State Route 29 Bridge Rail Replacement Project

NAPA COUNTY, CALIFORNIA
DISTRICT 4 – NAP – 29 (PM 16.48/19.04)
EA 04-0K630 / ID 0416000111

Initial Study with Proposed Negative Declaration

Prepared by the

State of California, Department of Transportation

The environmental review, consultation, and any other actions required by applicable Federal environmental laws for this project are being, or have been, carried out by Caltrans pursuant to 23 USC 327 and the Memorandum of Understanding dated December 23, 2016 and executed by the Federal Highway Administration and Caltrans.

May 2020

General Information about this Document

What's in this document:

The California Department of Transportation (Caltrans) has prepared this Initial Study with Proposed Negative Declaration (IS/ND) for the proposed State Route (SR) 29 Bridge Rail Replacement Project (Project) in Napa County, California, from post mile (PM) 16.48 to PM 19.04 (Figure 1-1). Caltrans is proposing to replace existing bridge rails on three bridges along SR 29. The Project would also include reconstruction of bridge wing walls, and widening within the Project limits to accommodate standard shoulder widths. Additional Project information is provided in Chapter 2.

As the lead agency under the California Environmental Quality Act (CEQA), Caltrans has prepared this IS/ND which describes why the Project is being proposed, how the existing environment could be affected by the Project, potential environmental impacts, and the proposed Project Features and Avoidance and Minimization Measures.

What you should do:

- Please read this document.
- The document is available to download at **https://dot.ca.gov/caltrans-near-me/district-4/d4-popular-links/d4-environmental-docs**.
- We would like to hear what you think. Please send comments, including requesting that Caltrans hold a public meeting, by the August 31, 2020 deadline to:

  Caltrans, District 4
  ATTN: Lindsay Vivian, Branch Chief (Acting)
  P.O. Box 23660
  Oakland, CA 94623-0660

  Or Lindsay.Vivian@dot.ca.gov

What happens next:

Per CEQA Section 15073, Caltrans will circulate the IS/ND for review for 30 days. During the 30-day public review period, the general public and responsible and trustee agencies can submit comments on this document to Caltrans. Caltrans will

consider the comments and will respond to the comments after the 30-day public review period.

After comments have been received from the public and reviewing agencies, Caltrans may: (1) grant environmental approval to the proposed Project, (2) conduct additional environmental studies, or (3) abandon the Project. If the Project is granted environmental approval and funding is obtained, Caltrans could design and construct all or part of the Project.

Alternative Formats:

For individuals with sensory disabilities, this document can be made available in Braille, in large print, on audiocassette, or on computer disk. To obtain a copy in one of these alternate formats, please call or write:

California Department of Transportation, Attn: Lindsay Vivian, Branch Chief (Acting), District 4, Office of Environmental Analysis, 111 Grand Avenue, MS 8-B, Oakland CA 94612 or call California Relay Service 1 (800) 735-2929 (TTY), 1 (800) 735-2929 (Voice), or 711.

An Americans with Disabilities Act-compliant electronic copy of this document is available for download at: https://dot.ca.gov/caltrans-near-me/district-4/d4-popular-links/d4-environmental-docs.

Initial Study with Proposed Negative Declaration

4-NAP-29	16.48/19.04	04-0K630
Dist. – Co. – Rte.	PM	E.A.

Project title:	State Route 29 Bridge Rail Replacement Project
Lead agency name and address:	California Department of Transportation 111 Grand Avenue, Oakland, CA 94612
Contact person and phone number:	Lindsay Vivian, Branch Chief (Acting) (510) 286-5645
Project location:	Napa County, California
General plan description:	Highway
Zoning:	Transportation Corridor
Other public agencies whose approval is required (e.g., permits, financial approval, or participation agreements); CEQA Responsible Agencies are denoted with an asterisk (*):	• Clean Water Act 404 Nationwide Permit from the U.S. Army Corps of Engineers • Clean Water Act 401 Water Quality Certification from the State Water Resources Control Board* • Section 1602 Lake and Streambed Alteration Agreement from the California Department of Fish and Wildlife* • Incidental Take Permit from the California Department of Fish and Wildlife* • Biological Opinion (BO) from the U.S. Fish and Wildlife Service (USFWS) • Biological Opinion (BO) from the National Marine Fisheries Services (NMFS) • California Transportation Commission*

The document, maps, Project information, and supporting technical studies are available for review online at **https://dot.ca.gov/caltrans-near-me/district-4/d4-popular-links/d4-environmental-docs**.

Christopher Caputo
Chief (Acting), Environmental Analysis
Caltrans District 4

May 26, 2020
Date

To obtain a copy in Braille, in large print, on computer disk, or on audiocassette, please contact: Department of Transportation, Attn: Lindsay Vivian, Branch Chief (Acting), Office of Environmental Analysis, 111 Grand Avenue, MS 8-B, Oakland CA 94612: or use the California Relay Service 1 (800) 735-2929 (TTY), 1 (800) 735-2929 (Voice) or 711.

Proposed Negative Declaration

Project Description

The California Department of Transportation (Caltrans) has prepared this Initial Study with Proposed Negative Declaration (IS/ND) for the State Route (SR) 29 Bridge Rail Replacement Project (Project) in Napa County, California, from post mile (PM) 16.48 to PM 19.04 (Figure 1-1). Caltrans is proposing to replace existing bridge rails on three bridges along SR 29. The Project would also include reconstruction of bridge wing walls and widening to bring shoulder widths within the Project limits up to current standards. Additional Project information is provided in Chapter 2.

Determination

This Proposed Negative Declaration is included to notify the public and reviewing agencies that Caltrans intends to adopt an ND for this Project. This ND is subject to change based on comments received by the public and reviewing agencies.

Caltrans has prepared an IS for this Project and, pending public review, expects to determine from this study that the proposed Project would not have a significant effect on the environment for the reasons described in the following paragraphs.

The proposed Project would have no impact on agricultural and forest resources, air quality, cultural resources, energy, geology/soils, land use planning, mineral resources, population and housing, public services, recreation, and tribal cultural resources.

The proposed Project would have less than significant impacts on aesthetics, greenhouse gas emissions, hazards and hazardous materials, hydrology and water quality, biological resources, noise, transportation and traffic, utilities and service systems, and wildfires.

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

Date

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Chapter 1 Proposed Project

1.1 Introduction

The California Department of Transportation (Caltrans) is the California Environmental Quality Act (CEQA) lead agency and sponsor for the proposed State Route (SR) 29 Bridge Rail Replacement Project (Project) and has prepared this Initial Study with Proposed Negative Declaration (IS/ND).

The proposed Project is located along SR 29 in Napa County, California, from post mile (PM) 16.48 to PM 19.04 (Figure 1-1). Caltrans aims to replace the existing bridge rails on Dry Creek Bridge (Identification [ID] 21-0014) at PM 16.48, Perfume Creek Bridge (ID 21-0051) at PM 17.81, and California Drive Undercrossing Bridge (ID 21-0047) at PM 19.04. Appendix G includes representative photos of the three existing bridges.

This Project would be funded from the State Highway Operation Protection Program (SHOPP) under the Bridge Rail Replacement/Upgrade Program (201.112). The estimated total capital cost including right of way (ROW) acquisition for this Project is approximately $7.41 million.

1.2 Purpose and Need

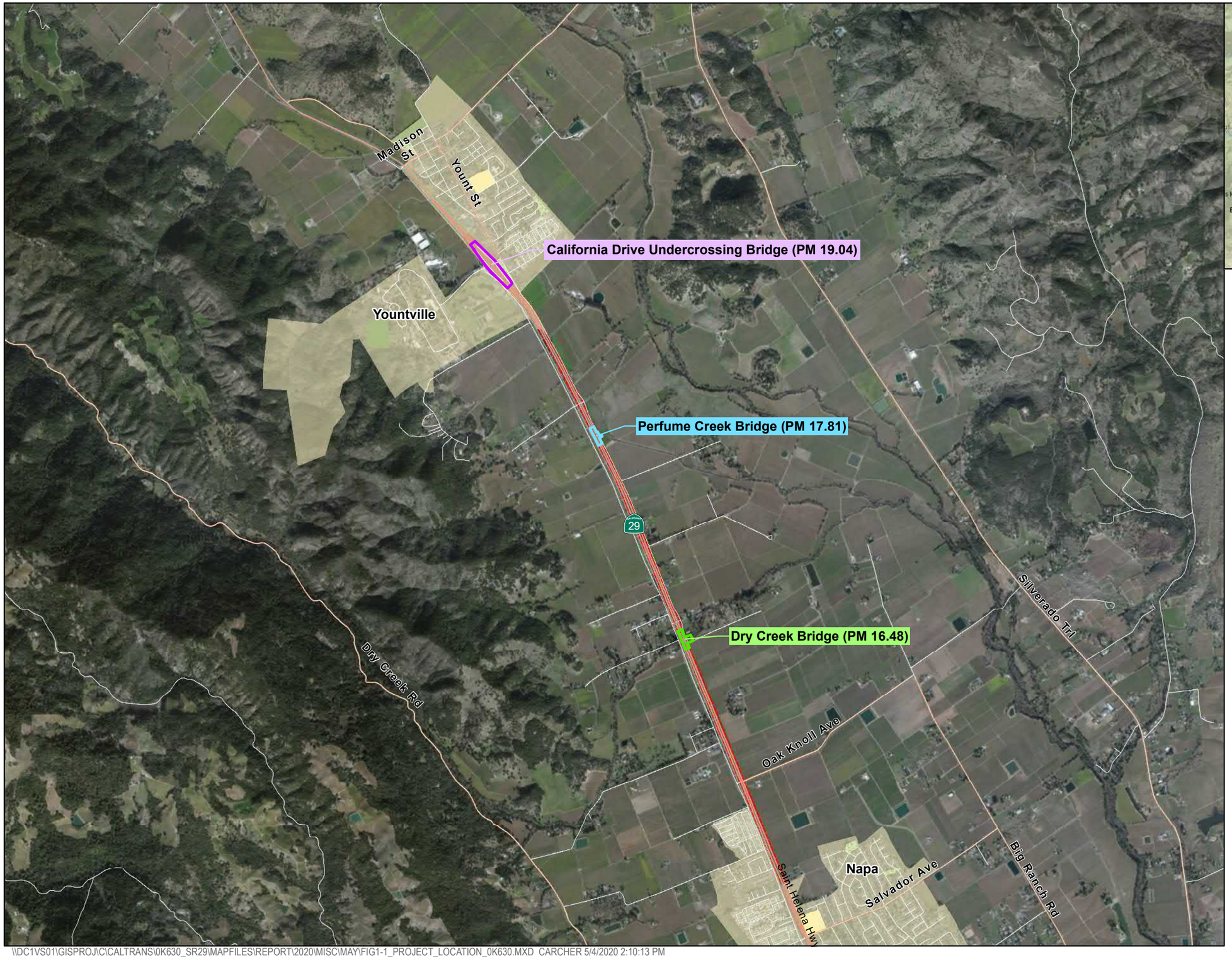
The purpose of this Project is to upgrade bridge rails at Dry Creek Bridge, Perfume Creek Bridge, and California Drive Undercrossing Bridge on SR 29 in order to meet current crash and safety standards. Meeting these standards would promote the protection of the traveling public by enhancing the reliability of the bridge rails. The Project would enhance corridor safety within the Project limits (Caltrans 2020e).

The Project is needed because the Structure Replacement and Improvement Needs Report (STRAIN) identified three bridges from PM 16.48 to PM 19.04 on SR 29 in need of bridge rail upgrades. Reports from the Bridge Inspection Records Information System (BIRIS) in 2015 as well as STRAIN showed that the existing bridge rails at the three bridges do not meet the current crash and safety standards and therefore require replacement and upgrades. These structures exhibit bridge rail deterioration and damage as a result of vehicle collisions. If not addressed, further deterioration of the rails would affect the structural integrity of the SR 29 highway and ultimately the safety of the travelling public.

Additionally, Caltrans' Mandatory and Advisory Design Standards require that for all three bridges, existing non-standard shoulder widths (those less than 8 feet) should be widened to current standards as part of this Project.

1.3 Project Description

Caltrans proposes to upgrade existing bridge rails at Dry Creek Bridge (Bridge ID 21-0014) at PM 16.48, Perfume Creek Bridge (Bridge ID 21-0051) at PM 17.81, and California Drive Undercrossing Bridge (Bridge ID 21-0047) at PM 19.04 on SR 29 in Napa County to meet current crash and safety standards. All three bridges would be widened as well in order to attain standard shoulder widths. Work on Dry Creek Bridge and Perfume Creek Bridge would include reconstructing or extending wing walls, while work on California Drive Undercrossing Bridge would include retaining wall replacement.



LEGEND

- California Drive Undercrossing Bridge Project Footprint (PM 19.04)
- Dry Creek Bridge Project Footprint (PM 16.48)
- Perfume Creek Bridge Project Footprint (PM 17.81)
- Caltrans Right of Way

Service Layer Credits:
ESRI, National Geographic, DigitalGlobe, GeoEye

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Figure 1-1
Project Location
State Route 29 Bridge Rail Replacement Project
EA 04-0K630, NAP-29 Post Mile 16.48,17.81,19.04
Napa County, California

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Chapter 2 Project Description

2.1 Introduction

The roughly 2.5-mile stretch along SR 29 from PM 16.48 to PM 19.04 is defined for this Project as the "Project corridor." The Project corridor is a divided four-lane conventional highway composed of four travel lanes, with two lanes in each direction. Within the Project limits, SR 29 is bordered on both sides by residential, commercial, and agricultural land uses. The corridor is the primary north/south route through Napa County, connecting with State Routes 37, 221, 12, 121, and 28. The corridor also serves regional travel, linking the cities of Napa, Yountville, St. Helena, and Calistoga (Figure 1-1).

2.2 Bridge Work

Caltrans proposes to upgrade existing bridge rails at three individual bridges on SR 29 in Napa County; Dry Creek Bridge at PM 16.48, Perfume Creek Bridge at PM 17.81, and California Drive Undercrossing Bridge at PM 19.04. Figures 2-1, 2-2, and 2-3 and Appendix C (Cross Sections) present more details on the type of work proposed at each bridge.

2.2.1 Dry Creek Bridge at PM 16.48

The existing bridge rails on Dry Creek Bridge would be replaced with concrete barrier type 836 (modified for bike railing) in both directions (Figure 2-1). The northbound side of the bridge would require an extension of 5 feet 3 inches in width by either the cantilever method or the use of cast-in-drilled-hole (CIDH) piles, and the southbound side would require the installation of carbon fiber reinforced polymer. In addition, the retaining walls at abutments 1 and 3 would be reconstructed and CIDH piles would be added at the footing of Pier 2 as well. A concrete block and Midwest Guardrail System (MGS) would also be installed along the approach sections of the bridge in both directions. Other work would include removing and repairing concrete.

2.2.2 Perfume Creek Bridge at PM 17.81

The existing bridge rails on Perfume Creek Bridge would be replaced with concrete barrier type 836 (modified for bike railing) in both directions. The southbound side would require an extension of the existing concrete double box culvert by 4 feet 4 inches and the construction of a new wing wall (Type 7B) (Figure 2-2). The southbound shoulder would need to be widened to match the new width of the box culvert. Lastly, a concrete block and MGS would be installed along both the approach

and departure sections of the bridge for the northbound direction, and for only the approach end for the southbound direction.

2.2.3 California Drive Undercrossing at PM 19.04

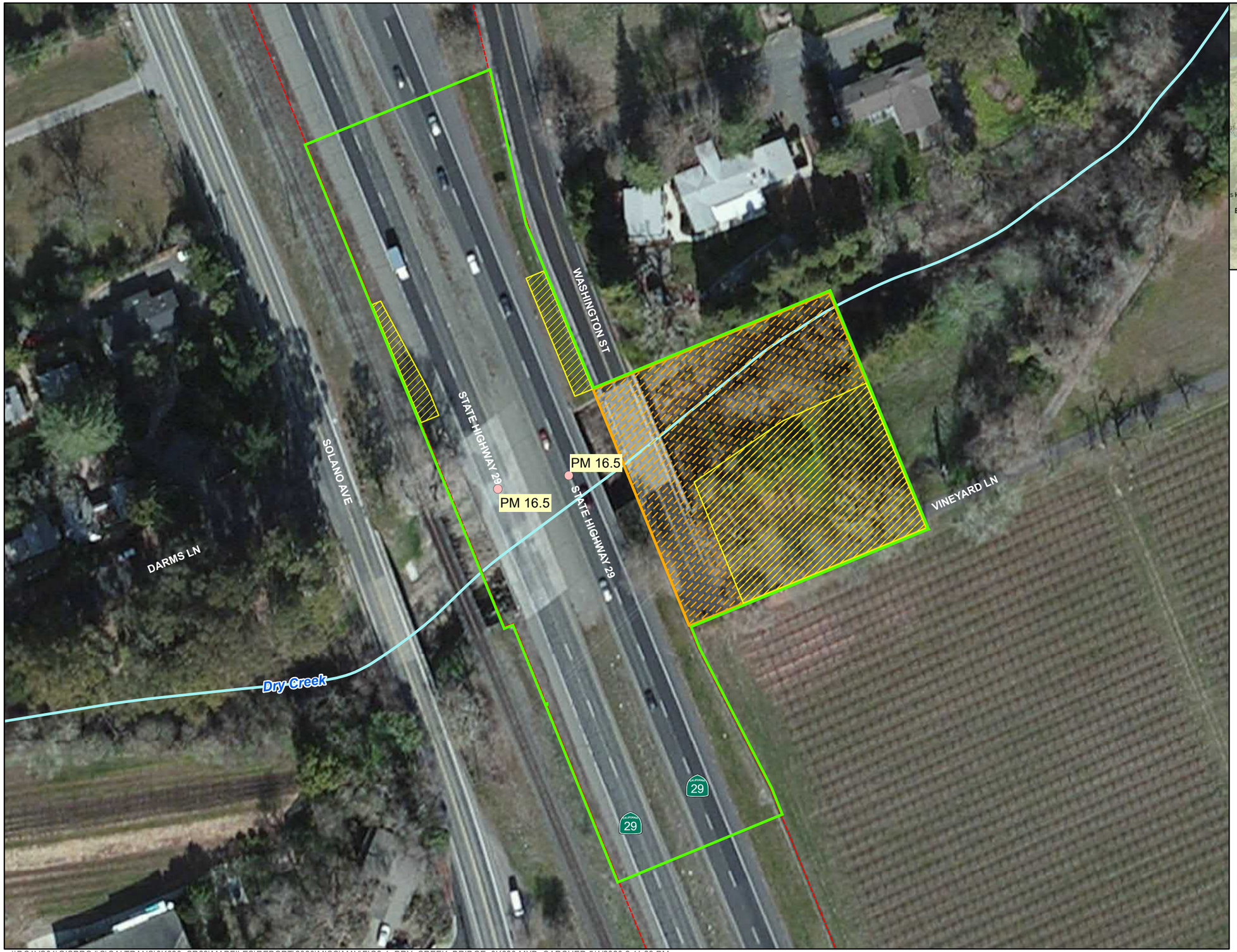
The existing bridge rails on California Drive Undercrossing Bridge would be replaced with concrete barrier type 836 (modified for bike railing) in both directions. The northbound side of the bridge would be widened by 5 feet 4 inches, while the southbound side would be widened by 2 feet 11 inches (Figure 2-3). The southbound side would require the installation of carbon fiber reinforced polymer. In addition, the top 3 feet of the existing retaining wall would be removed, and new wing/closure walls would be constructed at the bridge piers and abutments using CIDH piles. A concrete block and MGS would also be installed for the bridge at the approach end in both directions. Other construction work would include repairing soffit lights, changing vertical clearance warning signs, and painting missing bridge IDs.

2.3 Construction Methodology, Schedule, and Equipment

2.3.1 Methodology

The following items and tasks are presented in the likely order of work for all three bridges although not all of these items would be performed at all three bridges and some items of work can be constructed concurrently:

- Install construction area signs
- Install traffic control system
- Install environmentally sensitive area (ESA) fencing and associated Best Management Practices (BMPs)
- Install stage construction items (e.g., channelizers, temporary K-rails, crash cushions) as required
- Clear and grub vegetation
- Remove trees
- Construct temporary access road and work bench
- Install creek diversion systems and cofferdam(s)



LEGEND

- Dry Creek Bridge Project Footprint (2.85 acres)
- Temporary Construction Easement
- Staging Area
- Post Mile
- Caltrans Right of Way
- Creek

Service Layer Credits:
ESRI, National Geographic, DigitalGlobe, GeoEye

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Figure 2-1
Dry Creek Bridge
State Route 29 Bridge Rail Replacement Project
EA 04-0K630, NAP-29 Post Mile 16.48,17.81,19.04
Napa County, California

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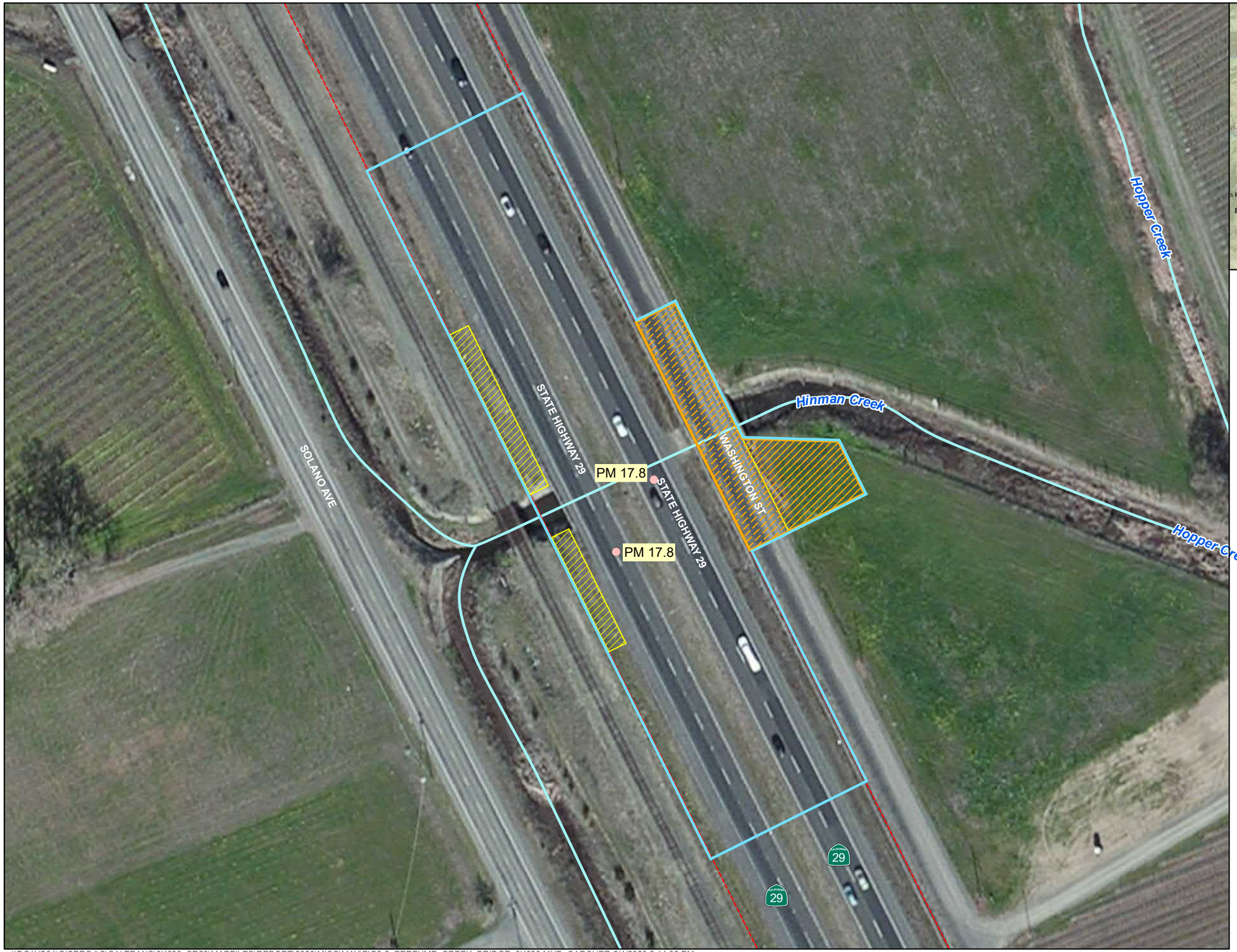

LEGEND

- Perfume Creek Bridge Project Footprint (2.10 acres)
- Temporary Construction Easement
- Staging Area
- Post Mile
- Caltrans Right of Way
- Creek

Service Layer Credits:
ESRI, National Geographic, DigitalGlobe, GeoEye

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Figure 2-2
Perfume Creek Bridge
State Route 29 Bridge Rail Replacement Project
EA 04-0K630, NAP-29 Post Mile 16.48,17.81,19.04
Napa County, California

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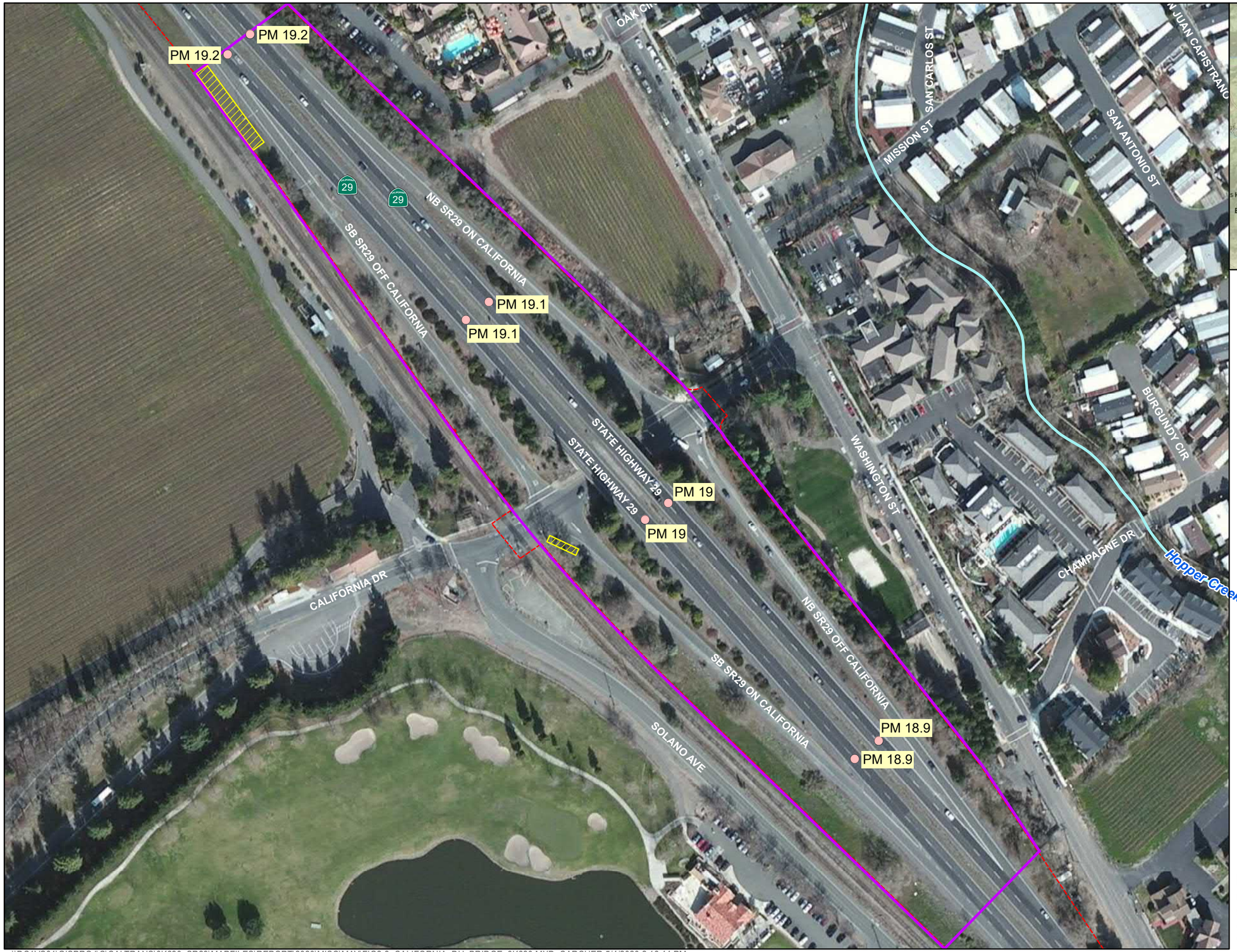

LEGEND

- California Drive Undercrossing Bridge Project Footprint (10.99 acres)
- Staging Area
- Post Mile
- Caltrans Right of Way
- Creek

Service Layer Credits:
ESRI, National Geographic, DigitalGlobe, GeoEye

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Caltrans

Figure 2-3
California Drive Undercrossing Bridge
State Route 29 Bridge Rail Replacement Project
EA 04-0K630, NAP-29 Post Mile 16.48,17.81,19.04
Napa County, California

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- Install dewatering and associated Stormwater Pollution Prevention Plan (SWPPP) measures
- Construct temporary timber matting
- Construct falsework
- Construct all structures items (e.g., retaining walls, wing walls, bridge railings)
- Remove timber matting
- Remove creek diversion systems and cofferdam(s)
- Construct shoulder widening
- Install new MGS and vegetation control
- Install permanent erosion control
- Remove construction area signs and K-rails

Utilities

The Project would require utility verification and potential utility relocation at Perfume Creek Bridge (one PG&E underground gas line). No utility relocations are anticipated for Dry Creek Bridge. California Drive Undercrossing Bridge has one unidentified utility at the northbound direction that would require relocation. Efforts to verify presence of gas lines and other utilities are underway. Delineation of utilities would be completed in the Project's design phase.

Fences and Guardrails

Any fences and guardrails within the Project limits that are damaged or removed due to construction activities would be replaced.

Dewatering and Construction Site BMPs

BMPs would be implemented to minimize the potential for the Project to result in temporary impacts to water quality due to construction activities. BMPs would include measures related to soil stabilization, sediment control, wind erosion control, tracking control, non-storm water management, and wastewater management/materials pollution control.

Right of Way and Temporary Construction Access

The majority of construction would be conducted within Caltrans' ROW. Several temporary construction easements (TCEs) would be required for construction at Dry Creek Bridge and Perfume Creek Bridge. Dry Creek Bridge would require a TCE of 5,800 square feet and Perfume Creek would require a TCE of 4,400 square feet, both on private property. For both bridges, a temporary access road along or through the creek bank would be required to provide access for staging purposes and to store and move equipment and materials along the creek bed. For Dry Creek Bridge, equipment may be lowered using a crane east of the bridge from the access road. Temporary creek diversion systems would be installed to dewater the creek beds during work to widen the Dry Creek and Perfume Creek bridges, and to extend the pier and reconstruct the retaining wall at the Dry Creek Bridge. A total of seven trees would be removed from the northbound side of the California Drive Undercrossing Bridge location to construct the retaining wall.

Staging and Construction

Construction of the Project would require several phases due to the distance between the three bridges. One option includes constructing the bridge rails in one direction for the three bridges before switching to the other direction. Another option would be to build the rail improvements for each bridge individually before moving on to the next bridge.

No lane closures would be required for any of the bridges for both options. For Perfume Creek Bridge, flaggers would be used to conduct traffic control during the placement of the temporary K-rail (Jersey barrier) at the frontage road. This K-rail installation to block off the shoulders of SR 29 would occur at night.

Construction would be conducted during weekdays (Monday through Friday) and daytime hours unless work within the creek would be restricted to the dry season (June 1 to October 31), depending upon environmental permit conditions. In this case, some night work may be required.

2.3.2 Schedule

The Project would require approximately 190 working days and two construction seasons to complete. Construction is anticipated to occur during the day. Some night work within the creek may be necessary if Project construction would be restricted to the dry season (June 1 to October 31). All nest avoidance requirements for the Migratory Bird Treaty Act and California Fish and Game Code would be observed.

As such, all vegetation and tree removal would be scheduled outside the bird nesting season (February 1 to September 30). If for any reason this schedule cannot be met, a biologist would be present on-site as appropriate, to inspect for federally listed species and migratory birds.

2.3.3 Equipment and Materials

Construction equipment would include, but is not limited to, excavators, backhoes, dump trucks, saw cutting machines, loaders, forklifts, pile and post drivers and augers, cranes, rollers, pavers, and flatbeds.

2.4 Impacts on Vegetation

A total of seven trees would be removed from the northbound side of the California Drive Undercrossing Bridge location to construct the retaining wall. These trees include five giant redwoods (*Sequoiadendron giganteum*), one valley oak (*Quercus lobata*), and one California black oak (*Quercus kelloggii*). These trees would be replaced where feasible based on Caltrans policies. No tree removal is required for Dry Creek Bridge or Perfume Creek Bridge. Please refer to Appendix F for the map of trees to be removed within the Project footprint.

2.5 Permits and Approvals

Table 2-1 summarizes the permits, licenses, agreements, and certifications that would be required for the proposed Project by designated agencies as well as permit status.

Table 2-1 Anticipated Permits and Approvals for the Project

Agency	Permits and Approvals	Status
California Department of Fish and Wildlife (CDFW)	1602 – Lake and Streambed Alternation Agreement	Application submittal anticipated during next Project phase
CDFW	2081 – Incidental Take Permit	Application submittal anticipated during next Project phase
U.S. Army Corps of Engineers	Section 404 – Clean Water Act (CWA) Permit	Application submittal anticipated during next Project phase
San Francisco Bay Regional Water Quality Control Board	Section 401 – CWA Permit	Application submittal anticipated during next Project phase
U.S. Fish and Wildlife Service (USFWS)	Biological Opinion (BO)	A BO will be obtained from USFWS prior to completion of the Final Environmental Document (adoption of this Negative Declaration)

Agency	Permits and Approvals	Status
National Marine Fisheries Services (NMFS)	Biological Opinion (BO)	Caltrans will submit a pre-construction notification to NMFS to acknowledge receipt of the BO

2.6 Project Features

The proposed Project contains a number of standardized Project components that are implemented on most Caltrans projects as part of the design and are not part of Caltrans' response to specific environmental impacts. These components are referenced as Project Features in Chapter 3 as they pertain to different environmental resources and are distinct from avoidance and minimization measures (AMMs) which directly relate to the impacts anticipated to result from the proposed Project.

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

Table 2-2 Project Features Summary

Resource Area	Project Feature ID	Project Feature
Aesthetics	**Feature AES-1**	**Vegetation Protection.** Existing trees and vegetation within the limits of construction would be preserved to the extent feasible.
Aesthetics	**Feature AES-2**	**Protect Vegetation Outside the Limits of Construction**. Trees and vegetation outside of clearing and grubbing limits would be protected from the contractor's operations, equipment, and materials storage.
Aesthetics	**Feature AES-3**	**Erosion Control.** After construction, areas cleared for contractor access and trenching operations would be treated with appropriate erosion control measures where required.
Aesthetics	**Feature AES-4**	**Construction Staging.** Staging areas would not impact existing landscaped areas resulting in death and/or removal of trees, shrubs, and groundcover.
Aesthetics	**Feature AES-5**	**Construction Waste.** During construction operations unsightly material and equipment in staging areas would be placed where they are less visible and/or covered where possible.
Aesthetics	**Feature AES-6**	**Construction Lighting.** All construction lighting would be limited to the immediate vicinity of active work during night hours. Light trespass would be avoided and minimized through directional lighting, shielding, and other measures as needed. For required nighttime work, all lighting would be directed downwards and towards the active construction area(s). This would reduce and avoid light and glare impacts on travelers, nearby residences, and nearby recreational facility users.

Resource Area	Project Feature ID	Project Feature
Air Quality	**Feature AIR-1**	**Dust Control**. Dust control measures would be included in the Storm Water Pollution Prevention Plan (SWPPP) and implemented to minimize construction impacts to existing communities. The plan would incorporate measures such as sprinkling, speed limits, transport of materials, and timely revegetation of disturbed areas as needed, as well as posting a publicly visible sign with the telephone number and person to contact at the lead agency regarding dust complaints and at the Bay Area Air Quality Management District regarding compliance with applicable regulations. Water or dust palliative would be applied to the site and equipment as often as necessary to control fugitive dust emissions. Fugitive emissions generally must meet a "no visible dust" criterion either at the point of emissions or at the ROW line, depending on air pollution control district and air quality management district regulations and local ordinances.
Air Quality	**Feature AIR-2**	**Idling and Access Points.** Idling times would be minimized either by shutting off equipment when not in use or reducing the maximum idling time to 5 minutes (as required by the California airborne toxics control measure Title 13, Section 2485 of California Code of Regulations). Clear signage would be provided for construction workers at all access points. Construction activities involving the extended idling of diesel equipment or vehicles would be prohibited, to the extent feasible.
Air Quality	**Feature AIR-3**	**Maintaining Construction Equipment and Vehicles.** All construction equipment and vehicles would be maintained and properly tuned in accordance with manufacturer's specifications. All equipment would be checked by a certified mechanic and determined to be running in proper condition prior to operation.
Air Quality	**Feature AIR-4**	**Contractor Air Quality Compliance.** The construction contractor must comply with the Caltrans Standard Specifications in Section 14-9, which require contractor compliance with all applicable laws and regulations related to air quality, including air pollution control district and air quality management district regulations and local ordinances.
Biological Resources – Natural Communities	**Feature BIO-1**	**Seasonal Avoidance.** Construction below top of bank and within the wetted portions of the channel would be constrained to occur during the summer season, during creek low flows (starting June 1 and ending October 31). Work in the creek would be limited to when the creek is dry or mostly dry, as much as practicable, or when the creek diversion has been installed. Caltrans would complete advanced tree removal activities outside of the bird nesting season (February 1 through September 30) at the bridge locations.
Biological Resources – Natural Communities	**Feature BIO-2**	**Night Work.** Nighttime work would be avoided to the maximum extent practicable. If nighttime work is required, all lighting would be directed downwards and towards the active construction area(s).

Resource Area	Project Feature ID	Project Feature
Biological Resources – Animal and Plant Species	**Feature BIO-3**	**Approved Biologist.** The names and qualifications of the proposed biological monitor(s) would be submitted to the U.S. Fish and Wildlife Service (USFWS), National Marine Fisheries Service (NMFS), and California Department of Fish and Wildlife (CDFW) for approval at least 30 calendar days prior to the start of construction. a. Prior to working on the site, the approved biomonitor(s) would submit a letter to the USFWS, NMFS, and CDFW verifying that they possess a copy of the Biological Opinion(s) (BO[s]), Streambed Alteration Agreement, and other relevant permits for the Project, and understand the Terms and Conditions. b. The biomonitor(s) would keep a copy of the BO(s), Streambed Alteration Agreement, and the relevant permit materials in their possession when onsite. c. The biomonitor(s) would be onsite during all work that could reasonably result in take of special status wildlife. d. The biomonitor(s) would have the authority to stop work that may result in the unauthorized take of special status species, in coordination with the Caltrans Resident Engineer (RE). If the biomonitor(s) exercises this authority, the USFWS or CDFW would be notified by telephone and email within one working day.
Biological Resources – Animal and Plant Species	**Feature BIO-4**	**Resident Engineer.** At least 30 calendar days prior to ground disturbance, the RE's name and telephone number would be provided to the USFWS, NMFS, and CDFW. a. The RE would send a letter to the USFWS, NMFS, and CDFW verifying that they possess a copy of the BO(s) and Streambed Alteration Agreement and understands the Terms and Conditions. b. The RE would maintain a copy of the BO(s) and other relevant permits onsite whenever construction is taking place.
Biological Resources – Animal and Plant Species	**Feature BIO-5**	**Worker Environmental Awareness Training.** Prior to ground-disturbing activities, an agency approved biologist would conduct an education program for all construction personnel. At a minimum, the training would include a description of special-status species, migratory birds, and their habitats; describe how the species might be encountered within the Project limits; explain the status of these species and protection under the federal and state regulations; list the measures to be implemented to conserve listed species and their habitats as they relate to the work site; define the boundaries within which construction may occur; and explain how to best avoid the incidental take of listed species. The field meeting would include topics on species identification, life history, descriptions, and habitat requirements during various life stages. Emphasis would be placed on the importance of the habitat and life stage requirements within the context of Project maps showing areas where avoidance and minimization measures are to be implemented. The program would include an explanation of applicable federal and state laws protecting endangered species as well as the importance of compliance with Caltrans and various resource agency conditions.

Resource Area	Project Feature ID	Project Feature
Biological Resources – Animal and Plant Species	**Feature BIO-6**	**Migratory Birds and Nest Avoidance.** During the nesting season (February 1 through September 30), pre-construction surveys for nesting birds would be conducted by a qualified biologist no more than 72 hours prior to the start of construction activities. If work is to occur within 300 feet of active raptor nests or 50 feet of active non-game bird nests, a non-disturbance buffer would be established at a distance sufficient to minimize disturbance based on the nest location, topography, cover, the species' sensitivity to disturbance, and the intensity/type of potential disturbance. To minimize and avoid take of migratory birds, their nests, and their young, Caltrans would conduct vegetation and tree trimming outside of the bird nesting season, prior to construction. This work would be limited to vegetation and trees that are within the Project footprint.
Biological Resources – Animal and Plant Species	**Feature BIO-7**	**Biological Monitoring.** At least 30 days prior to the onset of activities, the name(s) and credentials of biologists who would conduct preconstruction surveys and relocation activities for the listed species would be submitted to the USFWS, NMFS, and CDFW. No Project activities would begin until the proponent has received written approval from the agencies that he/she is approved to conduct the work. An agency-approved biologist would be present onsite during the construction of any erosion control fencing or cofferdams, and prior to and during the dewatering activities to monitor for the special-status species. Through communication with the RE or their designee, the agency approved biologist may stop work if deemed necessary for any reason to protect listed species and would advise the RE or designee on how to proceed accordingly.
Biological Resources – Animal and Plant Species	**Feature BIO-8**	**Permitting Agency Site Access.** If requested by any state or federal agency before, during, or upon completion of construction activities, Caltrans would allow agency personnel access into the Project footprint to inspect the Project site and Project activities.
Biological Resources – Animal and Plant Species	**Feature BIO-9**	**Vegetation Removal.** Vegetation would be cleared only where necessary and would be cut above soil level except in areas that would be excavated for roadway construction. This would allow plants that reproduce vegetatively to resprout after construction. All clearing and grubbing of woody vegetation would occur by hand or by using construction equipment such as backhoes and excavators.
Biological Resources – Invasive Species	**Feature BIO-10**	**Erosion Control Matting.** To avoid wildlife entrapment, plastic monofilament netting or similar material would not be used. Acceptable substitutes include coconut coir matting or tackified hydroseeding compounds.
Biological Resources – Invasive Species	**Feature BIO-11**	**Replant, Reseed, and Restore Disturbed Areas.** Caltrans would restore temporarily disturbed areas to the maximum extent practicable. Exposed slopes and bare ground would be reseeded with native grasses and shrubs to stabilize and prevent erosion. Where disturbance includes the removal of trees and woody shrubs, native or climate adapted species would be replanted, based on the local species composition.

Resource Area	Project Feature ID	Project Feature
Biological Resources – Invasive Species	**Feature BIO-12**	**Reduce Spread of Invasive Species.** To reduce the spread of invasive, nonnative plant species and minimize the potential decrease of palatable vegetation for wildlife species, Caltrans would comply with Executive Order 13112. This order is provided to prevent the introduction of invasive species and provide for their control in order to minimize the economic, ecological, and human health effects associated with their spread. In the event that noxious weeds are disturbed or removed during construction related activities, the contractor would be required to contain the plant material associated with these noxious weeds and dispose of them offsite, in a manner that would not promote the spread of the species. The contractor would be responsible for obtaining all permits, licenses and environmental clearances for properly disposing of materials. Areas subject to noxious weed removal or disturbance would be replanted with fast-growing native grasses or a native erosion control seed mixture. Where seeding is not practical, the target areas within the Project limit would be covered to the extent practicable with heavy black plastic solarization material until the end of the Project.
Cultural Resources	**Feature CULT-1**	**Discovery of Cultural Resources.** If cultural materials are discovered during construction, all earth-moving activities within and around the immediate discovery area would be diverted until a Caltrans qualified archaeologist can assess the nature and significance of the find.
Cultural Resources	**Feature CULT-2**	**Discovery of Human Remains.** If remains are discovered during excavation, all work within 60 feet of the discovery would halt and Caltrans' Cultural Resource Studies office would be called. Staff from Caltrans' District 4 Office of Cultural Resources Studies would assess the remains and, if determined human, would contact the County Coroner as per Public Resources Code (PRC) Sections 5097.98, 5097.99, and 7050.5 of the California Health and Safety Code. If the Coroner determines the remains to be Native American, the Coroner would contact the Native American Heritage Commission who would then assign and notify a Most Likely Descendant. Caltrans would consult with the Most Likely Descendant on respectful treatment and reburial of the remains. Further provisions of PRC 5097.98 are to be followed as applicable.
Greenhouse gas emissions	**Feature GHG-1**	**Waste Reduction**. If practicable, nonhazardous waste and excess material would be recycled. If recycling is not practicable, the material would be disposed of appropriately.
Greenhouse gas emissions	**Feature GHG-2**	**Energy Reduction.** Solar sign boards would be used when feasible.
Hazards and Hazardous Materials	**Feature HAZ-1**	**Aerially Deposited Lead Work Plan.** A work plan for aerially deposited lead, if required, would be prepared during the design (Plans, Specifications and Estimate) phase.
Hazards and Hazardous Materials	**Feature HAZ-2**	**Hazardous Materials Incident Contingency Plan.** A hazardous materials incident contingency plan would be prepared to report, contain, and mitigate roadway spills. The plan would designate a chain of command for notification, evacuation, response, and cleanup of roadway spills.

Resource Area	Project Feature ID	Project Feature
Hydrology and Water Quality	**Feature HYD-1**	**Job Site Management.** This practice implements effective handling, storage, usage, and disposal practices to control material pollution and manage waste at the job site before pollutants enter storm drain systems and receiving waters. This practice also recommends street sweeping and concrete waste management to minimize or eliminate the discharge of concrete waste material to the storm drain systems near the Project.
Hydrology and Water Quality	**Feature HYD-2**	**Tracking Control Practices.** Tracking control practices would be implemented during Project construction. These measures include temporarily stabilizing the soils located at the construction ingress and egress points; regularly watering the access road to minimize windborne dust; truck and tire washing; and street sweeping and vacuuming.
Hydrology and Water Quality	**Feature HYD-3**	**Waste Management and Materials Pollution Control.** Waste management and materials pollution control practices would be implemented on this Project. These measures include stockpile management; concrete waste management; material delivery and storage; spill prevention and control; solid waste management; hazardous waste and contaminated soil management; and sanitary/septic and liquid waste management. Stockpile management consists of carefully storing construction materials, including by covering storage piles with plastic tarps during periods of inactivity. This practice reduces or eliminates air and stormwater pollution from stockpiles of soil and paving materials. Concrete waste management practices include procedures and practices to eliminate or minimize the discharge of concrete slurry into the storm drain system. Concrete slurry waste handling procedures, such as an on-site concrete wash-out facility, transit truck washout procedures, and procedures for removal of temporary concrete washout facilities, would be completed during Project construction.
Hydrology and Water Quality	**Feature HYD-4**	**Soil Stabilization.** Soil stabilization practices would be conducted during this Project and include the preservation of existing vegetation, slope protection measures, and slope interrupter devices.
Hydrology and Water Quality	**Feature HYD-5**	**Wind Erosion Controls.** Hydraulic mulch and temporary covers would be placed on areas disturbed during construction to minimize the extent of windborne pollutants, like dust, from entering adjacent waterways.
Noise	**Feature NOI-1**	**Idling of Internal Combustion Engines.** Unnecessary idling of internal combustion engines would be avoided within 100 feet of sensitive receptors.
Noise	**Feature NOI-2**	**Maintaining Internal Combustion Engines.** All internal combustion engines would be maintained properly to minimize noise generation.

Resource Area	Project Feature ID	Project Feature
Transportation and Traffic	**Feature TRA-1**	**Traffic Management Plan (TMP).** A TMP would be developed by Caltrans. The TMP would include elements such as haul routes, traffic controls to minimize speeds and congestion, flag workers, and phasing, to reduce impacts to local residents as feasible and maintain access for police, fire, and medical services in the local area. Temporary pedestrian and bicyclist access would be provided during construction.
Utilities and Service Systems	**Feature UTI-1**	**Notify Utility Owners of Construction Schedule to Protect Utilities.** All affected utility companies would be notified of construction schedules for Project work so that they can relocate such utilities or provide special instructions for utility protection if needed, and minimize disruption of utility service.
Utilities and Service Systems	**Feature UTI-2**	**Trash Management.** All food-related trash items such as wrappers, cans, bottles, and food scraps would be disposed of in closed containers and removed at least once daily from the Project limits. A Trash Reduction System would also be developed and implemented per Caltrans Statewide National Pollution Discharge Elimination System Permit and San Francisco Bay Regional Water Quality Control Board Cease and Desist Order.

Chapter 3 California Environmental Quality Act Evaluation

The following discussions evaluate potential environmental impacts related to the CEQA checklist to comply with State CEQA Guidelines (Title 14 California Code of Regulations, Division 6, Chapter 3, Section 15091). The environmental analysis considers potential impacts of the proposed Project, as detailed in Chapter 2.

A. Environmental Factors Potentially Affected

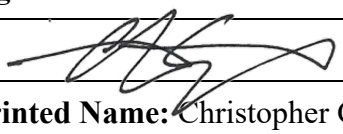
As part of the scoping and environmental analysis carried out for the proposed Project, the following environmental issues were considered, but no impacts were identified: agricultural and forest resources, air quality, cultural resources, energy, geology/soils, land use planning, mineral resources, population and housing, public services, recreation, and tribal cultural resources. The environmental factors checked below would be potentially affected by this Project. Further analysis of these environmental factors is included in this chapter.

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

B. Determination

On the basis of this initial evaluation:

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

Signature:	**Date:**
	May 26, 2020
Printed Name: Christopher Caputo	**For:**

CEQA Environmental Checklist

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

Project Features, which may include both design elements of this Project and standardized measures (such as BMPs) that are applied to all or most Caltrans projects, and measures included in the Standard Plans and Specifications or as Standard Special Provisions, are considered to be integral to the Project and are considered prior to any significance determinations. A list of the Project Features is presented in Table 2-2, and the Project's AMMs are presented in the subsections below and compiled in Appendix D.

Aesthetics

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

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

SR 29 within the Project limits is a conventional, divided four-lane highway. The Project limits are predominately rural in character with views to adjacent vineyards, and are bordered on both sides by residential, commercial, and agricultural uses. Both the Napa Valley Vine Trail and Wine Train run parallel to the roadway throughout the Project limits. SR 29 is a major tourist and recreational route due to the numerous wineries in Napa County, but is not classified as a Landscaped Freeway or a Designated State Scenic Highway.

A *Scenic Resource Evaluation and Visual Impact Assessment (VIA)* (Caltrans 2019e) was prepared to assess the Project's potential effects to visual resources in the area. The VIA concluded that the Project elements would be compatible with the existing visual character and quality of the corridor and should have no adverse effect on visual resources.

a, b) No Impact

The Project corridor does not contain scenic vistas nor is it classified as a Landscaped Freeway or a Designated State Scenic Highway. Therefore, the Project would have no impact on scenic vistas or damage scenic resources within a state scenic highway.

c) Less Than Significant Impact

The Project would not substantially degrade the existing visual character or quality of public view of the site and its surroundings. The Project would be compatible with the existing visual character and quality of the corridor despite temporary construction activities. Although there would be temporary visual impacts related to construction equipment use and staging, fencing, K-rails, and tree removals which would temporarily decrease the scenic views of passerby travelers on SR 29, the impacts would be minimal during construction activities because a passerby traveler's focus would be ahead on the road. The Project elements to be replaced or upgraded would be visually similar to the existing built features; for example, the existing culvert wing walls would be replaced with new similar wing walls. The mural at street level of the California Drive Undercrossing Bridge would not be impacted.

At the California Drive Undercrossing Bridge, seven trees including five redwood trees, one valley oak, and one California black oak would be removed. All trees are located adjacent to the highway in the northbound direction of SR 29. These trees require removal to accommodate bridge widening. Removal of the trees would be visually noticeable, but the overall visual character of the Undercrossing would not be substantially degraded because the majority of existing trees would be unaffected (Appendix F, Figure 4-7: Trees within the California Drive Undercrossing Bridge Project Footprint and BSA). No trees are proposed to be removed at Perfume Creek or Dry Creek. With implementation of Project Features AES-1 through AES-5 and BIO-11 (Replant, Reseed and Restore Disturbed Areas) listed in Table 2-2, and AMM AES-1, the Project would result in a less than significant impact.

d) Less Than Significant Impact

Nighttime construction activities may occur and may add new temporary sources of light and glare for residents, businesses, and local motorists along the Project corridor. New sources of light would be temporary, only employed during the construction period, and would not contribute to long-term light impacts. With implementation of Project Feature AES-6, new sources of light would not adversely affect nighttime views, and the Project would have a less than significant impact.

Avoidance and Minimization Measures

AMM AES-1: Tree Removal. The seven trees removed during construction would be replaced as required as per Caltrans policies. Trees removed would be replanted

where feasible. Irrigation damaged and/or removed as a result of the Project would require repair/replacement as part of the Project.

Agriculture and Forestry

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

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

The Project limits are adjacent to and encompass agricultural lands; however, the Project does not include Prime, Unique, or Farmland of State Importance or forest land. The proposed Project would not convert farmland to a non-agricultural use, or otherwise affect farmland, timberland, or land under Williamson Act contracts.

a, b, c, d, e) <u>No Impact</u>

The proposed Project would have no impact on agriculture and forest resources. All construction related work would remain within Caltrans' ROW or TCEs and would therefore have no effect on converting farmland to non-agricultural use or conversion of forest land to non-forest use. There is no land under the Williamson Act in the Project footprint, nor is there land zoned as forest land or timberland.

Air Quality

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

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

The Bay Area Air Quality Management District is the regulatory agency of the San Francisco Bay Area Air Basin (SFBAAB) in which the Project is located. The SFBAAB is considered to be in federal and state nonattainment for ozone and fine particulate matter 2.5 micrometers ($PM_{2.5}$) and in state nonattainment for particulate matter 10 micrometers (PM_{10}). It is in attainment or unclassified for other state and federal air quality standards.

a, b, c, d) No Impact

The Project is exempt from the requirement to determine conformity per 40 Code of Federal Regulations (CFR) 93.126 which covers pavement resurfacing and rehabilitation projects; therefore, an Air Quality Study is not required. The Project would not interfere with timely implementation of transportation control measures identified in the applicable State Implementation Plan, would not result in a cumulatively considerable net increase in any criteria pollutant, would not expose sensitive receptors to substantial pollutant concentrations, and would not create objectionable odors.

Air pollutants associated with construction are expected to be short-term in duration. Trucks and construction equipment emit hydrocarbons, oxides of nitrogen, carbon monoxide, and particulates. Most Project-related pollution during construction would consist of wind-blown dust generated by excavation, grading, hauling and various other activities. The effects from these activities would vary from day to day as construction progresses. Short-term air quality effects during the Project's

construction period would be addressed by Caltrans Special Provision and Standard Specification 14-9.02. The Special Provisions and Standard Specifications (Project Feature AIR-1) would be implemented to minimize or eliminate dust during construction through the application of water or dust palliatives. Other Caltrans Special Provisions and Standard Specifications would be implemented to reduce construction equipment emissions (Project Features AIR-2, AIR-3 and AIR-4). With implementation of these measures, the Project would have no impacts to air quality.

Biological Resources

IV. BIOLOGICAL RESOURCES: Would the project:

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

Caltrans has prepared a Natural Environment Study (NES), an Addendum to the NES and a Draft Biological Assessment for the Project (Caltrans 2020a, 2020d and 2020g). The following text summarizes the information presented in the NES.

The Biological Study Area (BSA) includes the area surveyed to identify, evaluate, and quantify the natural resource potentially affected by the Project. A BSA was established for each bridge location, consisting of the entire Project footprint surrounded by a buffer distance of 50 feet to account for the direct and indirect effects that could result from Project activities. Appendix F presents the NES figures delineating the BSA for the three bridges evaluated in this section.

The BSA contains four types of vegetation including Riparian, Ruderal, Developed Land/Agriculture, and Landscape/Ornamental. The BSA was also found to support 0.25 acre of other waters of the U.S. but did not contain any wetlands.

A regional list of special-status wildlife and plant species was compiled using databases from the California Native Plant Society, California Department of Fish and Wildlife (CDFW), United State Fish and Wildlife Service (USFWS), and the National Marine Fisheries Service (NMFS). Each special-status wildlife and plant species on these regional lists was evaluated to determine its potential to occur within the Project BSA. The NES summarizes the special-status plant species and animal species with potential to occur within the BSA (Caltrans 2020a).

a) Less Than Significant Impact

SPECIAL-STATUS PLANT SPECIES

Twenty-seven special status plant species were initially reviewed for potential to occur within the study area (Appendix H presents the full list). Of those twenty-seven, only three species were found to potentially occur within the BSA: the Jepson's coyote-thistle (*Eryngium jepsonii*), the Sanford's arrowhead (*Sagittaria sanfordii*), and the Jepson's leptosiphon (*Leptosiphone jepsonii*). Field surveys found no suitable habitat for all three species, and floristic surveys confirmed no presence of the three species. Therefore, it is anticipated that no individual plants, populations, sub-populations, or suitable habitat would be disturbed, destroyed, or directly removed by construction activities.

SPECIAL-STATUS WILDLIFE SPECIES

California Red-Legged Frog

The California red-legged frog (*Rana draytonii*; CRLF) is a federally threatened species and a State Species of Special Concern. No CRLF were observed in the BSA during field surveys on March 13, April 18, June 25, July 10, and July 25, 2019. There are no recorded California Natural Diversity Database (CNDDB) occurrences within 5 miles of the BSA. The Project is also outside of CRLF critical habitat and any designated recovery units.

The riparian corridors within the three bridge Project limits are not expected to be used for breeding but could be used for dispersal and may provide non-breeding habitat for frogs that migrate from nearby breeding sites. Dispersal habitat features such as large rocks, downed trees, logs, and moderately dense vegetation are present in some areas of the BSA and could provide cover for non-breeding frogs.

Construction activities such as grading the creek channels, installing the creek diversion systems, vegetation removal, equipment staging, and creating access areas

could potentially result in take in the form of harassment, injury, or death of individual frogs from ground disturbance, inadvertent entrapment, or temporary disruptions of normal behavior. Construction activities would temporarily prevent the frog from dispersing and taking refuge within the work area.

The Project would temporarily impact approximately 0.63 acre of upland dispersal habitat and 0.05 acre of aquatic dispersal habitat. The Project would also result in approximately 0.16 acre of permanent impacts to aquatic dispersal habitat and 0.3 acre of impacts to upland dispersal habitat. Restoring disturbed locations after construction ends to preconstruction conditions as detailed in Project Feature BIO-11 in Table 2-2 would reestablish the baseline aquatic, riparian, and upland habitat values for the frog within one year of Project completion.

Avoidance and Minimization Measures for California Red-Legged Frog

AMM BIO-1: Pre-Construction CRLF Surveys. Pre-construction surveys for the CRLF would be conducted by a USFWS-approved biologist no more than 20 calendar days prior to any initial ground disturbance and immediately prior to ground-disturbing activities (including vegetation removal) beyond the existing pavement. These efforts would consist of walking surveys of the Project limits and, if possible, accessible adjacent areas within at least 50 feet of the Project limits. The USFWS-approved biologist would investigate potential cover sites when it is feasible and safe to do so. This includes thorough investigation of mammal burrows, rocky outcrops, appropriately sized soil cracks, tree cavities, and debris. Native vertebrates found in the cover sites within the Project limits would be documented and relocated to an adequate cover site in the vicinity. Safety permitting, the USFWS-approved biologist(s) would investigate areas of disturbed soil for signs of frogs within 30 minutes following initial disturbance of the given area.

AMM BIO-2: Prevention of Entrapment. To prevent the inadvertent entrapment of the CRLF, all excavated, steep-walled holes or trenches more than 1 foot deep would be covered at the close of each working day by plywood or similar materials. If it is not feasible to cover an excavation, one or more escape ramps constructed of earthen fill or wooden planks would be installed. Before such holes or trenches are filled, they must be thoroughly inspected for trapped animals. If at any time a trapped listed animal is discovered, the USFWS-approved biologist would immediately place escape ramps or other appropriate structures to allow the animal to escape, or the USFWS would be contacted by telephone for guidance. The USFWS would be notified of the incident by telephone and electronic mail within one working day.

AMM BIO-3: Protocol for Species Relocation and Reporting. If CRLF are encountered in the immediate work area the following procedures would be followed:

a. If CRLF is discovered during surveys or Project activities, the Resident Engineer (RE) and USFWS-approved biologist would be immediately informed. If a CRLF gains access to a construction zone, work would be halted immediately within 50 feet until the animal leaves the construction zone or is relocated by the USFWS-approved biologist. The captured frog would be released within appropriate habitat outside of the construction area within the creek's riparian corridor. The release habitat would be determined by the USFWS-approved biologist.

b. The USFWS-approved biologist would have the authority to halt work through coordination with the RE in the event that a CRLF is discovered within the Project footprint. The RE would ensure construction activities remain suspended in any construction area where the qualified biologist has determined that a potential take of the CRLF could occur. Work would resume once the animal leaves the site voluntarily, is removed by the biologist(s) to a release site using USFWS-approved handling techniques, or it is determined that the CRLF is not being harassed by construction activities. If take occurs, the biologist(s) would notify the USFWS contact by telephone and electronic mail within one working day.

c. The biological monitor(s) would take precautions to prevent introduction of amphibian diseases in accordance with the Revised Guidance on Site Assessments and Field Surveys for the CRLF (USFWS 2005).

d. Injured frogs would be cared for by a USFWS-approved biologist or a licensed veterinarian, if possible. Dead frogs would be preserved according to standard museum techniques and held in a secure location. The USFWS would be notified within one working day of the discovery of a death or an injury of frog(s) resulting from Project-related activities or if a CRLF is observed at the Project site. Notification would include the date, time, and location of the incident or of the finding of a dead or injured animal clearly indicated on a United States Geological Survey 7.5-minute quadrangle and other maps at a finer scale, as requested by the USFWS, and any other pertinent information.

e. Caltrans would submit post-construction compliance reports prepared by the biologist to the USFWS within 60 calendar days following completion of Project

activities or within 60 calendar days of any break in construction activity lasting more than 60 calendar days. This report would detail (1) dates that relevant Project activities occurred; (2) pertinent information concerning the success of the Project in implementing AMMs for listed species; (3) an explanation of failure to meet such measures, if any; (4) known Project effects on the CRLF, if any; (5) occurrences of incidental take of listed species, if any; (6) documentation of employee environmental education; and (7) other pertinent information

California Freshwater Shrimp

The California freshwater shrimp (CFS; *Syncaris pacifica*) is a federally and state endangered species. The species has been observed 17 miles southeast and 7 miles northeast of the Dry Creek BSA. However, high quality suitable habitat for the shrimp was identified within the Dry Creek Bridge BSA. Therefore, construction activities within the site could result in a potential take in the form of harassment, injury, or death of individual CFS from ground disturbance, inadvertent entrapment, or temporary disruptions of normal behavior. As a result, Caltrans anticipates obtaining an Incidental Take Permit from CDFW for the Project.

The Project would temporarily impact approximately 0.14 acre of aquatic habitat. The Project would also result in approximately 0.06 acre of permanent impacts. Restoring disturbed locations after construction ends to preconstruction conditions as detailed in Project Feature BIO-11 would reestablish the baseline aquatic and riparian habitat values for the shrimp within one year of Project completion.

Based on the above, Caltrans anticipates that compensatory mitigation for the CFS would not be required. Caltrans would incorporate the general Project Features BIO-1 through BIO-12 listed in Table 2-2 and AMMs, below. With the implementation of Project Features and AMMs for the CFS, the impact would be less than significant.

Avoidance and Minimization Measures for California Freshwater Shrimp

AMM BIO-4: Prevention of Shrimp Entrapment. Shrimp are difficult to detect, so their presence would be assumed for in-water work areas. These areas would be carefully isolated and all shrimp would be relocated. Prior to TCDS installation a USFWS-approved biologist would install one-eighth inch mesh block nets outside Project impact areas and across the creek at a minimum of 20 feet above and below the dewatering limits to isolate the work area. Then, the biologist would remove all shrimp within the block nets using a one-eighth inch seine and/or dip nets, focusing on overhanging vegetation submerged along the creek bank. Shrimp would be

relocated to suitable habitat downstream of the dewatering system. Then the cofferdams would be installed and the block nets removed, all monitored by the biologist. Pump intakes would be completely screened with wire mesh no larger than 0.2 inch. The pumps would be fitted with anti-entrapment device(s) to prevent shrimp from being drawn into them or impinged on intake screening. The USFWS-approved biologist would remain on-site and survey for shrimp and monitor turbidity levels within the cofferdams during the active dewatering and would capture and relocate shrimp as necessary.

Central California Coast Distinct Population Segment Steelhead

The Central California Coast (CCC) distinct population segment (DPS) steelhead (*Oncorhynchus mykiss irideus*) is a federally threatened species. The CCC DPS consists of all steelhead runs from the Russian River in Sonoma County south to Aptos Creek in Santa Cruz County, and includes all steelhead spawning in streams that flow into the San Francisco Bay. There have been no CNDDB occurrences recorded within 5 miles of the three bridges. However, the species has been observed approximately 7.7 miles downstream of Dry Creek Bridge. Dry Creek Bridge has adequate habitat to support steelhead at this location, as well as habitat connectivity with the Napa River.

The proposed Project would result in direct temporary impacts on critical habitat for CCC steelhead within the Project limits but is not likely to result in take of CCC steelhead. Potential impacts to CCC steelhead would result from installing the temporary creek diversion system, dewatering Dry Creek, salvage and relocation activities, removing vegetation from within the creek, and an increase in construction-related noise. Noise levels from Project activities are not anticipated to rise to the level of mortality for fish. However, any CCC steelhead within the BSA during construction activities, specifically creek dewatering, could be harmed or killed as a result of these activities. The NMFS-approved biologist would need to relocate CCC steelhead if they are in danger of injury or mortality.

Caltrans does not anticipate compensatory mitigation for Project-related impacts for the CCC steelhead or its habitat. Caltrans would incorporate the general Project Features BIO-1 through BIO-12 listed in Table 2-2 and AMMs below, and the impact would be less than significant.

Avoidance and Minimization Measures for CCC DPS Steelhead

As required under the FESA, Caltrans would implement reasonable and prudent measures to minimize and avoid potential take of the CCC DPS steelhead. The following species-specific AMMs would be used to minimize Project impacts on steelhead:

AMM BIO-5: Prevention of Entrapment. Steelhead juveniles are difficult to detect, thus Caltrans is assuming presence for all in-water work areas within bed and banks of Dry Creek. In order to reduce the take of steelhead all in-water work areas would be isolated and all fish captured and relocated. Capture and relocation efforts would be conducted as follows, or as agreed upon in the Fish Relocation Plan; a NMFS-approved biologist would install one-eighth inch block nets across the creek a minimum of 20 feet above and below the locations proposed for dewatering to prevent steelhead moving into what would be the work area. Then, the biologist would capture and relocate all steelhead within the nets using a one-eighth inch seine, dip nets, and/or electroshocking. All captured steelhead would be placed in buckets containing creek water and then relocated to suitable habitat downstream of the dewatering system. All non-native fish, amphibians and crustaceans would not be returned to Dry Creek but would be euthanized and disposed of. After the initial clearance of the dewatered construction area, the coffer dams would be installed with monitoring by the biologist. The block nets would be removed once steelhead can no longer enter the work area. The pump to be used for dewatering the work area would be completely screened with wire mesh no larger than 0.2 inch or would be buried in a gravel filled sump. The pumps would be fitted with anti-entrapment device(s) to prevent steelhead from being drawn into them or impinged on intake screening. The NMFS-approved biologist would remain on-site and survey for steelhead and monitor turbidity levels within the work area during the active dewatering, and would capture and relocate steelhead as necessary.

AMM BIO-6: Fish Relocation Plan. A species relocation plan for steelhead would be developed and submitted to NMFS for approval prior to Project construction. The Fish Relocation Plan would identify specific methods and equipment for isolation of work areas, capture and handling of individual fish, and a sequence of relocation steps. Suitable habitat for relocation downstream of the action area would be identified in the Fish Relocation Plan.

AMM BIO-7: Construction Behind Cofferdams. All work in aquatic habitat within Dry Creek would take place behind cofferdams in dewatered areas. Cofferdams

would effectively isolate the work areas from Dry Creek and significantly reduce potential construction effects and stressors, such as noise and vibration, from steelhead and other fishes. Cofferdams would be designed and constructed to isolate work along each respective left and right bank of the creek from the central thalweg, avoiding disturbance of core habitat areas in the central part of the creek and allowing tidal flows to easily pass through the Project limits.

AMM BIO-8: In-water Work Windows. All work in aquatic habitat for steelhead and other fishes within Dry Creek would take place from June 1 to October 31 when the most sensitive life history stages of steelhead are not present in the action area. Adult spawning takes place November – February and juvenile smolt outmigration takes place March – May. The in-water work window would also avoid having construction disturbance in Dry Creek when most rainfall typically occurs, avoiding impacts to water quality and challenges to the cofferdams by increased flows that occur during rain events.

Foothill Yellow-Legged Frog (FYLF)

The foothill yellow-legged frog (FYLF; *Rana boylii*) is a State Species of Special Concern. Presence of the species within the BSA has been inferred based on an occurrence of the species within the creek corridor at the California Drive Undercrossing Bridge. This is a record from 1955, and a habitat assessment and surveys were conducted at the BSA in 2019 (March 13, April 18, June 25, July 10 and July 25). Based on these surveys, there is a low potential for FYLF to occur within the BSA and Project footprint. Therefore, the Project would have a less than significant impact on FYLF or its habitat. Caltrans would incorporate the general Project Features BIO-1 through BIO-12 listed in Table 2-2.

Mammals

The pallid bad (*Antrozous pallidus*) and Townsend's big-eared bat (*Corynorhinus townsendii*) are both State Species of Special Concern. Evidence of bat roosting was observed underneath Dry Creek Bridge. Bat droppings (guano) were observed accumulated on the ground below the expansion joints where bats may roost. The riparian habitat at Dry Creek and Perfume Creek may provide suitable foraging habitat for bats. This habitat may be affected by vegetation removal and bridge widening activities. There is a potential for bats to roost within or adjacent to the BSA; however, with seasonal avoidance of tree removal and preconstruction bat surveys, impacts to roosting bats would be less than significant.

Avoidance and Minimization Measures for Mammals

AMM BIO-9: Avoidance of Bat Roosts. Existing roosts should be accommodated to the extent feasible while maintaining the safety, operation, maintenance, and inspection aspects of the structure.

a. Impacts and interactions with the species should be avoided whenever possible through timing of work, method selection, and retention of features that provide naturalized habitat.

b. If avoidance is not possible then impacts should be minimized by careful planning of activities to complement the life history of the animal. Measures might include items such as temporary humane exclusions at appropriate times of year to avoid take and the retention of portions of the features that provide naturalized habitat.

c. Where appropriate, measures to minimize accumulation of guano from existing roosts and to allow inspection without disturbance of the bats should be incorporated into projects.

Migratory Birds and Raptors

Common migratory bird species were observed flying overhead within the BSA. A swallow nest and two chicks were observed under the California Drive Undercrossing Bridge on July 25, 2019. Additionally, remnants of swallow and phoebe nests were found at all three bridge locations. There is a potential for temporary impacts to migratory birds through tree removal at California Drive Undercrossing Bridge, and to swallows during construction at the other bridges where swallow nests have been observed in the past. With the following AMMs, Caltrans would have a less than significant impact on migratory birds.

Avoidance and Minimization Measures for Migratory Birds and Raptors

AMM BIO-10: **Bird Nesting Surveys.** A biologist (s) would conduct pre-construction bird nesting surveys prior to the beginning of construction. With the exception of nests of listed bird species and eagles, inactive nests would be removed to deter birds from re-establishing nests within the Project limits. Caltrans would remove unoccupied bird nests during the non-nesting season (October 1 to January 31) prior to or during construction or during the nesting season after being deemed inactive by the USFWS-approved biologist.

AMM BIO-11: Exclusion Methods. Exclusionary methods would be used to prevent migratory birds from nesting and roosting within the BSA (February 1 to September 30).

AMM BIO-12: Migratory Bird and Nest Avoidance. If active nests are present within the Project limits, work within 50 feet of the nest of passerine species or 300 feet of raptor species would be avoided and monitored.

b) Less Than Significant Impact

No tree removal is anticipated at Dry Creek Bridge or Perfume Creek Bridge. A total of seven trees are anticipated to be removed from the northbound side of the Project footprint at the California Drive Undercrossing Bridge. These trees include five redwoods (*Sequoiadendron giganteum*), one valley oak (*Quercus lobata*), and one California black oak (*Quercus kelloggii*). Tree removal at California Drive Undercrossing would not require compensatory mitigation. Revegetation at this location would be based on recommendations from the Caltrans Division of Landscape Architecture. There would be a less than significant impact.

c) No Impact

None of the Project locations were found to encompass wetlands. There would be no impact to wetland environments.

d) No Impact

The Project would not construct any new barriers to wildlife movement or otherwise interfere with established native resident or migratory wildlife corridors or impede the use of native wildlife nursery sites; therefore, there would be no impact.

e) No Impact

The Project would not conflict with any local policies or ordinances protecting biological resources; therefore, there would be no impact.

f) No Impact

The Project would not conflict with the provision of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan, thus, there would be no impact.

Cultural Resources

V. CULTURAL RESOURCES: Would the project:

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

Caltrans prepared a technical memorandum on cultural compliance for the Project entitled *Office of Cultural Resources Section 106 Closeout Memo for the Bridge Replacement Project at PMs 14.11/19.04 on SR 29 in Napa County, California* (December 13, 2019).

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 (PA) Among the Federal Highway Administration, the Advisory Council on Historic Preservation, the California State Historic Preservation Officer, and the California Department of Transportation Regarding compliance with Section 106 of the National Historic Preservation Act, as it pertains to the Administration of the Federal Aid Highway Program in California.

Cultural studies have been undertaken by Caltrans District 4 Professionally Qualified Staff (PQS) in the Office of Cultural Resource Studies (OCRS) for the proposed Project. From these studies, as well as information from the Caltrans Cultural Resource Database, as-built plans, aerial photographs, and maps, the OCRS has determined that a Finding of No Historic Properties Affected is appropriate for this undertaking.

During focused studies completed for this Project, the PQS conducted a review of the Native American Heritage Commission's (NAHC) Sacred Lands File which returned positive results for sacred sites in the Area of Potential Effects (APE). The NAHC provided a list of tribes that may be interested in consulting on the Project from the Native American Contact list. Formal notification of local tribes began with initial

consultation letters sent out on November 14, 2018. Coordination with local tribes is ongoing.

The APE for this Project was established in three discontinuous boundaries to account for the three separate Project bridge locations. The horizontal extent of the archaeological APE includes all locations where construction activities would occur, proposed staging/access areas, clearing/grubbing areas, tree removal locations, excavation areas, and TCE locations outside of Caltrans' ROW. The vertical extent of the archaeological APE includes all areas where Project excavation would impact the subsurface.

The PQS has determined that all potential cultural resources in the APE are either not eligible for inclusion on the National Register of Historic Places (NRHP), not eligible for registration as a California Historic Landmark (CHL), or exempt from evaluation according to Attachment 4 of the PA. The three bridges subject to this Project were determined Category 5, ineligible for NRHP, and those determinations remain valid. Therefore, a Finding of No Historic Properties Affected is appropriate for this undertaking because there are no historic properties within the APE.

a, b, c) <u>No Impact</u>

All potential cultural resources in the APE are either not eligible for inclusion on the NRHP, not eligible for registration as a CHL or exempt from evaluation. Therefore, there would be no historical properties affected by this Project.

Project Features CULT-1 and CULT-2 would provide protection of cultural resources. There would be no impact.

Energy

VI. ENERGY: Would the project:

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

a, b) No Impact

With standard BMPs, the Project would not produce any wasteful, inefficient, or unnecessary consumption of energy resources during Project construction and operation. The Project would not conflict with state and locals plans for renewable energy and energy efficiency. There would be no impact.

Geology/Soils

VII. GEOLOGY AND SOILS: Would the project:

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

Caltrans investigated potential impacts to geology and soils from the proposed Project and prepared the Preliminary Geotechnical Reports (Caltrans 2016) and Paleontology and Geology Environmental Study (Caltrans 2020f). The Project is located within the northern California Coast Range province characterized by northwest-trending ridges, gently sloping hills, and intervening valleys and large elongated depressions. The Project is located in the southern part of the Napa Valley, along the northwest/southeast trending depression that drains south to San Francisco Bay via the Napa River. The ground elevation at the Project site ranges between 87 feet (California Drive) to 110 feet (SR 29) above sea level surrounded by flat ground.

Geology in the surrounding area consists of Mesozoic aged metamorphic rocks of the Franciscan Complex and sedimentary rocks of the Great Valley Complex, overlain by Miocene sedimentary and volcanic rocks. Nearby faults include the West Napa Fault, Green Valley Fault, and the Rodgers Creek Fault. No active fault crosses the Project location. Earthquakes would have potential to generate very strong ground shaking in the Project locations. The Project locations would also be subject to very high susceptibility to liquefaction.

Soils within the BSA include Bale clay loam, 2 to 5 percent slopes. The Bale soils are gently sloping soils located on flood plains and low terraces. The Bale Soils consist of somewhat poorly drained soils on alluvial fans, flood plains, and low terraces. The permeability of this soil is moderate, runoff slow, with moderate shrink-swell potential, and the hazard of erosion is low.

At Dry Creek Bridge, Holocene and Pleistocene alluvial fan deposits and late Holocene younger alluvium deposits underlie the work area. The Holocene unit has a low paleontological sensitivity and the Pleistocene unit has no significant fauna. At Perfume Creek Bridge and California Drive Undercrossing Bridge, Holocene alluvial fan deposits and Holocene fined grained alluvial fan deposits underlie the work areas. These two units have low paleontological sensitivity. No further paleontological studies were necessary.

a) No Impact

Because the Project entails upgrades or maintenance of existing bridge structures, the Project would not impact the public due to fault rupture or other seismically induced hazards including liquefaction. Strong ground shaking may occur during an earthquake, but the Project would not directly or indirectly cause potential significant impacts due to ground shaking. The Project is not located on a geologic unit or soil that is unstable. No hazards exist due to landslides, soil erosion, soft soils, or expansive soils. The Project would have no impact.

b) No Impact

Work within the creek at Perfume Creek and Dry Creek would disturb soils, which could result in erosion, but soil erosion would be minimized through implementation of standard Caltrans Project Features HYD-1 through HYD-5, as described in Table 2-2. CIDH pile auguring at the California Drive Undercrossing Bridge would not

expose the subsurface. With implementation of the Project Features, the Project would have no impact.

c, d, e) No Impact

The Project would not impact geologic or soil conditions. Soils within the Project footprint consist of Bale clay loam, which has a low hazard for erosion. There would be no increase in risk of seismic activity to the traveling public as a result of any part of this Project. There are no anticipated geologic or seismic impacts from this Project. The Project does not involve use of septic tanks or alternative waste water disposal systems. Therefore, the Project would have no impact.

f) No Impact

The bridges are all underlain by either artificial fill or Holocene and Pleistocene alluvium deposits. These units are not paleontologically sensitive and the Project would not impact paleontological resources.

Greenhouse Gas Emissions

VIII. GREENHOUSE GAS EMISSIONS: Would the project:

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

Caltrans investigated potential impacts to greenhouse gas (GHG) emissions from the proposed Project and prepared the Construction Greenhouse Gas Emissions Analysis technical memorandum (March 2019). This section summarizes the findings of this review. Construction-generated GHGs includes emissions resulting from material processing by onsite construction equipment, construction workers commuting to and from the Project site, and traffic delays due to construction. The emissions would be produced at different rates throughout the Project depending on the activities involved at various phases of construction.

The analysis was focused on vehicle-emitted carbon dioxide (CO_2) as the single most important GHG pollutant due to its abundance when compared with other vehicle-emitted GHG pollutants, including methane, nitrous oxide, hydrofluorocarbon and black carbon.

Based on Project information available for environmental studies, the construction-related GHG emissions were calculated using the Road Construction Emissions Model (RCEM), version 8.1.0, provided by the Sacramento Metropolitan Air Quality Management District. It was estimated that for construction duration of 10 months the total amount of CO_2 produced due to construction would be 503.47 tons. Because construction activities are short-term, the GHG emissions resulting from construction activities would not result in long-term adverse effects.

The Project would not increase highway capacity, and therefore would not result in long-term increase of GHG emissions.

a) Less Than Significant Impact

While the Project would generate GHG emissions, these emissions would be temporary. During operation, GHG emissions would remain the same as baseline pre-

Project conditions, as the Project does not propose to increase the capacity of SR 29 and it would not induce growth. Therefore, the Project would have no significant long-term impacts. Project Features GHG-1 and GHG-2 would further reduce GHG emissions from the Project.

b) No Impact

The proposed Project does not conflict with any applicable, plan, policy, or regulation adopted for the purpose of reducing the emissions of greenhouse gases.

Hazards and Hazardous Materials

IX. HAZARDS AND HAZARDOUS MATERIALS: Would the project:

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

Caltrans investigated hazards and hazardous materials impacts from the proposed Project and the Hazardous Waste Branch prepared a technical memorandum (May 15, 2019). This section summarizes the findings of this study.

The roadside surface and near-surface soils to be disturbed by the Project could approach or exceed regulated concentrations of aerially deposited lead, based on past soil testing data collected near Dry Creek Bridge. As a result, the soils to be excavated for shoulder widening would need to be tested and characterized. In addition, a bridge survey during the design phase of the Project would be required. This survey would be used to identify the presence or absence of hazardous materials on the bridges to be repaired. These materials include asbestos-containing material (ACM) and lead-based paint (LBP). If identified by the testing, ACM, LBP, and lead-

contaminated soils would be addressed according to the Project specifications drafted by the District 4 Hazardous Waste Branch.

Aerially deposited lead (ADL) from the historical use of leaded gasoline exists along roadways throughout California. If encountered during the Project, soil with elevated concentrations of lead as a result of ADL within Caltrans ROW would be managed under the July 1, 2016, ADL Agreement between Caltrans and the California Department of Toxic Substances Control. This ADL Agreement allows such soils to be safely reused within the Project limits as long as all requirements of the ADL Agreement are met.

a, b) Less Than Significant Impact

There is potential for the surface and near-surface soils within the Project limits to contain regulated concentrations of ADL. These soils and the three bridges would be tested for the presence of hazardous materials. If hazardous materials are found, the appropriate measures would be taken for the handling and storage of these materials, as detailed in Project Features HAZ-1 and HAZ-2 in Table 2-2. The Project would have a less than significant impact.

c) No Impact

The Project location is not within one-quarter mile of an existing or proposed school, and there would be no impact.

d) No Impact

None of the three bridge locations are on or close to areas that are on the Cortese list, which is a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5. There would be no impact.

e) No Impact

The Project location is not within the vicinity of a current or proposed airport or airstrip. There would be no impact.

f) Less Than Significant Impact

Potential delays to traffic along SR 29 would result from flagger-controlled traffic in effect during installation of k-rails. A Traffic Management Plan (TMP) (as described in Project Feature TRA-1 in Table 2-2) would be developed during the design phase that would identify traffic delays and alternative routes. Emergency response times are not anticipated to change during construction because the TMP would provide priority to emergency vehicles during traffic control. The TMP would provide instructions for response or evacuation in the event of an emergency. In addition, this Project would not conflict with any other emergency response or evacuation plan. The impact on emergency response plans would be less than significant.

g) Less Than Significant Impact

The Project locations traverse agricultural and urban lands. According to the CalFire hazard severity zone mapping, the Project locations are not in a State Responsibility Area, and not in a fire hazard severity zone. The Caltrans District 4 Vulnerability Assessment also shows that the Project locations are not in an area of wildfire concern. Project Feature TRA-1 would reduce fire risk to local residents and the traveling public, and there would be a less than significant impact.

Hydrology and Water Quality

X. HYDROLOGY AND WATER QUALITY: Would the project:

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

Caltrans investigated impacts to hydrology and water quality from the proposed Project and prepared the Water Quality Study (Caltrans 2020c) and Hydraulic Study (Caltrans 2020b). This section summarizes the findings of the studies.

This Project is located within the San Francisco Bay Regional Water Quality Control Board (SFBRWQCB) jurisdiction of Region 2, which is responsible for implementation of state and federal laws and regulations for water quality protection.

The Project lies in the San Pablo Hydrologic Unit, Napa River Hydrologic Area, and Undefined Sub-Area (HAS 206.50). All three bridges are within the Napa River Watershed. Dry Creek Bridge is located in the Lower Napa River Sub-Watershed, while Perfume Creek Bridge and California Drive Undercrossing Bridge are located in the Dry Creek Sub-Watershed.

The Project is located within a Mediterranean climate region characterized by warm summers, mild wet winters, and a rainy season between October 15 and April 15. The average warmest month is July and the average coolest month is January. The mean annual precipitation ranges are from 33.19-43.87 inches. The most precipitation on average occurs in December.

Stormwater runoff from the Project limits drains into the municipal separate storm sewer system in Napa County that eventually drains into Napa River and Dry Creek. Napa River is on the Clean Water Act Section 303 (d) list for various pollutants, including sedimentation/siltation and pathogens. Napa River has a U.S. Environmental Protection Agency approved Total Maximum Daily Load for nutrients.

Clean Water Act Section 401 and 404 permits are required for the Project. Culvert and bridge widening would constitute fill to Waters of the U.S. due to work within Perfume Creek and Dry Creek. A CDFW Section 1602 Streambed Alteration Agreement would be required to facilitate stream diversion operations associated with culvert widenings and wing wall modifications.

Project activities would occur on 2.0 acres of disturbed soil area. The Project is subject to the Construction General Permit and a SWPPP would be prepared. The Project would result in 0.21 acre of new impervious area.

a) Less Than Significant Impact

Construction and staging activities may result in the release of fluids, concrete material, sediment, and litter to receiving waters within the site, as well as beyond the perimeter of the site. This may change the localized pH and turbidity of receiving water courses. Water quality impacts that may result from this Project also include increased sediment discharge from approximately 2.0 acres of disturbed soil area and increased runoff from approximately 0.21 acre of net new impervious surface. With standard construction BMPs, the proposed Project would not violate water quality standards or waste discharge requirements. With implementation of AMM HYD-1 and Project Features HYD-1 through HYD-5, the Project would result in less than significant impact.

b) No Impact

The proposed Project would have no effect to groundwater supplies or groundwater recharge areas in the Project vicinity. There would be no impact.

c(i), (ii), (iii), (iv)) Less Than Significant Impact

The Project would not substantially alter the existing drainage pattern of the site. With standard BMPs, including implementation of Project Features HYD-1 through HYD-5 in Table 2-2, the Project would not result in substantial erosion or siltation. The proposed Project would result in a minimal increase of surface runoff due to the new impervious surface. The increase in surface runoff would be accommodated with the existing stormwater facilities and would not exceed existing storm drain systems or result in substantial additional sources of polluted runoff. The Project would also not impede or redirect flood flows. The Project would have less than significant impacts.

At this phase of this Project, no water table data or boring test logs are available. There is extensive foundation work and piling planned as part of the Project. Dewatering activities would be required at Perfume Creek and Dry Creek during installation of the cofferdams and temporary creek diversions. Dewatering effluent discharged from the construction site to a storm drain or receiving water is subject to requirements of the applicable National Pollutant Discharge Elimination System permit, Section 401 Clean Water Act Certification, or other waste discharge requirements administered by the SFBRWQCB. An active treatment system may be necessary to meet the effluent limits of the Construction General Permit (CGP) for turbidity and pH in stormwater. The Project would also not impede or redirect flood flows. With implementation of AMM HYD-2, the Project would have a less than significant impact.

d) No Impact

The Project footprint at Dry Creek and Perfume Creek includes areas within the 100-year floodplain as defined by Federal Emergency Management Agency Food Insurance Rates Maps (numbers 06055C0505F, 06055C0413E, and 06055C0413E). Dry Creek is located in Zone A, a base floodplain with no base flood elevations determined. No impacts to the floodplain are expected. Perfume Creek is located in Zone AE, base floodplain associated with Napa River. A base flood would overtop

the roadway pre- and post-Project, but no new impacts to the floodplain are expected. California Drive Undercrossing Bridge is in Zone X, an area with less than 0.2 percent (500-year flood) annual chance floodplain. The Project is not in a flood hazard, seiche, or tsunami zone.

The Project would continue to operate as a transportation system, and thus, the Project would not have the potential of releasing pollutants during a flood. There would be no impact.

e) No Impact

With implementation of standard BMPs, as well as Project Features HYD-1 through HYD-5 in Table 2-2, the Project would not conflict with or obstruct implementation of a water quality control plan or suitable groundwater management plan.

Avoidance and Minimization Measures

AMM HYD-1: Sediment Control Practices. Sediment control practices include but are not limited to the following: silt fence, sediment/distilling basin, check dam, fiber rolls, and street sweeping and vacuuming. Fiber rolls generally consist of wheat straw or other inert biological materials that are then bound together. These rolls are placed along the toe of downhill slopes, perpendicular to the direction of flow, to reduce flow velocity, and slow the release of runoff and sheet flow into receiving waters. These rolls also trap sediment in the water column and prevent these sediments from entering the creeks in the Project vicinity.

AMM HYD-2: Non-Stormwater Management. Waste management and materials pollution control practices would be implemented as part of this Project. These measures apply to dewatering operations, pile driving operations, concrete curing and finishing, water conservation practices, portable water/irrigation, vehicle and equipment operations (fueling, cleaning, and maintenance), and material and equipment use.

Water quality management practices would be implemented during all other construction activities, including pile driving operations. These practices include the proper storage of equipment, such as parking of vehicles more than 50 feet away from water courses.

Land Use and Planning

XI. LAND USE AND PLANNING: Would the project:

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

a, b) No Impact

The Project corridor is predominantly rural, with numerous vineyards and a few residences adjacent to the highway. New structures proposed by the Project would be fully contained within the Project footprint and not encroach into residential areas. The proposed Project would not physically divide an established community. In addition, the Project does not conflict with any applicable land use plan, policy, or regulation.

The SR 29 Bridge Rail Replacement Project would not conflict with or change existing or planned land uses or zoning codes. The proposed Project is consistent with state, regional and local plans and programs, including the Metropolitan Transportation Commission's 2040 Plan Bay Area (ABAG/MTC 2017); the Yountville 2019 General Plan (Yountville 2019); and the Napa County 2008 General Plan (Napa County 2008). In addition, the Project is outside of the California Coastal Zone and is not located near wild or scenic rivers. While there are local parks and recreational facilities along SR 29 and within the Project vicinity, the Project would not impact public access to these sites. There would be no impact on land uses from the Project.

Mineral Resources

XII. MINERAL RESOURCES: Would the project:

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

a, b) No Impact

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

Noise

XIII. NOISE: Would the project result in:

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

Caltrans investigated noise impacts from the proposed Project and the Noise Branch prepared a technical memorandum dated April 9, 2019. This section summarizes the findings of this study.

The Project would not add a new traffic lane or substantially alter the alignment of SR 29; therefore, it is not a Type I project under 23 CFR 772. An evaluation of noise abatement is not necessary, and a Noise Study is not required.

For all three bridges, residential homes (sensitive receptors) are located outside the Project limits. No residential homes are adjacent to Perfume Creek Bridge, one residential home is located within 75 feet of Dry Creek Bridge, and several residential developments within the Town of Yountville are located adjacent to SR 29 near California Drive Undercrossing Bridge but are located over 150 feet from the Project limits.

a, c) No Impact

While the Project would potentially expose people to heightened noise levels during construction, those levels would be temporary and only moderately exceed current standards. 23 CFR 772 provides procedures for preparing operational and construction noise studies and evaluating noise abatement considered for federal and federal-aid highway projects. Caltrans uses this same definition when evaluating state projects without federal funding. The Project was determined not to be a Type I project per 23 CFR 772 because the Project would not increase highway capacity;

therefore, a noise study is not required, and noise abatement need not be considered. The Project is not within the vicinity of a private airport or airstrips. There would be no impact.

b) Less Than Significant Impact

The Project would not cause excessive groundborne vibration or groundborne noise levels. Nevertheless, with residential properties (sensitive receptors) near the Project locations, construction noise control measures would be implemented, and night work within 50 feet of any sensitive receptor would not be not allowed. Project Features NOI-1 and NOI-2 would further reduce potential noise levels. In addition, AMM Noise-1 would be implemented to address potential noise impacts to sensitive receptors within the Project vicinity.

Avoidance and Minimization Measures

AMM NOISE-1: Night Work. No night work would be conducted within 50 feet of a sensitive receptor.

Population and Housing

XIV. POPULATION AND HOUSING: Would the project:

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

a, b) No Impact

The Project would not induce growth. No new commercial or residential establishments would be built, and the Project would not add travel lanes to SR 29; therefore, the Project would not increase roadway capacity. The Project also would not displace any housing units or people. There are no houses within the Project construction area and no ROW would be acquired. Therefore, the Project would have no impact on population and housing.

Public Services

XV. PUBLIC SERVICES:

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

a) No Impact

Construction of the Project would not result in the provision of new or physically altered governmental facilities. Furthermore, the Project would not result in a need for new or physically altered governmental facilities in order to maintain acceptable service ratios. Emergency response times are not anticipated to change during construction because the TMP would provide measures to ensure priority for emergency vehicles during traffic control on the frontage roads during temporary K-rail installation. The TMP would provide instructions for emergency response and evacuation in the event of an emergency. In addition, this Project would not conflict with any other emergency response or evacuation plan.

A TMP would be implemented as described in Project Feature TRA-1 which would ensure that police, fire, and medical services would not be significantly impacted by the proposed Project.

Recreation

XVI. RECREATION:

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

a, b) No Impact

This Project would not increase the use of existing neighborhood and regional parks/recreational facilities and this Project would not include or require the expansion of recreational facilities. In addition, no Project construction would occur on or within any recreational facilities. The Project would have no impact on recreational resources.

Transportation and Traffic

XVII. TRANSPORTATION: Would the project:

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

The Project corridor is a divided four-lane conventional highway composed of four travel lanes, with two lanes in each direction. According to the Draft Project Report, SR 29 currently has an average daily traffic volume of 58,800 vehicles (Caltrans 2020e).

While the individual bridge locations of the Project do not include pedestrian, transit, bicycle, or park and ride facilities, bikes are permitted on the shoulders of Dry Creek Bridge, Perfume Creek Bridge, and California Drive Undercrossing Bridge. Bicyclists currently prefer to use the Napa Valley Vine Trail, which is separate from but runs parallel to SR 29. The Napa Valley Vine Trail is a 47-mile walking and biking trail system that connects the entire Napa Valley from Calistoga to the Vallejo Ferry. The Napa Valley Vine Trail crosses from the east to the west side of California Drive at its bridge undercrossing of SR 29. The Napa Valley Wine Train has railroad tracks parallel to and west of SR 29.

In addition to replacing bridge rails, the Project would widen all three bridges to maintain standard shoulder widths, which would improve safety for bicyclists in the area. The Project would maintain the following non-standard features: cross slope, sight distance, and super-elevation. The Project would not increase the vehicular capacity of SR 29. The Project would not alter the circulation system and would not increase vehicle miles traveled.

The Project, during construction, would not require any temporary closures of SR 29. All construction work would occur within the shoulders, behind temporary K-rails.

Therefore, the Project would cause minor short-term localized traffic congestion or delays. One-way traffic control on the frontage roads during the one-day, nighttime installation of K-rails would consist of flaggers to regulate traffic.

a) Less Than Significant Impact

The proposed Project would not conflict with programs, plans, ordinances or policies regarding the circulation system, public transit, bicycle, or pedestrian facilities. The Napa Valley Wine Trail would not be impacted by bridge rail construction at any location, including the trail undercrossing at California Drive Undercrossing Bridge. The Napa Valley Wine Train operations and tracks would not be impacted by Project construction.

The Project proposes to replace bridge rails while also widening the bridges. This would benefit and improve safety for bicyclists using SR 29 by establishing standard shoulder widths on all bridges. In addition, 24-inch link railing (Type 7) is recommended for both sides of Dry Creek Bridge and the south/eastbound side of Perfume Creek bridge where bicyclists can currently ride.

The TMP (Project Feature TRA-1) would include press releases to notify and inform multi-modal travelers, including through the use of changeable messages signs, ground mounted signs, lane closure charts, and a construction zone enhanced enforcement program (COZEEP).

b) Less Than Significant Impact

The Project would be consistent with CEQA Guidelines Section 15064.3, subdivision b. The Project would not increase vehicle miles traveled. Under section 15064.3, subdivision b, transportation projects that have no impact on vehicle miles traveled should be presumed to cause a less than significant transportation impact.

c) No Impact

The proposed Project does not include any design features or construction elements that would substantially increase hazards (e.g., sharp curves or dangerous intersections). There would be no impact.

d) Less Than Significant Impact

The Project would not conflict with any program, plan, ordinance, or policy addressing bicycle and pedestrian plans. The Project would enhance access and safety for bicyclists through bridge widening. The Project would not interfere with local

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

Tribal Cultural Resources

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

	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
a) Listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in Public Resources Code section 5020.1(k), or				X
b) A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Public Resources Code Section 5024.1. In applying the criteria set forth in subdivision (c) of Public Resource Code Section 5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe.				X

a, b) No Impact

Caltrans Cultural staff coordinated with the NAHC and determined that there would be no impacts to tribal cultural resources (please refer to the Cultural Resources section for more details). Project Features CULT-1 and CULT-2 would provide protection of tribal cultural resources.

Utilities and Service Systems

XIX. UTILITIES AND SERVICE SYSTEMS: Would the project:

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

Underground utility relocation may be necessary during construction for utility conduits at Perfume Creek Bridge and California Drive Undercrossing Bridge. A PG&E underground utility would be relocated at Perfume Creek Bridge, and an unknown utility would be relocated at California Drive Undercrossing Bridge. Verification of utility locations and necessary relocations would be determined during the design phase in coordination with the utility provider. No utility impacts are anticipated at Dry Creek Bridge.

a) Less Than Significant Impact

Utility conduits would be relocated during construction of Perfume Creek Bridge and California Drive Undercrossing Bridge. A PG&E underground utility would be relocated at Perfume Creek Bridge, and an unknown utility would be relocated at California Drive Undercrossing Bridge. The impact from utility relocations is expected to be less than significant. Utility providers would be notified ahead of the construction activities to minimize utility service disruptions as outlined in Project Feature UTI-1 (Table 2-2). The impact would be less than significant.

b, c, d, e) No Impact

The Project would not require or result in the construction of new water or wastewater treatment facilities, or the expansion of existing facilities. The Project also would not require the services of a landfill where the Project would impact the capacity of a landfill. The Project would not exceed wastewater treatment requirements. The Project would not require water supplies to serve the Project from existing entitlements or where the Project would impact new or expanded entitlements. The Project would not require the services of a wastewater treatment provider where the Project would impact the capacity of the provider. The Project would comply with all regulations regarding solid waste. The Project would implement Project Feature UTI-2, as described in Table 2-2, requiring the proper disposal of construction trash. There would be no impact.

Wildfire

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

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

The California Drive Undercrossing Bridge is located within a Local Responsibility Area for the Napa County Fire Department at Yountville providing fire suppression, rescue, and emergency services. The Project is outside of a State Responsibility Area and is not within a high severity fire area (CAL FIRE 2019).

a) Less Than Significant Impact

A TMP (as described in Project Feature TRA-1) would be developed during the design phase that would identify traffic diversion/staging and alternative routes. Emergency response times would not change during construction because the TMP would be developed in coordination with local authorities and provide measures to ensure priority for emergency vehicles during traffic control. The TMP would provide instructions for emergency response and evacuation in the event of an emergency. In addition, this Project would not conflict with any other emergency response or evacuation plan.

b, c, d) No Impact

The Project would not require installation of infrastructure that would exacerbate wildfire risks. The Project would not expose people or structures to significant risks due to downslope flooding or landslides as a result of post-fire slope instability or drainage changes.

Mandatory Findings of Significance

XXI. MANDATORY FINDINGS OF SIGNIFICANCE

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

a) Less Than Significant Impact

The biological resources identified that may be impacted by the proposed Project include migratory birds, pallid bat and Townsend's big-eared bat, the CCC DPS steelhead, CFS, and the CRLF. The Project would have a minimal impact on biological resources. With the Project Features and AMMs prescribed for the Project, impacts would be less than significant, and therefore mitigation would not be required.

b) No Impact

The Project vicinity is largely rural and agricultural. There are no proposed development projects that would act in concert with the proposed Project to result in environmental effects that are cumulatively considerable. Future planned roadway projects are maintenance type projects that would not result in the expansion or increase in capacity of SR 29. These projects include rock fall mitigation, slope stabilization, upgrade of sidewalks and curb ramps to meet ADA requirements, and advance purchase of mitigation.

The Napa Valley Vine Trail Project and other minor development projects in the area would result in the addition of more impervious surface to the landscape. But these

projects, when combined with the proposed Project (bridge rail replacement and widening), would not significantly change the rural character or the landscape of the Project vicinity. The general vicinity of the proposed Project is zoned as "Agricultural Preserve" per the Napa County General Plan. This area between Oak Knoll and Yountville largely consists of wineries, and no major development projects are anticipated at this time. Allowable uses in the Project vicinity include single-family residences, wine warehousing, and farm labor dwellings, etc. Caltrans anticipates this area will remain as viticulture geared towards drawing tourists from all over the world, and that the area will remain zoned for agriculture, which does not allow for large-scale commercial or industrial uses.

Because the effects of the Project are construction-related, if other highway improvement projects along the SR 29 occur within a similar timeframe, cumulative construction-related effects may occur (such as increased delays due to additional areas using traffic management). However, Caltrans routinely coordinates with regional transportation managers and local agencies (such as Napa Valley Transportation Authority and Napa County) to minimize impacts in the region resulting from construction of multiple planned projects. The short duration and limited scope of the Project would not contribute considerably to cumulative environmental impacts, and Project-related impacts to resources would be reduced with the proper implementation of Project Features and AMMs.

Caltrans would coordinate this Project with other projects scheduled to occur along SR 29 in the Project vicinity that have overlapping construction schedules. The Project would have no cumulative impacts.

c) No Impact

The Project would not have any environmental effects that would cause adverse effects on human beings either directly or indirectly.

Chapter 4 Comments and Coordination

Biological Resources Coordination:

- On November 28, 2018, Robert Stanley attended a field visit with Jessica Thaggard and Robert Blizard. CDFW was the only agency present at this field meeting. Caltrans presented the initial scope and discussed the Project timeline and occurrences of federally listed species in the Project vicinity.

- Jessica Thaggard (Caltrans biologist) requested technical assistance from John Cleckler of the USFWS for the proposed Project on January 7, 2019.

- Jessica Thaggard contacted NMFS liaison Darren Howe on January 7, 2019, to request informal consultation for the presence of CCC steelhead and associated designated critical habitat within Dry Creek.

- Jessica Thaggard contacted CDFW liaison Robert Stanley on January 7, 2019, to request informal consultation to discuss the occurrence of state-listed species within the Project vicinity.

- Jessica Thaggard contacted USFWS liaison John Cleckler on May 13, 2019, to set up a field visit to discuss the effects determination of CRLF and California freshwater shrimp.

- Caltrans biologists Jessica Thaggard and Rachel Roberts met with CDFW liaison Robert Stanley on July 10, 2019, in the field to discuss presence of FYLF, CFS, and Swainson's hawk.

- Caltrans biologist Jessica Thaggard and Robert Blizard met with USFWS liaison John Cleckler on July 25, 2019, in the field to discuss presence of CRLF, CFS and listed plants.

- Caltrans biologist Jessica Thaggard and Robert Blizard met with CDFW liaison Robert Stanley during office hours on November 19, 2019, to discuss effects determinations. Robert Stanley said the primary environmental concern for CDFW is with freshwater shrimp at Dry Creek Bridge.

- Caltrans biologist Jessica Thaggard contacted U.S. Army Corps of Engineers (USACE) liaison, Daniel Breen, on November 21, 2019, to discuss ordinary high

water mark (OHWM) and jurisdictional waters at Perfume Creek Bridge. A site visit was set up for December 4, 2019.

- Caltrans biologist Jessica Thaggard met with USACE liaison Daniel Breen on December 4, 2019, at Craig Creek, Perfume Creek, and Dry Creek. During this field visit, USACE determined that Perfume Creek had an OHWM and was not a wetland.

Tribal Resources Coordination:

- Formal notification of local tribes began with initial consultation letters sent out on November 14, 2018. Coordination is ongoing.

Chapter 5 List of Preparers

The primary people responsible for contributing to, preparing, and reviewing this report are listed in Table 5-1.

Table 5-1 List of Preparers and Reviewers

Organization Name	Role
Caltrans	
Christopher Caputo	Office Chief, Environmental Analysis (Acting)
Lindsay Vivian	Branch Chief, Environmental Analysis
Llisel Ayon	Environmental Planner, Environmental Analysis
Skylar Nguyen	Environmental Planner, Environmental Analysis
Shawn Hallum	Associate Environmental Planner, Environmental Analysis
Santi Lombardo	Project Manager, Project Management
Robert Blizard	Branch Chief, Biological Sciences and Permits
Jessica Thaggard	Associate Environmental Planner, Biological Sciences and Permits
Kara Gonzales	Associate Environmental Planner, Biological Sciences and Permits
Helen Blackmore	Branch Chief, Cultural Resource Studies (Architectural History)
Michael Meloy	Associate Environmental Planner (Architectural History)
Kathryn Rose	Branch Chief, Cultural Resource Studies (Archaeology)
Althea Asaro	Associate Environmental Planner (Archaeology)
Susan Lindsay	Branch Chief, Landscape Architecture
Diana Pink	Landscape Associate, Landscape Architecture
Chris Risden	Senior Engineering Geologist, Geotechnical Design
Ron Karpowicz	Engineering Geologist, Geotechnical Design
Kevin Krewson	Branch Chief (Air and Noise), Environmental Engineering
Bahram Sazegar	Transportation Engineer (Air and Noise), Environmental Engineering
Christopher Wilson	Branch Chief (Hazardous Waste), Environmental Engineering
Keith Fang	Transportation Engineer, Environmental Engineering
Kathleen Reilly	Branch Chief (Hydraulics), Engineering Services
Nghia Nguyen	Transportation Engineer (Hydraulics), Engineering Services
CH2M HILL	
Erika Sawyer	Project Manager

Organization Name	Role
Loretta Meyer	Senior Environmental Planner
Jasmin Mejia	Senior Environmental Planner
Valisa Nez	Environmental Planner
Chris Archer	GIS Specialist
Bryan Bell	Technical Editor
Clarice Ericsson	Publications Technician

Chapter 6 Distribution List

The Initial Study with Proposed Negative Declaration will be circulated on July 22, 2020 to the following agencies and government officials:

Federal Agencies

U.S. Fish and Wildlife Service
2800 Cottage Way W-2605
Sacramento, CA 95825

U.S. Army Corps of Engineers
Sacramento District
ATTN: Regulatory Branch
1325 J Street, Room 1480
Sacramento, CA 95825

National Marine Fisheries Services
777 Sonoma Avenue Room 325
Santa Rosa, CA 95404

Environmental Protection Agency, Region IX Federal Activities Office, CMD-2
75 Hawthorne Street
San Francisco, CA 94105-3901

State Agencies

State Clearinghouse, Executive Officer
1400 Tenth Street, Room 156
P.O. Box 3044
Sacramento, CA 95812-3044

California Department of Fish & Wildlife
Region 3
7329 Silverado Trail
Napa, CA 94558

Bay Area Air Quality Management District
Chief Executive Officer
939 Ellis Street
San Francisco, CA 94109

California Air Resources Board
1001 I Street
P.O. Box 2815
Sacramento, CA 9812

Regional and Local Agencies

Association of Bay Area Governments
375 Beale Street
San Francisco, CA 94105

Metropolitan Transportation Commission
375 Beale Street
San Francisco, CA 94105

Napa Valley Transportation Authority
625 Burnell Street
Napa, CA 94559

Kate Miller
Executive Director
Napa Valley Transportation Authority
625 Burnell Street
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Danielle Schmitz
Director Capital Development and Planning
Napa Valley Transportation Authority
625 Burnell Street
Napa, CA 94559

Federal and Statewide Elected Officials

The Honorable Dianne Feinstein
United States Senate
One Post Street, Suite 2450
San Francisco, CA 94104

The Honorable Kamala Harris
United States Senate
333 Bush Street, Suite 3225
San Francisco, CA 94101

The Honorable Mike Thompson
United States House of Representatives (CA-5)
2721 Napa Valley Corporate Drive
Napa, CA 94558

The Honorable Bill Dodd
California State Senate, District 3
2721 Napa Valley Corporate Drive
Napa, CA 94558

The Honorable Cecilia Aguiar-Curry
California State Assembly, District 4
2721 Napa Valley Corporate Drive
Napa, CA 94558

Napa County

The Honorable Brad Wagenknecht
Napa County Board of Supervisors, District 1
County Administration Building
1195 Third Street
Napa, CA 94559

The Honorable Ryan Gregory
Chair of the Board
Napa County Board of Supervisors, District 2
County Administration Building
1195 Third Street
Napa, CA 94559

The Honorable Diane Dillon
Vice Chair of the Board
Napa County Board of Supervisors, District 3
County Administration Building
1195 Third Street
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The Honorable Alfredo Pedroza
Napa County Board of Supervisors, District 4
County Administration Building
1195 Third Street
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The Honorable Belia Ramos
Napa County Board of Supervisors, District 5
County Administration Building
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Molly Rattigan
Deputy County Executive Officer
County of Napa
County Administration Building
1195 Third Street
Napa, CA 94559

City of Napa

Mayor Jill Techel
City of Napa
955 School Street
Napa, CA 94559

Julie Lucido
Public Works Director
City of Napa
955 School Street
Napa, CA 94559

City of Yountville

Mayor John Dunbar
City of Yountville
6550 Yount Street
Yountville, CA 94599

Appendix A Title VI Policy Statement

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

DEPARTMENT OF TRANSPORTATION
OFFICE OF THE DIRECTOR
P.O. BOX 942873, MS-49
SACRAMENTO, CA 94273-0001
PHONE (916) 654-6130
FAX (916) 653-5776
TTY 711
www.dot.ca.gov

Making Conservation a California Way of Life.

November 2019

NON-DISCRIMINATION POLICY STATEMENT

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

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

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

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

Toks Omishakin
Director

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

Appendix B List of Acronyms and Abbreviations

ACM	asbestos-contain material
ADL	aerially deposited lead
AMM	Avoidance and Minimization Measure
APE	Area of Potential Effects
BMPs	Best Management Practices
BO	Biological Opinion
BSA	Biological Study Area
CCC	Central California Coast
CDFW	California Department of Fish and Wildlife
CEQA	California Environmental Quality Act
CFR	Code of Federal Regulations
CFS	California freshwater shrimp
CGP	Construction General Permit
CHL	California Historic Landmark
CIDH	cast-in-drilled-hole
CNDDB	California Natural Diversity of Database
CRLF	California red-legged frog
DPS	Distinct Population Segment
GHG	greenhouse gas emissions
IS	Initial Study
LBP	lead-based paint
MGS	Midwest Guardrail System
NAHC	Native American Heritage Commission
ND	Negative Declaration
NES	Natural Environment Study

NMFS	National Marine Fisheries Service
NRHP	National Register of Historic Places
OCRS	Office of Cultural Resource Studies
PM	post mile
PQS	Professional Qualified Staff
RE	Resident Engineer
ROW	right of way
SFBRWQCB	San Francisco Bay Regional Water Quality Control Board
SHOPP	State Highway Operation Protection Program
SR	State Route
STRAIN	Structure Replacement and Improvement Needs Report
SWPPP	Stormwater Pollution Prevention Plan
TCE	temporary construction easement
TMP	Traffic Management Plan
USACE	U.S. Army Corps of Engineers
USFWS	U.S. Fish and Wildlife Service
VIA	Visual Impact Assessment

Appendix C Cross Sections

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
04	Nap	29	14.11/19.04		

REGISTERED CIVIL ENGINEER DATE

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.

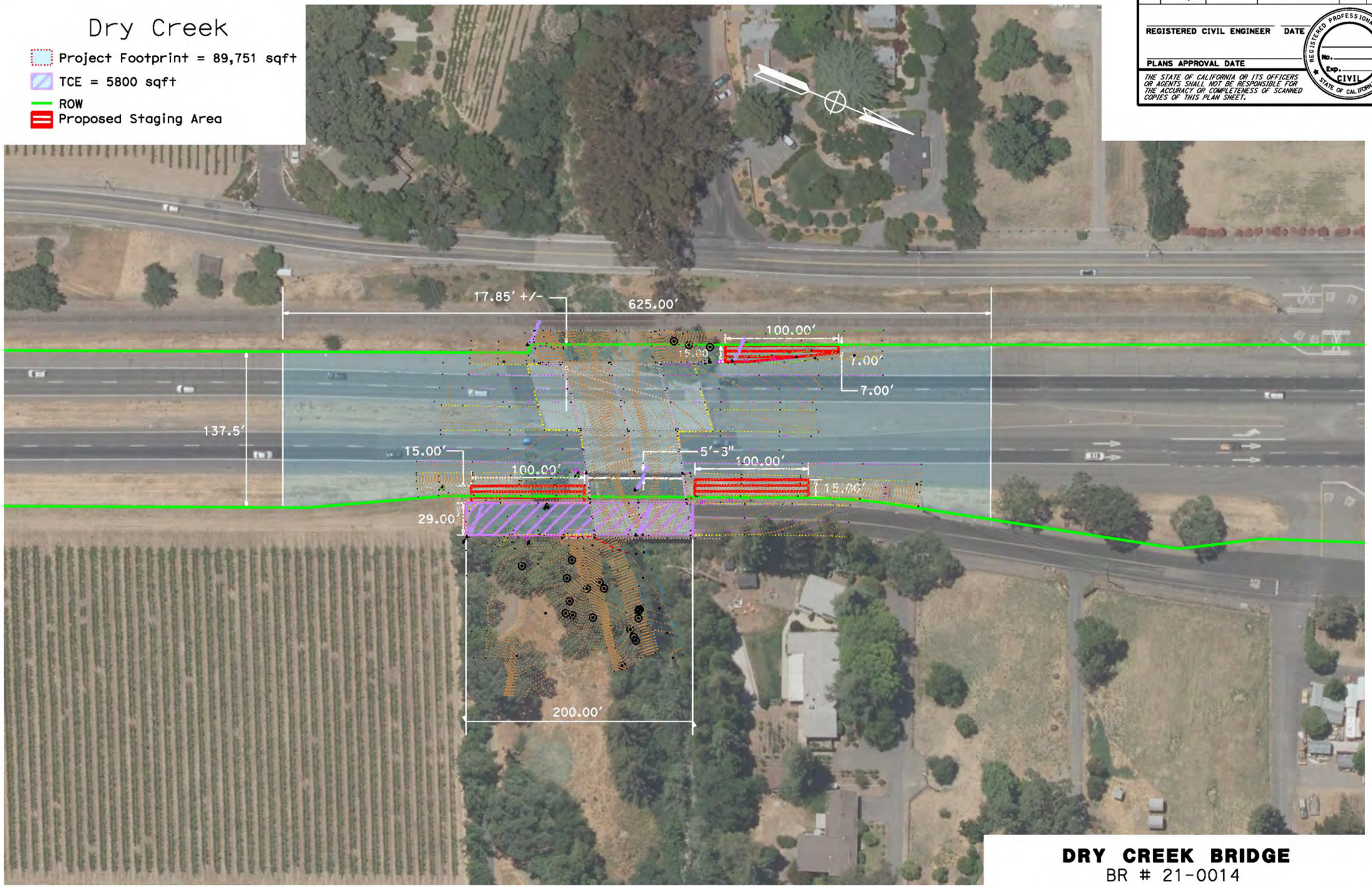
Dry Creek

Project Footprint = 89,751 sqft

TCE = 5800 sqft

ROW

Proposed Staging Area



DRY CREEK BRIDGE

BR # 21-0014

REVISED BY | DATE REVISED

CALCULATED-DESIGNED BY | CHECKED BY

FUNCTIONAL SUPERVISOR

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION

LAST REVISION 00-00-00 | DATE PLOTTED => 22-OCT-2019 | TIME PLOTTED => 13:43

BORDER LAST REVISED 7/2/2010 | USERNAME => s147602 | DGN FILE => Dry Creek.dgn | RELATIVE BORDER SCALE IS IN INCHES 0 1 2 3 | UNIT 0000 | PROJECT NUMBER & PHASE 00000000001

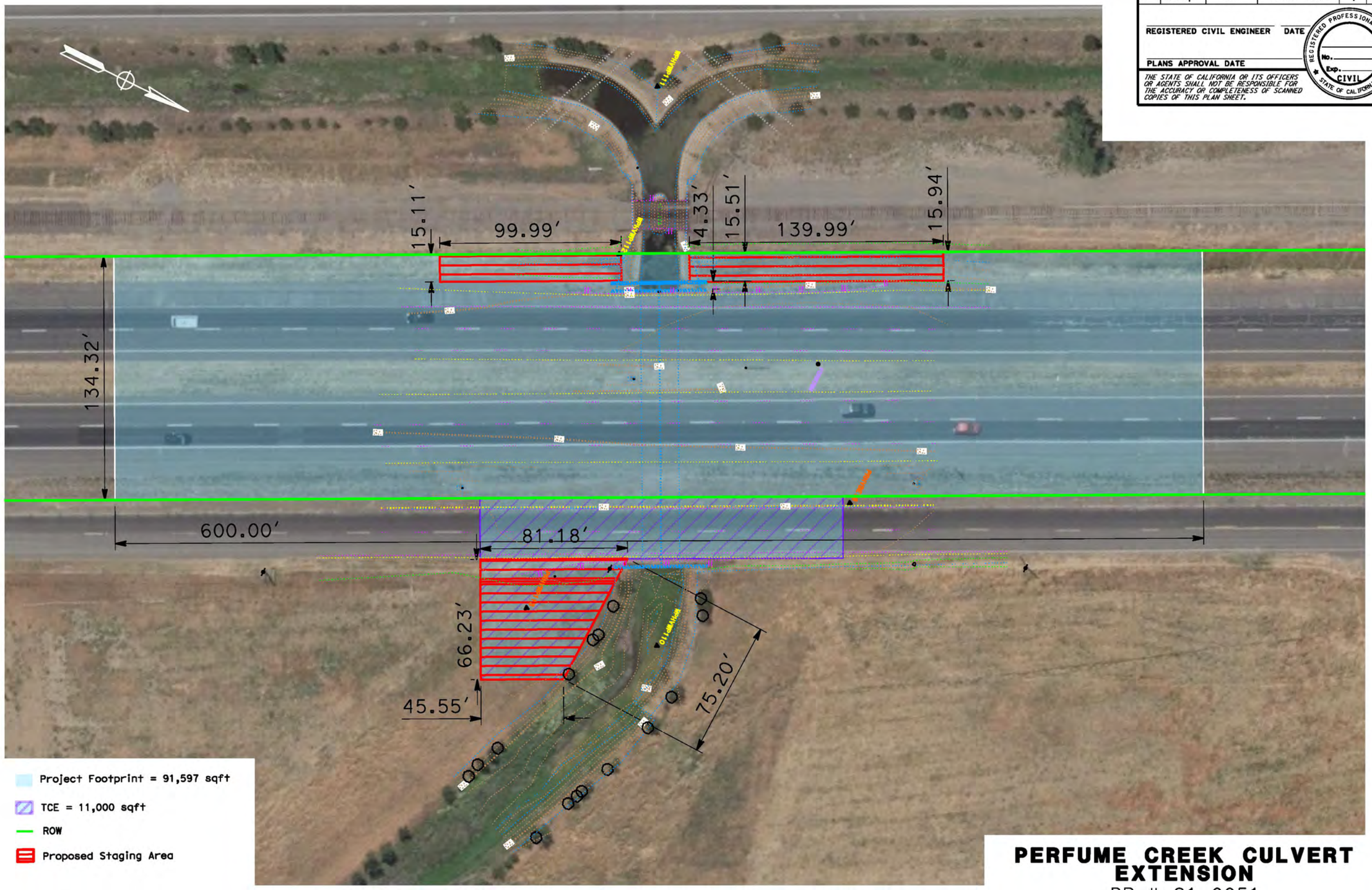
Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
04	Nap	29	17.81/19.04	1	1

REGISTERED CIVIL ENGINEER DATE

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.



PERFUME CREEK CULVERT EXTENSION

BR # 21-0051

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION

CALCULATED-DESIGNED BY | CHECKED BY | FUNCTIONAL SUPERVISOR

REVISED BY | DATE REVISED

LAST REVISION 00-00-00 | DATE PLOTTED => 22-OCT-2019 | TIME PLOTTED => 13:41

BORDER LAST REVISED 7/2/2010 | USERNAME => s147602 | DGN FILE => Perfume Creek.dgn | RELATIVE BORDER SCALE IS IN INCHES 0 1 2 3 | UNIT 0000 | PROJECT NUMBER & PHASE 00000000001

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
04	Nap	29	14.11/19.04		

REGISTERED CIVIL ENGINEER DATE

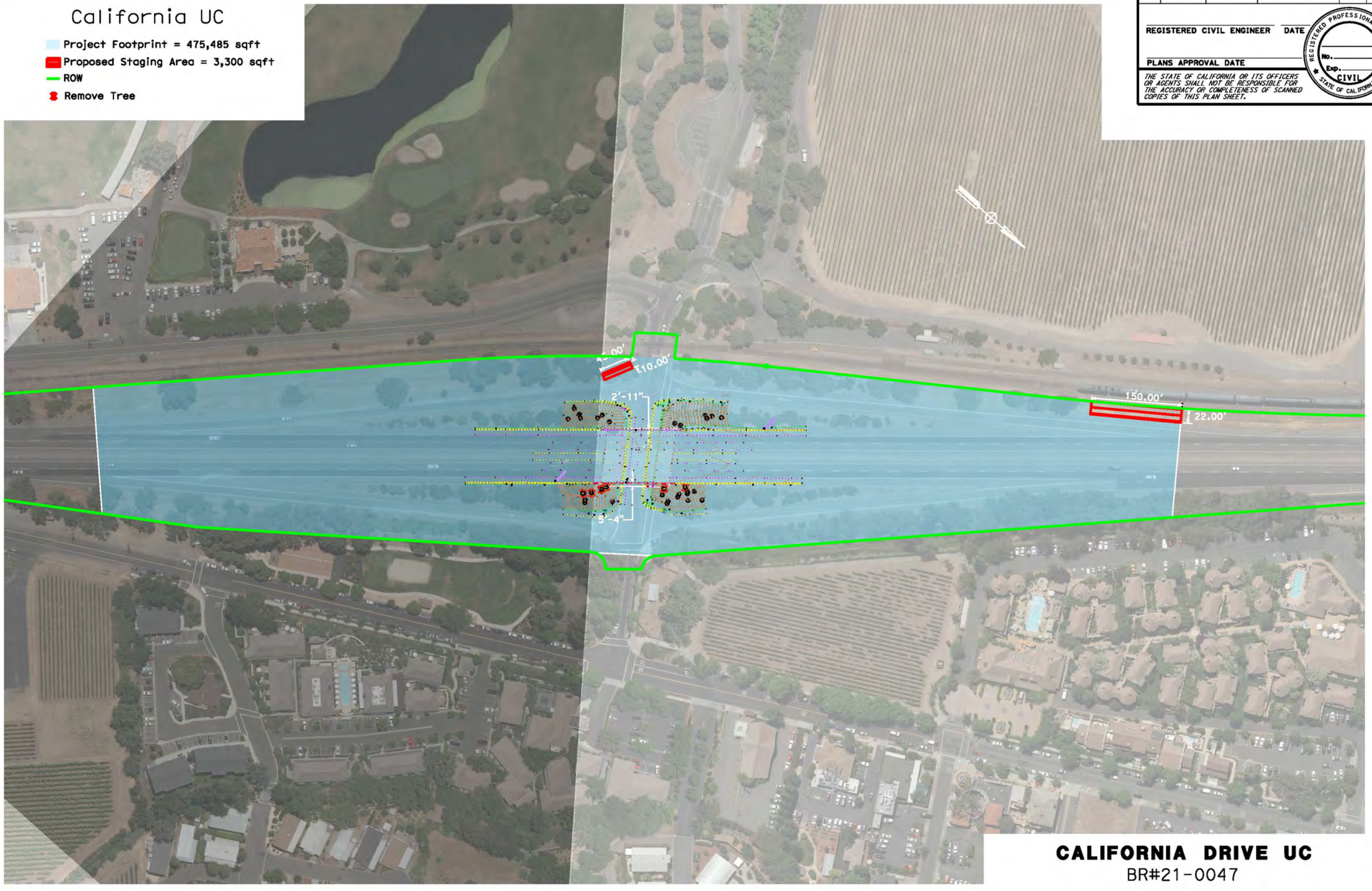
PLANS APPROVAL DATE

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.

California UC

- Project Footprint = 475,485 sqft
- Proposed Staging Area = 3,300 sqft
- ROW
- Remove Tree



CALIFORNIA DRIVE UC

BR#21-0047

REVISED BY | DATE REVISED

CALCULATED-DESIGNED BY | CHECKED BY

FUNCTIONAL SUPERVISOR

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION

Caltrans

LAST REVISION 00-00-00 | DATE PLOTTED => 22-OCT-2019 | TIME PLOTTED => 10:10

BORDER LAST REVISED 7/2/2010 | USERNAME => s147602 | DGN FILE => California Drive UC.dgn | RELATIVE BORDER SCALE IS IN INCHES 0 1 2 3 | UNIT 0000 | PROJECT NUMBER & PHASE 00000000001

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION - DIVISION OF STRUCTURES

DIST	COUNTY	ROUTE	POST MILE
04	Nap	29	16.48

ASSUMPTIONS & NOTES

1. TEMPORARY CONCRETE BARRIER TYPE K REQUIRED DURING CONSTRUCTION
2. TRAFFIC WILL BE CARRIED ON THE STRUCTURE DURING CONSTRUCTION
3. A MINIMUM OF 12' CONSTRUCTION ZONE IS REQUIRED
4. A MEDIUM TO HIGH POTENTIAL OF LIQUEFACTION IS ANTICIPATED
5. GROUND WATER IS ANTICIPATED
6. CAVING DURING PILE CONSTRUCTION IS ANTICIPATED
7. EXISTING MBGR TO BE REMOVED BY THE DISTRICT
8. ADDITIONAL GEOTECHNICAL FIELD WORK AND LAB TESTING IS NEEDED

LEGEND:

Indicates existing structure

Indicates concrete removal

CFRP: CARBON FIBER REINFORCED POLYMER

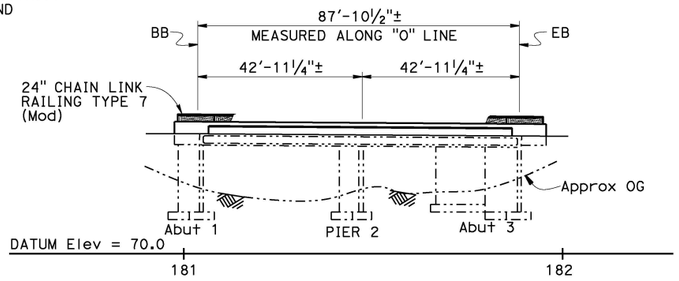
NOTE:

① Remove unsound concrete along the construction joint, clean the rebars and patch.

② Existing retaining wall is only on the west side.

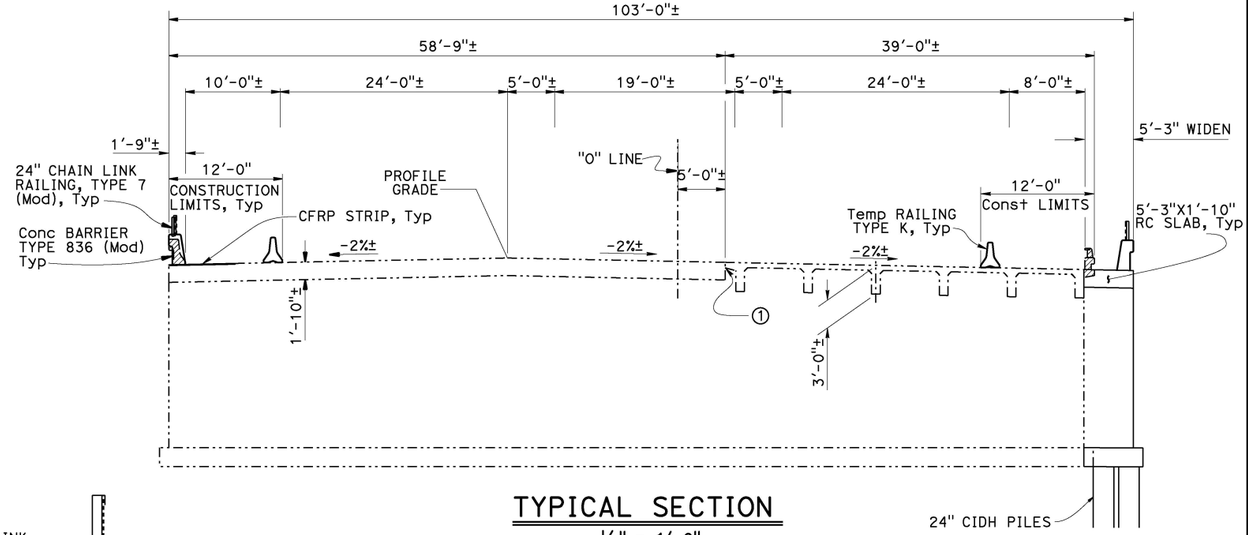
③ Sapcing CFRP Strip 12", Typ.

④ Spacing CFRP Strip at joints 6", Typ



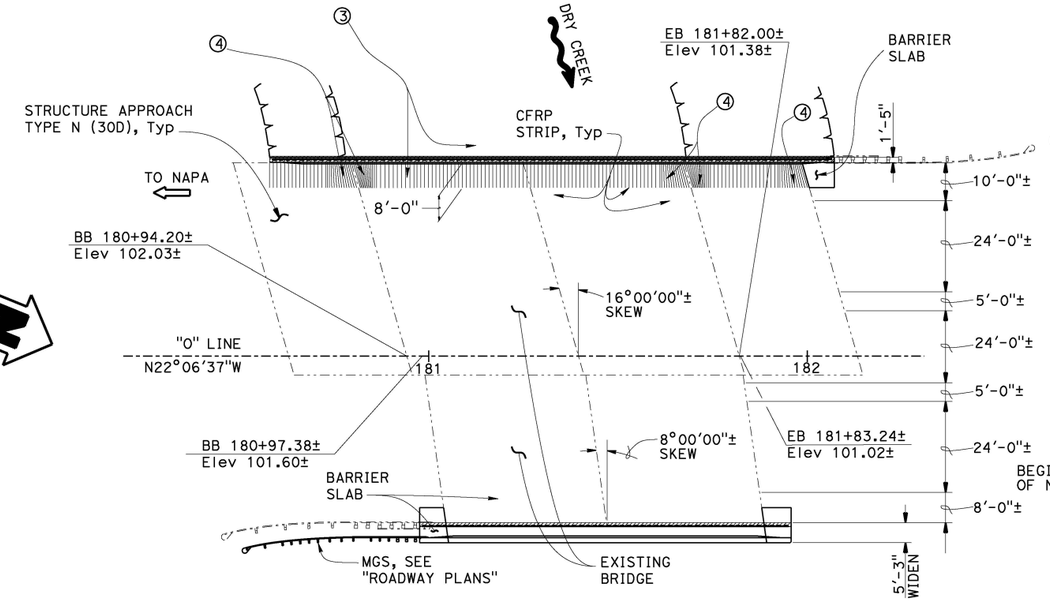
ELEVATION

1" = 20'



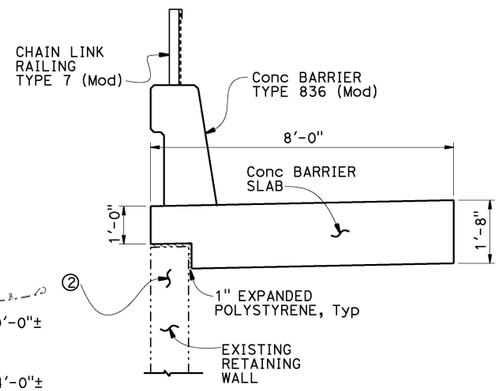
TYPICAL SECTION

⅛" = 1'-0"



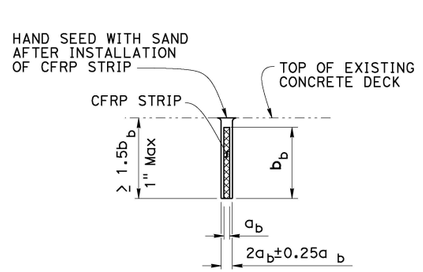
PLAN

1" = 20'



BARRIER SLAB DETAILS

½" = 1'-0"



CFRP STRIP TYPICAL SECTION

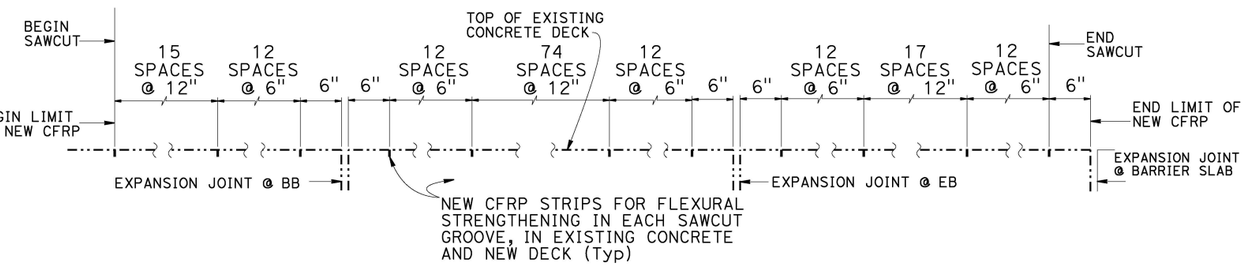
NO SCALE

NOTES:

GROOVE SAWCUTS MUST TAKE PLACE AFTER OVERHANG CONCRETE REACHES A MINIMUM COMPRESSIVE STRENGTH OF 3.25 KSI.

a_b = HORIZONTAL DIMENSION FOR MINIMUM CROSS SECTION ≥ 0.11 SQ IN

b_b = 0.63" OR EQUIVALENT



CFRP LIMITS & SPACING

No Scale

DATE OF ESTIMATE	09/06/19
LENGTH	88
WIDTH	5
AREA	462
COST/SQFT INCLUDING TRO, MOBILIZATION & 25% CONTINGENCY	$2,178
TOTAL COST	$1,006,000

ORIGINAL SCALE IN INCHES 0 1 2 3

DESIGNED BY	N. Tachta	DATE 12-22-15
DRAWN BY	J. Zhou/T.C.	DATE 09-12-19
CHECKED BY	M. El-Mously	DATE 4-14-16
APPROVED	R. Melko	DATE 4-14-16

STRUCTURE DESIGN BRANCH 9

PLANNING STUDY

DRY CREEK BRIDGE-Alt 1

UNIT: 3594	BRIDGE No. 21-0014
SCALE: AS SHOWN	PROJECT No. & PHASE: 0416000111K

CONTRACT No.: 0K630K

FILE => 21-0014-a-aps01.dgn

USERNAME => s107426 DATE PLOTTED => 12-SEP-2019 TIME PLOTTED => 15:55

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

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION - DIVISION OF STRUCTURES

DIST	COUNTY	ROUTE	POST MILE
04	Nap	29	16.48

ASSUMPTIONS & NOTES

1. TEMPORARY CONCRETE BARRIER TYPE K REQUIRED DURING CONSTRUCTION
2. TRAFFIC WILL BE CARRIED ON THE STRUCTURE DURING CONSTRUCTION
3. A MINIMUM OF 12' CONSTRUCTION ZONE IS REQUIRED
4. A MEDIUM TO HIGH POTENTIAL OF LIQUEFACTION IS ANTICIPATED
5. GROUND WATER IS ANTICIPATED
6. CAVING DURING PILE CONSTRUCTION IS ANTICIPATED
7. EXISTING MBGR TO BE REMOVED BY THE DISTRICT
8. ADDITIONAL GEOTECHNICAL FIELD WORK AND LAB TESTING IS NEEDED

LEGEND:

Indicates existing structure

Indicates concrete removal

CFRP: CARBON FIBER REINFORCED POLYMER

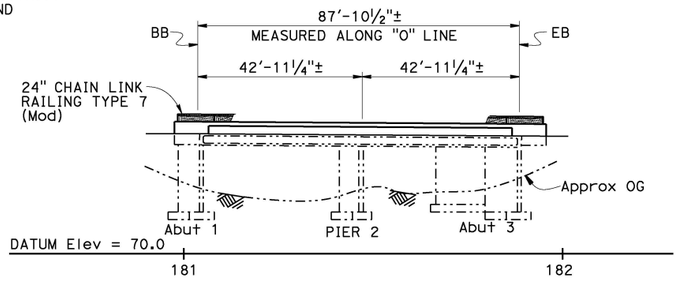
NOTE:

① Remove unsound concrete along the construction joint, clean the rebars and patch.

② Existing retaining wall is only on the west side.

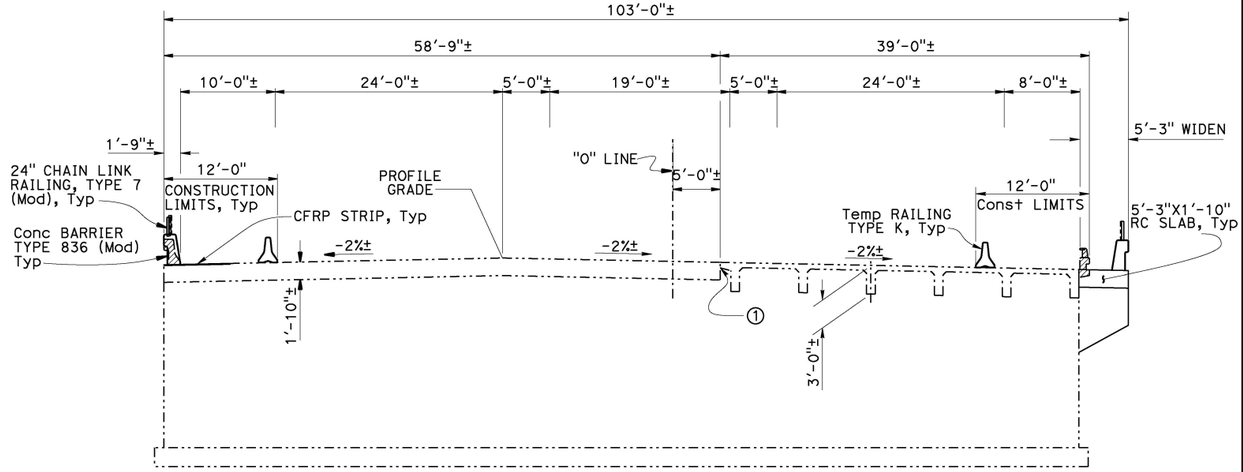
③ Sapcing CFRP Strip 12", Typ.

④ Spacing CFRP Strip at joints 6", Typ



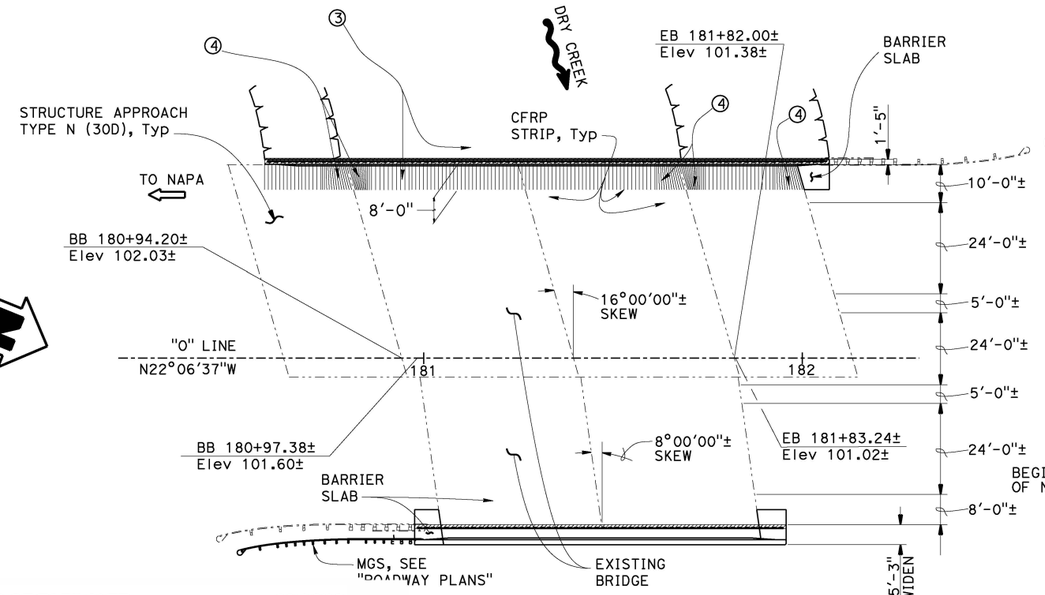
ELEVATION

1" = 20'



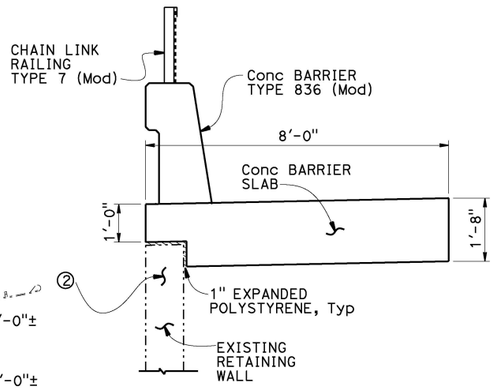
TYPICAL SECTION

⅛" = 1'-0"



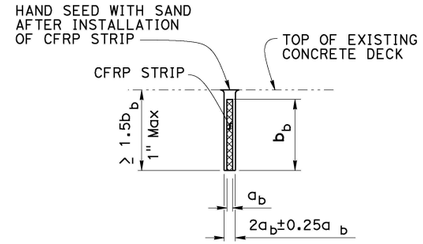
PLAN

1" = 20'



BARRIER SLAB DETAILS

½" = 1'-0"



CFRP STRIP TYPICAL SECTION

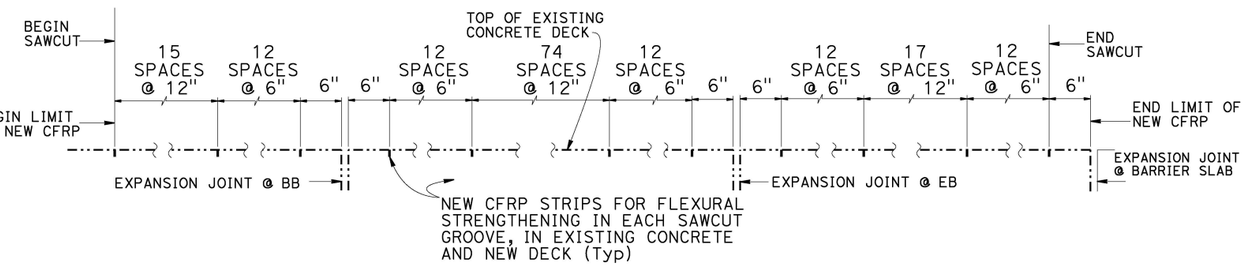
NO SCALE

NOTES:

GROOVE SAWCUTS MUST TAKE PLACE AFTER OVERHANG CONCRETE REACHES A MINIMUM COMPRESSIVE STRENGTH OF 3.25 KSI.

a_b = HORIZONTAL DIMENSION FOR MINIMUM CROSS SECTION ≥ 0.11 SQ IN

b_b = 0.63" OR EQUIVALENT



CFRP LIMITS & SPACING

No Scale

DATE OF ESTIMATE	09/06/19
LENGTH	86
WIDTH	5
AREA	444
COST/SQFT INCLUDING TRO, MOBILIZATION & 25% CONTINGENCY	$2,051
TOTAL COST	$910,000

ORIGINAL SCALE IN INCHES 0 1 2 3

DESIGNED BY	N. Tachta	DATE 12-22-15
DRAWN BY	J. Zhou/T.C.	DATE 09-12-19
CHECKED BY	M. El-Mously	DATE 4-14-16
APPROVED	R. Melko	DATE 4-14-16

STRUCTURE DESIGN BRANCH 9

PLANNING STUDY

DRY CREEK BRIDGE-Alt 2

UNIT: 3594 | BRIDGE No. 21-0014

SCALE: AS SHOWN | PROJECT No. & PHASE: 0416000111K

CONTRACT No.: 0K630K

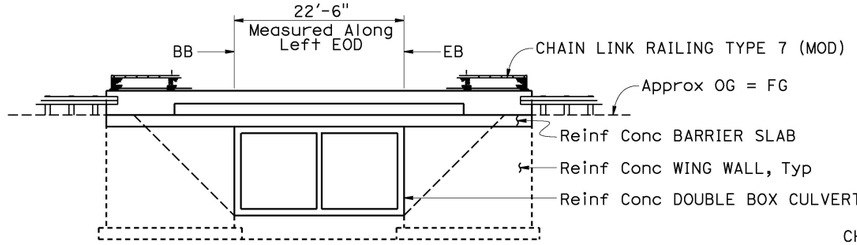
STRUCTURES DESIGN ADVANCE PLANNING STUDY SHEET (ENGLISH) (REV. 08-09-10)

FILE => 21-0014-a-aps02.dgn

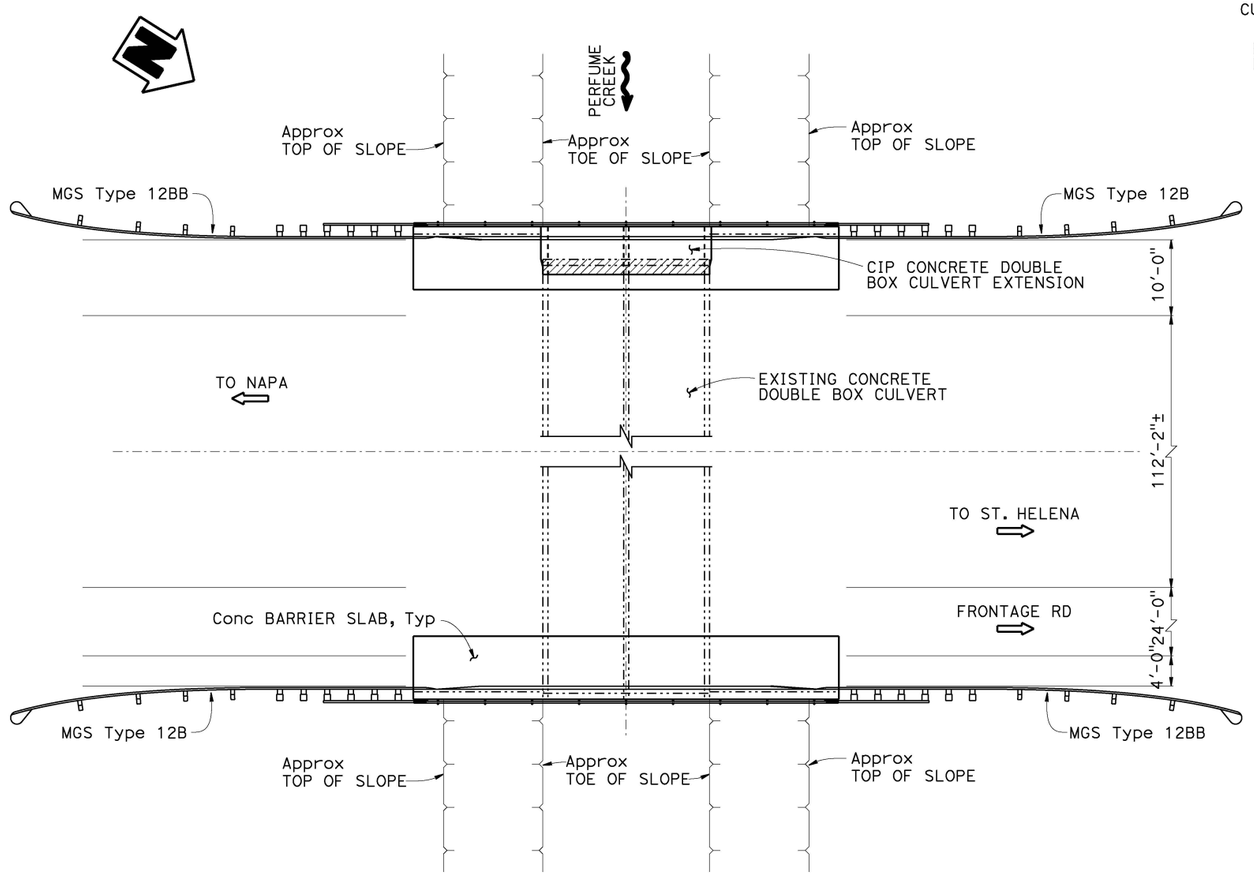
USERNAME => s107426 DATE PLOTTED => 12-SEP-2019 TIME PLOTTED => 15:55

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION - DIVISION OF STRUCTURES

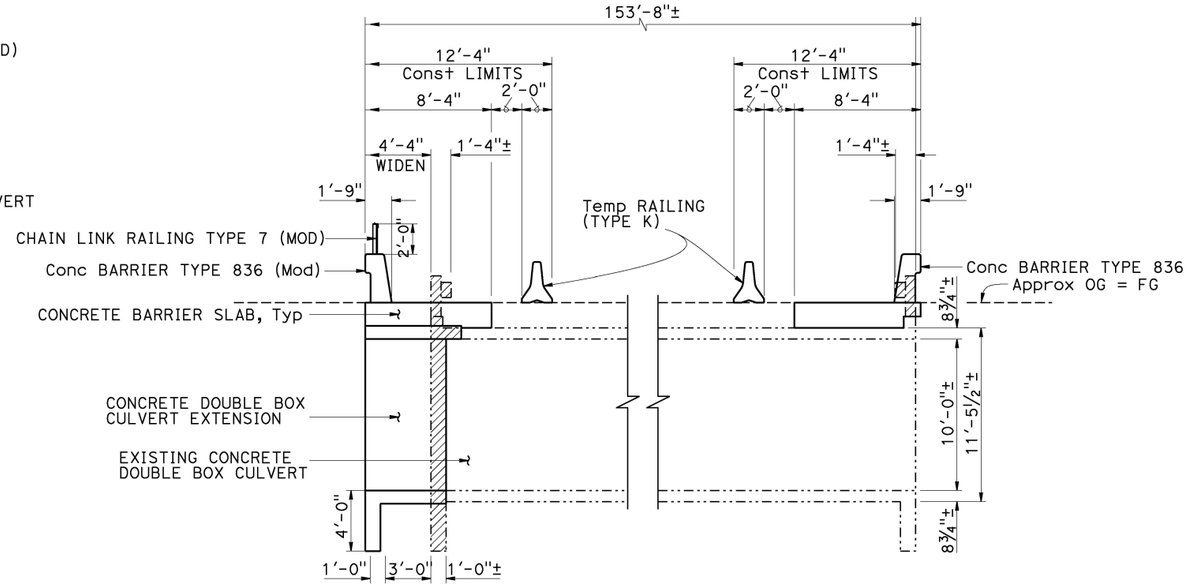
DIST	COUNTY	ROUTE	POST MILE
04	Nap	29	17.81



MIRROR ELEVATION
1" = 10'



PLAN
1" = 10'



TYPICAL SECTION
1" = 5'

DATE OF ESTIMATE	09/06/19
LENGTH	22
WIDTH	22
AREA	482
COST/SQFT INCLUDING TRO, MOBILIZATION & 25% CONTINGENCY	$814
TOTAL COST	$392,000

NOTES:

1. TRAFFIC WILL BE CARRIED ON THE STRUCTURE DURING CONSTRUCTION.
2. A MINIMUM OF 12 FEET CONSTRUCTION LIMITS REQUIRED AT SOUTHBOUND SR 29 AND THE FRONTAGE ROAD THROUGHOUT CONSTRUCTION OPERATIONS.
3. GROUND WATER IS ANTICIPATED.
4. NO AS-BUILTS AVAILABLE FOR THE EXISTING BOX CULVERT.
5. NO SURVEYING DATA AVAILABLE FOR THE CHANNEL CROSS-SECTION.
6. CHANNEL GRADING AND EMBANKMENT PROTECTION ARE PROVIDED BY DISTRICT.
7. STREAM DIVERSION IS PROVIDED BY DISTRICT.
8. CLEARING AND GRUBBING ITEM IS PROVIDED BY DISTRICT.

LEGEND:

- INDICATES EXISTING STRUCTURE
- INDICATES NEW CONSTRUCTION
- INDICATES REMOVAL OF EXISTING MBGR, AND PORTION OF CONCRETE DOUBLE BOX CULVERT

ORIGINAL SCALE IN INCHES 0 1 2 3

DESIGNED BY	M. El-Mously	DATE 03-29-16
DRAWN BY	G. Dickerson M. El-Mously/T. C.	DATE 09-04-19
CHECKED BY	N. Tachta	DATE 03-29-16
APPROVED	R. Melko	DATE 03-29-16

STRUCTURE DESIGN BRANCH 9

PLANNING STUDY

PERFUME CREEK CULVERT EXTENSION

UNIT: 3594	BRIDGE No. 21-0051
SCALE: As Noted	PROJECT No. & PHASE: 04160001110

CONTRACT No.: 04-0K630K

USERNAME => s107426 DATE PLOTTED => 11-SEP-2019 TIME PLOTTED => 13:50

FILE => 21-0051-a-aps.dgn

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

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION - DIVISION OF STRUCTURES

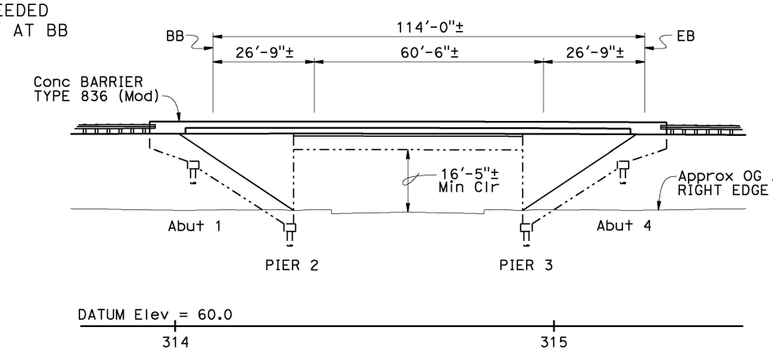
DIST	COUNTY	ROUTE	POST MILE
04	Nap	29	19.04

ASSUMPTIONS & NOTES

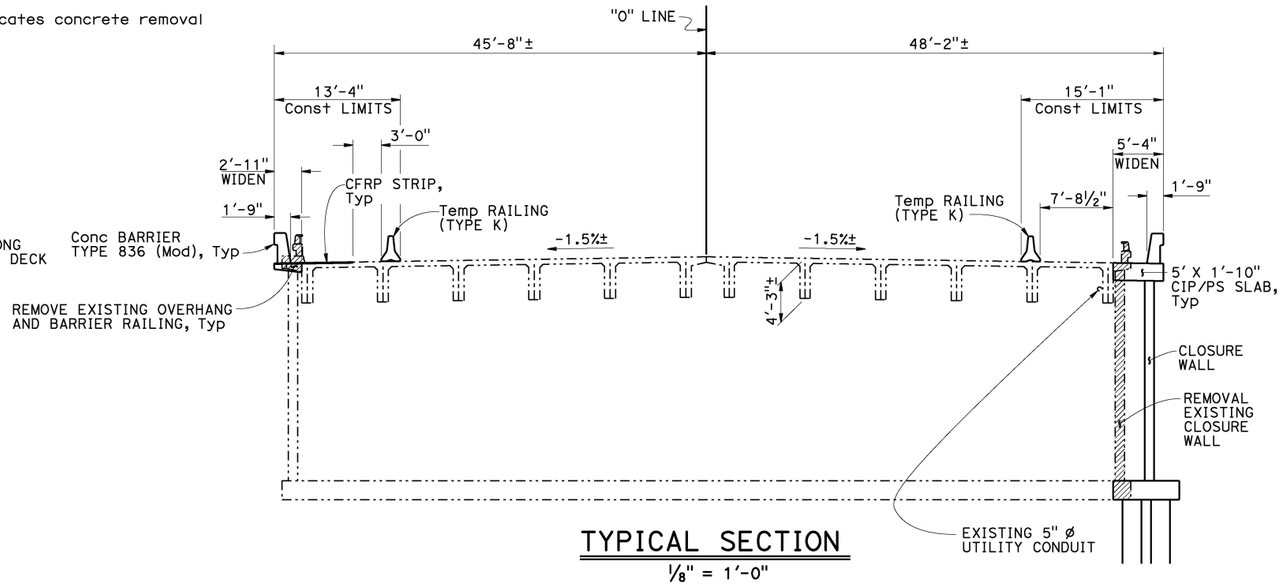
1. TEMPORARY CONCRETE BARRIER TYPE K REQUIRED DURING CONSTRUCTION
2. TRAFFIC WILL BE CARRIED ON THE STRUCTURE DURING CONSTRUCTION
3. A MINIMUM OF 13' CONSTRUCTION ZONE IS REQUIRED
4. GROUND WATER IS ANTICIPATED
5. CAVING DURING PILE CONSTRUCTION IS ANTICIPATED
6. EXISTING MBGR TO BE REMOVED BY THE DISTRICT
7. ADDITIONAL GEOTECHNICAL FIELD WORK AND LAB TESTING IS NEEDED
8. CFRP LIMITS, BEGIN AT BB AND END AT EB.

NOTES:
1. A minimum of 12' Construction Zone is required.

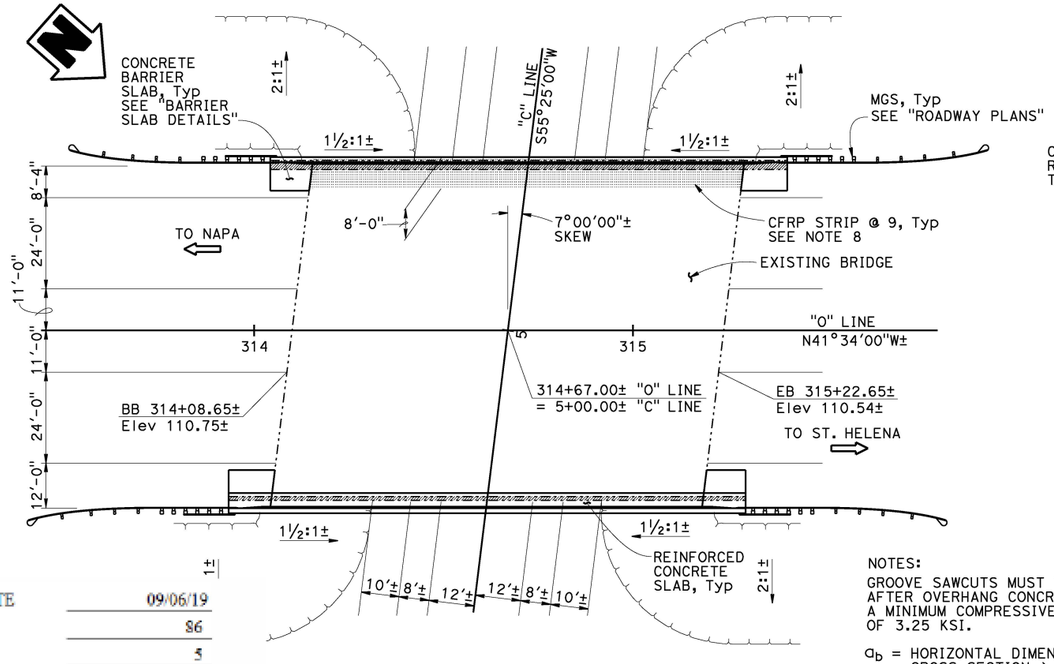
LEGEND:
CFRP - Carbon Fiber Reinforced Polymer
Indicates existing structure
Indicates concrete removal



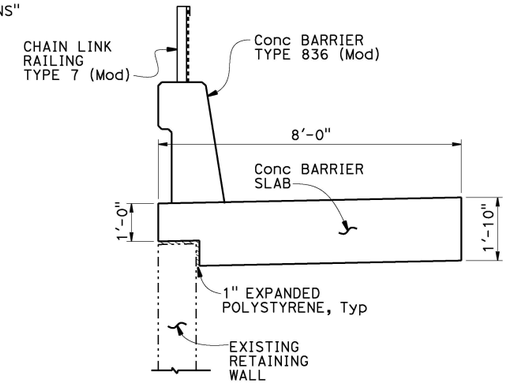
ELEVATION
1" - 20'



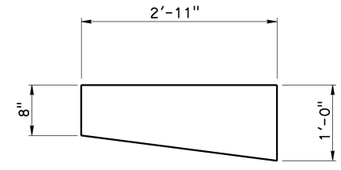
TYPICAL SECTION
⅛" = 1'-0"



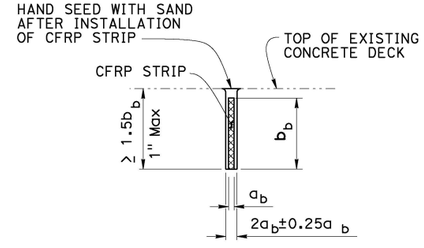
PLAN
1" = 20'



BARRIER SLAB DETAILS
½" = 1'-0"



OVERHANG DETAILS
1" = 1'-0"



CFRP STRIP TYPICAL SECTION
NO SCALE

DATE OF ESTIMATE	09/06/19
LENGTH	86
WIDTH	5
AREA	444
COST/SQFT INCLUDING TRO, MOBILIZATION & 25% CONTINGENCY	$2,051
TOTAL COST	$910,000

NOTES:
GROOVE SAWCUTS MUST TAKE PLACE AFTER OVERHANG CONCRETE REACHES A MINIMUM COMPRESSIVE STRENGTH OF 3.25 KSI.

a_b = HORIZONTAL DIMENSION FOR MINIMUM CROSS SECTION ≥ 0.11 SQ IN

b_b = 0.63" OR EQUIVALENT

ORIGINAL SCALE IN INCHES 0 1 2 3

DESIGNED BY	N. Tachta	DATE 4-14-16
DRAWN BY	G. Dickerson\T.C.	DATE 09-11-19
CHECKED BY	M. El-Mously	DATE 4-14-16
APPROVED	R. Melko	DATE 4-14-16

STRUCTURE DESIGN BRANCH 9

PLANNING STUDY
CALIFORNIA DRIVE UC

UNIT: 3594	BRIDGE No. 21-0047
SCALE: As Noted	PROJECT No. & PHASE: 04160001110

USERNAME => s107426 DATE PLOTTED => 11-SEP-2019 TIME PLOTTED => 13:50

Appendix D Avoidance and Minimization Measures Summary

Avoidance and Minimization Measures for Aesthetic Resources

AMM AES-1: Tree Removal. Existing trees and vegetation would be preserved to the extent feasible.

Avoidance and Minimization Measures for California Red-Legged Frog

AMM BIO-1: Pre-Construction California Red-Legged Frog Surveys. Pre-construction surveys for the CRLF would be conducted by a USFWS-approved biologist no more than 20 calendar days prior to any initial ground disturbance and immediately prior to ground-disturbing activities (including vegetation removal) beyond the existing pavement. These efforts would consist of walking surveys of the Project limits and, if possible, accessible adjacent areas within at least 50 feet of the Project limits. The USFWS-approved biologist would investigate potential cover sites when it is feasible and safe to do so. This includes thorough investigation of mammal burrows, rocky outcrops, appropriately sized soil cracks, tree cavities, and debris. Native vertebrates found in the cover sites within the Project limits would be documented and relocated to an adequate cover site in the vicinity. Safety permitting, the USFWS-approved biologist(s) would investigate areas of disturbed soil for signs of frogs within 30 minutes following initial disturbance of the given area.

AMM BIO-2: Prevention of Entrapment. To prevent the inadvertent entrapment of the CRLF, all excavated, steep-walled holes or trenches more than 1-foot deep would be covered at the close of each working day by plywood or similar materials. If it is not feasible to cover an excavation, one or more escape ramps constructed of earthen fill or wooden planks shall be installed. Before such holes or trenches are filled, they must be thoroughly inspected for trapped animals. If at any time a trapped listed animal is discovered, the USFWS-approved biologist would immediately place escape ramps or other appropriate structures to allow the animal to escape, or the USFWS would be contacted by telephone for guidance. The USFWS would be notified of the incident by telephone and electronic mail within one working day.

AMM BIO-3: Protocol for Species Relocation and Reporting. If red-legged frogs are encountered in the immediate work area the following procedures would be followed:

a. If CRLF is discovered during surveys or Project activities, the RE and USFWS-approved biologist would be immediately informed. If a CRLF gains access to a construction zone, work would be halted immediately within 50 feet until the animal leaves the construction zone or is relocated by the USFWS-approved biologist. The captured frog would be released within appropriate habitat outside of the construction area within the creek's riparian corridor. The release habitat would be determined by the USFWS-approved biologist.

b. The USFWS-approved biologist would have the authority to halt work through coordination with the RE in the event that a CRLF is discovered within the Project footprint. The RE would ensure construction activities remain suspended in any construction area where the qualified biologist has determined that a potential take of the CRLF could occur. Work would resume once the animal leaves the site voluntarily, is removed by the biologist(s) to a release site using USFWS-approved handling techniques, or it is determined that the CRLF is not being harassed by construction activities. If take occurs, the biologist(s) would notify the USFWS contact by telephone and electronic mail within one working day.

c. The biological monitor(s) would take precautions to prevent introduction of amphibian diseases in accordance with the Revised Guidance on Site Assessments and Field Surveys for the California Red-legged Frog (USFWS 2005).

d. Injured frogs would be cared for by a USFWS-approved biologist or a licensed veterinarian, if possible. Dead frogs would be preserved according to standard museum techniques and held in a secure location. The USFWS would be notified within one working day of the discovery of a death or an injury of frog(s) resulting from Project-related activities or if a CRLF is observed at the Project site. Notification would include the date, time, and location of the incident or of the finding of a dead or injured animal clearly indicated on a U.S. Geological Survey 7.5-minute quadrangle and other maps at a finer scale, as requested by the USFWS, and any other pertinent information.

e. Caltrans would submit post-construction compliance reports prepared by the biologist to the USFWS within 60 calendar days following completion of Project activities or within 60 calendar days of any break in construction activity lasting more than 60 calendar days. This report would detail (1) dates that relevant Project activities occurred; (2) pertinent information concerning the success of the

Project in implementing AMMs for listed species; (3) an explanation of failure to meet such measures, if any; (4) known Project effects on the CRLF, if any; (5) occurrences of incidental take of listed species, if any; (6) documentation of employee environmental education; and (7) other pertinent information

Avoidance and Minimization Measures for California Freshwater Shrimp

AMM BIO-4: Prevention of Shrimp Entrapment. Shrimp are difficult to detect, so their presence would be assumed for in-water work areas. These areas would be carefully isolated and all shrimp would be relocated. Prior to TCDS installation a USFWS-approved biologist would install one-eighth inch mesh block nets outside Project impact areas and across the creek at a minimum of 20 feet above and below the dewatering limits to isolate the work area. Then, the biologist would remove all shrimp within the block nets using a one-eighth inch seine and/or dip nets, focusing on overhanging vegetation submerged along the creek bank. Shrimp would be relocated to suitable habitat downstream of the dewatering system. Then the cofferdams would be installed and the block nets removed, all monitored by the biologist. Pump intakes would be completely screened with wire mesh no larger than 0.2 inch. The pumps would be fitted with anti-entrapment device(s) to prevent shrimp from being drawn into them or impinged on intake screening. The USFWS-approved biologist would remain on-site and survey for shrimp and monitor turbidity levels within the cofferdams during the active dewatering and would capture and relocate shrimp as necessary.

Avoidance and Minimization Measures for CCC DPS Steelhead

As required under the FESA, Caltrans would implement reasonable and prudent measures to minimize and avoid potential take of the CCC DPS steelhead. The following species-specific AMMs would be used to minimize Project impacts on steelhead:

AMM BIO-5: Prevention of Entrapment. Steelhead juveniles are difficult to detect, thus Caltrans is assuming presence for all in-water work areas within bed and banks of Dry Creek. In order to reduce the take of steelhead all in-water work areas would be isolated and all fish captured and relocated. Capture and relocation efforts would be conducted as follows, or as agreed upon in the Fish Relocation Plan; a NMFS-approved biologist would install one-eighth inch block nets across the creek a minimum of 20 feet above and below the locations proposed for dewatering to prevent steelhead moving into what would be the work area. Then, the biologist

would capture and relocate all steelhead within the nets using a one-eighth inch seine, dip nets, and/or electroshocking. All captured steelhead would be placed in buckets containing creek water and then relocated to suitable habitat downstream of the dewatering system. All non-native fish, amphibians and crustaceans would not be returned to Dry Creek but would be euthanized and disposed of. After the initial clearance of the dewatered construction area, the coffer dams would be installed with monitoring by the biologist. The block nets would be removed once steelhead can no longer enter the work area. The pump to be used for dewatering the work area would be completely screened with wire mesh no larger than 0.2 inch or would be buried in a gravel filled sump. The pumps would be fitted with anti-entrapment device(s) to prevent steelhead from being drawn into them or impinged on intake screening. The NMFS-approved biologist would remain on-site and survey for steelhead and monitor turbidity levels within the work area during the active dewatering, and would capture and relocate steelhead as necessary.

AMM BIO-6: Fish Relocation Plan. A species relocation plan for steelhead would be developed and submitted to NMFS for approval prior to Project construction. The Fish Relocation Plan would identify specific methods and equipment for isolation of work areas, capture and handling of individual fish, and a sequence of relocation steps. Suitable habitat for relocation downstream of the action area would be identified in the Fish Relocation Plan.

AMM BIO-7: Construction Behind Cofferdams. All work in aquatic habitat within Dry Creek would take place behind cofferdams in dewatered areas. Cofferdams would effectively isolate the work areas from Dry Creek and significantly reduce potential construction effects and stressors, such as noise and vibration, from steelhead and other fishes. Cofferdams would be designed and constructed to isolate work along each respective left and right bank of the creek from the central thalweg, avoiding disturbance of core habitat areas in the central part of the creek and allowing tidal flows to easily pass through the Project limits.

AMM BIO-8: In-water Work Windows. All work in aquatic habitat for steelhead and other fishes within Dry Creek would take place from June 1 to October 31 when the most sensitive life history stages of steelhead are not present in the action area. Adult spawning takes place November – February and juvenile smolt outmigration takes place March – May. The in-water work window would also avoid having construction disturbance in Dry Creek when most rainfall typically occurs, avoiding

impacts to water quality and challenges to the cofferdams by increased flows that occur during rain events.

Avoidance and Minimization Measures for Mammals

AMM BIO-9: Avoidance of Bat Roosts. Existing roosts should be accommodated to the extent feasible while maintaining the safety, operation, maintenance, and inspection aspects of the structure.

a. Impacts and interactions with the species should be avoided whenever possible through timing of work, method selection, and retention of features that provide naturalized habitat.

b. If avoidance is not possible then impacts should be minimized by careful planning of activities to complement the life history of the animal. Measures might include items such as temporary humane exclusions at appropriate times of year to avoid take and the retention of portions of the features that provide naturalized habitat.

c. Where appropriate, measures to minimize accumulation of guano from existing roosts and to allow inspection without disturbance of the bats should be incorporated into projects.

Avoidance and Minimization Measures for Migratory Birds and Raptors

AMM BIO-10: **Bird Nesting Surveys.** A biologist (s) would conduct pre-construction bird nesting surveys prior to the beginning of construction. With the exception of nests of listed bird species and eagles, inactive nests would be removed to deter birds from re-establishing nests within the Project limits. Caltrans would remove unoccupied bird nests during the non-nesting season (October 1 to January 31) prior to or during construction or during the nesting season after being deemed inactive by the USFWS-approved biologist.

AMM BIO-11: Exclusion Methods. Exclusionary methods would be used to prevent migratory birds from nesting and roosting within the BSA (February 1 to September 30).

AMM BIO-12: Migratory Bird and Nest Avoidance. If active nests are present within the Project limits, work within 50 feet of the nest of passerine species or 300 feet of raptor species would be avoided and monitored.

Avoidance and Minimization Measures for Hydrology and Water Quality

AMM HYD-1: Sediment Control Practices. Sediment control practices include but are not limited to the following: silt fence, sediment/distilling basin, check dam, fiber rolls, and street sweeping and vacuuming. Fiber rolls generally consist of wheat straw or other inert biological materials that are then bound together. These rolls are placed along the toe of downhill slopes, perpendicular to the direction of flow, to reduce flow velocity, and slow the release of runoff and sheet flow into receiving waters. These rolls also trap sediment in the water column and prevent these sediments from entering the creeks in the Project vicinity.

AMM HYD-2: Non-Stormwater Management. Waste management and materials pollution control practices would be implemented as part of this Project. These measures apply to dewatering operations, pile driving operations, concrete curing and finishing, water conservation practices, portable water/irrigation, vehicle and equipment operations (fueling, cleaning, and maintenance), and material and equipment use.

Water quality management practices would be implemented during all other construction activities, including pile driving operations. These practices include the proper storage of equipment, such as parking of vehicles more than 50 feet away from water courses.

Avoidance and Minimization Measures for Noise

AMM NOISE-1: Night Work. No night work within 50 feet of a sensitive receptor would be conducted.

Appendix E List of Technical Studies and References

Association of Bay Area Governments (ABAG) and Metropolitan Transportation Commission (MTC). 2017. *Final Plan Bay Area 2040.* Available at: http://www.mtc.ca.gov/planning/plan_bay_area/.

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Appendix F Biological Figures

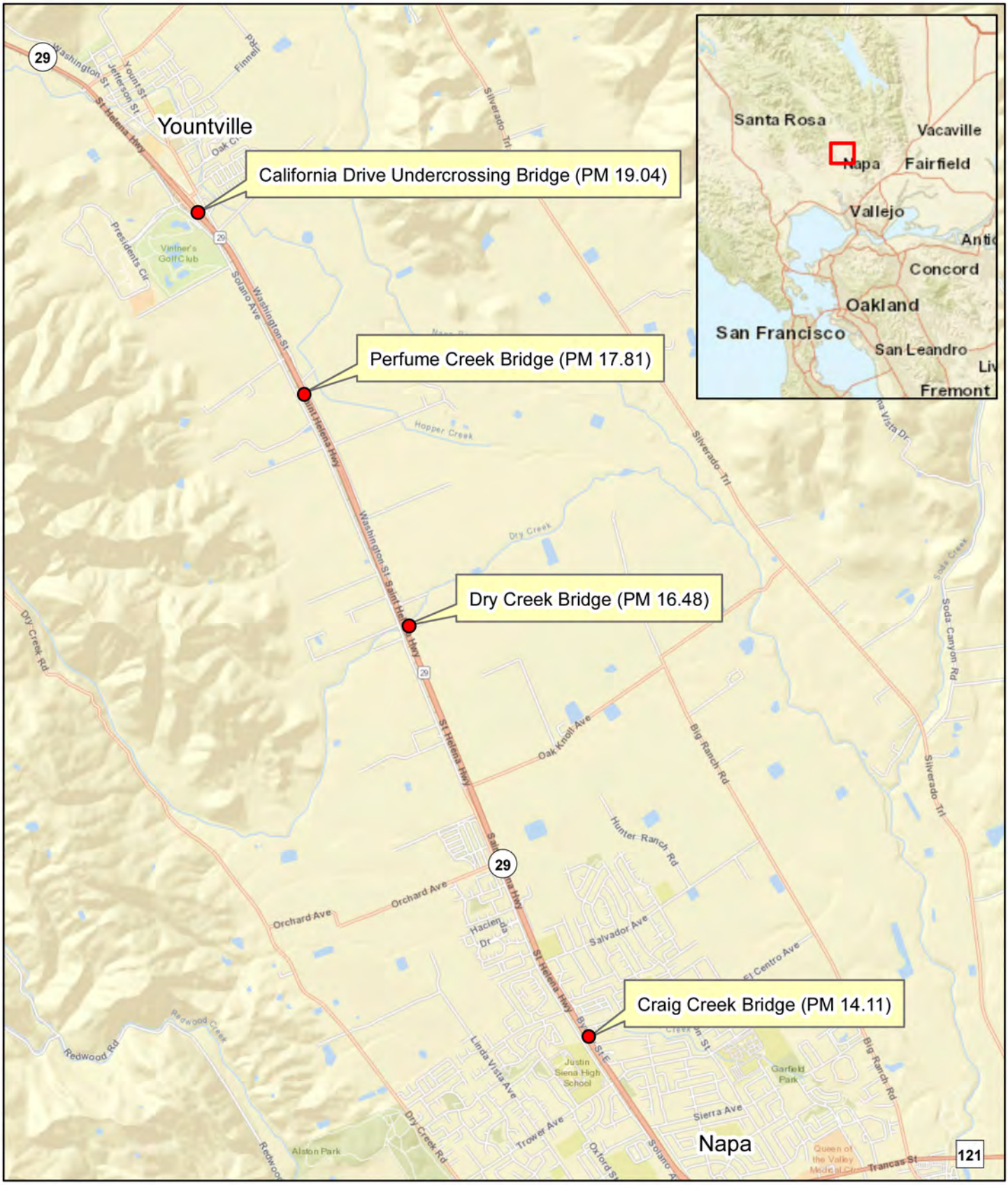


Figure 1-1: Project Vicinity

Bridge Rail Replacement Project

Napa County, California
State Route 29, Postmiles 14.11/16.48/17.81/19.04
EA 04-0K630/PID 0416000111

N

0 0.25 0.5 1 Miles

Legend

- Project Locations

Figure 1-3:Dry Creek Bridge Project Components and Impacts

Bridge Rail Replacement Project

Napa County, California
State Route 29, Postmiles 14.1-19.0
EA 04-0K630/PID 0416000111

N

0 0.0075 0.015 0.03 Miles

Legend

- Staging Area (Temporary Impact)
- Bridge Widening (Permanent Impact)
- Creek Work (Permanent Impact)
- Project footprint

Figure 1-4: Perfume Creek Bridge Project Components and Impacts

Bridge Rail Replacement Project

Napa County, California
State Route 29, Postmiles 14.1-19.0
EA 04-0K630/PID 0416000111

N

0 0.0075 0.015 0.03 Miles

Legend

- Staging Area (Temporary Impact)
- Bridge Widening (Permanent Impact)
- Creek Work (Permanent Impact)
- Project footprint

Figure 1-5: California Drive Undercrossing Bridge Project Components and Impacts

Bridge Rail Replacement Project

Napa County, California
State Route 29, Postmiles 14.1-19.0
EA 04-0K630/PID 0416000111

N

0 0.02 0.04 0.08 Miles

Legend

- Staging Area (Temporary Impact)
- Bridge Widening (Permanent Impact)
- Project footprint

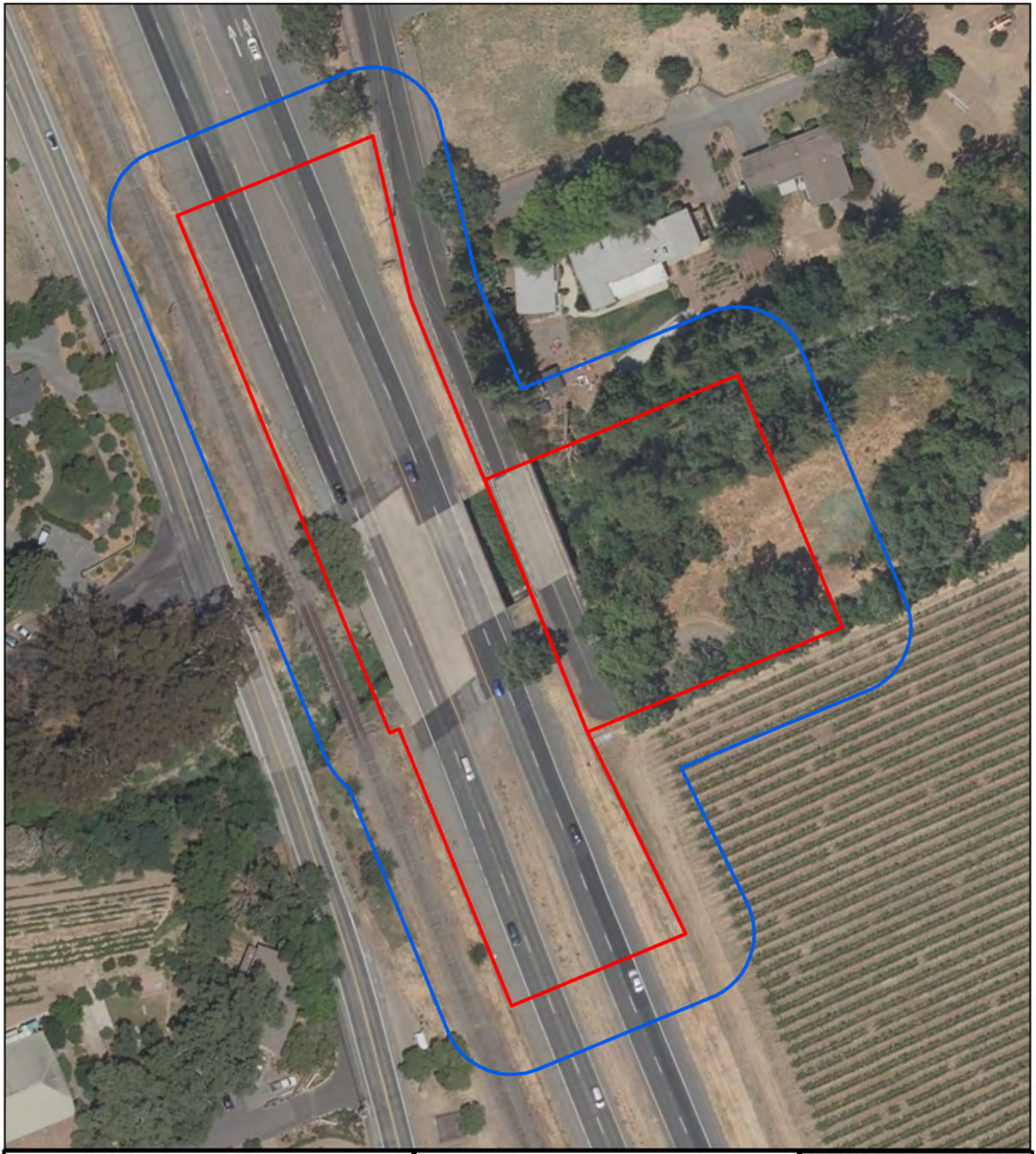


Figure 2-2: Dry Creek Bridge Project Footprint and BSA

Bridge Rail Replacement Project

Napa County, California
State Route 29, Postmiles 14.1-19.0
EA 04-0K630/PID 0416000111

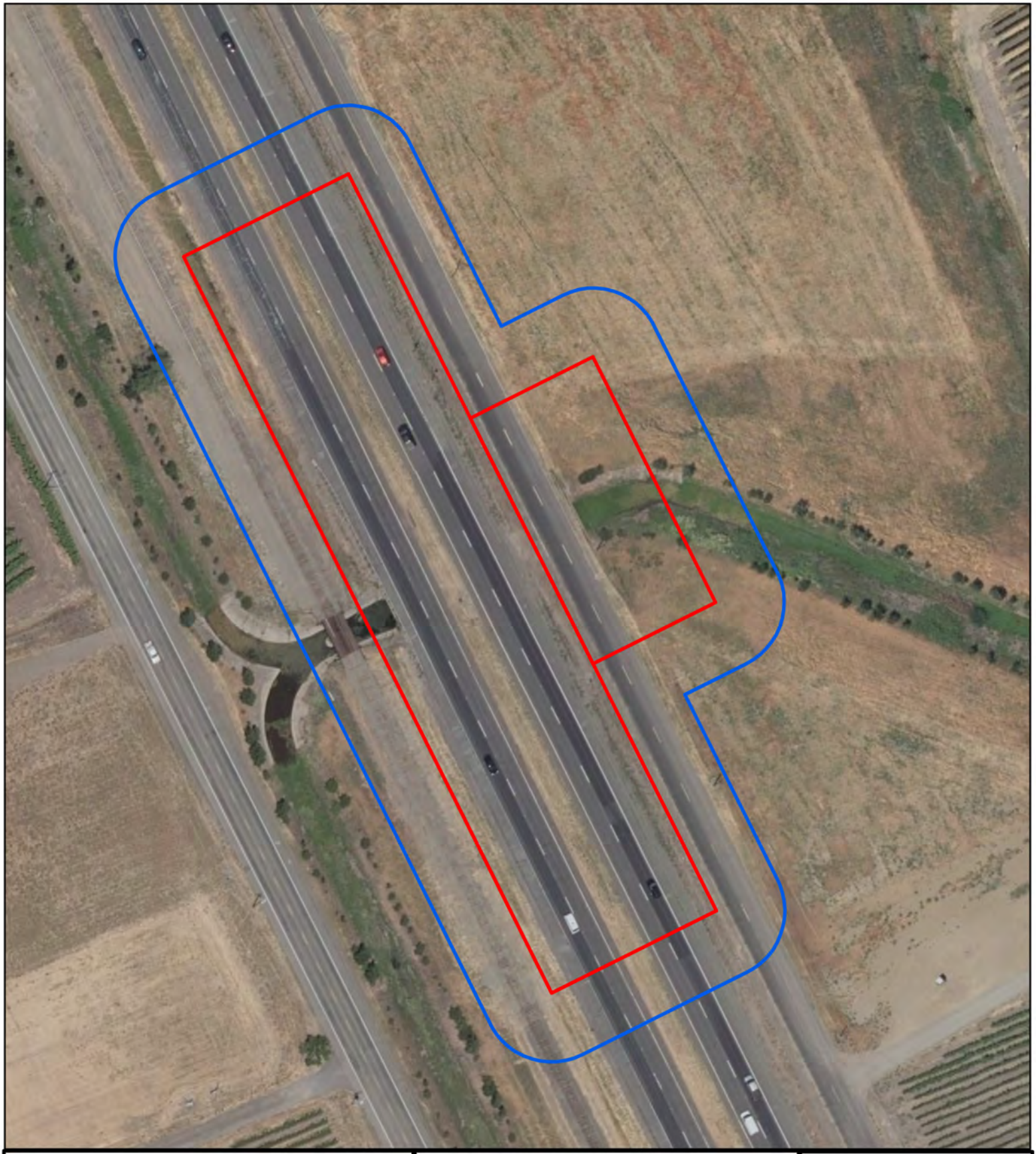


Figure 2-3: Perfume Creek Bridge Project Footprint and BSA

Bridge Rail Replacement Project

Napa County, California
State Route 29, Postmiles 14.1-19.0
EA 04-0K630/PID 0416000111

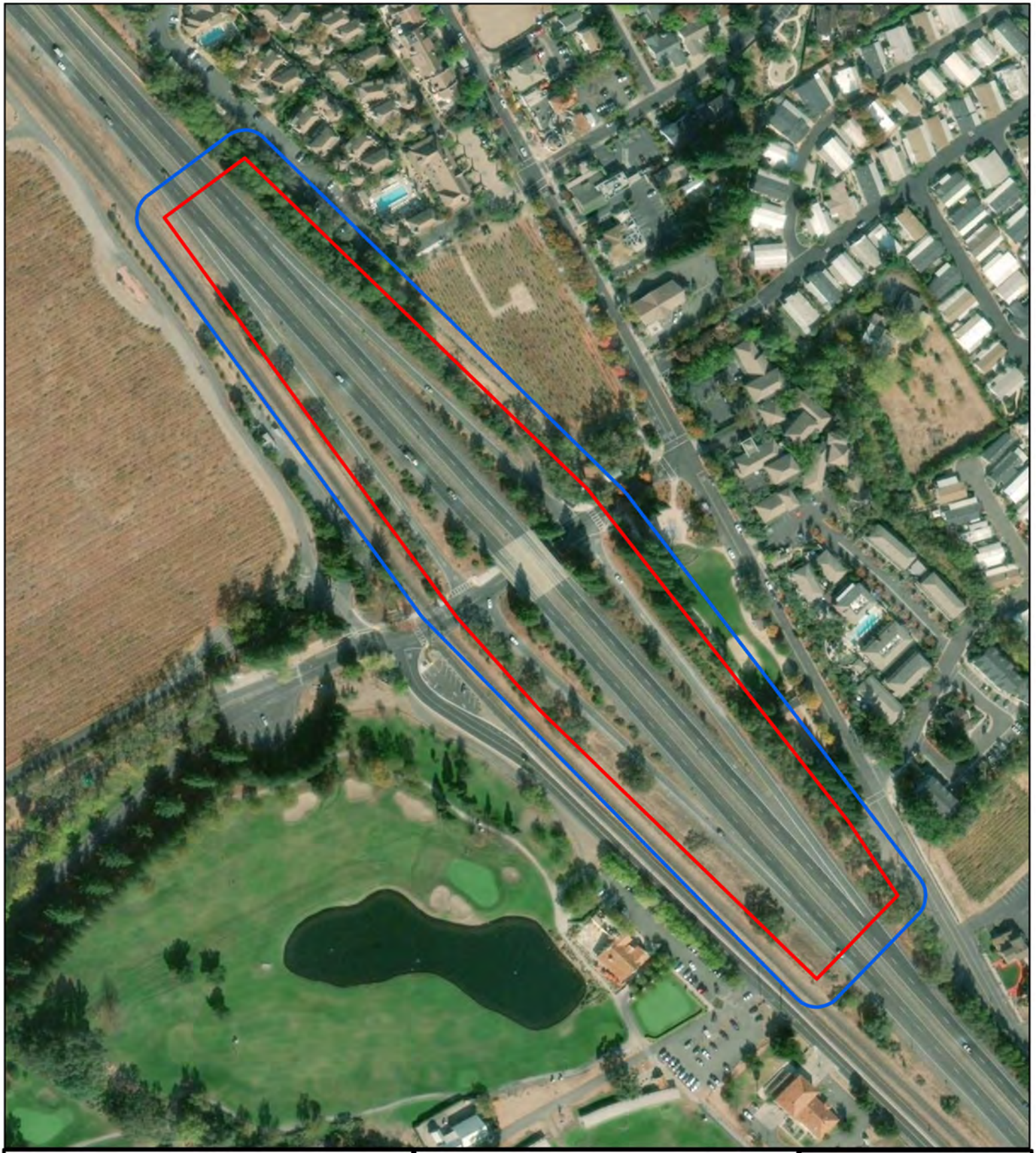


Figure 2-4: California Drive Undercrossing Bridge Project Footprint and BSA

Bridge Rail Replacement Project

Napa County, California
State Route 29, Postmiles 14.1-19.0
EA 04-0K630/PID 0416000111

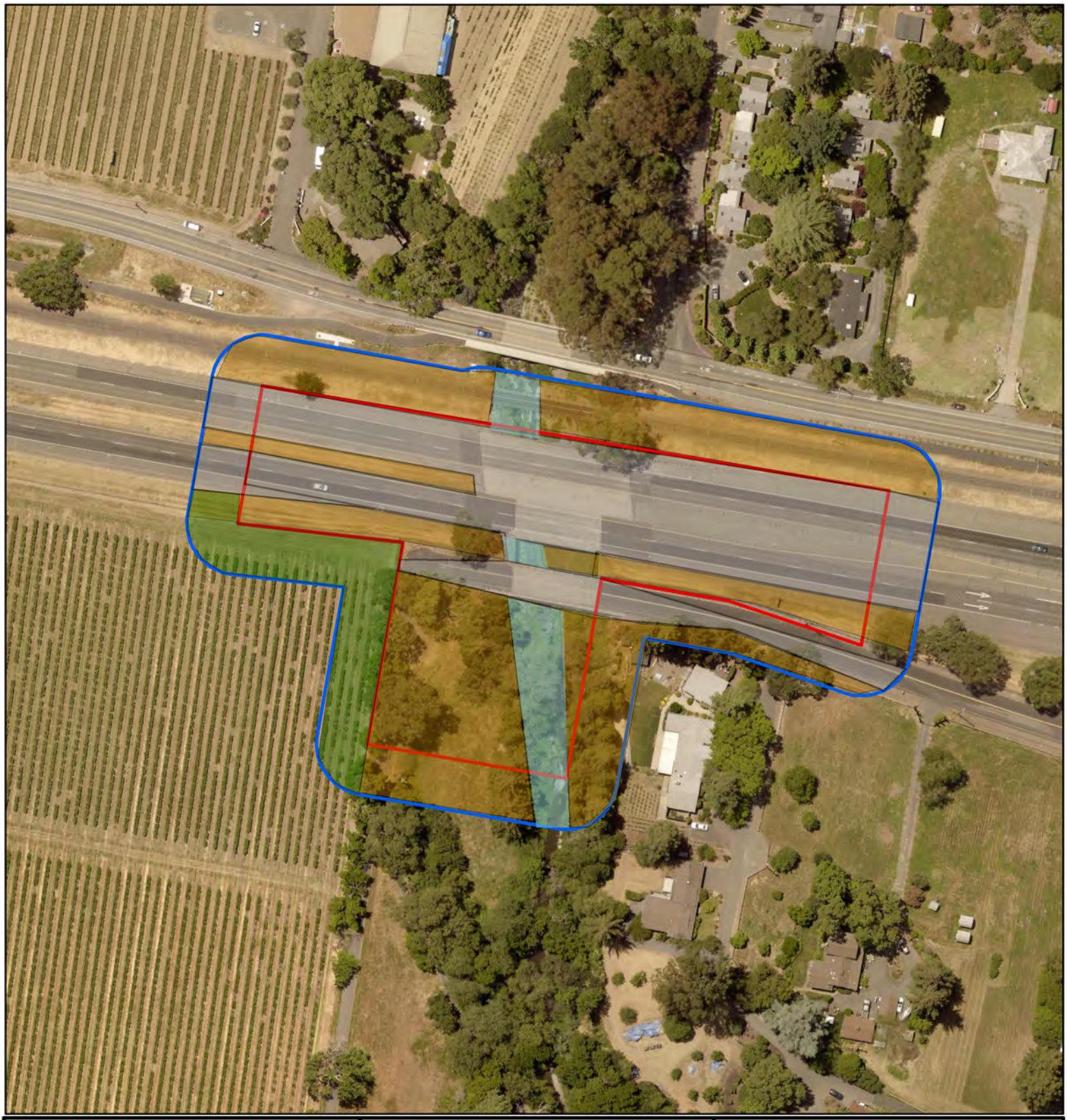


Figure 3-2: Vegetation Types within the Dry Creek Bridge BSA

Bridge Rail Replacement Project

Napa County, California
State Route 29, Postmiles 14.1-19.0
EA 04-0K630/PID 0416000111

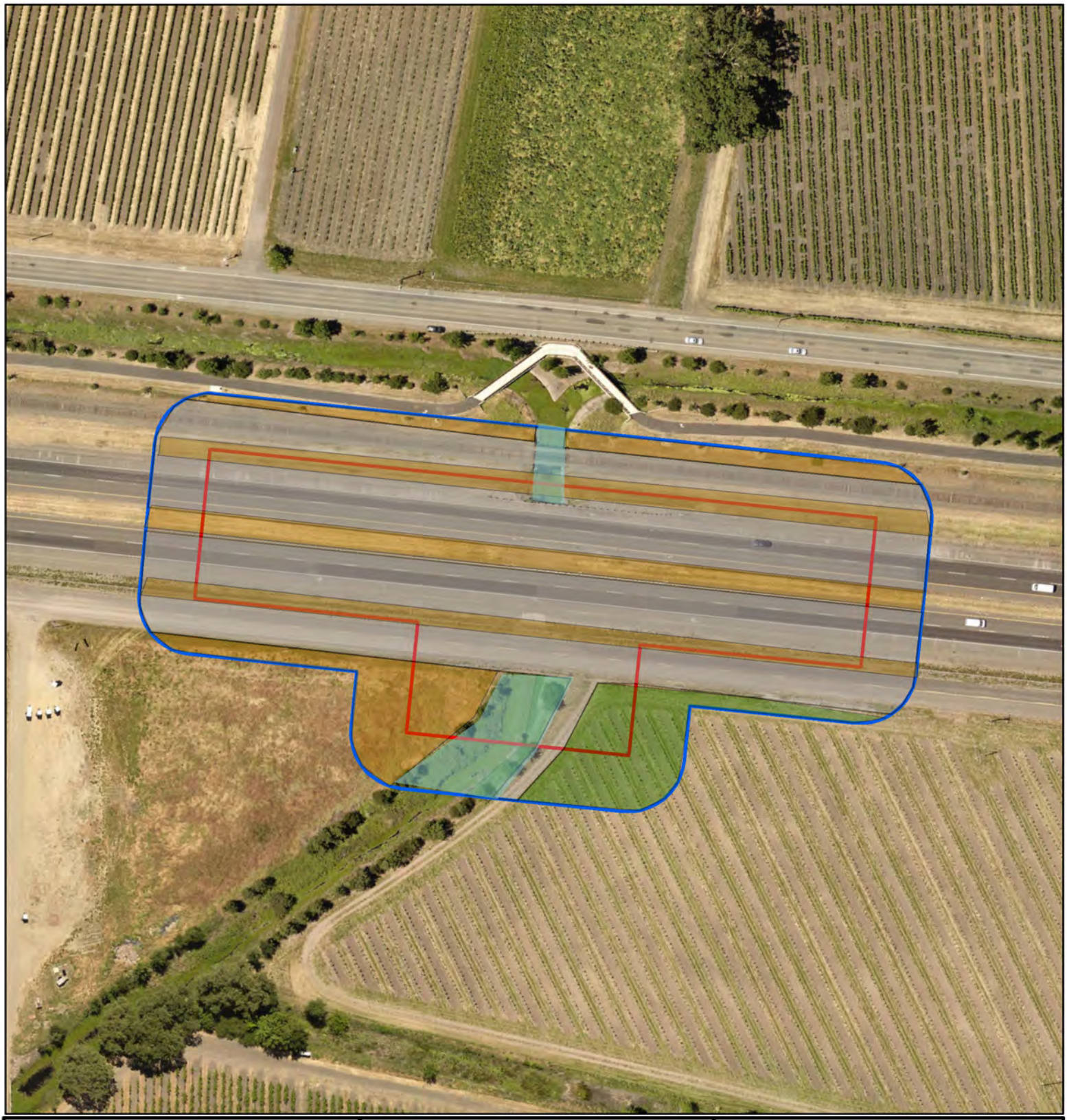


Figure 3-3: Vegetation Types within the Perfume Creek Bridge BSA

Bridge Rail Replacement Project

Napa County, California
State Route 29, Postmiles 14.1-19.0
EA 04-0K630/PID 0416000111

Figure 3-4: Vegetation Types within the California Drive Undercrossing Bridge BSA

Bridge Rail Replacement Project

Napa County, California
State Route 29, Postmiles 14.1-19.0
EA 04-0K630/PID 0416000111

N

0 0.0275 0.055 0.11 Miles

Legend

- Landscaped/ornamental
- Existing pavement
- BSA
- Project footprint

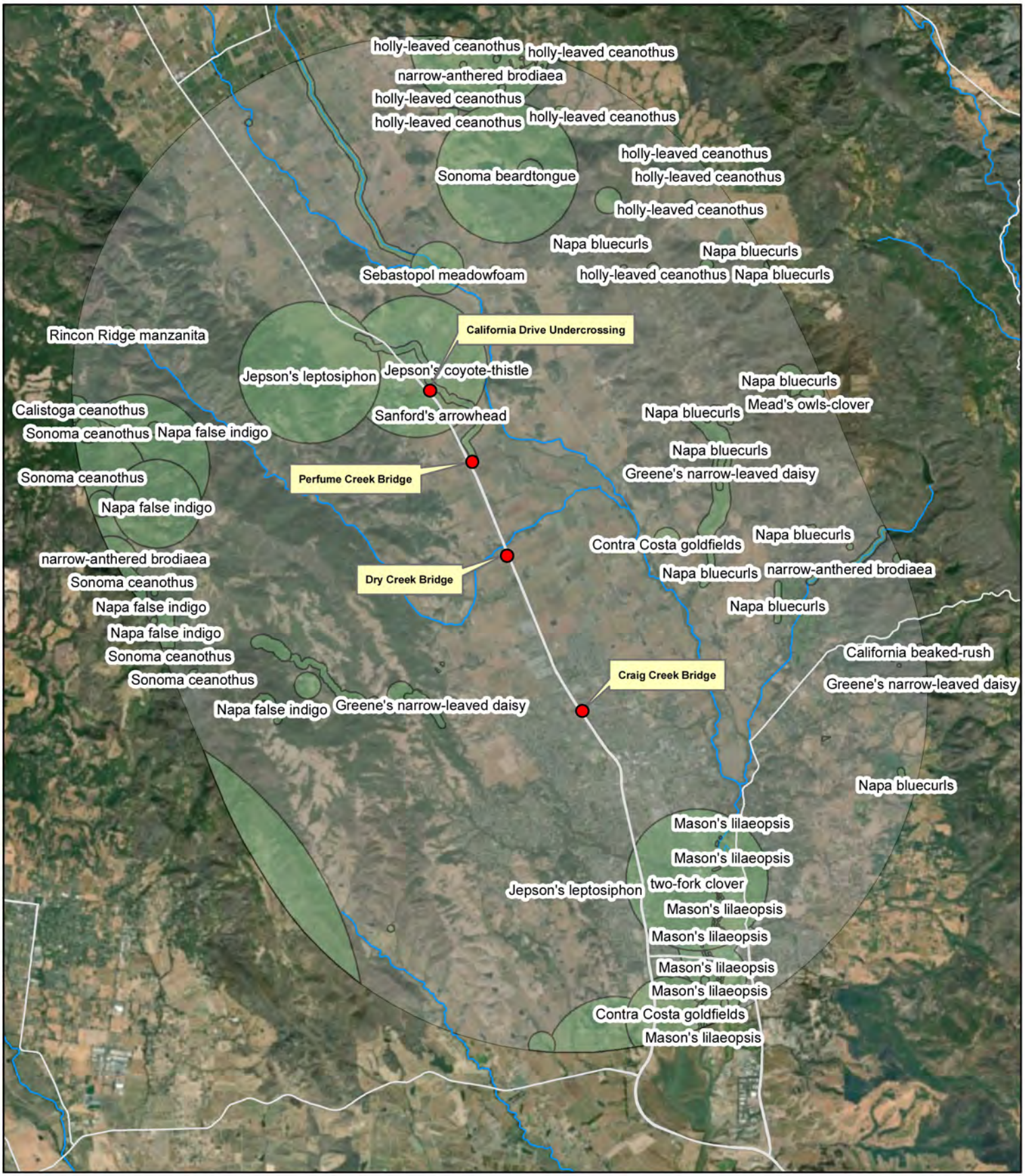


Figure 3-5: CNDDB Special-Status Plant Occurrences within 5-miles of the BSA

Bridge Rail Replacement Project
Napa County, California
State Route 29, Postmiles 14.11/16.48/17.81/19.04
EA 04-0K630/PID 0416000111

N

0 0.5 1 2 Miles

Legend

- Rare plant species
- Project locations
- 5-mile buffer

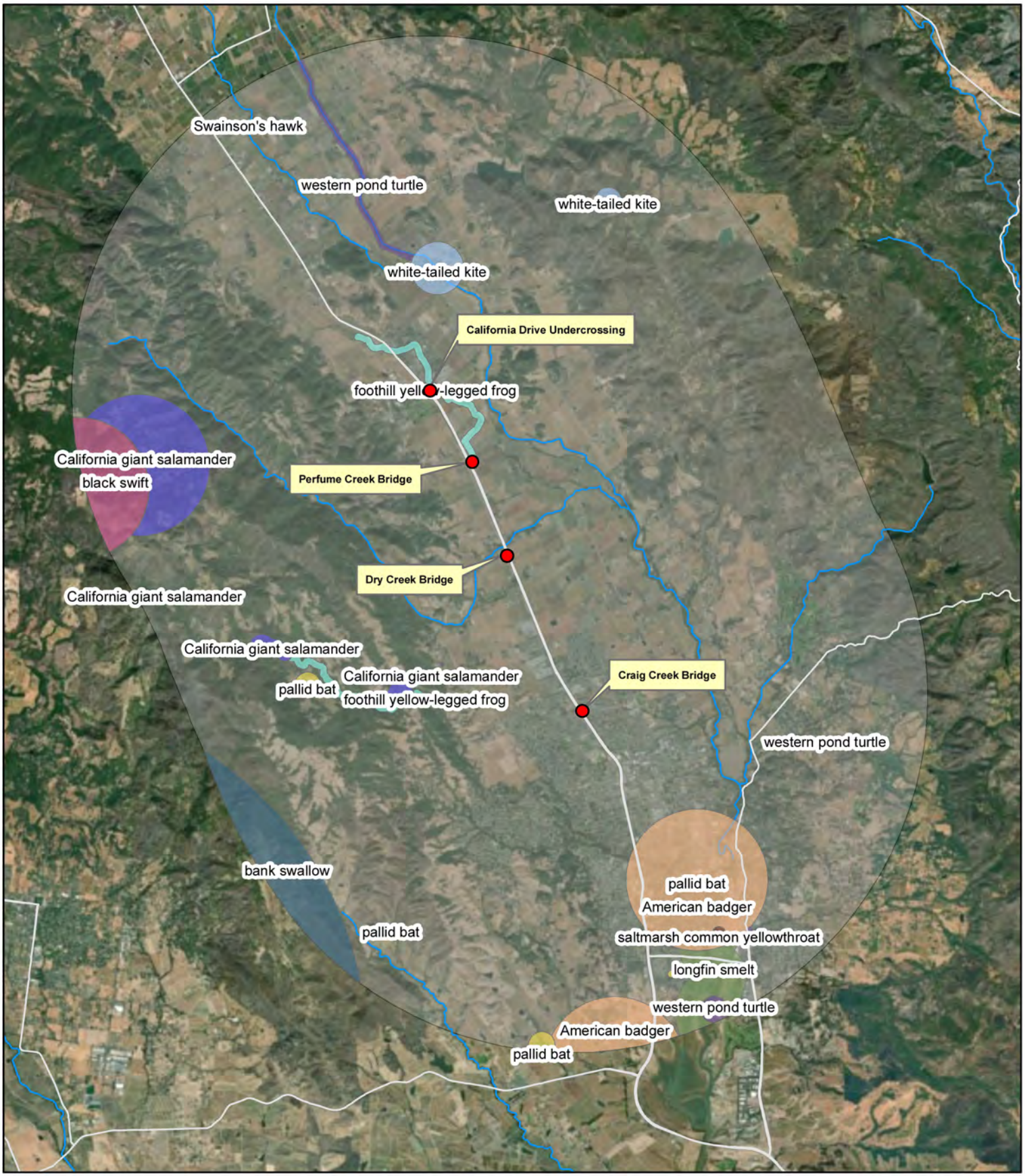


Figure 3-6: CNDDB Special-Status Wildlife Occurrences within 5-miles of the BSA

Bridge Rail Replacement Project
Napa County, California
State Route 29, Postmiles 14.11/16.48/17.81/19.04
EA 04-0K630/PID 0416000111

N

0 0.5 1 2 Miles

Legend

- American badger
- California giant salamander
- Swainson's hawk
- bank swallow
- black swift
- foothill yellow-legged frog
- longfin smelt
- pallid bat
- saltmarsh common yellowthroat
- western pond turtle
- white-tailed kite
- Project locations
- 5-mile buffer

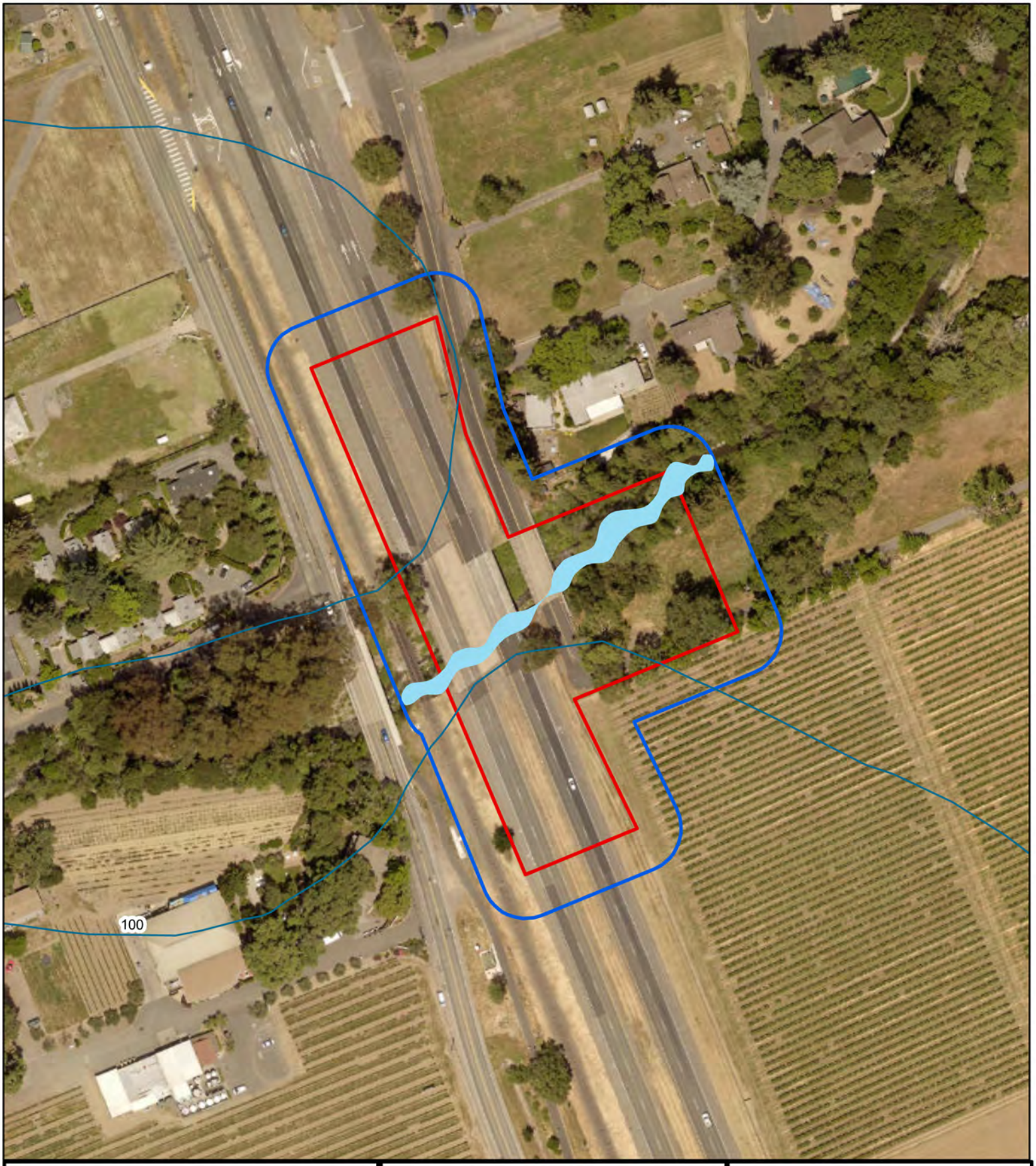


Figure 4-2: Potential Waters of the U.S. within the Dry Creek Bridge BSA

Bridge Rail Replacement Project

Napa County, California
State Route 29, Postmiles 14.1-19.0
EA 04-0K630/PID 0416000111

N

0 0.0125 0.025 0.05 Miles

Legend

- Potential waters below the OHWM
- 20-ft contour
- Project footprint
- BSA

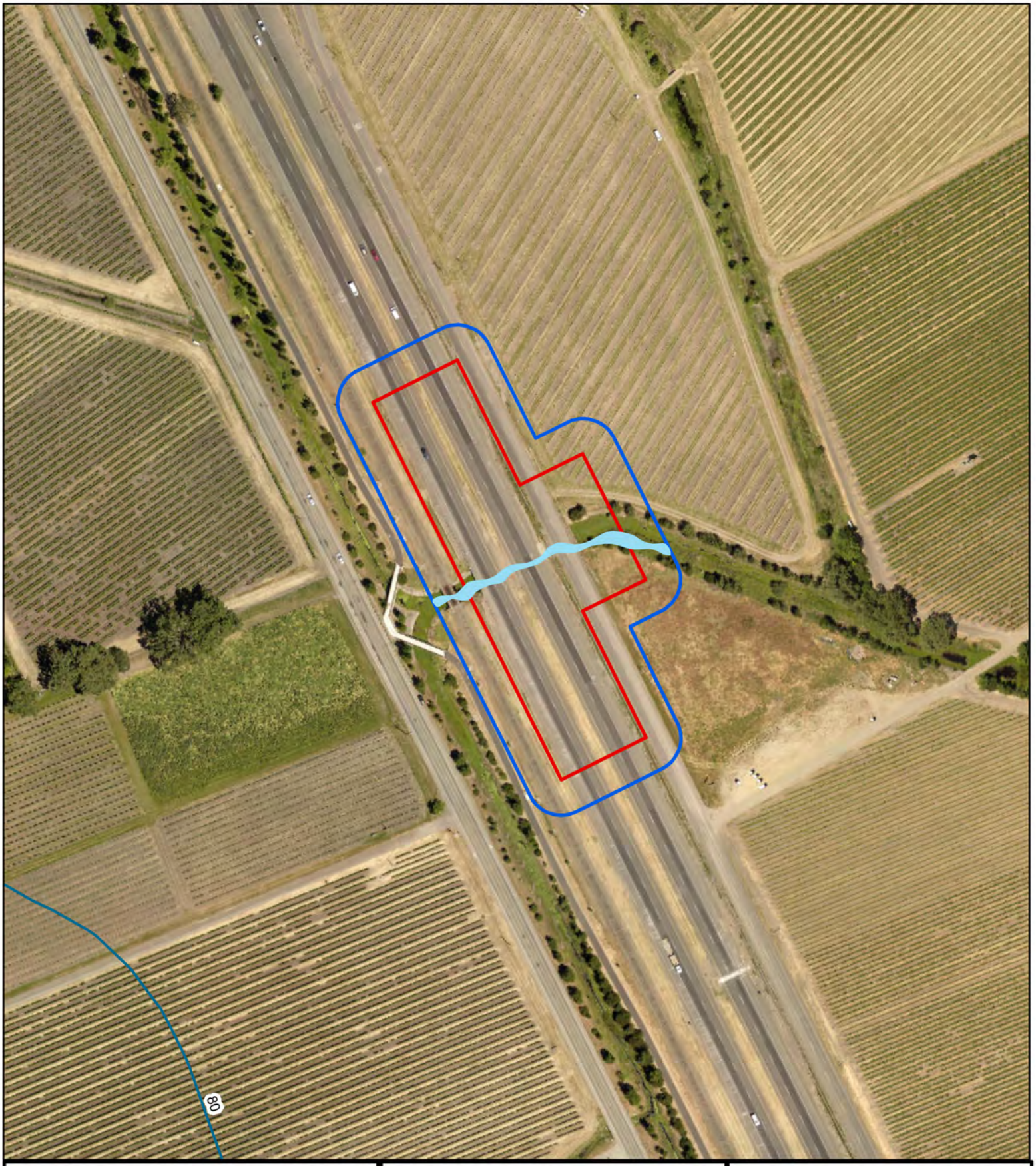


Figure 4-3: Potential Waters of the U.S. within the Perfume Creek Bridge BSA

Bridge Rail Replacement Project

Napa County, California
State Route 29, Postmiles 14.1-19.0
EA 04-0K630/PID 0416000111

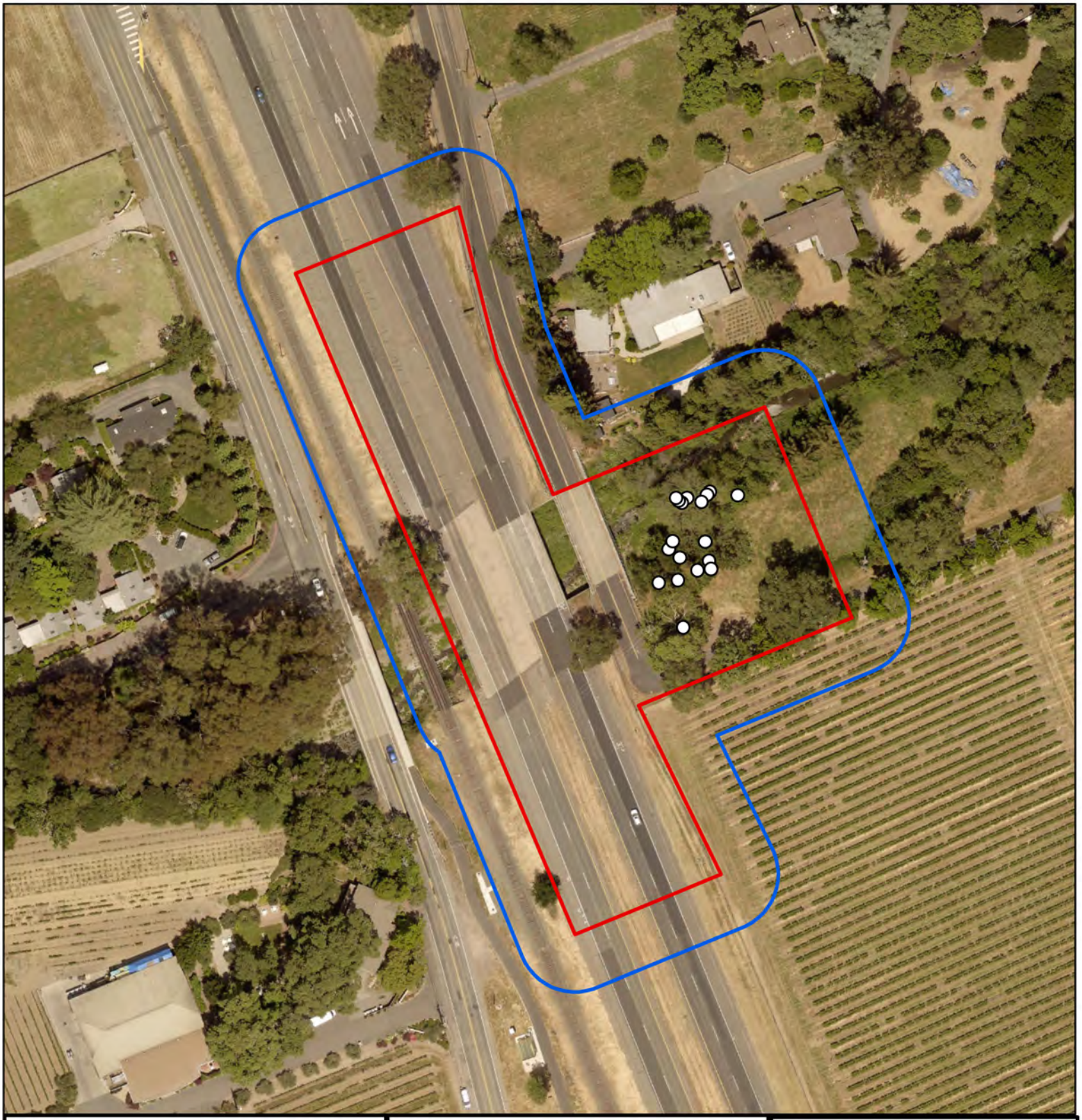


Figure 4-5: Trees within the Dry Creek Bridge Project Footprint and BSA

Bridge Rail Replacement Project

Napa County, California
State Route 29, Postmiles 14.1-19.0
EA 04-0K630/PID 0416000111

N

0 0.01 0.02 0.04 Miles

Legend

- Trees to be removed
- Existing trees
- BSA
- Project footprint

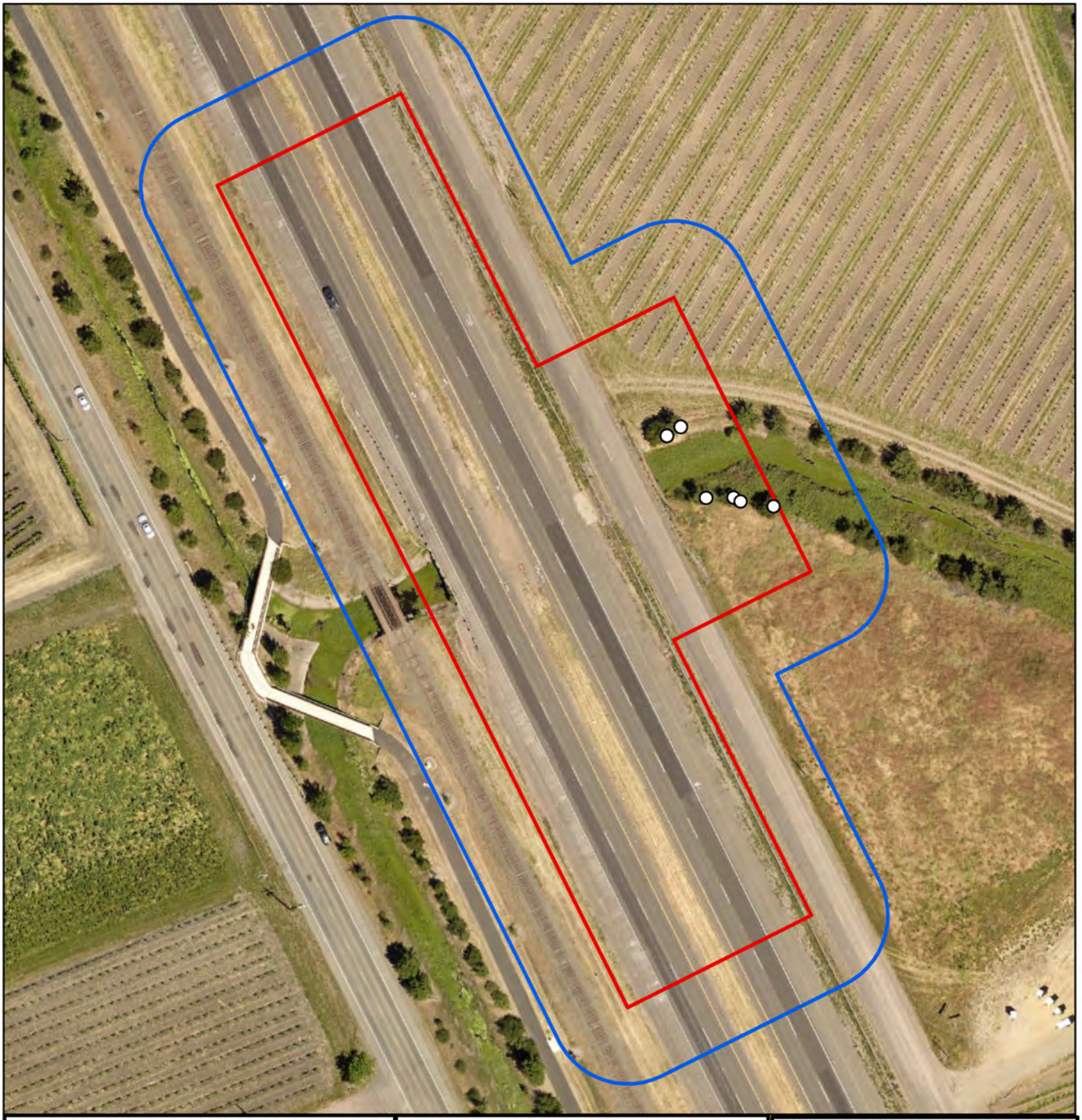


Figure 4-6: Trees within the Perfume Creek Bridge Project Footprint and BSA

Bridge Rail Replacement Project

Napa County, California
State Route 29, Postmiles 14.1-19.0
EA 04-0K630/PID 0416000111

N

0 0.0075 0.015 0.03 Miles

Legend

- Trees to be removed
- Existing trees
- BSA
- Project footprint

Figure 4-7: Trees within the California Drive Undercrossing Bridge Project Footprint and BSA

Bridge Rail Replacement Project

Napa County, California
State Route 29, Postmiles 14.1-19.0
EA 04-0K630/PID 0416000111

N

0 0.0225 0.045 0.09 Miles

Legend

- Trees to be removed
- Existing trees
- BSA
- Project footprint

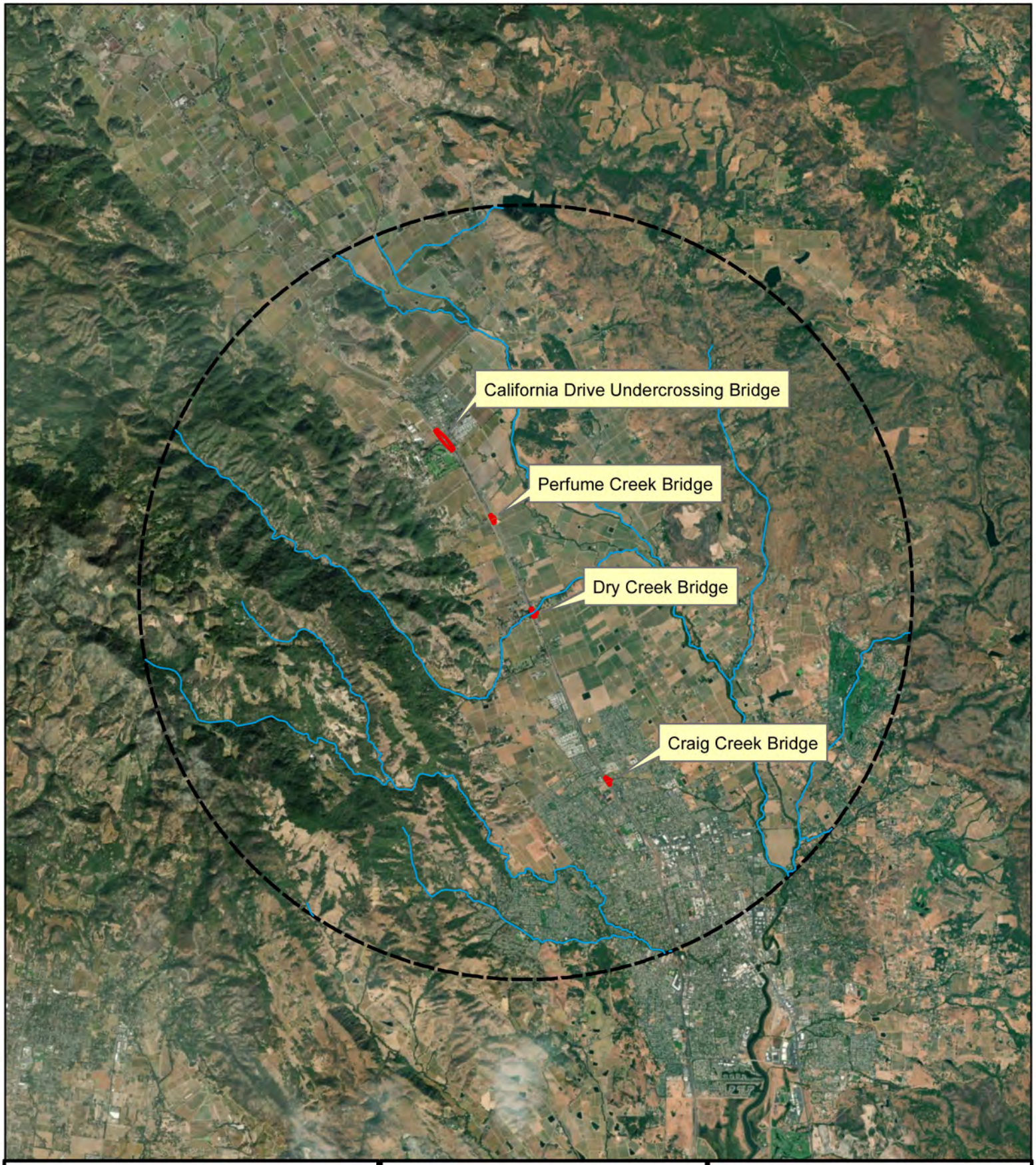


Figure 4-8: NMFS Designated Critical Habitats within 5-miles of the BSA

Bridge Rail Replacement Project

Napa County, California
State Route 29, Postmiles 14.1-19.0
EA 04-0K630/PID 0416000111

N

0 0.75 1.5 3 Miles

Legend

- CCC DPS steelhead critical habitat
- 5-mile buffer
- Project locations

Figure 4-10: Impacts to Frog Habitat within the Dry Creek Bridge BSA

Bridge Rail Replacement Project

Napa County, California
State Route 29, Postmiles 14.1-19.0
EA 04-0K630/PID 0416000111

Figure 4-11: Impacts to Frog Habitat within the Perfume Creek Bridge BSA

Bridge Rail Replacement Project

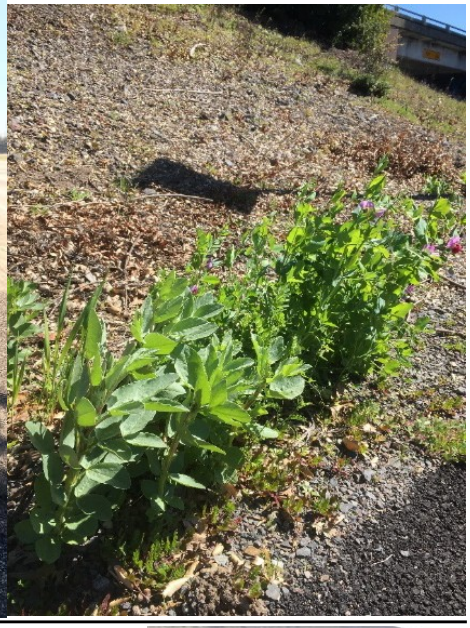
Napa County, California
State Route 29, Postmiles 14.1-19.0
EA 04-0K630/PID 0416000111

Appendix G Representative Photographs

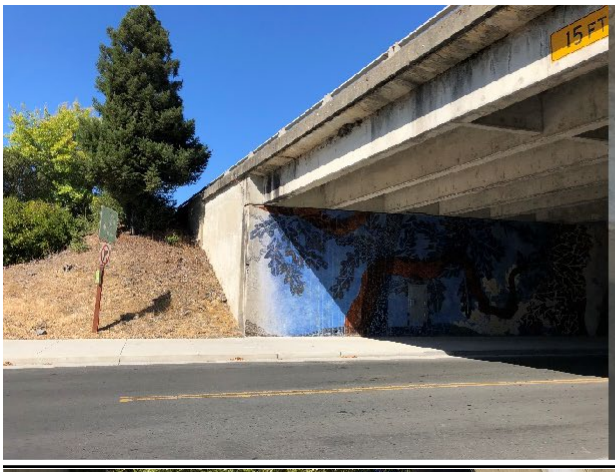
Dry Creek Bridge (PM 16.48)

Perfume Creek Bridge (PM 17.81)

California Drive Undercrossing Bridge (PM 19.04)




MEMORY OF A TREE


15 FT

Appendix H Species Lists

Table H-1 Special-Status Plant Species and their Potential to Occur in the Napa Bridge Widening and Rail Replacement Project Area

Common Name	Scientific Name	Status	Flowering Period	General Habitat Description	Habitat Present/Absent within the BSA	Potential for Species to Occur/Rationale
Allium peninsulare var. *franciscanum*	Franciscan onion	1B.2	May-Jun	Cismontane woodland, valley and foothill grassland. Clay soils; often on serpentine; sometimes on volcanic. Dry hillsides. 5-350 m.	Absent	**No Potential**. Suitable habitat not present within the BSA.
Amorpha californica	Napa false indigo	1B.2	Apr-Jul	Arid West: Equally likely to occur in wetlands and non-wetlands. Mountains, Valleys and Coast: Occurs usually in non-wetlands, occasionally in wetlands.	Absent	**No Potential**. Suitable habitat not present within the BSA.
Astragalus tener var. *tener*	Alkali milk-vetch	1B.2	Mar-Jun	Alkali playa, valley and foothill grassland, vernal pools, flooded lands, occurs usually in wetlands, occasionally in non-wetlands. 0-168 m.	Absent	**No Potential**. Suitable habitat not present within the BSA.
Brodiaea leptandra	Narrow-anthered brodiaea	1B.2	May-Jul	Broad-leafed upland forest, Chaparral, Cismontane woodland, Lower montane coniferous forest, Valley and foothill grassland; 110-915 m.	Absent	**No Potential**. Suitable habitat not present within the BSA.
Castilleja ambigua var. *meadii*	Mead's owls-clover	1B.1	Apr-May	Meadows and seeps, Vernal pools; 450-475 m.	Absent	**No Potential**. Suitable habitat not present within the BSA.
Ceanothus divergens	Calistoga ceanothus	1B.2	Feb-Apr	Chaparral	Absent	**No Potential**. Suitable habitat not present within the BSA.
Ceanothus purpureus	Holly-leaved ceanothus	1B.2	Feb-Jun	Chaparral, Cismontane woodland; 120-640 m.	Absent	**No Potential**. Suitable habitat not present within the BSA.
Ceanothus sonomensis	Sonoma ceanothus	1B.2	Feb-Apr	Chaparral	Absent	**No Potential**. Suitable habitat not present within the BSA.
Downingia pusilla	Dwarf downingia	2B.2	Mar-May	Valley and foothill grassland (mesic), Vernal pools; 1-445 m.	Absent	**No Potential**. Suitable habitat not present within the BSA.
Erigeron greenei	Greene's narrow-leaved daisy	1B.2	May-Sep	Chaparral (serpentinite or volcanic); 80-1005 m.	Absent	**No Potential**. Suitable habitat not present within the BSA.
Eryngium jepsonii	Jepson's coyote-thistle	1B.2	Apr-Aug	Vernal pools, valley and foothill grassland. Clay. 3-305 m.	Present	**Low Potential**. Suitable habitat is present within the BSA; however, no species were identified during field surveys.

Common Name	Scientific Name	Status	Flowering Period	General Habitat Description	Habitat Present/Absent within the BSA	Potential for Species to Occur/Rationale
Extriplex joaquinana	San Joaquin spearscale	1B.2	Apr-Sep	Chenopod scrub, Meadows and seeps, Playas, Valley and foothill grassland. Occurs usually in non-wetlands, occasionally in wetlands	Absent	**No Potential**. Suitable habitat not present within the BSA.
Hesperolinon sharsmithiae	Sharsmith's western flax	1B.2	May-Jul	Chaparral (serpentinite); 270-300 m.	Absent	**No Potential**. Suitable habitat not present within the BSA.
Juglans hindsii	Northern California black walnut	1B.1	Apr-May	Riparian forest, Riparian woodland; 0-440 m.	Absent	**No Potential**. Suitable habitat not present within the BSA.
Lasthenia conjugens	Contra Costa goldfields	FE, 1B.1	Mar-Jun	Cismontane woodland, Playas (alkaline), Valley and foothill grassland, Vernal pools.	Absent	**No Potential**. Suitable habitat not present within the BSA.
Lathyrus jepsonii var. *jepsonii*	Delta tule pea	1B.2	May-Jul	Freshwater Wetlands, wetland-riparian, occurs in wetlands, freshwater-marsh, brackish-marsh.	Absent	**No Potential**. Suitable habitat not present within the BSA.
Leptosiphon jepsonii	Jepson's leptosiphon	1B.2	Mar-May	Chaparral, Cismontane woodland, Valley and foothill grassland; 100-500 m.	Present	**Low Potential**. Suitable habitat is present within the BSA; however, no species were identified during field surveys.
Lilaeopsis masonii	Mason's lilaeopsis	1B.1	Apr-Nov	Freshwater Wetlands, wetland-riparian, occurs in wetlands, riparian, freshwater-marsh, brackish- marsh.	Absent	**No Potential**. Suitable habitat not present within the BSA; however, has been identified within 5-miles of the project location.
Limnanthes vinculans	Sebastopol meadowfoam	1B.1	Apr-May	Meadows and seeps, Valley and foothill grassland, Vernal pools; 15-305 m.	Absent	**No Potential**. Suitable habitat not present within the BSA.
Navarretia leucocephala ssp. *pauciflora*	Few-flowered navarretia	1B.1	May-Jun	Vernal pools (volcanic ash flow); 400-855 m.	Absent	**No Potential**. Suitable habitat not present within the BSA.
Penstemon newberryi var. *sonomensis*	Sonoma beardtongue	1B.3	Apr-Aug	Chaparral (rocky); 700-1370 m.	Absent	**No Potential**. Suitable habitat not present within the BSA.
Sagittaria sanfordii	Sanford's arrowhead	1B.2	May-Oct (Nov)	Marshes and swamps (assorted shallow freshwater); <650 m.	Present	**Low Potential**. Suitable habitat present within the BSA; however, no species were identified during field surveys.
Streptanthus hesperidis	Green jewelflower	1B.2	May-Jul	Chaparral (openings), Cismontane woodland; 130-760 m.	Absent	**No Potential**. Suitable habitat not present within the BSA.

Common Name	Scientific Name	Status	Flowering Period	General Habitat Description	Habitat Present/Absent within the BSA	Potential for Species to Occur/Rationale
Symphyotrichum lentum	Suisun Marsh aster	1B.2	May-Nov	Freshwater Wetlands, wetland-riparian, occurs in wetlands, riparian, freshwater-marsh, brackish- marsh.	Absent	**No Potential**. Suitable habitat not present within the BSA.
Trichostema ruygtii	Napa bluecurls	1B.2	Jun-Oct	Chaparral, Cismontane woodland, Lower montane coniferous forest, Valley and foothill grassland, Vernal pools; 30-680 m.	Absent	**No Potential**. Suitable habitat not present within the BSA.
Trifolium amoenum	Two-fork clover	FE, 1B.1	Apr-Jun	Valley and foothill grasslands, coastal bluff scrub. Sometimes on serpentine soil, open sunny sites, swales. Most recently cited on roadside and eroding cliff face.	Absent	**No Potential**. Suitable habitat not present within the BSA.
Trifolium hydrophilum	Saline clover	1B.2	Apr-Jun	Marshes and swamps, valley and foothill grassland, vernal pools. Mesic, alkaline sites. 1- 335 m.	Absent	**No Potential**. Suitable habitat not present within the BSA.

Notes:
[a] Scientific nomenclature based on the California Natural Diversity Data Base (CNDDB; CDFW 2018); common names from CNDDB and other sources.
[b] Conservation status definitions are as follows:
United States Fish and Wildlife Service Designations
FE Endangered: any species in danger of extinction throughout all or a significant portion of its range.
FT Threatened: any species likely to become endangered within the foreseeable future.
California Department of Fish and Wildlife Designations
SE Endangered: any species in danger of extinction throughout all or a significant portion of its range.
ST Threatened: any species likely to become endangered within the foreseeable future.
SR Rare: any species not currently threatened with extinction, but in such small numbers throughout its range that it may become endangered if its present environment worsens.
California Native Plant Society (CNPS) Rankings
1B Plants rare, threatened or endangered in California and elsewhere.
Plants rare, threatened or endangered in California, but more common elsewhere.
Plants that are taxonomically problematic and lack necessary information to assign them to 1 or 2 ranks CNPS threat categories:
Seriously endangered in California.
Fairly endangered in California.
More information needed, potentially endangered in California
[c] Blooming period and habitat information from CNPS (2018).
Sources:
CDFW. 2018a. *California Natural Diversity Database (CNDDB) GIS Database*: Habitat Conservation Division. Sacramento, California.
CNPS. 2018. *The California Native Plant Society's Inventory of Rare and Endangered Plants of California* (Online edition, version 8-02). http://www.rareplants.cnps.org USFWS. 2018. *The Information, Planning, and Consultation System (IPAC System).* https://ecos.fws.gov/ipac/.

Table H-2 Special-Status Wildlife Species and their Potential to Occur in the Napa Bridge Widening and Rail Replacement Project Area

Common Name	Scientific Name	Status	Habitat Present/Absent (P/A)	Potential for Species to Occur/Rationale	Habitat Present/Absent within the BSA
Fish					
Acipenser medirostris	Southern DPS Green Sturgeon	FT	Anadromous fish live in both fresh and saltwater, spawn and juvenile rearing in rivers, followed by migrating to saltwater to feed, grow, and mature before returning to freshwater to spawn, located in Alaska and along the west coast.	**No Potential**. Suitable habitat was not observed within the BSA.	Absent
Oncorhynchus kisutch	Central California Coast ESU - Coho salmon	FE, SE	Federal listing = populations between Punta Gorda & San Lorenzo river. State listing = populations south of Punta Gorda. Require beds of loose, silt-free, coarse gravel for spawning. Also need cover, cool water and sufficient dissolved oxygen.	**No Potential**. Suitable habitat not present within the BSA.	Absent
Oncorhynchus mykiss irideus	steelhead - central California coast DPS	FT	Inhabits cold headwaters, creeks and small-to-large rivers and lakes with swift, shallow water and clean loose gravel for spawning. An anadromous species that requires large pools during summer months and spawns in spring.	**Moderate Potential.** Suitable aquatic dispersal habitat present within the Dry Creek Bridge and Craig Creek Bridge BSA.	Present
Oncorhynchus tshawytscha	Chinook salmon	FT	Chinook Salmon in California display a wide array of life history patterns that allow them to take advantage of the diverse and variable riverine and ocean environments. Chinook salmon are anadromous fish, migrating upstream as adults to spawn in freshwater streams, and migrating as juveniles downstream to grow and mature in the ocean. The time spent in the ocean and freshwater varies greatly among the various runs.	**No Potential**. Suitable habitat not present or have been extirpated within the BSA.	Absent
Spirinchus thaleichthys	Longfin smelt	FC, ST, SSC	Inhabits San Francisco Bay Watershed. An anadromous estuarine species that can tolerate salinities ranging from freshwater to nearly pure seawater.	**No Potential**. Suitable habitat not present within the BSA.	Absent

Common Name	Scientific Name	Status	Habitat Present/Absent (P/A)	Potential for Species to Occur/Rationale	Habitat Present/Absent within the BSA
Amphibians					
Dicamptodon ensatus	California giant salamander	SSC	Known from wet coastal forests near streams and seeps from Mendocino County south to Monterey County, and east to Napa County. Aquatic larvae found in cold, clear streams, occasionally in lakes and ponds. Adults known from wet forests under rocks and logs near streams and lakes.	**Low Potential**. Suitable habitat present within 5 miles of the BSA.	Absent
Rana boylii	Foothill yellow-legged frog	SSC	Partly-shaded, shallow streams and riffles with a rocky substrate in a variety of habitats. Needs at least some cobble-sized substrate for egg-laying. Needs at least 15 weeks to attain metamorphosis.	**Low Potential.** Suitable aquatic and riparian dispersal habitat present within the BSA at Craig Creek Bridge and Dry Creek Bridge.	Present
Rana draytonii	California red-legged frog	FT, SSC	Aquatic | Artificial flowing waters | Artificial standing waters | Freshwater marsh | Marsh & swamp | Riparian forest | Riparian scrub | Riparian woodland | Sacramento/San Joaquin flowing waters | Sacramento/ San Joaquin standing waters | South coast flowing waters | South coast standing waters | Wetland. Lowlands and foothills in or near permanent sources of deep water with dense, shrubby or emergent riparian vegetation. Requires 11-20 weeks of permanent water for larval development. Must have access to estivation habitat.	**Moderate potential.** Suitable aquatic and riparian habitat present with the Craig Creek and Dry Creek Bridge BSA.	Present
Reptiles					
Emys marmorata	Western pond turtle	SSC	Inhabits ponds, lakes, rivers, streams, creeks, marshes, and irrigation ditches, with abundant vegetation, and either rocky or muddy bottoms, in woodland, forest, and grassland. In streams, prefers pools. Logs, rocks, cattail mats, and exposed banks are required for basking. May enter brackish water and even seawater.	**Moderate Potential.** Suitable aquatic and riparian dispersal habitat present within the BSA at Perfume Creek Bridge.	Present
Invertebrates					
Syncaris pacifica	California freshwater shrimp	FE, SE	Endemic to Marin, Napa, and Sonoma counties. Found in low elevation, low gradient streams where riparian cover is moderate to heavy. Shallow pools away from main stream flow. Species found amongst undercut banks during winter and leafy branches touching water during summer.	**Moderate Potential.** Suitable aquatic and riparian habitat present within the Dry Creek Bridge BSA.	Present

Common Name	Scientific Name	Status	Habitat Present/Absent (P/A)	Potential for Species to Occur/Rationale	Habitat Present/Absent within the BSA
Mammals					
Antrozous pallidus	Pallid bat	SSC	Inhabits a wide variety of habitats, including grasslands, shrublands, woodlands, and forests from sea level up through mixed conifer forests. Most common in open, dry habitats with rocky areas for roosting. Very sensitive to disturbance.	**Low Potential.** The pallid bat has been spotted within 5 miles of the BSA. However, habitat not present within the BSA.	Absent
Taxidea taxus	American badger	SSC	Inhabits herbaceous, shrub, and open stages of most habitats with dry, friable soils. Burrows are dug in relatively dry, often sandy, soil, usually in areas with sparse overstory cover.	**No Potential**. Suitable habitat not present within the BSA.	Absent
Birds					
Ardea herodias	Great blue heron	---	Colonial nester in tall trees, cliff sides, and sequestered spots on marshes. Rookery sites in close proximity to foraging areas: marshes, lake margins, tide-flats, rivers and streams, wet meadows.	**No Potential**. Suitable nesting habitat or rookeries not present within the BSA.	Absent
Buteo swainsoni	Swainson's hawk	ST	Plains, dry grassland, farmland, ranch country. Prairie regions with scattered groves of trees for nest sites. Less common in dry grassland farther west and in heavily farmed country. In migration, often pauses in fields where insect larvae may have been turned up.	**Low Potential**. Suitable habitat not present within the BSA. However, potential to fly over project location.	Absent
Elanus leucurus	White-tailed kite	FP	Inhabits coastal and valley lowlands year-round. Forages in undisturbed open grasslands, meadows, farm land and emergent wetlands. Rarely found away from agricultural areas. Nests in oak, willow or other tree.	**No Potential**. Suitable habitat not present within the BSA.	Absent
Geothlypis trichas sinuosa	saltmarsh common yellowthroat	SSC	Resident of the San Francisco Bay region, in fresh and salt water marshes. Requires thick, continuous cover down to water surface for foraging; tall grasses, tule patches, willows for nesting.	**No Potential**. Suitable habitat not present within the BSA.	Absent
Haliaeetus leucocephalus	Bald eagle	FD, SE, FP	Ocean shore, lake margins, and rivers for both nesting and wintering. Most nests within 1 mile of water. Nests in large, old- growth, or dominant live tree with open branches, especially ponderosa pine. Roosts communally in winter.	**No Potential**. Suitable habitat not present within the BSA.	Absent

Common Name	Scientific Name	Status	Habitat Present/Absent (P/A)	Potential for Species to Occur/Rationale	Habitat Present/Absent within the BSA
Riparia riparia	Bank swallow	ST	Near water; fields, marshes, streams, lakes. Typically seen feeding in flight over (or near) water at all seasons, even in migration. Nests in colonies in vertical banks of dirt or sand, usually along rivers or ponds, seldom away from water.	**Low Potential**. Suitable habitat not present within the BSA.	Absent

Notes:
[a] Scientific nomenclature based on the California Natural Diversity Data Base (CNDDB; CDFW 2018); common names from CNDDB and other sources.
[b] Conservation status definitions are as follows:
United States Fish and Wildlife Designations
FE Endangered: any species in danger of extinction throughout all or significant portion of its range.
ST Threatened: any species likely to become endangered within the foreseeable future.
CT Candidate Threatened: any species proposed for listing as Threatened.
California Department of Fish and Wildlife Designations
SE Endangered: any species in danger of extinction throughout all or a significant portion of its range.
ST Threatened: any species likely to become endangered within the foreseeable future.
SR Rare: any species not currently threatened with extinction, but in such small numbers throughout its range that it may become endangered if its present environment worsens.
SSC Species of Special Concern meets the state definition of threatened or endangered but has not formally been listed.
WL Watch List consists of taxa that were previously SSCs but no longer merit SSC status or which do not meet SSC criteria but for which there is concern and a need for additional information.

Sources:
CDFW. 2018a. *California Natural Diversity Database (CNDDB) GIS Database*: Habitat Conservation Division. Sacramento, California.
CNPS. 2018. *The California Native Plant Society's Inventory of Rare and Endangered Plants of California* (Online edition, version 8-02). http://www.rareplants.cnps.org USFWS. 2018. *The Information, Planning, and Consultation System (IPAC System).* https://ecos.fws.gov/ipac/.