UNITED STATES DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
NATIONAL MARINE FISHERIES SERVICE
West Coast Region
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Refer to NMFS No: WCRO-2021-01406

September 3, 2021

Mr. David Moore
Caltrans District 10
1976 E. Charter Way
Stockton, CA 95205

Electronic transmittal only

Re: Endangered Species Act Section 7(a)(2) Biological Opinion and Magnuson-Stevens Fishery Conservation and Management Act Essential Fish Habitat Response for the Pezzi Road Bridge Replacement over Calaveras River Project

Dear Mr. David Moore:

This letter responds to your June 9, 2021, request for initiation of consultation with NOAA's National Marine Fisheries Service (NMFS) pursuant to section 7 of the Endangered Species Act (ESA) for the subject action. Your request qualified for our expedited review and analysis because it met our screening criteria and contained all required information on, and analysis of, your proposed action and its potential effects to listed species and designated critical habitat.

We reviewed the California Department of Transportation's (Caltrans) consultation request and related initiation package. Where relevant, we have adopted the information and analyses you have provided and/or referenced but only after our independent, science-based evaluation confirmed they meet our regulatory and scientific standards. We adopt by reference herein the following documents: the biological assessment (BA, Caltrans 2021a), addendum #1 (Caltrans 2021b), and addendum #2 (Caltrans 2021c) for the proposed Federal action.

Consultation History

February 8, 2021 – NMFS received a letter from Caltrans requesting informal consultation and associated BA for the Project.

February 23, 2021 – NMFS sent an email advising Caltrans that the information provided was insufficient to initiate consultation and indicated that if we did not receive a response within 30 days, we could consider the request withdrawn.

March 18, 2021 – NMFS received an email reply from Caltrans that included additional information in an addendum to the BA (dated March 12, 2021).

March 25, 2021 – NMFS issued a letter recommending that Caltrans request formal consultation, and that the information provided was insufficient to initiate consultation. Caltrans agreed, and

NMFS closed out the request for informal consultation for the Project as a "non-concurrence" with their determination of not-likely-to-adversely-affect.

June 9, 2021 – NMFS received a letter and associated BA (dated February 2021), addendum #1 (dated March 12, 2021), and addendum #2 (dated May 13, 2021) for the Project from Caltrans requesting formal consultation, and consultation was initiated.

Proposed Federal Action

For this section, we adopt by reference the following materials related to the description of the proposed action: chapter 2 of the BA (Caltrans 2021a), addendum #1 (Caltrans 2021b), and addendum #2 (Caltrans 2021c). In summary, San Joaquin County (the applicant), in coordination with Caltrans, proposes to replace the Pezzi Road Bridge and improve the approach roadway to the bridge. Construction is anticipated to begin in 2023 and would require approximately 8 months to complete. The bridge is located within an agricultural area in San Joaquin County, approximately 3 miles east of State Route 99 and north of the town of Waterloo. The proposed project would replace the substandard bridge with a structure meeting current standards. The existing bridge, which crosses the Old Calaveras River channel, would be removed and replaced with an approximately 75-foot long, two-span, cast-in-place reinforced concrete slab bridge. The new alignment with the road would move the bridge 250 to 300 feet upstream of the existing bridge over the Old Calaveras River Channel.

Under the proposed action, construction within the Old Calaveras River channel would occur during the months of March through October. In addition, following completion of construction, all riparian areas that were impacted under the proposed action, including the footprint of the old bridge that will be removed, would be re-graded and hydro-seeded with a native riparian seed mix. Riparian impact areas would be compensated for via purchase of California Central Valley steelhead and/or riparian habitat credits from a NMFS approved mitigation bank. San Joaquin County proposes to purchase credits for impacts to riparian habitat at a 3:1 ratio for permanent impacts, and a 1:1 ratio for temporary impacts. Accounting for these ratios, total proposed mitigation credits purchased would be approximately 0.32 acres for permanent impacts, and 0.26 acres for temporary impacts. San Joaquin County has indicated the details of this riparian mitigation will be coordinated with NMFS.

Listed Species and Critical Habitat

For this section, we adopt by reference chapter 3.4 of the BA, and addendum #2. In addition, NMFS examined the status of each species that would be adversely affected by the proposed action to inform the description of the species' "reproduction, numbers, or distribution" as described in 50 CFR 402.02. NMFS also examined the condition of critical habitat throughout the designated area and the function of the physical or biological features essential to the conservation of the species that create the value of that habitat. The listed species that the Project may affect is California Central Valley (CCV) steelhead and their designated critical habitat within the Old Calaveras River channel.

Action Area

For this section, we adopt by reference, chapter 3.2 and chapter 3.3 of the BA. "Action area" means all areas to be affected directly or indirectly by the Federal action and not merely the immediate area involved in the action (50 CFR 402.02). In summary, the action area contains the footprint of the proposed project, approximately 0.56 acres of the Old Calaveras River channel, and approximately 8 acres of adjacent riparian habitat. The action area is within designated critical habitat for CCV steelhead. The action area also includes areas impacted by the conservation or mitigation banks approved by NMFS with service areas applicable to the proposed action, which include: 1) Bullock Bend Mitigation Bank, a 119.65-acre floodplain site along the Sacramento River at the confluence of the Feather River; and 2) Fremont Landing Conservation Bank, a 100-acre bank on the floodplain adjacent to the Sacramento River near the confluence with the Feather River.

Environmental Baseline

The "environmental baseline" refers to the condition of the listed species or its designated critical habitat in the action area, without the consequences to the listed species or designated critical habitat caused by the proposed action. The environmental baseline includes the past and present impacts of all Federal, State, or private actions and other human activities in the action area, the anticipated impacts of all proposed Federal projects in the action area that have already undergone formal or early section 7 consultations, and the impact of State or private actions which are contemporaneous with the consultation in process. The consequences to listed species or designated critical habitat from ongoing agency activities or existing agency facilities that are not within the agency's discretion to modify are part of the environmental baseline (50 CFR 402.02). For this section, we adopt by reference chapter 3 of the BA. In summary, the critical habitat for CV steelhead within the action area is severely degraded due to: poor water quality, poor rearing and migratory habitat, numerous small diversion dams and associated unscreened diversion intakes, and inconsistent and fluctuating flows from numerous water diversions. Furthermore, the Headworks Facility is seasonal barrier at the head of the Old Calaveras River channel, and is operated by the Stockton East Water District. Operations of the Headworks Facility makes critical habitat within the action area inaccessible to migrating juvenile salmonids from approximately October through April of the following year.

In addition to what is provided in the BA, there is currently fish monitoring occurring in the Calaveras River basin under the Calaveras River Habitat Conservation Plan (Calaveras HCP; SEWD and FishBio 2019). The fish monitoring under the Calaveras HCP provides useful and relevant data to help inform, for example, the anticipated incidental take that may occur under the proposed action described herein this biological opinion. Specifically, the most relevant monitoring under the Calaveras HCP includes a rotary screw trap at Shelton Road, which is several miles upstream of the head of the Old Calaveras River channel; and adult salmonid monitoring at Bellota Weir, which is near the head of the Old Calaveras River channel. The rotary screw trap provides data on the abundances and rearing/migration timing of juvenile salmonids, including CCV steelhead, within the Calaveras River watershed. Likewise, the adult salmonid monitoring at Bellota Weir provides data on abundances and migration timing of adult salmonids, including CCV steelhead, within the Calaveras River watershed.

The Recovery Plan for the evolutionarily significant units of Sacramento River Winter-run Chinook salmon and Central Valley Spring-run Chinook salmon and the distinct population segment of California Central Valley steelhead (Recovery Plan; NMFS 2014) outlines actions to restore habitat, access, and improve water quality and quantity conditions in the Calaveras River to promote the recovery of listed salmonids, specifically CCV steelhead. As described in the Recovery Plan, watersheds that are currently occupied by at least one of the listed Chinook salmon and steelhead species have been prioritized among three levels. Of highest priority are core 1 populations, which have been identified, based on their known ability or potential to support independent viable populations. Core 1 populations form the foundation of the recovery strategy and must meet the population-level biological recovery criteria for low risk of extinction set out in Table 5- 1 in the Recovery Plan. NMFS believes that core 1 populations should be the first focus of an overall recovery effort. The Calaveras River CCV steelhead population is identified as a Core 1 population, needed for the recovery of the Southern Sierra Diversity Group and Mainstem San Joaquin River.

The physical and biological features (PBFs) of CCV steelhead designated critical habitat within the action area includes freshwater rearing habitat and freshwater migration corridors. The essential features of these PBFs include water quality and forage, water quantity and floodplain connectivity, water temperature, riparian habitat, and natural cover. The PBFs for freshwater rearing habitat and freshwater migration corridors are limited to high flow events within the Old Calaveras River channel. The Old Calaveras River channel contains numerous water diversion structures, and the channel is used primarily to deliver water to agricultural water users. This creates wildly fluctuating and inconsistent flows throughout the channel. Therefore, with the exception of prolonged high flow events, the Old Calaveras River channel does not provide optimal or adequate PBFs for CCV steelhead.

As the proposed action includes purchase of credits at an approved mitigation bank, the environmental baseline includes mitigation banks as described here. Mitigation banks present a unique factual situation, which warrant a particular approach to how they are addressed. Specifically, when NMFS is consulting on a proposed action that includes mitigation bank credit purchases, it is likely that physical restoration work at the bank site has already occurred and/or that a section 7 consultation occurred at the time of bank establishment. A traditional reading of "environmental baseline" might suggest that that overall ecological benefits of the mitigation bank actions therefore belong in the environmental baseline. However, under this reading, all proposed actions, whether or not they included proposed credit purchases, would benefit from the environmental "lift" of the entire mitigation bank, because it would be factored into the environmental baseline. In addition, where proposed actions did include credit purchases, it would not be possible to attribute their benefits to the proposed action without double counting. These consequences undermine the purposes of mitigation banks and do not reflect their unique circumstances. Specifically, mitigation banks are established based on the expectation of future credit purchases. In addition, credit purchases as part of a proposed action will also be the subject of a future section 7 consultation.

It is therefore appropriate to treat the beneficial effects of the bank as accruing incrementally at the time of specific credit purchases, not at the time of bank establishment or at the time of bank restoration work. Thus, for all projects within the service area of a bank, only the benefits attributable to credits sold are relevant to the environmental baseline. Where a proposed action

includes credit purchases, the benefits attributable to those credit purchases are considered effects of the action. That approach is taken in this opinion.

The proposed action will occur within the service area of several conservation or mitigation banks approved by NMFS with available credits for purchase or which are anticipated to have available credits for purchase prior to construction under the proposed action. Both of these banks occur within critical habitat for CCV steelhead. These banks include:

Bullock Bend Mitigation Bank

Established in 2016, the Bullock Bend Mitigation Bank is a 119.65-acre floodplain site along the Sacramento River at the confluence of the Feather River (Sacramento River Mile 80) and is approved by NMFS to provide credits for impacts to Sacramento River winter-run salmon, Central Valley spring-run Chinook salmon, and CCV steelhead. There are salmonid floodplain restoration, salmonid floodplain enhancement, salmonid riparian restoration, and salmonid riparian enhancement credits available. The ecological value (increased rearing habitat for juvenile salmonids) of sold credits are part of the environmental baseline. Of the types of credits available, the salmonid riparian restoration credits are most applicable to this project. All features of this bank are designated critical habitat for CCV steelhead.

Fremont Landing Conservation Bank

Fremont Landing Conservation Bank is a 100-acre site that was approved in 2006 by NMFS to provide compensatory credits for project impacts through the preservation and restoration/creation of riparian forest and shaded riverine aquatic habitats. This bank is located north of Interstate 5 and immediately west of the Sacramento River, and provides riparian, wetland, and open-water habitat along the Sacramento River near the mouth of the Feather River. The ecological value (increased rearing habitat for juvenile salmonids) of sold credits are part of the environmental baseline. Of the types of credits available, the salmonid riparian restoration credits are most applicable to this project. All features of this bank are designated critical habitat for CCV steelhead.

Effects of the Action

Under the ESA, "effects of the action" are all consequences to listed species or critical habitat that are caused by the proposed action, including the consequences of other activities that are caused by the proposed action. A consequence is caused by the proposed action if it would not occur but for the proposed action and it is reasonably certain to occur. Effects of the action may occur later in time and may include consequences occurring outside the immediate area involved in the action (see 50 CFR 402.17). In our analysis, which describes the effects of the proposed action, we considered 50 CFR 402.17(a) and (b).

Effects of the Action on CCV steelhead

The proposed action's in-channel work within the Old Calaveras River channel will occur when flowing water, and therefore fish, are not expected. However, in the unlikely event that water is present during in-channel construction, then the proposed action includes constructing a

temporary water diversion structure and dewatering the construction area. Fish relocation activities would occur in this scenario, affecting CCV steelhead. If any CCV steelhead are in the action area during these activities and are relocated, then fish would experience handling impacts, including stress, harassment, injury, and possible death. Since fish presence is unlikely, but is possible, the likelihood of death, injury, or harassment would be expected to occur to a few individuals.

Long-term effects to CCV steelhead are expected as a result of placement of riprap and removal of riparian vegetation and installation of in-channel structures, further reducing the quality of critical habitat within the action area. Specifically, the effects of reduce riparian shade, cover, habitat complexity, and terrestrial food sources for migrating and rearing juvenile CV steelhead would result in reduced growth and survival.

Effects of the Action on Critical Habitat for CCV steelhead

For this section we adopt by reference the biological assessment, which provides a detailed discussion and comprehensive assessment of the effects of the proposed action on critical habitat for CCV steelhead. Relevant sections of the BA include addendum #2 of the BA, in the section titled "Effects Analysis", under the following sub-headers: "Pier Installation", "Rock Slope Protection", "Removal of Riparian Trees", and "Temporary Diversion and Dewatering"; which are adopted here (50 CFR 402.14(h)(3)). NMFS has evaluated this section and after our independent, science-based evaluation determined it meets our regulatory and scientific standards. In summary, the short-term effects of construction and long-term effects from the permanent installation of riprap, removal of riparian vegetation, and the installation of in-channel pilings and associated channel-spanning bridge, result in degraded rearing and migratory habitat PBFs.

The critical habitat designation for CCV steelhead (70 FR 52488; September 2, 2005) lists the PBFs of those habitats, which are described in the recovery plan (NMFS 2014). The PBFs that will be affected by the proposed action include migratory corridors and rearing habitat for CCV steelhead. Due to the location and timing of the proposed action, however, no spawning habitat will be affected. Adverse effects to rearing and migratory corridor PBFs that are anticipated to occur as a result of the construction activities described include a reduction in foraging habitat and prey availability in nearshore riparian water, and an expected increase in exposure and vulnerability to predators due to permanent in-channel structures.

The Applicant will purchase compensatory mitigation credits at a 3:1 ratio to compensate for the permanent loss of 0.32 acres, and a 1:1 ratio for temporary loss of 0.26 acres, of riparian habitat. The purchase of mitigation credits is expected to offset impacts for CCV steelhead PBFs. The benefits of the purchase of credits will be provided in the short-term as the purchase of credits at NMFS-approved banks considered in this opinion includes salmonid riparian and floodplain credits with habitat values that are already established and meeting performance standards. These benefits have a high level of certainty as the NMFS approved banks considered in this opinion are managed, monitored, and maintained in perpetuity.

The purchase of mitigation credits will address the loss of ecosystem functions due to the modification of the riverbank. These credit purchases are ecologically relevant to the PBFs of CCV steelhead critical habitat affected by the proposed action, because the NMFS-approved

banks considered in this opinion include salmonid riparian and floodplain credits with habitat values that are already established and meeting performance standards. Also, the banks are located in an area that will benefit CCV steelhead critical habitat. The purchase of mitigation credits is expected to benefit the PBFs of freshwater rearing habitat and migration corridors for juvenile CCV steelhead by providing suitable riparian habitat. The floodplains and riparian habitat in the banks benefit the growth and survival of rearing salmonids by providing habitat with abundant food in the form of aquatic invertebrates and structural diversity, such as instream woody material.

The purchase of credits provides a high level of certainty that the benefits of a credit purchase will be realized, because the NMFS-approved banks considered in this opinion have mechanisms in place to ensure credit values are met over time. Such mechanisms include legally binding conservation easements, long-term management plans, detailed performance standards, credit release schedules that are based on meeting performance standards, monitoring plans and annual monitoring reporting to NMFS, non-wasting endowment funds that are used to manage and maintain the bank and habitat values in perpetuity, performance security requirements, a remedial action plan, and site inspections by NMFS.

Cumulative Effects

For this section, we adopt by reference chapter 4.5.1 of the BA. "Cumulative effects" are those effects of future state or private activities, not involving Federal activities, that are reasonably certain to occur within the action area of the Federal action subject to consultation (50 CFR 402.02 and 402.17(a)). Future Federal actions that are unrelated to the proposed action are not considered in this section because they require separate consultation pursuant to section 7 of the ESA.

In addition to the cumulative effects described in the BA, agricultural practices may adversely affect riparian habitats through upland modifications of the watershed that lead to increased siltation, reductions in water flow, or agricultural runoff. Grazing activities from cattle operations can degrade or reduce suitable critical habitat for listed salmonids by increasing erosion and sedimentation as well as introducing nitrogen, ammonia, and other nutrients into the watershed, which can flow into the receiving waters of the associated watersheds. Stormwater and irrigation discharges related to both agricultural and urban activities contain numerous pesticides and herbicides that may adversely affect listed salmonids reproductive success and survival rates (Dubrovsky et al. 1998, Daughton 2003).

Integration and Synthesis

The Integration and Synthesis section is the final step in our assessment of the risk posed to species and critical habitat as a result of implementing the proposed action. In this section, we add the effects of the action to the environmental baseline and the cumulative effects, taking into account the status of the species and critical habitat, to formulate the agency's biological opinion as to whether the proposed action is likely to: (1) Reduce appreciably the likelihood of both the survival and recovery of a listed species in the wild by reducing its numbers, reproduction, or distribution; or (2) appreciably diminish the value of designated or proposed critical habitat as a whole for the conservation of the species.

Status of CCV steelhead and designated critical habitat

According to the NMFS 5-year species status review (NMFS 2016), the status of CCV steelhead appears to have remained unchanged since the 2011 status review that concluded that the Distinct Population Segment (DPS) was in danger of becoming endangered. Most CCV steelhead populations are very small, are not monitored, and may lack the resiliency to persist for protracted periods if subject to additional stressors, particularly widespread stressors such as climate change. The genetic diversity of CCV steelhead has likely been impacted by low population sizes and high numbers of hatchery fish relative to natural-origin fish. The life-history diversity of the DPS is mostly unknown, as very few studies have been published on traits such as age structure, size at age, or growth rates for CCV steelhead.

Critical habitat for CCV steelhead includes the stream reaches in the Sacramento River and its tributaries, as well as reaches of the San Joaquin River and its tributaries. Although the current conditions of PBFs for CCV steelhead critical habitat in the Central Valley are significantly limited and degraded, the habitat remaining is considered highly valuable.

Summary of the Environmental Baseline and Cumulative Effects

The environmental baseline indicates that past and present activities within the Calaveras River basin have caused significant habitat loss, degradation, and inaccessibility for CCV steelhead. Alterations in flow regimes, water diversions, instream structures, and continual contaminants from agricultural and urban discharges have also substantially reduced the functionality of the waterways. Furthermore, operations of the Headworks Facilities by Stockton East Water District, seasonally prevents juvenile fish from becoming entrained into the channel. If juvenile fish entered the Old Calaveras River channel, they would experience warmer water temperatures, inconsistent flows including very low to no flows, and experience migration delay or failure due to numerous private diversion dams.

The lower Calaveras River is designated critical habitat for CCV steelhead and extends from New Hogan Dam downstream to Bellota, Mormon Slough from Bellota to the mouth, the Stockton Diverting Canal (SDC), the Old Calaveras River channel downstream of Bellota to the SDC, and the Calaveras River from the SDC to the mouth. Past and present activities have caused a significant reduction in the quality and quantity of the remaining PBFs within the action area for the population of CCV steelhead that utilize the critical habitat in the area. Nevertheless, there is a robust population of *Oncorhynchus mykiss* (*O. mykiss*), and a small but self-sustaining population of CCV steelhead. It is currently unknown what proportion of the *O. mykiss* population in the Calaveras River exhibits the resident life history strategy versus the proportion that exhibit the CCV steelhead life history strategy.

Summary of Project Effects on CCV steelhead and designated critical habitat at the DPS level

In the unlikely event that water is present during in-channel construction, then a temporary water diversion structure, dewatering, and fish relocation activities could occur. Short-term impacts to individual CCV steelhead would occur if both water and fish are present in the action area during

construction. These activities could potentially result in harassment, injury, or death to individual fish.

The proposed action would adversely impact critical habitat for CCV steelhead within the Old Calaveras River channel. Long-term impacts to critical habitat that would occur due to the proposed project include: addition of riprap, removal of riparian vegetation, and the permanent addition of in-channel pilings and associated channel-spanning bridge. The PBFs of critical habitat in the footprint of the proposed action is severely degraded, and the proposed action will result in further degradation. To mitigate for the permanent and temporary impacts on critical habitat, the applicant is proposing off-site compensatory mitigation for permanent and temporary impacts to riparian habitat at a NMFS-approved mitigation bank. As described above under the heading Effects of the Action on Critical Habitat for CCV steelhead, the purchase of mitigation credits will address the loss of ecosystem functions due to the modification of the riverbank. These credit purchases are ecologically relevant to the PBFs of CCV steelhead critical habitat affected by the proposed action, because the NMFS-approved banks considered in this opinion include salmonid riparian and floodplain credits with habitat values that are already established and meeting performance standards. Also, the banks are located in an area that will benefit CCV steelhead critical habitat. The purchase of mitigation credits is expected to benefit the PBFs of freshwater rearing habitat and migration corridors for juvenile CCV steelhead by providing suitable riparian habitat. The floodplains and riparian habitat in the banks benefit the growth and survival of rearing salmonids by providing habitat with abundant food in the form of aquatic invertebrates and structural diversity, such as instream woody material.

The proposed action would have minimal adverse impacts to the overall DPS for CCV steelhead. Long-term impacts would further degrade critical habitat within the action area, however, we do not expect these long-term impacts would affect the overall available critical habitat for the DPS. Conservation measures under the proposed action would be implemented to minimize or mitigate for the adverse impacts to individual fish and to critical habitat, and at the DPS-level is expected to offset the impacts.

The Calaveras River CCV steelhead population is identified as a Core 1 population, needed for the recovery of the Southern Sierra Diversity Group and Mainstem San Joaquin River (NMFS 2014). Though the proposed action does not contribute to recovery of the species, it does not prevent recovery of CCV steelhead within the Calaveras River watershed. Taking into consideration the minor and adverse impacts, plus the environmental baseline, cumulative effects, and status of CCV steelhead and critical habitat, the proposed action is not expected to: (1) Reduce appreciably the likelihood of both survival and recovery of CCV steelhead in the wild by reducing its numbers, reproduction, or distribution; nor (2) appreciably diminish the value of designated CCV steelhead critical habitat for the conservation of the species.

Conclusion

After reviewing and analyzing the current status of the listed species and critical habitat, the environmental baseline within the action area, the effects of the proposed action, the effects of other activities caused by the proposed action, and cumulative effects, it is NMFS' biological opinion that the proposed action is not likely to jeopardize the continued existence of CCV steelhead or destroy or adversely modify its designated critical habitat.

1. INCIDENTAL TAKE STATEMENT

Section 9 of the ESA and Federal regulations pursuant to section 4(d) of the ESA prohibit the take of endangered and threatened species, respectively, without a special exemption. "Take" is defined as to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture or collect, or to attempt to engage in any such conduct. "Harm" is further defined by regulation to include significant habitat modification or degradation that actually kills or injures fish or wildlife by significantly impairing essential behavioral patterns, including breeding, spawning, rearing, migrating, feeding, or sheltering (50 CFR 222.102). "Incidental take" is defined by regulation as takings that result from, but are not the purpose of, carrying out an otherwise lawful activity conducted by the Federal agency or applicant (50 CFR 402.02). Section 7(b)(4) and section 7(o)(2) provide that taking that is incidental to an otherwise lawful agency action is not considered to be prohibited taking under the ESA if that action is performed in compliance with the terms and conditions of this incidental take statement (ITS).

1.1. Amount or Extent of Take

Under the proposed action, the activities that are expected to result in incidental take of CCV steelhead are those activities related to installing the temporary diversion structure, dewatering the construction area, and fish relocation, as well as permanent impacts to critical habitat, affecting fish.

In the biological opinion, NMFS determined that incidental take is reasonably certain to occur as follows: take, in the form of harassment, injury, or death, as a result of installing the temporary diversion structure, dewatering the construction area, and trapping and relocating any fish found in the area.

Based on ongoing fishery monitoring within the Calaveras River watershed upstream of the action area, by the Stockton East Water District and their current consultant FishBio (under the Calaveras Habitat Conservation Plan), anticipated incidental take of CCV steelhead for the above described activities are as follows:

- 1 adult CCV steelhead
- 10 juvenile CCV steelhead

If the numbers above are exceeded, incidental take would be exceeded.

Additionally, NMFS determined incidental take is reasonably certain to occur from the permanent impacts to critical habitat, resulting in harm. NMFS cannot, using the best available information, precisely quantify and track the amount or number of individuals that are expected to be incidentally taken as a result of permanent impacts to critical habitat under the proposed action. This is due to the variability and uncertainty associated with the long-term response of listed species to the effects of the proposed action, the varying population size, annual variations in the timing of migration, individual habitat use within the action area, and difficulty in observing harassed, injured, or harmed fish. However, it is possible to estimate the extent of incidental take by designating as ecological surrogates, those elements of the proposed action that are expected to result in adverse effects to listed species, that are more predictable and/or

measurable, with the ability to monitor those surrogates to determine the extent of take that is occurring.

The most appropriate threshold for incidental take is an ecological surrogate of habitat degradation, which includes the degradation of aquatic habitat through the placement of rock slope protection below the ordinary high water mark (OHWM), and installation of in-channel structures. The behavioral modifications or fish responses that result from the habitat disturbance are described below. NMFS anticipates incidental take will be limited to the following forms:

1. Take in the form of harm to rearing and migrating juvenile CCV steelhead from the degradation of aquatic habitat from the placement of up to 0.013 acres of rock slope protection, and 0.0004 acres of pier installation, below the OHWM. This loss will affect juvenile CCV steelhead each year through displacement or increased predation, resulting in decreased growth and survival.

Incidental take will be exceeded if the amount of habitat disturbance described in the above is exceeded.

1.2. Effect of the Take

In the biological opinion, NMFS determined that the amount or extent of anticipated take, coupled with other effects of the proposed action, is not likely to result in jeopardy to the species or destruction or adverse modification of critical habitat. Reasonable and Prudent Measures

"Reasonable and prudent measures" are nondiscretionary measures that are necessary or appropriate to minimize the impact of the amount or extent of incidental take (50 CFR 402.02).

1) Measures shall be taken by Caltrans to minimize adverse effects during fish relocation activities, in association with dewatering and installation of a temporary diversion structure.

1.3. Terms and Conditions

The terms and conditions described below are non-discretionary, and Caltrans or any applicant must comply with them in order to implement the RPMs (50 CFR 402.14). Caltrans or any applicant has a continuing duty to monitor the impacts of incidental take and must report the progress of the action and its impact on the species as specified in this ITS (50 CFR 402.14). If the entity to whom a term and condition is directed does not comply with the following terms and conditions, protective coverage for the proposed action would likely lapse.

1) The following terms and conditions implement reasonable and prudent measure 1:

    a) In coordination with NMFS, if a temporary water diversion is determined to be needed, then Caltrans shall develop a plan that describes: (1) how a temporary diversion structure will be installed, and uninstalled, in the action area within the Old Calaveras River channel, including any relevant designs; (2) how dewatering will occur in the work area; (3) protocols for how, and where, fish will be relocated, including conservation measures that would reduce the potential for fish injury and

mortality; and (4) communication protocols for how to notify NMFS in the event that a temporary diversion structure needs to be installed, and dewatering and fish relocation activities need to occur. Caltrans shall submit the plan to NMFS for review and approval a minimum of 30 days prior to installation of a temporary diversion structure within the Old Calaveras River channel.

b) Caltrans shall notify NMFS within 24 hours if CCV steelhead are observed, encountered, or relocated during fish relocation activities.

c) If a temporary diversion structure is installed and fish relocation activities occur, then within 60 days after completion of fish relocation activities and removal of the temporary diversion structure, Caltrans shall submit a report to NMFS that describes and summarizes fish relocation activities. This report shall include a description of the conservation measures that were implemented to reduce the potential for fish injury and mortality, and summarize all the fish species that were observed, encountered, and relocated.

1.4. Conservation Recommendations

Section 7(a)(1) of the ESA directs Federal agencies to use their authorities to further the purposes of the ESA by carrying out conservation programs for the benefit of the threatened and endangered species. Specifically, conservation recommendations are suggestions regarding discretionary measures to minimize or avoid adverse effects of a proposed action on listed species or critical habitat or regarding the development of information (50 CFR 402.02).

1) Caltrans should continue to work cooperatively with other State and Federal agencies, private landowners, governments, and local watershed groups to identify opportunities for cooperative analysis and funding to support priority recovery actions for salmonid and sturgeon, including habitat restoration projects with the Calaveras River basin. Implementation of future restoration projects is consistent with agency requirements set forth in section 7(a)(1).

1.5. Reinitiation of Consultation

Reinitiation of consultation is required and shall be requested by Caltrans or by NMFS, where discretionary Federal involvement or control over the action has been retained or is authorized by law and (1) the amount or extent of incidental taking specified in the ITS is exceeded; (2) new information reveals effects of the action that may affect listed species or critical habitat in a manner or to an extent not previously considered; (3) the identified action is subsequently modified in a manner that causes an effect to the listed species or critical habitat that was not considered in this biological opinion; or if (4) a new species is listed or critical habitat designated that may be affected by the identified action.

2. MAGNUSON-STEVENS FISHERY CONSERVATION AND MANAGEMENT ACT ESSENTIAL FISH HABITAT RESPONSE

NMFS also reviewed the proposed action for potential effects on essential fish habitat (EFH) designated under the Magnuson-Stevens Fishery Conservation and Management Act (MSA), including conservation measures and any determination you made regarding the potential effects

of the action. This review was conducted pursuant to section 305(b) of the MSA, implementing regulations at 50 CFR 600.920, and agency guidance for use of the ESA consultation process to complete EFH consultation.

This analysis is based, in part, on the EFH assessment provided by Caltrans, and descriptions of EFH for Pacific Coast salmon (PFMC 2014) contained in the fishery management plans developed by the PFMC and approved by the Secretary of Commerce. EFH designated under the Pacific Coast salmon FMP may be affected by the proposed action. Species that utilize EFH designated under this FMP within the action area include fall-run/ late fall-run Chinook salmon. Habitat Areas of Particular Concern (HAPCs) that may be either directly or indirectly adversely affected include: complex channels and floodplain habitats.

The effects of the proposed action on Pacific Coast salmon EFH would be similar to those discussed in the Effects of the Action section for CCV steelhead critical habitat. Based on information provided, NMFS concluded that the proposed action would adversely affect EFH for federally managed Pacific salmon. Adverse effects to HAPCs are appreciably similar to effects to critical habitat; therefore no additional discussion is included. Listed below are the adverse effects on EFH reasonably certain to occur as a result of the proposed action.

1) Pier installation for new bridge

- Loss of 0.0004 acres of in-channel habitat within the Old Calaveras River channel.

2) Rock slope protection

- Loss of 0.013 acres of riparian vegetation.

3) Removal of riparian vegetation

- Reduced shade, cover, terrestrial food supply, and instream woody material.

4) Installation of temporary diversion structure and associated dewatering

- Temporary loss of in-channel habitat.

NMFS determined that the following conservation recommendations are necessary to avoid, minimize, mitigate, or otherwise offset the impact of the proposed action on EFH:

1) Caltrans should protect existing, and wherever practicable, establish new riparian vegetation to enhance shading, cover, terrestrial food supply, and supply of instream woody material.

2) Caltrans should require contractors to use biodegradable lubricants and hydraulic fluid in construction machinery entering the Old Calaveras River channel. The use of petroleum alternative can greatly reduce the risk of contaminants from entering the aquatic ecosystem.

3) Bank erosion control should use vegetation methods or "soft" approaches (such as vegetative plantings and placement of woody material) to shoreline modifications

whenever feasible. Hard bank protection should be a last resort and the following options should be explored: tree revetments, stream flow deflectors, and vegetative riprap.

Fully implementing these EFH conservation recommendations would protect approximately 0.3 acres of EFH by minimizing the adverse effects described for designated EFH for Pacific Coast salmon.

This letter underwent pre-dissemination review using standards for utility, integrity, and objectivity in compliance with applicable guidelines issued under the Data Quality Act (section 515 of the Treasury and General Government Appropriations Act for Fiscal Year 2001, Public Law 106-554). The document will be available within two weeks at the NOAA Library Institutional Repository [https://repository.library.noaa.gov/welcome]. A complete record of this consultation is on file at the NMFS California Central Valley Office.

Please direct questions regarding this letter to Meiling Colombano, NMFS California Central Valley Office, at Meiling.Colombano@noaa.gov, or 916-204-3406.

Sincerely,

A. Catherine Marcinkevage

Assistant Regional Administrator
California Central Valley Office

Attachments: Biological Assessment, Addendum #1, and Addendum #2

cc: AR#: 151422-WCR2021-SA00060

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Biological Assessment

Pezzi Road Bridge Replacement over Calaveras River

San Joaquin County

District 10 – SJ

Bridge No. 29C0199

BRLS 5929(240)

February 2021

Caltrans
CALIFORNIA DEPARTMENT OF TRANSPORTATION

Biological Assessment

Pezzi Road Bridge Replacement over Calaveras River
San Joaquin County
District 10 – SJ
BRLS 5929(240)
February 2021

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List of Abbreviated Terms

°F	Degrees Fahrenheit
BA	Biological Assessment
BMPs	Best Management Practices
Cal-IPC	California Invasive Plant Council
Caltrans	California Department of Transportation
CDFW	California Department of Fish and Wildlife
CEQA	California Environmental Quality Act
CESA	California Endangered Species Act
CFG	California Fish and Game
CFR	Code of Federal Regulations
CNDDB	California Natural Diversity Database
CNPS	California Native Plant Society
County	San Joaquin County
CVRWQCB	Central Valley Regional Water Quality Control Board
CWA	Clean Water Act
DOT	US Department of Transportation
EFH	Essential Fish Habitat
EO	Executive Order
EPA	US Environmental Protection Agency
ESA	Environmentally Sensitive Area
FESA	Federal Endangered Species Act
FHWA	Federal Highways Administration
FMP	Fishery Management Plan
HAPC	Habitat Area of Particular Concern
IPaC	Information for Planning and Consultation
MBTA	Migratory Bird Treaty Act
MSFCMA	Magnuson Stevens Fishery Conservation and Management Act
NEPA	National Environmental Policy Act
NES	Natural Environment Study
NMFS	National Marine Fisheries Service
NPDES	National Pollutant Discharge Elimination System
PBFs	Physical and Biological Features
PFMC	Pacific Fisheries Management Council
Project	Pezzi Road Bridge Replacement over Calaveras River
RWQCB	Regional Water Quality Control Board
SEWD	Stockton East Water District
SWPPP	Stormwater Pollution Prevention Plan
SWRCB	State Water Resources Control Board
TMDLs	Total Maximum Daily Loads
USACE	United States Army Corps of Engineers
USC	United States Code
USFWS	United States Fish and Wildlife Service
USGS	United States Geological Survey
VELB	Valley Elderberry Longhorn Beetle
WPCP	Water Pollution Control Program

Executive Summary

The purpose of this Biological Assessment (BA) is to provide technical information and to review the proposed Project in sufficient detail to determine to what extent the proposed Project may affect threatened, endangered, or proposed species. The California Department of Transportation (Caltrans), as assigned by the Federal Highway Administration (FHWA), has prepared this BA under its assumption of responsibility at 23 United States Code (USC) 326 or 23 USC 327. The BA is also prepared in accordance with 50 Code of Federal Regulations (CFR) 402, legal requirements found in Section 7(a)(2) of the Endangered Species Act (16 U.S.C. 1536(c)) and with FHWA and Caltrans regulation, policy and guidance. The document presents technical information upon which later decisions regarding Project effects are developed.

San Joaquin County, in coordination with the Caltrans, proposes to replace the Pezzi Road Bridge (Bridge Number 29C0199) and improve the approach roadway to the bridge. The bridge is located within an agricultural area in San Joaquin County, approximately 3 miles east of State Route 99 and north of the town of Waterloo.

The proposed project would replace the substandard bridge with a structure meeting current standards and realign the roadway approaches to replace the sharp curves with a new 50-mph alignment meeting the American Association of State Highways and Transportation Officials (AASHTO Green Book) design specifications. The total improved road length would be approximately 1,570 feet. The new alignment would consist of approximately 1,925-foot radius reversing curves that meet a 50-mph design speed. The new road section would have two 10 foot lanes which widen to 10 feet at bridge and paved shoulders which vary from 0 to 3 feet, for a total width of 20 to 26 feet.

The following permits will be obtained for the propose Project prior to construction: Section 404 Nationwide Permit 14 from the United States Army Corp of Engineers, Section 401 Water Quality Certification from the Regional Water Quality Control Board, National Pollution Discharge Elimination System Permit from Regional Water Quality Control Board, Section 1602 Streamed Alteration Agreement from California Department of Fish and Wildlife and a General Permit from the Central Valley Flood Protection Board.

The Calaveras River is final designated Critical Habitat for California Central Valley Steelhead (*Oncorhynchus mykiss iridius*) and individuals of the species have a low potential of being present within the Action Area. Given the small scale of impacts and the anticipated low density of steelhead, Caltrans has determined that the Project may affect, but is not likely to adversely affect California Central Valley Steelhead and steelhead Critical Habitat. In addition, the Calaveras River has been designated as Essential Fish Habitat (EFH) for Chinook salmon (*Oncorhynchus tshawytscha*). Due to the current accessibility and conditions of the Action Area, the BSA does not support any of the Habitat Area of Particular Concerns (HAPCs) associated with Chinook Salmon EFH. Therefore, the Project will not adversely affect EFH for Chinook salmon. The project would have no effect on all other fish species on the species lists queried for this project.

Furthermore, the Action Area contains riparian vegetation and elderberry shrubs suitable to support the Valley Elderberry Longhorn Beetle (*Desmocerus californicus dimorphus)*. Due to the presence of suitable habitat and local recent occurrences, the species has a high potential of occurring within the Action Area. Given that some of the elderberry shrubs within the Action Area contain possible exit holes and shrub removal will occur, Caltrans has determined that the Project may affect and is likely to adversely affect the Valley Elderberry Longhorn Beetle.

Chapter 1. Introduction

1.1. Purpose and Need of the Proposed Action

1.1.1. Purpose

The purpose of the Pezzi Road Bridge Replacement over Calaveras River Project is to replace a functionally obsolete bridge in order to:

- Enhance safety on Pezzi Road by eliminating the two ninety-degree curves in the road and providing a consistent 50 mph roadway facility over the Calaveras River;
- Provide a transportation facility consistent with County and Caltrans Standards, as well as local and regional plans.

1.1.2. Need

The existing Pezzi Road Bridge is rated "functionally obsolete" by Caltrans under Federal Highway Administration prescribed inspection criteria. Full replacement of the bridge is needed because the current structure does not meet structural design standards.

1.2. Species and Critical Habitats Assessed

1.2.1. Threatened and Endangered Species

An updated species list was provided by the United States Fish and Wildlife Service (USFWS) and the National Marine Fisheries Service (NMFS) for the Action Area of this project (Appendix A). The following listed and proposed species and/or designated critical habitats were identified on the updated NMFS and USFWS species lists and were considered during this analysis:

- California CCV Steelhead (CCV Steelhead) (*Oncorhynchus mykiss irideus*) T
- California Red-Legged Frog (*Rana draytonii*) T
- California Tiger Salamander (*Ambystoma californiense)* T
- Delta Smelt (*Hypomesus transpacificus)* T
- Fleshy Owl's Clover (*Castilleja campestris*) T
- Giant Garter Snake (*Thamnophis gigas)* T
- Riparian Brush Rabbit (*Sylvilagus bachmani riparius)* E
- Valley Elderberry Longhorn Beetle (VELB) (*Desmocerus californicus dimorphus)* T
- Vernal Pool Fairy Shrimp (*Branchinecta lynchi)* T
- Vernal Pool Tadpole Shrimp (*Lepidurus packardi)* E

1.2.2. Critical Habitat

The proposed action addressed within this document falls within Critical Habitat for California Central Valley Steelhead (*Oncorhynchus mykiss*). The Project may affect but is not likely to adversely modify this Critical Habitat. Additionally, there is final Critical Habitat for the VELB (*Desmocerus californicus dimorphus*); however, the Project area is outside of the designated Critical Habitat.

1.2.3. Essential Fish Habitat

The proposed action addressed within this document falls within EFH for Chinook salmon (*Oncorhynchus tshawytscha*). The Project will not adversely affect Chinook salmon EFH.

1.2.4. Proposed Species

There is no federally proposed species that may be affected by the proposed action.

1.2.5. Proposed Critical Habitat

There is no federally proposed Critical Habitat that may be affected by the proposed action.

Table 1. Threatened, Endangered and Proposed Species and Designated and Proposed Critical Habitat and Effect Determinations

Threatened, Endangered, Proposed Species, or Designated Critical Habitat	Scientific Name	Listing Status	Presence of Species in Action Area (Yes/No)	Presence of Critical Habitat in Action Area (Yes/No)	Effect Determination
California Central Valley Steelhead	*Oncorhynchus mykiss irideus*	T	Yes	Yes	**May affect, not likely to adversely affect.** The Calaveras River is final designated critical habitat for Central Valley steelhead and the species has potential to utilize the river as a migration corridor to upstream spawning habitats but is unlikely to be currently using the corridor due to low water flows and the presence of impassible barriers in numerous locations throughout the Calaveras River. Therefore, the species is considered to have a low potential of occurring in the Action Area. *CCV Steelhead Critical Habitat* **May affect, not likely to adversely affect.** The Calaveras River present within the Action Area is final designated Critical Habitat for Central Valley steelhead. However, impacts to the habitat are anticipated to be minor and would not change the overall quality of the habitat.
California Red-Legged Frog	*Rana draytonii*	T	No	No	**No effect.** The Action Area does not contain a permanent source of deep water required to support the species. Additionally, there are no documented occurrences of the species within 10 miles of the Action Area. The species is absent from the Action Area based on the lack of suitable habitat and documented local occurrences.
California Tiger Salamander	*Ambystoma californiense*	T	No	No	**No effect.** The Action Area and surrounding areas do not support vernal pools or other seasonal water features required by the species for reproduction or the grassland habitat required by the species for estivation. The nearest documented occurrence is

Threatened, Endangered, Proposed Species, or Designated Critical Habitat	Scientific Name	Listing Status	Presence of Species in Action Area (Yes/No)	Presence of Critical Habitat in Action Area (Yes/No)	Effect Determination
					approximately 8 miles northeast of the Action Area and was recorded in 1973. The species is absent from the Action Area based on a lack of suitable habitat and documented local occurrences.
Chinook Salmon Essential Fish Habitat	*Oncorhynchus tshawytscha*	T	No	No	**Will Not Adversely Affect.** The BSA contains Essential Fish Habitat for Chinook salmon; however, this area does not meet the criteria to be considered a HAPC. Although the BSA contains EFH, based on current population distributions and the lack of HAPCs, the species is not anticipated to occur within the BSA.
Delta Smelt	*Hypomesus transpacificus*	T	No	No	**No effect.** The species is confined to the brackish waters of the Sacramento River Delta. The nearest documented occurrence is approximately 10 miles southwest of the Action Area and was found in the San Joaquin River in 2007. The species is absent based on a lack of suitable habitat and documented local occurrences.
Fleshy Owl's-clover	*Castilleja campestris ssp. succulenta*	T	No	No	**No effect.** The Action Area lacks vernal pool communities required for the species. Furthermore, there are no documented occurrences of the species within a 10-mile radius of the Action Area. The species is absent from the Action Area based on a lack of suitable habitat and documented local occurrences.
Giant Garter Snake	*Thamnophis gigas*	T	No	No	**No effect.** The Action Area does not contain the wetland habitat required by the species. The nearest documented occurrence is approximately 5 miles southeast of the Action Area and was recorded in 1976. The species is absent based on a lack of suitable habitat and documented local occurrences.
Riparian Brush Rabbit	*Sylvilagus bachmani riparius*	E	No	No	**No effect.** The Action Area does contain riparian habitat required for the species. However, the species is only known to occur in Caswell Memorial State Park, approximately 25 miles south of the Action Area. The species is absent based on a lack of suitable habitat and the fact that the Action Area is outside of the known range of the species.
Valley Elderberry	*Desmocerus californicus dimorphus*	T	Yes	No	**May affect, likely to adversely affect.** The Action Area contains riparian vegetation and elderberry shrubs suitable for the species.

Threatened, Endangered, Proposed Species, or Designated Critical Habitat	Scientific Name	Listing Status	Presence of Species in Action Area (Yes/No)	Presence of Critical Habitat in Action Area (Yes/No)	Effect Determination
Longhorn Beetle					The nearest documented occurrence is approximately 1.5 miles upstream of the Action Area recorded along the Old Calaveras River channel (Riverine) in 1991. The species has a high potential of occurring in the Action Area due to the presence of suitable habitat, local occurrences and the fact that some elderberry shrubs onsite exhibited exit holes.
Vernal Pool Fairy Shrimp	*Branchinecta lynchi*	T	No	No	**No effect.** The Action Area does not contain vernal pool habitat required by the species and therefore, the species is absent from the Action Area.
Vernal Pool Tadpole Shrimp	*Lepidurus packardi*	E	No	No	**No effect.** The Action Area does not contain vernal pool habitat required by the species and therefore, the species is absent from the Action Area.

1.3. Authorities and Discretion

Project documentation has been prepared in compliance with the National Environmental Policy Act (NEPA) and the California Environmental Quality Act (CEQA). As part of its NEPA assignment of federal responsibilities by the FHWA, effective October 1, 2012 and pursuant to 23 USC 326, Caltrans is acting as the lead federal agency for Section 7 of the Federal Endangered Species Act (FESA). Caltrans is responsible to comply with NEPA, Executive Orders (EO), and other federal laws. The Local Assistance Procedures Manual and Caltrans' online Standard Environmental Reference describe the procedures for preparing technical studies and environmental documentation. In addition, permits, approvals, and concurrences related to biological resource issues will be required from the following agencies:

Table 2. Regulatory Permit Requirements

Regulation	Regulating Agency
Clean Water Act Section 401	Regional Water Quality Control Board – Central Valley Office
Clean Water Act Section 404, Nationwide Permit 14	United States Army Corps of Engineers – Sacramento District
California Fish and Game Code Section 1600	California Department of Fish and Wildlife – Central Region (R4)
National Pollutant Discharge Elimination System Permit	Environmental Protection Agency

1.3.1.1. Federal Regulations

National Environmental Policy Act

NEPA provides an interdisciplinary framework for environmental planning by federal agencies and contains action-forcing procedures to ensure that federal agency decisions take environmental factors into account. NEPA is applicable when a federal agency proposes an action, grants a permit, or agrees to fund or otherwise authorize any other entity to undertake an action that could possibly affect environmental resources. Caltrans is the designated NEPA lead agency for this Project acting under delegation from FHWA.

Federal Endangered Species Act

FESA of 1973 (16 U.S.C. section 1531 et seq.) provides for the conservation of endangered and threatened species listed pursuant to Section 4 of the Act (16 U.S.C. section 1533) and the ecosystems upon which they depend. These species and resources have been identified by USFWS or NMFS.

Clean Water Act

The Clean Water Act (CWA) was enacted as an amendment to the Federal Water Pollutant Control Act of 1972, which outlined the basic structure for regulating discharges of pollutants to waters of the United States. The CWA is the primary federal law protecting the quality of the nation's surface waters, including lakes, rivers, and coastal wetlands.

The CWA empowers the US Environmental Protection Agency (EPA) to set national water quality standards and effluent limitations, and includes programs addressing point-source and non-point-source pollution.

Point-source pollution originates or enters surface waters at a single, discrete location, such as an outfall structure or an excavation or construction site. Non-point-source pollution originates over a broader area and includes urban contaminants in storm water runoff and sediment loading from upstream areas. The CWA operates on the principle that all discharges into the nation's waters are unlawful unless they are specifically authorized by a permit; permit review is the CWA's primary regulatory tool.

Section 303(d)

Under the mandate of Section 303(d) of the CWA, the Regional Water Quality Control Board (RWQCB) is required to formulate a list of surface water bodies that exceed applicable water quality standards. Subsequently, the RWQCB is required to describe the impairment sources and prioritize these water bodies to develop Total Maximum Daily Loads (TMDLs). The current list was updated in 2016. The lower Calaveras River (from Bellota Weir to Stockton Diverting Canal), part of the river system found within the Action Area, is on the 303(d) list of impaired water bodies for toxicity (Water Boards 2019).

Section 401

The RWQCB has jurisdiction under Section 401 of the CWA and regulates any activity which may result in a discharge to surface waters. Typically, the areas subject to jurisdiction of the RWQCB coincide with waters of the US including any wetlands. The RWQCB also asserts authority over "waters of the State" under waste discharge requirements pursuant to the Porter-

Cologne Water Quality Control Act. The proposed Project is located within the jurisdiction of the Central Valley RWQCB and will require a Clean Water Certification.

Section 402

The State Water Resources Control Board (SWRCB) regulates construction projects that involve ground disturbance of 1 acre or greater. These projects must obtain coverage under the SWRCB General Permit for Storm Water Discharges Associated with Construction Activity (General Construction Permit). Operators of regulated construction sites are required to develop a SWPPP; to implement sediment, erosion, and pollution prevention control measures; and to obtain coverage under the General Construction Permit.

Section 404

The United States Army Corps of Engineers (USACE) regulates discharges of dredged or fill material into waters of the US. These waters include wetlands and non-wetland bodies of water that meet specific criteria, including a direct or indirect connection to waters of interstate commerce. The USACE regulatory jurisdiction pursuant to Section 404 of the CWA is founded on a connection, or nexus, between the water body in question and interstate commerce. This connection may be direct (through a tributary system linking a stream channel with traditional navigable waters used in interstate or foreign commerce) or may be indirect (through a nexus identified in USACE regulations). The Old Calaveras River channel (Riverine), found within the Action Area, is considered a jurisdictional water and is regulated under this section.

Executive Order 11990 – Protection of Wetlands

EO 11990 is an established national policy to avoid adverse impacts on wetlands whenever there is a practicable alternative. The US Department of Transportation (DOT) promulgated DOT Order 5660.1A in 1978 to comply with this direction. On federally funded projects, impacts on wetlands must be identified. Alternatives that avoid wetlands must be considered. If wetland impacts cannot be avoided, then all practicable measures to minimize harm must be included. This must be documented in a specific Wetlands Only Practicable Alternative Finding. An additional requirement is to provide early public involvement in projects affecting wetlands. The FHWA provides technical assistance (Technical Advisory 6640.8A) and reviews environmental documents for compliance. There are no wetlands present in the Action Area.

Executive Order 13112: Prevention and Control of Invasive Species

EO 13112 (signed February 3, 1999) directs all federal agencies to prevent and control introductions of invasive species in a cost-effective and environmentally sound manner. The EO and directives from FHWA require consideration of invasive species in NEPA analyses, including their identification and distribution, their potential impacts, and measures to prevent or eradicate them.

Executive Order 13186: Migratory Bird Treaty Act

EO 13186 (signed January 10, 2001) directs each federal agency taking actions that could adversely affect migratory bird populations to work with USFWS to develop a Memorandum of Understanding that will promote the conservation of migratory bird populations. Protocols

developed under the Memorandum of Understanding will include the following agency responsibilities:

- avoid and minimize, to the maximum extent practicable, adverse impacts on migratory bird resources when conducting agency actions;
- restore and enhance habitat of migratory birds, as practicable; and
- prevent or abate the pollution or detrimental alteration of the environment for the benefit of migratory birds, as practicable.

The EO is designed to assist federal agencies in their efforts to comply with the Migratory Bird Treaty Act (MBTA) (50 Code of Federal Regulations (CFR) 10 and 21) and does not constitute any legal authorization to take migratory birds. Take is defined under the MBTA as "the action of or attempt to pursue, hunt, shoot, capture, collect, or kill" (50 CFR 10.12) and includes intentional take (i.e., take that is the purpose of the activity in question).

Magnuson-Stevens Fishery Conservation and Management Act of 1976

The Magnuson-Stevens Fishery Conservation and Management Act of 1976 was established to conserve and manage fishery resources found off the coast, as well as anadromous species and Continental Shelf fishery resources of the United States, by exercising (A) sovereign rights for the purposes of exploring, exploiting, conserving, and managing all fish within the exclusive economic zone established by Presidential Proclamation 5030, dated March 10, 1983, and (B) exclusive fishery management authority beyond the exclusive economic zone over such anadromous species, Continental Shelf fishery resources, and fishery resources in special areas. The Act designates Essential Fish Habitat (EFH) for federally managed fish species, as well as HAPCs for the purposes of prioritizing conservation efforts.

1.3.1.2. State Regulations

California Environmental Quality Act

CEQA was created to inform governmental decision-makers and the public about the potential, significant environmental effects of proposed activities and to work to reduce these negative environmental impacts. San Joaquin County is the CEQA lead agency for this Project.

California Endangered Species Act

The California Fish and Game (CFG) Code Section 2050, henceforth referred to as the California Endangered Species Act (CESA), requires the CDFW to establish a list of endangered and threatened species (Section 2070) and to prohibit the incidental taking of any such listed species except as allowed by the Act (Sections 2080-2089). In addition, CESA prohibits take of candidate species (under consideration for listing).

CESA also requires CDFW to comply with CEQA (Pub. Resources Code Section 21000 et seq.) when evaluating incidental take permit applications (CFG Code Section 2081(b) and California Code Regulations, Title 14, section 783.0 et seq.), and the potential impacts the project or activity for which the application was submitted may have on the environment. CDFW's CEQA obligations include consultation with other public agencies which have jurisdiction over the project or activity (California Code Regulations, Title 14, Section 783.5(d)(3)). CDFW cannot issue an incidental take permit if issuance would jeopardize the

continued existence of the species (CFG Code Section 2081(c); California Code Regulations, Title 14, Section 783.4(b)).

Fish and Game Code Section 1600: Streambed Alteration Agreement

Under CFG Code 1602, public agencies are required to notify CDFW before undertaking any project that will divert, obstruct, or change the natural flow, bed, channel, or bank of any river, stream, or lake. Preliminary notification and project review generally occur during the environmental process. When an existing fish or wildlife resource may be substantially adversely affected, CDFW is required to propose reasonable project changes to protect the resources. These modifications are formalized in a Streambed Alteration Agreement that becomes part of the plans, specifications, and bid documents for the project. A Streambed Alteration Agreement will be obtained for the Project.

Fish and Game Code Section 3503 and 3503.5: Bird and Raptors

CFG Code Section 3503 prohibits the destruction of bird nests and Section 3503.5 prohibits the killing of raptor species and destruction of raptor nests. Trees and shrubs are present in and adjacent to the Action Area and have the potential to contain nesting sites.

Section 3513: Migratory Birds

CFG Code Section 3513 prohibits the take or possession of any migratory non-game bird as designated in the MBTA or any part of such migratory non-game bird except as provided by rules and regulations adopted by the Secretary of the Interior under provisions of the MBTA.

Porter Cologne Water Quality Control Act

California's Porter-Cologne Act, enacted in 1969, provides the legal basis for water quality regulation within California. The act requires a "Report of Waste Discharge" for any discharge of waste (liquid, solid, or gaseous) to land or surface waters that may impair beneficial uses for surface and/or groundwater of the State. It predates the CWA and regulates discharges to waters of the state. Waters of the state include more than just waters of the US, such as groundwater and surface waters not considered waters of the US. Additionally, it prohibits discharges of "waste"; this definition is broader than the CWA definition of "pollutant". Discharges under the Porter-Cologne Act are permitted by Waste Discharge Requirements and may be required even when the discharge is already permitted or exempt under the CWA.

The RWQCBs are responsible for establishing the water quality standards (objectives and beneficial uses) required by the CWA and regulating discharges to ensure compliance with the water quality standards. Details regarding water quality standards for a project are contained in the applicable RWQCB Basin Plan. In California, RWQCBs designate beneficial uses for all water body segments in their jurisdictions, and then set criteria necessary to protect these uses. Consequently, the water quality standards developed for particular water segments are based on the designated use and vary depending on such use. In addition, the SWRCB identifies waters failing to meet standards for specific pollutants, which are then state listed in accordance with CWA Section 303(d). If a state determines that waters are impaired, and the standards cannot be met through point source or non-source point controls (National Pollutant Discharge Elimination System (NPDES) permit or Waste Discharge Requirements), the CWA

requires the establishment of TMDLs which specify allowable pollutant loads from all sources (point, non-point, and natural) for a given watershed.

Regional Water Quality Control Boards

The SWRCB adjudicates water rights, sets water pollution control policy, and issues water board orders on matters of statewide application, and oversees water quality functions throughout the state by approving Basin Plans, TMDLs, and NPDES permits. RWQCBs are responsible for protecting beneficial uses of water resources within their regional jurisdiction using planning, permitting, and enforcement authorities to meet this responsibility.

1.4. Consultation History

1.4.1. United States Fish and Wildlife Service

On November 2, 2016 an official species list was electronically obtained from the USFWS Information for Planning and Consultation (IPaC) database of federally endangered and threatened species that could occur in the vicinity of the proposed Project (Consultation code: 08ESMF00-2017-E-00357). An updated official species list was electronically obtained on May 19, 2020, on October 8, 2020 and February 5, 2021 (Consultation code: 08ESMF00-2021-SLI-0075 [Appendix A]).

1.4.2. National Marine Fisheries Service

A list of special-status aquatic species with the potential to occur within the Project vicinity was obtained from NMFS through the West Coast Region – California Species Data Google Earth application on October 31, 2019 and reviewed again on May 19, 2020, October 8, 2020 and February 5, 2021 (Appendix B). The official species list obtained from NMFS contained listed special-status species, Critical Habitat, EFH, and marine mammals under NMFS purview in California that have the potential of occurring within the California 7.5-minute United States Geological Survey (USGS) quadrangle Waterloo (Quad number 38121-A2).

1.5. Resource Agency Coordination and Professional Contacts

1.5.1. California Department of Fish and Wildlife

A list of special-status state listed species with the potential to occur within the Project vicinity was obtained from CDFW's California Natural Diversity Database (CNDDB) on November 2, 2019 and updated on May 19, 2020, October 8, 2020 and February 5, 2021 (Appendix C). The search encompassed six 7.5-minute USGS quadrangles including Linden, Lockeford, Lodi North, Lodi South, Peters, Stockton East and Waterloo.

1.6. Study Methods

Preliminary investigations included compiling a list of FESA listed species that could potentially be impacted by the proposed Project. The list was compiled using information obtained from regulatory databases including the USFWS online database IPaC, the NMFS species list generator and CDFW's CNDDB.

Data compiled from these database search results were used to compile a table of federal-listed and federal-proposed species that may occur in the vicinity of the Action Area (Table 1).

On March 28, 2017 and on June 27, 2019 the Action Area was surveyed to assess the potential for suitable habitat for FESA listed species. The habitat requirements of each species listed on Table 1 were then compared to habitats within the Action Area. Finally, the occurrence distribution of each species was assessed to determine if the Action Area is within the documented range of the species.

The *Lower Calaveras River Chinook Salmon and Steelhead Limiting Factor Analysis First Year Report*, prepared for Fishery Foundation of California, was used to assess the quality of steelhead habitat within the Calaveras River (Stillwater 2014). Furthermore, the *5-Year Review: Summary and Evaluation for California Central Valley Steelhead Distinct Population Segment*, published by NMFS, was referenced for current population trends, habitat range and continuing threats (NMFS 2016).

For VELB, the *Framework for Assessing Impacts to the Valley Elderberry Longhorn Beetle*, prepared by USFWS, was used to assess current population trends and to determine appropriate mitigation for Project related impacts (USFWS 2017).

1.6.1. Personnel and Survey Dates

On March 28, 2017 and on June 27, 2019 general biological surveys, habitat assessments, and a delineation of jurisdictional waters was conducted by Dokken Engineering biologist Scott Salembier. General biological surveys included walking meandering transects, observing vegetation communities, compiling notes on observed flora and fauna, and assessing the potential for existing habitats to support sensitive plants and wildlife.

1.6.2. Limitation and Assumptions that may Influence Results

General biological surveys were conducted in late March and in June during the blooming season for most regional special-status plants. The surveys were completed during ideal weather conditions and are not subject to seasonal or climatic limitations. Surveys were conducted within the Action Area (i.e. anticipated work areas, staging areas, and access routes) plus an approximate 100-foot buffer. Site access was restricted to public right-of-way and properties that had granted survey access on the south side of the Calaveras River. Areas north of the river were not accessed directly but were viewed from the south bank where feasible. Habitats in restricted areas were mapped using aerial imagery. The CCV Steelhead habitat was assessed by noting the type of substrate present within the river channel, recording water flow and observing any riparian vegetation overhanging the channel. VELB habitat was assessed by documenting the location and size of elderberry shrubs, where feasible, within the Action Area and noting the presence of any exist holes.

Chapter 2. Proposed Agency Action

2.1. Proposed Action Location

The Project is located approximately 3 miles east of State Route 99 and north of the town of Waterloo, with unincorporated San Joaquin County (Figure 1. Project Vicinity and Figure 2. Project Location). The Project is located within the San Joaquin Valley Floristic Provence and within the Waterloo 7 ½ minute quadrangle at elevations between 59 and 65 feet above mean sea level. The approximate latitude and longitude of the Project are 38°2'43.6"N and -121°12'1.6"W.

2.2. Description of the Proposed Action

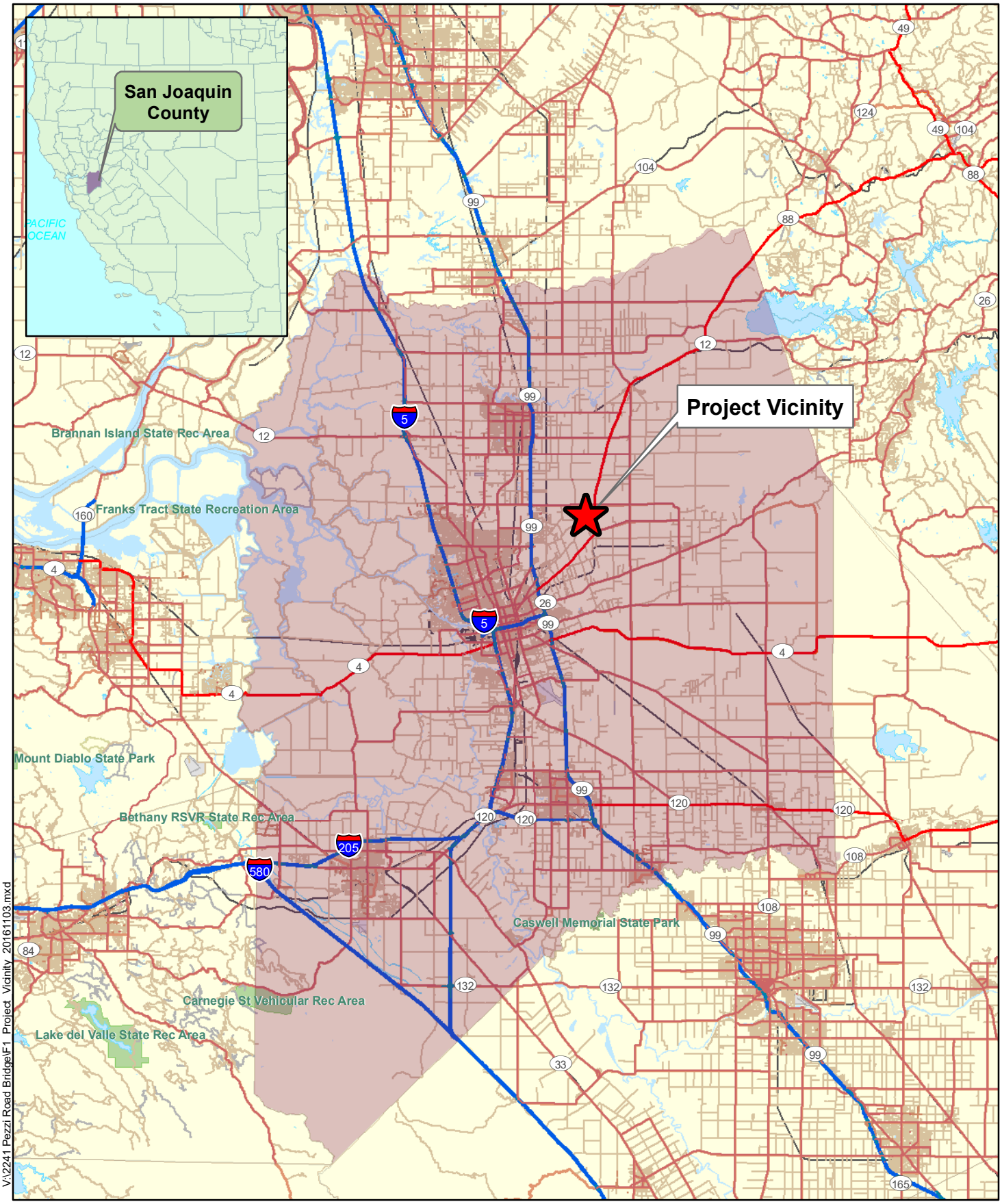
San Joaquin County, in coordination with the California Department of Transportation (Caltrans), proposes to replace the Pezzi Road Bridge (Number 29C0199) and improve the approach roadway to the bridge (Figure 3. Project Features). The bridge is located within an agricultural area in San Joaquin County, approximately 3 miles east of State Route 99 and north of the town of Waterloo.

The existing Pezzi Road Bridge is on a two-lane rural road across the Calaveras River. It was originally constructed in 1926 and consists of a three-span reinforced concrete T-Beam approximately 63.5 feet long. The deck clear width is approximately 18 feet and is striped for two 9-foot lanes. The bridge is supported by two column piers and diaphragm abutment walls, all of which are founded on shallow spread footings. The Caltrans Structure Inventory and Appraisal Report classifies the bridge as Functionally Obsolete. The most recent County traffic count in March 2018 determined the average daily traffic (ADT) at approximately 420.

The Calaveras River is a natural channel and the primary soil type in and around the canal is sandy-silt/silty sand, which makes the foundation of the existing bridge susceptible to scour. The banks of the river are heavily vegetated with blackberry and other small bushes. On the top of the banks are several trees, including native oaks along the southern bank, just east of the bridge.

Pezzi Road is primarily a north-south route with tight, reversing, horizontal curves at the bridge location. The bridge is located near the center of the western curve, although the bridge itself is on a tangent. There is no posted speed so the speed limit defaults to 55 mph; however, there are 15 mph advisory signs when approaching the reversing curves. The roadway is classified as a local road and primarily serves as a connector from East Eight Mile Road to the north, and Waterloo Road (SR 88) to the south, for local property owners and farming operations.

The proposed project would replace the substandard bridge with a structure meeting current standards and realign the roadway approaches to replace the sharp curves with a new 50-mph alignment meeting the American Association of State Highways and Transportation Officials (AASHTO Green Book) design specifications. The total improved road length would be approximately 1,570 feet. The new alignment would consist of approximately 1,925-foot radius reversing curves that meet a 50-mph design speed. The new road section would have two 10 foot lanes which widen to 11 feet at bridge and paved shoulders which vary from 1 to 3 feet, for a total width of 22 to 26 feet.



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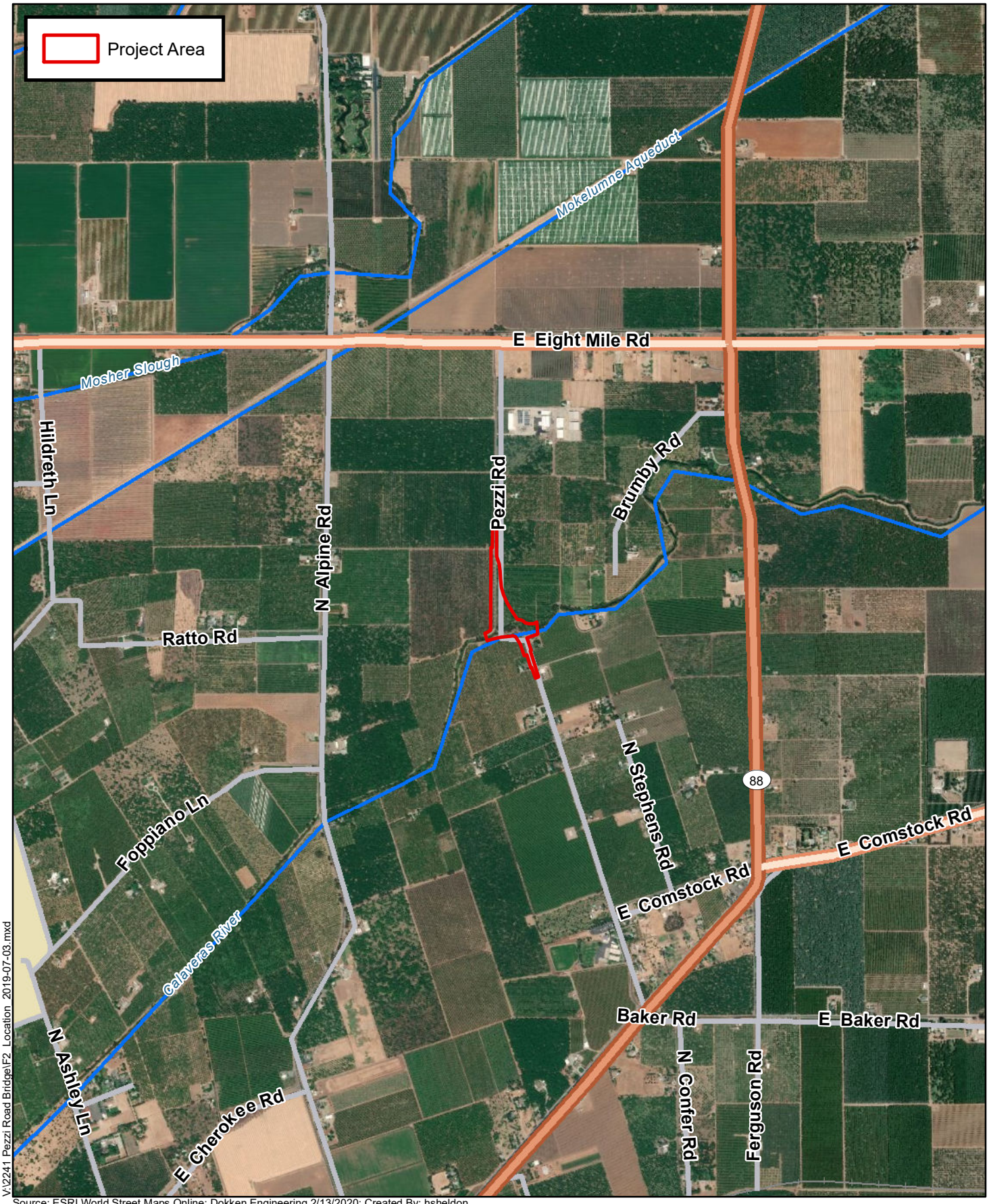
Source: ESRI 2016; Dokken Engineering 2/13/2020; Created By: hsheldon

0 5 10 15 20 Miles

FIGURE 1
Project Vicinity
Federal Project: BRLO 5929(240)
Pezzi Road Bridge Replacement over Calaveras River
San Joaquin County, California



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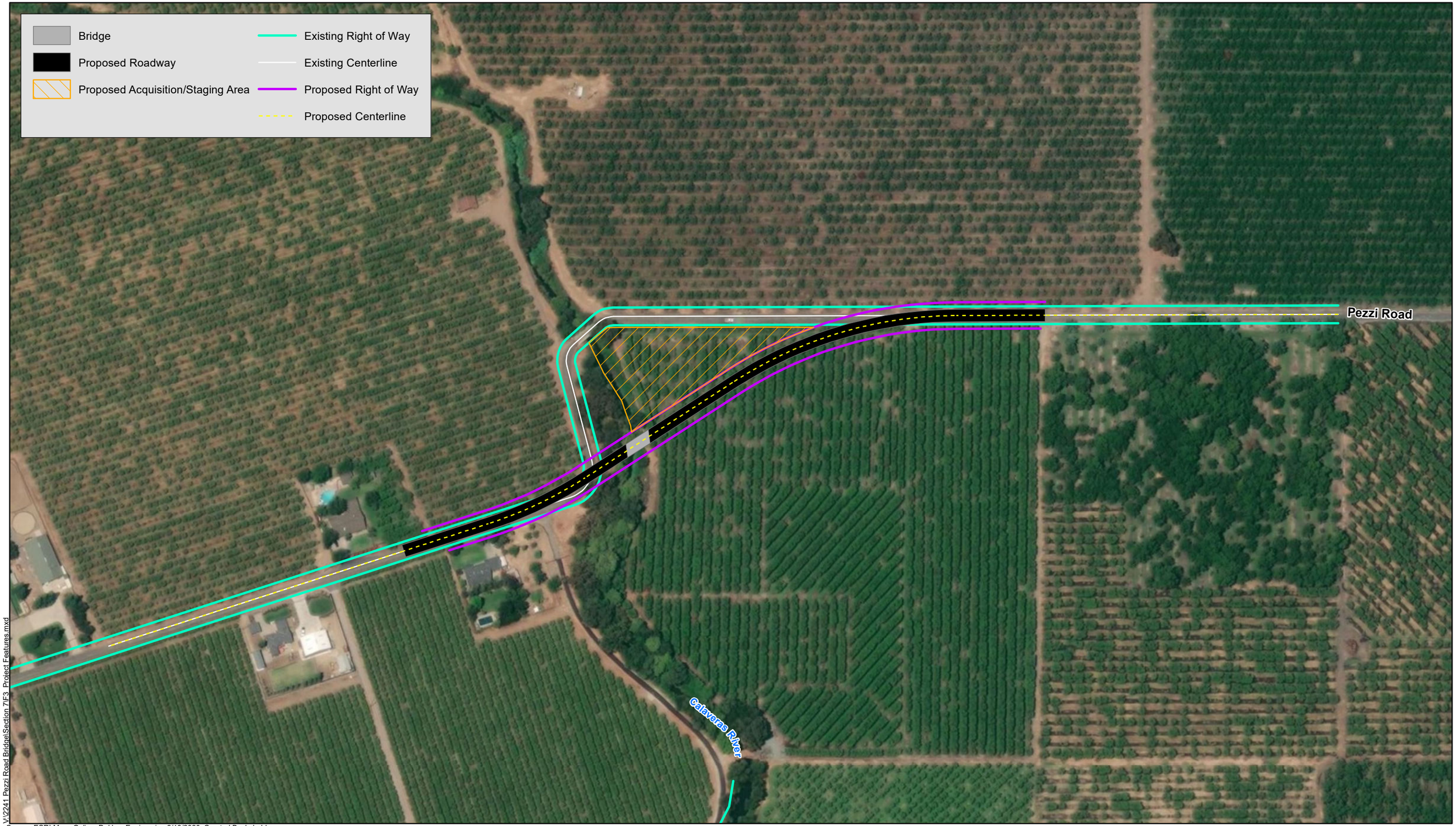
Source: ESRI World Street Maps Online; Dokken Engineering 2/13/2020; Created By: hsheldon

0 0.5 1 Miles

FIGURE 2
Project Location
Federal Project: BRLO 5929(240)
Pezzi Road Bridge Replacement over Calaveras River
San Joaquin County, California



V:\2241 Pezzi Road Bridge\Section 7\F3_Project Features.mxd

Source: ESRI Maps Online; Dokken Engineering 2/13/2020; Created By: hsheldon

1 inch = 200 feet

0 200 400 600 800 1,000 Feet

Figure 3
Project Features

Federal Project: BRLO 5929(240)
Pezzi Road Bridge Replacement over Calaveras River
San Joaquin County, California

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Based on preliminary engineering, the proposed alignment would require right-of-way acquisitions of the orchards to the north and south of the proposed bridge for the roadway footprint, as well as an orchard remnant that would exist between the new and existing roads; however, exact right-of-way needs will be determined during final design and in coordination with San Joaquin County and through negotiations with local property owners.

The existing bridge would be removed and replaced with an approximately 75-foot long, two-span, cast-in-place reinforced concrete slab bridge on a tangent alignment. The new alignment would move the bridge 250 to 300 feet east of the existing location. Bridge foundations are expected to consist of precast driven piles. No in-water pile driving would occur. Bridge barriers would be concrete Caltrans Type 836.

The existing road and bridge are anticipated to remain open during construction. If a detour was needed, it would be 4.5 miles long with traffic using SR 88 to the east or Alpine Road to the west.

The Stockton East Water District utilizes the river for water deliveries. These cannot be interrupted to maintain normal farming irrigation in the region. The river would be dewatered by methods determined appropriate by the contractor. However, the summer flows are small and it is anticipated the contractor would use flexible culverts to direct the water away from construction activities.

Typical equipment for roadway construction would include heavy construction earthmoving equipment, dump trucks and pavers. Typical bridge construction equipment would include cranes, pile drivers, excavators, and concrete pumps. Overhead power lines are located on the east side of the road near the bridge and on the south side of the road east of the bridge. These overhead lines may need to be relocated. Construction staging can occur on County property east of the bridge between the river and existing road. Construction is expected to begin in 2023 and would require approximately 8 months.

2.3. Deconstruct the Proposed Action

Below is an overview of construction activities likely to affect steelhead during construction.

2.3.1. Construction Scenario Summary

The primary goal of the Project is to remove the existing structurally deficient bridge and construct a new bridge and realign the roadway approaches to replace the sharp curves with a new 50-mph alignment. The new bridge would consist of an approximately 75-foot long, two-span, cast-in-place reinforced concrete slab bridge on a tangent alignment. The new alignment would move the bridge 250 to 300 feet east of the existing location.

The major stages of construction for the Project, that may impact the species and associated Critical Habitat, include vegetation removal, potential installation of a water diversion in areas of in channel work, pile driving, abutment installation and placement of rock slope protection.

The existing bridge will remain open during construction to allow access over Calaveras River. However, following construction of the new bridge, the existing bridge will be removed using an impact hammer, hoe ram or other appropriate machinery. Timber mats and tarps will be utilized

during the bridge removal to prevent bridge materials from entering the channel and surrounding habitat.

Typical equipment for roadway construction would include heavy construction earthmoving equipment, dump trucks and pavers. Typical bridge construction equipment would include cranes, pile drivers, excavators, and concrete pumps. Overhead power lines are located on the east side of the road near the bridge and on the south side of the road east of the bridge. These overhead lines will need to be relocated. Construction staging can occur on County property east of the bridge between the river and existing road.

Project impacts include approximately 0.074 acres of temporary disturbance of in channel work, which may require installment of a water diversion, and approximately 0.184 acres of temporary disturbance to the valley foothill riparian corridor to allow for equipment access under and around the bridge. Furthermore, the placement of a single pier will permanently impact approximately 0.015 acres of the channel and the placement of bridge abutments, rock slope protection and roadway will permanently impact approximately 0.093 acres of valley foothill riparian corridor.

2.3.2. Sequencing and Schedule

Construction is anticipated to begin in 2023 and would require approximately 8 months. In channel work would be completed during periods of no or low flow when Old Calaveras River channel (Riverine) cannot support fish species. Prior to construction activities, vegetation within the permanent and temporary impact limits will be removed to allow access for construction equipment.

Where possible, native trees will be trimmed instead of fully removed, but trimming should not exceed 30% of the total canopy of each tree to ensure survival of the tree. If water is present within the channel, a water diversion will temporarily redirect flows to accommodate in channel work. The contractor selected for this Project will be responsible for designing and implementing the water diversion. Construction of the bridge will include clearing and grubbing, potential installment of a water diversion, pile driving, placement of bridge components including abutments, girders and the bridge deck and lastly removal of the existing bridge. Upon completion, all construction equipment and temporary impact areas will be re-graded to pre-construction conditions.

2.4. Conservation Measures

2.4.1. Project Design Modification for Avoidance and Minimization

The following avoidance and minimization measures will be incorporated into the Project to minimize potential effects to federally listed species and sensitive habitats.

BIO-1: All construction personnel shall be provided with environmental awareness training prior to being allowed to work on the job site. The training shall include an overview of sensitive habitats and special-status species that are present within or adjacent to the Project area and Project specific protective measures that must be adhered to. The training will also include a description of the legal penalties for violating protective measures.

BIO-2: Contract specifications will include the following Best Management Practices (BMPs), where applicable, to reduce erosion during construction:

- Implementation of the Project will require approval of a site-specific SWPPP or Water Pollution Control Program (WPCP) that would implement effective measures to protect water quality, which may include a hazardous spill prevention plan and additional erosion prevention techniques.
- Existing vegetation will be protected in place where feasible to provide an effective form of erosion and sediment control.
- Stabilizing materials will be applied to the soil surface to prevent the movement of dust from exposed soil surfaces on construction sites as a result of wind, traffic, and grading activities.

BIO-4: Refueling or maintenance of equipment shall not be permitted within the Old Calaveras River channel (Riverine) and must occur at least 25 feet from the top of bank. All onsite refueling and maintenance must occur over plastic sheeting, drip pans, or other secondary containment measures to capture accidental spills before they can contaminate the soil. Secondary containment must have a raised edge (e.g. sheeting wrapped around wattles).

BIO-5: A chemical spill kit must be kept onsite at all times during work and must be easily accessible for use in the event of a spill.

BIO-6: Secondary containment consisting of plastic sheeting or other impermeable sheeting shall be installed underneath all stationary equipment to prevent petroleum products or other chemicals from contaminating the soil or the Old Calaveras River channel (Riverine). Secondary containment must have a raised edge (e.g. sheeting wrapped around wattles).

BIO-7: The Calaveras River Riparian Corridor shall be established as an Environmentally Sensitive Area (ESA). Prior to ground disturbance, the Project limits adjacent to riparian vegetation shall be marked off with high visibility orange fencing (ESA Fencing) to prevent further encroachment into the ESA. Construction equipment, materials, and personnel shall not be permitted beyond the ESA fencing.

BIO-8: Native tree removal shall be limited to the minimum amount necessary for equipment access through the Project area. Trees shall be preferentially trimmed rather than removed and trimming should not exceed 30% of the total canopy of each tree.

2.4.2. Species Specific Conservation Measures- CCV Steelhead

The following conservation measures will be incorporated into the Project to minimize potential effects on federally listed fish species and Critical Habitat. These conservation measures are taken from the NES that was prepared for the Project and are numbered as they appear in the NES. The measures have not been re-numbered to avoid future confusion between the two documents.

BIO-3: In channel work shall be limited to periods of no or low flow. If water is present within the channel during construction, a water diversion will be implemented. The water diversion will be designed and implemented by the contractor selected for this Project.

BIO-9: Following construction, the Project area shall be re-graded to pre-construction or better conditions and hydroseeded with a mix of regionally appropriate native species approved by the Project biologist.

BIO-12 If water is present at the start of in channel work, prior to installing the water diversion, the Project biologist(s) will remove fish from the work area. This may be accomplished by dip netting or seine netting as determined by the Project Biologist(s). Handling of salmonids is not anticipated however if this action is necessary, the County will contact Caltrans in coordination with NMFS and consultation may need to be re-initiated.

BIO-13: Silt fences and fiber rolls should be utilized to reduce potential sediment discharge that could impact water quality.

2.4.3. Species Specific Conservation Measures- VELB

The following conservation measures will be incorporated into the Project to minimize potential effects on the federally listed VELB species. These conservation measures are taken from the NES that was prepared for the Project and are numbered as they appear in the NES. The measures have not been re-numbered in order to avoid future confusion between the two documents.

BIO-14: Prior to initiating construction, elderberry shrubs that cannot be avoided will be removed and transplanted to a USFWS approved mitigation bank. Relocation must be completed between December 15th and February 15th when elderberry shrubs are dormant to minimize transplant stress on the shrubs. Transplanting methods must follow the recommendations included in Section 5.2 of the *Framework for Assessing Impacts to the Valley Elderberry Longhorn Beetle* (USFWS 2017) or more recent published USFWS recommendations. The Project biologist will be present onsite during shrub relocation.

BIO-15: Prior to construction, during transplantation of elderberry shrubs, the Project biologist will conduct a survey of the Project area to ensure that no new shrubs, with stems 1 inch or greater, have appeared since the original survey. If new shrubs, with stems 1 inch or greater, are discovered that may be impacted by the Project coordination with USFWS will occur.

BIO-16: Elderberry shrubs adjacent to the Project limits will be protected in place. ESA fencing will be placed around the dripline of elderberry shrubs and protective sheeting will be used to block construction dust and debris.

BIO-17: A qualified biologist will be present onsite for any elderberry shrub removal and will periodically inspect the construction area and ESA fencing to ensure that no unauthorized take of VELB occurs.

BIO-18: Signs will be installed along the edge of the ESA and will read the following: “This area is habitat of the valley elderberry longhorn beetle, a threatened species, and must not be

disturbed. This species is protected by the Endangered Species Act of 1973, as amended. Violators are subject to prosecution, fines, and imprisonment." The signs should be clearly readable from a distance of 20 feet and must be maintained for the duration of construction.

BIO-19: Herbicides, insecticides, fertilizers, or other chemicals that might harm the VELB or VELB's host plant will not be used within 100 feet of elderberry shrubs. All chemicals will be applied using a backpack sprayer or a similar direct application method.

BIO-20: To prevent fugitive dust from drifting into adjacent habitat, all clearing, grubbing, scraping, excavation, land leveling, grading, cut and fill, demolition activities, or other dust generating activities will be effectively controlled for fugitive dust emissions utilizing application of water or by presoaking.

2.5. Compensation

No compensatory mitigation is proposed for CCV Steelhead or associated CCV Steelhead Critical Habitat. Potential effects to CCV Steelhead would be minimized or avoided through the implementation of measures listed above. Temporary and permanent impacts to riverine and riparian habitat will be mitigated for at appropriate ratios determined by permitting agencies. The following compensatory measure will be included in the Project to mitigate for impacts to riparian habitat and was taken from the NES that was prepared for the Project. The measure has not been re-numbered to avoid future confusion between the two documents.

BIO-10: The County will purchase mitigation bank credits for riparian habitat from a CDFW approved mitigation bank. The County anticipates purchasing credits at a 3:1 ratio for permanent impacts and at a 1:1 ratio for temporary impacts but final mitigation ratios and credits will be determined in coordination with CDFW through the 1602 permitting process, or through the USACE/RWQCB during the 404/401 permitting process.

The following compensatory measure will be included in the Project to offset Project impacts to VELB. This measure was taken from the NES that was prepared for the Project and is numbered as it appears in the NES. The measure has not been re-numbered to avoid future confusion between the two documents. Compensatory mitigation for permanent impacts to VELB habitat is proposed based on the Framework for Assessing Impacts to the Valley Elderberry Longhorn Beetle (USFWS 2017). Direct impacts from the loss of one elderberry shrub and approximately 0.093 acres of riparian habitat will be mitigated through the purchase of 6.7 credits at an approved USFWS mitigation bank (see Table 3).

BIO-21: Prior to the start of construction, the County will purchase 6.7 mitigation credits for VELB from a USFWS approved mitigation bank.

Table 3. Impacts to VELB Habitat

Type of Impact	Amount of Impact	Compensation Ratio	Mitigation Requirement	Credit Purchase[2]	Total Credit Purchase
Riparian Habitat	0.093 acres	3:1	12,154 ft^2 (0.279 acres)	6.7 credits (12,154/1,800)	**6.7 credits**

Chapter 3. Environmental Baseline

Environmental baseline refers to the condition of the listed species or its designated critical habitat in the action area, without the consequences to the listed species or designated critical habitat caused by the proposed action. The environmental baseline includes the past and present impacts of all Federal, State, or private actions and other human activities in the action area, the anticipated impacts of all proposed Federal projects in the action area that have already undergone formal or early section 7 consultation, and the impact of State or private actions which are contemporaneous with the consultation in process. The consequences to listed species or designated critical habitat from ongoing agency activities or existing agency facilities that are not within the agency's discretion to modify are part of the environmental baseline (50 CFR §402.02).

3.1. Summary of Environmental Baseline

The Project is located in unincorporated San Joaquin County, near Waterloo, a census-designated place. It is located within the San Joaquin Valley floristic province and US Forest Service ecological section 262 (Dry Steppe Province) (USFS 2007). The region receives an average of 18 inches of rain annually. Elevation within the Action Area ranges from 59 to 65 feet above mean sea level. The average annual high temperature is 75°F and average annual low temperature is 48°F (US Climate Data 2019).

3.2. Description of the Action Area

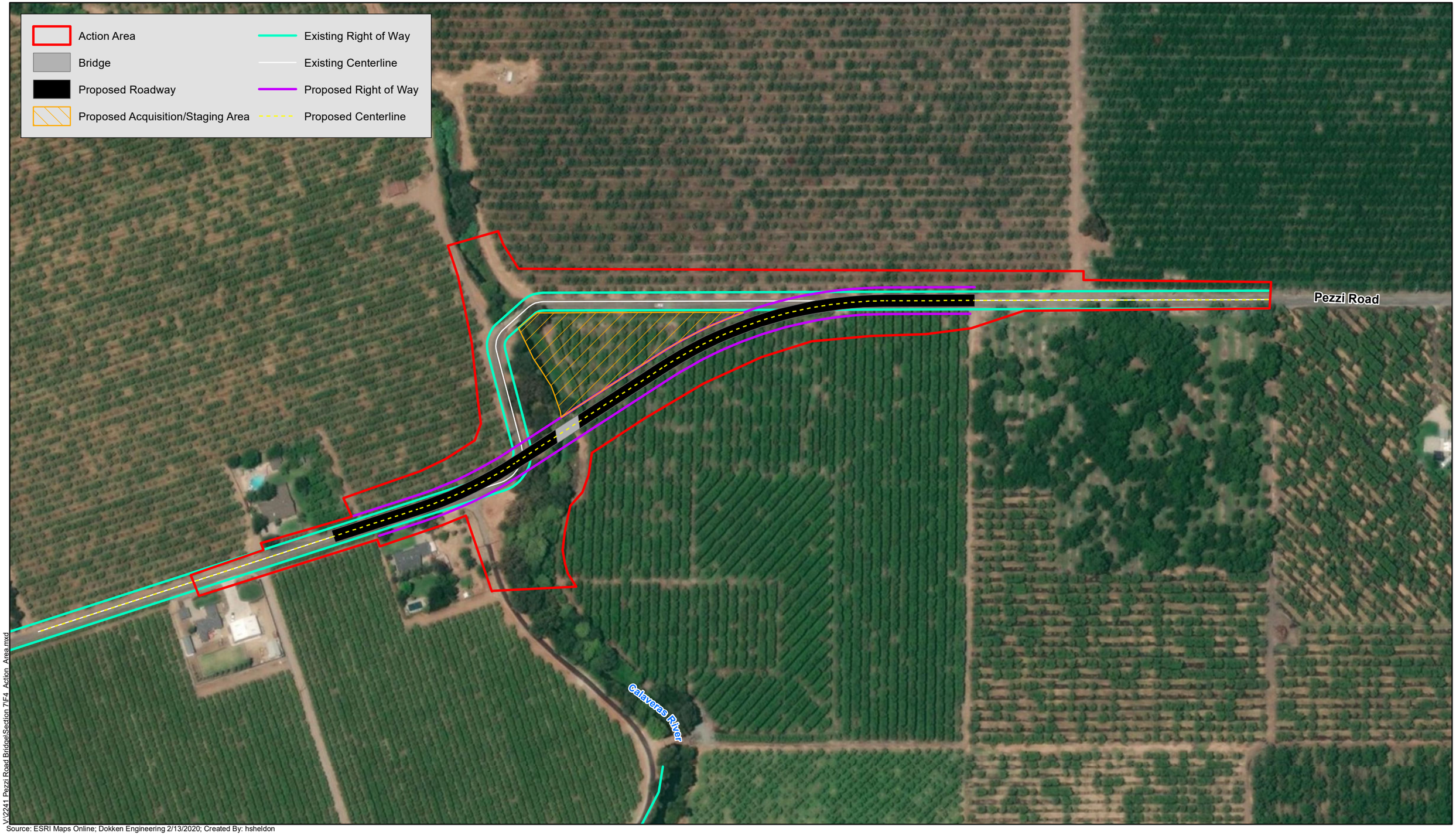
The Action Area consists of all anticipated work areas, staging areas, material storage areas, and access routes that will be required to complete the Project (Figure 4. Action Area). Within the channel of the Calaveras River, the Action Area extends a total of approximately 840 linear feet to encompass the construction of the new bridge and the demolition of the existing bridge. There are privately owned parcels within the Action Area and permanent acquisition and temporary constructions easements will be required.

The Action Area is approximately 11.2 acres in size and extends along the Old Calaveras River channel (Riverine) approximately 475 feet upstream and approximately 580 feet downstream to accommodate fish exclusion methods (Appendix D. Representative Photographs).

3.2.1. Physical Conditions

3.2.1.1. Topography

The Action Area is in the Waterloo USGS 7½ minute quadrangle (T2N & R7E, S3). Since the Project is located in the Central Valley, the topography is relatively flat, with elevation within the Action Area ranging from approximately 59 to 65 feet above mean sea level. Topographic features within the vicinity include Mosher Creek approximately 0.9 miles north of the Action Area and Mormon Slough approximately 5.8 miles south of the Action Area.



V:\2241 Pezzi Road Bridge\Section 7\F4_Action_Area.mxd

Source: ESRI Maps Online; Dokken Engineering 2/13/2020; Created By: hsheldon

1 inch = 200 feet

0 200 400 600 800 1,000 Feet

Figure 4
Action Area

Federal Project: BRLO 5929(240)
Pezzi Road Bridge Replacement over Calaveras River
San Joaquin County, California

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3.2.1.2. Soils

Soil units within the Action Area include Archerdale clay loam, 0 to 2 percent slopes, Cogna loam, 0 to 2 percent slopes, and Stockton fine sandy loam, 0 to 2 percent slopes, overwashed (National Resources Conservation Services 2019). Soils within the Action Area are somewhat poorly drained to well drained and have a medium runoff class.

3.2.1.3. Hydrological Resources

Based on survey results, the USGS 7½ minute quadrangle topographical map and the EPAs Waters Feature Layer, the Calaveras River is present within the Action Area. The Calaveras River is approximately 51 miles long and lies within the San Joaquin River watershed. The Calaveras River originates in New Hogan Reservoir approximately 23 miles northeast of the Action Area. The Calaveras flows west from New Hogan Reservoir and diverges at the Bellota Weir into the Old Calaveras River channel (Riverine) and a stream that leads to the Mormon Slough in Stockton. The Old Calaveras River channel (Riverine) flows east to west through the Action Area and confluences with the San Joaquin River approximately 11 river miles downstream of the Action Area.

3.2.2. Developed Land Covers

Land use within the Action Area consists of orchards, ruderal areas, urban areas, valley foothill riparian habitat and the Calaveras River. The Action Area has been highly disturbed by decades of agricultural development and the natural vegetative communities have been invaded by introduced exotic plant species. The Action Area consist of three developed land cover types and 2 undeveloped land cover types (Figure 5. Land Cover Types within the Action Area). A discussion of land cover types is included in the following sections.

3.2.2.1. Orchard-Vineyard

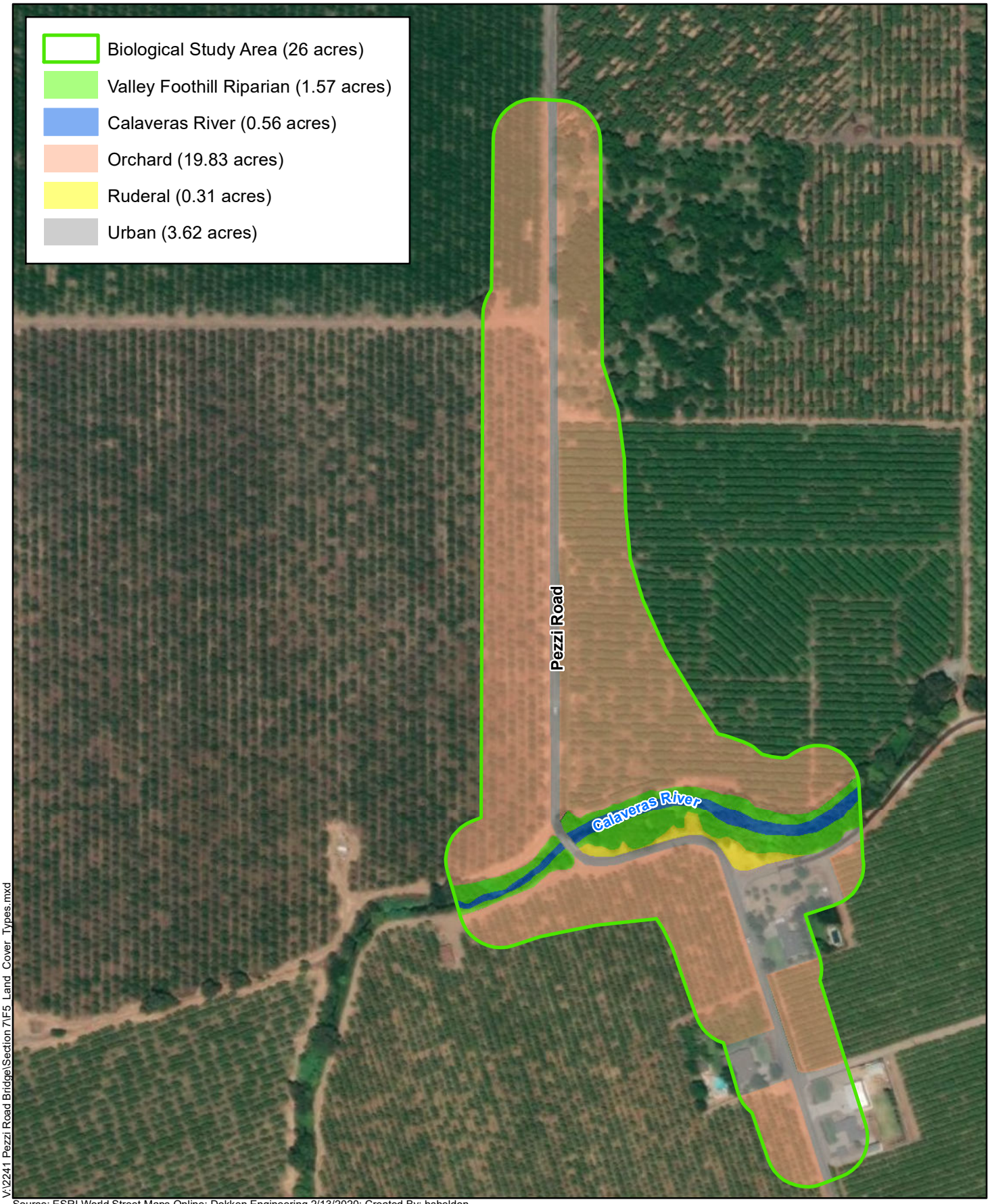
Orchards are typically single species tree dominated habitats and vineyards are typically single species planted in rows, often supported with wire or wood trellises. The main orchards found within the Action Area include almonds and cherries. This land cover is highly disturbed by agricultural activities including planting, fertilizing, weed control, irrigation and harvest and provides little habitat value for wildlife species.

3.2.2.2. Ruderal

Ruderal/disturbed lands typically occur adjacent to roadways, drainage ditches and developed areas. These areas are highly disturbed and dominated by annual invasive species. Dominant species in this vegetation community within the Action Area include blessed milk thistle (*Silybum marianum*), and doveweed (*Croton setiger*).

3.2.2.3. Urban

Urban areas are characterized by structures, landscaping, pavement, dirt roads, and other disturbed areas. There are three residents within the southern portion of the Action Area. Landscaping within urban areas generally consist of lawns, and non-native trees and shrubs, providing little to no habitat value for wildlife species.



V:\2241 Pezzi Road Bridge\Section 7\F5_Land_Cover_Types.mxd

Source: ESRI World Street Maps Online; Dokken Engineering 2/13/2020; Created By: hsheldon

0 340 680 1,020 Feet

FIGURE 5
Land Cover Types within the Action Area
Federal Project: BRLO 5929(240)
Pezzi Road Bridge Replacement over Calaveras River
San Joaquin County, California

3.2.3. Undeveloped Land Covers

3.2.3.1. Valley Foothill Riparian

The Action Area contains valley foothill riparian land cover on both sides of the Calaveras River. Within the Central Valley, valley foothill riparian corridors are typically comprised of cottonwood (*Populus sp.*), California sycamore (*Platanus racemosa*), and valley oak (*Quercus lobata*), with various understory species including wild grape, wild rose (*Rosa californica*), California blackberry (*Rubus ursinus*), blue elderberry (*Sambucus nigra* ssp*. caerulea*), poison oak (*Toxicodendron diversilobum)*, buttonbush (*Cephalanthus occidentalis*), and willows in close proximity to a water source. Transition to adjacent non-riparian vegetation is usually abrupt, especially near agricultural areas. The dominant species within the Action Area include valley oak, boxelder (*Acer negundo*) and blue elderberry with a sub canopy, and an understory of Himalayan blackberry (*Rubus armeniacus*) and blessed milk thistle.

3.2.3.2. Calaveras River

The river channel land cover type consists of the Calaveras River and is the only surface water feature within the Action Area. The Calaveras River carries seasonal flow that is controlled by releases from the New Hogan Dam which are then diverted into either the Old Calaveras River channel (Riverine), present within the Action Area, or the Mormon Slough by the Bellota Weir located at the confluence of these two channels. The weir is operated by the Stockton East Water District (SEWD) for irrigation purposes. Water quality within the lower reaches of the Calaveras River is poor and likely has a negative effect on the species. The main pollutants, identified by the SWRCB, found within the Calaveras River include low dissolved oxygen, diazinon, mercury, chlorpyrifos and pathogens (SWRCB 2010).

3.2.4. Species Observed

Table 4 is a compilation of all plant species observed within the Action Area during biological surveys that could be identified.

Table 4. Plant Species Observed

Common name	Scientific Name	Native (N) / Non-native (X) / [Cal-IPC Invasive Rating]
Forb/Herb Species		
Bedstraw	*Galium aparine*	N
Blessed milk-thistle	*Silybum marianum*	X
Cheeseweed mallow	*Malva parviflora*	X
Doveweed	*Croton setiger*	N
Field mustard	*Brassica rapa*	X [Limited]
Flax leaved horseweed	*Erigeron bonariensis*	X
Horseweed	*Erigeron canadensis*	N
Indian tobacco	*Nicotiana quadrivalvis*	N
Jimsonweed	*Datura stramonium*	X
Matted sandmat	*Euphorbia serpens*	N
Poison hemlock	*Conium maculatum*	X [moderate]
Pokeberry	*Phytolacca americana*	X [limited]
Prickly lettuce	*Lactuca serriola*	X

Prostrate knotweed	*Polygonum aviculare*	X
Santa Barbara sedge	*Carex barbarae*	N
Tall flatsedge	*Cyperus eragrostis*	N
White stemmed filaree	*Erodium brachycarpum*	X
Wild carrot	*Daucus pusillus*	N
Grass Species		
Annual beard grass	*Polypogon monspeliensis*	X [limited]
Arundo	*Arundo donax*	X [high]
Bermuda grass	*Cynodon dactylon*	X [moderate]
Foxtail barley	*Hordeum murinum*	X [moderate]
Ripgut brome	*Bromus diandrus*	X [moderate]
Wild oat	*Avena fatua*	X [moderate]
Shrub Species		
Blue elderberry	*Sambucus nigra* ssp. *caerulea*	N
California wild rose	*Rosa californica*	N
Himalayan blackberry	*Rubus armeniacus*	X [high]
Tree Species		
Black walnut	*Juglans californica var. hindsii*	N
Boxelder maple	*Acer negundo*	N
Domestic cherry	*Prunus avium*	X
English walnut	*Juglans regia*	X
Oregon ash	*Fraxinus latifolia*	N
Valley oak	*Quercus lobata*	N
Vine Species		
Field bindweed	*Convolvulus arvensis*	X
Manroot	*Marah watsonii*	N
Poison oak	*Toxicodendron diversilobum*	N

Table 5 is a compilation of all animal species observed within the Action Area during biological surveys that could be identified.

Table 5. Animal Species Observed

Common Name	Scientific Name	Native (N) / Non-Native (X)
Bird Species		
American bushtit	*Psaltriparus minimus*	N
American robin	*Turdus migratorius*	N
Anna's hummingbird	*Calypte anna*	N
Black phoebe	*Sayornis nigricans*	N
California scrub-jay	*Aphelocoma californica*	N
California towhee	*Melozone crissalis*	N
Cliff swallow	*Petrochelidon pyrrhonota*	N
European starling	*Sturnus vulgaris*	X
House finch	*Haemorhous mexicanus*	N

Mourning dove	*Zenaida macroura*	N
Northern flicker	*Colaptes auratus*	N
Northern mockingbird	*Mimus polyglottos*	N
Nuttall's woodpecker	*Picoides nuttallii*	N
Red-tailed hawk	*Buteo jamaicensis*	N
Ruby-crow kinglet	*Regulus calendula*	N
Swainson's hawk	*Buteo swainsoni*	N
Turkey vulture	*Cathartes aura*	N
Western kingbird	*Tyrannus verticalis*	N
Yellow-rumped warbler	*Setophaga coronata*	N
Amphibian Species		
Chorus frog	*Pseudacris sierra*	N

3.2.5. Invasive Species

The Action Area is located within the San Joaquin Valley floristic province, an area that has been heavily disturbed by industrial agriculture and introduction of invasive species over the last 150 years. A large number of invasive species were observed within the Action Area. Based on the California Invasive Plant Council (Cal-IPC) Inventory Database, the following non-native plant species observed during the biological surveys are designated with a limited or moderate invasive rating within the Action Area: annual beard grass (*Polypogon monspeliensis*), Bermuda grass (*Cynodon* dactylon), poison hemlock (*Conium maculatum*), pokeberry (*Phytolacca americana*), ripgut brome (*Bromus diandrus*), and wild oat (*Avena fatua*). The following species were observed within the Action Area and are designated as being highly invasive: arundo (*Arundo donax*) and Himalayan blackberry (*Rubus armeniacus)* (Cal-IPC 2019.

3.3. Habitat Conditions in the Action Area

The Action Area contains five different habitat types, including orchards/vineyards, ruderal/disturbed areas, urban areas, riverine and valley foothill riparian. The Action Area is dominated by orchards and vineyards which have significantly altered the natural environment. The riverine habitat, or the Calaveras River, is designated as final Critical Habitat for California Central Valley Steelhead and is also designated as EFH for Chinook Salmon. The Action Area contains approximately 0.56 acres of the Calaveras River, which offers marginal migration habitat for steelhead considering the river does not exhibit consistent periods of water flow. The Calaveras River present within the Action Area, ranges in width from approximately 10 to 37 feet. Substrate within the river can be classified as clay loam and contains little to no rocky substrate.

The valley foothill riparian habitat within the Action Area creates potentially suitable habitat for steelhead by proving shade, which may result in cooler water temperatures preferred by the species. Riparian habitat encompasses approximately 8 acres of the Action Area and extends out from the Calaveras River by approximately 11 to 37 feet. The Old Calaveras River channel (Riverine) and adjacent riparian habitat within the Action Area are designated as a freshwater migration corridor for the species; however current conditions, including low water flows and potential water quality issues, concluded that the species has a low potential of occurring within the channel.

3.4. Status of Federally-Listed/Proposed Species

Based on an assessment of the habitat requirements and distribution of documented occurrences, compared to the Action Area, it was determined that FESA listed species that may be affected by the proposed Project include the CCV Steelhead and VELB. The CCV Steelhead was listed as threatened in 2006; the Project may affect but is not likely to adversely affect this species. There is final designated Critical Habitat for steelhead within the Action Area; the Project may affect but is not likely to adversely affect this habitat. In addition, VELB was listed as a threatened species in 1980; the Project may affect and is likely to adversely affect this species. Finally, there is EFH for Chinook salmon with the Action Area, Chinook salmon is designated as a threatened species by NMFS. The Project will not adversely affect Chinook salmon EFH.

3.4.1. Discussion of CCV Steelhead

Central Valley Steelhead is listed as threatened under FESA (63 FR 13347, March 19, 1998) and is under the jurisdiction of NMFS. This distinct population segment consists of steelhead in the Sacramento and San Joaquin River basins in the Central Valley. Steelhead are anadromous fish that spend part of their life cycle in freshwater and part in saltwater. Adults typically leave the ocean from August through April and enter freshwater from August to November to spawn between December and April in small streams with cool, well oxygenated water. Spawning occurs at a site with good intergravel flow with temperatures between 30°F and 52°F. Females deposit eggs in coarse gravel within a pool or riffle. Eggs hatch in the late winter or early spring and fry emerge from the gravel reeds about 4 to 6 weeks later. Fry typically spend their first summer in their natal streams before emigrating to the rest of the watershed, eventually reaching the lower reaches of the Sacramento and San Joaquin Rivers and the Delta in the fall, winter, or spring.

Juveniles are typically found in cool, clear, fast-flowing permanent streams and rivers with ample cover from riparian vegetation or undercut banks (NOAA 2014). Juveniles migrate to the ocean to mature after 1 or 2 years in freshwater. They return as adults to their natal streams to spawn and complete their life cycle (NOAA 2014). Upon entering freshwater, they hold until flows are high enough in tributaries to enter for spawning and may spawn more than once during their life cycle (NOAA 2014). Steelhead may survive a wide temperature gradient, but optimal immigration and holding temperatures are 46°F to 52°F and optimal growing temperatures for juveniles are 59°F to 64.4°F (NOAA 2014). The Action Area contains approximately 0.56 acres, or 840 linear feet, of the Old Calaveras River channel (Riverine), considered a marginal freshwater migration corridor that could potentially support the species. An evaluation of sediment within the channel concluded that the Action Area does not provide suitable spawning habitat for the species.

The species was once abundant in California coastal habitats and Central Valley drainages. Population numbers have declined significantly in the past decade due to the degradation, destruction and blockage of freshwater habitats within the Central Valley. The species was thought to be extirpated entirely from the San Joaquin River watershed and remains limited within the tributaries of the Sacramento River. However, small populations have been documented in the Stanislaus, Mokelumne, and Calaveras Rivers. As identified by NMFS, the Calaveras River offers adult migration habitat and juvenile migration and rearing habitat but is periodic and of poor quality (NMFS 2019).

3.4.2. Survey Results for CCV Steelhead

Steelhead were not observed within the Action Area during the March 28, 2017 or June 27, 2019 general biological surveys; however, there are documented CNDDB occurrences within the Action Area and in the higher reaches of the Calaveras River, recorded in 2010. The CNDDB occurrence documents approximately 20 miles of spawning and rearing habitat that extends above the Bellota Weir up to New Hogan Dam.

Historically, steelhead migrated into higher reaches of the Calaveras River, but spawning has declined since the construction of New Hogan Dam in 1964 (Marsh 2007). Some steelhead still manage to spawn in this reach and utilize the fish ladder at Bellota Weir to migrate upstream; however, this route is not accessible during periods of low flow. Spawning was observed in Mormon Slough in 2002, approximately 8.5 miles southwest of the Action Area, however high temperatures likely killed the eggs (CNDDB 2019). Additionally, observations from 2005, 2006 and 2010 recorded a total of approximately 64 stranded steelhead due to low water flows.

A habitat assessment of the Action Area determined that numerous barriers to anadromous fish migration are present along the Calaveras River both upstream and downstream of the Action Area. However, due to uninterrupted hydrologic connection, presence of the species cannot be completely ruled out (Stillwater 2004). The Calaveras River is designated as final Critical Habitat for steelhead and could potentially support the species during periods of high flow. However, during periods of low flow steelhead are unable to use this channel to access spawning habitat. Water flow within the channel is dictated by the irrigation season and the channel is typically dry during the winter months when most adult steelhead would be migrating upstream. This data, coupled with poor water quality present within the Action Area, supports the conclusion that steelhead have a low likelihood of being present in the Action Area.

3.4.3. Status of Designated Critical Habitat in the Action Area for CCV Steelhead

Based on NMFS *West Coast Steelhead Critical Habitat* (NMFS 2019), the Action Area is located within designated Critical Habitat for California Central Valley steelhead. Federal regulations state that the physical and biological features essential to the conservation of the protected species include, but are not limited to, space for individual and population growth and for normal behavior; food, water, air, light, minerals, or other nutritional or physiological requirements; cover or shelter; sites for breeding, reproduction, and rearing of offspring; and habitats that are protected from disturbance or are representative of the historical geographical and ecological distribution of a species.

There are six Physical and Biological Features (PBFs) of Critical Habitat for steelhead including: freshwater spawning sites, freshwater rearing sites, freshwater migration corridors, estuarine areas, nearshore marine areas, and offshore marine areas. In the past, during periods outside of the low flow season, the Action Area has provided a freshwater migration corridor for adults or juveniles between freshwater spawning and rearing sites higher in the watershed and estuarine and marine habitats in the San Francisco Bay and Pacific Ocean. However, the Calaveras River now contains a number of impassible barriers at multiple locations and contains a much lower volume flow than in past years.

3.4.4. Discussion of VELB

VELB is federally listed as threatened and is under the jurisdiction of USFWS. This species is found throughout the Central Valley, typically occurring in moist valley oak woodlands associated with riparian corridors in the lower Sacramento River and upper San Joaquin River drainages. There are two zones designated as Critical Habitat and both zones are located in the Sacramento region near the American River, outside of the Action Area (USFWS 2017). VELB requires elderberry shrubs as a host plant for all of its life stages. The beetle goes through four distinct life stages including egg, larva, pupa, and adult (USFWS 2017).

During the spring and summer eggs are laid individually on leaves and upon hatching larvae bore into the elderberry stem. Larvae feed on the main stems of the elderberry shrubs, also known as the pith. Prior to pupation an exit hole is created and plugged and one month later an adult beetle emerges from the hole. Adults typically emerge and mate from March to June. Adults typically stay within the local clump of shrubs with traveled distances ranging from 65 to 165 feet. VELB's usage of elderberry shrubs can be detected by the presence of exit holes created by the beetle's larval stage in the stem of the shrubs. There were exit holes observed on some of the elderberry shrubs present within the Action Area, indicating that these shrubs have been used in the past or are currently occupied. The VELB is threatened by habitat loss of California's Central Valley riparian areas, which is occurring due to agriculture and urban development. The Action Area contains approximately 1.57 acres of riparian habitat and approximately 24 elderberry shrubs.

3.4.5. Survey Results for VELB

The valley foothill riparian habitat within the Action Area supports a population of elderberry shrubs which are the required host plants for VELB and one of the PBFs required for the species. Riparian habitat encompasses approximately 8 acres of the Action Area and extends out from the Calaveras River by approximately 11 to 37 feet.

VELB were not observed within the Action Area during the March 28, 2017 or June 27, 2019 general biological surveys and focused elderberry shrub surveys; however suitable habitat was identified within the Action Area. During the March 2017 survey, 37 elderberry shrubs were identified and mapped along the riparian corridor. However, since this survey, vegetation was removed from the riparian corridor by the respective property owner. During the June 2019 biological survey, approximately 24 elderberry shrubs were identified and mapped, including one exhibiting potential VELB exit holes. Surveys were only conducted on the south side of Calaveras River due to restricted access on the north side. Binoculars were used to scan vegetation on the north side of the Action Area and no elderberry shrubs were observed.

The nearest historic occurrence of the beetle was approximately 1.4 miles upstream of the Action Area along the Calaveras River. This occurrence was recorded in 1991 and reported low VELB activity with only a few old exit holes found; furthermore, it was observed that many of the elderberry shrubs in the area had been trimmed or cut down. Another occurrence approximately 2.56 miles upstream of the Action Area was recorded in 2002 and reported the presence of exit holes. Due to the presence of elderberry shrubs within suitable habitat, along with the

identification of exit holes, and the local, historic occurrence of the species on the Calaveras River, the VELB is considered to have a high potential of occurring within the Action Area.

3.4.6. Status of Designated Critical Habitat in the Action Area for VELB

Based on USFWS Critical Habitat maps, the Action Area is not located within designated Critical Habitat for VELB (USFWS 2019).

Chapter 4. Effects of the Action

Effects of the action are all consequences to listed species or critical habitat that are caused by the proposed action, including consequences of other activities that are caused by the proposed action. The analysis of effects of the action first identifies stressors from project actions, then exposure to stressors, and finally the response to exposure to stressors to determine consequences. The effects of the action are used to make determinations for each listed species and critical habitat.

4.1. Stressors from the Action

Stressors induce an adverse response in an organism by any physical, chemical, or biological alteration of the environment (or resource) that can lead to a response from the individual. Stressors can act directly on an individual, or indirectly through effects to a resource.

4.1.1. CCV Steelhead and Critical Habitat

The Project has a low potential to directly impact the CCV Steelhead, since the species is unlikely to be present within the channel, even during high flows, and construction is anticipated to occur during periods of no or low flow. Therefore, the Project may affect, but is not likely to adversely affect CCV Steelhead. The removal of riparian trees would result in minor modifications to the Critical Habitat associated with CCV Steelhead, most notably in the loss of shade from riparian trees. In addition, construction may require installation of a temporary water diversion structure that will be removed upon completion of the Project. However, these habitat modifications would either be minor or temporary and are not expected to decrease the overall habitat quality present within the Action Area. For these reasons, the Project may affect, but is not likely to adversely modify Critical Habitat for CCV Steelhead.

4.1.1.1. Potential Installment of a Water Diversion

In channel work is anticipated to occur during periods of no or low flow, when the river cannot support fish species. However, if water is present at the onset of construction a water diversion will be installed prior to in channel work. A water diversion creates a temporary disruption of the natural flow of a channel. This diversion would temporarily modify steelhead Critical Habitat, but the obstruction would be removed upon Project completion and is not anticipated to induce an adverse response in steelhead.

4.1.1.2. Removal of Riparian Trees

Removal of approximately 25 riparian trees within the approximately 0.093 acres of valley foothill riparian habitat to be impacted by the Project would permanently impact the riparian zone around the Old Calaveras River channel (Riverine). A few of the larger trees anticipated for removal, may aid in providing shade over the channel. However, the removal of these trees is not anticipated to impact the Old Calaveras River channel (Riverine) in a way that would make the habitat unsuitable for the species. The new bridge would be constructed over the river at this location, so the loss of shade over the riverine channel would be negligible. Furthermore, the Project will result in approximately 0.184 acres of temporary impacts to the riparian habitat; however, these areas will be restored to pre-construction conditions (Figure 6. Impacts to Jurisdictional Waters).

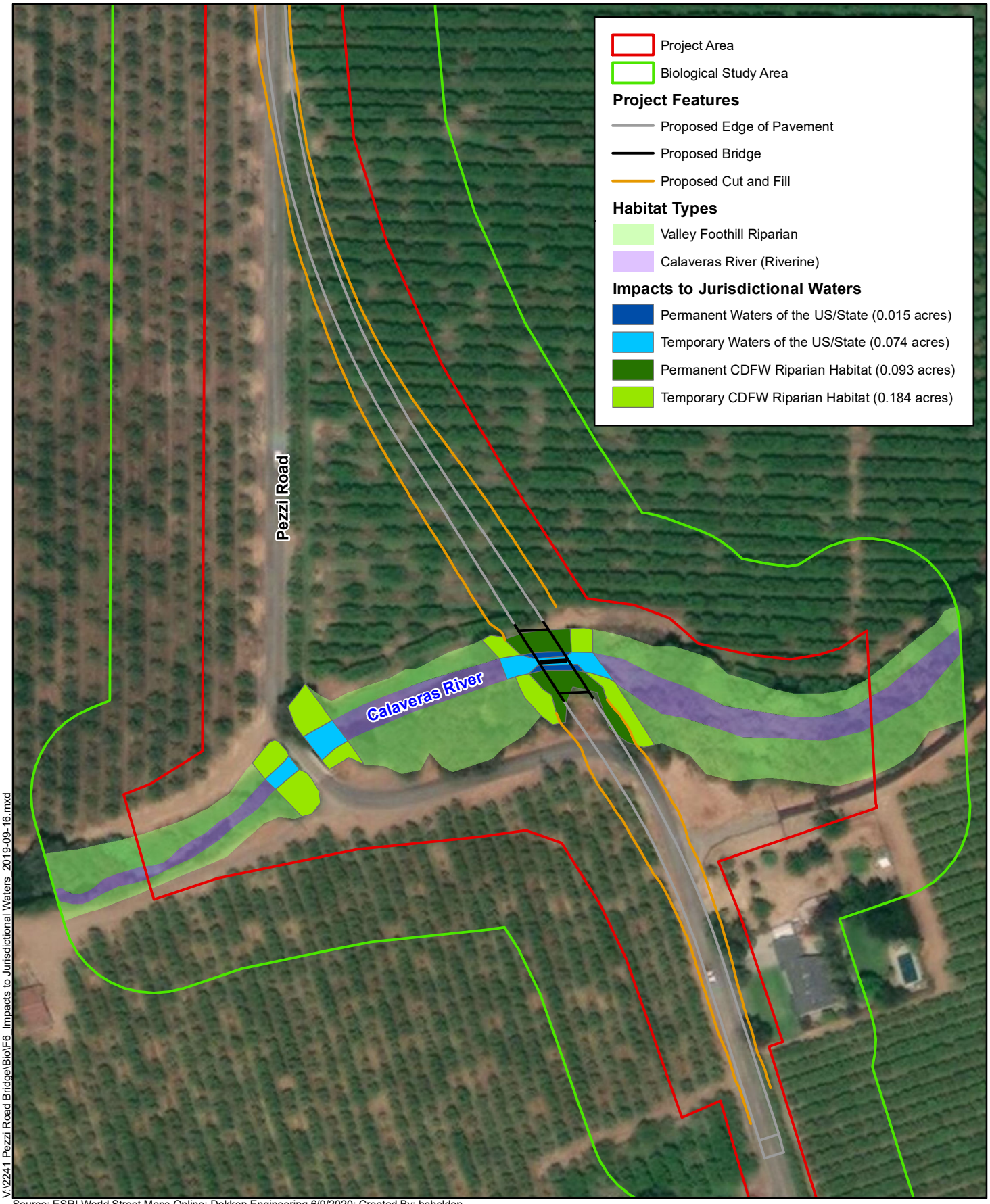
4.1.2. VELB and Associated Habitat

4.1.2.1. Elderberry Shrub Relocations

Four elderberry shrubs will be relocated to a USFWS approved mitigation bank (Figure 7. Elderberry Shrub Locations). One shrub being relocated near the proposed bridge location does exhibit exit holes. The relocation process may cause temporary stress on the shrubs; however, shrubs would be relocated outside of the flight season for VELB, from December 15th to February 15th.

4.1.2.2. Temporary Disturbance During Construction

Elderberry shrubs adjacent to Project activities may be temporarily disturbed by construction activities. Temporary disturbance includes increased vibration and noise during construction and dust accumulation in the vicinity of the shrubs. However, elderberry shrubs adjacent to Project activities will be protected in place and covered with protective sheeting to prevent the accumulation of dust and debris on the shrubs.

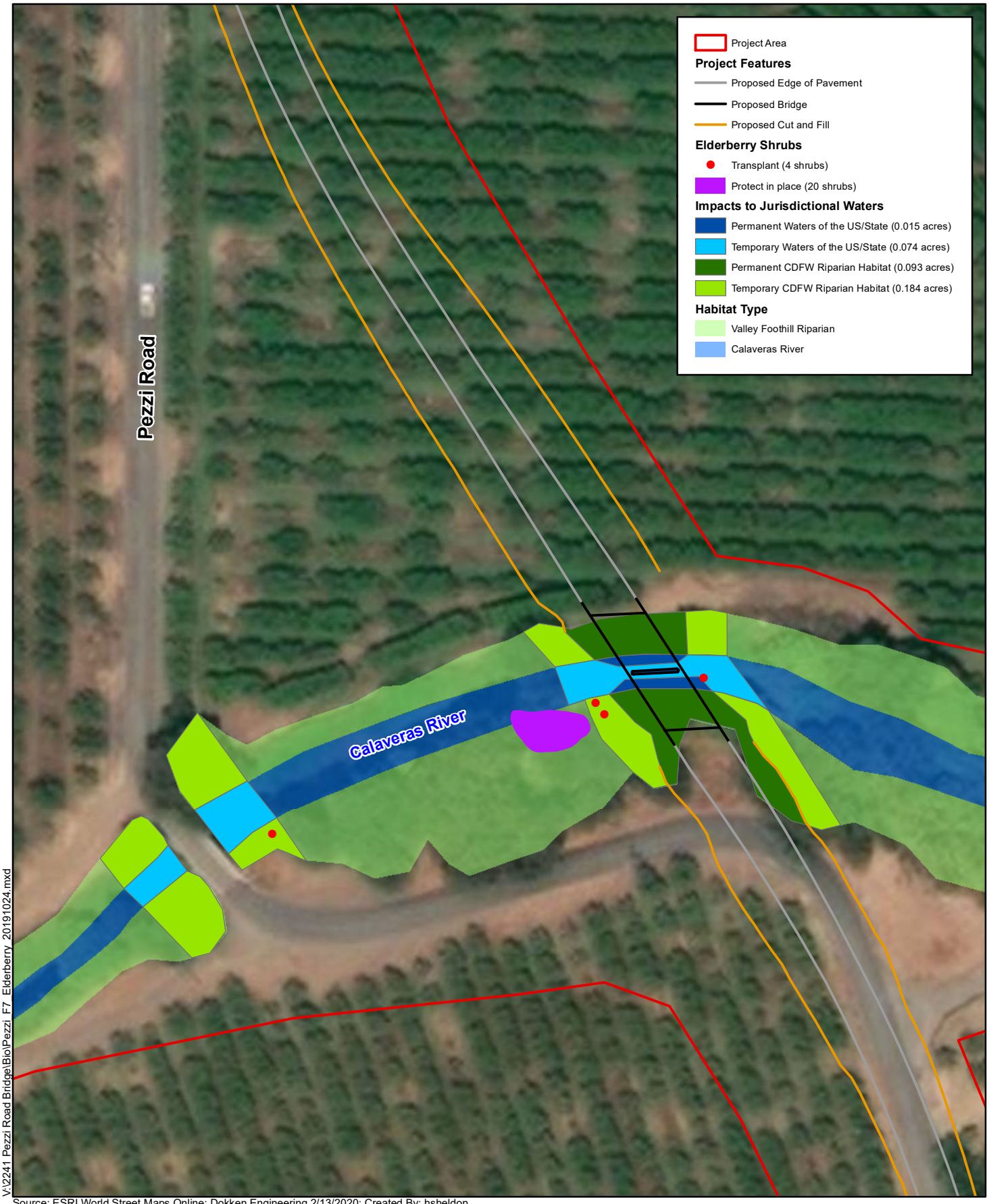


V:\2241 Pezzi Road Bridge\Bio\F6_Impacts to Jurisdictional Waters_2019-09-16.mxd

Source: ESRI World Street Maps Online; Dokken Engineering 6/9/2020; Created By: hsheldon

0 100 200 300 400 Feet

FIGURE 6
Impacts to Jurisdictional Waters
Federal Project: BRLO 5929(240)
Pezzi Road Bridge Replacement over Calaveras River
San Joaquin County, California



V:\2241 Pezzi Road Bridge\Bio\Pezzi_F7_Elderberry_20191024.mxd

Source: ESRI World Street Maps Online; Dokken Engineering 2/13/2020; Created By: hsheldon

0 110 220 Feet

FIGURE 7
Elderberry Shrub Locations

Federal Project: BRLO 5929(240)
Pezzi Road Bridge Replacement over Calaveras River
San Joaquin County, California

4.2. Exposure to Stressors from the Action

Exposures are defined as the interaction of the species, their resources, and the stressors that result from the Project action. There are two potential stressors identified as a result of Project activities, including potential fish relocation, as a result of a potential water diversion, and removal of riparian trees.

4.2.1. CCV Steelhead and Critical Habitat Exposure to Stressors

4.2.1.1. Potential Dewatering of the Action Area

Steelhead have a low potential of being present within the channel, even during periods of high flow. Therefore, in an effort to avoid the species and impacts to water quality, construction is anticipated to occur during periods of little to no water flow. However, if water is present within the channel during the onset of construction, a dip net or seine net would be utilized to relocate any fish that may be present within the Action Area, prior to diverting water. After the relocation process, a water diversion would be installed prior to any in channel work. If a water diversion is required, this action is not anticipated to directly impact the species because all fish species would be relocated outside of the Action Area prior to the installation of the diversion.

4.2.1.2. Removal of Riparian Trees

Steelhead require cool water temperatures within migration corridors in order to survive. Many factors contribute to cooler water temperatures; including large trees that hang over the water creating shade. However, shade can also provide predatory habitat and increased shade may be considered a stressor to the species. The addition of the new bridge and the subsequent removal of approximately 25 riparian trees within the valley foothill riparian habitat will result in a minor modification of habitat cover over the river channel present within the Action Area. This habitat modification is not anticipated to increase water temperatures to a degree which would make the river channel unsuitable for the species, nor is it anticipated to increase predatory habitat within the river. The new bridge that will be constructed would provide shade over the riverine channel directly in the place of the removed trees, making the loss of riparian tree shade negligible. As such, the loss of trees within the floodplain would have a minimal impact on the Critical Habitat for CCV steelhead.

4.2.2. VELB Exposure to Stressors

4.2.2.1. Dust Accumulation

Potential indirect stressors to VELB include dust accumulation on elderberry shrubs which may reduce the vigor of host elderberry shrubs which may, in turn, degrade the habitat value of elderberry shrubs in the immediate vicinity of the Project area.

4.2.2.2. Construction Noise and Vibration

In addition, it is possible that a temporary increase in noise and vibration during construction could indirectly affect VELB residing in elderberry shrubs within 100 feet of construction.

All directly impacted VELB shrubs will be relocated through established mitigation measures. Indirectly impacted VELB shrubs will be exposed to potential impacts of temporary construction activities, such as increase in dust and vibration. See Section 2.4 of this document for further information on the mitigation measures that will be implemented to avoid impacts to VELB.

4.3. Response to Exposure

4.3.1. CCV Steelhead and Critical Habitat Response to Exposure

4.3.1.1. Potential Dewatering of the Action Area

If water is present, a temporary water diversion may be required to accommodate in channel construction activities. If a water diversion is required and if steelhead are present within the channel, the species may be subject to temporary stress due to relocation efforts. However, this scenario is extremely unlikely and fish relocations would be accomplished in coordination with NMFS and by a qualified biologist.

4.3.1.2. Removal of Riparian Trees

Removal of riparian trees from the valley foothill riparian habitat within the Action Area is not anticipated to have long-term impacts on the species. Due to the relatively low number of trees anticipated for removal, some of which do not directly hang over the channel or contribute to the quality of steelhead habitat, and the location of the new bridge, which would replace riparian trees as a source of shade, the species is not expected to have a negative response associated with the removal of riparian trees.

4.3.2. VELB Response to Exposure

4.3.2.1. Dust Accumulation

Dust accumulation and temporary placement of sheeting on elderberry shrubs would not have a direct effect to individual VELB but may reduce the overall vigor of host elderberry shrubs by limiting the photosynthetic potential of leaves.

4.3.2.2. Construction Noise and Vibration

VELB's response to the exposure of construction noise and vibration is not well understood and creditable data is limited. The Project may generate vibrations through pile driving and loud volumes during site grading and demolition of the existing bridge. Increased noise and vibration will be temporary and is not anticipated after construction. If VELB are highly disturbed during construction activities, the species may disperse to other riparian habitat within the Project vicinity. Dispersal distances are not well defined, with a wide range of measured distances (between 33ft and 1 mile) but are generally accepted to be fairly limited (USFWS 2014).

4.4. Effects of the Action

Effect is a description of the manner in which the action may affect any listed species or critical habitat and an analysis of any cumulative effect (50 CFR 402.02). The effect of the action is the consequence (behavioral, physical, or physiological) of a response to a stressor.

4.4.1. Effects of the Action on CCV Steelhead and Critical Habitat

As described above, the Project has a low potential to directly impact the species, since the species is unlikely to be present within the channel, even during high flows, and construction is anticipated to occur during periods of no or low flow. Therefore, the Project may affect, but is not likely to adversely affect the CCV steelhead. Furthermore, the removal of riparian trees would result in minor alterations to the Critical Habitat associated with the steelhead; however, these

alterations are not expected to decrease the overall habitat quality present within the Action Area. For these reasons, the Project may affect, but is not likely to adversely affect Critical Habitat for CCV steelhead.

4.4.2. Effects of the Action on VELB

Based on the *2017 Framework for Assessing Impacts to the Valley Elderberry Longhorn Beetle*, permanent modifications to VELB habitat are considered potentially significant impacts requiring mitigation (USFWS 2017). Furthermore, under the new guidance, the USFWS is requiring relocation for any elderberry shrubs with stems greater than 1 inch if the shrub cannot be avoided or if indirect effects would result in the death of the stems or entire shrub.

The Project will require the relocation of four elderberry shrubs and for this reason, the Project may affect, and is likely to adversely affect the species.

4.5. Cumulative Effects

Cumulative effects include the effects of future state, tribal, local or private actions that are reasonably certain to occur in the Action Area described in this BA. Future Federal actions that are unrelated to the proposed action are not considered in this this section because they require separate consultation pursuant to Section 7 of the Act.

4.5.1. Cumulative Effects to CCV Steelhead and Critical Habitat

No current, reasonably foreseeable, non-federal actions having the potential to affect California Central Valley steelhead or its Critical Habitat have been identified in the Action Area. This Project would not encourage changes to the existing land use patterns. No reasonably foreseeable future projects within the current Project's Action Area are known at this time.

4.5.2. Cumulative Effects to VELB

No current, reasonably foreseeable, non-federal actions having the potential to affect VELB have been identified in the Action Area. This Project would not encourage changes to existing land use patterns. No reasonably foreseeable future projects within the Action Area are known at this time.

4.6. Determination

The following section provides the consultation determination after all direct and indirect effects have be discussed and considered in the above sections.

4.6.1. Species and Critical Habitat Determination

1.) No Effect. A no effect determination was made for the following species. No consultation is required.

- California Red-Legged Frog (*Rana draytonii*) T
- California Tiger Salamander (*Ambystoma californiense*) T
- Delta Smelt (*Hypomesus transpacificus*) T

- Fleshy Owl's-clover (*Castilleja campestris ssp. succulenta)* T
- Giant Garter Snake (*Thamnophis gigas*) T
- Riparian Brush Rabbit (*Sylvilagus bachmani riparius)* E
- Vernal Pool Fairy Shrimp (*Branchinecta lynchi*) T
- Vernal Pool Tadpole Shrimp (*Lepidurus packardi*) E

2.) A may affect-not likely to adversely affect determination was made for the following species and Critical Habitat. Informal consultation is required.

- Central Valley Steelhead (*Oncorhynchus mykiss irideus*) T
- Critical Habitat for Central Valley Steelhead

3.) A will not adversely affect determination was made for the following EFH.

- Chinook salmon (*Oncorhynchus tshawytscha*) T, EFH

4.) A may affect-likely to adversely affect determination was made for the following species. Formal consultation is required.

- Valley Elderberry Longhorn Beetle (*Desmocerus californicus dimorphus)* T

4.6.2. Discussion Supporting Determination

A brief discussion supporting the effect determinations for each species listed in Section 5.8.1 is included below:

4.6.2.1. California Red-legged Frog

No effect. The Action Area does not contain a permanent source of deep water required to support the species. Additionally, there are no documented occurrences of the species within 10 miles of the Action Area. The species is absent from the Action Area based on the lack of suitable habitat and documented local occurrences.

4.6.2.2. California Tiger Salamander

No effect. The Action Area and surrounding areas do not support vernal pools or other seasonal water features required by the species for reproduction or the grassland habitat required by the species for estivation. The nearest documented occurrence is approximately 8 miles northeast of the Action Area and was recorded in 1973. The species is absent from the Action Area based on a lack of suitable habitat and documented local occurrences.

4.6.2.3. Delta Smelt

No effect. The species is confined to the brackish waters of the Sacramento River Delta. The nearest documented occurrence is approximately 10 miles southwest of the Action Area and was found in the San Joaquin River in 2007. The species is absent based on a lack of suitable habitat and documented local occurrences.

4.6.2.4. Fleshy Owl's-clover

No effect. The Action Area lacks vernal pool communities required for the species. Furthermore, there are no documented occurrences of the species within a 10-mile radius of the Action Area. The species is absent from the Action Area based on a lack of suitable habitat and documented local occurrences.

4.6.2.5. Giant Garter Snake

No effect. The Action Area does not contain the wetland habitat required by the species. The nearest documented occurrence is approximately 5 miles southeast of the Action Area and was recorded in 1976. The species is absent based on a lack of suitable habitat and documented local occurrences.

4.6.2.6. Riparian Brush Rabbit

No effect. The Action Area does contain riparian habitat required for the species. However, the species is only known to occur in Caswell Memorial State Park, approximately 25 miles south of the Action Area. The species is absent based on a lack of suitable habitat and the fact.

4.6.2.7. Vernal Pool Fairy Shrimp

No effect. The Action Area does not contain vernal pool habitat required by the species and the species is absent from the Action Area.

4.6.2.8. Vernal Pool Tadpole Shrimp

No effect. The Action Area does not contain vernal pool habitat required by the species and the species is absent from the Action Area.

4.6.2.9. California Central Valley Steelhead

May affect, not likely to adversely affect. The Calaveras River is final designated critical habitat for Central Valley steelhead and the species has potential to utilize the river as a migration corridor to upstream spawning habitats but is unlikely to be currently using the corridor due to low water flows and the presence of impassible barriers in numerous locations throughout the Calaveras River. Therefore, the species is considered to have a low potential of occurring in the Action Area. Potential impacts to the species within the Action Area would result from the removal of riparian trees and potential dewatering activities. However, these impacts are unlikely to directly impact

the species. The determination was made that the Project may affect, but is not likely to adversely affect CCV Steelhead and was described in detail in Sections 4.1. through 4.5.

4.6.2.10. California Central Valley Steelhead- Critical Habitat

May affect, not likely to adversely affect. The Calaveras River present within the Action Area is final designated Critical Habitat for Central Valley steelhead. However, impacts to the habitat are anticipated to be minor and would not change the overall quality of the habitat. Potential impacts to the Critical Habitat within the Action Area would result from demolition and installation of the bridge and associated construction activities, removal of riparian trees, and potential dewatering activities. However, these impacts would be minor and are unlikely to change the overall quality of the habitat. The determination was made that the Project may affect, but is not likely to adversely affect CCV Steelhead Critical Habitat and is described in detail in Sections 4.1. through 4.5.

4.6.2.11. Valley Elderberry Longhorn Beetle

May affect, likely to adversely affect. The Action Area contains riparian vegetation and elderberry shrubs suitable for the species. The nearest documented occurrence is approximately 1.5 miles upstream of the Action Area recorded along the Old Calaveras River channel (Riverine) in 1991. The species has a high potential of occurring in the Action Area due to the presence of suitable habitat, local occurrences and the fact that some elderberry shrubs onsite exhibited exist holes. Impacts to the species would involve dust and noise pollution and the relocation of four elderberry shrubs. The determination was made that the Project may affect, and is likely to adversely affect VELB and is described in detail in Sections 4.1. through 4.5.

Chapter 5. Essential Fish Assessment

This act takes immediate action to conserve and manage fishery resources found off the coasts of the US, and the anadromous species and Continental Shelf fishery resources of the US, by exercising sovereign rights for the purposes of exploring, exploiting, conserving, and managing all fish within the exclusive economic anadromous species, Continental Shelf fishery resources and fishery resources in the special areas.

5.1. Essential Fish Habitat

5.1.1. Essential Fish Habitat Background

Public Law 104-297, the Sustainable Fisheries Act of 1996, amended the Magnuson Stevens Fishery Conservation and Management Act (MSFCMA) to establish new requirements for EFH descriptions in federal fishery management plans. In addition, the MSFCMA established procedures designed to identify, conserve, and enhance EFH for those species regulated under a federal fisheries management plan. Pursuant to the MSFCMA:

- Federal agencies must consult with NOAA Fisheries on all actions, or proposed actions, authorized, funded, or undertaken by the agency, that may adversely affect EFH;
- NOAA Fisheries must provide conservation recommendations for any federal or state action that would adversely affect EFH;
- Federal agencies must provide a detailed response in writing to the NOAA Fisheries within 30 days after receiving EFH conservation recommendations. The response must include a description of measures proposed by the agency for avoiding, mitigating, or offsetting the effect of the activity on EFH. In the case of a response that is inconsistent with the NOAA Fisheries' EFH conservation recommendations, the federal agency must explain its reasons for not following the recommendations.

EFH has been defined for the purposes of the Magnuson-Stevens Act as "those waters and substrate necessary to fish for spawning, breeding, feeding, or growth to maturity" (NOAA FISHERIES 1999). NOAA Fisheries has further added the following interpretations to clarify this definition:

- **"Waters"** include aquatic areas and their associated physical, chemical, and biological properties that are used by fish, and may include areas historically used by fish where appropriate;
- **"Substrate"** includes sediment, hard bottom, structures underlying the waters, and associated biological communities;
- **"Necessary"** means the habitat required to support a sustainable fishery and the managed species' contribution to a healthy ecosystem; and

- **"Spawning, breeding, feeding, or growth to maturity"** covers the full life cycle of a species.

Adverse effect means any effect that reduces quality and/or quantity of EFH, and may include direct (e.g., contamination or physical disruption), indirect (e.g., loss of prey or reduction in species fecundity), or site-specific or habitat-wide effects, including individual, cumulative, or synergistic consequences of actions.

EFH consultation with the NOAA Fisheries is required regarding any federal agency action that may adversely affect EFH, including actions that occur outside EFH, such as certain upstream and upslope activities.

The objectives of this EFH consultation are to determine whether the proposed action would adversely affect designated EFH and to recommend conservation measures to avoid, minimize, or otherwise offset potential adverse effects to EFH. The Magnuson-Stevens Act requires consultation for all federal agency actions that may adversely affect EFH. EFH consultation with NOAA Fisheries is required by federal agencies undertaking, permitting, or funding activities that may adversely affect EFH, regardless of its location. Under Section 305(b)(4) of the MSFCMA, NOAA Fisheries is required to provide EFH conservation and enhancement recommendations to federal and state agencies for actions that adversely affect EFH. Wherever possible, NOAA Fisheries utilizes existing interagency coordination processes to fulfill EFH consultations with federal agencies. For the proposed action, this goal is being met by incorporating EFH consultation into the ESA Section 7 consultation, as represented by this BA.

5.2. Managed Fisheries with Potential to Occur in the Action Area

The MSFCMA requires that EFH be identified for all federally managed species including all species managed by the Pacific Fisheries Management Council (PFMC). The PFMC is responsible for managing commercial fisheries resources along the coast of Washington, Oregon, and California. Managed species that have a potential to occur in the Action Area are covered under the Pacific Salmon Fishery Management Plan (FMP).

5.2.1. Chinook Salmon Essential Fish Habitat

The Action Area contains EFH for Chinook salmon but based on database search results and current population distributions (Marsh 2007), Chinook salmon are not anticipated to be present within the Action Area. Furthermore, the portion of the Old Calaveras River (Riverine) within the BSA does not support any of the HAPCs for EFH for Chinook salmon. According to the Environmental Assessment and Regulatory Impact Review for Revisions to Pacific Salmon EFH, there are five HAPCs including, complex channels and floodplain habitats, thermal refugia, spawning habitat, estuaries and marine and estuarine submerged aquatic habitat. The Old Calaveras River (Riverine), within the Project area, does not meet any of the criteria of the identified HAPCs.

Within the BSA, the Old Calaveras River channel (Riverine) carries seasonal flow that is regulated by the SEWD for irrigation supply. Flow within the Old Calaveras River channel (Riverine) is

typically too low to support migrating fish species and dries completely for several months of the year; these conditions are unsuitable for anadromous fish species, including Chinook salmon.

5.3. Potential Adverse Effects on Essential Fish Habitat

Potential effects to fish species and their habitat evaluated include those that relate to: (1) sedimentation and turbidity; (2) hazardous materials and chemical spills; (3) re-suspension of contaminants; (4) aquatic habitat modification and shading; (5) entrainment and stranding potential; (6) predation risk; and (7) food resources.

5.3.1. Adverse Effects on Essential Fish Habitat for Pacific Salmonids

The proposed Project will permanently impact approximately 0.015 acres of the Calaveras River channel and approximately 0.093 acres of valley foothill riparian habitat. Within the impacted valley foothill riparian habitat, approximately 25 riparian trees would be removed to accommodate the placement of bridge abutments, rock slope protection and one pier and to allow access for construction equipment. Any loss of shade over the riverine channel due to the removal of riparian trees would be replaced by shade provided by the new bridge. Additionally, re-grading and hydroseeding will occur to return the site to pre-construction conditions. Furthermore, temporary impacts include temporary disturbance of approximately 0.184 acres of the Calaveras River Riparian Corridor to accommodate for construction access and staging.

Overall, these impacts to the surrounding riparian habitat are a component of EFH; however, the current conditions of the Old Calaveras River channel (Riverine) cannot support Chinook salmon and are not likely to support the species in the near future. Therefore, the Project will not adversely affect EFH for Chinook salmon.

5.3.2. Potential Adverse Effects on Essential Fish Habitat for Pacific Coast Ground Fishes

The Calaveras River does not provide suitable habitat for pacific coast ground fish species and therefore the Project is not anticipated to impact EFH for pacific coast ground fish species.

5.3.3. Potential Adverse Effects on Essential Fish Habitat for Coastal Pelagic Species

The Calaveras River does not provide suitable habitat for coastal pelagic species and therefore the Project is not anticipated to impact EFH for coastal pelagic species.

5.4. Essential Fish Habitat Conservation Measures

Conservation measures that have been included for CCV Steelhead will also serve to minimize potential Project impacts to Chinook salmon EFH. CCV Steelhead conservation measures are listed in Section 2.4.

5.5. Essential Fish Habitat Conclusions

Caltrans has determined that the proposed action will not adversely affect EFH for Chinook salmon. The Project would have negligible permanent effects to this habitat resource as

discussed above. The species is not expected to occur within the Action Area and therefore direct impacts to Chinook salmon, as a result of the Project, are not anticipated. For these reasons, the Project will not adversely affect EFH.

Chapter 6. Literature Cited

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Appendix A. IPaC Species List

United States Department of the Interior

FISH AND WILDLIFE SERVICE
Sacramento Fish And Wildlife Office
Federal Building
2800 Cottage Way, Room W-2605
Sacramento, CA 95825-1846
Phone: (916) 414-6600 Fax: (916) 414-6713

In Reply Refer To:
Consultation Code: 08ESMF00-2020-SLI-0261
Event Code: 08ESMF00-2021-E-02631
Project Name: Pezzi Road

February 05, 2021

Subject: Updated list of threatened and endangered species that may occur in your proposed project location or may be affected by your proposed project

To Whom It May Concern:

The enclosed species list identifies threatened, endangered, proposed and candidate species, as well as proposed and final designated critical habitat, under the jurisdiction of the U.S. Fish and Wildlife Service (Service) that may occur within the boundary of your proposed project and/or may be affected by your proposed project. The species list fulfills the requirements of the Service under section 7(c) of the Endangered Species Act (Act) of 1973, as amended (16 U.S.C. 1531 *et seq.*).

Please follow the link below to see if your proposed project has the potential to affect other species or their habitats under the jurisdiction of the National Marine Fisheries Service:

http://www.nwr.noaa.gov/protected_species/species_list/species_lists.html

New information based on updated surveys, changes in the abundance and distribution of species, changed habitat conditions, or other factors could change this list. Please feel free to contact us if you need more current information or assistance regarding the potential impacts to federally proposed, listed, and candidate species and federally designated and proposed critical habitat. Please note that under 50 CFR 402.12(e) of the regulations implementing section 7 of the Act, the accuracy of this species list should be verified after 90 days. This verification can be completed formally or informally as desired. The Service recommends that verification be completed by visiting the ECOS-IPaC website at regular intervals during project planning and implementation for updates to species lists and information. An updated list may be requested through the ECOS-IPaC system by completing the same process used to receive the enclosed list.

The purpose of the Act is to provide a means whereby threatened and endangered species and the ecosystems upon which they depend may be conserved. Under sections 7(a)(1) and 7(a)(2) of the Act and its implementing regulations (50 CFR 402 *et seq.*), Federal agencies are required to

utilize their authorities to carry out programs for the conservation of threatened and endangered species and to determine whether projects may affect threatened and endangered species and/or designated critical habitat.

A Biological Assessment is required for construction projects (or other undertakings having similar physical impacts) that are major Federal actions significantly affecting the quality of the human environment as defined in the National Environmental Policy Act (42 U.S.C. 4332(2)(c)). For projects other than major construction activities, the Service suggests that a biological evaluation similar to a Biological Assessment be prepared to determine whether the project may affect listed or proposed species and/or designated or proposed critical habitat. Recommended contents of a Biological Assessment are described at 50 CFR 402.12.

If a Federal agency determines, based on the Biological Assessment or biological evaluation, that listed species and/or designated critical habitat may be affected by the proposed project, the agency is required to consult with the Service pursuant to 50 CFR 402. In addition, the Service recommends that candidate species, proposed species and proposed critical habitat be addressed within the consultation. More information on the regulations and procedures for section 7 consultation, including the role of permit or license applicants, can be found in the "Endangered Species Consultation Handbook" at:

http://www.fws.gov/endangered/esa-library/pdf/TOC-GLOS.PDF

Please be aware that bald and golden eagles are protected under the Bald and Golden Eagle Protection Act (16 U.S.C. 668 *et seq.*), and projects affecting these species may require development of an eagle conservation plan (http://www.fws.gov/windenergy/eagle_guidance.html). Additionally, wind energy projects should follow the wind energy guidelines (http://www.fws.gov/windenergy/) for minimizing impacts to migratory birds and bats.

Guidance for minimizing impacts to migratory birds for projects including communications towers (e.g., cellular, digital television, radio, and emergency broadcast) can be found at: http://www.fws.gov/migratorybirds/CurrentBirdIssues/Hazards/towers/towers.htm; http://www.towerkill.com; and http://www.fws.gov/migratorybirds/CurrentBirdIssues/Hazards/towers/comtow.html.

We appreciate your concern for threatened and endangered species. The Service encourages Federal agencies to include conservation of threatened and endangered species into their project planning to further the purposes of the Act. Please include the Consultation Tracking Number in the header of this letter with any request for consultation or correspondence about your project that you submit to our office.

Attachment(s):

- Official Species List

Official Species List

This list is provided pursuant to Section 7 of the Endangered Species Act, and fulfills the requirement for Federal agencies to "request of the Secretary of the Interior information whether any species which is listed or proposed to be listed may be present in the area of a proposed action".

This species list is provided by:

Sacramento Fish And Wildlife Office
Federal Building
2800 Cottage Way, Room W-2605
Sacramento, CA 95825-1846
(916) 414-6600

Project Summary

Consultation Code: 08ESMF00-2020-SLI-0261
Event Code: 08ESMF00-2021-E-02631
Project Name: Pezzi Road
Project Type: TRANSPORTATION
Project Description: bridge replacement
Project Location:

Approximate location of the project can be viewed in Google Maps: https://www.google.com/maps/@38.04657999966755,-121.20098793763668,14z

Counties: San Joaquin County, California

Endangered Species Act Species

There is a total of 9 threatened, endangered, or candidate species on this species list.

Species on this list should be considered in an effects analysis for your project and could include species that exist in another geographic area. For example, certain fish may appear on the species list because a project could affect downstream species.

IPaC does not display listed species or critical habitats under the sole jurisdiction of NOAA Fisheries[1], as USFWS does not have the authority to speak on behalf of NOAA and the Department of Commerce.

See the "Critical habitats" section below for those critical habitats that lie wholly or partially within your project area under this office's jurisdiction. Please contact the designated FWS office if you have questions.

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1. NOAA Fisheries, also known as the National Marine Fisheries Service (NMFS), is an office of the National Oceanic and Atmospheric Administration within the Department of Commerce.

Mammals

NAME	STATUS
Riparian Brush Rabbit *Sylvilagus bachmani riparius* No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/6189	Endangered

Reptiles

NAME	STATUS
Giant Garter Snake *Thamnophis gigas* No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/4482	Threatened

Amphibians

NAME	STATUS
California Red-legged Frog *Rana draytonii* There is **final** critical habitat for this species. The location of the critical habitat is not available. Species profile: https://ecos.fws.gov/ecp/species/2891	Threatened
California Tiger Salamander *Ambystoma californiense* Population: U.S.A. (Central CA DPS) There is **final** critical habitat for this species. The location of the critical habitat is not available. Species profile: https://ecos.fws.gov/ecp/species/2076	Threatened

Fishes

NAME	STATUS
Delta Smelt *Hypomesus transpacificus*	Threatened

There is **final** critical habitat for this species. The location of the critical habitat is not available.
Species profile: https://ecos.fws.gov/ecp/species/321

Insects

NAME	STATUS
Valley Elderberry Longhorn Beetle *Desmocerus californicus dimorphus*	Threatened

There is **final** critical habitat for this species. The location of the critical habitat is not available.
Species profile: https://ecos.fws.gov/ecp/species/7850

Crustaceans

NAME	STATUS
Vernal Pool Fairy Shrimp *Branchinecta lynchi*	Threatened

There is **final** critical habitat for this species. The location of the critical habitat is not available.
Species profile: https://ecos.fws.gov/ecp/species/498

Vernal Pool Tadpole Shrimp *Lepidurus packardi*	Endangered

There is **final** critical habitat for this species. The location of the critical habitat is not available.
Species profile: https://ecos.fws.gov/ecp/species/2246

Flowering Plants

NAME	STATUS
Fleshy Owl's-clover *Castilleja campestris ssp. succulenta*	Threatened

There is **final** critical habitat for this species. The location of the critical habitat is not available.
Species profile: https://ecos.fws.gov/ecp/species/8095

Critical habitats

THERE ARE NO CRITICAL HABITATS WITHIN YOUR PROJECT AREA UNDER THIS OFFICE'S JURISDICTION.

Appendix B. NMFS Database Search Results

From: Hanna Sheldon
To: "nmfswcrca.specieslist+canned.response@noaa.gov"
Subject: Pezzi Road Updated NMFS Species List
Date: Friday, February 5, 2021 9:08:37 AM
Attachments: image001.png

Quad Name **Waterloo**
Quad Number **38121-A2**

ESA Anadromous Fish

SONCC Coho ESU (T) -
CCC Coho ESU (E) -
CC Chinook Salmon ESU (T) -
CVSR Chinook Salmon ESU (T) -
SRWR Chinook Salmon ESU (E) -
NC Steelhead DPS (T) -
CCC Steelhead DPS (T) -
SCCC Steelhead DPS (T) -
SC Steelhead DPS (E) -
CCV Steelhead DPS (T) - **X**
Eulachon (T) -
sDPS Green Sturgeon (T) -

ESA Anadromous Fish Critical Habitat

SONCC Coho Critical Habitat -
CCC Coho Critical Habitat -
CC Chinook Salmon Critical Habitat -
CVSR Chinook Salmon Critical Habitat -
SRWR Chinook Salmon Critical Habitat -
NC Steelhead Critical Habitat -
CCC Steelhead Critical Habitat -
SCCC Steelhead Critical Habitat -
SC Steelhead Critical Habitat -
CCV Steelhead Critical Habitat - **X**
Eulachon Critical Habitat -
sDPS Green Sturgeon Critical Habitat -

ESA Marine Invertebrates

Range Black Abalone (E) -
Range White Abalone (E) -

ESA Marine Invertebrates Critical Habitat

Black Abalone Critical Habitat -

ESA Sea Turtles

East Pacific Green Sea Turtle (T) -

Olive Ridley Sea Turtle (T/E) -

Leatherback Sea Turtle (E) -

North Pacific Loggerhead Sea Turtle (E) -

ESA Whales

Blue Whale (E) -

Fin Whale (E) -

Humpback Whale (E) -

Southern Resident Killer Whale (E) -

North Pacific Right Whale (E) -

Sei Whale (E) -

Sperm Whale (E) -

ESA Pinnipeds

Guadalupe Fur Seal (T) -

Steller Sea Lion Critical Habitat -

Essential Fish Habitat

Coho EFH -

Chinook Salmon EFH - **X**

Groundfish EFH -

Coastal Pelagics EFH -

Highly Migratory Species EFH -

MMPA Species (See list at left)

ESA and MMPA Cetaceans/Pinnipeds

See list at left and consult the NMFS Long Beach office 562-980-4000

MMPA Cetaceans -

MMPA Pinnipeds -

Thank you,

Hanna Sheldon
Biologist/Environmental Planner|
Dokken Engineering
Phone: 916.858.0642

Email: hsheldon@dokkenengineering.com
110 Blue Ravine Road, Suite 200 | Folsom, CA 95630
www.dokkenengineering.com

Appendix C. CNDDB Species List

Selected Elements by Common Name

California Department of Fish and Wildlife

California Natural Diversity Database

Query Criteria: Quad IS (Linden (3812111) OR Lockeford (3812122) OR Lodi North (3812123) OR Lodi South (3812113) OR Peters (3712181) OR Stockton East (3712182) OR Waterloo (3812112))

Species	Element Code	Federal Status	State Status	Global Rank	State Rank	Rare Plant Rank/CDFW SSC or FP
An andrenid bee *Andrena subapasta*	IIHYM35210	None	None	G1G2	S1S2	
burrowing owl *Athene cunicularia*	ABNSB10010	None	None	G4	S3	SSC
California linderiella *Linderiella occidentalis*	ICBRA06010	None	None	G2G3	S2S3	
California tiger salamander *Ambystoma californiense*	AAAAA01180	Threatened	Threatened	G2G3	S2S3	WL
Crotch bumble bee *Bombus crotchii*	IIHYM24480	None	Candidate Endangered	G3G4	S1S2	
Delta button-celery *Eryngium racemosum*	PDAPI0Z0S0	None	Endangered	G1	S1	1B.1
foothill yellow-legged frog *Rana boylii*	AAABH01050	None	Endangered	G3	S3	SSC
giant gartersnake *Thamnophis gigas*	ARADB36150	Threatened	Threatened	G2	S2	
Greene's tuctoria *Tuctoria greenei*	PMPOA6N010	Endangered	Rare	G1	S1	1B.1
legenere *Legenere limosa*	PDCAM0C010	None	None	G2	S2	1B.1
Mason's lilaeopsis *Lilaeopsis masonii*	PDAPI19030	None	Rare	G2	S2	1B.1
midvalley fairy shrimp *Branchinecta mesovallensis*	ICBRA03150	None	None	G2	S2S3	
Northern Hardpan Vernal Pool *Northern Hardpan Vernal Pool*	CTT44110CA	None	None	G3	S3.1	
pallid bat *Antrozous pallidus*	AMACC10010	None	None	G4	S3	SSC
recurved larkspur *Delphinium recurvatum*	PDRAN0B1J0	None	None	G2?	S2?	1B.2
Sacramento splittail *Pogonichthys macrolepidotus*	AFCJB34020	None	None	GNR	S3	SSC
Sanford's arrowhead *Sagittaria sanfordii*	PMALI040Q0	None	None	G3	S3	1B.2
song sparrow ("Modesto" population) *Melospiza melodia*	ABPBXA3010	None	None	G5	S3?	SSC
steelhead - Central Valley DPS *Oncorhynchus mykiss irideus pop. 11*	AFCHA0209K	Threatened	None	G5T2Q	S2	

Selected Elements by Common Name

California Department of Fish and Wildlife

California Natural Diversity Database

Species	Element Code	Federal Status	State Status	Global Rank	State Rank	Rare Plant Rank/CDFW SSC or FP
succulent owl's-clover *Castilleja campestris var. succulenta*	PDSCR0D3Z1	Threatened	Endangered	G4?T2T3	S2S3	1B.2
Suisun Marsh aster *Symphyotrichum lentum*	PDASTE8470	None	None	G2	S2	1B.2
Swainson's hawk *Buteo swainsoni*	ABNKC19070	None	Threatened	G5	S3	
tricolored blackbird *Agelaius tricolor*	ABPBXB0020	None	Threatened	G1G2	S1S2	SSC
valley elderberry longhorn beetle *Desmocerus californicus dimorphus*	IICOL48011	Threatened	None	G3T2	S3	
Valley Oak Woodland *Valley Oak Woodland*	CTT71130CA	None	None	G3	S2.1	
vernal pool fairy shrimp *Branchinecta lynchi*	ICBRA03030	Threatened	None	G3	S3	
vernal pool tadpole shrimp *Lepidurus packardi*	ICBRA10010	Endangered	None	G4	S3S4	
western pond turtle *Emys marmorata*	ARAAD02030	None	None	G3G4	S3	SSC
western spadefoot *Spea hammondii*	AAABF02020	None	None	G3	S3	SSC
yellow warbler *Setophaga petechia*	ABPBX03010	None	None	G5	S3S4	SSC

Record Count: 30

Appendix D. Representative Photographs

Representative Photo 1: Representative of the Old Calaveras River channel (Riverine) within the Action Area, taken July 2019; facing east.

Representative Photograph 2: Representative of riparian vegetation adjacent to the Old Calaveras River channel (Riverine) (channel is dry in this photo); taken March 2017; facing east.

Representative Photo 3: Representative of urban (Pezzi Road) and ruderal habitat within the Action Area, taken March 2017; facing east.

Representative Photo 4: Representative of the orchards present within the Action Area, taken March 2017.

Representative Photo 5: Representative of the Pezzi Road Bridge, taken March 2017; facing north.

Representative Photo 6: Representative of the Pezzi Road Bridge, taken March 2017; facing west.

ADDENDUM to the BIOLOGICAL ASSESSMENT

Pezzi Road Bridge Replacement over Calaveras River Project
San Joaquin County
DISTRICT 10 – SJ
Bridge No. 29C0199
BRLO 5929(240)

Attention: National Marine Fisheries Association/NMFS

From: David Moore, Associate Environmental Planner, Caltrans District 10
Amy Bakker, Associate Environmental Planner, Dokken Engineering

Subject: Addendum to the Biological Assessment for the Pezzi Road Bridge Replacement over Calaveras River Project

Date: March 12, 2021

INTRODUCTION

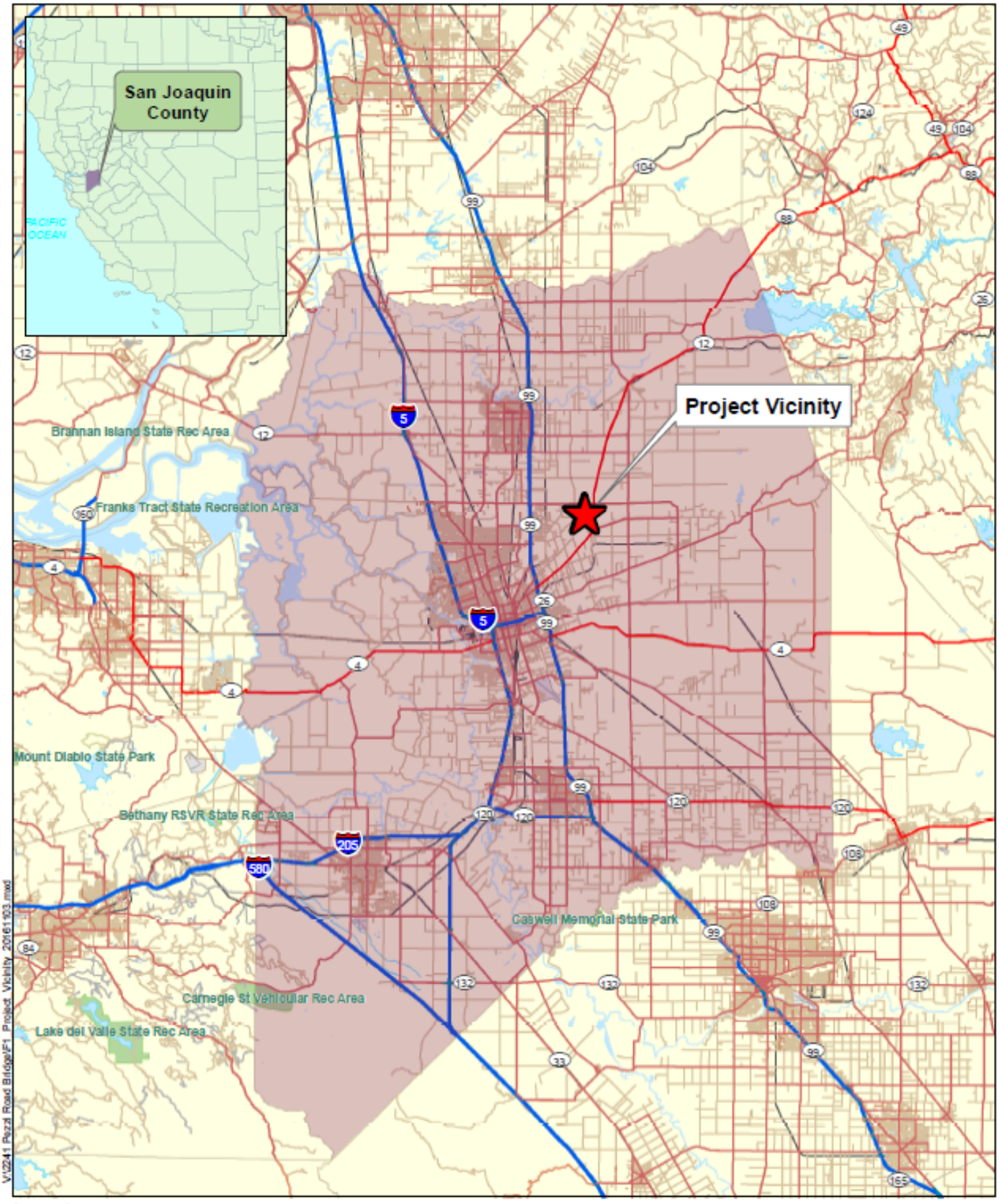
The Pezzi Road Bridge Replacement over Calaveras River Project (Project) is a proposed bridge replacement project which crosses the Calaveras River, located in San Joaquin County (**Figure 1. Project Vicinity**; **Figure 2. Project Location**). A Biological Assessment (BA) was submitted to the California Department of Transportation (Caltrans) in February 2021. This Addendum to the 2021 BA addresses comments received from Caltrans on February 23, 2021 regarding the Central Valley steelhead (*Oncorhynchus mykiss iridius*) Critical Habitat. The information provided in this Addendum would support the determination that the Project may affect but is not likely to adversely affect Critical Habitat for the Central Valley steelhead.

PROJECT DESCRIPTION

San Joaquin County, in coordination with Caltrans, proposes to replace the Pezzi Road Bridge (Number 29C0199) and improve the approach roadway to the bridge. The bridge is located within an agricultural area in San Joaquin County, approximately 3 miles east of State Route 99 and north of the town of Waterloo.

The existing Pezzi Road Bridge is on a two-lane rural road across the Calaveras River.

It was originally constructed in 1926 and consists of a three-span reinforced concrete T-Beam approximately 63.5 feet long. The deck clear width is approximately 18 feet and is striped for two 9-foot lanes. The bridge is supported by two column piers and diaphragm abutment walls, all of which are founded on shallow spread footings. The Caltrans Structure Inventory and Appraisal Report classifies the bridge as Functionally Obsolete.



Source: ESRI 2016; Dokken Engineering 3/9/2017; Created By: brianm

0 5 10 15 20 Miles

FIGURE 1
Project Vicinity
Federal Project: BRLO 5929(240)
Pezzi Road Bridge Replacement Project
San Joaquin County, California

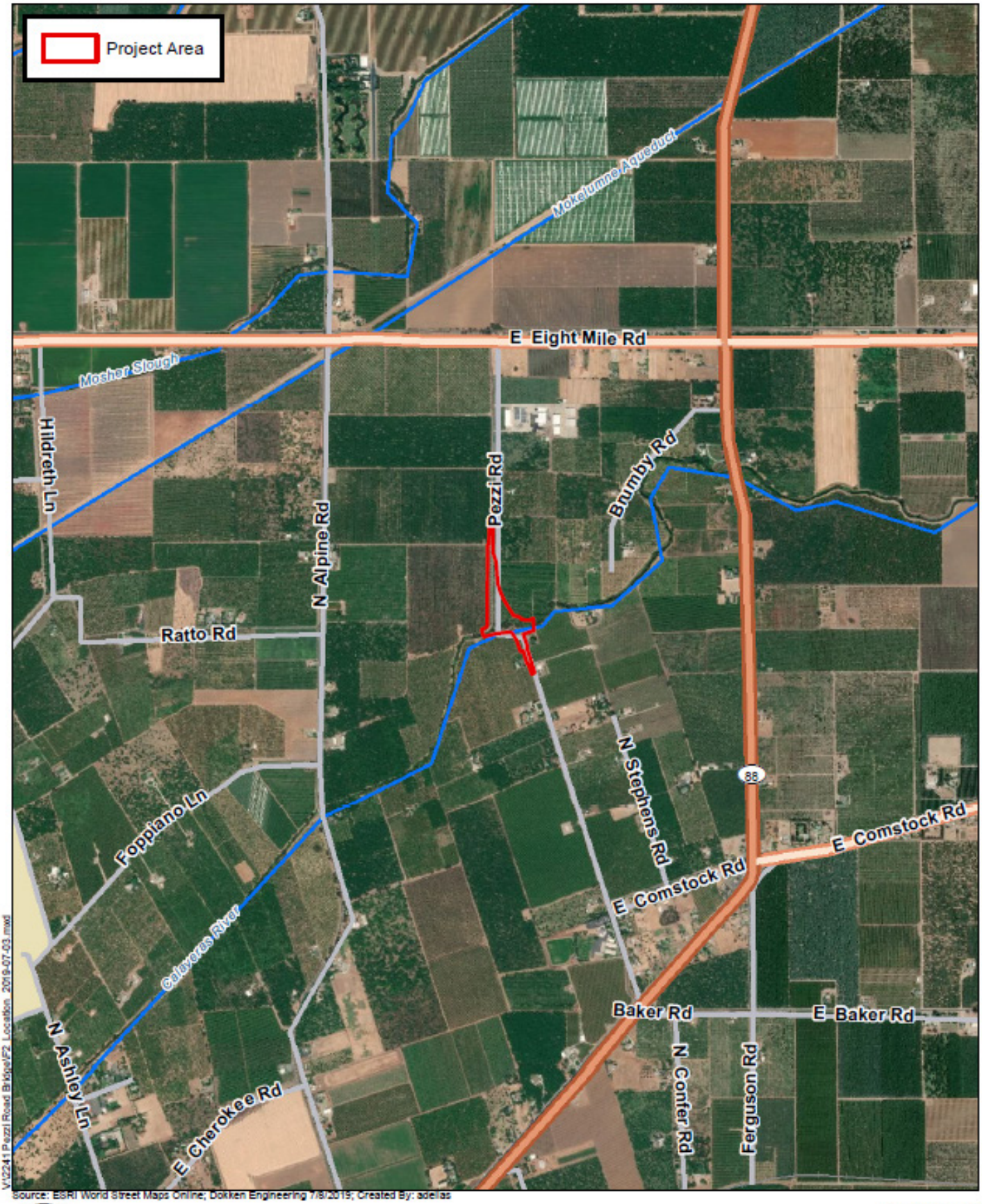


FIGURE 2
Project Location
Federal Project: BRLO 5929(240)
Pezzi Road Bridge Replacement Project
San Joaquin County, California

The most recent County traffic count in March 2018 determined the average daily traffic (ADT) at approximately 420.

The Calaveras River is a natural channel and the primary soil type in and around the canal is sandy-silt/silty sand, which makes the foundation of the existing bridge susceptible to scour. The banks of the river are heavily vegetated with blackberry and other small bushes. On the top of the banks are several trees, including native oaks along the southern bank, just east of the bridge.

Pezzi Road is primarily a north-south route with tight, reversing, horizontal curves at the bridge location. The bridge is located near the center of the western curve, although the bridge itself is on a tangent. There is no posted speed so the speed limit defaults to 55 mph; however, there are 15 mph advisory signs when approaching the reversing curves. The roadway is classified as a local road and primarily serves as a connector from East Eight Mile Road to the north, and Waterloo Road (SR 88) to the south, for local property owners and farming operations.

The proposed Project would replace the substandard bridge with a structure meeting current standards and realign the roadway approaches to replace the sharp curves with a new 50-mph alignment meeting the American Association of State Highways and Transportation Officials (AASHTO Green Book) design specifications. The total improved road length would be approximately 1,570 feet. The new alignment would consist of approximately 1,925-foot radius reversing curves that meet a 50-mph design speed. The new road section would have two 10 foot lanes which widen to 11 feet at bridge and paved shoulders which vary from 1 to 3 feet, for a total width of 22 to 26 feet (**Figure 3. Project Features**; **Appendix A. 35% Plans**).

Based on preliminary engineering, the proposed alignment would require right-of-way acquisitions of the orchards to the north and south of the proposed bridge for the roadway footprint, as well as an orchard remnant that would exist between the new and existing roads; however, exact right-of-way needs will be determined during final design and in coordination with San Joaquin County and through negotiations with local property owners.

The existing bridge would be removed and replaced with an approximately 75-foot long, two-span, cast-in-place reinforced concrete slab bridge on a tangent alignment. The new alignment would move the bridge 250 to 300 feet east of the existing location. Bridge foundations are expected to consist of precast driven piles. Bridge barriers would be concrete Caltrans Type 836.

The existing road and bridge are anticipated to remain open during construction. If a detour was needed, it would be 4.5 miles long with traffic using SR 88 to the east or Alpine Road to the west.

Figure 3
Project Features

Federal Project: BRLO 5929(240)
Pezzi Road Bridge Replacement over Calaveras River
San Joaquin County, California

The Stockton East Water District utilizes the river for water deliveries. These cannot be interrupted to maintain normal farming irrigation in the region. The river would be dewatered by methods determined appropriate by the contractor. However, the summer flows are small and it is anticipated the contractor would use flexible culverts to direct the water away from construction activities.

Typical equipment for roadway construction would include heavy construction earthmoving equipment, dump trucks and pavers. Typical bridge construction equipment would include cranes, pile drivers, excavators, and concrete pumps. Overhead power lines are located on the east side of the road near the bridge and on the south side ofthe road east of the bridge. These overhead lines may need to be relocated. Construction staging can occur on County property east of the bridge between the river and existing road.

Construction is expected to begin in 2023 and would require approximately 8 months.

Project Purpose

The purpose of the Pezzi Road Bridge Replacement over Calaveras River Project is to replace a functionally obsolete bridge in order to:

- Enhance safety on Pezzi Road by eliminating the two ninety degree curves in the road and providing a consistent 50 mph roadway facility over the Calaveras River;
- Provide a transportation facility consistent with County and Caltrans Standards, as well as local and regional plans.

Project Need

The existing Pezzi Road Bridge is rated “functionally obsolete” by Caltrans under Federal Highway Administration prescribed inspection criteria. Full replacement of the bridge is needed because the current structure does not meet structural design standards.

SUMMARY OF THE BIOLOGICAL ASSESSMENT

The 2021 BA presented technical information and findings to determine to what extent the proposed Project may affect threatened, endangered, or proposed species. The Calaveras River is final designated Critical Habitat for the Central Valley steelhead and individuals of the species have a low potential of being present within the Action Area. Given the small scale of impacts and the anticipated low density of Central Valley steelhead, Caltrans has determined that the Project may affect, but is not likely to adversely affect Central Valley steelhead and associated Critical Habitat. In addition, the Calaveras River has been designated as Essential Fish Habitat (EFH) for Chinook salmon (*Oncorhynchus tshawytscha*). Due to the current accessibility and conditions of

the Action Area, the Biological Study Area (BSA) does not support any of the Habitat Area of Particular Concerns (HAPCs) associated with Chinook salmon EFH. Therefore, the Project will not adversely affect EFH for Chinook salmon. The Project would have no effect on all other fish species on the species lists queried for this Project.

Furthermore, the Action Area contains riparian vegetation and elderberry shrubs suitable to support the valley elderberry longhorn beetle (*Desmocerus californicus dimorphus)*. Due to the presence of suitable habitat and local recent occurrences, the species has a high potential of occurring within the Action Area. Given that some of the elderberry shrubs within the Action Area contain possible exit holes and shrub removal will occur, Caltrans has determined that the Project may affect and is likely to adversely affect the valley elderberry longhorn beetle.

ADDENDUM TO THE BIOLOGICAL ASSESSMENT

On February 23, 2021, Caltrans submitted comments on the 2021 BA regarding the determination of may affect, not likely to adversely affect Central Valley steelheadCritical Habitat. These comments are addressed in the following sections.

Revegetation

Following the completion of construction, natural areas within the Action Area that have been disturbed by construction would be revegetated per the following mitigation measure, **BIO-9**.

BIO-9: Following construction, the Project area shall be re-graded to pre-construction or better conditions and hydroseeded with a mix of regionally appropriatenative species approved by the Project biologist.

Temporary impact areas, including the footprint of the old bridge structure within the riparian area, will be regraded to break up compacted soils and return the bank to natural contours and reseeded with a riparian specific hydroseed mix (**Figure 4. Project Impacts**). The final hydroseed mix would be selected during final bridge design and approved by a qualified biologist. The seed mix would include a mix of forb, grass, and shrub species that are native to riparian habitats in the vicinity of the Project and would be biologically appropriate for the area. The regrading and hydroseeding would function in producing conditions for which disturbed areas may return to pre-development conditions via natural recruitment.

Based on the small footprint of impact areas (approximately 0.184 acres) that would be revegetated via measure **BIO-9** and the proximity to existing riparian habitat that would be protected in place, the proposed methods are anticipated to successfully revegetate disturbed areas to pre-construction conditions.

Pier Installation

A new bent would be installed within the Calaveras River channel to support the new bridge. This bent would be composed of an underground footing and five 24-inch piers. Approximately 280 square feet (0.006 acres) of the Calaveras River channel would be temporarily excavated in order to place the pier footing. Permanent impacts to the Calaveras River channel due to pier installation would be limited to the area of the five 24-inch piers, approximately 16 square feet (0.0004 acres) of the Calaveras Riverchannel (**Figure 4**; **Appendix A**).

Impacts to Central Valley steelhead Critical Habitat would be limited to a loss of approximately 0.0004 acres of stream channel habitat and with the pier footing located underground, the proposed pier design would not impede channel flow. These impacts to the channel would not substantially alter the value of Central Valley steelhead Critical Habitat due to the minimal quantity of impacts. Impacts occurring during the excavation and placement of the bridge footing would be temporary and occur either during a period of no flow or with appropriate water diversion methods. Water quality would not be affected by this and impacts to Critical Habitat would not substantially alter the value of the habitat.

Rock Slope Protection

Approximately 0.013 acres and 300 cubic yards of quarter ton rock slope protection (RSP) would be installed at the new bridge. Specifically, a 0.006-acre footprint of RSP would be installed on the north bank of the Calaveras River, and a 0.007-acre footprintof RSP would be installed on the south bank of the river (**Figure 4**; **Appendix A**).

New RSP would result in permanent impacts to approximately 0.013 acres of the Calaveras River. All RSP is planned to be placed below the ordinary high water mark (OHWM) of the new bridge and would not impact riparian habitat. As the RSP would be located under the OHWM of the Calaveras River, it would not impede river flow. Impacts to Central Valley steelhead Critical Habitat due to RSP would be limited to a substrate change from natural soils to quarter ton RSP for approximately 0.013 acres of the Calaveras River at this location. These impacts would not substantially alter the value of Central Valley steelhead Critical Habitat at this location.

National Marine Fisheries Service Coordination

In the event that flowing water is in the channel during the construction months of March through October, a temporary diversion plan will be implemented. The typical diversion plan would consist of gravity bypass pipes with temporary sandbag or bladder dams. The dewatering plan will be further developed during final design in coordination with the Contractor. The County will contact the National Marine Fisheries Service (NMFS) during final design to develop the dewatering and fish relocation plans.

In-Water Work Period

Work within the Calaveras River channel is planned to occur in 2023 and take approximately 8 months of work. Work is anticipated to begin in the spring and last until the fall, approximately March through October. All in water work, including pier installation and bridge demolition, would occur during this period, with the majority of work occurring during the summer months when the Calaveras River experiences low to no flow. Construction equipment and activities would only occur beneath the OHWM of the channel during these activities. Other work required for this Project includes cut and fill, abutment installation, and roadway realignment, all of which would occur above the OHWM of the Calaveras River.

Mitigation Bank

The County would mitigate for impacts to riparian vegetation via the standard mitigation measure **BIO-10**, which is included in Section 2.5 of the 2021 BA. The full measure **BIO-10** is included below for reference.

BIO-10: The County will purchase mitigation bank credits for riparian habitat from a California Department of Fish and Wildlife (CDFW) approved mitigation bank. The County anticipates purchasing credits at a 3:1 ratio for permanent impacts and at a 1:1 ratio for temporary impacts but final mitigation ratios and credits will be determined in coordination with CDFW through the 1602 permitting process, or through the United States Army Corps of Engineers (USACE)/Regional Water Quality Control Board (RWQCB) during the 404/401 permitting process.

The details of this proposed standard mitigation strategy have not been finalized, as a mitigation bank would be selected and presented to USACE, the Central Valley RWQCB, and CDFW for approval during the permitting phase of the Project.

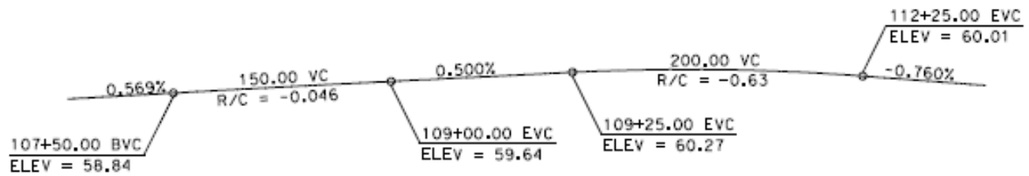
Coordination with NMFS regarding the approved mitigation bank would occur during the permitting process. During the permit approval process, the County would coordinatewith the appropriate agencies to determine the appropriate mitigation bank, mitigation ratio, and final credit amount. Final approval of the proposed mitigation strategy would occur with the issuance of the Project permits.

CONCLUSION

The Project is anticipated to have minimal impacts to Central Valley steelhead Critical Habitat, as all in-channel work would occur during periods of no flow or with appropriate dewatering methods. In addition, temporary impact areas would be returned to pre-construction conditions or better, and standard mitigation measures have been outlined that would compensate for all permanent impacts. Within the Calaveras River channel

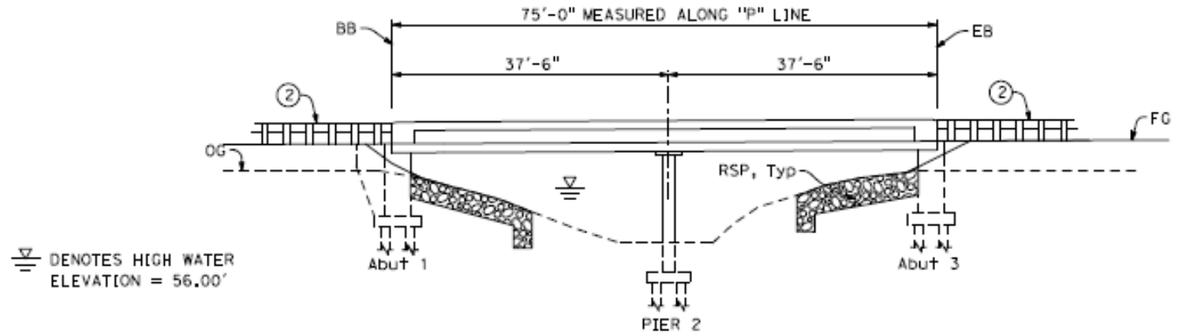
itself, permanent impacts are anticipated to be minor and the condition and value of Critical Habitat for Central Valley steelhead is not expected to be substantially altered. Background research, presented in the 2021 BA, demonstrated that Central Valley steelhead are unlikely to inhabit this stretch of the Calaveras River and that the Project may affect, but is not likely to adversely affect the Central Valley steelhead itself. With avoidance, minimization, and mitigation measures incorporated into the Project, the minor impacts to Critical Habitat, and the determination that the Project is not likely to adversely affect the Central Valley steelhead, it is anticipated that the Project may affect,but is not likely to adversely affect Central Valley steelhead Critical Habitat within the Calaveras River.

Appendix A. 35% Plans



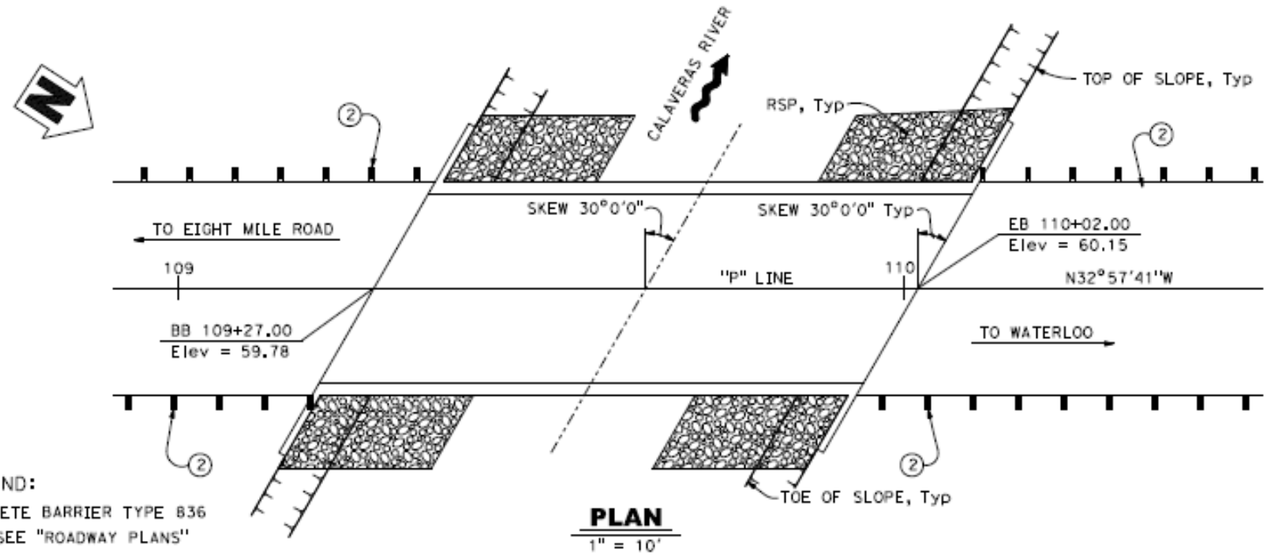
PROFILE GRADE

NO SCALE



ELEVATION

1" = 10'



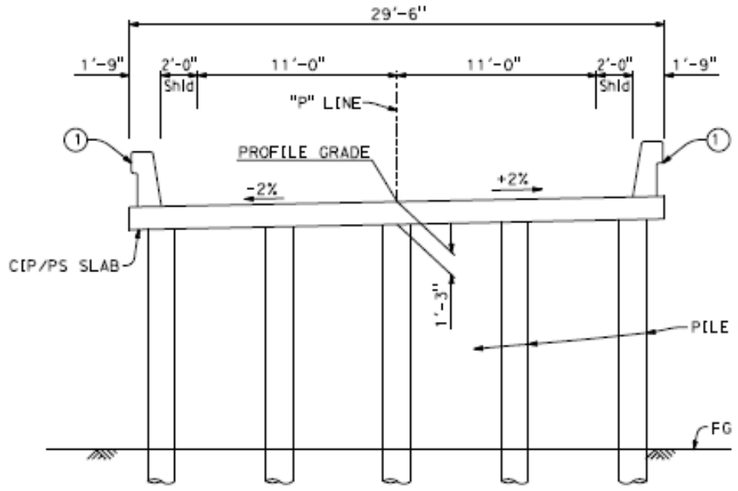
LEGEND:

(1) CONCRETE BARRIER TYPE 836

(2) MGS, SEE "ROADWAY PLANS"

PLAN

1" = 10'



TYPICAL SECTION

1/4" = 1'-0"

PROJECT ENGINEER	DATE		CHECKED	DATE	SUBMITTED	DATE	APPROVED	DATE
Fortunato Enriquez	2/8/21					9/20/19	x	x
DRAWER	SHEET NO.		SHEET NAME			SCALE		
Anthony Dong	C-01		GENERAL PLAN			A4		

35% PLANS

Fortunato Enriquez

COUNTY OF SAN JOAQUIN
DEPARTMENT OF PUBLIC WORKS BRIDGE DIVISION
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SHEET NO.
XX of XX

PROJECT NAME: PEZZI ROAD BRIDGE REPLACEMENT PROJECT

@DATE@

@FILEABBREV@

ADDENDUM to the BIOLOGICAL ASSESSMENT

Pezzi Road Bridge Replacement over Calaveras River Project
San Joaquin County
DISTRICT 10 – SJ
Bridge No. 29C0199
BRLO 5929(240)

Attention: David Moore, Associate Environmental Planner, Caltrans District 10

From: Amy Bakker, Associate Environmental Planner, Dokken Engineering

Subject: Addendum to the Biological Assessment for the Pezzi Road BridgeReplacement over Calaveras River Project

Date: May 13, 2021

INTRODUCTION

The Pezzi Road Bridge Replacement over Calaveras River Project (Project) is a proposed bridge replacement project which crosses the Old Calaveras River segment of the Calaveras River, located in San Joaquin County. A Biological Assessment (BA) with the determination that the Project may affect but is not likely to adversely affect the Central Valley steelhead (*Oncorhynchus mykiss iridius*) and its Critical Habitat was submitted to the California Department of Transportation (Caltrans) in February 2021. Anaddendum to the BA providing additional information to support the not likely to adversely affect determination was submitted in March 2021.

The National Marine Fisheries Service (NMFS) replied to the first addendum with a letter of nonconcurrence. NMFS wishes to pursue a likely to adversely affect determination for Critical Habitat. This second Addendum to the BA provides the necessary information to update the original BA and pursue formal consultation with NMFS for Central Valley steelhead and their Critical Habitat, as well as Chinook salmon Essential Fish Habitat (EFH). Caltrans, in cooperation with San Joaquin County, now determines this Project may affect, and is likely to adversely affect Central Valley steelhead and Critical Habitat. Additionally, the Project may adversely affect EFH.

STATUS OF CRITICAL HABITAT PHYSICAL AND BIOLOGICAL FEATURES

There are six physical and biological features (PBFs) of Central Valley steelhead Critical Habitat: freshwater spawning sites, freshwater rearing sites, freshwater migration corridors, estuarine areas, nearshore marine areas, and offshore marine areas. The Action Area contains the Calaveras River, and the proposed Project would have impacts to the Calaveras River. However, the Calaveras River within the Action Area currently lacks five of the six of the identified PBFs for Central Valley steelhead Critical Habitat. The Action Area has the potential to contain freshwater migration corridors; however,this is only under specific circumstances and recent evidence indicates that this is very uncommon.

Freshwater Spawning Sites

The Action Area contains a segment of the Calaveras River which lacks spawning sites for Central Valley steelhead. Spawning sites require coarse gravel beds in riffle areas. The Action Area lacks riffles and coarse gravel beds. In addition, the river is dry for several months of the year in this location, rendering the channel unfit for spawning.

Freshwater Rearing Sites

The Calaveras River within the Action Area lacks suitable rearing sites for the Central Valley steelhead. The flow within the river is typically too low to support rearing juveniles. In addition, even during years of higher flows, the channel typically dries for several months of the year, preventing the steelhead from being able to use the Old Calaveras River within the Action Area as a juvenile rearing site.

Freshwater Migration Corridors

The Action Area does not currently serve as a migration corridor for the Central Valley steelhead due to low flow and a number of barriers throughout the river. The Calaveras River carries seasonal flow that is regulated by the Stockton East Water District. The typical flow of the river is regulated at the Bellota Weir, which splits flow into either Mormon Slough or the Old Calaveras River (the segment of the river that the Action Area intersects). Typically, flow within the Old Calaveras River is too low to support fish migration. Additionally, there are numerous barriers to anadromous fish migration within the Old Calaveras River. Fish have been recently documented migrating through Mormon Slough (2004), indicating that migration through the Old Calaveras River is not favored. The Old Calaveras River could potentially support fish migration if the regulated water flow to the channel is increased or if there is flooding due to a high water event. Potential migration barriers up and downstream may also have to be addressed. The California Department of Water Resources prepared a Calaveras River Fish Migration Barriers Assessment Report in 2007 which assesses the fish barriers and presents

solutions to aid fish passage (CDWR 2007). In addition, the California Department of Water Resources also prepared the Central Valley Flood System Fish Migration Improvement Opportunities Report in 2017 (CDWR 2017). This report identifies fish migration improvement actions which would facilitate fish passages in the region. Although the Old Calaveras River that currently flows through the Action Area cannot at this time support fish migration, identified actions within the watershed indicate that the river could be used as a freshwater migration corridor in the future or during extremely high flow events.

Estuarine Areas

The Calaveras River is a freshwater stream and is not within an estuarine area. The nearest estuarine habitats are found within the Delta system west of the Action Area, closer to the San Francisco Bay.

Nearshore Marine Areas

The Calaveras River is a freshwater stream located in the Central Valley of California. As such, the Action Area contains no nearshore marine areas.

Offshore Marine Areas

The Calaveras River is a freshwater stream located in the Central Valley of California. As such, the Action Area contains no offshore marine areas.

STATUS OF ESSENTIAL FISH HABITAT HABITAT AREAS OF PARTICULAR CONCERN

Five Habitat Areas of Particular Concern (HAPCs) have been identified for Chinook salmon EFH. These are complex channels and floodplain habitats, thermal refugia, spawning habitat, estuaries, and marine and estuarine submerged aquatic vegetation. Impacts to the Calaveras River within the Action Area would impact one of the five HAPCs for Chinook salmon EFH, complex channels and floodplain habitats.

Complex Channels and Floodplain Habitats

The Calaveras River contains various elements of complex channel and floodplainhabitat throughout its reach, including wetlands, side channels, and sloughs. Within the Action Area, the Calaveras River contains marginal complex channel and floodplain habitat. The Action Area contains a more constrained segment of the channel with elements of large woody debris, which provides marginal complex channel HAPCs.

Thermal Refugia

The Action Area lacks contains a very small segment of the Calaveras River which lacks habitat elements that create thermal refugia, such as cool water tributaries, lateralseeps, and deep pools.

Spawning Habitat

The Action Area contains a segment of the Calaveras River below the Bellota Weir which lacks spawning habitat for salmon. The adequate spawning habitat that has been identified within the Calaveras River is located upstream of the Action Area (Marsh 2007).

Estuaries

The Calaveras River is a freshwater stream and is not within an estuary. The nearest estuarine habitats are found within the Delta system west of the Action Area, closer to the San Francisco Bay.

Marine and Estuarine Submerged Aquatic Vegetation

The Calaveras River is a freshwater stream located in the Central Valley of California and is not within a marine or estuarine habitat; thus, it lacks marine and estuarine submerged aquatic vegetation.

EFFECTS ANALYSIS

Pier Installation

There would be one new pier installed within the Calaveras River. The new pier structure would contain five piles. Each column would be 24 inches in diameter, totaling in approximately 16 square feet of permanent impacts to the Calaveras River channel. The installation of five 24-inch piles would create 0.0004 acres of permanent impacts to the Old Calaveras River channel.

Permanent impacts to the Old Calaveras River channel would affect the PBF of freshwater migration corridors for steelhead Critical Habitat and may affect some aspects of the complex channels and floodplains HAPC of Chinook salmon EFH. Pier installation would reduce the stream channel area beneath the ordinary high-water mark (OHWM) by 0.0004 acres. During high flow periods in the Old Calaveras River, thiscould impact fish migration by restricting the migration corridor; however, the new pier installation would not create a barrier to fish migration. Pier installation could also affect the natural components of the channel's complexity, affecting Chinook salmon EFH.

Rock Slope Protection

Approximately 0.013 acres of quarter ton rock slope protection (RSP) would be installed around the new bridge abutments. On either side of the channel, the RSP is anticipated to extend approximately 6.5 feet into the channel below the OHWM.

The installation of RSP is unlikely to affect Central Valley steelhead due to existing barriers to migration and timing in-channel work when the channel is dry but would modify Central Valley steelhead Critical Habitat by altering the bank substrate and preventing future vegetation growth in those areas. Fish migration corridors would be theonly PBF of Critical Habitat effected by the installation of RSP. While placing RSP would permanently modify to the channel, this is not anticipated to significantly impair the abilityfor steelhead to use the channel. In addition, the placement of RSP could affect the complex channels and floodplains HAPC of Chinook salmon EFH by reducing natural habitat complexity, altering the floodplain of the Calaveras River, and reducing habitat elements such as large and woody debris.

Removal of Riparian Trees

Approximately 25 riparian trees would be removed as a result of the proposed Project within the riparian permanent impact area. A few of the larger trees anticipated for removal may aid in providing shade over the Old Calaveras River, which creates cooler water temperatures that are necessary for steelhead survival in migration corridors. The new bridge would be constructed over the river at this location, so the loss of shade overthe riverine channel is not anticipated to increase water temperatures to a degree which would make the river channel unsuitable as a migration corridor for the Central Valley steelhead. However, removal of riparian trees may affect the complex channels and floodplains HAPC of Chinook salmon EFH by reducing sources of large woody debris which is a key element of complex channel habitat.

Following the completion of construction, all temporary impact areas would be re-graded and hydroseeded with a native riparian seed mix. In addition, impact areas would be compensated for via the purchase of Central Valley steelhead and/or riparian habitat credits from a CDFW and NMFS approved mitigation bank, such as the Cosumnes Floodplain Mitigation Bank, pending availability of credits at the start of construction. The County proposes to purchase credits for permanent impacts to riparian habitat at a 3:1 ratio for permanent impacts and a 1:1 ratio for temporary impacts. Accounting for these ratios, total proposed mitigation credits purchased would be approximately 0.32 acres for permanent impacts and 0.26 acres for temporary impacts. The details of compensatory mitigation will be finalized during the permitting process, and coordination with NMFS regarding this mitigation would be done at this time.

Temporary Diversion and Dewatering

Temporary water diversion and dewatering activities are only anticipated to occur if the Calaveras River channel contains water during construction, which is unlikely due to the timing of the typical construction season and the fact that the river is typically dry within the Action Area for several months of the year. As such, measures for water diversion and fish removal have been included in the 2021 BA as a conservative protective measure. However, the Central Valley steelhead is not currently known to migratethrough the Old Calaveras River due to low flow and barriers. As such, fish relocation measures are not anticipated to be necessary and take of the steelhead as a result of relocation is not anticipated to occur. Temporary diversion and dewatering are not anticipated to permanently modify Central Valley steelhead Critical Habitat. In addition, diversion and dewatering would not permanently modify Chinook salmon EFH, as these activities would be temporary, and the stream channel would be restored to its natural contours following the removal of the temporary dewatering system.

CONCLUSION

The Old Calaveras River within the Action Area only contains one possible PBF of Central Valley steelhead Critical Habitat – freshwater migration corridors – but currently does not function as a freshwater migration corridor due to low flow and fish barriers both upstream and downstream of the Action Area. These issues have been identified and resource agencies are working to remove these barriers and eventually return the Old Calaveras River to a suitable fish migration corridor. In addition, the Old Calaveras River is a part of the larger Calaveras River system which contains complex channel andfloodplain HAPCs for Chinook salmon EFH. The Old Calaveras River is considered to exhibit the PBF of fish migration corridor and possibly exhibit some features of the complex channels and floodplains HAPC for Chinook salmon EFH, even though the riverlikely does not currently support anadromous migration most years.

Impacts to the river channel due to pier and rock slope protection would be permanent and have affects to complex channel and floodplain habitat and fish migration corridors should the Old Calaveras be restored to support to fish migration. Impacts due to the removal of riparian trees and the use of temporary water diversions would be temporary and only occur to the river while it is not actively being used as a fish migration corridor, a state anticipated to persist into Project construction. However, permanent modifications anticipated as a result of the Project of the may alter the characteristicsof Critical Habitat and EFH. As a result, the Project may affect and is likely to adversely affect the Central Valley steelhead and designated steelhead Critical Habitat. Additionally, the Project may adversely affect Chinook salmon EFH.

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