



Stockton Diamond Grade Separation Project CEQA Final Addendum

STATE CLEARINGHOUSE #2020080321

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Prepared for:



SAN JOAQUIN
REGIONAL
RAIL COMMISSION

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1 Introduction

1.1 Overview and Purpose of Analysis

The San Joaquin Regional Rail Commission (SJRRRC) certified the Final Environmental Impact Report (State Clearinghouse No. 2020080321) (2021 Certified EIR) for the Stockton Diamond Grade Separation Project (Project) in May 2021. SJRRRC issued the Notice of Determination in June 2021. This document serves as an Addendum to the 2021 Certified EIR. This Addendum addresses modifications to the Project as a result of additional coordination, consultation, and studies completed during final design—the Plans, Specification, and Estimates (PS&E) phase (final design)—and provides analysis to support SJRRRC’s determination that an Addendum to the 2021 Certified EIR is appropriate and complies with the California Environmental Quality Act (CEQA).

Further discretionary approval is required to complete the final design phase of the Project (CEQA Guidelines Section 15162[c]). State CEQA Guideline Section 15164(a) states that:

The lead agency or responsible agency shall prepare an addendum to a previously certified EIR if some changes or additions are necessary but none of the conditions described in Section 15162 calling for preparation of a subsequent EIR have occurred.

SJRRRC shall consider this Addendum with the Final EIR prior to making a decision on the Project (CEQA Guidelines Section 15164[d]). A brief explanation of the decision not to prepare a subsequent EIR pursuant to Section 15162 must be supported by substantial evidence and should be included in an addendum, the Project’s findings, or elsewhere in the administrative record (CEQA Guidelines Section 15164[e]).

Table 1 below summarizes the determinations for each criterion described in Section 15162. Analysis provided in Chapter 2 supports the determinations.

Table 1 CEQA Guidelines Section 15162 Criteria and Determinations

Criteria	Determination
Substantial changes are proposed in the project which will require major revisions of the previous EIR or negative declaration due to the involvement of new significant environmental effects or a substantial increase in the severity of previously identified significant effects	No
Substantial changes occur with respect to the circumstances under which the project is undertaken which will require major revisions of the previous EIR or negative declaration due to the involvement of new significant environmental effects or a substantial increase in the severity of previously identified significant effects	No
New information of substantial importance, which was not known and could not have been known with the exercise of reasonable diligence at the time the previous EIR (2021 Certified EIR) was certified as complete or the negative declaration was adopted, shows any of the following:	



Criteria	Determination
(a) The project will have one or more significant effects not discussed in the previous EIR or negative declaration;	No
(b) Significant effects previously examined will be substantially more severe than shown in the previous EIR;	No
(c) Mitigation measures or alternatives previously found not to be feasible would in fact be feasible and would substantially reduce one or more significant effects of the project, but the project proponents decline to adopt the mitigation measure or alternative; or	No
(d) Mitigation measures or alternatives which are considerably different from those analyzed in the previous EIR would substantially reduce one or more significant effects on the environment, but the project proponents decline to adopt the mitigation measure or alternative.	No

The analysis provided in this document demonstrates that there are no new significant environmental effects resulting from the Project Variation. Therefore, neither a subsequent EIR nor a supplemental EIR, as defined under CEQA Guideline Sections 15162 and 15163, is required. An Addendum to the 2021 Certified EIR, as described in Section 15164, is appropriate.

1.2 Project Overview

SJRRC proposes to construct a grade separation of two principal railroad lines at the Stockton Diamond in Stockton, California (See Figure 1, Regional Location). SJRRC, as the project sponsor, is the CEQA lead agency.

The Project is a critical passenger and freight mobility project. The current Altamont Corridor Express (ACE) and Amtrak San Joaquins passenger rail services are constrained by the Stockton Diamond Interlock at-grade crossing, which can reduce reliability and on-time performance for both passenger and freight rail. The grade separation would help improve the operational performance for SJRRC and the San Joaquin Joint Powers Authority (SJJPA) as they provide service between the Central Valley, Sacramento, and the San Francisco Bay Area.

Currently, the Burlington Northern Santa Fe Railway (BNSF) Stockton Subdivision and the Union Pacific Railroad (UP) Fresno Subdivision consist of two main tracks each, and they intersect at a level, at-grade crossing known as the Stockton Diamond (See Figure 2, Project Study Area). This rail intersection, located just south of Downtown Stockton near South Aurora Street and East Scotts Avenue, is the busiest at-grade railway junction in California. The at-grade crossing experiences substantial congestion and delays service for people and freight throughout the Central Valley—and for freight on the broader national network. The current, at-grade track configuration results in critical delays to passenger and freight trains in the area, including those serving the Port of Stockton. Train congestion also causes vehicle delays at roadway-rail crossings and creates potential motor vehicle, rail, bicycle, and pedestrian conflicts.



FIGURE 1. REGIONAL LOCATION



0 15 30 Miles

DATA SOURCE: City of Stockton (2019), ESRI, HERE, Garmin, NOAA, and USGS (2020)



STOCKTON
DIAMOND
Unlocking Northern
California's Freight and
Passenger Rail Potential

-  Stockton
-  California Rail Network
-  County Boundary
-  City Boundary

MAP CREATED ON: 11/19/202





The Project would construct a grade separation of the BNSF and UP rail lines to reduce rail congestion and allow passenger and freight rail traffic to flow uninterrupted through the crossing. The reduction in rail congestion would reduce delays for passenger and freight rail providers and improve freight mobility, which may lead to lower costs for freight shipping and reduce travel times for motor vehicle, bicyclist, and pedestrian traffic. The reduction in train congestion and motor vehicle wait times at these roadway-rail grade crossings would reduce locomotive and automobile idling and air emissions. The Project's public benefits would extend to motorists, pedestrians, rail passengers, freight shippers, and residents throughout the region. Additional benefits would include reduced fuel consumption, lower freight rail transportation costs, and improved travel times and reliability.

Passenger and commuter rail reliability is essential for those residing and working in the region, especially those in rural communities who need improved access to essential services and economic centers. The Project is aligned with San Joaquin County's goals to enhance existing rail infrastructure and to improve the rail network's efficiency and capacity—including safe, reliable transportation choices—while also improving the local economy through economic growth, job retention, and job creation.

1.3 Overview of Project Variation

During the final design phase, the following five design refinements resulted in a Project Variation:

1.3.1 EAST SCOTTS AVENUE CROSSING

During the Project Approval and Environmental Document (PA&ED) phase, the 2021 Certified EIR identified permanent roadway closures at the East Lafayette Street and the East Church Street crossings, shown in Figure 3, Project Study Area and Permanent Roadway Closures from the 2021 Certified EIR. During the final design phase, SJRRC conducted a California Public Utilities Commission (CPUC) Diagnostic Review of the Project with UP and the City of Stockton (City). The Diagnostic team agreed to recommend closing the East Scotts Avenue crossing permanently and leaving the East Lafayette Street crossing open instead, which is shown in Figure 4, PS&E Project Study Area and Proposed Roadway Crossing Closures. East Lafayette Street serves as an emergency route for Stockton Fire Station #2, a truck route, and a school bus route. East Lafayette Street also provides parallel capacity to State Route (SR) 4. As a condition of permanently closing the East Scotts Avenue crossing, SJRRC has permanently acquired Union Street between East Scotts Avenue and Hazelton Avenue (APN 151280390). The City also approved the abandonment of Union Street between Clay Street and SR 4 within UP right-of-way (ROW) during the final design phase. This segment of Union Street would be re-established as a City street with curb, gutter, sidewalk, and pavement restoration.



FIGURE 3. PROJECT STUDY AREA AND PERMANENT ROADWAY CROSSING CLOSURES FROM THE 2021 CERTIFIED EIR

- Crossing Closure
- Stockton Diamond
- UP Stockton Yard
- Train Station
- BNSF Stockton Division
- UP Fresno Subdivision
- Future Stockton Wye Project
- Mormon Slough
- Project Study Area
- State Route 4



0 0.125 0.25 Miles

DATA SOURCE: City of Stockton, San Joaquin County GIS Data (2019) and USGS Aerial Imagery (2018), ESRI, NOAA



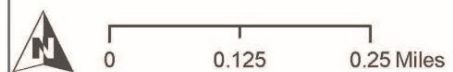
STOCKTON
DIAMOND
Unlocking Northern
California's Freight and
Passenger Rail Potential

MAP CREATED ON: 11/4/2024



FIGURE 4. PS&E PROJECT STUDY AREA AND PROPOSED ROADWAY CROSSING CLOSURES

- Crossing Closure
- Stockton Diamond
- UP Stockton Yard
- Train Station
- BNSF Stockton Division
- UP Fresno Subdivision
- Future Stockton Wye Project
- Mormon Slough
- Project Study Area
- State Route 4



DATA SOURCE: City of Stockton,
San Joaquin County GIS Data (2019) and USGS
Aerial Imagery (2018), ESRI, NOAA



1.3.2 EAST HAZELTON AVENUE CROSSING

Based on coordination with UP and further evaluation of construction staging during the final design phase, it was determined that the East Hazelton Avenue crossing would need to be closed temporarily for 45 days during construction.

1.3.3 EAST WEBER AVENUE CROSSING

During the final design phase, it was identified that the Project Study Area would need to be extended north from the East Weber Avenue crossing to the East Miner Avenue crossing to tie back into the existing roadway and rail lines and improve the East Weber Avenue crossing. Currently, East Weber Avenue has an at-grade railroad crossing with multiple tracks at different elevations. The City requested that SJRRC resolve the various track heights within the roadway at East Weber Avenue to improve the at-grade crossing for roadway traffic. The roadway construction is anticipated to lower one of the three tracks at this at-grade crossing up to three inches to be level with the other tracks. All work would be conducted within UP ROW. The revised Project Study Area is shown in Figure 4, PS&E Project Study Area and Proposed Roadway Crossing Closures.

1.3.4 MORMON SLOUGH

The proposed Mormon Slough culvert structure design has been refined since the PA&ED phase, as shown in Appendix A, Revised Culvert Design – Mormon Slough, and the design refinements are based on additional analysis and coordination conducted during the final design phase. Specifically, it has been determined that a six-cell culvert would be required instead of a four-cell culvert, and the proposed six-cell culvert would need to be raised two feet in order to meet the Central Valley Flood Protection Board's 200-year flood and freeboard requirements (condition 128a 10A in Title 23). Additionally, the proposed culvert would include trash grates and the installation of rock slope protection that would be backfilled over with six inches of native channel soils to address National Marine Fisheries Service (NMFS) guidance for future fish passage should a hydrological connection be restored through future actions by others. An open-bottom channel was originally proposed as a result of NMFS informal consultation under Section 7 of the Federal Endangered Species Act (FESA) during the PA&ED phase. After the issuance of an NMFS Letter of Concurrence, UP provided comments during preparation of the final design stating that an open-bottom channel would not meet UP requirements. UP is requiring that the culvert have a concrete bottom slab and a concrete apron with riprap, which can minimize erosion created by scour. Scour would increase maintenance issues and presents potential long-term safety and operational concerns by eroding material around bridge foundations and other support features.

1.3.5 OTHER RIGHT-OF-WAY CHANGES

Five remnant land parcels with no associated assessor parcel numbers follow the general alignment of the original Worth Street, Anderson Street, Jefferson Street, Jackson Street, and Clay Street corridors. These five remnant land parcels are shown in Figure 5, Remnant Land Between UP-Owned Parcels. All five parcels are vacant and surrounded by UP-owned parcels. During the PA&ED phase, it was assumed that the City owned these parcels, and SJRRC would acquire a



permanent easement from the City. Upon further review, it is now believed that either UP or a third party could own these parcels, depending on the original land grants. The City is still investigating ownership of these parcels and has sent notices to the third party. The design refinement is that SJRRC would either acquire these parcels in fee or obtain a permanent easement subject to ROW negotiations.

Additionally, the following partial acquisitions became full acquisitions as a result of ROW negotiations with landowners during the final design phase: Assessor Parcel Numbers (APN) 15124002, 15124050, 15126003, and 15126039. In addition, APN 15128004, which was identified previously as an easement, also became a full acquisition following negotiations with the landowners. See Figure 6 for a revised ROW figure. Parcels 15124002, 15124050, 15126039, 15128004, and 15126003, located outside of the Project Study Area, would be used for staging during construction. See Figure 7, Project Design Features and Study Area (East Weber Avenue to South of East Church Street), for a revised map of staging areas between East Miner Avenue and East Church Street.

1.3.6 CONSTRUCTION SCHEDULE

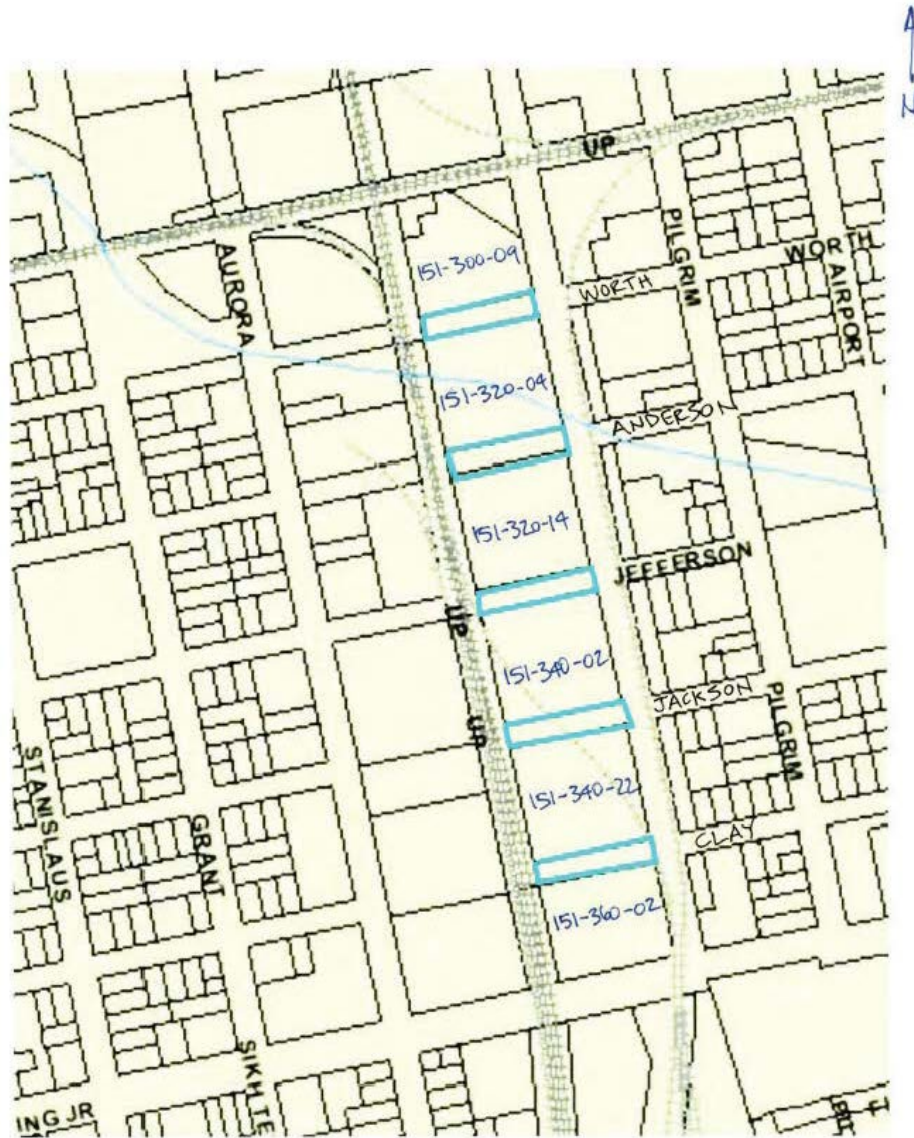
The 2021 Certified EIR stated that Project construction would begin in 2023 and occur over 3 years. Due to delays during the final design phase, Project construction is currently estimated to begin in 2025. Construction activities could potentially be divided into three phases, with construction ending in 2030. If construction is divided into three phases, it is anticipated that the flyover bridge would be constructed in the first phase, and the existing Stockton Diamond at-grade crossing would be removed in a later phase.

1.4 Previous Documents Incorporated by Reference

Consistent with Section 15150 of the California State CEQA Guidelines (CEQA Guidelines), the following documents were used in preparation of this Addendum:

- Stockton Diamond Final Environmental Impact Report, 2021 (State Clearinghouse #2020080321), with appendices
- Stockton Diamond Final Environmental Assessment, 2022, with appendices

Consistent with Sections 15164 (c)-(d) of the CEQA Guidelines, this Addendum, including an updated Mitigation, Monitoring, and Reporting Program (see Appendix F), will be attached to the 2021 Certified EIR. SJRRC will consider this Addendum with the 2021 Certified EIR prior to making any decision regarding the implementation of the Project's design refinements. These documents are currently available on the Project website at <https://stocktondiamond.com/>.



Note: Light blue polygons represent the general areas of remnant vacant land to be acquired.

FIGURE 5. REMNANT LAND BETWEEN UP-OWNED PARCELS



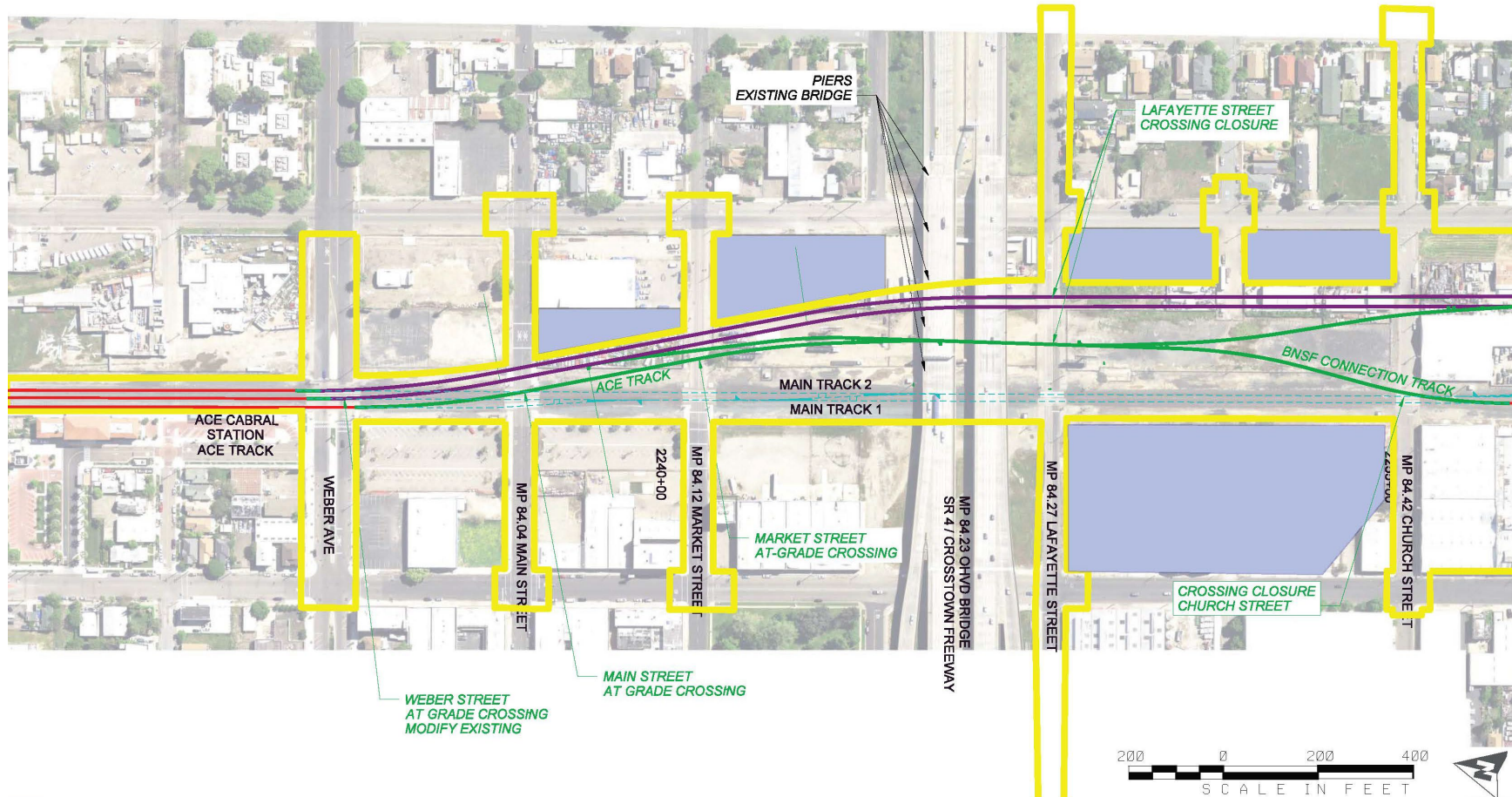


FIGURE 7: PROJECT DESIGN FEATURES AND STUDY AREA (EAST MINER AVENUE TO SOUTH OF EAST CHURCH STREET)



- Existing UP Tracks
- Proposed Main Tracks
- Staging Area
- Proposed Track Removal
- Proposed Connector Tracks
- Project Study Area

CREATED ON: 9/23/2024



2 Impact Discussion

2.1 Analysis of Impacts

2.1.1 AESTHETICS

Thresholds	Impact Determination in the Certified EIR	Do Proposed Changes Involve New Significant Impacts or Substantially More Severe Impacts?	Any New Circumstances Involving New Significant Impact or Substantially More Severe Significant Impact?	Any New Information Requiring New Analysis or Verification?	Certified EIR's Mitigation Measures Addressing Impact
I. Aesthetics					
(a) Have a substantial adverse effect on a scenic vista?	No Impact	No	No	No	None
(b) Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?	No Impact	No	No	No	None
(c) If the project is in an urbanized area, would the project conflict with applicable zoning and other regulations governing scenic quality?	Less Than Significant Impact	No	No	No	None
(d) Create a new source of substantial light or glare that would adversely affect day or nighttime views in the area?	Less Than Significant Impact	No	No	No	None

Impact Determination Set Forth in the Certified EIR

Section 3.1, Aesthetics, of the 2021 Certified EIR analyzed the Project's impacts on aesthetics. The 2021 Certified EIR determined that the Project would have no impact with respect to thresholds (a) and (b) and a less than significant impact with respect to thresholds (c) and (d).



Do Proposed Changes Involve New Significant Impacts or Substantially More Severe Impacts?

There are no scenic vistas or state scenic highways within the Project Study Area. The Project Variation would extend the Project Study Area two blocks to the north to East Miner Avenue. Extending the Project Study Area would not incorporate any resources within a state scenic highway or scenic vistas or introduce any new features that would adversely affect a scenic vista.

The 2021 Certified EIR identified that existing visual quality within the Project Study Area is poor. Temporary visual impacts during construction from roadway closures and the extension of the Project Study Area would result in temporary impacts on visual quality and could create temporary sources of light or glare as a result of lighting from nighttime construction, if required. The Project would implement Best Management Practice (BMP) AES-3, as identified in the 2021 Certified EIR, which would address potential light and glare concerns during construction. The Project would also implement BMPs AES-1 and AES-2, as stated in the 2021 Certified EIR, which require the Project to implement design elements within the Project Study Area that provide visual interest and improve visual quality. Therefore, implementation of the Project Variation would not create any new significant impacts or substantially more severe impacts related to aesthetics.

Any New Circumstances Involving New Significant Impact or Substantially More Severe Impacts?

There are no new circumstances involving new significant impacts or substantially more severe impacts than what was analyzed in the 2021 Certified EIR.

Any New Information Requiring New Analysis or Verification?

No new information of substantial importance has become available related to aesthetics. No substantial changes in the environment have occurred since certification of the 2021 Certified EIR. No substantial new impacts related to aesthetics have been identified in the Project Study Area that would result in new significant impacts.

Mitigation Measures Addressing Impacts

None.

Conclusion

None of the conditions described in CEQA Guidelines Section 15162 calling for preparation of a subsequent EIR would occur with implementation of the Project Variation.



2.1.2 AGRICULTURE AND FORESTRY RESOURCES

Thresholds	Impact Determination in the Certified EIR	Do Proposed Changes Involve New Significant Impacts or Substantially More Severe Impacts?	Any New Circumstances Involving New Significant Impact or Substantially More Severe Significant Impact?	Any New Information Requiring New Analysis or Verification?	Certified EIR's Mitigation Measures Addressing Impact
II. Agriculture and Forestry Resources					
(a) Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?	No Impact	No	No	No	None
(b) Conflict with existing zoning for agricultural use, or a Williamson Act contract?	No Impact	No	No	No	None
(c) Conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code section 12220(g)), timberland (as defined by Public Resources Code section 4526), or timberland zoned Timberland Production (as defined by Government Code section 51104(g))?	No Impact	No	No	No	None
(d) Result in the loss of forest land or conversion of forest land to non-forest use?	No Impact	No	No	No	None



Thresholds	Impact Determination in the Certified EIR	Do Proposed Changes Involve New Significant Impacts or Substantially More Severe Impacts?	Any New Circumstances Involving New Significant Impact or Substantially More Severe Significant Impact?	Any New Information Requiring New Analysis or Verification?	Certified EIR's Mitigation Measures Addressing Impact
(e) Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland, to non-agricultural use or conversion of forest land to non-forest use?	No Impact	No	No	No	None

The Project is located in an area with predominantly industrial zoned land. Other zoning designations in the Project Study Area include commercial and residential. According to the Department of Conservation Important Farmland Finder, the Project Study Area is designated as Urban and Built-Up Land (California Department of Conservation 2022). No agriculture or forestry resources, important farmland, or Williamson Act properties exist in the Project Study Area, and none would be affected as a result of Project activities.

2.1.3 AIR QUALITY

Thresholds	Impact Determination in the Certified EIR	Do Proposed Changes Involve New Significant Impacts or Substantially More Severe Impacts?	Any new Circumstances Involving New Significant Impact or Substantially More Severe Significant Impact?	Any New Information Requiring New Analysis or Verification?	Certified EIR's Mitigation Measures Addressing Impact
III. Air Quality					
(a) Conflict with or obstruct implementation of the applicable air quality plan?	Less Than Significant Impact	No	No	No	None
(b) Result in cumulatively considerable net increase of any criteria pollutant for which the	Less Than Significant Impact	No	No	No	None



Thresholds	Impact Determination in the Certified EIR	Do Proposed Changes Involve New Significant Impacts or Substantially More Severe Impacts?	Any new Circumstances Involving New Significant Impact or Substantially More Severe Significant Impact?	Any New Information Requiring New Analysis or Verification?	Certified EIR's Mitigation Measures Addressing Impact
project region is non-attainment under an applicable federal or state ambient air quality standard?					
(c) Expose sensitive receptors to substantial pollutant concentrations?	Less Than Significant Impact	No	No	No	None
(d) Result in other emissions (such as those leading to odors) adversely affecting a substantial number of people?	Less Than Significant Impact	No	No	No	None

Impact Determination in the Certified EIR

Section 3.3, Air Quality, of the 2021 Certified EIR analyzed the Project's impacts on air quality. The 2021 Certified EIR determined that the Project would have a less than significant impact with respect to thresholds (a) through (d).

Do Proposed Changes Involve New Significant Impacts or Substantially More Severe Impacts?

Due to the northern extension of the Project Study Area, the East Weber Avenue Crossing design refinement would result in limited additional construction activities, such as earthwork. Construction emissions would be consistent with those analyzed in the 2021 Certified EIR since the design refinement would not alter the Project schedule. Given that construction emissions are anticipated to be very low after implementation of BMPs, delaying construction activities to begin in 2025 and extending the construction schedule to occur in phases would not be expected to result in new significant impacts or more severe impacts related to air quality during Project construction. Additionally, BMP AQ-1 (Compliance with Stockton Community Emissions Reduction Program), BMP AQ-2 (Vegetative Barriers and Urban Greening), BMP AQ-3 (Compliance with EPA's Tier 4 Exhaust Emission Standards), and BMP AQ-4 (Fugitive Dust) would be implemented to reduce



emissions during construction. As described in the 2021 Certified EIR, once operational, the Project would provide an overall benefit by reducing local and regional emissions because the Project would improve on-road traffic flow and reduce vehicle idling in the Project Study Area. Therefore, implementation of the Project Variation, including changes to the construction schedule, would not create any new significant impacts or substantially more severe impacts related to air quality.

Any New Circumstances Involving New Significant Impacts or Substantially More Severe Impacts?

There are no new circumstances involving new significant impacts or substantially more severe air quality impacts than what was analyzed in the 2021 Certified EIR.

Any New Information Requiring New Analysis or Verification?

There is no new information of substantial importance that has become available related to air quality. No substantial changes in the environment have occurred since certification of the 2021 Certified EIR. No substantial new air quality impacts have been identified in the Project Study Area that would result in new environmental impacts.

Mitigation Measures Addressing Impacts

None.

Conclusion

None of the conditions described in CEQA Guidelines Section 15162 calling for preparation of a subsequent EIR would occur with implementation of the Project Variation.

2.1.4 BIOLOGICAL RESOURCES

Thresholds	Impact Determination in the Certified EIR	Do Proposed Changes Involve New Significant Impacts or Substantially More Severe Impacts?	Any New Circumstances Involving New Significant Impact or Substantially More Severe Significant Impact?	Any New Information Requiring New Analysis or Verification?	Certified EIR's Mitigation Measures Addressing Impact
IV. Biological Resources					
(a) Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans,	Less Than Significant Impact with Mitigation Incorporated	No	No	No	MM BIO-6 MM BIO-7



Thresholds	Impact Determination in the Certified EIR	Do Proposed Changes Involve New Significant Impacts or Substantially More Severe Impacts?	Any New Circumstances Involving New Significant Impact or Substantially More Severe Significant Impact?	Any New Information Requiring New Analysis or Verification?	Certified EIR's Mitigation Measures Addressing Impact
<p>policies, or regulations, or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service?</p> <p>(b) Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by California Department of Fish and Wildlife or U.S. Fish and Wildlife Service?</p> <p>(c) Have a substantial adverse effect on state or federally protected wetlands (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?</p> <p>(d) Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?</p>	<p>Less Than Significant Impact with Mitigation Incorporated</p> <p>Less Than Significant Impact with Mitigation Incorporated</p> <p>Less Than Significant Impact with Mitigation Incorporated</p>	<p>No</p> <p>No</p> <p>No</p>	<p>No</p> <p>No</p> <p>No</p>	<p>No</p> <p>No</p> <p>No</p>	<p>MM BIO-13 MM BIO-14 MM BIO-15</p> <p>MM BIO-13 MM BIO-14 MM BIO-15</p> <p>MM BIO-7</p>



Thresholds	Impact Determination in the Certified EIR	Do Proposed Changes Involve New Significant Impacts or Substantially More Severe Impacts?	Any New Circumstances Involving New Significant Impact or Substantially More Severe Significant Impact?	Any New Information Requiring New Analysis or Verification?	Certified EIR's Mitigation Measures Addressing Impact
(e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?	Less Than Significant Impact	No	No	No	None
(f) Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?	Less Than Significant Impact with Mitigation Incorporated	No	No	No	MM BIO-6

Impact Determination in the Certified EIR

Impacts on biological resources were analyzed in Section 3.3, Biological Resources, of the 2021 Certified EIR. The 2021 Certified EIR determined that the Project would have a less than significant impact with mitigation incorporated with respect to thresholds (a), (b), (c), (d), and (f). The Project would have a less than significant impact without mitigation with respect to threshold (e).

Do Proposed Changes Involve New Significant Impacts or Substantially More Severe Impacts?

In compliance with MM BIO-14 (Compliance with Permitted Mitigation Measures), coordination occurred with regulatory agencies regarding impacts on potential jurisdictional wetlands or waters during the final design phase. The design refinements at the East Scotts Avenue crossing, East Hazelton Avenue crossing, East Weber Avenue crossing, as well as other changes to ROW and construction staging, would not result in new or substantially more severe impacts on biological resources.

Additionally, in compliance with MM BIO-6 (Compliance with SJMSCP), SJRRC executed an agreement with the San Joaquin Council of Governments to participate in the San Joaquin County Multi-Species Habitat Conservation and Open Space Plan (SJMSCP). With the implementation of MM BIO-6, as well as BMP BIO-1 (Biological Monitor and Environmental Awareness Training), BMP BIO-2 (Swainson's Hawk Nest Surveys), BMP BIO-3 (Migratory Bird and Raptor Surveys and Nest Avoidance), BMP BIO-4 (Burrowing Owl Surveys and Avoidance), BMP BIO-5 (Bat Roost Surveys),



BMP BIO-9 (Environmentally Sensitive Area Fencing at Mormon Slough), and BMP BIO-16 (City of Stockton Tree Ordinance), the design refinements at the East Scotts Avenue crossing, East Hazelton Avenue crossing, East Weber Avenue crossing, Mormon Slough, as well as other changes to ROW and construction staging, would not result in new or substantially more severe impacts on terrestrial plant and wildlife species covered by the SJMSCP.

The remaining discussion focuses on the Mormon Slough design refinements and their impact on NMFS trust resources and jurisdictional wetlands or waters. The portion of the Mormon Slough that crosses the Project Study Area is littered with extensive trash and abandoned vehicles and is occupied by unhoused individuals. It is not hydrologically connected, and it does not currently support any fish. However, NMFS has designated this portion of the Mormon Slough as critical habitat for the distinct population segment (DPS) of California Central Valley (CCV) steelhead (*Oncorhynchus mykiss*) under the FESA and essential fish habitat (EFH) for the southern DPS (sDPS) North American green sturgeon (*Acipenser medirostris*) under the Magnuson-Stevens Fishery Conservation and Management Act (MSA).

Threatened and Endangered Fish

The Stockton Diversion Canal, which connects upstream portions of the Mormon Slough to the San Joaquin River to the west, is located roughly 2.5 miles east of the Project. Following construction of the Stockton Diversion Canal in 1911, the Project Study Area became hydrologically isolated from upstream waters (i.e., the active portion of the Mormon Slough) and receives water mainly through surface runoff during large storm events.

In 1998, the San Joaquin Area Flood Control Agency (SJAFCFA) stated support for the Mormon Channel Ecosystem Restoration and Central Stockton Flood Bypass Project, which would hydrologically reconnect and restore the Mormon Slough, and requested that the United States Army Corp of Engineers (USACE) initiate a study (HDR 2024; California Center for Collaborative Policy 2012). In addition, the *Recovery Plan for The Evolutionarily Significant Units of Sacramento River Winter-run Chinook Salmon and Central Valley Spring-run Chinook salmon and the DPS of California Central Valley Steelhead* (NMFS 2014) identifies the Lower Mormon Slough as a potential location for anadromous fish habitat improvements and fish passage improvements. In 2018, the Lower San Joaquin River Project included alternatives that would hydrologically reconnect the Mormon Slough; however, those alternatives were not selected due to a cost/benefits analysis (USACE 2018). SJAFCFA has also identified the Mormon Channel Bypass as a priority initiative for feasibility-level investigation in the Central Valley Flood Protection Plan (SJAFCFA 2021). Although a permitted or funded project has not been identified to hydrologically reconnect the Lower Mormon Slough, local support to address flooding issues has recently been featured in the news (San Joaquin County 2023; Bland 2023), and SJAFCFA has stated that they are working with local stakeholders to continue to seek hydrological reconnection of the area (HDR 2024). However, a hydrological connection is not foreseeable in the future.

NMFS issued a Letter of Concurrence, dated May 17, 2021, that the Project would not adversely affect NMFS trust resources (See Appendix B). This letter included measures to retain the Mormon



Channel's (or the Mormon Channel Bypass) natural substrate channel bottom and avoid the use of riprap to armor the channel, which were included in the 2021 Certified EIR as MM BIO-7.

The design of the proposed Mormon Slough culvert structure was refined during the final design phase based on additional analysis and coordination with permitting authorities. Specifically, it was determined that a six-cell culvert would be required instead of a four-cell culvert, and the proposed six-cell culvert would need to be raised two feet in order to meet the Central Valley Flood Protection Board's 200-year flood and freeboard requirements (condition 128a 10A in Title 23). The proposed culvert would also now require trash grates and rock slope protection, which would be backfilled over with six inches of native channel soils. UP provided comments during preparation of the final design requiring that the culvert have a concrete bottom slab and a concrete apron with riprap, which can minimize erosion created by scour. Scour would increase maintenance issues and presents potential long-term safety and operational concerns by eroding material around bridge foundations and other support features. The Project variation would result in the addition of approximately 0.61 acre of concrete and 0.147 acre of riprap (0.757 acre in total), which would cover approximately 0.07 stream mile within Lower Mormon Slough beneath the proposed flyover bridge.

On June 27, 2023, the California Highspeed Rail Authority (Authority; National Environmental Policy Act [NEPA] lead) requested to reinstate informal consultation with NMFS for the Project Variation due to the Mormon Slough design refinement. NMFS responded with a letter of nonconcurrence on November 2, 2023, stating that formal consultation is required for the Project Variation. The Authority prepared a Biological Assessment (BA) and Essential Fish Habitat (EFH) Assessment (HDR 2024) for the Project Variation and requested formal consultation on April 15, 2024. NMFS issued a Biological Opinion for the Project, dated December 9, 2024 (See Appendix E). In the Biological Opinion, NMFS concurred with the Authority's determination that the Project variation would not adversely affect CCV steelhead or sDPS North American green sturgeon or its critical habitat, but is likely to adversely affect CCV steelhead critical habitat. NMFS determined that the Project Variation would not jeopardize or adversely modify the critical habitat of any listed species.

There are currently no threatened or endangered species in the action area. Should the Mormon Slough become hydrologically connected and restored with enough freshwater flows to support fish habitat prior to or during construction, the NMFS Biological Opinion requires that the Authority prepare annual reports describing the Project's impacts and ensure that contractors, construction workers, and all other parties involved with the proposed action implement the measures from the Authority's Biological Assessment (HDR 2024). This includes BMP BIO-8 through BMP BIO-12 from the 2021 Certified EIR. In addition, SJRRC would voluntarily purchase either mitigation bank credits at a 1:1 ratio or in-lieu fee credit for the loss of CCV steelhead critical habitat beneath the flyover bridge (0.757 acre), which has been incorporated into MM BIO-7. Therefore, the Project would continue to have a less than significant impact with mitigation incorporated on threatened and endangered fish species. Implementation of the Project Variation would not create any new significant impacts or substantially more severe impacts on threatened and endangered fish species.



Essential Fish Habitat

The Mormon Slough is currently not hydrologically connected, nor does it support any fish species. As described above, the Authority requested formal consultation with NMFS under the MSA for impacting 0.757 acre of EFH for Pacific Coast Salmon. NMFS issued a Biological Opinion for the Project, dated December 9, 2024. NMFS concluded that, should the Mormon Slough become hydrologically connected in the future and restored with enough freshwater flows to support fish habitat, the Project would adversely affect EFH for Pacific Coast Salmon as follows:

- Permanent habitat loss/modification
- Reduced shelter from predators
- Reduction/change in aquatic macroinvertebrate production
- Reduced habitat complexity
- Reduced supply of terrestrial food resources

NMFS determined that the following conservation recommendations are necessary to avoid, minimize, mitigate, or otherwise offset the impact of the Project variation on EFH: “The applicant shall modify or remove the trash grates on the box culvert to meet the conditions required by NMFS’ fish passage guidelines in place at the time the channel is restored.” This recommendation has been included in MM BIO-7, described above, to offset impacts on EFH for Pacific Coast Salmon should hydrological connectivity to the Mormon Slough be restored with enough freshwater flows to support fish habitat in the future.

Clean Water Act Section 401/404

The 2021 Certified EIR estimated that construction activities would impact approximately 0.33 acre of potential non-wetland waters of the United States (U.S.) during construction and would have long-term impacts on approximately 0.04 acre of potential non-wetland waters of the U.S. subject to Clean Water Act Section 404 and 401 jurisdiction. Measure MM BIO-14 requires that SJRRC obtain all required permits and authorizations for Project effects on the Mormon Slough, including U.S. Army Corps of Engineering (USACE) Section 404 Nationwide Permit, Regional Water Quality Control Board (RWQCB) Section 401 Certification, and California Department of Fish and Wildlife (CDFW) Section 1602 Streambed Alteration Agreement.

Pursuant to MM BIO-13, an Aquatic Resources Delineation Report (ARDR) (HDR and SJRRC 2022) was prepared during the final design phase of the Project. The ARDR determined that the Mormon Slough, although mapped as a blue line stream, no longer meets the definition of waters of the U.S. because of the absence of an ordinary high-water mark. USACE concurred with the ARDR’s determination that there are no aquatic resources within the Project Study Area and issued an Approved Jurisdictional Delineation, dated December 20, 2022 (See Appendix C). The Approved Jurisdictional Delineation is valid for 5 years from the date of the letter. Therefore, there is no longer a need to prepare a USACE 404 Nationwide 14 Permit. The Central Valley Regional Water Quality



Control Board determined via email dated December 22, 2022, that it will not be issuing a 401 Water Quality Certification for the Project, and the Project does not require coverage under General Order No. 2004-004 DWQ for non-jurisdictional waters (Appendix D). Therefore, implementation of the Project Variation would not create any new significant impacts or substantially more severe impacts related to jurisdictional waters.

Section 1602 Streambed Alteration Agreement

CDFW requested consultation pursuant to Section 1602 of the Fish and Game Code. CDFW determined that the Project would result in permanent impacts of up to 0.067 acre of isolated, unvegetated slough and temporarily disturb up to 0.20 acre of isolated, unvegetated slough. CDFW determined that the Project could substantially adversely affect existing fish or wildlife resources and included measures in the Streambed Alteration Agreement (SAA) necessary to protect those resources. This includes the preparation of a Habitat Restoration Plan (HRP). The HRP identifies how SJRRC will enhance or create 0.201 acres of Mormon Slough habitat. The measure requires SJRRC to submit the HRP no later than 180 days following execution of the SAA, and 5 years of monitoring. This SAA was executed on January 16, 2024, and the HRP was submitted on April 20, 2024.

SJRRC would reinitiate CDFW consultation for the design refinements at the Mormon Slough following approval of the Project Variation in accordance with MM BIO-13 through MM BIO-15 from the Certified 2021 EIR. All impacts would be mitigated to a less than significant impact. Therefore, implementation of the Project Variation would not create any new significant impacts or substantially more severe impacts related to jurisdictional waters.

Any New Circumstances Involving New Significant Impacts or Substantially More Severe Impacts?

As described above, USACE issued an Approved Jurisdictional Delineation, dated December 20, 2022, finding that the Project would not impact any waters of the United States. Since certification of the 2021 EIR, SJAFCA has stated that they are working with local stakeholders to pursue hydrological reconnection (SJAFCA 2021, 2023). These efforts are preliminary and may not result in any viable future project. As stated in the 2021 Certified EIR, SJRRC will select a structure design that would maintain the potential for future restoration of fish passage within the Mormon Slough. Impacts on steelhead critical habitat and Chinook salmon EFH would be mitigated with the implementation of Measure MM BIO-7, and the area would maintain its potential use for fish passage should future restoration of the Mormon Slough occur. Therefore, there is no new information related to the hydrological reconnection of the Mormon Slough. Additionally, no substantial changes in the environment have occurred since certification of the 2021 Certified EIR.

Any New Information Requiring New Analysis or Verification?

There is no new information of substantial importance that has become available related to biological resources. No substantial changes in the environment have occurred since certification of the 2021 Certified EIR. No substantial new impacts related to biological resources have been identified in the



Project Study Area that would result in new significant environmental impacts. Since the Project Variation would not result in any new or substantially more severe impacts related to biological resources, a review of feasible mitigation measures is not required.

Mitigation Measures Addressing Impact

The 2021 Certified EIR included the following mitigation measures to address the significant impacts related to thresholds (a), (b), (c), (d), and (f). As described above, MM BIO-7 has been revised in accordance with NMFS Biological Opinion, dated December 9, 2024, to mitigate impacts on critical habitat for CCV steelhead and EFH for Pacific Coast Salmon, should the Mormon Slough become hydrologically connected and restored with enough freshwater flows to support fish habitat.

MM BIO-6: Compliance with SJMSCP. Prior to and during construction, SJRRC will ensure compliance of the proposed Project with all applicable standards and regulations set forth in the SJMSCP, as well as all applicable Incidental Take Avoidance Measures identified within the SJMSCP.

MM BIO-7: National Marine Fisheries Service Consultation. SJRRC will implement all avoidance, minimization, and conservation measures identified in the National Marine Fisheries Service Endangered Species Act Section 7(a)(2) Biological Opinion and Magnuson-Stevens Fishery Conservation and Management Act Essential Fish Habitat Response issued for the Project on December 9, 2024. SJRRC will submit to NMFS an annual report describing the Project's impacts. This report will include any fishes known to have been killed or injured due to the Project. This report will be submitted, preferably by email, annually, by December 31, to the NMFS California Central Valley Office: ccvo.consultationrequests@noaa.gov, National Marine Fisheries Service, Assistant Regional Administrator, California Central Valley Office, 650 Capitol Mall, Suite 5-100, Sacramento, California 95814. A copy of the Biological Opinion will be included in the final design package for the prime contractor in order to educate and inform all other contractors involved in the Project as to the recommendations of the Biological Opinion.

- ***Fish Passage and Predation:*** To reduce the effects of riprap on fish passage and predation, SJRRC will ensure that the riprap armor will be mixed with agricultural grade soil at a 70 percent rock to 30 percent soil ratio above the estimated ordinary high-water line and backfilled with a minimum of 6 to 12 inches of native soil. To reduce predation associated with overwater structures, SJRRC will paint the ceiling of the culvert with white or similarly reflective paint to maintain light levels needed to encourage daytime movement of juvenile salmonids.

To reduce passage impediments related to the closed box culvert, SJRRC will adhere to NMFS fish passage design criteria that states, "Concrete surfaces should be finished to ensure smooth surfaces" (NMFS 2023). The proposed Project will also involve removing trash and encampments from the streambed. After construction is complete, should hydrological connectivity to the Mormon Slough be restored with enough freshwater flows to support fish habitat, SJRRC will modify or remove the trash grates to meet the conditions



required by NMFS' fish passage guidelines in place at the time the channel is fully restored as a fish passage facility.

- *Mitigation Banking.* To offset impacts on CCV steelhead critical habitat, SJRRC will voluntarily purchase either mitigation bank credits at a 1:1 ratio or an in-lieu fee credit for permanent impacts to riparian habitat (0.757 acre).

MM BIO-13: Mitigation for Aquatic Resources. During final design, SJRRC will ensure that temporary Project impacts on aquatic resources associated with the Mormon Slough will be restored in-place, and permanent Project impacts on aquatic resources in the Mormon Slough will be mitigated at a minimum 1:1 ratio. Mitigation can include on-site restoration, in-lieu fee payment, or purchase of mitigation credits at an agency-approved mitigation bank.

MM BIO-14: Compliance with Permitted Mitigation Measures. Prior to construction, SJRRC will obtain all required permits and authorizations for Project impacts on the Mormon Slough, which may include the preparation and submittal of the following applications:

- Pre-Construction Notification to USACE to use a Nationwide Permit for any Project impacts to Waters of the US subject to Section 404 of the federal Clean Water Act
- Water Quality Certification Application to Central Valley Regional Water Quality Control Board (RWQCB) for any Project impacts to Waters of the U.S. subject to Section 401 of the federal Clean Water Act
- Streambed Alteration Agreement Notification to CDFW

Conclusion

None of the conditions described in CEQA Guidelines Section 15162 calling for preparation of a subsequent EIR would occur with implementation of the Project Variation.

2.1.5 CULTURAL RESOURCES

Thresholds	Impact Determination in the Certified EIR	Do Proposed Changes Involve New Significant Impacts or Substantially More Severe Impacts?	Any New Circumstances Involving New Significant Impact or Substantially More Severe Significant Impact?	Any New Information Requiring New Analysis or Verification?	Certified EIR's Mitigation Measures Addressing Impact
V. Cultural Resources					
(a) Cause a substantial adverse change in the significance of a historical resource	Less Than Significant Impact	No	No	No	None



Thresholds	Impact Determination in the Certified EIR	Do Proposed Changes Involve New Significant Impacts or Substantially More Severe Impacts?	Any New Circumstances Involving New Significant Impact or Substantially More Severe Significant Impact?	Any New Information Requiring New Analysis or Verification?	Certified EIR's Mitigation Measures Addressing Impact
pursuant to Section 15064.5?					
(b) Cause a substantial adverse change in the significance of an archaeological resource pursuant to Section 15064.5?	Less Than Significant Impact	No	No	No	None
(c) Disturb any human remains, including those interred outside of formal cemeteries?	Less Than Significant Impact	No	No	No	None

Impact Determination in the Certified EIR

Impacts on cultural resources were analyzed in Section 3.4, Cultural Resources, of the 2021 Certified EIR. The 2021 Certified EIR determined that the Project would have a less than significant impact with respect to thresholds (a) through (c).

Do Proposed Changes Involve New Significant Impacts or Substantially More Severe Impacts?

The East Weber Avenue Crossing design refinement would extend the Project Study Area two blocks north from East Weber Avenue to East Miner Avenue. All work proposed in the extended Project Study area would be located in UP ROW and limited to minor regrading and track work (See Figure 4, PS&E Project Study Area and Proposed Roadway Crossing Closures). The Project Study Area documented in the 2021 Certified EIR included the area covered by the East Weber Avenue Crossing design refinement. Cultural resources were not identified within the Project Study Area.

As a result of other ROW changes, paved areas of acquired parcels outside of the Project Study Area would be used for staging during construction (See Figure 6, ROW Needs During PS&E). Ground disturbing activities would not be required, so staging activities would not impact archaeological or paleontological resources. As determined in the Historic Resources Inventory and Evaluation Report (JRP Historical Consulting LLC, May 2021), parcels outside of the Project Study Area that have been identified for potential construction staging do not contain any historic properties. Therefore, implementation of the Project Variation would not create any new significant impacts or substantially more severe impacts related to cultural resources.



Any New Circumstances Involving New Significant Impacts or Substantially More Severe Impacts?

There are no new circumstances involving new significant impacts or substantially more severe impacts than what was analyzed in the 2021 Certified EIR.

Any New Information Requiring New Analysis or Verification?

There is no new information of substantial importance that has become available related to cultural resources. No substantial changes in the environment related to cultural resources have occurred since certification of the 2021 Certified EIR. No substantial new cultural resources have been identified in the Project Study Area that would result in new or more severe environmental impacts.

Mitigation Measures Addressing Impacts

None.

Conclusion

None of the conditions described in CEQA Guidelines Section 15162 calling for preparation of a subsequent EIR would occur with implementation of the Project Variation.

2.1.6 ENERGY

Thresholds	Impact Determination in the Certified EIR	Do Proposed Changes Involve New Significant Impacts or Substantially More Severe Impacts?	Any New Circumstances Involving New Significant Impact or Substantially More Severe Significant Impact?	Any New Information Requiring New Analysis or Verification?	Certified EIR's Mitigation Measures Addressing Impact
VI. Energy					
(a) Result in potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during construction or operation?	Less Than Significant Impact	No	No	No	None
(b) Conflict with or obstruct a state or local plan for renewable energy or energy efficiency?	No Impact	No	No	No	None



Impact Determination in the Certified EIR

Impacts on energy were analyzed in Section 3.5, Energy, of the 2021 Certified EIR. The 2021 Certified EIR determined that implementation of the Project would result in a less than significant impact with respect to threshold (a) and no impact with respect to threshold (b).

Do Proposed Changes Involve New Significant Impacts or Substantially More Severe Impacts?

The Project Variation would include closing the East Scotts Avenue Crossing instead of the East Lafayette Street Crossing, a temporary road crossing closure (45 days) at East Hazelton Avenue during construction, an extension of the Project Study Area from East Weber Avenue to East Miner Avenue, and other ROW changes. These design refinements would not result in a substantial change in energy demand during construction since they would not alter the construction activities assessed in the 2021 Certified EIR. Design refinements to the Mormon Slough would only include minor changes to construction, including the introduction of a hard bottom to the Mormon Slough culvert. As stated in the 2021 Certified EIR, during operations, the Project would provide an overall benefit as a result of improved regional passenger and freight rail efficiency, fewer delays, and reduced fuel consumption, resulting in a beneficial effect on energy resources. Therefore, implementation of the Project Variation would not create any new significant impacts or substantially more severe impacts related to energy.

Any New Circumstances Involving New Significant Impacts or Substantially More Severe Impacts?

There are no new circumstances involving new significant impacts or substantially more severe energy impacts than what was analyzed in the 2021 Certified EIR.

Any New Information Requiring New Analysis or Verification?

There is no new information of substantial importance that has become available related to energy. No substantial changes in the environment have occurred since certification of the 2021 Certified EIR. No substantial new impacts on energy have been identified in the Project Study Area that would result in new or more severe environmental impacts.

Mitigation Measures Addressing Impacts

None.

Conclusion

None of the conditions described in CEQA Guidelines Section 15162 calling for preparation of a subsequent EIR would occur with implementation of the Project Variation.



2.1.7 GEOLOGY, SOILS, AND PALEONTOLOGICAL RESOURCES

Thresholds	Impact Determination in the Certified EIR	Do Proposed Changes Involve New Significant Impacts or Substantially More Severe Impacts?	Any New Circumstances Involving New Significant Impact or Substantially More Severe Significant Impact?	Any New Information Requiring New Analysis or Verification?	Certified EIR's Mitigation Measures Addressing Impact
VII. Geology, Soils, and Paleontological Resources					
(a) Directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving:					
i. Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault?	No Impact	No	No	No	None
ii. Strong seismic ground shaking?	Less Than Significant Impact	No	No	No	None
iii. Seismic-related ground failure, including liquefaction?	Less Than Significant Impact	No	No	No	None
iv. Landslides?	No Impact	No	No	No	None
(b) Result in substantial soil erosion or the loss of topsoil?	Less Than Significant Impact	No	No	No	None
(c) Be located on a geologic unit or soil that is unstable, or that	Less Than Significant Impact	No	No	No	None



Thresholds	Impact Determination in the Certified EIR	Do Proposed Changes Involve New Significant Impacts or Substantially More Severe Impacts?	Any New Circumstances Involving New Significant Impact or Substantially More Severe Significant Impact?	Any New Information Requiring New Analysis or Verification?	Certified EIR's Mitigation Measures Addressing Impact
would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction, or collapse?					
(d) Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial direct or indirect risks to life or property?	Less Than Significant Impact	No	No	No	None
(e) Have soils incapable of adequately supporting the use of septic tanks or alternative waste water disposal systems where sewers are not available for the disposal of waste water?	No Impact	No	No	No	None
(f) Directly or indirectly destroy a unique paleontological resource or site, or unique geologic feature?	Less Than Significant Impact	No	No	No	None

Impact Determination in the Certified EIR

Impacts related to geology, soils, and paleontological resources were analyzed in Section 3.6, Geology, Soils, and Paleontological Resources, of the 2021 Certified EIR. The 2021 Certified EIR



determined that implementation of the Project would result in no impact with respect to thresholds (a)(i), (a)(iv), and (e), and a less than significant impact with respect to thresholds (a)(ii), (a)(iii), (b), (c), (d), and (f).

Do Proposed Changes Involve New Significant Impacts or Substantially More Severe Impacts?

The design refinement at the Mormon Slough includes the addition of 0.61 acre of concrete and 0.147 acre of riprap (0.757 acre in total), which would cover approximately 0.07 stream mile. This design refinement at the Mormon Slough would be implemented to minimize erosion from scour, which would reduce potential long-term safety and operational concerns regarding eroding material around bridge foundations and other support features. Geotechnical studies have been prepared for each structure and will be finalized with the final design. The Project Variation also includes extending the project limits within UP ROW between the East Weber Avenue crossing and Miner Avenue crossing. As identified in the 2021 Certified EIR, BMP GEO-1 through BMP GEO-3 would be implemented, which would avoid or minimize potential impacts on geology and soils. Therefore, the Project Variation would not create any new significant impacts related to geology or soils.

There were no paleontological resources identified within the Project Study Area in the 2021 Certified EIR. The design refinements to the Project extend the Project Study Area two blocks to the north, and the Project Study Area is underlain by early Holocene- to late Pleistocene-age Modesto Formation, which has a moderate paleontological potential. There is the potential to encounter paleontological resources if the early Holocene- to late Pleistocene-age Modesto Formation is encountered during construction ground disturbances. In accordance with BMP GEO-4 from the 2021 Certified EIR, a Paleontological Resources Management Plan (PRMP) was prepared for the Project during the final design phase. Therefore, implementation of the Project Variation would not create any new significant impacts or substantially more severe impacts related to paleontological resources.

Any New Circumstances Involving New Significant Impacts or Substantially More Severe Impacts?

There are no new circumstances involving new significant impacts or substantially more severe impacts on geology, soils, and paleontological resources than what was analyzed in the 2021 Certified EIR.

Any New Information Requiring New Analysis or Verification?

There is no new information of substantial importance that has become available related to geology, soils, and paleontological resources. No substantial changes in the environment have occurred since the certification of the 2021 Certified EIR. No substantial new impacts on geology, soils, or paleontological resources have been identified in the Project Study Area that would result in new or more severe environmental impacts.



Mitigation Measures Addressing Impacts

None.

Conclusion

None of the conditions described in CEQA Guidelines Section 15162 calling for preparation of a subsequent EIR would occur with implementation of the Project Variation.

2.1.8 GREENHOUSE GAS EMISSIONS

Thresholds	Impact Determination in the Certified EIR	Do Proposed Changes Involve New Significant Impacts or Substantially More Severe Impacts?	Any New Circumstances Involving New Significant Impact or Substantially More Severe Significant Impact?	Any New Information Requiring New Analysis or Verification?	Certified EIR's Mitigation Measures Addressing Impact
VIII. Greenhouse Gas Emissions					
(a) Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?	Less Than Significant Impact	No	No	No	None
(b) Conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of greenhouse gases?	Less Than Significant Impact	No	No	No	None

Impact Determination in the Certified EIR

Impacts associated with greenhouse gas (GHG) emissions were evaluated in Section 3.7, Greenhouse Gas Emissions, of the 2021 Certified EIR. As stated in the 2021 Certified EIR, the Project would have a less than significant impact related to thresholds (a) and (b).

Do Proposed Changes Involve New Significant Impacts or Substantially More Severe Impacts?

Design refinements to the Project include permanently closing the East Scotts Avenue crossing instead of the East Lafayette Street crossing, closing the East Hazelton Avenue crossing for 45 days during construction, design refinements to the Mormon Slough, an extension of the Project Study Area, and other ROW changes. None of the design refinements would require a substantial increase in demolition, construction, or clearing activities or use of machinery for construction that would increase GHG emissions associated with the Project. As stated in the 2021 Certified EIR, the Project



would reduce GHG emissions caused by trains and vehicles that sit idling due to congestion and delays. Therefore, implementation of the Project Variation would not result in a substantial change in GHG emissions or create any new significant impacts or substantially more severe environmental impacts.

Any New Circumstances Involving New Significant Impacts or Substantially More Severe Impacts?

There are no new circumstances involving new significant impacts related to GHG emissions compared to what was analyzed in the 2021 Certified EIR.

Any New Information Requiring New Analysis or Verification?

No new information of substantial importance has become available related to GHG emissions. No substantial changes in the environment related to GHG emissions have occurred since certification of the 2021 Certified EIR. No new sources of GHG emissions have been identified in the Project Study Area that would result in new or more severe environmental impacts.

Mitigation Measures Addressing Impacts

None.

Conclusion

None of the conditions described in CEQA Guidelines Section 15162 calling for preparation of a subsequent EIR would occur with implementation of the Project Variation.

2.1.9 HAZARDS AND HAZARDOUS MATERIALS

Thresholds	Impact Determination in the Certified EIR	Do Proposed Changes Involve New Significant Impacts or Substantially More Severe Impacts?	Any New Circumstances Involving New Significant Impact or Substantially More Severe Significant Impact?	Any New Information Requiring New Analysis or Verification?	Certified EIR's Mitigation Measures Addressing Impact
IX. Hazards and Hazardous Materials					
(a) Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?	Less Than Significant Impact with Mitigation Incorporated	No	No	No	MM HAZ-1
(b) Create a significant hazard to the public or the environment through reasonably	Less Than Significant Impact with	No	No	No	MM HAZ-1 MM HAZ-2 MM HAZ-3



Thresholds	Impact Determination in the Certified EIR	Do Proposed Changes Involve New Significant Impacts or Substantially More Severe Impacts?	Any New Circumstances Involving New Significant Impact or Substantially More Severe Significant Impact?	Any New Information Requiring New Analysis or Verification?	Certified EIR's Mitigation Measures Addressing Impact
foreseeable upset and accident conditions involving the release of hazardous materials into the environment?	Mitigation Incorporated				MM HAZ-4 MM HAZ-5 MM HAZ-6 MM HAZ-7
(c) Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?	Less Than Significant Impact with Mitigation Incorporated	No	No	No	MM HAZ-1 MM HAZ-2 MM HAZ-3 MM HAZ-4 MM HAZ-5 MM HAZ-6 MM HAZ-7
(d) Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?	Less Than Significant Impact with Mitigation Incorporated	No	No	No	MM HAZ-1 MM HAZ-3 MM HAZ-4 MM HAZ-5 MM HAZ-6
(e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard or excessive noise for people residing or working in the project area?	Less Than Significant Impact	No	No	No	None
(f) Impair implementation of or physically interfere with an adopted emergency response plan or	Less Than Significant Impact with	No	No	No	MM HAZ-8



Thresholds	Impact Determination in the Certified EIR	Do Proposed Changes Involve New Significant Impacts or Substantially More Severe Impacts?	Any New Circumstances Involving New Significant Impact or Substantially More Severe Significant Impact?	Any New Information Requiring New Analysis or Verification?	Certified EIR's Mitigation Measures Addressing Impact
emergency evacuation plan?	Mitigation Incorporated				
(g) Expose people or structures, either directly or indirectly, to a significant risk of loss, injury, or death involving wildland fires?	No Impact	No	No	No	None

Impact Determination in the Certified EIR

Impacts on hazards and hazardous materials were analyzed in Section 3.8, Hazards and Hazardous Materials, of the 2021 Certified EIR. The 2021 Certified EIR determined that implementation of the Project would result in a less than significant impact with mitigation incorporated with respect to thresholds (a), (b), (c), (d), and (g). The Project would have a less than significant impact with respect to threshold (e), and no impact with respect to thresholds (f) and (h).

Do Proposed Changes Involve New Significant Impacts or Substantially More Severe Impacts?

The 2021 Certified EIR evaluated hazardous materials listings within a quarter mile of the Project Study Area. Hazardous material listings were also surveyed within a quarter mile of the Project construction limits in the 2021 Certified EIR. The quarter mile buffer around the Project construction limits studied sites located near East Miner Avenue, where the Project Study Area extends as a design refinement to the Project. Since potential hazardous materials listings have already been identified in the extended Project Study Area, no new significant impacts would be anticipated as a result of additional ground-disturbing activities, utility relocations, or the installation of new structures. Also, no additional schools would be impacted as a result of extending the Project Study Area north. Changes to roadway crossing closures, design refinements to the Mormon Slough, and other ROW changes would not result in significant changes to ground disturbing activities or other construction activities related to hazards and hazardous materials. With the implementation of MM HAZ-1 (Prepare a Construction Hazardous Materials Management Plan), MM HAZ-3 (Prepare a General Construction Soil Management Plan), MM HAZ-4 (Prepare Parcel-Specific Soil Management Plans and Health and Safety Plans [HASPs]), MM HAZ-5 (LUST Sites and Coordination with Department of Toxic Substances Controls [DTSC]), MM HAZ-6 (Halt Construction Work if Potentially Hazardous Materials/Abandoned Oil Wells are Encountered), MM HAZ-7 (Pre-Demolition Investigation), and MM HAZ-8 (Maintenance of Emergency Response Times), impacts associated with the Project



Variation would be mitigated to less than significant levels. Therefore, implementation of the Project Variation would not create any new significant impacts or substantially more severe impacts related to hazards or hazardous materials.

Any New Circumstances Involving New Significant Impacts or Substantially More Severe Impacts?

There are no new circumstances involving new significant impacts or substantially more severe impacts than what was analyzed in the 2021 Certified EIR.

Any New Information Requiring New Analysis or Verification?

Pursuant to BMP HAZ-2, a Phase I Environmental Site Assessment (ESA) (HDR 2022b) was completed during the final design phase. New site numbers (Subject Properties 1-16) were developed for the Phase I ESA. The Phase I ESA did not recommend sampling at Subject Properties 4, 5, 6, 12, and 15, because there were no recognized environmental conditions at these properties. A Draft Phase II ESA (HDR 2023b) was subsequently prepared for Subject Properties 1, 7, 8, 9, 11, 13, 14, and 16, which included the following findings:

- Subject Property 1 (1015 East Market Street): Arsenic was detected in each sample from borings 1-B1 and 1-B2 at concentrations greater than DTSC Note 3 limits. In each sample, except for 1-B1-SO-0-1, arsenic exceedances are within range of naturally occurring background concentrations. Therefore, arsenic in soil may pose a health risk to construction workers via direct contact (ingestion, inhalation, dermal contact). Engineering controls and/or appropriate personal protective equipment (PPE) should be considered in areas where arsenic concentrations exceed DTSC Note 3 limits. In one sample, 1-B1-SO-0-1, arsenic was present at a concentration greater than ten times the soluble threshold limit concentrations (STLC). Lead was also detected in 1-B1-SO-0-1 at a concentration greater than ten times the STLC. After performing a solubility analysis on this sample, lead was found to be present at a concentration greater than the STLC (milligrams/liter [mg/L]). Therefore, waste soil generated at 1-B1-SO-0-1 may be considered a California hazardous waste.
- Subject Property 7 (1038 East Lafayette Street): Arsenic was detected in each sample from boring 7-B1 at concentrations greater than DTSC Note 3 limits. Arsenic exceedances in 7-B1-SO-5-6 were within range of naturally occurring background concentrations. Therefore, arsenic in soil may pose a health risk to construction workers via direct contact (ingestion, inhalation, dermal contact). Engineering controls and/or appropriate PPE would be considered in areas where arsenic concentrations exceed DTSC Note 3 limits. Chromium was detected in 7-B1-SO-3-4 and 7-B1-SO-5-6, and lead was detected in 7-B1-SO-0-1 and 7-B1-SO-3-4 at concentrations greater than ten times the STLC. After performing solubility analyses, lead was found to be present in 7-B1-SO-0-1 at a concentration exceeding the STLC. Therefore, waste soil generated at 7-B1-SO-0-1 may be considered a California hazardous waste.



- Subject Property 8 (321 South Union Street): Arsenic was detected in each sample from borings 8-B1 and 8-B2 at concentrations greater than DTSC Note 3 limits. In each sample, except for 8-B1-SO-0-1, these concentrations were within naturally occurring background concentrations. Therefore, arsenic in soil may pose a health risk to construction workers via direct contact (ingestion, inhalation, dermal contact). Engineering controls and/or appropriate PPE would be considered in areas where arsenic concentrations exceed DTSC Note 3 limits. Chromium was detected in 8-B1-SO-3-4 and 8-B2-SO-3-4 at concentrations exceeding ten times the STLC. Lead was detected in 8-B1-SO-0-1 and 8-B2-SO-0-1 at concentrations greater than ten times the STLC. After performing solubility analyses on these four samples, concentrations of chromium and lead were found to be lower than the STLC. Therefore, waste soil generated at borings 8-B1 and 8-B2 are not likely to be classified as California hazardous waste.
- Subject Property 9 (1036 East Sonora Street): Arsenic was detected in each sample from borings 9-B1, 9-B2, and 9-B3 at concentrations greater than DTSC Note 3 limits. At boring 9-B2 and 9-B3, the arsenic exceedances are within the range of naturally occurring background concentrations. Therefore, arsenic in soil may pose a health risk to construction workers via direct contact (ingestion, inhalation, dermal contact). Engineering controls and/or appropriate PPE would be considered in areas where arsenic concentrations exceed DTSC Note 3 limits. In 9-B1-SO-0-1, the concentration of arsenic exceeded ten times the STLC, and the concentration of soluble arsenic exceeded its STLC (mg/L). Solubility analyses revealed that concentrations of chromium and lead were below their respective STLC values. Because the concentration of soluble arsenic in 9-B1-SO-0-1 is greater than the STLC, waste soil at this sample location may be considered a California hazardous waste.
- Subject Property 11 (1021 and 1025 East Hazelton Avenue): Arsenic was detected in each sample from borings 11-B1 and 11-B2 at concentrations greater than DTSC Note 3 limits, but arsenic concentrations are within range of naturally occurring background concentrations. Therefore, arsenic in soil may pose a health risk to construction workers via direct contact (ingestion, inhalation, dermal contact). Engineering controls and/or appropriate PPE would be considered in areas where arsenic concentrations exceed DTSC Note 3 limits. The following metals were detected in samples from 11-B1 and 11-B2 at concentrations greater than ten times the STLC: antimony in 11-B1-SO-0-1; chromium in 11-B1-SO-3-4, 11-B1-SO-5-6, and 11-B2-SO-3-4; copper in 11-B1-SO-0-1; and lead in 11-B1-SO-0-1, 11-B1-SO-3-4, and 11-B2-SO-0-1. Lead was detected in 11-B1-SO-0-1 at a concentration exceeding the total threshold limit concentrations (TTLC), and therefore, waste soil generated at this location may be considered a California hazardous waste. After performing solubility analyses, concentrations of lead were found to exceed the STLC in 11-B1-SO-3-4 and 11-B2-SO-0-1; therefore, waste soil generated at these sample locations may also be considered a California hazardous waste.
- Subject Property 13 (1022 East Hazelton Avenue): No analyte concentrations exceeded DTSC Note 3 limits, TTLC, or STLC in samples from borings 13-B1 and 13-B2. The soils



sampled are not expected to pose health risks to construction workers via direct contact, and waste soils at these locations are not likely to be considered a California hazardous waste.

- Subject Property 14 (1033 East Scotts Avenue): No analyte concentrations exceeded DTSC Note 3 limits, TTLC, or STLC in samples from borings 14-B1 and 14-B2. The soils sampled are not expected to pose health risks to construction workers via direct contact, and waste soils at these locations are not likely to be considered a California hazardous waste.
- Subject Property 16 (1020 East Dr. Martin Luther King Jr. Boulevard): Arsenic was detected in each sample from borings 16-B1 and 16-B2 at concentrations greater than DTSC Note 3 limits, but within range of naturally occurring background concentrations. Therefore, arsenic in soil may pose a health risk to construction workers via direct contact (ingestion, inhalation, dermal contact). Engineering controls and/or appropriate PPE would be considered in areas where arsenic concentrations exceed DTSC Note 3 limits. Chromium was detected in 16-B2-SO-20-21 and lead was detected in 16-B1-SO-0-1 at concentrations exceeding ten times the STLC. After performing solubility analyses on these samples, concentrations of chromium and lead were found to be below their respective STLCs. Therefore, waste soil from 16-B1 and 16-B2 is not likely to be classified as a California hazardous waste. Mercury was detected in the groundwater (16-B1-GW-27) at a concentration greater than the DTSC Note 3 limit. Mercury may pose a risk to construction workers via direct contact (ingestion, inhalation, dermal contact). Engineering controls and/or appropriate PPE would be considered in areas where mercury concentrations exceed DTSC Note 3 limits.

Site access had not yet been granted for Subject Property 2 (1024 East Market Street), Subject Property 3 (201 South Union Street), or Subject Property 10 (1031 East Church Street). Based on the findings of the Phase I ESA and Phase II ESA, no additional hazardous waste or materials sites were identified in the Project Study Area. Therefore, new information from the Phase I and II ESAs does not require new analysis or verification. Additionally, no substantial changes in the environment have occurred since the EIR was certified in 2021.

Mitigation Measures Addressing Impacts

The 2021 Certified EIR included the following mitigation measures to address the significant impacts related to thresholds (a), (b), (c), (d), and (g):

MM HAZ-1: Prepare a Construction Hazardous Materials Management Plan (HMMP). Prior to construction, SJRRC will ensure that an HMMP be prepared, which will outline provisions for safe storage, containment, and disposal of chemicals and hazardous materials, contaminated soils, and contaminated groundwater used or exposed during construction, including the proper locations for disposal. The HMMP shall be prepared to address Project construction limits, and include, but not be limited to, the following:

- A description of hazardous materials and hazardous wastes used (29 C.F.R. 1910.1200). A description of handling, transport, treatment, and disposal procedures, as relevant for each hazardous material or hazardous waste (29 C.F.R. 1910.120).



- Preparedness, prevention, contingency, and emergency procedures, including emergency contact information (29 C.F.R. 1910.38).
- A description of personnel training including, but not limited to: (1) recognition of existing or potential hazards resulting from accidental spills or other releases; (2) implementation of evacuation, notification, and other emergency response procedures; (3) management, awareness, and handling of hazardous materials and hazardous wastes, as required by their level of responsibility (29 C.F.R. 1910).
- Instructions on keeping Safety Data Sheets on-site for each on-site hazardous chemical (29 C.F.R. 1910.1200).
- Identification of the locations of hazardous material storage areas, including temporary storage areas, which shall be equipped with secondary containment sufficient in size to contain the volume of the largest container or tank (29 C.F.R. 1910.120).

MM HAZ-2: Property Acquisition Phase I and Phase II Environmental Site Assessments. Prior to or during the ROW acquisition phase, SJRRC will ensure that Phase I ESAs would be conducted in accordance with standard American Society for Testing and Materials (ASTM) methodologies to characterize each parcel. The determination of parcels that require a Phase II ESA (e.g., soil, groundwater, soil vapor subsurface investigations) would be informed by a Phase I ESA and may require coordination with state and local agency officials.

MM HAZ-3: Prepare a General Construction Soil Management Plan. Prior to construction, SJRRC will ensure that a General Construction Soil Management Plan be prepared, which will include general provisions for how soils will be managed within the Project construction limits for the duration of construction. General soil management controls to be implemented by the contractor, and the following topics, shall be addressed within the Soil Management Plan:

- General worker health and safety procedures
- Dust control
- Management of soil stockpiles
- Traffic control
- Stormwater erosion control using BMPs

MM HAZ-4: Prepare Parcel-Specific Soil Management Plans and Health and Safety Plans (HASPs). Prior to construction, SJRRC will ensure that parcel-specific Soil Management Plans be prepared for known contaminated sites and leaking underground storage tank (LUST) adjudicated sites for submittal and approval by DTSC. The plans shall include specific hazards and provisions for how soils will be managed for known contaminated sites and LUST-adjudicated sites. The nature and extent of contamination varies widely across the Project construction limits, and the



parcel-specific Soil Management Plan shall provide parcel-specific requirements addressing the following:

- Soil disposal protocols
- Protocols governing the discovery of unknown contaminants
- Soil management on properties within the Project construction limits with LUSTs or known contaminants

Prior to construction on individual properties with LUSTs or known contaminants, a parcel-specific HASP shall also be prepared for submittal and approval by DTSC. The HASP shall be prepared to meet Occupational Safety and Health Administration (OSHA) requirements, Title 29 of the C.F.R. 1910.120 and CCR Title 8, Section 5192, and all applicable federal, state, and local regulations and agency ordinances related to the proposed management, transport, and disposal of contaminated media during implementation of work and field activities. The HASP shall be signed and sealed by a Certified Industrial Hygienist who is licensed by the American Board of Industrial Hygiene. In addition to general construction soil management plan provisions, the following parcel-specific HASP provisions shall also be implemented:

- Training requirements for site workers who may be handling contaminated material
- Chemical exposure hazards in soil, groundwater, or soil vapor that are known to be present on a property
- Mitigation and monitoring measures that are protective of site workers and public health and safety

Prior to construction, SJRRC shall coordinate proposed soil management measures and reporting activities with stakeholders and regulatory agencies with jurisdiction in order to establish an appropriate monitoring and reporting program that meets all federal, state, and local laws for the Project and each of the contaminated sites.

MM HAZ-5: LUST Sites and Coordination with DTSC. Prior to construction on properties with a LUST, SJRRC will ensure that coordination is required with DTSC regarding any specified plans, construction activities, and/or public outreach activities needed to verify that construction activities on properties with LUSTs would be managed in a manner protective of public health.

MM HAZ-6: Halt Construction Work if Potentially Hazardous Materials/Abandoned Oil Wells are Encountered. During construction, SJRRC will ensure that contractors follow all applicable local, state, and federal regulations regarding discovery, notification, response, disposal, and remediation for hazardous materials and/or abandoned oil wells encountered during the construction process.

MM HAZ-7: Pre-Demolition Investigation. Prior to the demolition of any structures constructed prior to the 1970s, SJRRC will ensure that a survey is conducted for the presence of hazardous building materials, such as asbestos containing materials (ACM), lead-based paints (LBP), and other



materials falling under the Universal Waste requirements. The results of this survey shall be submitted to SJRRC and applicable stakeholders, as deemed appropriate by SJRRC. If any hazardous building materials are discovered prior to demolition of any structures, a plan for proper removal shall be prepared in accordance with applicable OSHA and San Joaquin County Environmental Health Department requirements. The contractor performing the work shall be required to implement the removal plan, shall be required to have a C-21 license in the state of California, and possess an A or B classification. If asbestos-related work is required, the contractor or their subcontractor shall be required to possess a California Contractor License (Asbestos Certification). Prior to any demolition activities, the contractor shall be required to secure the site and ensure utilities are disconnected.

MM HAZ-8: Maintenance of Emergency Response Times. Prior to construction and closure of East Church Street and East Lafayette Street, SJRRC will consult with applicable agencies and departments providing emergency response to ensure that acceptable response times are maintained during Project operation.

Conclusion

None of the conditions described in CEQA Guidelines Section 15162 calling for preparation of a subsequent EIR would occur with implementation of the Project Variation.

2.1.10 HYDROLOGY AND WATER QUALITY

Thresholds	Impact Determination in the Certified EIR	Do Proposed Changes Involve New Significant Impacts or Substantially More Severe Impacts?	Any New Circumstances Involving New Significant Impact or Substantially More Severe Significant Impact?	Any New Information Requiring New Analysis or Verification?	Certified EIR's Mitigation Measures Addressing Impact
X. Hydrology and Water Quality					
(a) Violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or ground water quality?	Less Than Significant Impact	No	No	No	None
(b) Substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may	Less Than Significant Impact	No	No	No	None



Thresholds	Impact Determination in the Certified EIR	Do Proposed Changes Involve New Significant Impacts or Substantially More Severe Impacts?	Any New Circumstances Involving New Significant Impact or Substantially More Severe Significant Impact?	Any New Information Requiring New Analysis or Verification?	Certified EIR's Mitigation Measures Addressing Impact
impede sustainable groundwater management of the basin?					
(c) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would:					
i. Result in substantial erosion or siltation on- or off-site?	Less Than Significant Impact	No	No	No	None
ii. Substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site?	Less Than Significant Impact	No	No	No	None
iii. Create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff?	Less Than Significant Impact	No	No	No	None



Thresholds	Impact Determination in the Certified EIR	Do Proposed Changes Involve New Significant Impacts or Substantially More Severe Impacts?	Any New Circumstances Involving New Significant Impact or Substantially More Severe Significant Impact?	Any New Information Requiring New Analysis or Verification?	Certified EIR's Mitigation Measures Addressing Impact
iv. Impede or redirect flood flows?	Less Than Significant Impact	No	No	No	None
(d) In flood hazard, tsunami, or seiche zones risk release of pollutants due to project inundation?	Less Than Significant Impact	No	No	No	None
(e) Conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan?	Less Than Significant Impact	No	No	No	None

Impact Determination in the Certified EIR

Impacts on hydrology and water quality were analyzed in Section 3.9, Hydrology and Water Quality, of the 2021 Certified EIR. The 2021 Certified EIR determined that implementation of the Project would result in a less than significant impact with respect to thresholds (a) through (e).

Do Proposed Changes Involve New Significant Impacts or Substantially More Severe Impacts?

Design refinements to the Project include changing the Mormon Slough culvert from a four-cell culvert design with an open bottom to a six-cell culvert design with a closed bottom. During the final design phase, a Hydraulic Summary Memorandum (HDR 2023a) was prepared and determined that the Project and the above-mentioned design refinements would not result in an increase in water surface elevation during a 200-year flow, which is required by CVFPB. According to the CVFPB criteria, the Mormon Channel is considered a minor stream with a flow of less than 8,000 cubic feet per second (cfs) and is in an urban area. CVFPB is requiring that the Project be designed for the 200-year flood event with 2 feet of freeboard to accommodate any potential debris. According to the results of the hydraulics analysis, under a 200-year flood event, the proposed six-cell culvert design with a minimum soffit elevation of 17 feet would leave a 2.5-foot freeboard during a 200-year flow event. This would result in 0.5 foot more than the minimum freeboard required by CVFPB. There is no increase in water surface elevation upstream of the Project for the 200-year flow event.

Additionally, the Hydraulic Summary Memorandum (HDR 2023a) assessed the flow rate as specified in the City's Mormon Channel Specific Plan (1989). The Plan discusses grading the entire Mormon



Channel to a hydraulic capacity of 3,000 cfs. This flow is the maximum expected flow and greater than the theoretical 500-year flow (2,835 cfs); and therefore, does not have to meet the CVFPB freeboard clearance requirements. Under the 3,000 cfs flow, the proposed six-cell culvert would result in a 0.5-foot increase in water surface elevation upstream. However, this increase would be contained within the channel based on the assumed improvements for the future flows and the removal of the existing UP Fresno Subdivision Culvert downstream of the Project, which is controlling the water surface elevation upstream. The analysis indicates that no overtopping of the channel banks would occur, and the water surface elevation would not reach the proposed track.

During the final design phase, 1D and 2D hydraulic models were used to analyze the geometry and proposed grading around the reinforced concrete box culverts crossing, which was documented in a Hydrologic and Hydraulic Analysis and Design Memorandum (HDR 2022a). The current 50- and 100-year flows for the proposed box culvert show no change in the water surface elevation from the existing condition. The current 200-year flow shows an increase of 0.1 foot from the existing condition to the proposed alternative upstream of the proposed crossing in the 2D hydraulic model. For the future 50- and 100-year flows, the 1D hydraulic model shows an increase of 0.3 foot upstream of the proposed structure based on the existing condition with the future flow improvements. The analysis also determined that the culverts would meet the UP hydraulic criteria for bridges and culverts within a floodplain.

The Project obtained an encroachment permit from CVFPB for work in and adjacent to the Mormon Slough in January 2024. Any additional permit conditions or measures that could result from consultation with CVFPB would be included in the final design package. In addition, a Stormwater Management and Treatment Plan, identified as BMP HYD-1 in the 2021 Certified EIR, would be prepared to ensure compliance with CVFPB and the conditions within the encroachment permit during construction. Additionally, the Project would prepare a Floodplain Protection Plan, identified as BMP HYD-4 in the 2021 Certified EIR, to ensure proper floodplain protection measures are in place during construction.

Closure of the East Scotts Avenue crossing would not remove the existing drainage but would reroute surface water flows to alternate inlets. Additionally, reopening the private portion of Union Street as a public roadway would require the Project to incorporate gutters. Currently, the private portion of Union Street is partially paved and does not have existing stormwater drainage with surface flows running onto adjacent properties. With the implementation of the Project Variation, gutters would be constructed, and surface flows would be collected by the gutters and directed to a storm drain inlet. The Project would continue to comply with BMP HYD-5, and a Project-specific drainage report would be prepared to determine the required design pollution prevention measures and any treatment BMPs needed to avoid or minimize potential effects on water quality following construction. Therefore, implementation of the Project Variation would not create any new significant impacts or substantially more severe impacts related to hydrology or water quality.



Any New Circumstances Involving New Significant Impacts or Substantially More Severe Impacts?

There are no new circumstances involving new significant impacts or substantially more severe impacts than what was analyzed in the 2021 Certified EIR.

Any New Information Requiring New Analysis or Verification?

No new information of substantial importance has become available related to hydrology or water quality. No substantial changes in the environment have occurred since certification of the 2021 Certified EIR.

Mitigation Measures Addressing Impacts

None.

Conclusion

None of the conditions described in CEQA Guidelines Section 15162 calling for preparation of a subsequent EIR would occur with implementation of the Project Variation.

2.1.11 LAND USE AND PLANNING

Thresholds	Impact Determination in the Certified EIR	Do Proposed Changes Involve New Significant Impacts or Substantially More Severe Impacts?	Any New Circumstances Involving New Significant Impact or Substantially More Severe Significant Impact?	Any New Information Requiring New Analysis or Verification?	Certified EIR's Mitigation Measures Addressing Impact
XI. Land Use and Planning					
(a) Physically divide an established community?	Less Than Significant Impact with Mitigation Incorporated	No	No	No	MM LU-2 MM LU-3



Thresholds	Impact Determination in the Certified EIR	Do Proposed Changes Involve New Significant Impacts or Substantially More Severe Impacts?	Any New Circumstances Involving New Significant Impact or Substantially More Severe Significant Impact?	Any New Information Requiring New Analysis or Verification?	Certified EIR's Mitigation Measures Addressing Impact
(b) Cause a significant environmental impact due to a conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect?	Less Than Significant Impact	No	No	No	None

Impact Determination in the Certified EIR

Impacts on land use and planning were evaluated in Section 3.10, Land Use and Planning, of the 2021 Certified EIR. The 2021 Certified EIR concluded that the Project would have a less than significant impact with mitigation incorporated with respect to threshold (a). The project would have a less than significant impact with respect to threshold (b).

Do Proposed Changes Involve New Significant Impacts or Substantially More Severe Impacts?

The design refinements at the East Hazelton Avenue crossing, the East Weber Avenue crossing, and the Mormon Slough do not require any changes to the use or ownership of a property and would not divide an existing community. The Project Variation would include potentially acquiring five remnant land parcels (instead of permanent easements) and acquiring Union Street between East Hazelton Avenue and East Scotts Avenue (APN 15126039) for public use. Additionally, five partial acquisitions became full acquisitions (APNs 15124002, 15124050, 15126003, 15126039, and 15128004) due to ROW negotiations during the final design phase. With the implementation of mitigation measure BMP LU-1 (General Plan Amendment) from the 2021 Certified EIR, impacts on land use and planning would be minimized by ensuring that the proposed land use designations are captured in the City's General Plan through a general plan amendment, if required. Therefore, implementation of the Project Variation would not create any new significant impacts or substantially more severe impacts related to land use or planning.

Any New Circumstances Involving New Significant Impacts or Substantially More Severe Impacts?

There are no new circumstances involving new significant impacts or substantially more severe land use and planning impacts than what was analyzed in the 2021 Certified EIR.



Any New Information Requiring New Analysis or Verification?

No new information of substantial importance has become available related to land use or planning. No substantial changes in the environment related to land use and planning have occurred since certification of the 2021 Certified EIR.

Mitigation Measures Addressing Impacts

MM LU-2: Property Ownership and Agreement Coordination Efforts. During final design, SJRRC will ensure coordination with the City and UP to determine appropriate property ownership and establish agreements prior to the ROW acquisition process. Options to address property ownership may include, but are not limited to:

- Continuing City ownership and maintenance of the street corridors with permanent easements required for the railroad corridor.
- SJRRC and/or railroad company ownership and maintenance of the properties within the railroad corridor with either SJRRC or private ownership of adjacent remnant parcels. Public Utility easements would be necessary for this option.

MM LU-32: Relocation Assistance. During final design, SJRRC will ensure that the loss of private industrial property is mitigated by payment of fair market compensation and provision of relocation assistance in accordance with the Uniform Relocation Assistance and Real Property Acquisition Policies Act. The following would be provided to business operators for these non-residential displacements:

- Relocation advisory services
- Minimum 90 days written notice to vacate prior to requiring possession
- Reimbursement for moving and reestablishment expenses

Conclusion

None of the conditions described in CEQA Guidelines Section 15162 calling for preparation of a subsequent EIR would occur with implementation of the Project Variation.



2.1.12 MINERAL RESOURCES

Thresholds	Impact Determination in the Certified EIR	Do Proposed Changes Involve New Significant Impacts or Substantially More Severe Impacts?	Any New Circumstances Involving New Significant Impact or Substantially More Severe Significant Impact?	Any New Information Requiring New Analysis or Verification?	Certified EIR's Mitigation Measures Addressing Impact
XII. Mineral Resources					
(a) Result in the loss of availability of a known mineral resource that would be a value to the region and the residents of the state?	No Impact	No	No	No	None
(b) Result in the loss of availability of a locally important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan?	No Impact	No	No	No	None

According to the U.S. Geological Survey (USGS) Mineral Resources Online Spatial Data, there are no known or locally important mineral resources or mineral resource recovery sites in the Project Study Area, and none would be affected by the Project.

2.1.13 NOISE AND VIBRATION

Thresholds	Impact Determination in the Certified EIR	Do Proposed Changes Involve New Significant Impacts or Substantially More Severe Impacts?	Any New Circumstances Involving New Significant Impact or Substantially More Severe Significant Impact?	Any New Information Requiring New Analysis or Verification?	Certified EIR's Mitigation Measures Addressing Impact
XIII. Noise and Vibration					
(a) Generation of a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in the local general	Less Than Significant Impact with Mitigation Incorporated	No	No	No	MM NV-1 MM NV-2 MM NV-3



Thresholds	Impact Determination in the Certified EIR	Do Proposed Changes Involve New Significant Impacts or Substantially More Severe Impacts?	Any New Circumstances Involving New Significant Impact or Substantially More Severe Significant Impact?	Any New Information Requiring New Analysis or Verification?	Certified EIR's Mitigation Measures Addressing Impact
plan or noise ordinance, or applicable standards of other agencies?					
(b) Generation of excessive groundborne vibration or groundborne noise levels?	Less Than Significant Impact with Mitigation Incorporated	No	No	No	MM NV-2
(c) For a project located within a vicinity of private airstrip or airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels?	No Impact	No	No	No	None

Impact Determination in the Certified EIR

Noise and vibration impacts were evaluated in Section 3.11, Noise and Vibration, of the 2021 Certified EIR. The 2021 Certified EIR determined that the Project would result in a less than significant impact with mitigation incorporated with respect to thresholds (a) and (b). The Project would result in no impact with respect to threshold (c).

Do Proposed Changes Involve New Significant Impacts or Substantially More Severe Impacts?

The northern extension of the Project Study Area within UP ROW is located across from nearby noise-sensitive receptors along Union Street. The Project would implement MM NV-1, as required in the 2021 Certified EIR. MM NV-1 requires that a Noise Control Plan be prepared and that best practices be incorporated into the construction scope of work and specifications to reduce temporary construction-related noise impacts on nearby noise-sensitive receptors. The Noise Control Plan would be developed in coordination with the City and in compliance with City standards. In addition, as described in the 2021 Certified EIR, measure MM NV-3 would be implemented, which requires



SJRRC to ensure that sound insulation improvements are installed in residential properties that would be exposed to severe noise impacts.

Vibrations may be felt during construction, especially during construction activities such as pile driving. Consistent with the 2021 Certified EIR, the Project would implement MM NV-2 (Vibration Control Plan), requiring the preparation of a Vibration Control Plan. Best practices would be incorporated into the construction scope of work and specifications to reduce temporary impacts on nearby vibration-sensitive land uses. Therefore, implementation of the Project Variation would not create any new significant impacts or substantially more severe impacts related to noise or vibration.

Any New Circumstances Involving New Significant Impacts or Substantially More Severe Impacts?

There are no new circumstances involving new significant impacts or substantially more severe impacts related to noise and vibration than what was analyzed in the 2021 Certified EIR.

Any New Information Requiring New Analysis or Verification?

No new information of substantial importance has become available related to noise or vibration impacts. No substantial changes in the environment related to noise or vibration since certification of the 2021 Certified EIR have occurred. No substantial new sources of noise and vibration have been identified in the Project Study Area that would result in new environmental impacts.

Mitigation Measures Addressing Impacts

MM NV-1: Noise Control Plan. Prior to construction, SJRRC will ensure that a noise control plan is prepared that will incorporate, at a minimum, the following best practices into the construction scope of work and specifications to reduce the impact of temporary construction-related noise on nearby noise-sensitive receptors. The Noise Control Plan will be developed in coordination with the City of Stockton in compliance with City standards. Components of the Noise Control Plan will include, but not be limited to, the following:

- Install temporary construction site sound barriers near noise sources.
- Use moveable sound barriers at the source of the construction activity.
- Avoid the use of impact pile drivers at night and, where possible, near noise-sensitive areas, or use quieter alternatives (for example, drilled piles) where geological conditions permit.
- Locate stationary construction equipment as far as possible from noise-sensitive sites.
- Re-route construction-related truck traffic along roadways that will cause the least disturbance to residents.
- Use low-noise emission equipment.
- Implement noise-deadening measures for truck loading and operations.



- Line or cover storage bins, conveyors, and chutes with sound-deadening material.
- Use acoustic enclosures, shields, or shrouds for equipment and facilities.
- Use high-grade engine exhaust silencers and engine-casing sound insulation.
- Minimize the use of generators to power equipment.
- Limit use of public address systems.
- Grade surface irregularities on construction sites.
- Monitor and maintain equipment to meet noise limits.
- Implement noise monitoring during construction to ensure noise limits are met.
- Maintain active coordination with the City to identify potential options to retrofit residences closest to the construction with noise reduction window technology.
- Establish an active community liaison program to keep residents informed about construction and to provide a procedure for addressing complaints.

MM NV-2: Vibration Control Plan. Prior to construction, SJRRC will ensure that a vibration control plan is prepared and will incorporate, at a minimum, the following best practices into the construction scope of work and specifications to reduce the impact of temporary construction-related vibration on nearby vibration-sensitive land uses:

- Avoid the use of impact pile drivers where possible near vibration-sensitive areas, or use alternative construction methods (for example, drilled piles) where geological conditions permit.
- Avoid vibratory compacting/rolling in close proximity to structures.
- Require vibration monitoring during vibration-intensive activities.

In the event building damage occurs due to construction, repairs would be made, or compensation would be provided by SJRRC.

MM NV-3: Reductions for Severe Noise Impacts. Prior to construction, SJRRC will ensure that sound insulation improvements will be installed in the residential properties that would be exposed to severe noise impacts. The goal of these improvements is to reduce the interior noise levels to below the 45 dBA Ldn noise threshold set by the U.S. Department of Housing and Urban Development. In addition to the sound insulation improvements, a form of fresh air exchange must be maintained. The air exchange can be achieved by installing an air conditioning unit for the residence. Sound insulation is normally only used on older dwellings with single-paned windows or in buildings with double-paned windows that are no longer effective because of leakage. Sound insulation testing would be conducted to determine the appropriate measures to improve the outdoor to indoor sound level reduction, such as improved windows, doors, or vents.



Conclusion

None of the conditions described in CEQA Guidelines Section 15162 calling for preparation of a subsequent EIR would occur with implementation of the Project Variation.

2.1.14 POPULATION AND HOUSING

Thresholds	Impact Determination in the Certified EIR	Do Proposed Changes Involve New Significant Impacts or Substantially More Severe Impacts?	Any New Circumstances Involving New Significant Impact or Substantially More Severe Significant Impact?	Any New Information Requiring New Analysis or Verification?	Certified EIR's Mitigation Measures Addressing Impact
XIV. Population and Housing					
(a) Induce substantial unplanned population growth in an area, either directly (e.g., by proposing new homes or businesses) or indirectly (e.g., through extension of roads or other infrastructure)?	No Impact	No	No	No	None
(b) Displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere?	Less Than Significant Impact	No	No	No	None

Impact Determination in the Certified EIR

Impacts on population and housing were evaluated in Section 3.12, Population and Housing, of the 2021 Certified EIR. The 2021 Certified EIR determined that the Project would have no impact with respect to threshold (a) and a less than significant impact with respect to threshold (b).

Do Proposed Changes Involve New Significant Impacts or Substantially More Severe Impacts?

The Project would reduce passenger and freight rail delays and associated congestion resulting from the existing configuration of the Stockton Diamond. None of the design refinements propose new homes, businesses, or extensions of roads or other infrastructure. Thus, the design refinements would not induce substantial unplanned population growth. The Project Variation would include potentially acquiring five remnant land parcels (instead of permanent easements) and acquiring Union Street between East Hazelton Avenue and East Scotts Avenue (APN 15126039) for public



use. Additionally, five partial acquisitions became full acquisitions (APNs 15124002, 15124050, 15126003, 15126039, and 15128004) due to ROW negotiations during the final design phase. These acquisitions would not displace any existing housing that would necessitate the construction of housing elsewhere. Therefore, implementation of the Project Variation would not create any new significant impacts or substantially more severe impacts related to population and housing.

Any New Circumstances Involving New Significant Impacts or Substantially More Severe Impacts?

There are no new circumstances involving new significant impacts related to population and housing compared to what was analyzed in the 2021 Certified EIR.

Any New Information Requiring New Analysis or Verification?

No new information of substantial importance has become available related to impacts on population and housing. No substantial changes in the environment related to population and housing have occurred since certification of the 2021 Certified EIR that would result in new environmental impacts.

Mitigation Measures Addressing Impacts

None.

Conclusion

None of the conditions described in CEQA Guidelines Section 15162 calling for preparation of a subsequent EIR would occur with implementation of the Project Variation.

2.1.15 PUBLIC SERVICES

Thresholds	Impact Determination in the Certified EIR	Do Proposed Changes Involve New Significant Impacts or Substantially More Severe Impacts?	Any New Circumstances Involving New Significant Impact or Substantially More Severe Significant Impact?	Any New Information Requiring New Analysis or Verification?	Certified EIR's Mitigation Measures Addressing Impact
XV. Public Services					
(a) Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the					



Thresholds	Impact Determination in the Certified EIR	Do Proposed Changes Involve New Significant Impacts or Substantially More Severe Impacts?	Any New Circumstances Involving New Significant Impact or Substantially More Severe Significant Impact?	Any New Information Requiring New Analysis or Verification?	Certified EIR's Mitigation Measures Addressing Impact
construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times, or other performance objectives for any of the public services:					
i. Fire protection?	Less Than Significant Impact	No	No	No	None
ii. Police protection?	Less Than Significant Impact	No	No	No	None
iii. Schools?	Less Than Significant Impact	No	No	No	None
iv. Other public facilities?	No Impact	No	No	No	None

Impact Determination in the Certified EIR

Impacts on Public Services were evaluated in Section 3.13, Public Services, of the 2021 Certified EIR. The 2021 Certified EIR determined that the Project would have a less than significant impact with respect to thresholds (a)(i) through (a)(iii) and no impact with respect to threshold (a)(iv).

Do Proposed Changes Involve New Significant Impacts or Substantially More Severe Impacts?

A CPUC Diagnostic Review of the Project was conducted in accordance with BMP TRA-8. As a result of the Diagnostic Review, design refinements to the Project would permanently close the East Scotts Avenue crossing instead of the East Lafayette Street crossing. Permanently closing the East Scotts Avenue crossing is anticipated to result in fewer impacts on emergency services, such as fire and police, since East Lafayette Street is a designated emergency route. East Lafayette Street is also a school bus route. The design refinement to close East Scotts Avenue instead of East Lafayette Street would have fewer impacts on school buses traveling through the Project Study Area. The 2021 Certified EIR identified six schools within the Project Study Area. The extension of



the Project Study Area north would not incorporate any additional schools into the Project Study Area. No construction activities related to the design refinements would occur on school property. Finally, the design refinements include East Hazelton Avenue closing for 45 days during construction. BMP TRA-7 would implement a Traffic Management Plan to address impacts on school bus routes and fire and police vehicles for any temporary closures during construction of improvements at East Weber Avenue. The Project Variation would not involve changes in proposed uses from what was evaluated in the 2021 Certified EIR that would introduce a larger population in the Project Study Area and an associated increased demand for public services. Therefore, implementation of the Project Variation would not create any new significant impacts or substantially more severe impacts related to public services.

Any New Circumstances Involving New Significant Impacts or Substantially More Severe Impacts?

There are no new circumstances involving new significant impacts or substantially more severe impacts related to public services than what was analyzed in the 2021 Certified EIR.

Any New Information Requiring New Analysis or Verification?

No new information of substantial importance has become available related to public service impacts. No substantial changes in the environment related to public services have occurred since certification of the 2021 Certified EIR that would result in new environmental impacts.

Mitigation Measures Addressing Impacts

None.

Conclusion

None of the conditions described in CEQA Guidelines Section 15162 calling for preparation of a subsequent EIR would occur with implementation of the Project Variation.

2.1.16 RECREATION

Thresholds	Impact Determination in the Certified EIR	Do Proposed Changes Involve New Significant Impacts or Substantially More Severe Impacts?	Any New Circumstances Involving New Significant Impact or Substantially More Severe Significant Impact?	Any New Information Requiring New Analysis or Verification?	Certified EIR's Mitigation Measures Addressing Impact
XVI. Recreation					
(a) Would the project increase the use of existing neighborhood and regional parks or other recreational	No Impact	No	No	No	None



Thresholds	Impact Determination in the Certified EIR	Do Proposed Changes Involve New Significant Impacts or Substantially More Severe Impacts?	Any New Circumstances Involving New Significant Impact or Substantially More Severe Significant Impact?	Any New Information Requiring New Analysis or Verification?	Certified EIR's Mitigation Measures Addressing Impact
facilities such that substantial physical deterioration of the facility would occur or be accelerated?					
(b) Does the project include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment?	No Impact	No	No	No	None

Impact Determination Set Forth in the Certified EIR

Impacts on recreation were analyzed in Section 3.14, Recreation, of the 2021 Certified EIR. The 2021 Certified EIR determined that the Project would have no impact with respect to thresholds (a) and (b).

Do Proposed Changes Involve New Significant Impacts or Substantially More Severe Impacts?

The 2021 Certified EIR stated that a 0.03-acre temporary construction easement (TCE) would be required by the Project on the northwest corner of Union Park. During the final design phase, it was determined that the TCE is no longer required. Union Street between East Scotts Avenue and Hazelton Avenue would be used as a construction staging area instead. The Project Variation would not limit access to Union Park, and as stated in the 2021 Certified EIR, measures BMP TRA-2 (Construction Transportation Plan), BMP TRA-4 (Maintenance of Pedestrian Access), BMP TRA-5 (Maintenance of Bicycle Access), BMP TRA-7 (Traffic Management Plan), BMP AQ-3 (Compliance with EPA's Tier 4 Exhaust Emission Standards), BMP AQ-4 (Fugitive Dust), BMP NV-1 (Noise Control Plan), and BMP NV-2 (Vibration Control Plan) would reduce short-term impacts on recreation facilities resulting from construction. Since access to Union Park would not be limited during construction or operation of the Project, the Project Variation would not require the use of other recreational facilities such that a substantial physical deterioration of other facilities would occur or be accelerated. Additionally, the Project Variation would not introduce a larger population and an associated increased demand for recreation facilities in the Project Study Area. Therefore,



implementation of the Project Variation would not create any new significant impacts or substantially more severe impacts related to recreation.

Any New Circumstances Involving New Significant Impacts or Substantially More Severe Impacts?

There are no new circumstances involving new significant impacts or substantially more severe impacts related to recreation than what was analyzed in the 2021 Certified EIR.

Any New Information Requiring New Analysis or Verification?

No new information of substantial importance has become available related to recreation impacts. No substantial changes in the environment related to recreation have occurred since certification of the 2021 Certified EIR. No substantial new sources of potential impacts related to recreation have been identified in the Project Study Area that would result in new environmental impacts related to recreation.

Mitigation Measures Addressing Impacts

None.

Conclusion

None of the conditions described in CEQA Guidelines Section 15162 calling for preparation of a subsequent EIR would occur with implementation of the Project Variation.

2.1.17 TRANSPORTATION

Thresholds	Impact Determination in the Certified EIR	Do Proposed Changes Involve New Significant Impacts or Substantially More Severe Impacts?	Any New Circumstances Involving New Significant Impact or Substantially More Severe Significant Impact?	Any New Information Requiring New Analysis or Verification?	Certified EIR's Mitigation Measures Addressing Impact
XVII. Transportation					
(a) Conflict with a program, plan, ordinance or policy addressing the circulation system, including transit, roadway, bicycle and pedestrian facilities?	Less Than Significant Impact	No	No	No	None



Thresholds	Impact Determination in the Certified EIR	Do Proposed Changes Involve New Significant Impacts or Substantially More Severe Impacts?	Any New Circumstances Involving New Significant Impact or Substantially More Severe Significant Impact?	Any New Information Requiring New Analysis or Verification?	Certified EIR's Mitigation Measures Addressing Impact
(b) Would the project conflict or be inconsistent with CEQA Guidelines § 15064.3, subdivision (b)?	No Impact	No	No	No	None
(c) Substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?	No Impact	No	No	No	None
(d) Result in inadequate emergency access?	Less Than Significant Impact	No	No	No	None

Impact Determination in the Certified EIR

Transportation impacts were evaluated in Section 3.15, Transportation, of the 2021 Certified EIR. The 2021 Certified EIR determined that the Project would result in a less than significant impact with respect to thresholds (a) and (d), and no impact with respect to thresholds (b) and (c).

Do Proposed Changes Involve New Significant Impacts or Substantially More Severe Impacts?

In accordance with BMP TRA-8 (Road Closure Formalization Process) the Project team conducted a CPUC Diagnostic Review of the Project. Following the Diagnostic Review, design refinements to the Project include permanently closing the East Scotts Avenue crossing instead of the East Lafayette Street crossing. The East Lafayette Street crossing would remain open following construction. The Project Variation also includes reopening of the private portion of Union Street between Hazelton Avenue and East Scotts Avenue, which was assumed as an existing condition during the CPUC Diagnostic Review. Permanently closing the East Scotts Avenue crossing is anticipated to result in fewer impacts on vehicles, trucks, emergency services, bikes, and pedestrians than permanently closing the East Lafayette Street crossing. Additionally, the East Hazelton Avenue crossing would be temporarily closed for 45 days during construction. Consistent with the 2021 Certified EIR, BMP TRA-7 would implement a Traffic Management Plan prior to any road closures. BMP TRA-4 (Maintenance of Pedestrian Access) and TRA-5 (Maintenance of Bicycle Access) would prepare



specific Construction Management Plans to address maintenance of pedestrian and bicycle access during the construction period. Therefore, implementation of the Project Variation would not create any new significant impacts or substantially more severe impacts related to transportation.

Any New Circumstances Involving New Significant Impacts or Substantially More Severe Impacts?

There are no new circumstances involving significant transportation impacts or substantially more severe impacts than what was analyzed in the 2021 Certified EIR.

Any New Information Requiring New Analysis or Verification?

No new information of substantial importance has become available related to transportation impacts. No substantial changes in the environment related to transportation have occurred that were not analyzed in the 2021 Certified EIR.

Mitigation Measures Addressing Impacts

None.

Conclusion

None of the conditions described in CEQA Guidelines Section 15162 calling for preparation of a subsequent EIR would occur with implementation of the Project Variation.

2.1.18 TRIBAL CULTURAL RESOURCES

Thresholds	Impact Determination in the Certified EIR	Do Proposed Changes Involve New Significant Impacts or Substantially More Severe Impacts?	Any new circumstances Involving New Significant Impact or Substantially More Severe Significant Impact?	Any New Information Requiring New Analysis or Verification?	Certified EIR's Mitigation Measures Addressing Impact
XVIII. Tribal Cultural Resources					
(a) Would the project cause a substantial adverse change in the significance of a tribal cultural resource, defined in Public Resources Code section 21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the					



Thresholds	Impact Determination in the Certified EIR	Do Proposed Changes Involve New Significant Impacts or Substantially More Severe Impacts?	Any new circumstances Involving New Significant Impact or Substantially More Severe Significant Impact?	Any New Information Requiring New Analysis or Verification?	Certified EIR's Mitigation Measures Addressing Impact
landscape, sacred place, or object with cultural value to a California Native American tribe and that is:					
i. Listed or eligible for listing in the California Register of Historic Resources, or in the local register of historical resources as defined in Public Resources Code Section 5020.1(k).	Less Than Significant Impact	No	No	No	None
ii. A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Public Resources Code Section 5024.1. In applying the criteria set forth in subdivision (c) of Public Resources Code Section 5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe.	Less Than Significant Impact	No	No	No	None



Impact Determination in the Certified EIR

Impacts on tribal cultural resources were analyzed in Section 3.16, Tribal Cultural Resources, of the 2021 Certified EIR. The Project would have a less than significant impact with respect to thresholds (a)(i) and (a)(ii).

Do Proposed Changes Involve New Significant Impacts or Substantially More Severe Impacts?

The East Weber Avenue design refinement would extend the Project Study Area two blocks north. Track improvements to lower an at-grade track up to three inches would occur at the Weber Avenue crossing, which could result in an increase in ground disturbing activities. All construction activities would occur within UP ROW. The Project is located within an area that has been subject to disruption by railroad and commercial development activities. As a result of previous development activities, archaeological resources, and tribal cultural resources that may have existed at the ground surface have likely been displaced or destroyed. However, there is the possibility that ground-disturbing activities could impact previously undiscovered subsurface prehistoric archaeological resources or tribal cultural resources. As stated in the 2021 Certified EIR, BMP CUL-1 (Archaeological and Tribal Monitoring) and BMP CUL-2 (Archaeological and Tribal Monitor) would be implemented to reduce impacts on tribal culture resources if they are encountered during project construction. Therefore, implementation of the Project Variation would not create any new significant impacts or substantially more severe impacts related to tribal cultural resources.

Any New Circumstances Involving New Significant Impacts or Substantially More Severe Impacts?

There are no new circumstances involving new significant impacts or substantially more severe impacts than what was analyzed in the 2021 Certified EIR.

Any New Information Requiring New Analysis or Verification?

No new information of substantial importance has become available related to tribal cultural resources. No substantial changes in the environment related to tribal cultural resources have occurred since certification of the 2021 Certified EIR. No substantial new tribal cultural resources have been identified in the Project Study Area that would result in new or more severe significant environmental impacts.

Mitigation Measures Addressing Impacts

None.

Conclusion

None of the conditions described in CEQA Guidelines Section 15162 calling for preparation of a subsequent EIR would occur with implementation of the Project Variation.



2.1.19 UTILITIES AND SERVICE SYSTEMS

Thresholds	Impact Determination in the Certified EIR	Do Proposed Changes Involve New Significant Impacts or Substantially More Severe Impacts?	Any New Circumstances Involving New Significant Impact or Substantially More Severe Significant Impact?	Any New Information Requiring New Analysis or Verification?	Certified EIR's Mitigation Measures Addressing Impact
XIX. Utilities and Service Systems					
(a) Require or result in the relocation or construction of new or expanded water, wastewater treatment or storm water drainage, electric power, natural gas, or telecommunications facilities, the construction or relocation of which could cause significant environmental effects?	Less Than Significant Impact	No	No	No	None
(b) Have sufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry, and multiple dry years?	Less Than Significant Impact	No	No	No	None
(c) Result in a determination by the wastewater treatment provider which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?	Less Than Significant Impact	No	No	No	None



Thresholds	Impact Determination in the Certified EIR	Do Proposed Changes Involve New Significant Impacts or Substantially More Severe Impacts?	Any New Circumstances Involving New Significant Impact or Substantially More Severe Significant Impact?	Any New Information Requiring New Analysis or Verification?	Certified EIR's Mitigation Measures Addressing Impact
(d) Generate solid waste in excess of State or local infrastructure, or otherwise impair the attainment of solid waste reduction goals?	Less Than Significant Impact	No	No	No	None
(e) Comply with federal, state, and local management and reduction statutes and regulations related to solid waste?	No Impact	No	No	No	None

Impact Determination in the Certified EIR

Impacts related to Utilities and Service Systems were evaluated in Section 3.17, Utilities and Service Systems, of the 2021 Certified EIR. The 2021 Certified EIR determined that the Project would have a less than significant impact with respect to thresholds (a) through (d). The 2021 Certified EIR determined that the Project would have no impact with respect to threshold (e).

Do Proposed Changes Involve New Significant Impacts or Substantially More Severe Impacts?

The Project Variation would extend the Project Study Area north to East Miner Avenue and would include additional track work. All work would be conducted within UP ROW. The 2021 Certified EIR identified effects to existing overhead and underground utilities associated with the construction of new tracks, structures, and upgrades to existing tracks that involve ground-disturbing work. Sewer relocations associated with construction were also evaluated in the 2021 Certified EIR, and coordination with CPUC occurred during the final design phase. Consistent with the 2021 Certified EIR, any additional effects on overhead and underground utilities would be minimized by BMP UTIL-1 (Notify Stakeholders of Utility Service Interruptions), BMP UTIL-2 (Utility Avoidance Coordination), and BMP UTIL-3 (Minimize Utility and Service System Disruptions). The Project Variation would also include the changes to roadway crossing closures, design refinements to the Mormon Slough, and other ROW changes, which would not affect solid waste requirements or water and wastewater requirements associated with project construction and operation. Therefore, implementation of the Project Variation would not create any new significant impacts or substantially more severe impacts related to utilities or service systems.



Any New Circumstances Involving New Impacts or Substantially More Severe Impacts?

There are no new circumstances involving new significant impacts or substantially more severe impacts than what was analyzed in the 2021 Certified EIR.

Any New Information Requiring New Analysis or Verification?

No new information of substantial importance has become available related to impacts on utilities or service systems. No substantial changes in the environment related to utilities or service systems have occurred since certification of the 2021 Certified EIR that would result in new significant environmental impacts.

Mitigation Measures Addressing Impacts

None.

Conclusion

None of the conditions described in CEQA Guidelines Section 15162 calling for preparation of a subsequent EIR would occur with implementation of the Project Variation.

2.1.20 WILDFIRE

Thresholds	Impact Determination in the Certified EIR	Do Proposed Changes Involve New Significant Impacts or Substantially More Severe Impacts?	Any new circumstances Involving New Significant Impact or Substantially More Severe Significant Impact?	Any New Information Requiring New Analysis or Verification?	Certified EIR's Mitigation Measures Addressing Impact
XX. Wildfire					
(a) Substantially impair an adopted emergency response plan or emergency evacuation plan?	N/A	No	No	No	None
(b) Due to slope, prevailing winds, and other factors, exacerbate wildfire risks, and thereby expose project occupants to, pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire?	N/A	No	No	No	None



Thresholds	Impact Determination in the Certified EIR	Do Proposed Changes Involve New Significant Impacts or Substantially More Severe Impacts?	Any new circumstances Involving New Significant Impact or Substantially More Severe Significant Impact?	Any New Information Requiring New Analysis or Verification?	Certified EIR's Mitigation Measures Addressing Impact
(c) Require the installation or maintenance of associated infrastructure (such as roads, fuel breaks, emergency water sources, power lines, or other utilities) that may exacerbate fire risk or that may result in temporary or ongoing impacts to the environment?	N/A	No	No	No	None
(d) Expose people or structures to significant risks, including downslope or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes?	N/A	No	No	No	None

The Project is located in an Urban Unzoned Fire Hazard Zone, outside of High or Very High Fire Hazard Severity Zones (California Department of Forestry and Fire Protection [CALFIRE] 2020). The Project Study Area is also located in a predominantly industrial area and is not within the vicinity of wildlands. Therefore, there would be no impact associated with wildfires as a result of implementation of the Project.



3 Conclusion

In accordance with CEQA Guidelines Section 15164(a), an Addendum to the 2021 Certified EIR is required for the Project Variation because none of the conditions described in Section 15162 or Section 15163 calling for the preparation of a subsequent or supplemental EIR have occurred. Based on the analysis above, there are no environmental topics that were determined to have a significant and unavoidable impact as a result of the Project Variation. Consistent with the 2021 Certified EIR, the Project Variation would have a less than significant impact with mitigation incorporated on the following resources:

- Biological Resources
- Hazards and Hazardous Materials
- Land Use and Planning
- Noise and Vibration

In accordance with CEQA Guidelines Section 15164, this addendum need not be circulated for public review but can be included in or attached to the 2021 Certified EIR. SJRRC shall consider this Addendum with the 2021 Certified EIR prior to making a decision on the Project.



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5 Appendices

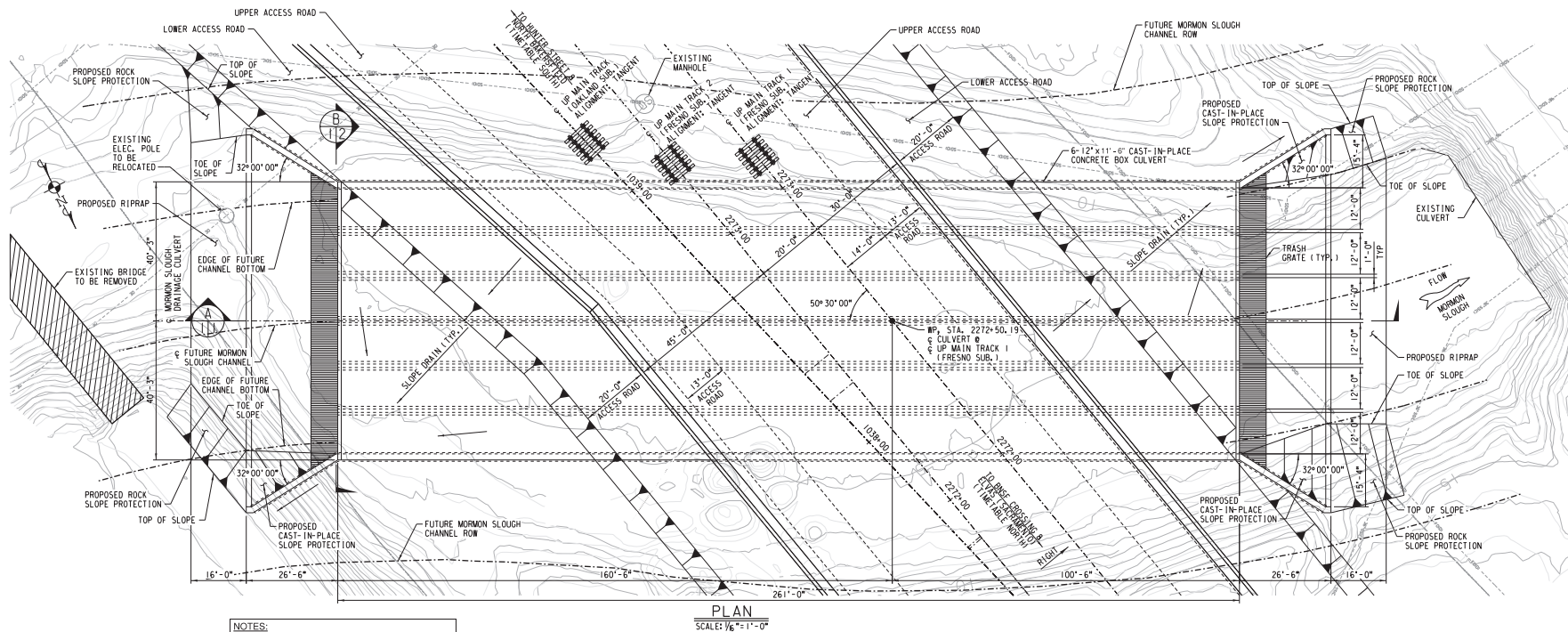


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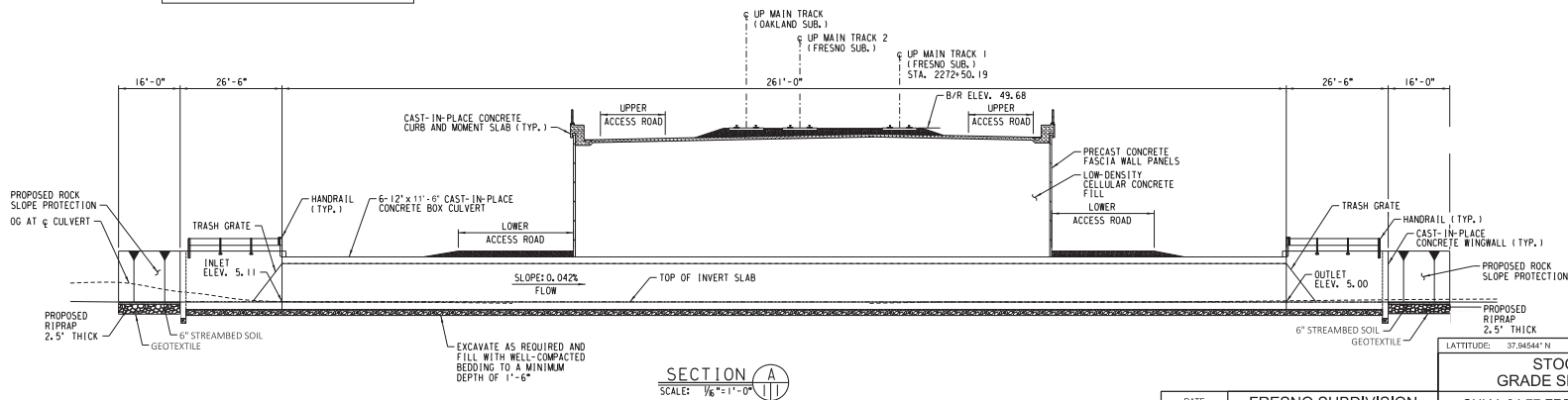


Appendix A

Revised Culvert Design – Mormon Slough



NOTES:
EDGE OF FUTURE MORMON SLOUGH CHANNEL
PER CITY OF STOCKTON SPECIFIC PLAN,
DATED AUGUST, 1989.



Revision No.	Description	Date	By	Apvrd. By

CALL BEFORE YOU DIG

UNDERGROUND
SERVICE ALERT
1-800-227-2600

EXHIBIT

NOT FOR CONSTRUCTION DATE: 12/20/2022

NOT FOR
CONSTRUCTION

SAN JOAQUIN
REGIONAL
B...

LATITUDE: 37.94564° N		LONGITUDE: 121.27479° W	
STOCKTON DIAMOND GRADE SEPARATION PROJECT			
CULV. 84.77 FRESNO SUB. MORMON SLOUGH GENERAL ARRANGEMENT			
DEPARTMENT OF PUBLIC WORKS CITY OF STOCKTON, CALIFORNIA			
SCALE	AS NOTED	SHEET NO.	
DESIGNED BY	CL	S1	
DRAWN BY	TM	OF 3 SHEETS	
CHECKED BY	JM		
RECORD DWGS.		PROJECT NO.	



Appendix B

National Marine Fisheries Service Letter of Concurrence – May 17, 2021



UNITED STATES DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
NATIONAL MARINE FISHERIES SERVICE
West Coast Region
650 Capitol Mall, Suite 5-100
Sacramento, California 95814-4700

Refer to NMFS ECO#: WCRO-2021-00423

May 17, 2021

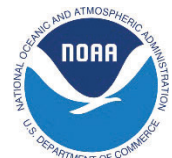
Serge Stanich
Director of Environmental Services
770 L Street,
Suite 620,
Sacramento, California 95814

Re: Endangered Species Act Section 7(a)(2) Concurrence Letter and Magnuson-Stevens
Fishery Conservation and Management Act Essential Fish Habitat Response for the
Stockton Diamond Grade Separation Project

Dear Mr. Stanich:

On February 25, 2021, NOAA's National Marine Fisheries Service (NMFS) received your request for a written concurrence that the Proposed Action, the Stockton Diamond Grade Separation Project, carried out by the San Joaquin Regional Rail Commission (SJRR) and the California High Speed Rail Authority (Authority) under U.S. Code (U.S.C.) Title 23 Section 327 and a Memorandum of Understanding (MOU) between the Federal Rail Administration (FRA) and the State of California, is not likely to adversely affect species listed as threatened or endangered or critical habitats designated under the Endangered Species Act (ESA). NMFS recognizes that the MOU, effective July 23, 2019, designates the Authority as the federal lead agency for review of this Project under the National Environmental Policy Act (NEPA) and other federal environmental laws. Specifically, 3.2.1 of the MOU assigns the FRA's responsibilities under the ESA of 1973 (16 U.S.C. 661 – 667d) and the Magnuson-Stevens Fishery Conservation and Management Act (MSA) of 1976, as amended (16 U.S.C. 1801–1891d) for both formal and informal consultations, for projects included in the scope of the MOU. The Proposed Action is a component of the *ACEforward* program of projects, which is included in the MOU, therefore the Proposed Action is included in the scope of the MOU. NMFS received sufficient information on the Stockton Diamond Grade Separation Project to initiate the consultation on April 22, 2021. This response to your request was prepared by NMFS pursuant to section 7(a)(2) of the ESA and implementing regulations at 50 CFR 402. Thank you also for your request for consultation pursuant to the essential fish habitat (EFH) provisions in Section 305(b) of the MSA (16 U.S.C. 1855(b)) for this action.

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 Environmental Consultation Organizer [<https://eco.fisheries.noaa.gov>]. A complete record of this consultation is on file at NMFS California Central Valley Office in Sacramento, CA.



Consultation History

On October 20, 2020, HDR Inc. staff, on behalf of SJRRC, requested technical assistance via email from NMFS regarding the section of Mormon Slough between the Stockton Diversion Canal and Lake McLeod and whether the section should be considered fish habitat. NMFS confirmed that Mormon Slough did contain Central Valley (CCV) steelhead designated critical habitat and could potentially host individuals depending on the stream section in question.

On February 25, 2021, the Authority requested a letter of concurrence from NMFS regarding the Stockton Diamond Grade Separate Project. The request letter included an appendix with a project description, a list of potentially affected resources, and an effects analysis (Authority et al. 2021).

On March 1, 2021, NMFS requested a GPS project location and identification of the lead action agency. The Authority responded with clarification on March 3, 2021.

On March 4, 2021, NMFS requested additional information about the flyover designs considered and also requested confirmation on the number of railroad crossings proposed to be modified in the action. NMFS also confirmed that the section of Mormon Slough directly involved with the project, though highly degraded and hydrologically isolated, is still designated critical habitat for CCV steelhead (70 FR 52488, 9/2/2005).

On March 8, 2021, HDR Inc. staff shared the Hydrologic and Hydraulic Analysis and Design Memorandum with NMFS (Yim et al. 2021).

On March 17, 2021, a virtual coordination meeting was held between NMFS, Authority, HDR Inc., and SJRRC staff. NMFS explained the requirements of ESA Section 7 consultations and scenarios in which incidental take or adverse habitat effects could occur. Potential railway flyover designs were discussed. NMFS shared our Guidelines for Salmonid Passage at Stream Crossings (NMFS 2019) via email.

On April 22, 2021, the Authority and SJRRC submitted revised flyover design options and other requested information in an updated request letter (Authority 2021) via email. After review of this document, NMFS initiated the consultation.

Proposed Action

The SJRRC proposes to construct a grade separation of two principal railroad lines in Stockton, California. At the present time, the Burlington Northern and Santa Fe Railway (BNSF) Stockton Subdivision and the Union Pacific Railroad (UPRR) Fresno Subdivision consist of two main tracks each and they intersect each other at a level, at-grade crossing known as the Stockton Diamond inside the urbanized street grid of the City of Stockton. This rail intersection is located just south of Downtown Stockton near South Aurora Street and East Scotts Avenue and is considered the busiest at-grade railway junction in California as trains wait to cross this rail intersection. The at-grade crossing results in significant congestion and delays to services that moves people and freight throughout the California Central Valley as well as freight out to the

broader national network. The current, at-grade configuration of the track also results in significant delays to passenger and freight trains in the area, including those serving the Port of Stockton, as well as other rail lines in the area.

The proposed action is to replace the existing at-grade intersection of the BNSF Stockton Subdivision and UPRR Fresno Subdivision with a grade-separation structure that will elevate the UPRR main tracks above the BNSF main tracks, enabling through trains proceeding on the main tracks of each railroad to advance through the intersection without waiting on through trains on the main tracks of the other railroad. The UPRR flyover alignment is proposed to be shifted east of the existing Fresno Subdivision tracks so that construction of the new flyover would minimize impacts on existing rail operations. Construction of the Proposed Action would require either a clear span flyover bridge, a bridge with in-channel piers, or a multi-cell box culvert to span the Mormon Slough and associated floodplain. Existing drainage structures along Mormon Slough would remain in place after construction of the proposed slough bridge. Further, pipe culverts under the existing UPRR main tracks immediately downstream (west) of the flyover alignment would be left in place to support the remaining at grade connection track to BNSF. Drainage structures for passing flows beneath the new railroad flyover will either be open bottom box culverts or a bridge.

The SJRRC has committed to using a crossing type for the flyover spanning Mormon Slough that will retain a natural substrate stream channel bottom. This crossing would require a structure over Mormon Slough and would either be 1) a 100-foot-long, single-span bridge option would be skewed 15 degrees to the main tracks and provide a clear distance of approximately 89 feet between abutment walls, where the Mormon Slough channel would flow freely, 2) a four-cell, cast-in-place concrete, open bottom box culvert on pile foundations option would have four 12-foot-wide by 10-foot-tall cells with the walls of the culvert having driven-pile foundations, or 3) a precast concrete arch culvert option would consist of a single-cell arch structure on spread footings or pile foundations. The arch option would span 40 to 50 feet across the channel and have a rise of 10 to 15 feet (Figure 1). The commitment to keeping a natural stream channel bottom will be incorporated into the Final Environmental Impact Report and Environmental Assessment with the presented flyover design options for the project when the project is presented for public comment. In addition, SJRRC has committed to avoiding the use of riprap to armor the channel at this location. These measures are intended to ensure the project does not impair the quality of the channel for fish passage and that it does not further reduce the channel's suitability for restoration and use by relevant species in the future.

In addition to any permit conditions required under the Clean Water Act Section 402 construction general permit, which the contractor would obtain, the SJRRC has adopted the following avoidance and minimization measures that apply to all activities within 150 feet of aquatic resources to avoid contributing sediment or contamination to Mormon Slough:

- Prior to initiation of project-related activities, construction best management practices (BMPs) shall be employed on site to prevent erosion or runoff of loose soil and dust. Methods shall include the use of appropriate measures to intercept and capture sediment prior to entering aquatic resources, as well as erosion control measures along the perimeter of disturbance areas to prevent the displacement of fill material.

Figure 1. Stockton Diamond Grade Separation Flyover Designs Considered. 1) a single-span bridge, 2) a four-cell open bottom box culvert, and 3) a precast arch culvert, with estimated height-width measurements in feet.

- All BMPs shall be in place prior to initiation of project-related activities and shall remain until activities are completed. All erosion control methods will be maintained until all onsite soils are stabilized.
- The work areas will be reduced to the smallest practicable footprint throughout the duration of Proposed Action activities. Prior to any ground-disturbing activity, the project proponent will establish staging areas for construction equipment in areas that minimize impacts on sensitive biological resources, including aquatic resources. Staging areas (including any temporary material storage areas) would be located in areas that would be occupied by permanent facilities, where practicable. Equipment staging areas would be identified on final project construction plans. The project proponent would flag and mark access routes to restrict vehicle traffic within the project footprint to established roads, construction areas and other designated areas.
- All exposed and/or disturbed areas resulting from project-related activities shall be returned to their original contour and grade, and restored using locally native grass and forb seeds, plugs, or a mix of these methods. Areas shall be seeded with species appropriate to their topographical and hydrological character. Seeded areas shall be covered with broadcast straw and/or jute netted, where appropriate.
- All vehicle traffic associated with project-related activities shall be confined to established roads, staging areas, and parking areas. Vehicle speeds shall not exceed 15 miles per hour on access roads with no posted speed limit to avoid collisions with special-status species or habitats. Additionally, maintenance or refueling of vehicles or equipment must occur in designated areas and/or a secondary containment, located away from aquatic resources.
- During ground-disturbing activities, the project proponent may temporarily store excavated materials produced by construction activities in areas at or near construction sites within the project footprint. Where practicable, the project proponent will return excavated soil to its original location to be used as backfill. Any excavated waste materials unsuitable for treatment and reuse would be disposed at an off-site location, in conformance with applicable state and federal laws. Stockpiled, disassembled, and hazardous construction material should be stored at least 100 feet from aquatic resources, where possible.

Action Area

The proposed action is in the Lower Calaveras-Mormon Slough 8th Field Hydrologic Unit 18040004 in Stockton, California. The new railroad flyover will cross the middle of Mormon Slough at approximately Latitude 37.945186/Longitude -121.274638. Existing railroad bridges and culverts currently cross Mormon Slough upstream and downstream of the new crossing location but these structures are not proposed to be changed or modified as part of this action (Figure 2). Because Mormon Slough is currently hydrologically disconnected from both the San Joaquin River Delta downstream and the Calaveras River upstream due to human modifications of these waterways and creation of the Stockton Diverting Canal, it is not anticipated that sediment mobilization or water quality degradation to other critical habitat downstream will be

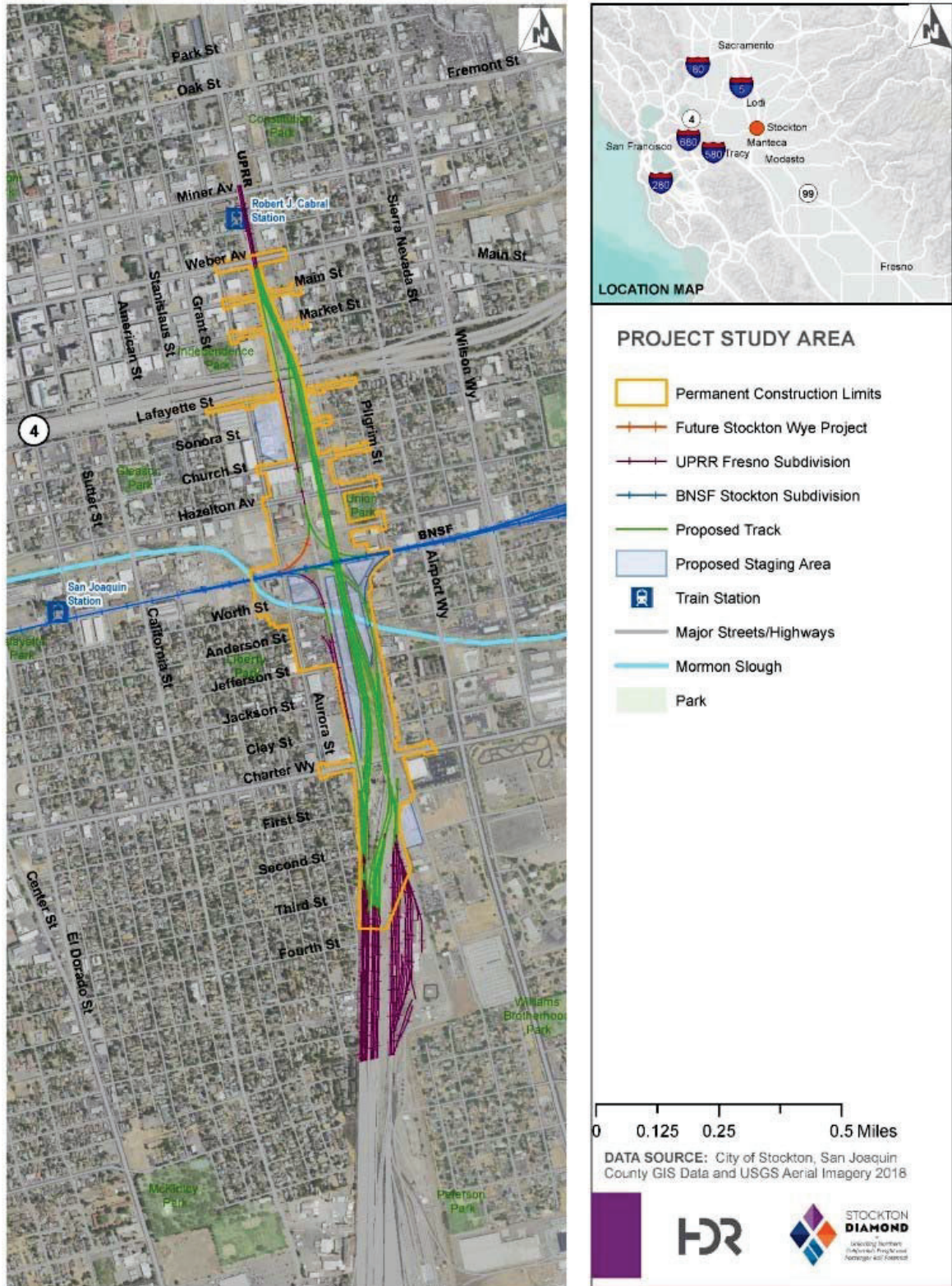


Figure 2. Proposed project area map for the new flyover structure path (green lines) and the existing railways supporting UPRR Fresno Subdivision service (purple lines) and BNSF Stockton Subdivision service (blue lines) over Mormon Slough in Stockton, California.

measurable or travel beyond BMP catchments or treatments to negatively affect waterways downstream; therefore the action area for this project is limited to the immediate construction footprint and the extent of the new grade separation and flyover structure. We considered, under the ESA whether or not the proposed action would cause any other activities and determined that it would not would cause additional consequences.

Background and Action Agency's Effects Determination

The Authority identified that the following NMFS trust resources occur in the Stockton West USGS quadrangle and potentially in the action area for the proposed action:

- CCV steelhead, *Oncorhynchus mykiss*, (listed threatened, 71 FR 834, 1/5/2006) and its critical habitat (70 FR 52488, 9/2/2005);
- southern Distinct Population Segment (sDPS) of North American green sturgeon, *Acipenser medirostris*, (listed threatened, 71 FR 17757, 4/7/2006) and its critical habitat (74 FR 52300, 10/9/2009);
- Essential fish habitat (EFH) for chinook salmon (*Oncorhynchus tshawytscha*), and
- EFH for groundfish.

The species range and critical habitat for CCV steelhead does coincide with the reach of Mormon Slough that occurs in the action area but neither the accepted range nor critical habitat for green sturgeon overlap with the action area as defined by Figure 2. The reach of Mormon Slough that crosses the action area is also mapped as EFH for Chinook salmon but the mapped extent of EFH for groundfish does not coincide with the action area.

The portion of Mormon Slough the new railway flyover will cross is downstream of the split between the Old Calaveras River channel and Mormon Slough/Stockton Diverting Canal. In the past, Mormon Slough flowed southwest from its split from the Calaveras River to the harbor/Delta as a distributary but this lower slough channel was closed off by a levee constructed by the U.S. Army Corps of Engineers in the creation of the Stockton Diverting Canal/Calaveras River reroute decision (Stockton East Water District and FISHBIO 2019). The Stockton Diverting Canal was completed in 1911 and the associated flow rerouting decision provides 12,500 cubic-feet-per-second of flood control capacity around the City of Stockton but has isolated the portion of lower Mormon Slough within the Action Area and prevents it from receiving Calaveras River flows. Therefore at present, while this portion of Mormon Slough intermittently collects stormwater discharges from its urban sub-basin, it is usually completely dry. In fact, two low-flow road crossings currently intersect and cross the channel/floodplain in this flow-isolated section and, just before the channel's connection with McLeod Lake/Delta water, a road on an earthen berm prevents San Joaquin River/Delta water from encroaching back into Mormon Slough as well. Since the channel bottom consists of compacted clay, sand, and silt without much gravel or vegetation and is normally dry, the channel also hosts several homeless camps in the channel and floodplain, evident in both aerial imagery and recent site photos provided by the Authority (Authority et al. 2021).

In the future, local agencies and/or nonprofits have indicated this part of Mormon Slough may be used as part of flood control planning in the long-term and/or may rehabilitate the area to provide

bicycle/pedestrian routes (Yim et al. 2021). Considering the potential for restoration of flows to be returned to this portion of Mormon Slough, the channel may become accessible to anadromous fishes and become available for their migration and rearing purposes in the far future. It is anticipated restoration of flows will occur in the far future, after construction of the proposed flyover is complete and grade separation is achieved.

The Authority has determined that the proposed action may affect but is not likely to adversely affect CCV steelhead or its critical habitat, nor sDPS green sturgeon or its critical habitat. The Authority has also determined that the proposed action will have no adverse effect on EFH for Chinook salmon or groundfish. These determinations were reached because the section of Mormon Slough crossed the proposed flyover is hydrologically isolated and disconnected from downstream waters that may actually harbor these species and neither individuals of the species nor functional EFH is present in the action area as the waterway is typically completely dry without any water flow to or from anadromous waterways.

ENDANGERED SPECIES ACT

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 (50 CFR 402.02). In our analysis, which describes the effects of the proposed action, we considered 50 CFR 402.17(a) and (b). When evaluating whether the proposed action is not likely to adversely affect listed species or critical habitat, NMFS considers whether the effects are expected to be completely beneficial, insignificant, or discountable. Completely beneficial effects are contemporaneous positive effects without any adverse effects to the species or critical habitat. Insignificant effects relate to the size of the impact and should never reach the scale where take occurs. Effects are considered discountable if they are extremely unlikely to occur.

The potential effects of the proposed action include:

- Further impediment to volitional fish passage through Mormon Slough
- Further degradation of critical habitat available in Mormon Slough

Because this section of Mormon Slough is completely isolated both upstream and downstream from waters used by CCV steelhead and sDPS green sturgeon, it is impossible for an individual from either population to access the action area of this project. Only during an extreme or historic flood event (>100-year event) would the levee system around the Stockton Diverting Canal be at real risk of being overtopped and allow river or Delta water to enter this section of the Mormon Slough channel because of current levees and other flow control modifications. The probability of such an event occurring during the proposed construction timeline would be so low it would be considered discountable. Without a reasonable ability for fish to access or use

the section of Mormon Slough involved in the construction of the flyover, there is no chance for individuals to be exposed to direct adverse effects normally associated with the construction process and incidental take of listed species is not expected to occur.

While the action area does not contain designated sDPS green sturgeon critical habitat (though Lake McLeod, downstream, is sDPS green sturgeon designated critical habitat), this section of Mormon Slough is still CCV steelhead designated critical habitat, despite its current state. Though the channel and floodplain cannot currently support any steelhead life history needs, it is important that the proposed action does not preclude the restoration or reestablishment of such functions in the future. The Primary Constituent Elements essential to the species that could be restored in this section of Mormon Slough are: 1) freshwater migration corridors for both adult and juvenile steelhead that are free of obstruction and excessive predation, and 2) freshwater rearing sites with sufficient water quantity and connectivity to support juvenile forage, growth, and development (NMFS 2014).

Several existing railway crossings over Mormon Slough in the action area utilize drainage structures that would not meet NMFS fish passage criteria for bridges and culverts and would be considered passage impediments if flows were restored. However, the proposed action only proposes the construction of a new flyover to achieve grade separation and does not include plans to modify any of these existing structures, or any other drainage structure, in the action area. Railroad tracks may be realigned on top of these existing crossings but there will be no changes or maintenance to the base structures in the channel/floodplain and therefore the proposed action does not present an opportunity to improve fish passage conditions through existing structures. Through coordination with the Authority and SJRRC, the three options for the flyover design now meet NMFS fish passage criteria (NMFS 2019) and will retain a natural streambed bottom regardless of which structure is ultimately selected. These designs ensure fish passage will be viable when and if blockages up and downstream are modified to restore stream flow to this section of Mormon Slough. Since the revised designs will not obstruct anadromous fish passage and do not preclude the restoration of flow to Mormon Slough, the proposed project will not adversely affect the ability of CCV steelhead critical habitat in this section to serve as a freshwater migration corridor.

Also through coordination, the Authority and SJRRC have purposefully excluded the use of riprap to armor the channel at this location. The placement of riprap, or other hard bank armoring practices, without sufficiently addressing the adverse impacts of these tactics would further degrade the rearing habitat available to the species, if flows and access were restored in the future. Riprap reduces the shoreline margin habitat and physically occupies space that could otherwise be occupied by riparian/floodplain vegetation or host macroinvertebrate prey habitat, which are essential components of a functioning stream ecosystem that supports salmonid rearing. Juvenile salmonid mortality from both native and non-native fish predators is also a factor in their populations' successful recovery in the CCV (NMFS 2014). Large piscivorous predators that utilize ambush techniques are attracted to hard surfaces with hiding spots for ambush, like stretches of riprap and artificial structures (Munsch et al. 2017). Without escapement cover like submerged vegetation or margin habitat available in the immediate vicinity, there would be a low chance of survival for targeted juveniles. Because the project design now specifically excludes the use of riprap, if in the future this section of Mormon Slough is restored and rearing juvenile steelhead become able to use the area, the proposed project will

not further reduce the ability of CCV steelhead critical habitat to provide freshwater rearing or floodplain connectivity in the action area beyond its baseline condition.

Conclusion

Based on this analysis, NMFS concurs with the Authority that the proposed action is not likely to adversely affect the subject listed species and designated critical habitats.

Reinitiation of Consultation

Reinitiation of consultation is required and shall be requested by the Authority, the SJRRC, or by NMFS, where discretionary Federal involvement or control over the action has been retained or is authorized by law and (1) the proposed action causes take; (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 the written concurrence (specifically a design change wherein the proposed flyover design is modified to one that may affect the ability of the waterway to provide unimpeded fish passage or that alters the streambed bottom, or if water flow and volitional fish access to this section of Mormon Slough is restored before construction is complete); or (4) a new species is listed or critical habitat designated that may be affected by the identified action (50 CFR 402.16). This concludes the ESA consultation.

Section 7(a)(1) of the ESA directs Federal agencies to utilize their authorities to further the purposes of the ESA by carrying out conservation programs for the benefit of threatened and endangered species. The Authority also has the same responsibilities, and informal consultation offers action agencies an opportunity to address their conservation responsibilities under section 7(a)(1), as a designated federal representative. As such, NMFS recommends that the Authority, and other railway agencies such as the SJRRC, support future flood planning decisions and conservation efforts that involve the reconnection of this section of Mormon Slough to Calaveras River and the San Joaquin River Delta, the restoration of flows, the restoration of fish passage, and habitat rehabilitation/revegetation efforts that support the life history needs and recovery of ESA-listed fishes. NMFS also recommends that the Authority and SJRRC systematically and strategically replace or retrofit existing railroad crossings, drainage structures, and associated culverts that do not currently meet NMFS fish passage criteria so that these structures enable fish passage where appropriate, and work with other railway owners and partners to do the same whenever possible.

MAGNUSON-STEVENS FISHERY CONSERVATION AND MANAGEMENT ACT

Section 305(b) of the MSA directs Federal agencies to consult with NMFS on all actions or proposed actions that may adversely affect EFH. Under the MSA, this consultation is intended to promote the conservation of EFH as necessary to support sustainable fisheries and the managed species' contribution to a healthy ecosystem. For the purposes of the MSA, EFH means "those waters and substrate necessary to fish for spawning, breeding, feeding, or growth to maturity", and includes the associated physical, chemical, and biological properties that are used by fish (50 CFR 600.10). Adverse effect means any impact that reduces quality or quantity of EFH, and may include direct or indirect physical, chemical, or biological alteration of the waters or substrate

and loss of (or injury to) benthic organisms, prey species and their habitat, and other ecosystem components, if such modifications reduce the quality or quantity of EFH. Adverse effects may result from actions occurring within EFH or outside of it and may include direct, indirect, site-specific or habitat-wide impacts, including individual, cumulative, or synergistic consequences of actions (50 CFR 600.810). Section 305(b) of the MSA also requires NMFS to recommend measures that can be taken by the action agency to conserve EFH. Such recommendations may include measures to avoid, minimize, mitigate, or otherwise offset the adverse effects of the action on EFH (50 CFR 600.905(b)).

NMFS concurs with the Authority's determination that the proposed action would not adversely affect Pacific Coast Salmon EFH because, as established in the Background and Action Agency's Effect Determination section, Chinook salmon are also currently unable to access this section of Mormon Slough. In its present, isolated state, this slough section is also unable to provide water, substrate, prey, or any other ecosystem constituent to Pacific Coast Salmon EFH in accessible waters downstream of the action area. The proposed action under consideration had no influence on the existing rerouting decisions that lead to Mormon Slough becoming isolated *and* building a new railroad flyover is not expected to prevent the area from serving as Pacific Coast Salmon EFH if water flow and fish passage are restored in the future. NMFS has no EFH conservation recommendations to offer the Authority or SJRRC to minimize project impacts on Pacific Coast Salmon EFH beyond those suggested above or what has already been incorporated as project modifications during the ESA consultation. However, the Authority must reinstate MSA consultation with NMFS if the proposed action is substantially revised in a way that may adversely affect EFH in the future, or if new information becomes available that affects the basis for NMFS' EFH conservation recommendations (50 CFR 600. 920(1)). This concludes the MSA consultation.

Please direct questions regarding this letter to Katie Schmidt, Fish Biologist, at (916) 930-3685 or katherine.schmidt@noaa.gov.

Sincerely,



Erin Strange
San Joaquin River Basin Branch Chief

cc: To the File: 151422-WCR2018-SA00467
Mike Aviña, mike.avina@hsr.ca.gov, Authority
Sue Meyer, sue.meyer@hsr.ca.gov, Authority
Scott Rothenberg, scott.rothenberg@hsr.ca.gov, Authority
Jelica Arsenijevic, jelica.arsenijevic@hdrinc.com, HDR, Inc.

References

- Authority. 2021. Informal Section 7 Consultation for the Stockton Diamond Grade Separation Project and Attachment A: Stockton Diamond Crossing Design. Dated 4/16/2021.
- Authority, SJRRC, and HDR Inc. 2021. Informal Section 7 Consultation for the Stockton Diamond Grade Separation Project, National Marine Fisheries Service Regulated Species and Habitat Memorandum and Attachments a, B, C, and D. Dated 2/25/2021. California High Speed Rail Authority.
- Munsch, S. H., J. R. Cordell, J. D. Toft, and V. Trenkel. 2017. Effects of Shoreline Armouring and Overwater Structures on Coastal and Estuarine Fish: Opportunities for Habitat Improvement. *Journal of Applied Ecology* 54(5):1373-1384.
- NMFS. 2014. 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. National Marine Fisheries Service. West Coast Region, pp. 427.
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- Yim, A., W. Chiu, and H. Karlsson. 2021. Hydrologic and Hydraulic Analysis and Design Memorandum. Dated 3/5/2021. WRECO Civil Engineering, Environmental Compliance, Geotechnical Engineering, and Water Resources Consultation Services.



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Appendix C

U.S. Army Corps of Engineers Approved Jurisdictional Delineation – December 20, 2022



DEPARTMENT OF THE ARMY
U.S. ARMY CORPS OF ENGINEERS, SACRAMENTO DISTRICT
1325 J STREET
SACRAMENTO CA 95814-2922

December 20, 2022

Regulatory Division (SPK-2022-00292)

San Joaquin Regional Rail Commission
Attn: Brian Schmidt
949 East Channel Street
Stockton, CA 95202-2620
brian@acerail.com

Dear Mr. Schmidt:

We are responding to the November 10, 2022, request for an approved jurisdictional determination submitted on your behalf by HDR for the Stockton Diamond Grade Separation Project site. The approximately 105-acre project site is located in Township 1 North, Range 6 East, MDB&M and is associated with the Campo de Los Francesis Land Grant, Latitude 37.94497°, Longitude -121.27426°, City of Stockton, San Joaquin County, California.

Based on available information, we concur with your aquatic resources delineation for the site, as depicted on the enclosed figure titled, *Figure 1 Aquatic Resources Survey Area* prepared by HDR on August 26, 2022, (Enclosure 1). No aquatic resources are present within the survey area.

The conclusions of this letter are consistent with the wetland definition at 33 CFR §328.3(c)(16), the 1987 *Corps of Engineers Wetlands Delineation Manual* (Wetlands Research Program Technical Report Y-87-1) and the applicable regional supplements; the location and boundaries of tidal waters conform with the high tide line defined at 33 CFR §328.3(c)(4); and the location and boundaries of non-tidal waters conform with the ordinary high water mark definition at 33 CFR §328.3(c)(7), Regulatory Guidance Letter 05-05, and any applicable regional guide.

We are enclosing a copy of the *Approved Jurisdictional Determination Form* for your site (Enclosure 2).

This approved jurisdictional determination is valid for five years from the date of this letter unless new information warrants revision of the determination before the expiration date. If you object to this determination, you may request an administrative appeal under Corps regulations at 33 Code of Federal Regulations (CFR) Part 331. A *Notification of Appeal Process (NAP) and Request for Appeal (RFA) Form* is enclosed (Enclosure 3). If you request to appeal this determination, you must submit a completed RFA form to the South Pacific Division Office at the following address: Administrative Appeal Review Officer, Army Corps of Engineers, South Pacific Division, CESPD-PDO,

1455 Market Street, 2052B, San Francisco, California 94103-1399, Telephone: 415-503-6574, FAX: 415-503-6646.

In order for an RFA to be accepted by the Corps, we must determine that the form is complete, that it meets the criteria for appeal under 33 CFR Part 331.5, and that the form was received by the Division Office within 60 days of the date of the NAP. It is not necessary to submit an RFA form to the Division Office unless you object to the determination in this letter.

We recommend that you provide a copy of this letter and notice to all other affected parties, including any individual who has an identifiable and substantial legal interest in the property.

The delineation included herein has been conducted to identify the location and extent of the aquatic resource boundaries and/or the jurisdictional status of aquatic resources for purposes of the Clean Water Act for the particular site identified in this request. This delineation and/or jurisdictional determination may not be valid for the Wetland Conservation Provisions of the Food Security Act of 1985, as amended. If you or your tenant are USDA program participants, or anticipate participation in USDA programs, you should discuss the applicability of a certified wetland determination with the local USDA service center, prior to starting work.

We appreciate feedback, especially about interaction with our staff and our processes.

Please refer to identification number SPK-2022-00292 in any correspondence concerning this project. If you have any questions, please contact Matt Hirkala by email at matthew.j.hirkala@usace.army.mil or by phone at (916) 557-5148. We appreciate feedback, especially about interactions with our staff and processes. For program information or to complete our Customer Survey, visit our website at www.spk.usace.army.mil/missions/regulatory.aspx.

Sincerely,



Mary Pakenham-Walsh
Chief
CA Delta Section

Enclosures

cc:

Leslie Parker, HDR, leslie.parker@hdrinc.com

NOTIFICATION OF ADMINISTRATIVE APPEAL OPTIONS AND PROCESS AND REQUEST FOR APPEAL

Applicant: San Joaquin Regional Rail Commission, Attn: Mr. Brian Schmidt		File No.: SPK-2022-00292	Date: December 15, 2022
Attached is:			See Section below
	INITIAL PROFFERED PERMIT (Standard Permit or Letter of permission)	A	
	PROFFERED PERMIT (Standard Permit or Letter of permission)	B	
	PERMIT DENIAL	C	
→	APPROVED JURISDICTIONAL DETERMINATION	D	
	PRELIMINARY JURISDICTIONAL DETERMINATION	E	

SECTION I - The following identifies your rights and options regarding an administrative appeal of the above decision. Additional information may be found at http://www.usace.army.mil/cecw/pages/reg_materials.aspx or Corps regulations at 33 CFR Part 331.

A: INITIAL PROFFERED PERMIT: You may accept or object to the permit.

- **ACCEPT:** If you received a Standard Permit, you may sign the permit document and return it to the district engineer for final authorization. If you received a Letter of Permission (LOP), you may accept the LOP and your work is authorized. Your signature on the Standard Permit or acceptance of the LOP means that you accept the permit in its entirety, and waive all rights to appeal the permit, including its terms and conditions, and approved jurisdictional determinations associated with the permit.
- **OBJECT:** If you object to the permit (Standard or LOP) because of certain terms and conditions therein, you may request that the permit be modified accordingly. You must complete Section II of this form and return the form to the district engineer. Your objections must be received by the district engineer within 60 days of the date of this notice, or you will forfeit your right to appeal the permit in the future. Upon receipt of your letter, the district engineer will evaluate your objections and may: (a) modify the permit to address all of your concerns, (b) modify the permit to address some of your objections, or (c) not modify the permit having determined that the permit should be issued as previously written. After evaluating your objections, the district engineer will send you a proffered permit for your reconsideration, as indicated in Section B below.

B: PROFFERED PERMIT: You may accept or appeal the permit.

- **ACCEPT:** If you received a Standard Permit, you may sign the permit document and return it to the district engineer for final authorization. If you received a Letter of Permission (LOP), you may accept the LOP and your work is authorized. Your signature on the Standard Permit or acceptance of the LOP means that you accept the permit in its entirety, and waive all rights to appeal the permit, including its terms and conditions, and approved jurisdictional determinations associated with the permit.
- **APPEAL:** If you choose to decline the proffered permit (Standard or LOP) because of certain terms and conditions therein, you may appeal the declined permit under the Corps of Engineers Administrative Appeal Process by completing Section II of this form and sending the form to the division engineer (address on reverse). This form must be received by the division engineer within 60 days of the date of this notice.

C: PERMIT DENIAL: You may appeal the denial of a permit under the Corps of Engineers Administrative Appeal Process by completing Section II of this form and sending the form to the division engineer (address on reverse). This form must be received by the division engineer within 60 days of the date of this notice.

D: APPROVED JURISDICTIONAL DETERMINATION: You may accept or appeal the approved JD or provide new information.

- **ACCEPT:** You do not need to notify the Corps to accept an approved JD. Failure to notify the Corps within 60 days of the date of this notice, means that you accept the approved JD in its entirety, and waive all rights to appeal the approved JD.
- **APPEAL:** If you disagree with the approved JD, you may appeal the approved JD under the Corps of Engineers Administrative Appeal Process by completing Section II of this form and sending the form to the division engineer (address on reverse). This form must be received by the division engineer within 60 days of the date of this notice.

E: PRELIMINARY JURISDICTIONAL DETERMINATION: You do not need to respond to the Corps regarding the preliminary JD. The preliminary JD is not appealable. If you wish, you may request an approved JD (which may be appealed), by contacting the Corps district for further instruction. Also, you may provide new information for further consideration by the Corps to reevaluate the JD.

SECTION II - REQUEST FOR APPEAL or OBJECTIONS TO AN INITIAL PROFFERED PERMIT

REASONS FOR APPEAL OR OBJECTIONS: (Describe your reasons for appealing the decision or your objections to an initial proffered permit in clear concise statements. You may attach additional information to this form to clarify where your reasons or objections are addressed in the administrative record.)

ADDITIONAL INFORMATION: The appeal is limited to a review of the administrative record, the Corps memorandum for the record of the appeal conference or meeting, and any supplemental information that the review officer has determined is needed to clarify the administrative record. Neither the appellant nor the Corps may add new information or analyses to the record. However, you may provide additional information to clarify the location of information that is already in the administrative record.

POINT OF CONTACT FOR QUESTIONS OR INFORMATION:

If you have questions regarding this decision and/or the appeal process, you may contact:

U.S. Army Corps of Engineers
Matt Hirkala
Project Manager, CA Delta Section
Phone: 916-557-5148:
FAX: 916-557-7803
Email: Matthew.J.Hirkala@usace.army.mil

If you only have questions regarding the appeal process, you may also contact:

Travis Morse
Administrative Appeal Review Officer
U.S. Army Corps of Engineers
South Pacific Division
Phillip Burton Federal Building, Post Office Box 36023
450 Golden Gate Avenue
San Francisco, California 94102
Phone: 970-243-1199x1014, FAX: 971-241-2358
Email: W.Travis.Morse@usace.army.mil

RIGHT OF ENTRY: Your signature below grants the right of entry to Corps of Engineers personnel, and any government consultants, to conduct investigations of the project site during the course of the appeal process. You will be provided a 15 day notice of any site investigation and will have the opportunity to participate in all site investigations.

Signature of appellant or agent.

Date:

Telephone number:



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Appendix D

**Central Valley Regional Water Quality Control Board 401 Water Quality Certification Decision
– December 22, 2022**

From: [Agarwal, Shawn@Waterboards](mailto:Agarwal,Shawn@Waterboards)
To: [Brian Schmidt](#); [Parker, Leslie](#)
Cc: [Tadlock, Stephanie@Waterboards](mailto:Tadlock,Stephanie@Waterboards); [Hirkala, Matthew J SPK](#)
Subject: Stockton Diamond Grade Separation Project - No 401/WDR Needed
Date: Thursday, December 22, 2022 5:24:28 PM
Attachments: [Stockton Diamond Grade Separation Pre-Filing Inspection.pdf](#)
[Stockton Diamond ARDR 20220829.pdf](#)
[2022.12.20 AR-Apprvd JD Verify 202200292.pdf](#)

CAUTION: [EXTERNAL] This email originated from outside of the organization. Do not click links or open attachments unless you recognize the sender and know the content is safe.

Hello Brian and Leslie,

This email is in response to your inquiry on the permitting requirements for the Stockton Diamond Grade Separation Project. I have determined that the project activities will unlikely result in direct impacts the waters of the state. Therefore, the Water Board will not be issuing a 401 Water Quality Certification for the project and will not require coverage under General Order No. 2004-004 DWQ for non-jurisdictional waters. My determination is based on the following:

1. Observations made during my visit to the project site on September 22, 2022 (inspection report attached).
2. Review of the Aquatic Resources Delineation Report prepared by HDR in August 2022 (attached).
3. The Approved Jurisdictional Determination provided by the Army Corps on December 20, 2022 (attached).

Best management practices to prevent soil erosion and to control sediment should be implemented within the Project area. In addition, construction materials should be properly disposed of once the Project is completed. If construction activity for this Project involves land disturbances greater than or equal to one acre, or this Project disturbs less than one acre but is part of a larger common plan of development that in total disturbs more than one acre, coverage under the National Pollutant Discharge Elimination System (NPDES) General Permit for Storm Water Discharges Associated with Construction and Land Disturbance Activities Order No. 2009-0009-DWQ is required. If you have questions regarding the Construction Storm Water program, contact Jorge Beltran at (916) 464-4794 or Jorge.Beltran@waterboards.ca.gov.

Please save this email for your records.

Thanks

Shawn Agarwal, QSD/QSP, CPESC, QISP

Environmental Scientist

401 Water Quality Certification and Dredging Unit

Central Valley Regional Water Quality Control Board

Office: (916) 464-4849

Cell: (831) 332-9689

shawn.agarwal@waterboards.ca.gov



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Appendix E

**National Marine Fisheries Service Biological Opinion for the Stockton Diamond Grade
Separation Project – December 9, 2024**



UNITED STATES DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
NATIONAL MARINE FISHERIES SERVICE
West Coast Region, California Central Valley Office
650 Capitol Mall, Suite 5-100
SACRAMENTO, CA 95814

Refer to NMFS ECO #: WCRO-2024-01106

December 9, 2024

Scott Rothenberg
NEPA Assignment Manager
California High Speed Rail Authority
770 L Street, Suite 620
Sacramento, California 95814

Re: Endangered Species Act Section 7(a)(2) Biological Opinion and Magnuson-Stevens
Fishery Conservation and Management Act Essential Fish Habitat Response for the
Stockton Diamond Grade Separation Project.

Dear Mr. Rothenberg:

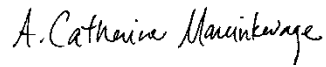
Thank you for your April 15, 2024, letter, requesting initiation of consultation with NOAA's National Marine Fisheries Service (NMFS) pursuant to section 7 of the Endangered Species Act of 1973 (ESA, 16 U.S.C. 1531 *et seq.*) for the Stockton Diamond Grade Separation Project (Project). Thank you also for your request for essential fish habitat (EFH) consultation. NMFS reviewed the proposed action for potential effects on EFH pursuant to section 305(b) of the Magnuson-Stevens Fishery Conservation and Management Act (MSA), implementing regulations at 50 CFR 600.920, and agency guidance for use of the ESA consultation process to complete EFH consultation. We have concluded that the action would adversely affect EFH designated under the Pacific Coast Salmon Fishery Management Plan (PFMC 2014), and we included EFH conservation recommendations in this document. Pursuant to U.S. Code (U.S.C.) Title 23 Section 327, and a Memorandum of Understanding (MOU) between the Federal Rail Administration (FRA) and the State of California, effective July 23, 2019, the California High-Speed Rail Authority is the federal lead agency for review of this Project under the National Environmental Policy Act and other federal environmental laws.

Based on the best available scientific and commercial information, the biological opinion concludes that the proposed Project is not likely to jeopardize the continued existence of the federally listed, threatened California Central Valley (CCV) steelhead distinct population segment (DPS, *Oncorhynchus mykiss*), nor destroy or adversely modify its designated critical habitat. NMFS has included an incidental take statement with reasonable and prudent measures and terms and conditions that are necessary and appropriate to avoid, minimize, or monitor incidental take of listed species associated with the Project. NMFS also concurs with the California High-Speed Rail Authority that the proposed action is not likely to adversely affect the threatened southern DPS of North American green sturgeon (*Acipenser medirostris*) or its designated critical habitat. Our analysis for concurrence is in section 2.12 of the biological opinion.



Please contact Kathryn Swick, California Central Valley Office at (301) 427-7812 or via email at kathryn.swick@noaa.gov if you have any questions concerning this consultation, or if you require additional information.

Sincerely,

A handwritten signature in cursive script that reads "A. Catharine Marcinkevage".

Cathy Marcinkevage
Assistant Regional Administrator for
California Central Valley Office

cc: File to: ARN 151422-2023-SA0044

Enclosure



UNITED STATES DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
NATIONAL MARINE FISHERIES SERVICE
West Coast Region
650 Capitol Mall, Suite 5-100
Sacramento, California 95814-4700

**Endangered Species Act (ESA) Section 7(a)(2) Biological Opinion and Magnuson–Stevens
Fishery Conservation and Management Act Essential Fish Habitat Response**

Stockton Diamond Grade Separation Project

NMFS Consultation ECO Number: WCRO-2024-01106

Action Agency: California High-Speed Rail Authority

Affected Species and NMFS' Determinations:

ESA-Listed Species	Status	Is Action Likely to Adversely Affect Species?	Is Action Likely to Jeopardize the Species?	Is Action Likely to Adversely Affect Critical Habitat?	Is Action Likely to Destroy or Adversely Modify Critical Habitat?
CCV steelhead DPS (<i>Oncorhynchus mykiss</i>)	Threatened	No	No	Yes	No
sDPS North American green sturgeon (<i>Acipenser medirostris</i>)	Threatened	No	No	No	No

Fishery Management Plan That Identifies EFH in the Project Area	Does Action Have an Adverse Effect on EFH?	Are EFH Conservation Recommendations Provided?
Pacific Coast Salmon	Yes	Yes

Consultation Conducted By: National Marine Fisheries Service, West Coast Region

Issued By: *A. Catharine Marcinkevage*
Cathy Marcinkevage
Assistant Regional Administrator for California Central Valley Office

Date: December 9, 2024



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1. INTRODUCTION

This Introduction section provides information relevant to the other sections of this document and is incorporated by reference into Sections 2 and 3, below.

1.1. Background

The National Marine Fisheries Service (NMFS) prepared the biological opinion (opinion) and incidental take statement (ITS) portions of this document in accordance with section 7(b) of the Endangered Species Act (ESA) of 1973 (16 U.S.C. 1531 *et seq.*), as amended, and implementing regulations at 50 CFR part 402.

We also completed an essential fish habitat (EFH) consultation on the proposed action, in accordance with section 305(b)(2) of the Magnuson–Stevens Fishery Conservation and Management Act (MSA) (16 U.S.C. 1801 *et seq.*) and implementing regulations at 50 CFR part 600.

We completed pre-dissemination review of this document using standards for utility, integrity, and objectivity in compliance with applicable guidelines issued under the Data Quality Act (DQA) (section 515 of the Treasury and General Government Appropriations Act for Fiscal Year 2001, Public Law 106-554). The document will be available within 2 weeks at the NOAA Library Institutional Repository (<https://repository.library.noaa.gov/welcome>). A complete record of this consultation is on file at the Sacramento NMFS Office.

1.2. Consultation History

- On May 17, 2021, NMFS issued an ESA Section 7(a)(2) Concurrence Letter and Magnuson-Stevens Fishery Conservation and Management Act Essential Fish Habitat Response for the Stockton Diamond Grade Separation Project (Project), WCRO-2021-00423
- In early 2023, the California High-Speed Rail Authority (CHSRA, the action agency) informed NMFS about design changes to the culvert that would span Mormon Slough. NMFS and the San Joaquin Regional Rail Commission (SJRRRC, the applicant) worked collaboratively to assess the impacts of these changes on NMFS trust resources. During the process, the Design Team developed a measure to require that the new, proposed trash grates be removed or modified should hydrologic connectivity occur.
- On May 2, 2023, NMFS provided technical assistance via email regarding the analysis of hydrologic requirements for fish passage.
- On June 27, 2023, CHSRA requested to reinitiate informal consultation with NMFS for the Project.
- On November 2, 2023, NMFS responded with a letter of nonoccurrence, stating that formal consultation is required for the project.
- On April 15, 2024, CHSRA requested formal consultation for the Project.
- On April 29, 2024, NMFS requested more information regarding the construction schedule and specific design criteria for the Project.
- On May 8, 2024, CHSRA responded to NMFS' request for more information.

- On May 15, 2024, NMFS requested more information regarding the back slope where the applicant would place riprap.
- On May 20, 2024, CHSRA responded to NMFS's request for more information. NMFS responded with conservation recommendations to the applicant.
- On July 9, 2024, the applicant agreed to implement some of NMFS' suggested conservation recommendations, and NMFS initiated formal consultation on that date.

Updates to the regulations governing interagency consultation (50 CFR part 402) were effective on May 6, 2024 (89 Fed. Reg. 24268). We are applying the updated regulations to this consultation. The 2024 regulatory changes, like those from 2019, were intended to improve and clarify the consultation process, and, with one exception from 2024 (offsetting reasonable and prudent measures), were not intended to result in changes to the Services' existing practice in implementing section 7(a)(2) of the Act. 89 Fed. Reg. at 24268; 84 Fed. Reg. at 45015. We have considered the prior rules and affirm that the substantive analysis and conclusions articulated in this biological opinion and incidental take statement would not have been any different under the 2019 regulations or pre-2019 regulations.

1.3. Proposed Federal Action

Under the ESA, "action" means all activities or programs of any kind authorized, funded, or carried out, in whole or in part, by Federal agencies (see 50 CFR 402.02). Under the MSA, "Federal action" means any action authorized, funded, or undertaken, or proposed to be authorized, funded, or undertaken by a Federal agency (see 50 CFR 600.910). The CHSRA proposes to carry out, along with the SJRRC, the Stockton Diamond Project, which is the construction of a grade separation of two principal railroad lines in Stockton, California. At present, the Burlington Northern and Santa Fe Railway Stockton Subdivision (BNSF-SS) and the Union Pacific Railroad Fresno Subdivision (UPRR-FS) consist of two main tracks each. These tracks intersect each other at a crossing known as the Stockton Diamond. This at-grade rail crossing at the Stockton Diamond results in significant congestion and delays to services that move people and freight throughout the California Central Valley and freight throughout the broader national network. The applicant plans to replace the existing at-grade intersection of the BNSF-SS and UPRR-FS rail lines with a structure that will elevate the UPRR-FS's main tracks above the BNSF-SS's main tracks so that both rail lines may intersect without causing delays. To elevate the UPRR-FS's main tracks, the applicant will build a flyover spanning the Mormon Slough and associated floodplain.

We considered, under the ESA, whether or not the proposed action would cause any other activities and determined that it would not. The following sections describe the project location, project description, and proposed avoidance, minimization, and conservation measures (AMMs).

1.3.1. Project location

The Project is located in the City of Stockton in San Joaquin County, California. It is located in the Stockton West United States Geological Survey 7.5-minute topographic quadrangle. The new railroad flyover will cross the middle of Mormon Slough at approximately 37°56'42.7"N

121°16'28.7"W. Figure 1 shows the general vicinity of the Project, and Figure 2 shows the Project area.

For the purposes of this biological opinion, the project study area is in reference to areas where the applicant assessed for adverse impacts to species and critical habitat. The northern limits of the project includes East Weber Avenue, a major east-to-west arterial in Downtown Stockton. Just north of East Weber Avenue is the Robert J. Cabral Station. The southern limit of the project study area is the Union Pacific (UP) Stockton Yard, located approximately at East Fourth Street. The eastern and western limits of the project study area are South Pilgrim Street and South Grant Street, respectively.

The proposed Project location is in an area that is mainly industrial, with some pockets of residential use. Previously, the Lower Mormon Slough supported aquatic wildlife and botanical species. However, after the construction of the Stockton Diversion Canal in 1911, the area is no longer hydrologically connected to the Calaveras River and Delta, and receives water mainly through surface runoff during large storm events. The Stockton Diversion Canal's southern end is located roughly 2.5 miles east of the Project area and connects upstream portions of the Mormon Slough to the San Joaquin River to the west. The Stockton Diversion Canal hydrologically isolates this portion of the Mormon Slough from upstream waters (the active portion of the Mormon Slough). The lower Mormon Slough is littered with extensive trash and abandoned vehicles and is occupied by unhoused individuals.

1.3.2. Project description

The proposed Project is a critical freight and passenger mobility project. The current congestion at the Stockton Diamond, an at-grade intersection for the BNSF-SS and UPRR-FS rail lines, results in delays, reliability, and performance scheduling conflicts. This rail intersection is located just south of Downtown Stockton near South Aurora Street and East Scotts Avenue, and is considered the busiest, at-grade railway junction in California. The proposed Project will replace the existing at-grade intersection with a grade separation structure that will raise UPRR-FS's main tracks above the BNSF-SS's main tracks, enabling through traffic without delays. The applicant proposes to shift the Union Pacific flyover alignment east of the existing Fresno Subdivision tracks so that construction of the new flyover would minimize impacts on existing rail operations.

The proposed Project will require construction across Mormon Slough. A closed, six-cell box culvert is part of the proposed flyover for the Project. The proposed cast-in-place, six-cell culvert will include five one-foot-wide piers in Mormon Slough, with 12-foot-wide and 12-foot-tall openings between each cell. These dimensions meet the Central Valley Flood Protection Board's 200-year flood and freeboard requirements. The proposed culvert will be 77 feet wide and 261 feet long, have an upstream flow line elevation of 5.1 feet and soffit of 17.1 feet, and downstream flow line elevation of 5.0 feet and soffit of 17.0 feet (all elevations NAVD88). The rail grade would be approximately 49 feet above the channel (Figure 3).



Figure 1. Regional location of the project (HDR 2024).

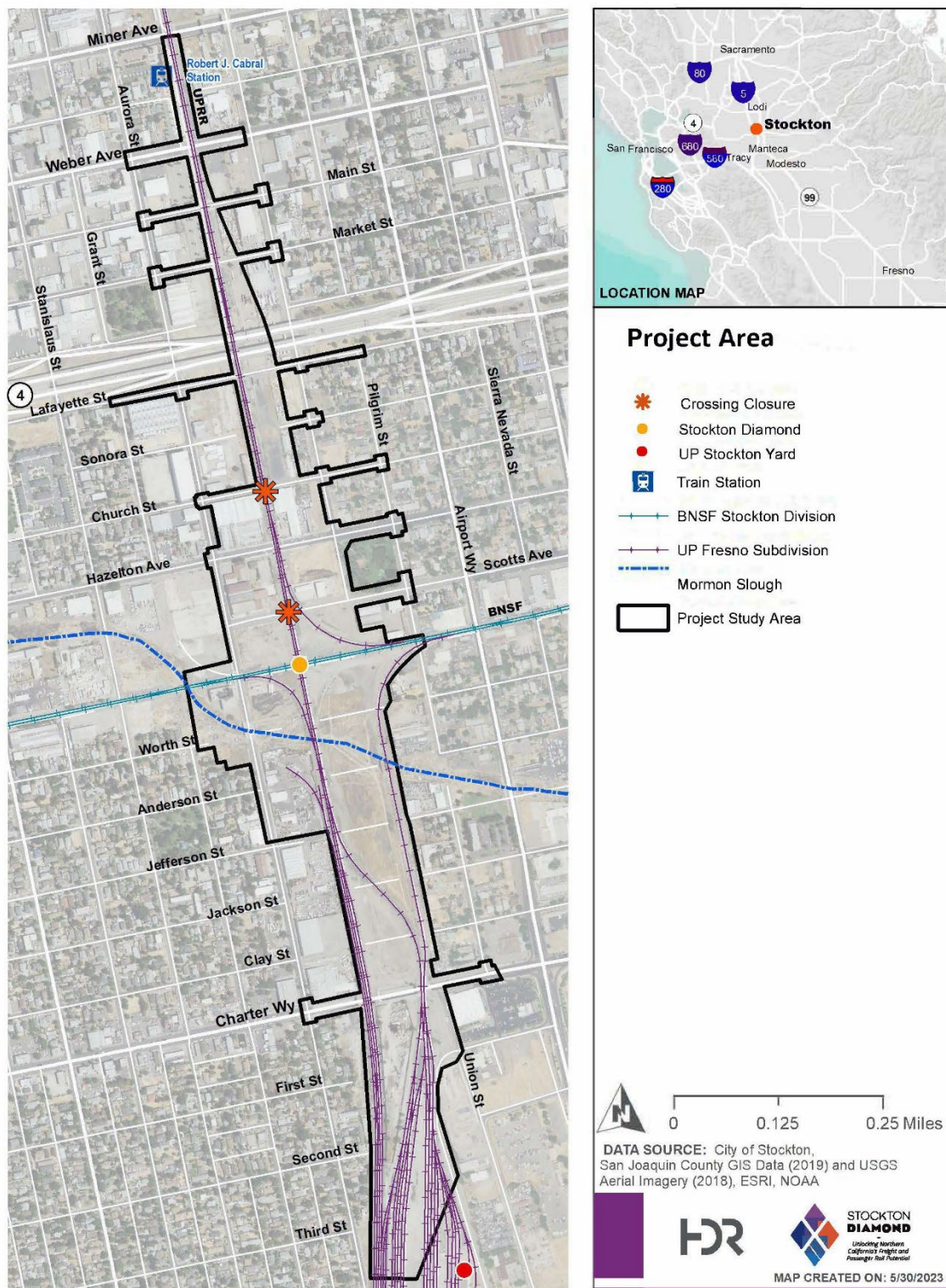


Figure 2. Project area, Stockton, California (HDR 2024).

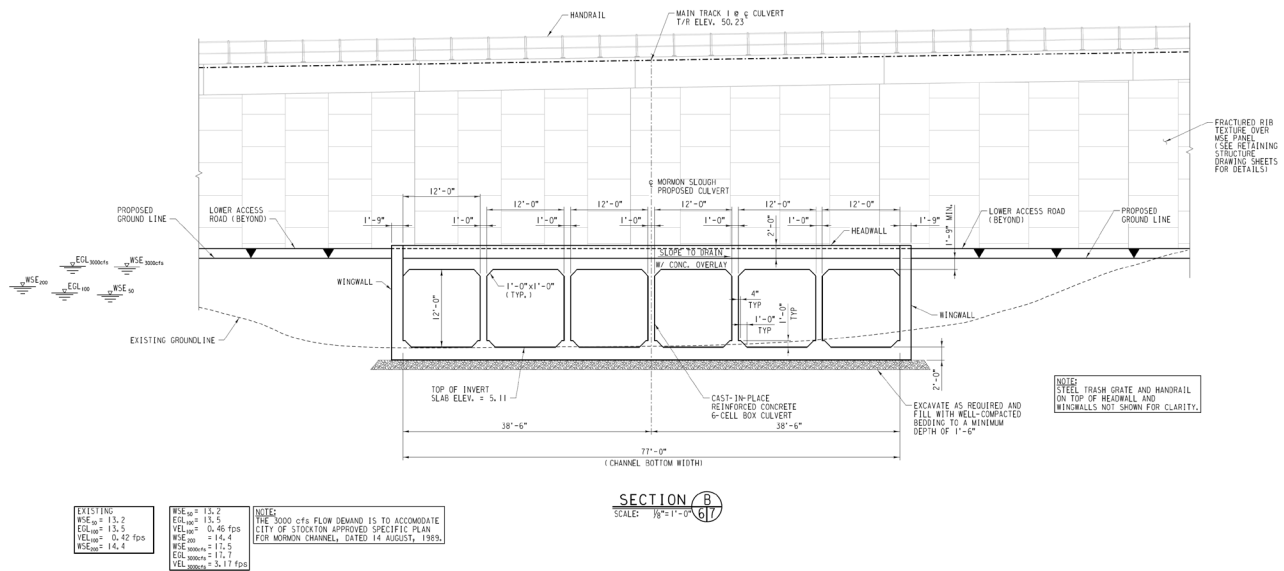


Figure 3. The proposed six-cell culvert. The proposed culvert will be 77 feet wide and 261 feet long and will create five one-foot-wide piers in the Mormon Slough with 12-foot-wide and 12-foot-tall openings between each cell (HDR 2024).

The slope of the culvert will be less than 0.1%, and the concrete substrate will have a smooth surface that will not result in flow rates that would impede fish passage should the Mormon Slough regain hydrologic connectivity. Trash grates will be installed across the entirety of the culvert on both ends with grates spaced 6 inches on-center. Rock slope protection (RSP) will be placed on slopes of the streambed adjacent to the culvert, and riprap armor will be required at the base of the culvert footing to prevent scour. The riprap armor will consist of an approximately 80-foot by 16-foot layer of 2.5-foot-thick rock riprap placed on the upstream and downstream ends of each culvert apron (Figure 4).

Existing drainage structures along Mormon Slough will remain in place after construction of the proposed slough bridge. Further, pipe culverts under the existing Union Pacific main tracks immediately west of the flyover alignment would be left in place to support the remaining at-grade connection track to BNSF. Figure 5 shows the existing bridge crossings and the orientation of the proposed crossing.

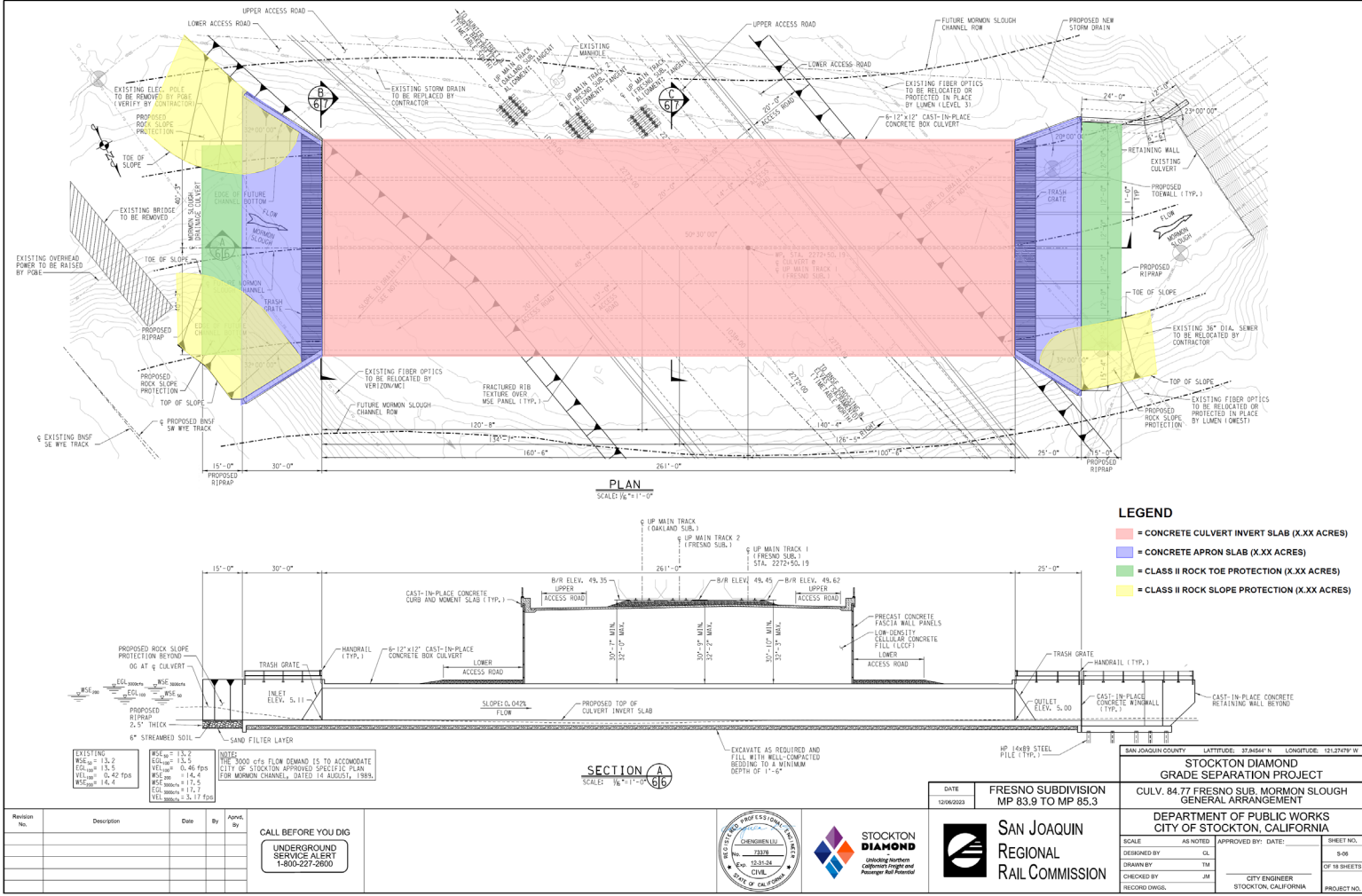


Figure 4. General arrangement of the culvert in the Mormon Slough. Trash gates will be installed across the entirety of the culvert on both ends with gates spaced 6 inches on-center. Rock slope protection (RSP) will be placed on slopes of the streambed adjacent to the culvert, and riprap armor will be required at the base of the culvert footing to prevent scour (HDR 2024).

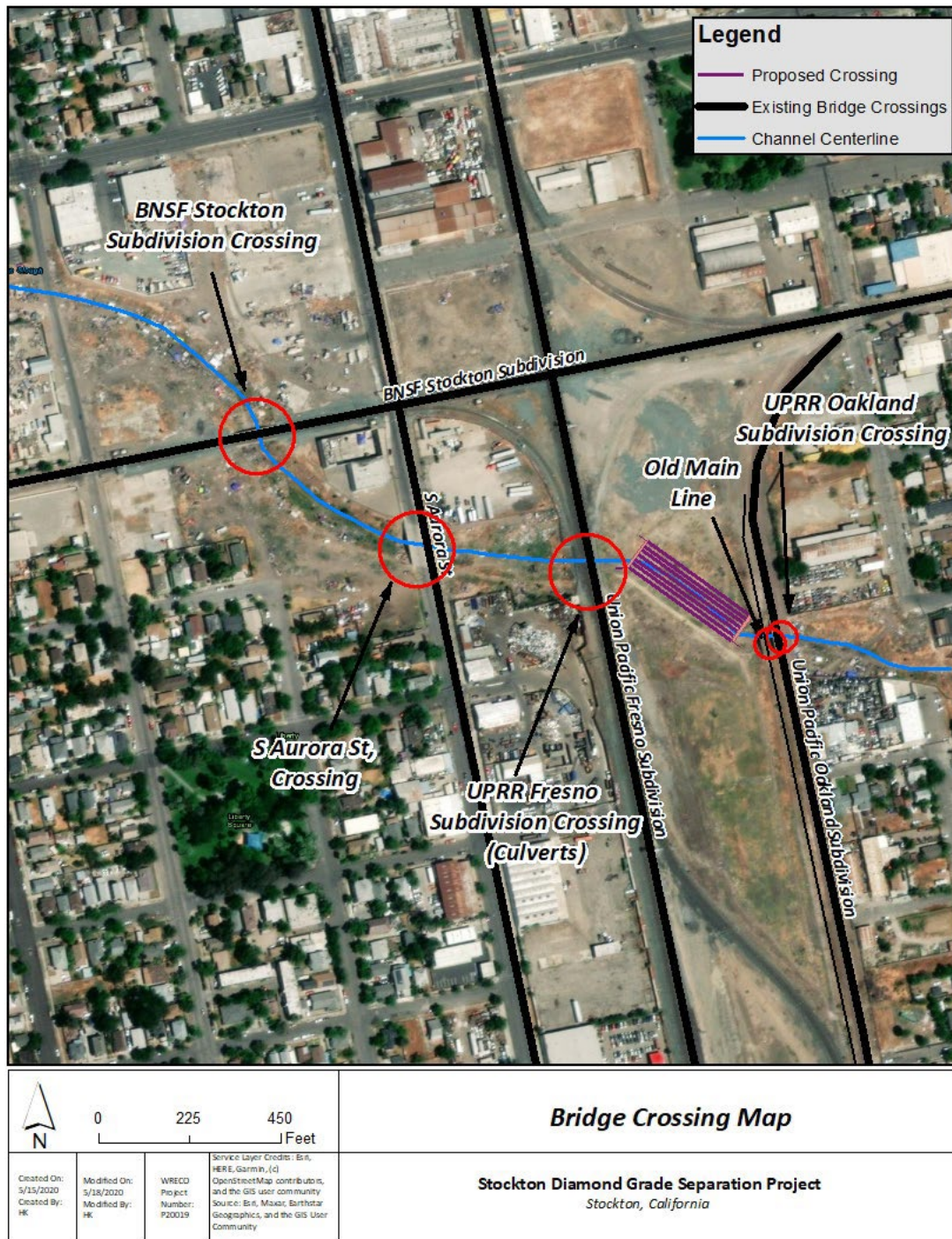


Figure 5. Existing bridge crossings and the orientation of the proposed crossing (HDR 2024).

1.3.3. Avoidance, minimization, and conservation measures

The following sections describe the measures, including several construction best management practices (BMPs), adopted to reduce or avoid adverse effects to the listed species and their designated critical habitat that could result from project construction, maintenance, or operation for the proposed Project.

Erosion and runoff prevention

Before the initiation of project-related activities, SJRRC's Resident Engineer or designated contractor will ensure that construction BMPs are employed on-site to prevent erosion or runoff of loose soil and dust. Methods will include the use of appropriate measures to intercept and capture sediment before entering the streambed, as well as erosion control measures along the perimeter of disturbance areas to prevent the displacement of fill material. During construction, SJRRC's Resident Engineer or designated contractor will ensure that all BMPs are in place before the initiation of Project-related activities and will remain until activities are complete. All erosion control methods will be maintained until all on-site soils are stable.

Minimization of construction staging areas

During construction, SJRRC's Resident Engineer or designated contractor will ensure that the work areas are reduced to the smallest practicable footprint throughout Project activities. Before any ground-disturbing activity, the SJRRC's Resident Engineer or designated contractor will establish staging areas for construction equipment that minimize impacts on sensitive biological resources, including aquatic resources. Staging areas, including any temporary material storage areas, will be occupied by existing permanent facilities, where practicable. Equipment staging areas will be identified on final project construction plans. SJRRC's Resident Engineer or designated contractor will flag and mark access routes to restrict vehicle traffic within the Project footprint to established roads, construction areas, and other designated areas.

Restoration of graded areas

During construction, SJRRC's Resident Engineer or designated contractor will ensure that all exposed and/or disturbed areas resulting from Project-related activities will be returned to their original contour and grade and restored using locally native grass and forb seeds, plugs, or a mix of these methods. Areas will be seeded with species appropriate to their topographical and hydrological character. Seeded areas will be covered with broadcast straw and/or jute netted, where appropriate.

Fish passage and predation considerations

To reduce the effects of riprap on fish passage and predation, the riprap armor will be mixed with agricultural grade soil at a 70% rock to 30% soil ratio above the estimated ordinary high-water line and backfilled with a minimum of 6–12 inches of native soil. This will help support riparian growth after hydrologic reconnection, providing woody material into the streambed. To reduce predation associated with overwater structures, the applicant will paint the ceiling of the culvert with white, or similarly reflective paint, to maintain light levels needed to encourage daytime movement of juvenile salmonids.

To reduce passage impediments related to the closed box culvert, the applicant will adhere to the NMFS fish passage design criteria that states, "Concrete surfaces should be finished to ensure smooth surfaces" (NMFS 2023). The proposed Project will also involve removing trash and encampments from the streambed. After construction is complete, should hydrological

connectivity to the Mormon Slough be restored with enough freshwater flows to support fish habitat, SJRRC will modify or remove the trash grates to meet the conditions required by NMFS' fish passage guidelines in place at the time the channel is fully restored as a fish passage facility.

Reuse of stockpiled soil

During ground-disturbing activities, SJRRC's Resident Engineer or designated contractor may temporarily store excavated materials produced by construction activities in areas at or near construction sites within the Project area. SJRRC's Resident Engineer or designated contractor will ensure that excavated soil is returned to its original location to be used as backfill. Any excavated waste materials unsuitable for treatment and reuse would be disposed of at an off-site location, in conformance with applicable state and federal laws. Stockpiled, disassembled, and hazardous construction material should be stored at least 100 feet from aquatic resources.

Vehicle speed limits

During construction, SJRRC's Resident Engineer or designated contractor will ensure that all vehicle traffic associated with Project-related activities will be confined to established roads, staging areas, and parking areas. Vehicle speeds will not exceed 15 miles per hour on access roads with no posted speed limit to avoid collisions with special-status species or habitats. Additionally, maintenance or refueling of vehicles or equipment will occur in designated areas and/or in a secondary containment, located away from aquatic resources.

Mitigation banking

To offset impacts on CCV steelhead critical habitat, the applicant will voluntarily purchase either mitigation bank credits at a 1:1 ratio or an in-lieu fee (ILF) credit for permanent impacts to riparian habitat.

2. ENDANGERED SPECIES ACT: BIOLOGICAL OPINION AND INCIDENTAL TAKE STATEMENT

The ESA establishes a national program for conserving threatened and endangered species of fish, wildlife, plants, and the habitat upon which they depend. As required by section 7(a)(2) of the ESA, each Federal agency must ensure that its actions are not likely to jeopardize the continued existence of endangered or threatened species or to adversely modify or destroy their designated critical habitat. Per the requirements of the ESA, Federal action agencies consult with NMFS, and section 7(b)(3) requires that, at the conclusion of consultation, NMFS provide an opinion stating how the agency's actions would affect listed species and their critical habitats. If incidental take is reasonably certain to occur, section 7(b)(4) requires NMFS to provide an ITS that specifies the impact of any incidental taking and includes reasonable and prudent measures (RPMs) and terms and conditions to minimize such impacts. CHSRA determined the proposed action is not likely to adversely affect southern distinct population segment (sDPS) North

American green sturgeon or its critical habitat. Our concurrence is documented in the "Not Likely to Adversely Affect" Determinations section (Section 2.11).

2.1. Analytical Approach

This biological opinion includes both a jeopardy analysis and an adverse modification analysis. The jeopardy analysis relies upon the regulatory definition of “jeopardize the continued existence of” a listed species, which is “to engage in an action that reasonably would be expected, directly or indirectly, to reduce appreciably the likelihood of both the survival and recovery of a listed species in the wild by reducing the reproduction, numbers, or distribution of that species” (50 CFR 402.02). Therefore, the jeopardy analysis considers both survival and recovery of the species.

This biological opinion also relies on the regulatory definition of “destruction or adverse modification,” which “means a direct or indirect alteration that appreciably diminishes the value of critical habitat as a whole for the conservation of a listed species” (50 CFR 402.02). The designation(s) of critical habitat for CCV steelhead use(s) the term primary constituent element (PCE) or essential features. The 2016 final rule (81 FR 7414; February 11, 2016) that revised the critical habitat regulations (50 CFR 424.12) replaced this term with physical or biological features (PBFs). The shift in terminology does not change the approach used in conducting a “destruction or adverse modification” analysis, which is the same regardless of whether the original designation identified PCEs, PBFs, or essential features. In this biological opinion, we use the term PBF to mean PCE or essential feature, as appropriate for the specific critical habitat.

The ESA Section 7 implementing regulations define effects of the action using the term “consequences” (50 CFR 402.02). As explained in the preamble to the final rule revising the definition and adding this term (84 FR 44976, 44977; August 27, 2019), that revision does not change the scope of our analysis, and in this opinion we use the terms “effects” and “consequences” interchangeably.

We use the following approach to determine whether a proposed action is likely to jeopardize listed species or destroy or adversely modify critical habitat:

- Evaluate the range-wide status of the species and critical habitat expected to be adversely affected by the proposed action.
- Evaluate the environmental baseline of the species and critical habitat.
- Evaluate the effects of the proposed action on species and their critical habitat using an exposure–response approach.
- Evaluate cumulative effects.
- In the integration and synthesis, add the effects of the action and cumulative effects to the environmental baseline, and, in light of the status of the species and critical habitat, analyze whether the proposed action is likely to: (1) directly or indirectly reduce appreciably the likelihood of both the survival and recovery of a listed species in the wild by reducing the reproduction, numbers, or distribution of that species; or (2) directly or

indirectly result in an alteration that appreciably diminishes the value of critical habitat as a whole for the conservation of a listed species.

- If necessary, suggest a reasonable and prudent alternative to the proposed action.

2.2. Range-wide Status of the Species and Critical Habitat

This opinion examines the status of CCV steelhead that is likely to be adversely affected by the proposed action. The status is determined by the level of extinction risk that the listed species face, based on parameters considered in documents such as recovery plans, status reviews, and listing decisions. This informs the description of the species' likelihood of both survival and recovery. The species status section also helps to inform the description of the species' "reproduction, numbers, or distribution" for the jeopardy analysis. The opinion also examines the condition of designated critical habitat, evaluates the conservation value of the various watersheds and coastal and marine environments that make up the designated critical habitat, and discusses the function of the PBFs that are essential for the species' conservation.

2.2.1. Listed species and critical habitat

Table 1. Description of species, current Endangered Species Act listing classification, and summary of species status.

Species and Recovery Plans	Listing Classification and Federal Register Notice	Status Summary
<p>CCV steelhead DPS (<i>Oncorhynchus mykiss</i>)</p> <p>Recovery Plan for the ESUs of Sacramento River Winter-Run Chinook Salmon and CV Spring-Run Chinook Salmon and the DPS of CCV Steelhead (CV salmonid recovery plan, NMFS 2014).</p>	<p>Threatened, 71 FR 834; January 5, 2006</p>	<p>The most recent assessment of CCV steelhead viability found that the species remains at moderate risk of extinction; however, new emerging evidence indicates that the proportions of hatchery returns to natural-origin returns are increasing, and hatcheries' influence has raised the risk of extinction from moderate to high in 11 out of 16 CCV steelhead populations (Johnson et al. 2023). Most natural-origin CCV populations are small, non-monitored, and lack the resilience to persist for protracted periods if subjected to additional stressors, particularly widespread stressors such as climate change.</p> <p>While updated data on steelhead in the American River is mostly based on hatchery returns, natural spawning populations within the Sacramento River tributaries have fluctuated but have shown a steady decline in the past 10 years (Johnson et al. 2023).</p>

Table 2. Description of Critical Habitat, Designation, and Status Summary.

Critical Habitat	Designation Date and Federal Notice	Description
CCV steelhead DPS (<i>O. mykiss</i>)	September 2, 2005; 70 FR 52488	<p>Critical habitat for CCV steelhead includes stream reaches of the Feather, Yuba, and American rivers, Big Chico, Butte, Deer, Mill, Battle, Antelope, and Clear creeks, the Sacramento River, and portions of the northern Delta. Critical habitat includes stream channels in the designated stream reaches and the lateral extent defined by the ordinary high-water line. In areas where the ordinary high-water line is not defined, the lateral extent is defined by the bank-full elevation.</p> <p>PBFs considered essential to the conservation of the species include spawning habitat, freshwater rearing habitat, freshwater migration corridors, and estuarine areas.</p> <p>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.</p>

Current Limiting Factors

The following are current limiting factors for the population numbers of the listed species included in this consultation:

- Dams block access to historical spawning and summer holding areas along with altering river flow regimes and temperatures
- Water management/diversions/barriers
- Loss of floodplain rearing habitat (levees/bank protection)
- Urbanization and rural development
- Logging
- Grazing
- Agriculture
- Mining – historic hydraulic mining from the California Gold Rush era
- Estuarine modified and degraded, thus reducing developmental opportunities for juvenile salmonids
- Predation
- Dredging and sediment disposal
- Contaminants
- Fisheries
- Hatcheries
- “Natural” factors (*e.g.*, ocean conditions)
- Climate change exacerbating flow and water temperature related impacts (see below for more detail)

2.2.2. Global Climate Change

One major factor affecting the status of the species and critical habitat for threatened and endangered anadromous fish is climate change. Warmer temperatures associated with climate change reduce snowpack and alter the seasonality and volume of seasonal hydrograph patterns (Cohen et al. 2000). Central California has shown trends toward warmer winters since the 1940s (Dettinger and Cayan 1995). Projected warming will affect CCV steelhead. Because CCV steelhead are restricted to low elevations due to impassable rim dams, if climate warms by 5°C (9°F), it is questionable whether salmonid populations can persist (Williams 2006). Factors modeled by VanRheenen et al. (2004) show that snowmelt earlier in the year leads to an increased percent reduction of spring snow water equivalent (SWE, up to 100 percent in shallow snowpack areas). Additionally, an air temperature increase of 2.1°C (3.8°F) is expected to result in a loss of about half of the average April snowpack storage (VanRheenen et al. 2004).

CCV steelhead are blocked from most of their historic spawning and rearing habitat. They spawn primarily in tributaries, and those tributaries without cold water refugia (usually input from springs) will be more susceptible to the impacts of climate change. These effects are worsened as juvenile CCV steelhead need to rear in the stream for one to two summers before emigrating as smolts. In the Central Valley, summer and fall temperatures below the dams in many streams already exceed the recommended temperatures for optimal growth of juvenile CCV steelhead, which range from 14°C to 19°C (57°F to 66°F).

Climate change will decrease the conservation value of the PBFs of critical habitat, including adequate water and flow, unimpeded access to and from spawning ground, and safe passage conditions for migration. Unless offset by improvements in other factors, the status of CCV steelhead critical habitat is likely to decline over time. The climate change projections referenced above cover the present and approximately 2100. While projections remain uncertain, the direction of change is relatively clear (McClure et al. 2013).

2.2.3. Recovery plan

In July 2014, NMFS released a final recovery Plan for SR winter-run Chinook salmon, CV spring-run Chinook salmon, and CCV steelhead (NMFS 2014). The salmonid recovery plan outlines actions to restore habitat and access and improve water quality and quantity conditions in the Sacramento River to promote the recovery of listed salmonids. Key recovery actions in the recovery plan include conducting landscape-scale restoration throughout the Delta, incorporating ecosystem restoration into Central Valley flood control plans that include breaching and setting back levees, and restoring flows throughout the Sacramento and San Joaquin River basins and the Delta.

2.3. Action Area

“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).

The applicant will install a 77-foot-wide and 261-foot-long, six-celled box culvert into the streambed of the Mormon Slough. Riprap armor will consist of an approximately 80-foot by 16-foot layer of 2.5-foot-thick rock riprap placed on the upstream and downstream ends of each

culvert apron. The proposed Project will include instream construction, clearing, and grading. Operation of heavy equipment will be limited to the smallest practicable footprint. Hydrologic connectivity could be established during construction, and areas downstream could be affected by construction activity. Turbidity estimates from a previous project assumed that turbidity plumes of 25–75 NTU could extend up to 1,000 ft (304.8 m) downstream from the project area (NMFS 2006). Thus, the action area includes areas where construction will occur and areas 1,000 feet downstream of construction activity.

In addition, the proposed action includes the purchase of bank credits or ILF program to offset temporary and permanent streambed and riparian impacts and steelhead habitat; however, the applicant to date has not specified which bank credits or ILF program will be purchased. Therefore, we include all mitigation banks and ILF programs that currently service the Project site and offer credits to offset impact to these habitat types in the action area for the proposed action. These include:

- Fremont Landing Conservation Bank: a 100-acre site along the Sacramento River that provides riparian, wetland, and open-water habitat. The restoration site is included in the action area of the proposed action.
- National Fish and Wildlife Federation (NFWF) Sacramento District California ILF Program: Provides aquatic resource credits for authorized impacts to wetlands (excluding vernal pools), other Waters of the U.S., Waters of the State, and anadromous resources listed under the ESA. The Calaveras and Stanislaus service area includes the Project site. Restoration activities resulting from credit purchases from the NFWF ILF program may occur throughout anadromous waters within the Calaveras and Stanislaus service area (HUC 8: 18040003, 18040011, 18040010, 18040051); therefore, this area is included in the action area of the proposed action.

2.4. 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 impacts to listed species or designated critical habitat from federal agency activities or existing federal agency facilities that are not within the agency’s discretion to modify are part of the environmental baseline (50 CFR 402.02).

2.4.1. Hydrology

A U.S. Army Corps of Engineers (USACE)-verified wetland delineation for the Project identified that the Mormon Slough is no longer defined as a Water of the United States due to the absence of an Ordinary High-Water line. No channels are present in the action area. The portion of the Mormon Slough that runs through the Project area does not support riparian vegetation, is

highly disturbed, is littered with trash and abandoned vehicles, and is occupied by unhoused individuals. McLeod Lake used to be hydrologically connected to Mormon Slough and is located 7,000 feet downstream of the location of the proposed culvert. The area lost hydrologic connectivity in 1911 after the completion of the Stockton Diversion Canal.

2.4.2. Topography and geomorphology

The topography in the survey area has few elevation changes and is relatively flat, other than in shallow depressions scattered across the survey area and in the inactive channel of Mormon Slough. Elevations adjacent to the Mormon Slough in the action area range from 17 feet upstream to 14 feet in the downstream end of the action area. Mormon Slough has a mostly coarse, sandy sediment texture with some granules interspersed, a shallowly sloped profile, and a side slope ranging from approximately 15 to 25 percent.

2.4.3. Vegetation

Vegetation within Mormon Slough is primary upland grasses and forbs. The lowest portion of the channel is mostly devoid of vegetation, with some small, scattered patches of nonnative and/or invasive species dominated by annual grasses and forbs along with sparsely distributed, small-statured box elder (*Acer negundo*), tree-of-heaven, white alder (*Alnus rhombifolia*), eucalyptus trees, and Mexican fan palm (*Washingtonia robusta*). The section of Mormon Slough that bisects the action area is highly disturbed and supports a large population of unhoused individuals, resulting in large amounts of refuse and other evidence of ongoing human disturbance. Regular scouring or water flow is not evident, and the channel does not currently convey water or support hydrophytic vegetation.

2.4.4. Status of federally listed species and/or critical habitat in the action area

At present, there are currently no fish present in the action area within Mormon Slough. Critical habitat for CCV steelhead in the action area includes rearing and migratory habitat PBFs.

2.4.4.1 Factors affecting critical habitat in the action area

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 (DPS) of California Central Valley steelhead (NMFS 2014) identifies Lower Mormon Slough as a potential location for anadromous fish habitat improvements and fish passage improvements (NMFS 2014). The San Joaquin Area Flood Control Agency (SJAFCFA) requested the USACE initiate a study of Lower Mormon Slough in 1998 and supported the Mormon Channel Ecosystem Restoration and Central Stockton Flood Bypass Project to hydrologically reconnect and restore the Mormon Slough (HDR 2024; California Center for Collaborative Policy 2012).

In 2018, the Lower San Joaquin River Project included alternatives that would hydrologically reconnect the Mormon Slough; however, those alternatives were not selected due to a cost/benefits analysis (USACE 2018). SJAFCFA has also identified the Mormon Channel Bypass

as a priority initiative for feasibility-level investigation of the Central Valley Flood (SJAFCFA 2021). Although a permitted or funded project has not been identified to hydrologically reconnect the Lower Mormon slough, local support to address flooding issues has recently been featured in the news (San Joaquin County 2023, Bland 2023), and SJAFCFA has stated that they are working with local stakeholders to continue to seek hydrological reconnection of the area (HDR 2024).

2.5. 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 but that are not part of the 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 402.02).

The following sections analyze the effects of specific components of the proposed action to listed fish species and critical habitat: 1) sediment and turbidity, 2) contaminants, 3) channel modification, 4) noise and sound pressure, and 5) voluntary purchase of ILF/bank credits.

2.5.1. Effects of sediment and turbidity

The action area does not currently support aquatic species, but if the action area became hydrologically connected during construction activity, sediment mobility, and turbidity may increase because of project actions. Construction-related increases in sedimentation and turbidity above the background level could affect fish species and their habitat by reducing juvenile survival, interfering with feeding activities, causing a breakdown of social organization, and reducing primary and secondary productivity. If the area were to become hydrologically connected during construction activity, the current conditions of the slough are so degraded that the listed species would not likely be present. With the incorporation of AMMs, the effects of sediment and turbidity on listed species are not expected to occur. Short-term increases in turbidity and suspended sediment levels may temporarily impact rearing and migration critical habitat PBFs through avoidance or displacement from preferred habitat. However, these adverse effects are expected to be temporary, lasting only as long as project construction actions.

2.5.2. Effects of contaminants

During construction, the potential exists for spills or leakage of toxic substances that could enter the action area. Refueling, operation, and storage of construction equipment and materials could result in accidental spills of pollutants (*e.g.*, fuels, lubricants, concrete, sealants, and oil). High concentrations of contaminants are lethal to fish. There are currently no listed species in the action area. If the area were to become hydrologically connected during construction activity, the current conditions of the slough are so degraded that listed species would not likely be present. With the incorporation of AMMs, exposure to contaminants is not expected.

During construction, refueling, equipment storage, and maintenance activities, toxic substances could spill or leak into the action area and could negatively affect PBFs of critical habitat including freshwater migratory and rearing habitat. AMMs will reduce the likelihood of contaminant-related harm to critical habitat; thus, potential negative effects from hazardous materials on designated critical habitat are, therefore, not expected to occur.

2.5.3. Effects of channel modification

Construction activity will result in a large box culvert furnished with trash grates and riprap placed on the upstream and downstream ends of each culvert apron. Riprap reduces shoreline habitat that could otherwise be riparian vegetation. Further, Windell et al. (2017) found that riprapped reaches of the Upper Sacramento River typically have low habitat complexity, low abundance of food organisms, and offer little protection from predators. Should hydrologic connectivity reoccur, riprap will reduce the restoration potential of Mormon Slough and degrade the value of the habitat for the conservation of the listed species.

Additionally, the culvert will stand as an overwater structure in Mormon Slough. Overwater structures can interfere with the ecological functions of the habitat. The shadow cast by an overwater structure affects plant and animal communities below the structure. Distributions of plants, invertebrates, and fishes are severely limited in under-cover environments when compared to adjacent, unshaded-vegetated habitats. Under-pier light levels fall below threshold amounts for the photosynthesis of diatoms, benthic algae, eelgrass, and associated epiphytes and other autotrophs. Macrophytes can be reduced or eliminated, even by partial shading of the substrate, and have little chance to recover (PFMC 2014).

Fishes rely on visual cues for spatial orientation, prey capture, schooling, predator avoidance, and migration. The reduced-light conditions found under an overwater structure limit the ability of fish, especially juveniles and larvae, to perform these essential activities. Shading from overwater structures may also reduce prey organism abundance and the complexity of the habitat by reducing aquatic vegetation and phytoplankton abundance (Kahler et al. 2000, Haas et al. 2002). The shadow cast by an overwater structure may furthermore increase predation on federally listed and EFH-managed species by creating a light/dark interface that allows ambush predators to remain in a darkened area and watch for prey to swim by against a bright background (Helfman 1981). Prey species moving around the structure cannot see predators in the dark area under the structure and are more susceptible to predation. Additionally, the reduced vegetation densities associated with overwater structures decrease the available refugia from predators (PFMC 2014).

Because there are currently no fish in the action area, channel modification construction activities are not expected to affect CCV steelhead individuals. If the area were hydrologically connected in the future, the current proposed AMMs would help to reduce the risks to juvenile CCV steelhead associated with the behavioral changes that are caused by overwater structures. Effects of the action, including the loss of natural streambed and the placement of riprap, diminish the value of the PBFs of rearing and migratory critical habitat. If the area were to become hydrologically connected in the future, current project proposed AMMs are expected to

help to reduce the permanent impacts associated with the Project; however, the Project will result in a loss to CCV steelhead critical habitat.

2.5.4. Effects of noise and sound pressure

There are no listed species present in the action area; thus, noise and sound pressure are not expected to adversely affect listed species. If the area were to become hydrologically connected during construction activity, the current conditions of the slough are so degraded that listed species would not likely be present. Exposure to the effects of noise and sound pressure is not expected to occur.

Project activities are expected to cause increases in noise, motion, and vibrations throughout the implementation of the proposed action, which can temporarily affect rearing and migration critical habitat PBFs through avoidance or displacement from preferred habitat. Critical habitat effects from noise, motion, and vibration are expected to be temporary and limited to the direct vicinity of activities over the lifetime of the proposed action; thus, noise increases from the proposed action is not expected to reduce the overall value of the critical habitat for CCV steelhead.

2.5.5. Purchase of ILF and/or Mitigation Bank Credits

The proposed action includes the purchase of mitigation credits at a NMFS-approved ILF program or mitigation bank to offset impacts to steelhead critical habitat. Credits will be purchased at a 1:1 ratio for riparian habitat.

The purchase of mitigation credits can provide conservation benefits to steelhead, because the NMFS-approved ILF Program/mitigation banks that serve the Project area provide a high level of certainty that the benefits of a credit purchase will be realized. These options 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.

Fremont Landing Conservation Bank is located on the mainstem Sacramento River within critical habitat for CCV steelhead. A purchase of riparian floodplain forest/salmonid habitat restoration mitigation credits at the bank would benefit steelhead freshwater rearing habitat and migration corridors by providing suitable floodplain and riparian habitat.

The NFWF Sacramento District ILF program covers the entire California Central Valley and credits are sold within geographic service areas to compensate for permitted impacts to aquatic resources. Unlike conservation/mitigation banks where habitat restoration activities have occurred before credit purchase, habitat restoration activities funded by the ILF program will occur after the credit purchase and may include restoration of riparian, floodplain, wetland, and riverine habitats or purchase of equivalent habitat restoration credits from a future

mitigation/conservation bank within the given service area. The delay in restoration activities following a credit purchase from the NFWF Sacramento District ILF program may take up to 3 years and can be extended upon approval of NMFS and the other approving regulatory agencies. The Calaveras and Stanislaus River service area that covers the project site includes stream reaches that are designated critical habitat for CCV steelhead, stream reaches that are occupied and not designated critical habitat for CCV steelhead, and stream reaches that are neither occupied or designated critical habitat for CCV steelhead. There is an agreement between the NFWF Sacramento District ILF program and NMFS that credit purchases from the program for NMFS permits shall be used to fund habitat restoration within anadromous waters. Therefore, a purchase of aquatic resource credits within the Calaveras and Stanislaus River service area would benefit steelhead by funding habitat restoration activities within the stream reaches of the service area that are either designated critical habitat for CCV steelhead or are occupied by CCV steelhead but are not designated critical habitat.

2.6. Cumulative Effects

“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]. 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.

Some continuing non-federal activities are reasonably certain to contribute to climate effects within the action area. However, it is difficult if not impossible to distinguish between the action area’s future environmental conditions caused by global climate change that are properly part of the environmental baseline vs. cumulative effects. Therefore, all relevant future climate-related environmental conditions in the action area are described earlier in the discussion of environmental baseline (Section 2.4).

2.6.1. Increased urbanization

Increases in urbanization can affect habitat by altering watershed characteristics and changing water use and stormwater runoff patterns. Increased growth will place additional burdens on resource allocations, including natural gas, electricity, and water, as well as on infrastructure, such as wastewater sanitation plants, roads and highways, and public utilities. Some of these actions, particularly those situated away from water bodies, will not require Federal permits and thus will not undergo review through the ESA section 7 consultation process with NMFS. A toxicant associated with increased urbanization is 6PPD-quinone. 6PPD-quinone is the byproduct of the oxidation of a chemical that manufacturers apply to vehicle tires to improve their durability. Tian et al. (2020) found that stormwater exposure caused acute mortality to Coho salmon in the Northwest secondary to the presence of 6PPD-quinone at lethal levels.

2.6.2. Habitat restoration

Voluntary state or privately sponsored habitat restoration projects may have short-term negative effects associated with in-water construction work, but these effects typically are temporary and localized, and the overall outcome should benefit listed species and habitats.

2.7. Integration and Synthesis

The Integration and Synthesis section is the final step in assessing the risk that the proposed action poses to species and critical habitat. In this section, we add the effects of the action (Section 2.5) to the environmental baseline (Section 2.4) and the cumulative effects (Section 2.6), taking into account the status of the species and critical habitat (Section 2.2), 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.

2.7.1. Integrated analysis of the effects of the proposed action on the federally listed species

Summary of the effects of the proposed action on federally listed species

Section 2.5, Effects of the action, analyzes the anticipated effects of the proposed Project. The Project is not expected to adversely affect CCV steelhead because they are not present in the action area. Negative effects from sediment and turbidity, contaminants, and noise and sound pressure on listed species are unlikely to occur. If hydrologic connectivity of the action area were to reoccur during construction, the habitat is so degraded that listed species would not likely be present until natural recruitment or restoration projects made the action area habitable. Proposed AMMs are expected to help to reduce the negative effects of the action on fish passage and predation. Mitigation/ILF credits are expected to have beneficial impacts on federally listed species; however, these credits were not included in this analysis given uncertainty regarding what site will be chosen for restoration and what specific restoration actions will occur at that site. This does not discount the importance of the action that was made in good faith towards the recovery of the species.

Summary of the status of the species and environmental baseline

Section 2.2, Range-wide status of CCV steelhead, indicated that worsening habitat conditions threaten their viability. The effects of climate change, including drought events, increased stream flow, and potentially lethal water temperatures, greatly affect CCV steelhead. Other threats to the species include habitat fragmentation, poaching, and domestic influence from hatcheries. Recommended future actions for threat reduction include research on the impact of habitat restoration and modification, continued efforts to remove barriers to migration, efforts to reduce entrainment of juveniles at water diversions through the development of screening and fish passage criteria, and efforts to reduce poaching (Vick et al. 2021).

Section 2.4, Environmental baseline, indicated that the action area is no longer defined as a Water of the United States due to the absence of an Ordinary High-Water line, no channels are present in the action area, and the portion of the Mormon Slough that runs through the Project area does not support riparian vegetation, is highly disturbed, is littered with trash and abandoned vehicles, and is occupied by unhoused individuals. The action area includes the PBFs of

migratory and rearing habitat, but because of the lack of hydrologic connectivity and habitat degradation, these PBFs are not accessible by listed species.

Summary of the impact of cumulative effects

The 2023 County Level Economic Forecast for San Joaquin predicts that the population, number of jobs, and available housing will increase in the coming years (Caltrans 2023). Impacts on CCV steelhead, secondary to urbanization, include increased resource allocation, waste and wastewater production, and use of water resources. Climate change has affected winter precipitation, resulting in more rainfall than snow, the loss of which leads to less streamflow in the late spring/early summer and potentially more streamflow in winter (Sun et al. 2016), and urbanization stands to put further pressure on water availability.

Restoration of the Lower Mormon Slough may improve habitat conditions for federally listed species. While there are no current plans to restore hydrologic connectivity to the action area, there are interested parties who are advocating for reconnection. The SJAFCA has stated that they are working with stakeholders to reconnect Mormon Slough. This would result in the inundation of the Project area and hydrologic connectivity to areas upstream and downstream of the Project area. When this occurs, restoration projects would be essential to ensure that the slough can provide quality habitat to federally listed species.

Survivability based on viability criteria

We cannot achieve salmonid recovery without providing sufficient habitat (NMFS 2014). Delisting criteria for CCV steelhead will require the reestablishment of historical diversity groups. Diversity Groups (population groups) are salmonid ecoregions based on climatological, hydrological, and geological characteristics (NMFS 2014). Delisting criteria for CCV steelhead include:

- One population in the Northwestern California Diversity Group at low risk of extinction
- Two populations in the Basalt and Porous Lava Flow Diversity Group at low risk of extinction
- Four populations in the Northern Sierra Diversity Group at low risk of extinction
- Two populations in the Southern Sierra Diversity Group at low risk of extinction
- Maintain multiple populations at moderate risk of extinction

Taking into consideration the effects of the Project in the action area, the baseline and status of the species, and the impacts of cumulative effects, the proposed action should not reduce the likelihood of both the survival and recovery of CCV steelhead.

2.7.2. Integrated analysis of the effects of the proposed action to critical habitat

Summary of the effects of the proposed action on critical habitat

Section 2.5, Effects of the action, includes the anticipated effects of the proposed action on critical habitat. The placement of the box culvert and riprap will affect approximately 0.757 acres

and will adversely affect CCV steelhead rearing and migration critical habitat PBFs. While mitigation credits are proposed to offset habitat impacts, restoration activities associated with these mitigation credits may occur outside of critical habitat; therefore, the effects of mitigation/ILF credits are not included in this analysis.

Summary of the environmental baseline and status of the critical habitat

Lower Mormon Slough is included in the critical habitat designation for CCV steelhead, and has the PBFs of rearing and migratory habitat. The channel does not currently convey water or support hydrophytic vegetation, and the channel bottom consists of clay, sand, and silt, with little gravel.

Summary of the impact of cumulative effects

Restoration activity would improve the habitat in the Mormon Slough. Restoration activity could include riparian planting and the placement of large woody debris in the watershed. Riparian habitat is necessary for successful juvenile development and survival and is known to decrease erosion, improve bank stability, and provide thermal refugia for federally listed species.

Overall effects to CCV steelhead DPS and critical habitat and the Designation Level

While the action area is currently degraded, it is designated critical habitat for CCV steelhead, and the proposed action would result in 0.757 acres of streambed that are permanently altered. CCV steelhead critical habitat rearing and migration corridor PBFs will be adversely affected by the action, resulting in a loss in overall available habitat. These effects would be limited to a small proportion of CCV steelhead rearing and migration critical habitat PBFs. Therefore, the proposed action is not expected to 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

2.8. 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 the 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.

2.9. 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). “Harass” is further defined by guidance as to “create the likelihood of injury to wildlife by annoying it to such an extent as to significantly disrupt normal behavioral patterns which include, but are not limited to, breeding, feeding, or sheltering.” “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 ITS.

Although fish do not currently have access to the Action Area, the effects of the action will permanently diminish/degrade the value of rearing and migratory critical habitat PBFs, resulting in harm to the species when they are able to access the habitat.

2.9.1. Amount or Extent of Take

In the biological opinion, NMFS determined that the proposed action is reasonably certain to result in incidental take of CCV steelhead in the form of harm. The proposed action will permanently occupy/alter 0.757 acres of designated critical habitat within the Mormon Slough. NMFS cannot, using the best available information, accurately quantify the anticipated incidental take of individual listed fish because of the variability and uncertainty associated with the population size of the species, annual variations in the timing of migration, and uncertainties regarding individual habitat use within the action area. However, it is possible to designate an ecological surrogate for the extent of take anticipated to be caused by the proposed action, with the ability to monitor the surrogate to determine the level of take that is occurring.

The most appropriate ecological surrogate for providing a quantifiable metric for determining the extent of incidental take is the extent of the action permanently occupying/degrading critical habitat PBFs. When CCV steelhead are able to access the modified habitat, they are likely to exhibit behavioral changes (such as avoidance), resulting in migration delay and displacement, which increases predation risk, resulting in decreased survival; decreased feeding resulting in reduced growth; and increased competition, resulting in reduced fitness.

If more than 0.757 acres of critical habitat are altered, the anticipated incidental take levels are exceeded, triggering the need to reinitiate consultation. 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.

2.9.2. Reasonable and Prudent Measures

“Reasonable and prudent measures” refer to those actions the Director considers necessary or appropriate to minimize the impact of the incidental take on the species (50 CFR 402.02).

NMFS believes that the following reasonable and prudent measures are necessary and appropriate to minimize take of federally listed species:

1. Measures shall be taken to ensure that contractors, construction workers, and all other parties involved with the proposed action implement the AMMs, as detailed in the BA and this opinion.
2. Measures shall be taken to ensure that the applicant monitors, assesses, and provides a post-action report to NMFS.

2.9.3. Terms and Conditions

In order to be exempt from the prohibitions of section 9 of the ESA, the federal action agency must comply (or must ensure that any applicant complies) with the following terms and conditions. The CHSRA 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 term and condition implements reasonable and prudent measure number 1:
 - a) CHSRA shall provide a copy of this response to the prime contractor, in order to educate and inform all other contractors involved in the project as to the recommendations of this Biological Opinion.
2. The following term and condition implements reasonable and prudent measure number 2:
 - a) The applicant shall submit to NMFS an annual report describing the impacts of the proposed action. This shall include any fishes known to have been killed or injured due to the project.
 - b) This report shall be submitted, preferably by email, annually by December 31, to the NMFS California Central Valley Office:
ccvo.consultationrequests@noaa.gov
National Marine Fisheries Service
Assistant Regional Administrator
California Central Valley Office
650 Capitol Mall, Suite 5-100
Sacramento, California 95814

2.10. Reinitiation of Consultation

This concludes formal consultation for the Stockton Diamond Grade Separation Project. Under 50 CFR 402.16(a): “Reinitiation of consultation is required and shall be requested by the Federal agency or by the Service where discretionary Federal agency involvement or control over the action has been retained or is authorized by law and: (1) If the amount or extent of taking specified in the incidental take statement is exceeded; (2) If new information reveals

effects of the agency action that may affect listed species or critical habitat in a manner or to an extent not previously considered; (3) If 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 the biological opinion or written concurrence; or (4) If a new species is listed or critical habitat designated that may be affected by the identified action.”

2.11. “Not Likely to Adversely Affect” Determinations

For purposes of the ESA, “effects of the action” means the direct and indirect effects of an action on the listed species or critical habitat, together with the effects of other activities that are interrelated or interdependent with that action (50 CFR 402.02). The applicable standard to find that a proposed action is not likely to adversely affect a listed species or critical habitat is that all of the effects of the action are expected to be discountable, insignificant, or completely beneficial (USFWS and NMFS 1998). Beneficial effects are contemporaneous positive effects without any adverse effects to the species. Insignificant effects relate to the size of the impact and should never reach the scale where take occurs. Discountable effects are those extremely unlikely to occur.

sDPS North American green sturgeon

The action agency determined that the proposed action may affect, but is not likely to adversely affect sDPS green sturgeon or its critical habitat. These determinations were reached because the action area is hydrologically isolated and disconnected from downstream waters that may harbor these species, and individuals of the species are not present in the action area, as the waterway is typically completely dry without any water flow to or from anadromous waterways.

The effects of the action on sDPS green sturgeon and its critical habitat (no PBFs present in the action area) are discountable as they are extremely unlikely to occur. Based on this analysis, NMFS concurs with CHSRA that the proposed action is not likely to adversely affect the above listed species and critical habitat.

3. MAGNUSON–STEVENS FISHERY CONSERVATION AND MANAGEMENT ACT ESSENTIAL FISH HABITAT RESPONSE

Section 305(b) of the MSA directs federal agencies to consult with NMFS on all actions or proposed actions that may adversely affect EFH. Under the MSA, this consultation is intended to promote the conservation of EFH as necessary to support sustainable fisheries and the managed species’ contribution to a healthy ecosystem. For the purposes of the MSA, EFH means “those waters and substrate necessary to fish for spawning, breeding, feeding, or growth to maturity”, and includes the associated physical, chemical, and biological properties that are used by fish (50 CFR 600.10). Adverse effect means any impact that reduces quality or quantity of EFH, and may include direct or indirect physical, chemical, or biological alteration of the waters or substrate and loss of (or injury to) benthic organisms, prey species and their habitat, and other ecosystem components, if such modifications reduce the quality or quantity of EFH. Adverse effects may result from actions occurring within EFH or outside of it and may include direct, indirect, site-specific or habitat-wide impacts, including individual, cumulative, or synergistic consequences of actions (50 CFR 600.810). Section 305(b) of the MSA also requires NMFS to recommend

measures that can be taken by the action agency to conserve EFH. Such recommendations may include measures to avoid, minimize, mitigate, or otherwise offset the adverse effects of the action on EFH (50 CFR 600.905(b)).

3.1. EFH Affected by the Proposed Action

The proposed project occurs within EFH for Chinook salmon, managed within the Pacific Coast Salmon Fisheries Management Plan. EFH in the action area effected by the Project consists of adult migration habitat and juvenile rearing and migration habitat. Habitat areas of particular concern (HAPCs) for Pacific Coast Salmon include (1) complex channels and floodplain habitats, (2) thermal refugia, (3) spawning habitat, (4) estuaries, and (5) marine and estuarine submerged aquatic vegetation; however, HAPCs are not present in the action area.

3.2. Adverse Effects on EFH

NMFS determined the proposed action would adversely affect EFH as follows:

- Permanent habitat loss/modification
- Reduced shelter from predators
- Reduction/change in aquatic macroinvertebrate production
- Reduced habitat complexity
- Reduced supply of terrestrial food resources

3.3. EFH Conservation Recommendations

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. The applicant shall modify or remove the trash grates on the box culvert to meet the conditions required by NMFS' fish passage guidelines in place at the time the channel is restored.

3.4. Statutory Response Requirement

As required by section 305(b)(4)(B) of the MSA, the CHSRA must provide a detailed response in writing to NMFS within 30 days after receiving an EFH conservation recommendation. Such a response must be provided at least 10 days prior to final approval of the action if the response is inconsistent with any of NMFS' EFH conservation recommendations unless NMFS and the federal agency have agreed to use alternative time frames for the federal agency response. The response must include a description of the measures proposed by the agency for avoiding, minimizing, mitigating, or otherwise offsetting the impact of the activity on EFH. In the case of a response that is inconsistent with the conservation recommendations, the federal agency must explain its reasons for not following the recommendations, including the scientific justification for any disagreements with NMFS over the anticipated effects of the action and the measures needed to avoid, minimize, mitigate, or offset such effects (50 CFR 600.920(k)(1)).

3.5. Supplemental Consultation

The CHSRA must reinitiate EFH consultation with NMFS if the proposed action is substantially revised in a way that may adversely affect EFH, or if new information becomes available that affects the basis for NMFS' EFH conservation recommendations (50 CFR 600.920(l)).

4. DATA QUALITY ACT DOCUMENTATION AND PRE-DISSEMINATION REVIEW

The Data Quality Act (DQA) specifies three components contributing to the quality of a document. They are utility, integrity, and objectivity. This section of the opinion addresses these DQA components, documents compliance with the DQA, and certifies that this opinion has undergone pre-dissemination review.

4.1. Utility

Utility principally refers to ensuring that the information contained in this consultation is helpful, serviceable, and beneficial to the intended users. The intended users of this opinion are CHSRA and SJRRC. Individual copies of this opinion were provided to the CHSRA. The document will be available within 2 weeks at the NOAA Library Institutional Repository (<https://repository.library.noaa.gov/welcome>). The format and naming adhere to conventional standards for style.

4.2. Integrity

This consultation was completed on a computer system managed by NMFS in accordance with relevant information technology security policies and standards set out in Appendix III, 'Security of Automated Information Resources,' Office of Management and Budget Circular A-130; the Computer Security Act; and the Government Information Security Reform Act.

4.3. Objectivity

Information Product Category: Natural Resource Plan

Standards: This consultation and supporting documents are clear, concise, complete, and unbiased; and were developed using commonly accepted scientific research methods. They adhere to published standards including the NMFS ESA Consultation Handbook, ESA regulations, 50 CFR 402.01 *et seq.*, and the MSA implementing regulations regarding EFH, 50 CFR part 600.

Best Available Information: This consultation and supporting documents use the best available information, as referenced in the References section. The analyses in this opinion and EFH consultation contain more background on information sources and quality.

Referencing: All supporting materials, information, data and analyses are properly referenced, consistent with standard scientific referencing style.

Review Process: This consultation was drafted by NMFS staff with training in ESA and MSA implementation, and reviewed in accordance with West Coast Region ESA quality control and assurance processes.

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Appendix F

Mitigation, Monitoring, and Reporting Program

Avoidance, Minimization, and/or Mitigation Measures		Timing/Phase	Action(s) Taken to Implement Measure/if checked No, add Explanation here	Final Design Task Completed	Construction Task Completed	Quarterly Status Update/Documentation of Incorporation into Final Design	Environmental Compliance	
				Date / Initials	Date / Initials		YES	NO
AESTHETICS								
BMP AES-1	<u>Coordinate Design Elements to Reduce Visual Impacts.</u> During final design, SJRRC will ensure that all infrastructure within the corridor owned by UP and all materials and aesthetic features will be reviewed and approved by UP. The detail design of the elements in the Project corridor and the selection of the flyover’s specific materials and forms will be rigorously coordinated to reduce visual impacts and enhance existing visual quality. For retaining wall options, this would include but not be limited to the wall type (cast-in-place, mechanically stabilized earth, or other types), the materials used in wall construction (concrete, block, stone, or metal), and the architectural treatment of its façade (dimensions, jointing, colors, textures). For the viaduct option, the bridge type, proportions for the openings, and design of piers would be coordinated, especially where located adjacent to a retaining wall or embankment structure, to achieve design coherence. For the embankment option, seed mixes will be selected to provide vigorous growth and seasonal variety. Coordination regarding potential sculpting of the embankments to be responsive to the public’s interest in visual quality would be incorporated. For any of the design options, the type and placement of fencing, railings, and lighting to provide safety and security would be carefully considered and incorporated into the proposed Project during the design phase in coordination with UP.	During Final Design and Prior to Construction		Completed				
BMP AES-2	<u>Street Tree Planting.</u> During final design, SJRRC will ensure coordination with the City of Stockton on the incorporation of trees along the west side of South Union Street for the viaduct and retaining wall design options. The incorporation of trees would improve the visual quality of the proposed structure. SJRRC will coordinate with the City of Stockton and UP on the locations and types of plantings along the street to provide the visual screening of the viaduct or retaining wall structures.	During Final Design and Prior to Construction		Completed				
BMP AES-3	<u>Lighting Plan.</u> During final design, SJRRC will ensure that a lighting plan will be developed that will select temporary and permanent lighting fixtures to minimize glare on adjacent properties and into the night sky. As defined in the City’s Municipal Code, permanent lighting fixtures will be selected to ensure that the light beam is controlled and not directed across a property line or upward into the sky. Lighting will be shielded with non-glare hoods or reflectors and focused within the Project right-of-way. The lighting plan will be reviewed and approved by the City of Stockton prior to construction to ensure compliance with the City’s Municipal Code and General Plan.	During Final Design and Prior to Construction	Permanent lighting fixtures included during final design and approved by City of Stockton.	Completed				
AIR QUALITY								
BMP AQ-1	<u>Compliance with Stockton Community Emissions Reduction Program.</u> During final design, SJRRC will review the Stockton CERP and incorporate emission reduction strategies into the Project, as feasible. The emissions reduction strategies in the Stockton CERP will include, but will not be limited to, enhancing community participation in land use processes, the deployment of zero and near-zero emission Heavy Heavy Duty (HHD) trucks, HHD truck rerouting analyses, reducing HHD truck idling, and incorporating vegetative barriers and urban greening.	During Construction	Use of zero emission trucks is suggested (but not required). Project has incorporated vegetative barriers (street trees). Truck routes will be approved by City.	Completed				
BMP AQ-2	<u>Vegetative Barriers and Urban Greening.</u> During final design, SJRRC will evaluate the feasibility of incorporating vegetative barriers and urban greening as a measure to potentially reduce air pollution exposure on sensitive receptors in the Project Study Area. Examples of vegetative barriers will include, but are not limited to, trees, bushes, shrubs, or a mix of these types of vegetation.	During Construction	Final design incorporates vegetative barriers (i.e., street trees).	Completed				
BMP AQ-3	<u>Compliance with EPA’s Tier 4 Exhaust Emission Standards.</u> During construction, SJRRC will ensure that all off road diesel powered construction equipment greater than 50 horsepower shall comply with EPA’s Tier 4 Final exhaust emission standards (40 CFR Part 1039). In addition, if not already supplied with a factory equipped diesel particulate filter, all construction equipment shall be outfitted with Best Available Control Technology devices certified by the ARB. Any emissions control device used by the contractor shall achieve emissions reductions that are no less than what could be achieved by a Level 3 diesel emissions control strategy for a similarly sized engine as defined by California ARB regulations	During Construction		NA				
BMP AQ-4	<u>Fugitive Dust.</u> Prior to issuance of a grading or building permit, SJRRC shall submit the dust control plan to SJVAPCD for review and approval, and shall provide the plan to the County, to demonstrate compliance with SJVAPCD Regulation VIII (Fugitive PM10 Prohibition). The plan shall address construction-related dust as required by SJVAPCD.	Prior to Issuance of Grading or Building Permit		NA				

Avoidance, Minimization, and/or Mitigation Measures		Timing/Phase	Action(s) Taken to Implement Measure/if checked No, add Explanation here	Final Design Task Completed	Construction Task Completed	Quarterly Status Update/Documentation of Incorporation into Final Design	Environmental Compliance	
				Date / Initials	Date / Initials		YES	NO
BIOLOGICAL RESOURCES								
BMP BIO-1	Biological Monitor and Environmental Awareness Training. If deemed necessary, SJRRC will ensure that a qualified biologist(s) will monitor activities that could affect special-status species and/or sensitive biological resources within the BSA. The amount and duration of monitoring would depend on the activity and would be determined by the qualified biologist. The duties of the qualified biologist shall comply with all agency conditions outlined in Project-related permits, but could include activities such as clearance surveys, flagging or fencing off environmentally sensitive areas for avoidance, and construction monitoring. The biological monitor will conduct preconstruction clearance surveys for special-status species prior to the start of Project activities and implement all biological-resources avoidance and minimization measures and applicable SJMSCP Incidental ITMMs. In addition, a qualified biologist shall be retained to conduct mandatory contractor/worker awareness training for construction personnel. The awareness training will be provided to all construction personnel to brief them on the identified location of sensitive biological resources, including how to identify species (visual and auditory) most likely to be present, the need to avoid impacts on biological resources (for example, plants, wildlife, and jurisdictional waters), and to brief them on the penalties for not complying with biological mitigation requirements. If new construction personnel are added to the Project, SJRRC will ensure that the mandatory training be conducted by the contractor prior to starting work on the proposed Project.	During Construction (if deemed necessary by Project biologist)		NA				
BMP BIO-2	Swainson's Hawk Nest Surveys. Prior to construction, a qualified biologist shall conduct surveys for Swainson's hawk nests in accordance with current CDFW-approved guidance, such as the Swainson's Hawk Technical Advisory Committee's 2010 Recommended Timing and Methodology for Swainson's Hawk Nesting Surveys in California's Central Valley (CDFW 2000), or as required by the SJMSCP.	Prior to Construction		NA				
BMP BIO-3	Migratory Bird and Raptor Surveys and Nest Avoidance. If vegetation clearing and/or construction activities are scheduled to occur during the migratory bird nesting season (February 1 to September 15), then pre-construction surveys to identify active migratory bird and/or raptor nests will be conducted by a qualified biologist no more than 7 days prior to construction initiation. If active nest sites are identified in the survey area, a no-disturbance buffer will be established for all active nest or burrow sites prior to commencement of any proposed Project-related activities. The size of the no-disturbance buffer would vary and would be determined by a qualified biologist based on the species, activities proposed near the nest, and topographic and other visual barriers, or as otherwise required through the SJMSCP (as described in SJMSCP ITMM 5.2.4.17, 5.2.4.18, and 5.2.4.19). A qualified biologist will monitor any active nest until the nest is deemed inactive and the no-disturbance buffer can be removed. The amount and duration of the monitoring will be determined by a qualified biologist and will depend on the same factors described above when determining the size of the no-disturbance buffer.	Prior to and During Construction		NA				
BMP BIO-4	Burrowing Owl Surveys and Avoidance. A qualified biologist shall conduct surveys for burrowing owl during the peak breeding season (April 15 to July 15) prior to construction in accordance with current CDFW-approved guidance [Burrowing Owl Survey Protocol and Mitigation Guidelines or Staff Report on Burrowing Owl Mitigation (CDFW 2012)]. If no active burrowing owl burrows are located within, or within 500 feet of, the proposed Project construction limits, SJRRC or its construction contractor will proceed with measures A or B identified in SJMSCP ITMM 5.2.4.15 to prevent burrowing owls from subsequently occupying the Project construction limits, if feasible. If burrowing owl subsequently occupy the Project construction limits prior to construction SJRRC or its construction contractor will proceed with measures C or D identified in SJMSCP ITMM 5.2.4.15 to avoid impacts to breeding burrowing owls. Measure C consists of passive relocation during the non-breeding season (September 1 through January 1). Measure D consists of implementing 250-foot buffers around occupied, active nests/burrows. Once a qualified biologist has determined that young have fledged and are capable of independent survival, the burrow can be destroyed.	Prior to Construction		NA				
BMP BIO-5	Bat Roost Surveys. A qualified biologist will conduct a daytime site reconnaissance in the maternity season prior to the construction of new infrastructure or modifications to existing infrastructure of any buildings, bridges, or other structures suitable to support bat roosts. The qualified bat biologist will survey for SJMSCP-protected bats and bat sign, including existing roost sites and bat guano deposits, and will listen for roosting bats. If potential roost sites are identified, a nighttime exit survey will be conducted to determine the species of roosting bats and relative bat activity, and to estimate the number of individual bats. This nighttime survey may be an active or passive acoustic monitoring survey. If SJMSCP-protected bat individuals or roosts are found in, or within 100 feet of, the proposed Project construction limits, SJMSCP ITMM 5.2.4.28 will be implemented.	Prior to Construction		NA				
MM BIO-6	Compliance with SJMSCP. Prior to and during construction, SJRRC will ensure compliance of the proposed Project with all applicable standards and regulations set forth in the SJMSCP, as well as all applicable Incidental Take Avoidance Measures identified within the SJMSCP.	Prior to and During Construction	Executed agreement w/SJMSCP.					

Avoidance, Minimization, and/or Mitigation Measures		Timing/Phase	Action(s) Taken to Implement Measure/if checked No, add Explanation here	Final Design Task Completed	Construction Task Completed	Quarterly Status Update/Documentation of Incorporation into Final Design	Environmental Compliance	
				Date / Initials	Date / Initials		YES	NO
MM BIO-7	<p><u>National Marine Fisheries Service Consultation.</u> SJRRC will implement all avoidance, minimization, and conservation measures identified in the National Marine Fisheries Service Endangered Species Act Section 7(a)(2) Biological Opinion and Magnuson-Stevens Fishery Conservation and Management Act Essential Fish Habitat Response issued for the Project on December 9, 2024. SJRRC will submit to NMFS an annual report describing the Project's impacts. This report will include any fishes known to have been killed or injured due to the Project. This report will be submitted, preferably by email, annually by December 31 to the NMFS California Central Valley Office: ccvo.consultationrequests@noaa.gov, National Marine Fisheries Service, Assistant Regional Administrator, California Central Valley Office, 650 Capitol Mall, Suite 5-100, Sacramento, California 95814. A copy of the Biological Opinion will be included in the final design package for the prime contractor in order to educate and inform all other contractors involved in the Project as to the recommendations of the Biological Opinion.</p> <p>- Fish Passage and Predation: To reduce the effects of riprap on fish passage and predation, SJRRC will ensure that the riprap armor will be mixed with agricultural grade soil at a 70 percent rock to 30 percent soil ratio above the estimated ordinary high-water line and backfilled with a minimum of 6 to 12 inches of native soil. To reduce predation associated with overwater structures, SJRRC will paint the ceiling of the culvert with white or similarly reflective paint to maintain light levels needed to encourage daytime movement of juvenile salmonids. To reduce passage impediments related to the closed box culvert, SJRRC will adhere to NMFS fish passage design criteria that states, "Concrete surfaces should be finished to ensure smooth surfaces" (NMFS 2023). The proposed Project will also involve removing trash and encampments from the streambed. After construction is complete, should hydrological connectivity to the Mormon Slough be restored with enough freshwater flows to support fish habitat, SJRRC will modify or remove the trash grates to meet the conditions required by NMFS' fish passage guidelines in place at the time the channel is fully restored as a fish passage facility.</p> <p>- Mitigation Banking. To offset impacts on CCV steelhead critical habitat, SJRRC will voluntarily purchase either mitigation bank credits at a 1:1 ratio or an in-lieu fee credit for permanent impacts to riparian habitat (0.757 acre).</p>	During Consultation						
BMP BIO-8	<p><u>Construction BMPs at Mormon Slough.</u> During final design, SJRRC will ensure that construction best management practices will be employed on-site to prevent erosion or runoff of loose soil and dust. Methods will include the use of appropriate measures to intercept and capture sediment prior to entering aquatic resources, as well as erosion control measures along the perimeter of disturbance areas to prevent the displacement of fill material. All best management practices shall be in place prior to initiation of project-related activities and shall remain until activities are completed. All erosion control methods will be maintained until all onsite soils are stabilized.</p>	During Final Design and Prior to Construction		Completed				
BMP BIO-9	<p><u>Environmentally Sensitive Area Fencing at Mormon Slough.</u> Prior to and during construction, SJRRC will ensure that work areas will be reduced to the smallest practicable footprint throughout the duration of construction activities. Prior to any ground-disturbing activity, SJRRC will ensure that staging areas for construction equipment be stored in areas that minimize impacts on sensitive biological resources, including aquatic resources. Staging areas (including any temporary material storage areas) will be located in areas that will be occupied by permanent facilities, where practicable. Equipment staging areas will be identified on final project construction plans. SJRRC will ensure to flag and mark access routes to restrict vehicle traffic within the Project footprint to established roads, construction areas and other designated areas.</p>	Prior to and During Construction		Completed				
BMP BIO-10	<p><u>Restoration of Temporary Impact Areas.</u> During construction, SJRRC will ensure that all exposed and/or disturbed areas resulting from Project-related activities will be returned to its original contour and grade, and restored using locally native grass and forb seeds, plugs, or a mix of the two. Areas shall be seeded with species appropriate to their topographical and hydrological character. Seeded areas shall be covered with broadcast straw and/or jute netted, where appropriate.</p>	During Construction		NA				
BMP BIO-11	<p><u>Vehicle Access and Speed Limits.</u> During construction, SJRRC will ensure that all vehicle traffic associated with project-related activities will be confined to established roads, staging areas, and parking areas. Vehicle speeds will not exceed 15 miles per hour on access roads with no posted speed limit to avoid collisions with special-status species or habitats. Additionally, maintenance or refueling of vehicles or equipment must occur in designated areas and/or a secondary containment, located away from aquatic resources.</p>	During Construction		NA				

Avoidance, Minimization, and/or Mitigation Measures		Timing/Phase	Action(s) Taken to Implement Measure/if checked No, add Explanation here	Final Design Task Completed	Construction Task Completed	Quarterly Status Update/Documentation of Incorporation into Final Design	Environmental Compliance	
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BMP BIO-12	Storage and Disposal of Excavated Materials. During ground-disturbing activities, SJRRC may temporarily store excavated materials produced by construction activities in areas at or near construction sites within the Project footprint. Where practicable, SJRRC will return excavated soil to its original location to be used as backfill. Any excavated waste materials unsuitable for treatment and reuse would be disposed at an off-site location, in conformance with applicable state and federal laws. Stockpiled, disassembled, and hazardous construction material should be stored at least 100 feet from aquatic resources, where possible.	During Construction		NA				
MM BIO-13	Mitigation for Aquatic Resources. During final design, SJRRC will ensure that temporary Project impacts on aquatic resources associated with the Mormon Slough will be restored in-place and permanent Project impacts on aquatic resources to the Mormon Slough will be mitigated at a minimum 1:1 ratio. Mitigation can include on-site restoration, in-lieu fee payment, or purchase of mitigation credits at an agency-approved mitigation bank.	During Final Design	AJD completed, but Corps said no aquatic resources under their jurisdiction	Completed		Section 404 Permit Not Required		
MM BIO-14	Compliance with Permitted Mitigation Measures. Prior to construction, SJRRC will obtain all required permits and authorizations for Project impacts to the Mormon Slough, which may include the preparation and submittal of the following applications: •Pre Construction Notification to USACE to use a Nationwide Permit for any Project impacts to Waters of the US subject to Section 404 of the federal Clean Water Act •Water Quality Certification Application to Central Valley Regional Water Quality Control Board (RWQCB) for any Project impacts to Waters of the U.S. subject to Section 401 of the federal Clean Water Act •Streambed Alteration Agreement Notification to CDFW.	Prior to Construction	No 404 or 401 permit needed, only CDFW. CDFW issued a Final Streambed Alteration Agreement for the Project on 2024-01-06. Due to the design refinement at the Mormon Slough, SJRRC will reinitiate CDFW consultation following approval of the Project Variation.	NA				
MM BIO-15	Preparation of Formal Jurisdictional Delineation. During final design, SJRRC will ensure that a formal field-delineation of aquatic resources the proposed Project, to be verified by the regulatory agencies, will be conducted in order to confirm the exact extent of jurisdictional resources impacted by the proposed Project.	During Final Design	AJD completed, but Corps said no aquatic resources under their jurisdiction	Completed		Section 404 Permit Not Required		
BMP BIO-16	City of Stockton Tree Ordinance. During final design, SJRRC will ensure that the proposed Project will comply with the City of Stockton's tree ordinance which requires a permit issued by the City for the removal of any street trees or heritage oak trees within the City.	During Final Design	During final design, SJRRC determined that no street trees or heritage oak trees are anticipated to be removed during construction.	Completed				
CULTURAL RESOURCES								
BMP CUL-1	Archaeological and Tribal Monitoring. Prior to issuance of grading permits, SJRRC will ensure that a qualified archeologist and Native American monitors from the North Valley Yokuts Tribe and The Confederated Villages of Lisjan shall be retained to monitor earth-moving activities. One Native American monitor from the North Valley Yokuts Tribe and one Native American monitor from The Confederated Villages of Lisjan shall be on-site during these activities. Attendance is ultimately at the discretion of the tribes. The archaeological and Native American monitor shall be present for all ground-disturbing activities within the Project area. The qualified archaeologist shall have the ability to recommend, with written and photographic justification, the termination of monitoring efforts to SJRRC, and should SJRRC and the Native American monitors concur with this assessment, then monitoring shall cease. If an inadvertent discovery of archaeological materials is made during project-related construction activities, the archaeological and Native American monitors shall have the authority to halt ground disturbing activities within 50 feet of the resource(s) and an Environmentally Sensitive Area physical demarcation shall be established. The qualified archaeologist shall be notified regarding the discovery. If prehistoric or potential tribal cultural resources (TCR) are identified, the Native American monitors shall be notified. Prior to issuance of grading permits, a qualified archaeologist, meeting the Secretary of the Interior's Standards for professional archaeology, shall ensure that a Worker Environmental Awareness Protection (WEAP) training, presented by a Qualified Archaeologist and Native American representative, is provided to all construction and managerial personnel involved with the proposed Project. The WEAP training shall provide an overview of cultural (prehistoric and historic) and tribal cultural resources and outline regulatory requirements for the protection of cultural resources. The WEAP will also cover the proper procedures in the event an unanticipated cultural resource is identified during construction. The WEAP training can be in the form of a video or PowerPoint presentation. Printed literature (handouts) can accompany the training and can also be given to new workers and contractors to avoid the necessity of continuous training over the course of the proposed Project.	Prior to Issuance of Grading or Building Permit		NA				

Avoidance, Minimization, and/or Mitigation Measures		Timing/Phase	Action(s) Taken to Implement Measure/if checked No, add Explanation here	Final Design Task Completed	Construction Task Completed	Quarterly Status Update/Documentation of Incorporation into Final Design	Environmental Compliance	
				Date / Initials	Date / Initials		YES	NO
BMP CUL-2	<p><u>Archaeological and Tribal Monitor.</u> Prior to issuance of grading permits, SJRRC shall retain an archaeological monitor. The archaeological monitor, working under the direct supervision of the qualified archeologist, shall be present for all ground-disturbing activities that occur in native soil within the archaeological APE. All archaeological monitors shall be familiar with the types of historical and prehistoric resources that could be encountered within the APE. Ground disturbing activities include, but are not limited to, brush clearance, grubbing, excavation, trenching, grading, and drilling. A sufficient number of archaeological monitors shall be present each workday to ensure that simultaneously occurring ground disturbing activities receive thorough levels of monitoring coverage. The qualified archaeologist shall have the ability to recommend, with written and photographic justification, the termination of monitoring efforts to SJRRC, and should SJRRC and the Native American participant(s) concur with this assessment, then monitoring shall cease.</p> <p>If an inadvertent discovery of archaeological materials is made during Project-related construction activities, the archaeological monitor shall have the authority to halt ground disturbing activities within 50 feet of the resource(s) and an Environmentally Sensitive Area physical demarcation shall be constructed. The qualified archaeologist shall be notified regarding the discovery. If prehistoric or potential tribal cultural resources are identified, the interested Native American participant(s) shall be notified.</p> <p>The qualified archaeologist, in consultation with SJRRC (and Native American participant[s] should the find be prehistoric), shall determine whether the resource is potentially significant as per Section 106 and/or CEQA (that is, whether it is an historical resource, a unique archaeological resource, or tribal cultural resources). If avoidance is not feasible, a qualified archaeologist, in consultation with SJRRC, shall prepare and implement a detailed treatment plan. Treatment of unique archaeological resources shall follow the applicable requirements of PRC Section 21083.2. Treatment for most resources would consist of, but would not be limited to, in-field documentation, archival research, subsurface testing, and excavation.</p> <p>No work will continue within the 50-foot buffer until the qualified archaeologist, and Lead Agencies (along with the Native American participant[s] should the find be prehistoric) agree to appropriate treatment.</p> <p>One Native American monitor from the North Valley Yokuts Tribe and one Native American monitor from The Confederated Villages of Lisjan shall be on-site during all ground disturbing activities and attendance is at the discretion of the tribes. One or more Native American monitors will also be present during all proposed Project ground disturbing activities.</p>	Prior to Issuance of Grading or Building Permit		NA				
BMP CUL-3	<p><u>Inadvertent Discovery of Human Remains During Construction.</u> In the event of the inadvertent discovery of human remains, SJRRC will ensure that their designated contractor shall immediately notify the county coroner and SJRRC. If the county coroner determines the remains are Native American in origin, the Coroner shall contact the Native American Heritage Commission in accordance with Health and Safety Code Section 7050.5 subdivision c, and Public Resources Code Section 5097.98 (as amended by AB 2641). The Native American Heritage Commission shall designate a Most Likely Descendent for the remains per Public Resources Code 5097.98. Per Public Resources Code 5097.98, the landowner shall ensure that the immediate vicinity, according to generally accepted cultural or archaeological standards or practices, where he Native American human remains are located, is not damaged or disturbed by further development activity until the landowner has discussed and conferred with the most likely descendent regarding their recommendations, if applicable. If the remains are determined to be neither of forensic value to the Coroner, nor of Native American origin, provisions of the California Health and Safety Code (7100 37 et seq.) directing identification of the next-of-kin will apply.</p>	During Construction (in the event of inadvertent discovery of human remains).		NA				
GEOLOGY AND SOILS								
BMP GEO-1	<p><u>Geologic Hazards.</u> Prior to construction, SJRRC will ensure that the contractor shall prepare a Construction Management Plan addressing how the contractor will address geologic constraints and minimize or avoid impacts to geologic hazards during construction. The plan will be submitted to SJRRC for review and approval. At minimum, the plan will address unstable soils and water and wind erosion.</p>	Prior to Construction		NA				
BMP GEO-2	<p><u>Geology and Soils.</u> Prior to construction, SJRRC will ensure that the contractor will issue a technical memorandum documenting the ways in which the following guidelines and standards have been incorporated into facility design and construction:</p> <ul style="list-style-type: none">•2015 AASHTO Load and Resistance Factor Bridge Design Specifications and the 2015 AASHTO Guide Specifications for Load and Resistance Factor Seismic Bridge Design, or their most recent versions.	Prior to Construction		NA				
BMP GEO-3	<p><u>Implement Geotechnical Recommendations.</u> During final design, SJRRC will ensure that a project specific <i>Geotechnical Design Report</i> will be prepared, which will include final geotechnical recommendations for ground improvement options and foundation, embankment, and retaining wall design for the proposed Project.</p>	During Final Design	Completed Geotechnical Design Report	Completed				

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BMP GEO-4	<u>Preparation and Implementation of a Paleontological Resources Management Plan.</u> Due to the potential for impacts to paleontological resources in the Project subsurface, a Paleontological Resources Management Plan (PRMP) will be prepared during final design. SJRRC will ensure that the PRMP will include provisions for periodic spot checks during excavations to check for the presence of the early Holocene- to late Pleistocene-age Modesto Formation, and the implementation of full-time monitoring if the early Holocene- to late Pleistocene-age Modesto Formation is observed. In the event unanticipated paleontological resources are discovered during Project related activities, SJRRC or their designated contractor will ensure that work in the immediate vicinity of the discovery is halted until it can be evaluated by a qualified paleontologist.	During Final Design and During Construction	PRMP prepared December 2023	Completed				
HAZARDOUS WASTE/MATERIALS								
MM HAZ-1	<u>Prepare a Construction Hazardous Materials Management Plan (HMMP).</u> Prior to construction, SJRRC will ensure that an HMMP be prepared, which will outline provisions for safe storage, containment, and disposal of chemicals and hazardous materials, contaminated soils, and contaminated groundwater used or exposed during construction, including the proper locations for disposal. The HMMP shall be prepared to address Project construction limits, and include, but not be limited to, the following: •A description of hazardous materials and hazardous wastes used (29 C.F.R. 1910.1200) •A description of handling, transport, treatment, and disposal procedures, as relevant for each hazardous material or hazardous waste (29 C.F.R. 1910.120) •Preparedness, prevention, contingency, and emergency procedures, including emergency contact information (29 C.F.R. 1910.38) oA description of personnel training including, but not limited to: (1) recognition of existing or potential hazards resulting from accidental spills or other releases; (2) implementation of evacuation, notification, and other emergency response procedures; (3) management, awareness, and handling of hazardous materials and hazardous wastes, as required by their level of responsibility (29 C.F.R. 1910) •Instructions on keeping Safety Data Sheets on site for each on-site hazardous chemical (29 C.F.R. 1910.1200) •Identification of the locations of hazardous material storage areas, including temporary storage areas, which shall be equipped with secondary containment sufficient in size to contain the volume of the largest container or tank (29 C.F.R. 1910.120)	Prior to Construction	Prepared Contaminant Management Plan (soil/water)	Completed				
MM HAZ-2	<u>Property Acquisition Phase 1 and Phase 2 Environmental Site Assessments.</u> Prior to or during the right-of-way acquisition phase, SJRRC will ensure that Phase 1 Environmental Site Assessments (ESA) would be conducted in accordance with standard ASTM methodologies to characterize each parcel. The determination of parcels that require a Phase 2 ESA (for example, soil, groundwater, soil vapor subsurface investigations) would be informed by a Phase 1 ESA and may require coordination with state and local agency officials.	Prior to and/or During ROW Acquisition.	Assessments completed.	Completed	NA		X	
MM HAZ-3	<u>Prepare a General Construction Soil Management Plan.</u> Prior to construction, SJRRC will ensure that a General Construction Soil Management Plan be prepared, which will include general provisions for how soils will be managed within the Project construction limits for the duration of construction. General soil management controls to be implemented by the contractor, and the following topics, shall be addressed within the Soil Management Plan: •General worker health and safety procedures •Dust control •Management of soil stockpiles •Traffic control •Stormwater erosion control using BMPs	Prior to Construction	Included in Contaminant Management Plan (soil/water)	Completed				

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MM HAZ-4	<p>Prepare Parcel-Specific Soil Management Plans and Health and Safety Plans (HASP). Prior to construction, SJRRC will ensure that parcel-specific Soil Management Plans be prepared for known contaminated sites and LUST-adjudicated sites for submittal and approval by DTSC. The plans shall include specific hazards and provisions for how soils will be managed for known contaminated sites and LUST-adjudicated sites. The nature and extent of contamination varies widely across the Project construction limits, and the parcel-specific Soil Management Plan shall provide parcel-specific requirements addressing the following:</p> <ul style="list-style-type: none">•Soil disposal protocols•Protocols governing the discovery of unknown contaminants•Soil management on properties within the Project construction limits with LUSTs or known contaminants <p>Prior to construction on individual properties with LUSTs or known contaminants, a parcel-specific HASP shall also be prepared for submittal and approval by DTSC. The HASP shall be prepared to meet OSHA requirements, Title 29 of the C.F.R. 1910.120 and CCR Title 8, Section 5192, and all applicable federal, state, and local regulations and agency ordinances related to the proposed management, transport, and disposal of contaminated media during implementation of work and field activities. The HASP shall be signed and sealed by a Certified Industrial Hygienist, who is licensed by the American Board of Industrial Hygiene. In addition to general construction soil management plan provisions, the following parcel-specific HASP provisions shall also be implemented:</p> <ul style="list-style-type: none">•Training requirements for site workers who may be handling contaminated material•Chemical exposure hazards in soil, groundwater, or soil vapor that are known to be present on a property•Mitigation and monitoring measures that are protective of site worker and public health and safety <p>Prior to construction, SJRRC shall coordinate proposed soil management measures and reporting activities with stakeholders and regulatory agencies with jurisdiction in order to establish an appropriate monitoring and reporting program that meets all federal, state, and local laws for the Project and each of the contaminated sites.</p>	Prior to Construction		NA				
MM HAZ-5	<p>LUST Sites and Coordination with DTSC. Prior to construction on properties with a LUST, SJRRC will ensure that coordination be required with DTSC regarding any plans specified, construction activities, and/or public outreach activities needed to verify that construction activities on properties with LUSTs would be managed in a manner protective of public health.</p>	Prior to Construction	No LUST, Only UST sites per assessments completed.	NA				
MM HAZ-6	<p>Halt Construction Work if Potentially Hazardous Materials/Abandoned Oil Wells are Encountered. During construction, SJRRC will ensure that contractors will follow all applicable local, state, and federal regulations regarding discovery, notification, response, disposal, and remediation for hazardous materials and/or abandoned oil wells encountered during the construction process.</p>	During Construction		NA				
MM HAZ-7	<p><u>Pre-Demolition Investigation</u>. Prior to the demolition of any structures constructed prior to the 1970s, SJRRC will ensure that a survey be conducted for the presence of hazardous building materials, such as ACMs, LBPs, and other materials falling under the Universal Waste requirements. The results of this survey shall be submitted to SJRRC and applicable stakeholders as deemed appropriate by SJRRC. If any hazardous building materials are discovered, prior to demolition of any structures, a plan for proper removal shall be prepared in accordance with applicable OSHA and San Joaquin County Environmental Health Department requirements. The contractor performing the work shall be required to implement the removal plan, shall be required to have a C-21 license in the State of California, and possess an A or B classification. If asbestos-related work is required, the contractor or their subcontractor shall be required to possess a California Contractor License (Asbestos Certification). Prior to any demolition activities, the contractor shall be required to secure the site and ensure utilities are disconnected.</p>	Prior to Demolition of Any Structures	Completed lead/asbestos survey/report.	NA				
MM HAZ-8	<p><u>Maintenance of Emergency Response Times</u>. Prior to construction and closure of East Church Street and East Lafayette Street, SJRRC will consult with applicable agencies and departments providing emergency response to ensure that acceptable response times are maintained during proposed Project operation.</p>	Prior to Construction		NA				
HYDROLOGY AND WATER QUALITY								
BMP HYD-1	<p><u>Stormwater Management and Treatment Plan</u>. Prior to construction, SJRRC will ensure that the contractor prepares a Project specific stormwater management and treatment plan and all aspects of the Stormwater Management and Treatment Plan are implemented during construction activities.</p>	Prior to Construction		NA				
BMP HYD-2	<p><u>Construction Stormwater Pollution Prevention Plan</u>. Prior to construction (that is, any ground-disturbing activities), SJRRC will ensure that the contractor would comply with SWRCB CGP, which requires the preparation and implementation of a SWPPP. The construction SWPPP would propose BMPs to minimize potential short-term increases in sediment transport caused by construction, including erosion control requirements, stormwater management, and channel dewatering for affected stream crossings.</p>	Prior to Construction		NA				

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BMP HYD-3	Industrial Stormwater Pollution Prevention Plan. Prior to construction of any facility classified as an industrial facility, SJRRC will ensure that the contractor will comply with existing water quality regulations. The stormwater general permit requires preparation of a SWPPP and a monitoring plan for industrial facilities that discharge stormwater from the site, including vehicle maintenance facilities associated with transportation operations. The permit includes performance standards for pollution control.	Prior to Construction		NA				
BMP HYD-4	Flood Protection. Prior to construction, SJRRC will ensure that the contractor prepares and implements a flood protection plan for the proposed Project.	Prior to Construction		NA				
BMP HYD-5	Drainage Report. SJRRC will ensure that a project-specific drainage report will be developed in coordination with the City of Stockton during final design. The Drainage Report will be prepared consistent with standards set by the City of Stockton.	During Final Design	Drainage report completed	Completed				
LAND USE AND PLANNING								
BMP LU-1	General Plan Amendment. During final design and prior to construction, SJRRC will coordinate with the City of Stockton to ensure that the City of Stockton's General Plan is amended to reflect the land use designations consistent with what has been identified by the proposed Project.	During Final Design	MOU executed between SJRRC and City. Won't be finalized until after project completion.	Completed				
MM LU-2	Property Ownership and Agreement Coordination Efforts. During final design SJRRC will ensure coordination with the City and UP to determine appropriate property ownership and establish agreements prior to the ROW acquisition process. Options to address property ownership may include, but not be limited to: •Continuing City ownership and maintenance of the street corridors with permanent easements required for the railroad corridor; or •SJRRC and/or railroad company ownership and maintenance of the properties within the railroad corridor with either SJRRC or private ownership of adjacent remnant parcels. Public Utility easements would be necessary for this option.	During Final Design	Coordination with the City and UP occurred and property acquisition decisions were finalized.	Completed				
MM LU-3	Relocation Assistance. During final design, SJRRC will ensure that the loss of private industrial property be mitigated by payment of fair market compensation and provision of relocation assistance in accordance with the Uniform Relocation Assistance and Real Property Acquisition Policies Act. For these non-residential displacements, the following would be provided to business operators: •Relocation advisory services •Minimum 90 days written notice to vacate prior to requiring possession •Reimbursement for moving and reestablishment expenses	During Final Design	Coordination with the City and UP occurred and property acquisition decisions were finalized.	Completed				
NOISE AND VIBRATION								
MM NV-1	Noise Control Plan. Prior to construction, SJRRC will ensure that a noise control plan is prepared that will incorporate, at a minimum, the following best practices into the construction scope of work and specifications to reduce the impact of temporary construction-related noise on nearby noise-sensitive receptors. The Noise Control Plan will be developed in coordination with the City of Stockton in compliance with City standards. Components of the Noise Control Plan will include, but not be limited to, the following: •Install temporary construction site sound barriers near noise sources. •Use moveable sound barriers at the source of the construction activity. •Avoid the use of impact pile drivers at night and, where possible, near noise-sensitive areas or use quieter alternatives (for example, drilled piles) where geological conditions permit. •Locate stationary construction equipment as far as possible from noise-sensitive sites. •Re-route construction-related truck traffic along roadways that will cause the least disturbance to residents. •Use low-noise emission equipment. •Implement noise-deadening measures for truck loading and operations. •Line or cover storage bins, conveyors, and chutes with sound-deadening material. •Use acoustic enclosures, shields, or shrouds for equipment and facilities. •Use high-grade engine exhaust silencers and engine-casing sound insulation. •Minimize the use of generators to power equipment. •Limit use of public address systems. •Grade surface irregularities on construction sites. •Monitor and maintain equipment to meet noise limits. •Implement noise monitoring during construction to ensure noise limits are met. •Maintain active coordination with the City to identify potential options to retrofit residences closest to the construction with noise reduction window technology. •Establish an active community liaison program to keep residents informed about construction and to provide a procedure for addressing complaints.	Prior to Construction	Noise Abatement Report prepared.	NA				

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MM NV-2	<u>Vibration Control Plan.</u> Prior to construction, SJRRC will ensure that a vibration control plan is prepared and will incorporate, at a minimum, the following best practices into the construction scope of work and specifications to reduce the impact of temporary construction-related vibration on nearby vibration-sensitive land uses will be prepared and implemented. •Avoid the use of impact pile drivers where possible near vibration-sensitive areas or use alternative construction methods (for example, drilled piles) where geological conditions permit. •Avoid vibratory compacting/rolling in close proximity to structures. •Require vibration monitoring during vibration-intensive activities. In the event building damage occurs due to construction, repairs would be made, or compensation would be provided by SJRRC.	Prior to Construction	Prepared as part of the Noise Abatement Report	NA				
MM NV-3	<u>Reductions for Severe Noise Impacts.</u> Prior to construction, SJRRC will ensure that sound insulation improvements will be installed in the residential properties that would be exposed to severe noise impacts. The goal of these improvements is to reduce the interior noise levels to below the 45 dBA Ldn noise threshold set by the U.S. Department of Housing and Urban Development. In addition to the sound insulation improvements, a form of fresh air exchange must be maintained. The air exchange can be achieved by installing an air conditioning unit for the residence. Sound insulation is normally only used on older dwellings with single-paned windows or in buildings with double-paned windows that are no longer effective because of leakage. Sound insulation testing would be conducted to determine the appropriate measures to improve the outdoor to indoor sound level reduction, such as improved windows, doors or vents.	Prior to Construction		NA				
POPULATION AND HOUSING								
BMP PH-1	<u>Outreach and Engagement Plan.</u> SJRRC will actively coordinate with the City, County, and local stakeholder groups before and during proposed Project construction to prepare and implement an Outreach and Engagement Plan to address the homeless encampments that are present within the Mormon Slough area. The Outreach and Engagement Plan will include input on goals and strategies from local stakeholder groups, as well as established goals and policies of the County's Community Response to Homelessness Strategic Plan. The Outreach and Engagement Plan will focus on a targeted proactive response for temporary and permanent relocation assistance for transient populations affected by the proposed Project.	Prior to and During Construction		NA				
TRANSPORTATION								
BMP TRA-1	<u>Protection of Public Roadways during Construction.</u> Prior to construction, SJRRC will ensure that the contractor will provide a photographic survey documenting the condition of the public roadways along truck routes providing access to the proposed Project site to restore such routes utilized by the Project during construction to their previous condition.	Prior to Construction		NA				
BMP TRA-2	<u>Construction Transportation Plan.</u> Prior to construction, SJRRC will ensure that the contractor will prepare a detailed construction transportation plan for the purpose of minimizing the impact of construction and construction traffic on adjoining and nearby roadways in close consultation with the local jurisdiction having authority over the site.	Prior to Construction		NA				
BMP TRA-3	<u>Off-Street Parking for Construction-Related Vehicles.</u> During construction, SJRRC will ensure that the contractor will identify adequate off-street parking for all construction-related vehicles throughout the construction period to minimize impacts on public on-street parking areas.	During Construction		NA				
BMP TRA-4	<u>Maintenance of Pedestrian Access.</u> Prior to construction, SJRRC will ensure that the contractor will prepare specific Construction Management Plans (CMPs) to address maintenance of pedestrian access during the construction period.	Prior to Construction		NA				
BMP TRA-5	<u>Maintenance of Bicycle Access.</u> Prior to construction, SJRRC will ensure that the contractor would prepare specific CMPs to address maintenance of bicycle and access during the construction period.	Prior to Construction		NA				
BMP TRA-6	<u>Protection of Freight and Passenger Rail During Construction.</u> During construction, SJRRC will ensure that the contractor will repair any structural damage to freight or public railways that may occur during the construction period and return any damaged sections to their original structural condition.	During Construction		NA				
BMP TRA-7	<u>Traffic Management Plan.</u> During final design, SJRRC will ensure that a Project Transportation Management Plan will be drafted, approved, and filed with the City of Stockton Engineering and Transportation Department, or other agency with jurisdiction over the road, prior to any road closures. SJRRC will also collaborate regularly with the San Joaquin Regional Transit Department during final design to coordinate elements of the TMP. The plan would include alternative routing plans and methods and details for early public outreach.	During Final Design	SJRRC met with Regional Transit Department at Charter Way (3-29-2023 meeting)	Completed				

Avoidance, Minimization, and/or Mitigation Measures		Timing/Phase	Action(s) Taken to Implement Measure/if checked No, add Explanation here	Final Design Task Completed	Construction Task Completed	Quarterly Status Update/Documentation of Incorporation into Final Design	Environmental Compliance	
				Date / Initials	Date / Initials		YES	NO
BMP TRA-8	Road Closure Formalization Process. During final design, SJRRC will ensure that all proposed Project road closures will be formalized as part of the California Public Utilities Commission (CPUC) General Order (GO) 88B Diagnostic review process. The CPUC GO 88B Diagnostic review process will include the evaluation of circulation for all modes of travel in coordination with City of Stockton, CPUC and UPRR, including pedestrians, bicycles, automobiles, and trucks.	During Final Design	Coordination with City, CPUC and UPRR occurred. CPUC performed a Diagnostic Review of the Project, and adjustments to roadway crossing closures were incorporated into an Addendum to the 2021 Certified EIR.	Completed				
UTILITIES AND SERVICE SYSTEMS								
BMP UTIL-1	Notify Stakeholders of Utility Service Interruptions. During final design and prior to construction, SJRRC will ensure compliance with Section 4216 of the California Government Code, that requires Project proponents to notify and inform relevant stakeholders prior to construction, thereby reducing the adverse impacts associated with temporary disruptions in utility services. SJRRC will coordinate with all utility providers during final design and construction planning phases to develop a Utility Relocation Plan (URP) to minimize service disruption. The URP would also include efforts to communicate and inform utility service customers of potential planned service interruptions.	During Final Design; Prior to Construction	Ongoing coordination with utilities. Agenda item includes “coordination with affected stakeholders”	Completed				
BMP UTIL-2	Utility Avoidance Coordination. SJRRC will coordinate with City of Stockton (City) and other utility providers during final design to address utility relocation impacts. The following methods will be implemented to avoid permanent impacts to utilities and access to existing or future planned utilities: •Protect in Place. SJRRC will evaluate protect in place options to maintain the utility in its current location. These options include evaluation of load above the utility and reinforcement options, to be approved by the utility provider. Bridge columns and other bridge-related subsurface work will be designed in coordination with the utility provider affected to avoid impacting the utility. Accurate horizontal and vertical location of the utility will be gathered to support the avoidance and protection design. •Access. SJRRC will work with the utility provider during the final design phase to prepare a design that maintains provider access to the utility for inspection and maintenance, as well as to not preclude future potential replacement of the utility.	During Final Design	Ongoing coordination with utilities and City	Completed				
BMP UTIL-3	Minimize Utility and Service System Disruptions. During final design, SJRRC will ensure that utility disruptions and service system inconveniences are avoided, where possible, and will consider design opportunities to avoid permanent impacts to existing utility infrastructure, where practical.	During Final Design	Ongoing coordination with utilities. Utilities providing “utility restriction” windows	Completed				