPC: Moderate
Polypogon monspeliensis	rabbitsfoot grass	Poaceae	Cal-IPC: Limited

Scientific Name	Common Name	Family	Origin/Status
Potentilla anserina	silverweed	Rosaceae	Native
Raphanus sativus	wild radish	Brassicaceae	Cal-IPC: Limited
Rubus ursinus	California blackberry	Rosaceae	Native
Salix lasiolepsis	Arroyo willow	Salicaceae	Native
Silybum marianum	milk thistle	Asteraceae	Cal-IPC: Limited
Sonchus asper	spiny sowthistle	Asteraceae	Non-native
Sonchus oleraceus	common sow thistle	Asteraceae	Non-native
Tetragonia tetragonoides	New Zealand spinach	Aizoaceae	Cal-IPC: Limited
Typha latifolia	broadleaf cattail	Typhaceae	Native
Animals			
Agelaius phoeniceus	red-winged blackbird	Icteridae	N/A
Cathartes aura	turkey vulture	Cathartidae	N/A
Charadrius vociferus	killdeer	Cathartidae	N/A
Corvus brachyrhynchos	American crow	Corvidae	N/A
Euphagus cyanocephalus	Brewer's blackbird	Icteridae	N/A
Larus occidentalis	western gull	Laridae	N/A
Petrochelidon pyrrhonota	American cliff swallow	Hirundinidae	N/A
Sturnus vulgaris	European starling	Sturnidae	N/A

Appendix E Photo Documentation

	**Photo 1.** Creek conditions. Photo taken from northwest of bridge facing south. June 2023.
	**Photo 2.** Creek conditions. Photo taken from southern abutment of bridge facing north. June 2023.

	**Photo 3.** Creek conditions. Photo taken from northwest of bridge facing south. June 2023.
	**Photo 4.** Creek and vegetation conditions. Photo taken from southeast of bridge facing northwest. June 2023.

	**Photo 5.** Creek conditions. Photo taken from southwest of bridge facing north. August 2023.
	**Photo 6.** Conditions northwest of creek outlet. Photo taken from northwest of bridge facing southeast. August 2023.

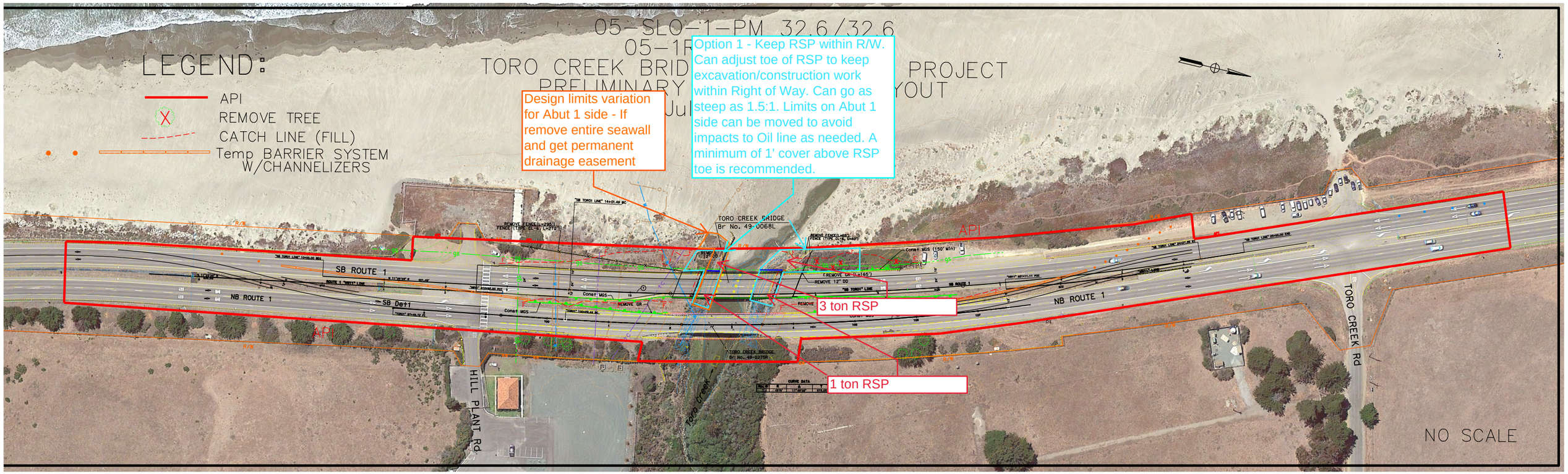
	**Photo 7.** Vegetation northwest of bridge. Photo taken from northwest of bridge facing south. August 2023.
	**Photo 8.** Vegetation southwest of creek outlet. Photo taken from southwest of bridge facing north. August 2023.

Appendix F Project Maps

RSP Limits

Border of 1 Ton vs 3 Ton

RSP limit variation for Abut 1 side



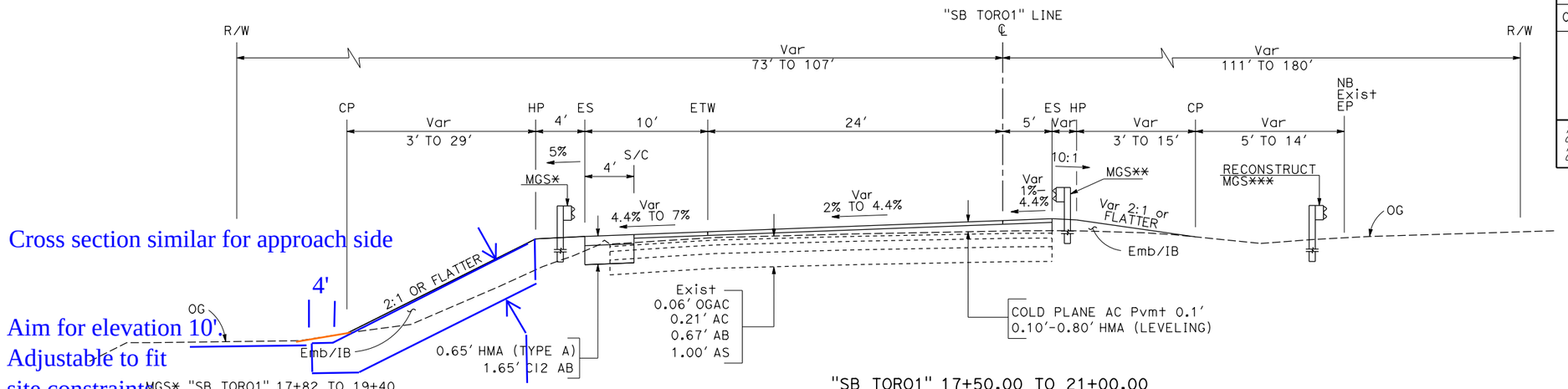
Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
05	SLO	1	32.6		???

REGISTERED CIVIL ENGINEER DATE

XX-XX-XX
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER — No. — Exp. — CIVIL — STATE OF CALIFORNIA

THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.

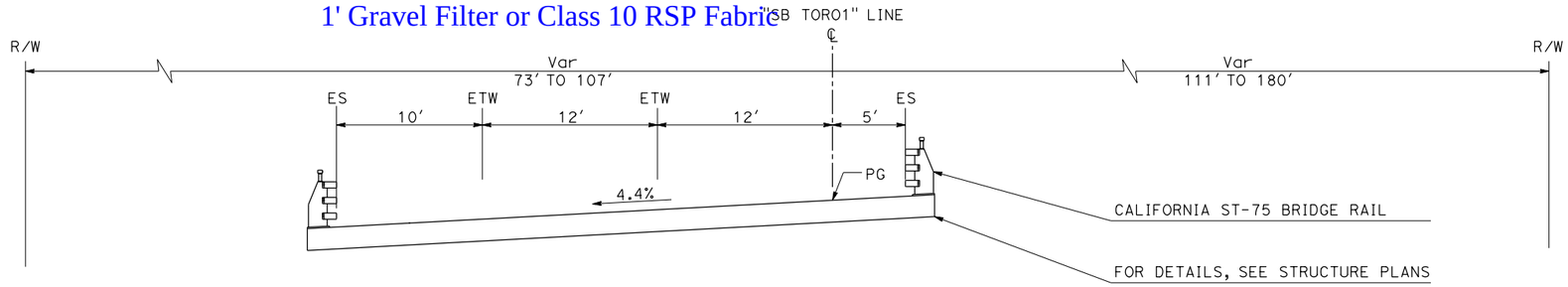


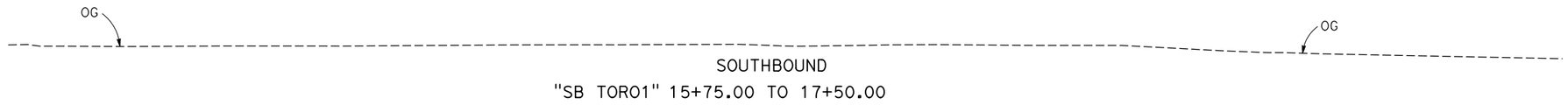
Cross section similar for approach side

Aim for elevation 10'.
Adjustable to fit
site constraints

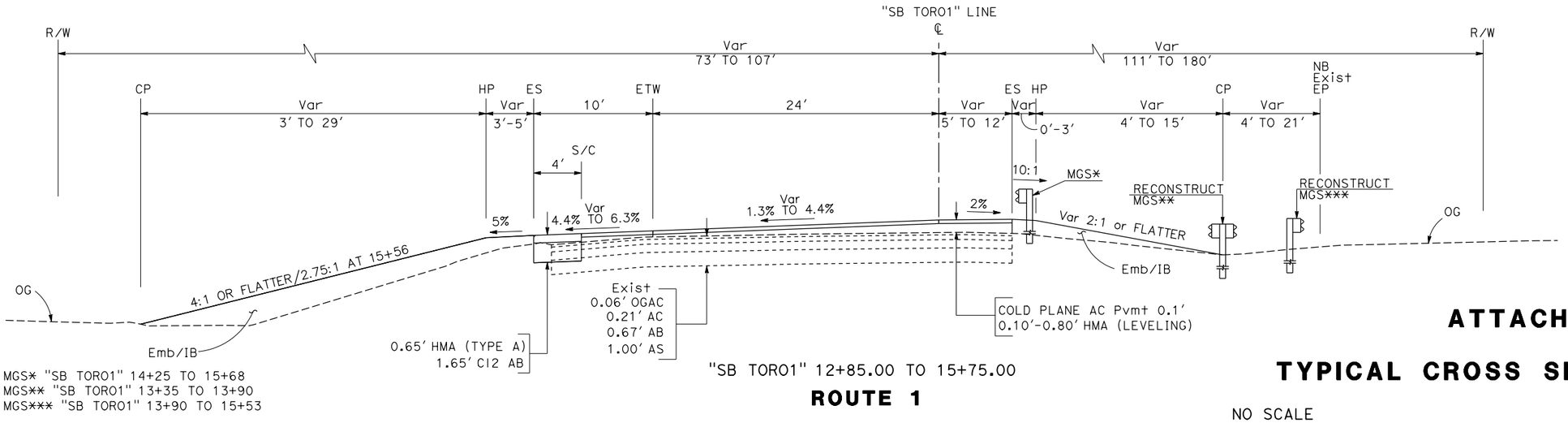
"SB TORO1" 17+50.00 TO 21+00.00

5' 3 Ton RSP (Class X)
1' Gravel Filter or Class 10 RSP Fabric





SOUTHBOUND
"SB TORO1" 15+75.00 TO 17+50.00



MGS* "SB TORO1" 14+25 TO 15+68
MGS** "SB TORO1" 13+35 TO 13+90
MGS*** "SB TORO1" 13+90 TO 15+53

"SB TORO1" 12+85.00 TO 15+75.00

ROUTE 1

ATTACHMENT C

TYPICAL CROSS SECTIONS

NO SCALE

X-1

LAST REVISION: DATE PLOTTED => 1-AUG-2023
08-01-23 TIME PLOTTED => 15:59

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans® 06-DESIGN

FUNCTIONAL SUPERVISOR: MARISSA NISHIKAWA
CALCULATED-DESIGNED BY: STEPHEN GARDNER
CHECKED BY: MARISSA NISHIKAWA
REVISED BY
DATE REVISED

BORDER LAST REVISED 7/2/2010 | USERNAME => s147908 | DGN FILE => 0523000125 x-SECTION ca001.DGN | RELATIVE BORDER SCALE IS IN INCHES 0 1 2 3 | UNIT 1472 | PROJECT NUMBER & PHASE 05230001251

Appendix G Jurisdictional Delineation Report

Toro Creek Southbound Bridge Replacement Project

Jurisdictional Delineation Report

State Route 1, In San Luis Obispo County
District 5-SLO-1-PM 32.6, EA 05-1R100

September 2023

Caltrans
CALIFORNIA DEPARTMENT OF TRANSPORTATION

Toro Creek Southbound Bridge Replacement Project

Jurisdictional Delineation Report

September 2023

STATE OF CALIFORNIA
Department of Transportation

Prepared By: _____ Date: 09/27/23
Sarah Sandstrom
Aquatic Resource Biologist
California Department of Transportation- District 5
(559)908-2709

Approved By: _____ Date: 9/27/2023
Karen Holmes
Senior Environmental Scientist/Branch Chief
California Department of Transportation- District 5
(805) 440-5535

For individuals with sensory disabilities, this document is available in Braille, large print, on audiocassette, or computer disk. To obtain a copy in one of these alternate formats, please call or write to Caltrans, Attn: Karen Holmes, Central Coast Environmental Management, 50 Higuera St. San Luis Obispo, CA 93401; (805) 440-5535 (Voice). The Caltrans District 5 California Relay Service TTY number is (805) 549-3259 or use California Relay Service 1 (800) 735-2929 (TTY), 1 (800) 735-2929 (Voice) or 711.

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1. Introduction

The California Department of Transportation (Caltrans) District 5 has prepared this Jurisdictional Delineation Report for the Toro Creek Southbound Bridge Replacement Project, to document potential federal and state jurisdictional waters in the project survey area. The findings are based on information gathered in the field at the time of investigation and on Caltrans' understanding of federal, state, and local policies and guidelines for delineation of jurisdictional waters.

The proposed project is on State Route (SR)-1 at postmile (PM) 32.6, in San Luis Obispo County, California (Figure 1). The project will replace the southbound (SB) bridge over Toro Creek. A separate project replacing the northbound (NB) bridge was completed in 2023. The Area of Potential Impact (API) encompasses all features of the proposed project including staging and access areas. The Jurisdictional Study Area (JSA) encompasses the API, plus an additional 50-foot buffer around the API.

Figure 1. Project location map.

2. Regulatory Setting

2.1. Clean Water Act Section 404

Regulatory protection for many surface waters throughout the United States (U.S.) is under the jurisdiction of the United States Army Corps of Engineers (USACE). Section 404 of the Clean Water Act (CWA) prohibits the discharge of dredged or fill material into waters of the U.S. without approval from the USACE.

The federal jurisdictional status of waters has been the subject of numerous recent court cases and rulemaking efforts. The most recent "Revised Definition of 'Waters of the United States" took effect on March 20, 2023. However, on May 25, 2023, the U.S. Supreme Court decision in the case of Sackett v. Environmental Protection Agency, changed the potential purview of jurisdiction under the Clean Water Act. Specifically, the Supreme Court ruled that only wetlands with a continuous surface water connection to relatively permanent waters that are connected to traditionally navigable waters fall under the jurisdiction of the Clean Water Act. The "Revised Definition of 'Waters of the United States'" was amended on August 29, 2023 to correspond with the Supreme Court Decision.

Wetlands are defined at 33 Code of Federal Regulations (CFR) 328.3(c) as "areas inundated or saturated by surface or groundwater at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions." CWA wetlands are determined by the presence of three wetland parameters (i.e., hydrophytic vegetation, hydric soil, and wetland hydrology) and connection or proximity to other jurisdictional waters.

USACE CWA Section 404 jurisdiction extends to the edge of the wetland or to the OHWM in non-tidal Other Waters. The OHWM is defined at 33 CFR §328.3(c)(6) as "that line on the shore established by the fluctuations of water and indicated by physical characteristics such as a clear, natural line impressed on the bank, shelving, changes in the character of soil, destruction of terrestrial vegetation, the presence of litter and debris, or other appropriate means that consider the characteristics of the surrounding areas." In tidal waters, Section 404 extends to the High Tide Line. The High Tide Line encompasses high tides that occur with periodic frequency but does not include storm surges. The High Tide Line can be approximated using the Highest Astronomical Tide (HAT).

The USACE does not typically assert jurisdiction over stormwater control features constructed to convey, treat, or store stormwater that are created in dry land;

ephemeral or intermittent ditches constructed in uplands that are not relocated tributaries and do not drain wetlands or streams; or isolated waters.

Rules defining the extent of USACE jurisdiction and situations requiring case-by-case evaluation have changed recently, and procedures are expected to be further modified soon. Therefore, in this study, Caltrans has identified and described all features that may convey surface water and all three-parameter wetlands. Caltrans has also assessed connectivity to other jurisdictional waters to determine whether features are likely to be regulated by the USACE. If needed, further evaluation of jurisdictional status will be updated with permit applications.

Under Section 404, actions in waters of the U.S. may require an Individual Permit, Nationwide Permit (NWP), a General Permit, or may be exempt from regulatory requirements. Any activities that would result in the deposition of dredged or fill material within the OHWM or within wetlands would be likely to require a USACE Section 404 permit, upon field verification by USACE staff.

The proposed project will require a CWA Section 404 Permit from the USACE. If permanent impacts to wetlands are less than 0.5 ac, the project may qualify for NWP 14, which applies to linear transportation projects.

2.2. Section 10 Rivers and Harbors Act

Section 10 of the Rivers and Harbors Act of 1899 (33 U.S.C. 403) requires authorization from USACE for construction affecting navigable waters of the U.S., including creating obstructions, excavation, and fill activities. Structures or work outside the limits defined for navigable waters of the United States require a Section 10 permit if the structure or work affects the course, location, or condition of the water body. Regulated activities include the placement/removal of structures, work involving dredging, disposal of dredged material, filling, excavation, or any other disturbance of soils/sediments or modification of a navigable waterway.

Navigable waters of the U.S. subject to Section 10 are those waters of the U.S. that are subject to the ebb and flow of the tide shoreward to the Mean High-Water (MHW) mark and may be used to transport interstate or foreign commerce. USACE grants or denies permits based on the effects on navigation. The MHW can be calculated using the NOAA National Tidal Datum that defines MHW as the average of all the high water heights observed over the National Tidal Datum Epoch. The proposed project may require Section 10 authorization from USACE for work within navigable waters of the U.S.

2.3. Clean Water Act 401 and California Porter-Cologne Act

Section 401 of the CWA ensures that federally permitted activities comply with the federal CWA and state water quality laws. Section 401 is implemented by California's Regional Water Quality Control Board (RWQCB), triggered by the Section 404 permitting process. Any activities that would require a USACE CWA Section 404 permit would also require a Section 401 Water Quality Certification from the RWQCB.

The Porter-Cologne Act serves as the primary state water quality law in California and addresses two primary functions: water quality control planning and waste discharge regulation. The RWQCB is charged with protecting all waters of California, defined as "any surface water or groundwater, including saline waters, within the boundaries of the State." This encompasses all waters of the state, including those not under federal jurisdiction. The Porter-Cologne Act defines "waters of the state" very broadly, with no physical descriptors, and no interstate commerce limitation. If a project would impact both federal and non-federal waters, the RWQCB would issue a permit that includes conditions of the CWA Section 401, as well as any additional requirements for non-federal waters of the state.

In 2019, the State Water Resources Control Board adopted a State Wetland Definition and Procedures for Discharges of Dredged or Fill Material to Waters of the State (Procedures). Wetlands are defined as follows: "...if, under normal circumstances, (1) the area has continuous or recurrent saturation of the upper substrate caused by groundwater, or shallow surface water, or both; (2) the duration of such saturation is sufficient to cause anaerobic conditions in the upper substrate; and (3) the area's vegetation is dominated by hydrophytes or the area lacks vegetation." The policy also outlines conditions under which wetlands are waters of the state. The Procedures became effective May 28, 2020. Under the Procedures, unless an exemption applies, an applicant is required to submit an alternatives analysis to determine whether the proposed project is the least environmentally damaging practical alternative for individual orders. The proposed project will likely require a permit from the RWQCB to comply with the CWA Section 401 Water Quality Certification and California's Waste Discharge Requirements.

2.4. California Fish and Game Code (CFGC) Section 1602

Section 1602 of the California Fish and Game Code (CFGC) requires any person, state or local government agency, or public utility proposing a project that may affect a river, stream, or lake to notify the California Department of Fish and

Wildlife (CDFW) before beginning the project. If activities will result in the diversion or obstruction of the natural flow of a stream, or substantially alter its bed, channel, or bank, or adversely affect existing fish and wildlife resources, a Streambed Alteration Agreement is required. A Streambed Alteration Agreement lists the CDFW conditions of approval relative to the proposed project and serves as an agreement between an applicant and the CDFW for the performance of activities subject to Section 1602. Implementation of the proposed project may require a 1602 Streambed Alteration Agreement for any impacts to the bed, bank, and/or riparian corridor of streams.

2.5. Coastal Zone Management Act and California Coastal Act

The Coastal Zone Management Act (CZMA) of 1972 sets up a program under which coastal states are encouraged to develop coastal zone management programs. All federal development activities and development requiring federal permits or funding that affect land or water areas or resources within the coastal zone are subject to the CZMA, which applies to this project. States with an approved coastal zone management program can review federal permits and activities to determine if they are consistent with the state's management plan. A certification of consistency with the approved Coastal Zone Management Plan is required from the state before federal approval can be granted.

The California Coastal Act mandates that local governments prepare a land use plan and schedule of implementing actions to carry out its policies. The California Coastal Act places the highest priority on the preservation and protection of natural resources, including Environmentally Sensitive Habitat Areas (ESHAs) (e.g., wetlands and dunes). The proposed project is located within the Coastal Zone of California, and at this location, the California Coastal Act and federal CZMA are implemented through the local coastal program. As such, project will require a Coastal Development Permit (CDP) or a waiver to satisfy provisions of the California Coastal Act.

Under the Coastal Commission's definition of wetlands (California Code of Regulations Section 13577(b)), a wetland need only display one of the parameters typically used to define wetland areas, a predominance of wetland vegetation, hydric soils, or wetland hydrology.

2.6. Section 9 of Rivers and Harbors Act and the General Bridge Act of 1946

The U.S. Coast Guard regulates structures in navigable waters under Section 9 of the Rivers and Harbors Act and the General Bridge Act of 1946. Under the General Bridge Act, the U.S. Coast Guard requires the approval of location and plans of bridges prior to the start of construction (33 U.S.C. § 525). Under 33 CFR § 2.34, the U.S. Coast Guard defines "waters subject to tidal influence" and "waters subject to the ebb and flow of high tide" as “waters below mean high water." The project may require approval from the U.S. Coast Guard due to the proximity of the bridge to navigable waters.

3. Study Methods

Jurisdictional delineations were conducted by Caltrans Biologists Sarah Sandstrom and Shelby Sanchez on June 21, 2023.

All low-lying areas, wet areas, drainage conveyances, and waterbodies within the JSA were evaluated to determine whether they met any of the jurisdictional criteria described in Section 2. Areas were initially assessed by reviewing the National Wetland Inventory mapping (USFWS, electronic source) and soils mapping (U.S. Department of Agriculture [USDA] NRCS [Natural Resource Conservation Service], electronic reference). Field delineation of wetlands was conducted on June 21, 2023. Climate information was gathered using the NRCS Wetland Climate (WETS) methodology to determine whether conditions were normal for the time of year. Site visits were timed to correspond with periods when hydrology could be observed directly.

Landscape-scale hydrologic connectivity of the area was investigated using the U.S. Geological Survey's (USGS) National Hydrographic Dataset (NHD) and Federal Emergency Management Agency's (FEMA) Flood Insurance Rate Maps (FIRM).

Potentially jurisdictional features were investigated in the JSA, and wetlands were delineated following the 1987 Corps of Engineers Wetland Delineation Manual (Environmental Laboratory 1987) and the Arid West Regional Supplement to the Corps of Engineers Wetland Delineation Manual (USACE 2008). Potential wetlands were assessed for the presence of three parameters: hydrophytic vegetation, hydric soils, and wetland hydrology. Plant indicator status followed the 2020 National Wetland Plant List (USACE 2020). Caltrans

biologists evaluated areas near the mapped wetland edge for soils, vegetation, and hydrology throughout the delineation.

Where soils and vegetation had been significantly disturbed due to the recent completion of the work on the Toro Creek NB bridge, disturbed areas were characterized based on their proposed future condition, meaning that areas that would be planted with riparian or wetland vegetation were characterized as riparian or wetland, respectively, without following formal delineation procedures.

The OHWM of streams with evidence of a bed and bank were determined by field indicators, including topographic breaks, erosion, and vegetation. Non-jurisdictional artificial ditches that were created from otherwise upland areas and not draining wetlands or carrying natural streamflow and exhibiting evidence of regular maintenance (e.g., mowing, grading, sediment removal) were not delineated. The limits of CDFW and RWQCB jurisdiction were characterized as the top of bank or outer boundary of the riparian zone, when applicable.

Boundaries of potentially jurisdictional features were recorded using a Geographic Positioning System receiver (Trimble GeoXT GeoExplorer 6000 series, accuracy of up to 1-meter).

Highest Astronomical Tide was determined based on the nearest tidal datum at Avila Beach, and compared to elevational data collected in recent land surveys of the project area.

4. Environmental Setting

4.1. Landscape Setting

The JSA is located along the State Route 1 Bridge near the northern limits of the City of Morro Bay, California at postmile (PM) 32.6. The bridge crosses over Toro Creek at its outlet to the Pacific Ocean. The size of the area of potential impact (API) is approximately 6.86 acres.

Toro Creek originates in Los Padres National Forest approximately 7 miles northeast of the JSA. The creek is bordered by rangeland and irrigated agriculture along much of its course. Winter low temperatures in this region average about 45°F and summer temperatures average about 68°F. Coastal fog is present throughout the year.

Most rainfall in Morro Bay occurs during the months of November through March with the greatest precipitation in February. The City of Morro Bay has an average rainfall of about 15 inches per year measured at the Morro Bay Fire Department. Rainfall conditions were seasonally normal when the delineations were conducted in August 2023 per the USDA WETS methodology. However, total rainfall of 22.79 inches in the preceding water year was well above average, and several large storm events occurred in January and March 2023.

4.2. Soil Conditions

The entire JSA is mapped as Cropley clay, 2 to 9 percent slopes (NRCS, electronic reference). The soil is characterized as moderately well-drained. The Cropley series consists of very deep, moderately well and well drained soils that formed in alluvium from mixed rock sources on alluvial fans, floodplains and in small basins. Texture is clay loam, silty clay loam, silty clay or clay. Cropley soils are typically not hydric and may contain up to two minor inclusions (NRCS 2016).

Soil Survey information provides a general description of soil conditions likely to be on a site; however, actual conditions at a given position on the ground may vary from the general types described in the survey. It is noteworthy that soil properties described in the Soil Survey and SSURGO data pertain to the major soil types that comprise the soil map units.

4.3. Hydrologic Conditions

Toro Creek is a part of the Santa Rosa Creek- Frontal Pacific Ocean Hydrologic Unit Code (HUC) 10 Watershed. The HUC is bounded to the east by the Santa Lucia Mountain Range and to the west by the Pacific Ocean. It extends from Morro Bay in the south to just south of San Carpoforo Creek to the north.

Toro Creek is a perennial stream, but the connection to the ocean is seasonal, depending on the presence of a coastal sand berm. The coastal berm typically forms in the summer, and is washed out in the winter with the combination of high surf and high flows. As a result of the seasonal berm, a lagoon typically forms west of the bridge in summer through fall. The seasonal timing of the lagoon and the coastal berm varies by year, depending on the intensity of storms, swells, and precipitation events.

A portion of the API is within the 100-year floodplain (the AE Zone), shown in the figure below (Figure 2). The figure also shows the API is in the VE Zone, which means it is subject to additional flooding from storm induced waves.

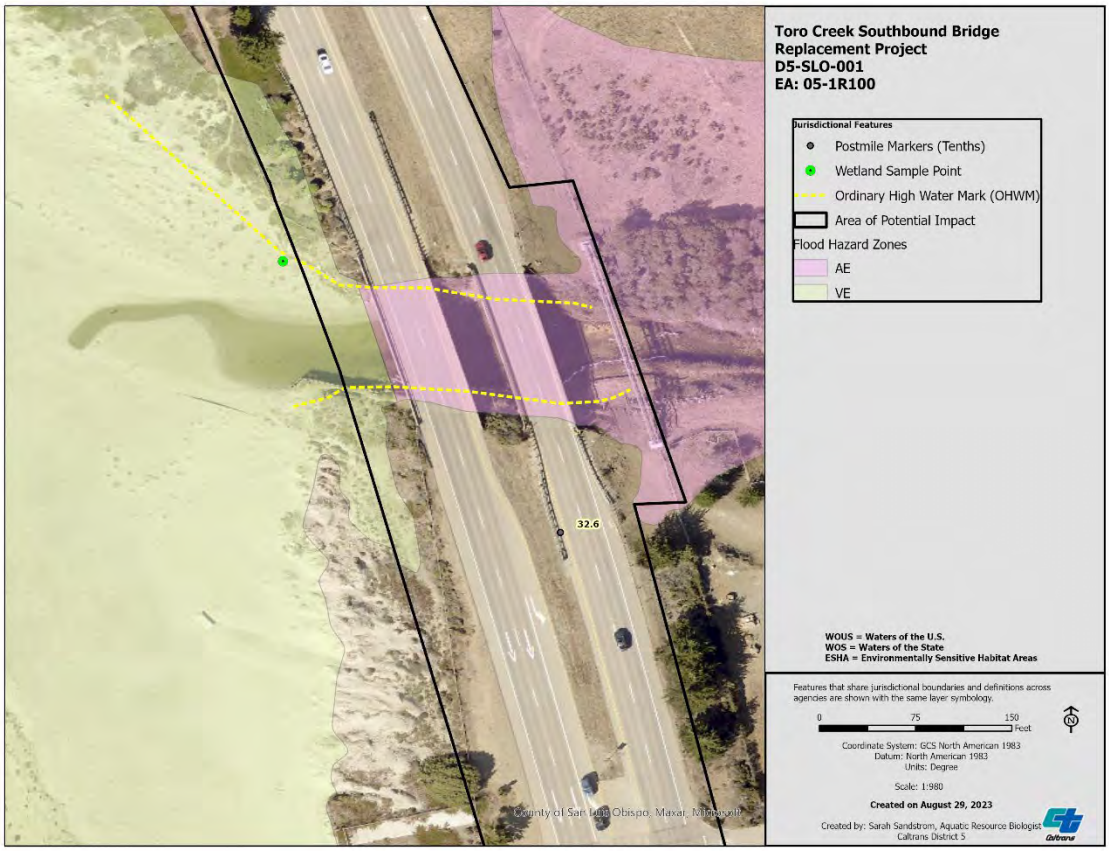

Figure 2. Floodplain mapping in API (Federal Emergency Management Agency National Flood Insurance Program)

5. Results

5.1. Other Waters

Toro Creek flows from east to west through the JSA. The bed of Toro Creek is sand, and both banks are covered in rock slope protection (RSP) to the toe of slope. A wooden breakwater that appears to be in disrepair extends west from the southern abutment waterward of the OHWM of Toro Creek.

The OHWM of Toro Creek was determined by the presence of a visible water line along the RSP and breakwater and a pronounced topographic transition at the natural substrate.

As described above, the channel course and flows vary interannually beneath the southbound bridge. In the summer of 2022, nearly the entire channel under

the southbound bridge was entirely dry, and the creek lacked any connection to the Pacific Ocean. In June 2023, Toro Creek was still flowing with a significant continuous surface water connection to the Pacific Ocean.

5.2. Wetlands

Two three-parameter wetlands were previously (2019) delineated on either side of Toro Creek east of the NB bridge. The wetlands were disturbed through the permitted action on the NB bridge, although a portion of the wetlands outside of the limits of disturbance of the NB project remain. The wetland on the south side of the creek is predominated by cattails (*Typha latifolia*) growing within the channel, and the wetland on the north side of the creek is predominated by small-fruited bullrush (*Scirpus microcarpus*). Wetland vegetation was reinstalled to restore temporary impacts adjacent to the NB bridge after the delineation field visit in August 2023. Wetland data points were not collected for these wetland areas due to the recent soil disturbance and since vegetation had not yet been installed. However, these areas were delineated as three-parameter wetlands, since that is the intended outcome of the restoration.

A small area of toad rush (*Juncus bufonius*) (FACW) was observed within the OHWM of Toro Creek west of the SB bridge. However, the vegetated area comprised less than 5 percent of the overall stream area, so it is not considered a wetland. The size and location of this vegetation is expected to change seasonally as the Toro Creek lagoon forms in the summer, coastal dune accretion and erosion occur, and winter high flows alter the flow path at the mouth of Toro Creek.

A one-parameter coastal wetland delineated in 2019 east of the NB bridge on a floodplain bench is no longer present in the JSA. The floodplain bench was eroded away in the winter 2022-2023 storms, and that area is now classified as stream.

No other three-parameter or one-parameter wetlands were observed.

5.3. Riparian and Streambank

As described above, both banks under the northbound and southbound bridges are covered in RSP. Beyond the RSP to the west, the banks are beach sand and not clearly defined. Beyond the RSP to the east, the banks and riparian area were planted in August 2023 (after the delineation field visit) as restoration and compensatory mitigation for the recent project replacing the northbound Toro Creek Bridge.

5.4. Coastal Environmentally Sensitive Habitat Areas

The Other Waters, Wetlands, Riparian, and Streambank described above are each considered Environmentally Sensitive Habitat Areas (ESHA), subject to the Local Coastal Plan. No other coastal water ESHA are present within the JSA.

5.5. Navigable Waters

The HAT recorded with the National Oceanographic and Atmospheric Administration's (NOAA) Port San Luis tidal datum is 7.03 feet (NAVD88). Mean High Water using the same datum is 4.54 feet. The lowest surveyed point within the Area of Potential Impact was 7.07 feet (NAVD88), just above the HAT. Therefore, Section 9 and 10 of the Rivers and Harbors Act and the General Bridge Act of 1946 should not apply. Caltrans should confirm these findings with the USACE and the Coast Guard.

5.6. Preliminary Functions and Values Assessment of Potentially Jurisdictional Waters

Toro Creek within the JSA provides flood conveyance, some water quality filtration, and moderate to high habitat value. The Toro Creek JSA also supports significant passive and active recreation.

Although there is currently very little mature riparian vegetation within the JSA, the riparian area upstream is well developed, predominantly with native plants, and it supports a variety of birds and wildlife.

6. Jurisdictional Area

Potential jurisdictional areas regulated by the USACE, RWQCB, CDFW, and Local Coastal Program are summarized in Table 1 and shown on Appendix A.

Table 1. Jurisdictional areas within the API, by authority.

Agency	Jurisdictional Areas[1]	Area (ft²)	Area (ac)
USACE	Stream (Other Waters)	14,740	0.34
	Wetland	277	<0.01
	Total USACE Jurisdiction	**15,017**	**0.34**
RWQCB	Stream (Other Waters)	14,740	0.34
	Wetland	277	<0.01

Agency	Jurisdictional Areas[1]	Area (ft²)	Area (ac)
	Streambank/Riparian		
	Developed Bank (RSP)	4,666	0.11
	Riparian	5,875	0.13
	Planted RSP	633	0.01
	Total RWQCB Jurisdiction	**26,191**	**0.60**
CDFW	Stream (Other Waters)	14,740	0.34
	Wetland	277	<0.01
	Streambank/Riparian		
	Developed Bank (RSP)	4,666	0.11
	Riparian	5,875	0.13
	Planted RSP	633	0.01
	Total CDFW Jurisdiction	**26,191**	**0.60**
California Coastal Commission (Local Coastal Program)	Stream (Other Waters)	14,740	0.34
	Wetland	277	<0.01
	Streambank/Riparian		
	Developed Bank (RSP)	4,666	0.11
	Riparian	5,875	0.13
	Planted RSP	633	0.01
	Total Coastal ESHA	**26,191**	**0.60**

In this delineation, Toro Creek and adjacent wetlands are considered Waters of the U.S and Waters of the State, and Coastal ESHA under the regulatory authority of the USACE, RWQCB, CDFW, and the California Coastal Commission (Local Coastal Program).

In addition, the streambanks, including RSP, planted RSP, and vegetated riparian zone are classified as Waters of the State and Coastal ESHA, under the regulatory authority of the RWQCB, CDFW and the California Coastal Commission (Local Coastal Program).

This reflects the findings of the field investigation for this Jurisdictional Delineation report and may be subject to final verification by regulatory authorities.

7. References

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State Water Resources Control Board. 2019. State Wetland Definition and Procedures for Discharges of Dredged or Fill Material to Waters of the State. Adopted April 2, 2019.

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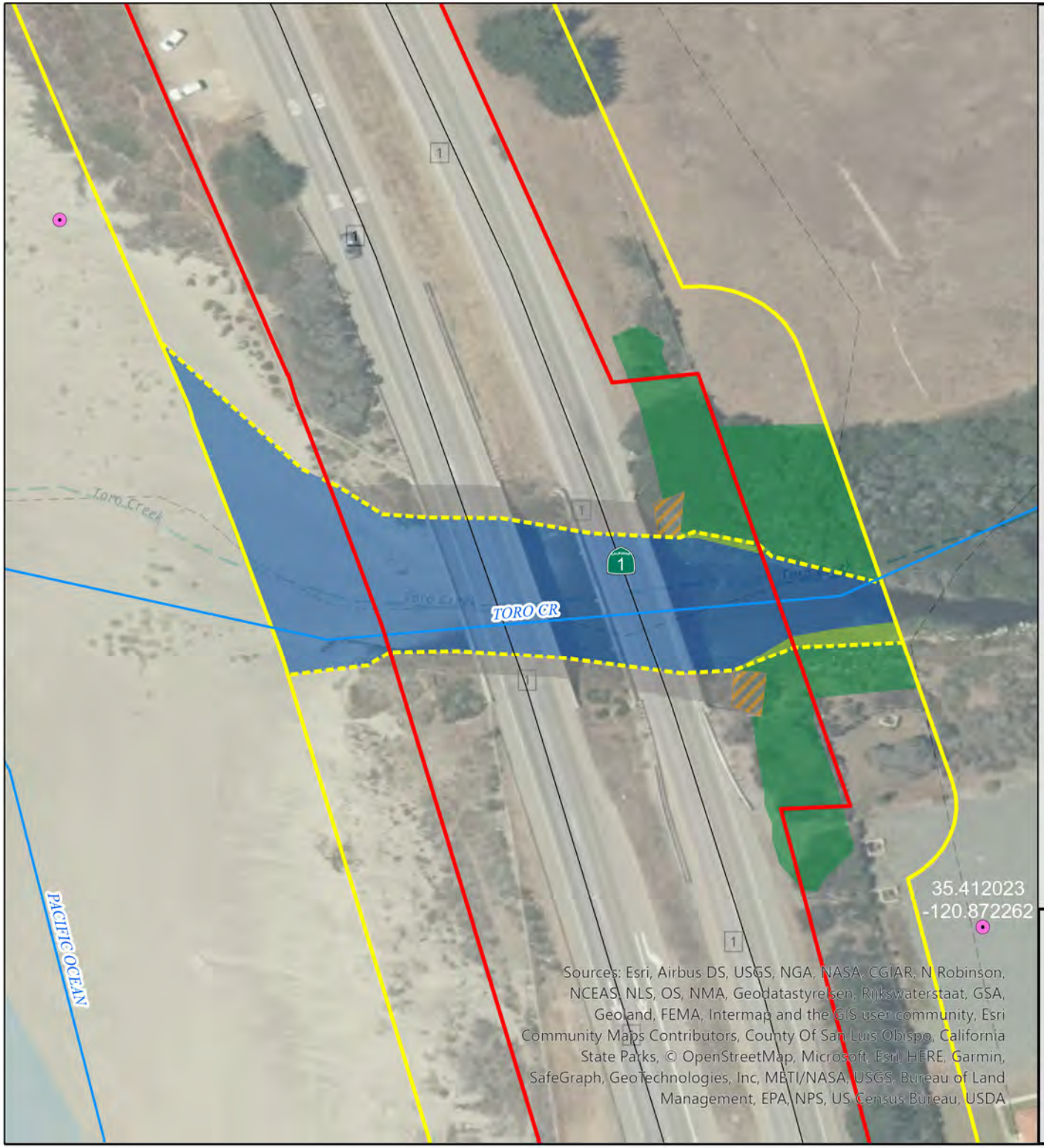
USACE. 2008. Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West.

U. S. Department of Agriculture (USDA), Natural Resource Conservation Service (NSDA, NRCS). Electronic reference. Soil Survey of Santa Cruz County. National Cooperative Soil Survey. Web Soil Survey available at: https://websoilsurvey.nrcs.usda.gov/app/WebSoilSurvey.aspx (accessed September 29, 2022).

U. S. Fish and Wildlife Service (USFWS). Electronic reference. National Wetlands Inventory website. U.S. Department of the Interior, Fish and Wildlife Service, Washington, D.C. Available at: http://www.fws.gov/wetlands/ (September 29, 2022).

Appendix A Jurisdictional Feature Map



Toro Creek Southbound Bridge Replacement Project
D5-SLO-001
EA: 05-1R100

Jurisdictional Features

- Perennial Stream (WOUS, WOS, ESHA)
- Freshwater Wetlands (WOUS, WOS, ESHA)
- Vegetated Riparian Zone (WOS, ESHA)
- Vegetated RSP (WOS, ESHA)
- Streambank RSP (WOS, ESHA)
- Map Reference Point
- Ordinary High Water Mark (OHWM)
- Jurisdictional Survey Area Boundary
- Area of Potential Impact

WOUS = Waters of the U.S.
WOS = Waters of the State
ESHA = Environmentally Sensitive Habitat Areas

Features that share jurisdictional boundaries and definitions across agencies are shown with the same layer symbology.

0 75 150 Feet

Coordinate System: GCS North American 1983
Datum: North American 1983
Units: Degree

Scale: 1:987

Created on August 29, 2023

Created by: Sarah Sandstrom, Aquatic Resource Biologist
Caltrans District 5

Appendix B Representative Photographs

Photo 1. Toro Creek looking south across lagoon to the west of Toro Creek SB Bridge.

Photo 2. Toro Creek looking south upstream (east) of Toro Creek NB bridge.

Photo 3. RSP on southern bank of Toro Creek under SB bridge looking west.

Photo 4. Toro Creek looking north under SB bridge toward RSP bank.

Appendix H Summary of Avoidance and Minimization Measures

Potential USACE/RWQCB Jurisdictional Wetlands/Other Waters, CDFW Jurisdictional Area, and CCC Wetlands/ESHAs

The proposed project will impact potential USACE jurisdictional other waters, USACE jurisdictional wetlands, and RWQCB/CDFW/CCC jurisdictional and CCC ESHA areas within the APl. A variety of avoidance and minimization measures will be implemented to reduce the potential impacts to these jurisdictional and ESHA foredune areas resulting from the project:

1. Prior to construction, Caltrans shall obtain a Section 404 Nationwide Permit from USACE, a Section 401 Water Quality Certification from RWQCB, a Section 1602 Streambed Alteration Agreement from CDFW, and a Coastal Development Permit (or Waiver) from the CCC. All permit terms and conditions will be incorporated and implemented.

2. Prior to construction, Caltrans shall prepare a Mitigation and Monitoring Plan (MMP) to mitigate impacts to vegetation and natural habitats. The MMP shall be consistent with federal and state regulatory requirements and will be amended with any regulatory permit conditions, as required. Caltrans shall implement the MMP as necessary during construction and immediately following project completion.

3. A portion of the APl overlaps compensatory mitigation areas from the Northbound Toro Creek Bridge Replacement Project. Impacts to this newly installed vegetation will be avoided to the maximum extent practical. A higher mitigation ratio will apply for any impacts to this area.

4. Prior to any ground-disturbing activities, ESA fencing shall be installed around jurisdictional waters, coastal zone ESHAs, and the dripline of trees to be protected within the project limits. Caltrans-defined ESAs shall be noted on design plans and delineated in the field prior to the start of construction activities.

5. The temporary stream diversion shall be timed to occur between June 1 and October 31 in any given year, or as otherwise directed by the regulatory agencies, when the surface water is likely to be dry or at seasonal minimum. Deviations from this work window will only be made with permission from the relevant regulatory agencies.

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

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

8. During construction, the staging areas shall conform to Best Management Practices (BMPs) applicable to attaining zero discharge of stormwater runoff. At a minimum, all equipment and vehicles shall be checked and maintained by the contractor on a daily basis to ensure proper operation and avoid potential leaks or spills.

9. Stream contours shall be restored as close as possible to their original condition.

Federally Designated Critical Habitat

Numerous measures in Chapter 4 of this NES that apply to jurisdictional waters, tidewater goby, steelhead, California red-legged frog, nesting birds, and other taxa, are also applicable to federally designated critical habitat. These measures have been assessed as sufficient to minimize impacts to tidewater goby and steelhead critical habitat**.**

Essential Fish Habitat

Numerous measures in Chapter 4 of this NES that apply to jurisdictional waters, tidewater goby, and steelhead are also applicable to Essential Fish Habitat. These measures have been assessed as sufficient to minimize impacts to EFH.

Invasive Species

The following avoidance and minimization measures will be implemented:

1. During construction, Caltrans will ensure that the spread or introduction of invasive exotic plant species will be avoided to the maximum extent possible.

2. Only clean fill shall be imported. When practicable, invasive exotic plants in the project site shall be removed and properly disposed. All invasive vegetation removed from the construction site shall be taken to a landfill to prevent the spread of invasive species. If soil from weedy areas must be removed off-site, the top six inches containing the seed layer in areas with weedy species shall be disposed of at a landfill. Inclusion of any species that occurs on the Cal-IPC Invasive Plant Inventory in the Caltrans erosion control seed mix or landscaping plans for the project shall be avoided.

3. To minimize the introduction of invasive plant species, all vehicles, machinery, and equipment shall be in a clean and soil free condition

before entering the project limits. Construction equipment shall be certified as "weed-free" by Caltrans before entering the construction site.

Special Status Plant Species

No avoidance/minimization measures are required.

South-central California Steelhead DPS

In addition to the previously proposed measures, the following measures will serve to further avoid or minimize impacts to steelhead within the API:

1. Prior to construction, Caltrans shall acquire incidental take authorization for steelhead from NMFS through a FESA Section 7 Biological Opinion and Incidental Take Statement.

2. Prior to initiation of stream diversion/dewatering, a qualified biologist shall conduct an informal worker environmental training program including a description of steelhead, its legal/protected status, proximity to the project site, avoidance/minimization measures to be implemented during the project, and the implications of violating FESA and permit conditions.

3. During construction, in-stream work shall take place between June 1 and October 31 in any given year, when the surface water within drainages is likely to be dry or at seasonal minimum. Deviations from this work window will only be made with permission from Caltrans and the relevant regulatory/resource agencies.

4. During in-stream work, a Caltrans-approved biologist shall be retained with experience in steelhead biology and ecology, aquatic habitats, biological monitoring (including diversion/dewatering), and capturing, handling, and relocating fish species. During in-stream work, the biological monitor(s) shall continuously monitor placement and removal of any required stream diversions to capture stranded steelhead and other native fish species and relocate them to suitable habitat as appropriate. The biologist(s) shall capture steelhead stranded as a result of diversion/dewatering and relocate steelhead to suitable instream habitat outside of the work area, using methods approved by the appropriate regulatory agencies, which may include providing aerated water in buckets for transport and ensuring adequate water temperatures during transport. The biologist shall note the number of steelhead observed in the affected area, the number of steelhead relocated, and the date and time of the collection and relocation.

5. During in-stream work, if pumps are incorporated to assist in temporarily dewatering the site, intakes shall be completely screened with no larger than 3/32-inch (2.38 mm) wire mesh to prevent steelhead and other sensitive aquatic species from entering the pump system. Pumps shall release the additional water to a settling basin or tan, allowing the

suspended sediment to settle out prior to re-entering the stream(s) outside of the isolated area. The form and function of all pumps used during the dewatering activities shall be checked daily, to ensure a dry work environment and minimize adverse effects to aquatic species and habitats.

6. The biological monitor shall monitor erosion and sediment controls to identify and correct any conditions that could adversely affect steelhead or steelhead habitat. The biological monitor shall be granted the authority to halt work activity as necessary and to recommend measures to avoid/minimize adverse effects to steelhead and steelhead habitat.

7. Caltrans shall provide NMFS a written summary of work performed (including biological survey and monitoring results), BMPs implemented (i.e., use of biological monitor, flagging of project areas, erosion and sedimentation controls) and supporting photographs. Furthermore, the documentation describing listed species surveys and re-location efforts (if appropriate) shall include name(s) of the Caltrans-approved biologist(s), location and description of area surveyed, time and date of survey, all survey methods used, a list and tally of all sensitive animal species observed during the survey, a description of the instructions/recommendations given to the applicant during the project, and a detailed discussion of capture and relocation efforts (if appropriate).

8. Dewatering and pile driving with impact hammers shall be limited to the low-flow period between June 1 and October 31, thus avoiding adult steelhead spawning migration and peak smolt emigration.

9. When driving piles, the contractor shall limit the number of daily strikes based on results of the hydroacoustic analysis conducted for the project.

10. Sound attenuating devices shall be utilized if possible.

Tidewater Goby

In addition to the previously proposed measures, the following measures, including several adapted from USFWS (Farris 2013), will serve to further avoid or minimize impacts to tidewater goby within the API:

1. Prior to construction, Caltrans shall acquire incidental take authorization for tidewater goby from USFWS through a FESA Section 7 Biological Opinion and Incidental Take Statement.

2. Prior to initiation of stream diversion/dewatering, a qualified biologist shall conduct an informal worker environmental training program including a description of tidewater goby, its legal/protected status, proximity to the project site, avoidance/minimization measures to be

implemented during the project, and the implications of violating FESA and permit conditions.

3. Prior to initiation of stream diversion/dewatering, a USFWS-approved biologist(s) shall install 1/8 inch block nets outside the impact areas and across the stream a minimum of 20 feet above and below the locations proposed for stream diversion/dewatering. If widely separated sites are involved, more than one set of block nets shall be placed to protect the work area. The nets shall be installed on the first day of work and monitored thereafter for the duration of the work.

4. Once the block nets are secured, the USFWS-approved biologist(s) shall remove all tidewater gobies found between the block nets using a 1/8 inch seine and dip nets, and relocate tidewater gobies to suitable habitat outside of the proposed project site.

5. Should dewatering occur, any pumps used shall be fitted with anti-entrapment device(s) to prevent tidewater gobies from being drawn into the pump or impinged on intake screening. As dewatering proceeds, the USFWS-approved biologist(s) shall remove by hand or net all tidewater gobies found and relocate them to suitable habitat downstream of the proposed project site.

6. A USFWS-approved biologist shall remain onsite and observe for tidewater gobies and turbidity levels within the work areas during all creek dewatering activities, and shall capture and relocate tidewater gobies to suitable habitat as necessary.

7. Caltrans shall provide USFWS a written summary of work performed (including biological survey and monitoring results), BMPs implemented (i.e., use of biological monitor, flagging of project areas, erosion and sedimentation controls) and supporting photographs. Furthermore, the documentation describing listed species surveys and re–location efforts (if appropriate) shall include name(s) of the USFWS-approved biologist(s), location and description of area surveyed, time and date of survey, all survey methods used, a list and tally of all sensitive animal species observed during the survey, a description of the instructions/recommendations given to the applicant during the project, and a detailed discussion of capture and relocation efforts (if appropriate).

Southwestern Pond Turtle

The measures recommended in the following chapter (Chapter 4.3.4.3.) for California red-legged frogs will be applicable for southwestern pond turtle. Additional Avoidance and Minimization measures may be added during consultation with USFWS.

Coast Range Newt

The following avoidance and minimization measure is recommended for coast range newt:

1. Prior to construction, a biologist determined qualified by Caltrans shall survey the API and, if present, capture and relocate any Coast Range newts to suitable habitat downstream of the API. Observations of SSCs or other special-status species shall be documented on CNDDB forms and submitted to CDFW upon project completion. If these species or other SSC aquatic species are observed during construction, they will likewise be relocated to suitable upstream habitat by a qualified biologist.

California Red-Legged Frog

Caltrans anticipates the proposed project will qualify for FESA incidental take coverage under the Programmatic Biological Opinion for Projects Funded or Approved under the Federal Highway Administration's Federal Aid Program (USFWS 2011). The following measures are the applicable measures from the Programmatic Biological Opinion that will be implemented for this project:

1. Only USFWS-approved biologists shall participate in activities associated with the capture, handling, and monitoring of California red-legged frogs.

2. Ground disturbance shall not begin until written approval is received from the USFWS that the biologist is qualified to conduct the work.

3. A USFWS-approved biologist shall survey the project area no more than 48 hours before the onset of work activities. If any life stage of the California red-legged frog is found and these individuals are likely to be killed or injured by work activities, the approved biologist shall be allowed sufficient time to move them from the site before work begins. The USFWS-approved biologist shall relocate the California red-legged frogs the shortest distance possible to a location that contains suitable habitat and will not be affected by the activities associated with the project. The relocation site shall be in the same drainage to the extent practicable. Caltrans shall coordinate with USFWS on the relocation site prior to the capture of any California red-legged frogs.

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

training session, provided that a qualified person is on hand to answer any questions.

5. A USFWS-approved biologist shall be present at the work site until all California red-legged frogs have been removed, workers have been instructed, and disturbance of the habitat has been completed. After this time, Caltrans shall designate a person to monitor on-site compliance with all minimization measures. The USFWS-approved biologist shall ensure that this monitor receives the training outlined in measure 4 above and in the identification of California red-legged frogs. If the monitor or the USFWS-approved biologist recommends that work be stopped because California red-legged frogs would be affected in a manner not anticipated by Caltrans and USFWS during review of the proposed action, they shall notify the resident engineer immediately. The resident engineer shall resolve the situation by requiring that all actions that are causing these effects be halted. When work is stopped, the USFWS shall be notified as soon as possible.

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

7. Without the express permission of USFWS, all refueling, maintenance and staging of equipment and vehicles shall occur at least 60 ft from the riparian habitat or water bodies and not in a location from where a spill would drain directly toward aquatic habitat. The monitor shall ensure contamination of habitat does not occur during such operations. Prior to the onset of work, Caltrans shall ensure that a plan is in place for prompt and effective response to any accidental spills. All workers shall be informed of the importance of preventing spills and of the appropriate measures to take should a spill occur.

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

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

10. Caltrans shall attempt to schedule work for times of the year when impacts to the CRLF would be minimal. For example, work that would affect large pools that may support breeding would be avoided, to the maximum degree practicable, during the breeding season (November through May). Isolated pools that are important to maintain CRLFs through the driest portions of the year would be avoided, to the maximum degree practicable, during the late summer and early fall. Habitat assessments, surveys, and technical assistance between Caltrans and the USFWS during project planning shall be used to assist in scheduling work activities to avoid sensitive habitats during key times of year.

11. To control sedimentation during and after project completion, Caltrans shall implement BMPs shall be implemented outlined in any authorizations or permits, issued under the authorities of the Clean Water Act received for the project. If BMPs are ineffective, Caltrans shall attempt to remedy the situation immediately, in coordination with USFWS.

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

13. Unless approved by USFWS, water shall not be impounded in a manner that may attract California red-legged frogs.

14. A USFWS-approved biologist shall permanently remove any individuals of exotic species, such as bullfrogs (*Rana catesbeiana*), signal and red swamp crayfish (*Pacifasticus leniusculus*; *Procambarus clarkia*), and centrarchid fishes from the project area, to the maximum extent possible. The USFWS-approved biologist shall be responsible for ensuring his or her activities are in compliance with the California Fish and Game Code.

15. If Caltrans demonstrates that disturbed areas have been restored to conditions that allow them to function as habitat for the California red-legged frog, these areas will not be included in the amount of total habitat permanently disturbed.

16. To ensure that diseases are not conveyed between work sites by the USFWS-approved biologist, the fieldwork code of practice developed by the Declining Amphibian Task Force shall be followed at all times.

17. Project sites shall be revegetated with an assemblage of native riparian, wetland, and upland vegetation suitable for the area. Locally collected plant materials shall be used to the extent practicable. Invasive, exotic plants shall be controlled to the maximum extent practicable. This measure shall be implemented in all areas disturbed by activities associated with the project, unless USFWS and Caltrans determine that it is not feasible or practical.

18. Caltrans shall not use herbicides as the primary method to control invasive, exotic plants. However, if it is determined that the use of herbicides is the only feasible method for controlling invasive plants at a specific project site; it will implement the following additional protective measures for the California red-legged frog:

    a. Caltrans shall not use herbicides during the breeding season for the California red-legged frog;

    b. Caltrans shall conduct surveys for the California red-legged frog immediately prior to the start of herbicide use. If found, California red-legged frogs shall be relocated to suitable habitat far enough from the project area that no direct contact with herbicide would occur;

    c. Giant reed and other invasive plants shall be cut and hauled out by hand and painted with glyphosate-based products, such as Aquamaster® or Rodeo®;

    d. Licensed and experienced Caltrans staff or a licensed and experienced contractor shall use a hand-held sprayer for foliar application of Aquamaster® or Rodeo® where large monoculture stands occur at an individual project site;

    e. All precautions shall be taken to ensure that no herbicide is applied to native vegetation;

    f. Herbicides shall not be applied on or near open water surfaces (no closer than 60 ft from open water);

    g. Foliar applications of herbicide shall not occur when wind speeds are in excess of 3 mi per hour;

    h. No herbicides shall be applied within 24 hours of forecasted rain;

    i. Application of all herbicides shall be done by qualified Caltrans staff or contractors to ensure that overspray is minimized, that all

applications is made in accordance with the label recommendations, and with implementation of all required and reasonable safety measures. A safe dye shall be added to the mixture to visually denote treated sites. Application of herbicides shall be consistent with the U.S Environmental Protection Agency's Office of Pesticide Programs, Endangered Species Protection Program county bulletins;

j. All herbicides, fuels, lubricants, and equipment shall be stored, poured, or refilled at least 60 ft from riparian habitat or water bodies in a location where a spill would not drain directly toward aquatic habitat. Prior to the onset of work, Caltrans shall ensure that a plan is in place for a prompt and effective response to accidental spills. All workers shall be informed of the importance of preventing spills and of the appropriate measures to take should a spill occur.

Upon completion of the project, Caltrans shall ensure that a Project Completion Report is completed and provided to USFWS, following the template provided with the Programmatic Biological Opinion. Caltrans shall include recommended modifications of the protective measures if alternative measures would facilitate compliance with the provisions of this consultation.

Western Snowy Plover

Due to the proximity of this project to western snowy plover critical habitat, the following measure will be applied to completely avoid adverse effects to western snowy plover:

1. If western snowy plover is observed within 100 ft of the API during the course of construction, a qualified biologist shall implement an exclusion zone and work shall be avoided within the exclusion zone until the snowy plover is located greater than 100 ft from project-related disturbance. If an active western snowy plover nest is observed within 100 ft of the API, all project activities shall immediately cease and USFWS and Caltrans shall be contacted within 48 hours. Caltrans shall then reinitiate FESA Section 7 formal consultation with USFWS for western snowy plover and implement additional avoidance/minimization measures as necessary.

Least Bell's Vireo, Southwestern Willow Flycatcher, Cooper's Hawk, Tricolored Blackbird, and Other Nesting Birds

The following measures apply to all birds protected by the MBTA and California Fish and Game Code. The list of birds protected by these regulatory laws is extensive, and not all birds protected by these laws are included in Table 5. There are no formal survey protocols for most of these bird species, but CDFW

typically requires pre-construction nesting bird surveys and avoidance of impacts to active bird nests.

1. Prior to construction, vegetation removal shall be scheduled to occur from October 1 to January 31 outside of the typical nesting bird season, if possible, to avoid potential impacts to nesting birds. If tree removal or other construction activities are proposed to occur within 100 ft of potential habitat during the nesting season (February 1 to September 30), a nesting bird survey shall be conducted by a biologist determined qualified by Caltrans no more than three (3) days prior to construction. If an active nest is found, Caltrans shall coordinate with CDFW to determine an appropriate buffer based on the habits and needs of the species. The buffer area shall be avoided until a qualified biologist has determined that juveniles have fledged.

2. During construction, active bird nests shall not be disturbed and eggs or young of birds covered by the MBTA and California Fish and Game Code shall not be killed, destroyed, injured, or harassed at any time. Readily visible exclusion zones where nests must be avoided within 100 ft of disturbance shall be established by a qualified biologist using ESA fencing. Work in exclusion zones shall be avoided until young birds have fledged (permanently left the nest) or the qualified biologist has determined that nesting activity has otherwise ceased.

3. All clearing/grubbing and vegetation removal shall be monitored and documented by the biological monitor(s) regardless of time of year.

4. If least Bell's vireo and/or southwestern willow flycatcher are observed within 100 ft of the API during the course of construction, a qualified biologist shall implement an exclusion zone and work shall be avoided within the exclusion zone until the least Bell's vireo and/or southwestern willow flycatcher is located greater than 100 ft from project-related disturbance. If an active least Bell's vireo and/or southwestern willow flycatcher nest is observed within 100 ft of the API, all project activities shall immediately cease and USFWS and Caltrans shall be contacted within 48 hours. Caltrans shall then reinitiate FESA Section 7 formal consultation with USFWS for least Bell's vireo and/or southwestern willow flycatcher and implement additional measures as necessary.

5. It is recommended that birds be excluded from the existing bridge prior to its demolition. Nesting bird exclusion methods may include, installation of exclusion materials, or other methods approved by CDFW. Installation of exclusion materials shall occur outside of the typical nesting season (i.e., implement exclusion methods from October 1 to January 31).

6. Trees to be removed shall be noted on design plans. Prior to any ground-disturbing activities, ESA fencing shall be installed around the dripline of trees to be protected within project limits.

Pallid Bat, Townsend's Big-eared Bat, and Other Roosting Bats

Due to the presence of potential roosting habitat within the BSA, the following measures will be applied to completely avoid adverse effects to roosting bats:

1. Prior to construction, vegetation removal shall be scheduled to occur from September 2 to January 31 outside of the typical maternity roosting season, if possible, to avoid potential impacts to roosting bats. If tree removal, bridge deconstruction, or other construction activities are proposed to occur within 100 ft of potential habitat during the nesting season (February 1 to September 1), a roosting bat survey shall be conducted by a biologist determined qualified by Caltrans within fourteen (14) days prior to construction. If an active roost is found, a qualified Caltrans biologist will determine an appropriate buffer based on the habits and needs of the species. The buffer area shall be avoided until a qualified biologist has determined that roosting activity has ceased.

2. During construction, active roosts shall not be disturbed or destroyed. Readily visible exclusion zones where roosts shall be established by a qualified biologist using ESA fencing. The size/radius of the exclusion zone(s) shall be determined by a qualified biologist.

3. If bats are found by a qualified biologist to be maternity roosting, active bat maternity roosts shall not be disturbed until pups are volant (capable of flight).

Paleontological Investigation Report

Memorandum

Making Conservation a California Way of Life

To: GERAMALDI
Environmental Planner
Caltrans D5 Environmental Planning

Date: November 16, 2023

From: DAMARIS WYATT
Engineering Geologist
Caltrans D5 Environmental Engineering
805-459-0207 | damaris.wyatt@dot.ca.gov

File No.: 05-SLO-1 PM 32.6
Project EA 05-1R100
Project # 0523000125

Subject: **PALEONTOLOGICAL INVESTIGATION REPORT, PROJECT EA 05-1R100, TORO CREEK SOUTHBOUND BRIDGE REPLACEMENT**

The purpose of this memorandum is to provide an assessment of the potential affects to paleontological resources that could result from the Toro Creek Southbound Bridge Replacement Project on State Route (SR) 1 in San Luis Obispo County, California.

Caltrans is obligated to conduct paleontological studies in response to federal and State laws and regulations, including: the Antiquities Act of 1906 (16 U.S. Code 431-433), Archaeological and Paleontological Salvage (23 U.S. Code 305), Federal-Aid Highway Act of 1935 (20 U.S. Code 78), National Environmental Policy Act of 1969 (NEPA; 42 U.S. Code 4321), the California Environmental Quality Act (CEQA; PRC Section 21000 et seq.), and Public Resources Code, Division 4, Chapter 1.7, Section 5097.5.

If paleontologically sensitive geologic rock units may be impacted by a project, avoidance, minimization and/or mitigation measures are considered.

Project Description

The proposed project is located in San Luis Obispo County, within the city of Morro Bay and just south of the town of Cayucos. The project is located on a portion of State Route 1 that runs along the California coast, and the project site is adjacent to the beach as Toro Creek flows directly to the Pacific Ocean. State Route 1 at the project location is an express way with two lanes of travel in each direction, with occasional grade crossings, turn pockets, and pullouts.

The project proposes to address the poor bridge health of the existing SB Toro Creek Bridge (BR. No. 49-0068L) and upgrade nonstandard bridge railing and existing geometric features via replacement of the existing bridge structure and associated adjacent roadway approaches.

The proposed new structure would be 131 feet long, 43 feet wide, and a 3 span bridge with 2 supporting column bents. The structure itself would accommodate the standard 5 feet wide inside shoulder, two 12 feet wide lanes, and have a right shoulder width of 10 feet which meets the minimum outside shoulder width requirement.

The bridge railing will be the California ST-75, a metal 'see-through' railing type. An approximately 1-foot roadway profile adjustment is anticipated to be required as the voided slab bridge will need to allow for the passage of the projected 100 year base flood elevation below the bridge soffit. The existing abutment slopes are lined with concreted rock for erosion protection. As part of the new bridge structure, the existing concreted rock would be removed and replaced with rock slope protection (RSP) or as required to prevent erosion and scour of the abutment slopes. Approach slabs as well as the adjacent roadway portions would be modified to allow for conforming of the roadway to the new bridge. Existing guard railing will be removed and upgraded with Midwest Guardrail System. Temporary median crossovers (detours) immediately to the south and north of the Toro Bridge are proposed during construction.

Definition of Paleontological Resources and Resource Potential Criteria
Paleontological resources are the remains or traces of once-living organisms that are preserved in the geologic record as fossils. Paleontological resources can include body fossils (e.g., bones, teeth, shells, leaves), trace fossils (e.g., tracks, trails, burrows, coprolites), and microfossils (e.g., pollen grains, spores, diatoms). Fossils are generally considered to be older than about 11,700 years (the end of the Pleistocene Epoch), but organic remains older than middle Holocene age (about 5,000 years) can also be considered to represent fossils because they are part of the record of past life. Paleontological resources also include fossil localities and the formation or rock unit containing the fossils.

Fossils are considered important scientific and educational resources because they serve as direct and indirect evidence of past life and are used to understand the history of life on Earth, and of past environments, ecosystems, and climates. Fossils can answer questions relating to patterns and processes of evolution and extinction, and how life has responded to changes in climates and environments through time.

Caltrans uses a tripartite scale for assessing paleontological potential. An abbreviated description of each potential ranking is provided below:

- **High Potential -** Rock units which, based on previous studies, contain or are likely to contain significant vertebrate, significant invertebrate, or significant plant fossils. Generally, earthwork that disturbs geologic units with a high paleontological potential will require monitoring and mitigation.

- **Low Potential -** This category includes sedimentary rock units that are potentially fossiliferous but have not yielded significant fossils in the past, or contain common and/or widespread invertebrate fossils. Geologic units with a low paleontological potential generally do not require monitoring and mitigation, but it is possible that unanticipated fossil discoveries may arise during construction, requiring a Construction Change Order in order for a Principal Paleontologist to evaluate the resource.
- **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 geologic units, paleontological resources can generally be eliminated as a concern, and no further action taken.

Paleontological Evaluation

Evaluation of the project geology and paleontology included a review of available geologic mapping, the Caltrans paleontology mapping tool, and Google Street View Imagery.

Published geologic mapping (e.g., Wiegers, 2021) indicates that the bridge abutments are underlain by late Pleistocene age marine terrace deposits which are about 120,000 years old and represents the last sea-level highstand, when sea level was about 20 feet higher than it is today. The bridge piers are underlain by Holocene and late Pleistocene age young alluvial valley deposits which are composed of unconsolidated sand, silt, and clay-bearing alluvium deposited on floodplains and along valley floors within the last 120,000 years.

A terrestrial vertebrate fossil (Taxon: Sciuridae) found in marine terrace deposits has been documented approximately 2.5 miles north of the project area in Cayucos, and fossils of marine invertebrates and vertebrates may also be present in the unit (Jefferson 1991; 1992). Generally, fossils within marine terrace deposits are most likely to be found at the base of the formation, which represents the former sea floor.

Marine terrace deposits and the Pleistocene-aged portions of the young alluvial deposits are considered to have a high paleontological potential. The Holocene-aged portions of the young alluvial valley deposits are considered to have a low paleontological potential because they are too geologically young to contain fossils.

The proposed project would involve earthwork associated with the construction of bridge abutments and bridge piles. The abutments associated with the construction of the original structure in 1960 were built on imported artificial fill, which has no paleontological potential. The abutments for the new bridge structure will be constructed atop this previously disturbed artificial fill. No high

paleontological potential deposits would be disturbed, so no discovery of paleontological resources is expected during construction of bridge abutments.

The new bridge columns would be concrete piles constructed using 24 inch diameter cast-in drilled holes. Drilling for the emplacement of the bridge piles will extend through the young alluvial valley deposits in the creek bed to the underlying marine terrace unit. Disturbance of these high potential units would be minimal. While fossils may be present in these units, paleontological monitoring of drilling operations of this diameter are not typically recommended because the drilling process destroys any macrofossils that may be encountered and brought up as spoils.

Based on the location of earthwork required for bridge replacement and the destructive nature of the drilling process, the project is not expected to adversely affect paleontological resources.

Table 1 summarizes the geologic units underlying the project corridor, the paleontological potential of each unit, and the potential for impacts during project construction.

Table 1. Summary of the underlying geology and paleontology for the proposed project and expected impacts to paleontological resources

Geologic Unit Name and Age (mapped by Wiegers, 2021)	**Paleontological Potential Ranking**	**Would project earthwork disturb deposits?**	**Impacts to paleontological resources?**
artificial fill / previously disturbed deposits (mapped and unmapped) recent	No Potential	Yes- bridge abutments will be constructed in fill.	No
young alluvial valley deposits (Qya) Holocene and late Pleistocene	Low (Holocene) to High (Pleistocene) Potential	Minimally-drilling for emplacement of piles will extend through this unit.	Minimal- drilling process destroys any macrofossils that may be encountered and brought up as spoils.
old paralic deposits (marine terrace deposits; (Qop) middle to late Pleistocene	High Potential	Minimally-drilling for emplacement of piles will extend into this unit.	Minimal- drilling process destroys any macrofossils that may be encountered and brought up as spoils.

Conclusions and Recommendations

No adverse impacts to paleontological resources are expected as a result of the proposed project, so no avoidance, minimization, or mitigation measures are required.

In the unlikely event that fossils are unearthed during project construction, Standard Specification 14-7.03 provides procedures to be followed for unanticipated fossil discoveries.

The conclusions in this memorandum are based on the project plans and project description dated June 2023. If there is a change in the nature or scope of the project, please submit a request for a supplemental paleontological assessment to cover project changes.

References

Jefferson, G.T., 1991. Revised 2010. A Catalogue of Late Quaternary Vertebrates from California: Part 2, Mammals. Natural History Museum of Los Angeles County, Technical Report 7, 129p.

Jefferson, G. T., H.L. Fierstine, J.R. Wesling, and T.L. Ku. 1992. Pleistocene terrestrial vertebrates from near Point San Luis, and other localities in San Luis Obispo County, California. Bulletin of the Southern California Academy of Sciences 9:26-38.

Wiegers, M.O. 2021. Preliminary geologic map of the west half of the San Luis Obispo 30' x 60' quadrangle, California, version 2.0. California Geological Survey Preliminary Geologic Maps, scale 1:100,000.

cc: Project File
Matt Fowler- Environmental Planning (email only)
Karl Mikel - Environmental Engineering (email only)

Visual Impact Assessment

Visual Impact Assessment of the proposed Toro Creek Southbound Bridge Replacement

On Route 1 in San Luis Obispo County
Postmile 32.6 EA 05-1R100 Project ID 0523000125

Caltrans Landscape Architecture Branch – September 13, 2023
Laura Ivey - Registered Landscape Architect 4519

The National Environmental Policy Act of 1969 as amended (NEPA) 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 U.S.C. 4331[b][2]). To further emphasize this point, the Federal Highway Administration in its implementation of NEPA (23 U.S.C. 109[h]) directs that final decisions regarding 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 Section 21001[b]). This report analyzes and discloses potential project affects consistent with the California Environmental Quality Act (CEQA) definitions and guidelines.

This study assesses the visual impacts which may result from the replacement of the southbound Toro Creek Bridge on Highway 1 in San Luis Obispo County. The intent of this visual impact assessment is to substantiate findings presented in the environmental document by acting as a technical support document. This assessment defines the visual environment of the project area, quantifies the visual resources of the project area, and identifies viewer response to those resources. The study assesses the resource change that would be introduced by the project and the corresponding viewer response to that change. This perceived change, along with the project's consistency with national, state, and local visual resource policy is used to determine the degree of potential impacts.

Project Proposal

This project proposes to replace the existing southbound (SB) bridge at Toro Creek on Highway 1 at post mile (PM) 32.6 between the communities of Morro Bay to the south and Cayucos to the North. The proposed new structure would be approximately 131 feet long and 43 feet wide. The structure is designed to be a 3-span bridge with 2 supporting column bents accommodating two 12-foot-wide lanes. The proposed 10-foot-wide outside shoulder accommodates bicyclists. Proposed bridge railing will be California ST-75, a metal 'see through' railing designed to preserve views. As part of the new project rock slope protection (RSP) will be placed along the abutments to reduce scour and erosion. Additionally approach slabs as well as adjacent roadway

portions would be modified to allow for conforming of the roadway onto the new bridge structure. Existing guard railing will be removed and upgraded with Manual for Assessing Safety Hardware (MASH) compliant Midwest Guardrail System. Work will require temporary median crossovers (detours) immediately to the south and north of the bridge during construction. Three native Monterey Cypress trees located adjacent to the beach on the north side of the structure at the terminus of the guardrail may require trimming or removal. Coastal shrubs and groundcover will be removed for construction and access on the west side of the alignment.

Purpose and Need

The existing SB Toro Creek bridge is in poor condition due to non-recoverable corrosion of the columns, abutments, and superstructure. Replacement of the structure is recommended to resolve the issue. Additionally, the existing bridge railings are nonstandard and no longer meet the current MASH standards. The existing outside shoulder is approximately 8-feet wide with a 5-feet wide inside shoulder. Increasing the outside shoulder width to the standard 10-feet width and maintaining a 5-feet wide inside shoulder would decrease off-track vehicle collisions and will facilitate bicycle travel along the shoulder.

Visual Setting

Existing Visual Environment

The Community

The area along Highway 1 between Morro Bay and Cayucos is located on a gentle-sloped marine terrace situated between the Pacific Ocean and a series of low foothills rising to the Santa Lucia Mountain Range. The diverse geologic features that characterize the region contribute to the high scenic quality of the coast. The most notable natural visual resources are Morro Rock near Morro Bay to the south, the fertile valley and hills east of the project, and sweeping unobscured views of the beach and Pacific Ocean. The vegetation of the surrounding open space is predominately denuded grassland and scattered coyote brush, with natural stands of oak, sycamore, and cypress trees and at lower elevations primarily on the north and east-facing slopes. Wind rows of eucalyptus trees can be seen in the region associated with ranches and old homesteads.

Approximately one-half mile beach and sand dune open space separates the southern limit of Cayucos from neighboring community of Morro Bay to the south. Both communities are compact with well-defined edges, surrounded by the Pacific Ocean to the west rural open space to the north, south and east.

Highway 1, is both a designated State Scenic Highway and National Scenic Byway paralleling the coastline through the region.

The Project Vicinity

Highway 1 through this area is a four-lane divided highway, with twelve-foot lanes and variable shoulder widths. Vegetation along the highway is minimal to moderate cover, and mostly consists of scattered trees, coastal shrubs and naturalized grasses. The existing bridge rail is 1960’s low concrete stem-wall with a round horizontal metal beam above. The adjacent

northbound bridge, newly constructed in 2023 features open-style California ST-75 bridge railing.

Viewer Sensitivity and Planning Policies

Highway 1 through the project limits is classified as an Officially Designated State Scenic Highway as well as an All-American Road in the National Scenic Byway System. Route 1 has long been recognized for its scenic qualities, and the state and national designations illustrate the heightened degree of sensitivity concerning the aesthetic character of this highway. Highway 1 has long been a tourist attraction for motorist traveling up and down the California coast. The route's scenic value is important for local economies. San Luis Obispo County planning policies emphasize the protection of visual resources along Highway 1 and underscore the concern and sensitivity regarding aesthetic issues along this route.

The project falls within jurisdiction of the California Coastal Commission, which places an emphasis on visual quality and preservation. *Section 30251 Scenic and Visual Qualities;*

> "The scenic and visual qualities of coastal areas shall be considered and protected as a resource of public importance. Permitted development shall be sited and designed to protect views to and along the ocean and scenic coastal areas, to minimize the alteration of natural landforms, to be visually compatible with the character of surrounding areas, and, where feasible, to restore and enhance visual quality in visually degraded areas. New development in highly scenic areas such as those designated in the California Coastline Preservation and Recreation Plan prepared by the Department of Public and Recreation and by local government shall be subordinate to the character of its setting."

Project Effects - CEQA Analysis

Appendix G of the California Environmental Quality Act (CEQA) Guidelines requires that the following issues be considered in determining the level of project impacts:

Will the project:

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

Scenic vistas in the project vicinity include views of the Pacific Ocean, Morro Rock, rolling hillsides and associated ridgelines, native vegetation patterns, and rural agricultural land. The project proposes elements are similar to the existing bridge. The most noticeable aspects of the project would be the widened road shoulders, the change in bridge rail type, and the loss of vegetation along the creek. The proposed bridge rail, although slightly taller than the existing, would appear visually open and would not adversely impact views to the ocean, hillsides, or riparian corridor. The existing northbound bridge structure, along the east side of the project would not be altered. As a result, the proposed project elements would be visually unobstructive, and would not silhouette into the scenic hillside vistas as seen from the Highway 1. Upon project completion, public viewing locations along the beach would be relatively the same. As a result, the project would not have an adverse effect on scenic vistas.

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

This question is applicable to the project since Highway 1 in through the project limits is classified as an Officially Designated State Scenic Highway. CEQA Scenic Resources in the project include the Pacific Ocean, Morro Rock, undeveloped ridgelines, and historic ranch structures.

The project proposes no substantial vertical features or other elements that would block or visually detract from, or damage views of Scenic Resources as seen from the designated scenic highway. Three Monterey Cypress trees (one mature and two small) may be removed for construction access. Although native species, these trees are not landmark trees, in that there are many others along the corridor in the near vicinity. These trees should be preserved if feasible, however trimming or removal of the trees would improve views of the ocean, the beach and Morro Rock.

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?

The existing visual quality and character of the project site is based to a large degree on views of the Pacific Ocean, beach and coastline, and the underdeveloped portions of the inland hillsides. Although the highway facility affords motorist and bicyclist quality views to the surrounding area, the Highway 1 facility itself provides little improvement to visual quality of the area. As a four-lane highway with generally full standard lane and shoulder widths, the existing highway facility has somewhat urban characteristics, unlike Highway 1 elsewhere through the rural areas north of Cayucos.

The visual context of the project includes the new constructed northbound bridge structure, which would remain in place. Adverse impacts to the visual quality of the site would occur if the rail proposed for the project were out-of-character with the railing of the northbound bridge. By constructing an open-style railing matching the adjacent structure, the new bridge will be consistent with the aesthetic characters of the adjacent northbound railing.

The loss of vegetation, including trees, shrubs, and groundcover, at the project site would also contribute to a slight reduction in visual quality. By replacing removed vegetation following construction, this slight reduction of vegetated character would be minimized.

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

No new sources of light or glare are proposed as part of the project.

Recommended Minimization Measures

With implementation of the following project features, the project would be consistent with the aesthetic and visual resource protection goals along Highway 1 and the community as defined by the State Scenic Highway and National Scenic Byway goals as well as Coastal Act policies:

1. Staging and storage for construction, including parking and equipment must consider ocean views and be located on inland side if possible. Reduce impact to views and public access to the maximum extent feasible.

2. Following construction, regrade and recontour any new construction access roads, staging and storage areas and other temporary uses as necessary to match the surrounding natural topography along Highway 1. Avoid unnatural-appearing remnant landforms where possible.
3. Preserve existing vegetation to the maximum extent feasible.
4. Bridge rails shall be an ‘open style’ ST-75 matching the existing northbound bridge structure to preserve views.
5. All new and replacement guardrail vertical posts shall be colored with a stain such as Natina, as directed by Caltrans District 5 Landscape Architecture staff.
6. If vegetation control treatment is required under new guardrail, pervious surface treatment or colored concrete should blend with adjacent soil, as directed by Caltrans District 5 Landscape Architecture staff.
7. Any retaining walls or concrete features shall be aesthetically treated per District 5 Landscape Architecture.
8. Any conduits proposed to be attached to the exterior of bridges shall be integrated with the design of the bridge overhang and rail to minimize its visibility. The conduit design shall be coordinated with and approved by District 5 Landscape Architecture.
9. Disturbed areas shall be revegetated and treated with erosion control utilizing native plants and seeds per District 5 Landscape Architecture recommendation.
10. Replacement planting as designed and implemented by District 5 Landscape Architecture staff, will balance preservation of views with resource agency permitting requirements and will be maintained and established.
11. Rock slope protection shall be backfilled with soil and revegetated if feasible.
12. If utility relocation is a project component, compliance with resource agencies regulations is required. Overhead utilities shall be undergrounded per California Public Utilities commission requirements under Public Utilities Code 320.

Water Quality Technical Memo

Memorandum

Making Conservation a California Way of Life

To: GERAMALDI GERMALDI
Environmental Coordinator
Caltrans D5 Environmental Planning

Date: September 25, 2023

From: RUBEN ATILANO, PE
Transportation Engineer
Caltrans D5 Environmental Engineering
805-305-9781 | ruben.atilano@dot.ca.gov

File No.: 05-SLO-001-PM 32.6
05-1R100
Project # 05123000125

Subject: **WATER QUALITY TECHNICAL MEMO, TORO CREEK SB BRIDGE REPLACEMENT**

Environmental Engineering has reviewed the above-referenced project which proposes to construct a new 3-span bridge that would be 131 foot long, 43 foot wide, with 2 supporting column bents. The structure itself would accommodate the standard 5 foot wide inside shoulder, two 12-foot-wide lanes, and have a right shoulder width of 10 foot which meets the minimum outside shoulder width requirement. The bridge railing will be the California ST-75, a metal 'see-through' railing type.

An approximately 1-foot roadway profile adjustment is anticipated to be required as the voided slab bridge will need to allow for the passage of the projected 100-year base flood elevation below the bridge soffit.

The existing abutment slopes are lined with concreted rock for erosion protection. As part of the new bridge structure, the existing concreted rock would be removed and replaced with rock slope protection (RSP) or as required to prevent erosion and scour of the abutment slopes.

Approach slabs as well as the adjacent roadway portions would be modified to allow for conforming of the roadway into to the new bridge.

Existing guardrail will be removed and upgraded with Midwest Guardrail System.

Temporary median crossovers (detours) immediately to the south and north of the Toro Creek Bridge are proposed during construction.

REGULATORY ENVIRONMENT

Section 401 Permit

Under Section 401 of the Clean Water Act (CWA), any project requiring a federal license or permit that may result in a discharge to a water of the United States must obtain a 401 Certification, which certifies that the project will be in compliance with State water quality standards. A 401 Permit will be obtained once the environmental document has been approved. The most common federal permit triggering 401 Certification is a CWA Section 404 permit, issued by United States Army Corp of Engineers (USACE). The 401 permit certifications are obtained from the appropriate Regional Water Quality Control Board (RWQCB), dependent on the project location, and are required before 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 prescribe a set of requirements known as Waste Discharge Requirements (WDRs) under the State Water Code (Porter-Cologne Act). WDRs may specify the inclusion of additional project 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.

Section 404 Permit

Section 404 establishes a permit program for the discharge of dredge or fill material into waters of the U.S, including wetlands. The 404 permit will be applied for after the environmental document has been approved. This permit program is administered by the USACE

The USACE issues two types of 404 permits: General and Individual. There are two types of General permits: Regional and Nationwide permits. 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 authorize a variety of minor project activities with no more than minimal effects.

There are also two types of Individual permits: Standard Individual permit and Letter of Permission. Ordinarily, projects that do not meet the criteria for a Nationwide Permit may be permitted under one of USACE's Individual permits. For Standard Individual permit, the USACE decision to approve is based on compliance with U.S. Environmental Protection Agency's (EPA) Section 404 (b)(1) Guidelines (U.S. EPA CFR 40 Part 230) and whether permit approval is in the public interest. The 404(b)(1) Guidelines were developed by the U.S. EPA in conjunction with USACE and allow the discharge of dredged or fill material into the aquatic system (waters of the U.S.) only when there is no practicable alternative which would have less adverse effects. The Guidelines state that USACE may not issue a permit if there is a least environmentally damaging

practicable alternative (LEDPA), to the proposed discharge that would have less effects on waters of the U.S., and not have any other significant adverse environmental consequences. Per Guidelines, documentation is needed that a sequence of avoidance, minimization, and compensation measures have been followed, in that order. The Guidelines also restrict permitting activities that violate water quality or toxic effluent 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 404(b)(1) Guidelines, must meet general requirements. See 33 CFR 320.4.

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 as required by the CWA and regulating discharges to protect beneficial uses of water bodies. Details regarding water quality standards in a project area are contained in the applicable RWQCB Basin Plan. In California, Regional Boards designate beneficial uses for all water body segments in their jurisdictions, and then set standards necessary to protect these uses. Consequently, the water quality standards developed for particular water body segments are based on the designated use and vary depending on such use. Water body segments that fail to meet standards for specific pollutants are included in a Statewide List in accordance with CWA Section 303(d). If a Regional Board determines that waters are impaired for one or more constituents and the standards cannot be met through point source or non-source point controls (NPDES permits or Waste Discharge Requirements), the CWA 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 (Order No. 2022-XXXX-DWQ NPDES No. CAS000003), as it includes specific TMDLs for which Caltrans is named a responsible party.

National Pollutant Discharge Elimination System (NPDES) Program

Section 402(p) of the CWA requires the issuance of NPDES permits for five categories of stormwater dischargers, including MS4s. The U.S. EPA defines an MS4 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 are designed or used for collecting or conveying stormwater." The SWRCB has identified the Department as an owner/operator of an MS4 pursuant to federal regulations. The Department's MS4 permit covers all Department rights-of-way, properties, facilities, and activities in the state. The SWRCB or the RWQCB issues NPDES permits for five years, and permit requirements remain active until a new permit has been adopted.

On June 22, 2022, the State Water Resources Control Board (SWRCB) adopted Caltrans NPDES Permit (ORDER 2022-0033-DWQ NPDES NO. CAS000003). Post-Construction Requirements of this permit require Caltrans to treat 100% of net new and replaced impervious surface area. As this project is in the PAED phase, we will be required to meet the requirement.

EXISTING WATER QUALITY

The project is located within the Estero Bay Hydrologic Unit and the Cambria Hydrologic Area at PM 32.6. This project is also in the Toro Hydrologic Sub-Area (HSA) (HSA #310.18). Toro Creek and the Pacific Ocean are the receiving water bodies within the project limits.

Toro Creek is listed on the 2020/2022 303(d) list of impaired waters as being impaired by Copper. There are currently no TMDLS established for this impairment.

There are no Drinking Water Reservoirs and/or Recharge Facilities within project limits. There are no existing Treatment BMPs within the project limits.

A project risk level assessment has determined was determined using the combined project sediment risk and receiving water risk. The project sediment risk was calculated to be high (212.268 ton/acre). The receiving water risk is classified as high due to Toro Creek having beneficial uses of SPAWN, COLD and MIGRATORY. The combined high sediment risk and high receiving water risk results in the project being classified as Risk Level 3.

Construction Minimization Measures

During construction, effective combinations of temporary and permanent erosion and sediment controls will be used. Storm water management for the site will be coordinated through the contractor with Caltrans construction personnel to effectively manage erosion from the disturbed soil areas (DSA's) by implementing a Storm Water Pollution Prevention Plan (SWPPP). Selected BMP's that will be included but not limited to the SWPPP for the project are defined as follows:

Temporary Soil Stabilization

- Minimize active DSA's during the rainy season utilizing scheduling techniques.
- Preserve existing vegetation to the maximum extent feasible.
- Implement temporary protective cover/erosion control on all non-active DSA's and soil stockpiles.
- Control erosive forces of storm water runoff with effective storm flow management such as temporary concentrated flow conveyance devices, earthen dikes, drainage swales, lined ditches, outlet protection/velocity dissipation devices, and slope drains as determined feasible.

Temporary Sediment Controls

- Implement linear sediment controls such as fiber rolls, check dams, or gravel bag berms on all active and non-active DSA's during the rainy season.
- To further help prevent sediment discharge stabilized construction site entrances, temporary drainage inlet protection, and street sweeping, and vacuuming will be necessary.
- Implement appropriate wind erosion controls year-round.

Non-Storm Water Management

The appropriate non-storm water BMP's will be implemented year-round as follows:

- Water conservation practices are implemented on all construction sites and wherever water is used.
- Paving and Grinding procedures are implemented where paving, surfacing, resurfacing, grinding, or saw cutting may pollute storm water runoff or discharge to the storm drain system or watercourses.
- Procedures and practices designed for construction contractors to recognize illicit connections or illegally dumped or discharged materials on a construction site and report incidents to the Resident Engineer.
- The following activities must be performed at least 100 feet from concentrated flows of storm water, drainage courses, and inlets if within the floodplain and at least 50 feet if outside of the floodplain; stockpiling

materials, storing equipment and liquid waste containers, washing vehicles or equipment, fueling, and maintaining vehicles and equipment.
- Pile drilling operations will be part of the construction activities.
- Concrete curing maybe utilized during the installation and construction of retaining walls, sidewalks, and ADA curb ramps. Proper procedures will minimize pollution of runoff during concrete curing.
- Since the project involves structure demolition/removal over several creeks, proper procedures will be implemented to minimize pollution during these activities.

Temporary Concentrated Flow Conveyance Systems

Pass-through pipe(s) will be utilized to direct water through the work area adjacent to the bridge. Pipes will be placed on geotextile fabrics, sized to convey additional flow in the event of a sudden storm event. A permeable gravel filled work pad will be placed in the creek for equipment access. The gravel will be placed on geotextile fabric to facilitate the removal of the gravel after construction. The temporary gravel fill will ensure the separation between the creek and construction activities. Gravel fill and pass-through pipes will be removed prior to rain season as no work is allowed below top of bank during this time. Furthermore, a high flow channel may be cut into the gravel pad when a significant rainfall event is forecast. No equipment will be store overnight on the gravel working pad during a storm or runoff event.

Preservation of Existing Vegetation

Some roadside clearing will be required to facilitate site access for construction. The median and right shoulder will be cleared up to approximately 400 feet north and south of the bridge. The contractor may not be allowed below the top of bank during the rainy season.

The proposed project does have the potential to discharge storm water within the project limits to the Pacific Ocean and Toro Creek. The project will involve activities such as earthwork, use of curing compounds, clearing/grubbing, bridge removal and replacement, and other activities. By incorporating appropriate engineering design and robust storm water Best Management Practices during construction, minimal short-term water quality impacts are anticipated. The project would not result in long-term impacts to water quality. No further construction related minimization measures are recommended.

PERMANENT TREATMENT BMP's

Design Pollution Prevention (DPP) BMP Strategy

Slope/Surface Protection Systems

There will be several types of erosion control consisting of various combinations of compost, hydroseed, dry seed, and compost sock. Slopes adjacent to bridge abutments will be stabilized with RSP. Some RSP will include willow poles. Planting will include a variety of native shrubs and trees. Revegetation/restoration will compensate for vegetation removed for construction.

cc: Project File
Matt Fowler - Environmental Planning (email only)
Karl Mikel - Environmental Engineering (email only)