

Valley Rail Sacramento Extension Project Mitigation Monitoring and Reporting Program

Introduction

The California Environmental Quality Act (CEQA) requires that a Lead Agency establish a program to monitor and report on mitigation measures that it has adopted as part of the environmental review process, and that this program must be adopted at the time that the agency determines to carry out a project for which the environmental review process has been conducted (Public Resources Code Section 21081.6 (a) (1)). The San Joaquin Joint Powers Authority (SJJPA) San and Joaquin Regional Rail Commission (SJRRRC) prepared the Mitigation Monitoring and Reporting Program (MMRP) to ensure that mitigation measures identified in the Valley Rail Sacramento Extension Project (Project) Environmental Impact Report (EIR) are fully implemented during project implementation.

As the lead agency and proponent of this project, SJJPA and SJRRRC will implement the mitigation measures through its own actions, those of the Design Contractors, those of the Construction Contractor, and actions taken in cooperation with other agencies and entities. SJJPA and SJRRRC are ultimately accountable for the overall administration of the mitigation and monitoring program and for assisting relevant individuals and parties in their oversight and reporting responsibilities. The responsibilities of mitigation implementation, monitoring, and reporting extend to several entities including the Design Contractor and Construction Contractor as described below. However, SJJPA and SJRRRC will bear the primary responsibility for verifying that the mitigation measures are implemented.

SJJPA and SJRRRC Responsibilities

SJJPA and SJRRRC will provide oversight and review of the Design Contractor and Construction Contractor's activity and effectiveness of mitigation activities consistent with the reporting and monitoring schedule described in the column Implementation and Reporting Schedule in Table 1. SJJPA and SJRRRC will also implement mitigation that Table 1 indicates will be implemented by the SJJPA/SJRRRC.

- Implement the mitigation measures for which it is responsible, as identified in Table 1, Summary of Mitigation Measures;
- Monitor its and its subcontractors' construction activities to ensure that the mitigation measures are being properly implemented;
- Provide or appoint a qualified Environmental Compliance Lead for the Project; and
- Provide additional specific expertise to fulfill specific roles as indicated in Section 4.0 to assist in the implementation of the MMRP.

Summary of Mitigation Measures

The attached MMRP for the proposed project is presented as a table that includes the mitigation measures identified in the Final EIR. The table is organized by environmental issue. SJJPA and SJRRC may refine the means by which it will implement a mitigation measure as long as compliance is achieved during project implementation.

Description of Table Headers

The MMRP describes implementation and monitoring responsibilities, timing, implementation and reporting schedules, and implementation mechanisms or tools for each mitigation measure identified in the EIR, as described below. Reference to Construction Contractor includes any and all subcontractors, as appropriate, working with the direction and authority of the Construction Contractor.

Mitigation Measure: Provides the mitigation measure as identified the Final EIR.

Implementing, Monitoring, and Reporting Responsibilities: Identifies the entities that will be responsible for directly implementing the mitigation measures, reporting and monitoring. Implementation can be the responsibility of SJJPA/SJRRC, the Design Contractor, Construction Contractor, or other specified individuals such as a Qualified Biologist. Reporting on implementation will be whomever has the designated responsibility of implementation, with monitoring oversight provided by SJJPA/SJRRC and subcontractors during the design and construction process. Post construction mitigation may transition from the Construction Contractor to SJJPA/SJRRC or a designated subcontractor. Long-term mitigation responsibilities separate from construction will be held by SJJPA/SJRRC.

Mitigation Timing: Implementation of mitigation will not all occur at the same time. Depending on the mitigation requirements, it may be undertaken prior to construction, during construction, or following construction. This column identifies the stage(s) of the project during which the mitigation will be implemented and when reporting is to occur, if it is required.

Implementation and Reporting Schedule: This column of the table indicates when the sequence of implemented and when reporting is to occur, if it is required.

Implementation Mechanism or Tool: Identifies the actions required to implement the mitigation measure, including any required agency consultation, documentation, agreements and/or conditions.

Implementation Roles

Responsibilities for implementation of this MMRP are as follows:

- **Design Contractor:** Designated contractor responsible for design and for implementing or monitoring and reporting mitigation measures as specified in this MMRP.

- **Construction Contractor:** Designated contractor responsible for construction and for implementing or monitoring and reporting mitigation measures as specified in this MMRP.
- **SJJPA/SJRRC:** Lead Agencies and designated representative responsible for the implementation, monitoring and reporting regarding mitigation measures specified in this MMRP.
- **Qualified Biologist:** A Qualified Biologist will be retained by SJJPA/SJRRC for permitting and responsible for regulatory permit preparation and support. A Qualified Biologist will also be retained by the contractor for construction, and will be responsible for preparing and providing a Worker Environmental Awareness Training Program, as well as providing oversight to the Construction Contractor's implementation of the biological mitigation and monitoring. Minimum qualifications for this position include the following: an individual with a bachelor's degree in biology or a similar natural resource field of study and prior experience monitoring the implementation of mitigation activities, as well as long-term success monitoring of mitigation projects.
- **USFWS-Approved Biologist:** A USFWS-Approved Biologist will be retained by SJJPA/SJRRC for permitting and responsible for regulatory permit preparation and support. A USFWS-Approved Biologist will be retained by the Construction Contractor and will be responsible for ensuring the appropriate treatment of federally-listed species as identified in the EIR. Minimum qualifications for this position include the following: An individual with a bachelor's degree in biology or a similar natural resource field of study, possessing USFWS approval or a Section 10(A)(1)(a) permit to identify, handle, and relocate federally listed threatened and endangered species potentially present in the construction area.
- **Qualified Botanist:** A Qualified Botanist will be retained by SJJPA/SJRRC, and will be responsible for surveying areas of proposed construction disturbance containing undeveloped habitat suitable to support the special-status plants identified in the EIR to support permitting. A Qualified Botanist will also be retained by the Construction Contractor and be responsible for preparing a revegetation and monitoring plan, in the event that avoidance of special-status plants during construction is not possible. Minimum qualifications for this position include the following: an individual with a bachelor's degree in botany, biology, or similar a natural resource field of study, possessing experience conducting botanical surveys for special-status plant species and vegetation restoration in the Sacramento and San Joaquin Valleys.
- **Qualified Archaeologist:** A Qualified Archaeologist will be retained by SJJPA/SJRRC and will meet the Secretary of the Interior (SOI) Standards of Archaeology. The Qualified Archaeologist will be responsible for implementing mitigation and coordinating the status of the archaeological mitigation with SJJPA/SJRRC and the Construction Contractor. The Qualified Archaeologist will also be responsible for coordinating with the local Native American community. Minimum qualification for this position are a graduate degree in archeology, anthropology, or closely related field plus: at least one year of full-time professional

experience or equivalent specialized training in archeological research, administration or management; at least four months of supervised field and analytic experience in general North American archeology, and Demonstrated ability to carry research to completion.

- **Qualified Paleontologist:** A Qualified Paleontologist will be retained by SJJPA/SJRRC for preparing the paleontological resources assessment and conducting environmental awareness training regarding paleontological resources. The Qualified Paleontologist shall also be responsible for directing assessment and recovery actions in the event of an inadvertent discovery of paleontological resources. The Qualified Paleontologist shall meet the qualifications found in the Society of Vertebrate Paleontology Standard Procedures for the Assessment and Mitigation of Adverse Impacts to Paleontological Resources (Society of Vertebrate Paleontology 2010).

Project Team Organization

Implementation of the MMRP will be a team effort consisting of both SJJPA/SJRRC, Design Contractor and Construction Contractor personnel. The SJJPA/SJRRC Environmental Compliance Lead shall be responsible for communications and coordination with the Design Contractor and Construction Contractor designated environmental leads regarding all MMRP activities throughout the duration of design and construction of the proposed project and following construction as determined by SJJPA/SJRRC.

The subcontractor team with specialized expertise identified in Section 3.2 shall report to the Environmental Compliance Lead and shall work closely with SJJPA/SJRRC-designated experts in similar disciplines.

Table 1 Valley Rail Sacramento Extension Project Mitigation Monitoring and Reporting Program

Mitigation Measures	Implementation, Monitoring, and Reporting Responsibility	Mitigation Timing	Implementation and Reporting Schedule	Implementation Mechanism or Tool
EIR MITIGATION MEASURES				
Aesthetic				
<p>Mitigation Measure AE-3.1: Landscape all station parking lots</p> <p>All station parking lots will be planted with trees and groundcover to improve aesthetics, provide shade, and reduce the urban “heat island” effect. Shrubs may also be used if space allows. Trees will be scattered throughout the parking lot areas, rather than planted all in one location. All landscaping will be designed to ensure passenger safety (e.g., so that security cameras and safety lighting are not obscured). In addition, plant palettes will incorporate drought-tolerant plant species and will have a strong emphasis on California native plant species that are appropriate for a given site. An irrigation and maintenance program will be implemented during the plant establishment period, and will be continued, as needed, to ensure plant survival. The landscaping plan will maximize the use of planting zones that are water efficient.</p>	<ul style="list-style-type: none"> • Design Contractor • Construction Contractor 	<ul style="list-style-type: none"> • Pre-Construction • Construction 	<ul style="list-style-type: none"> • Design contractor shall include the station parking lot landscape plans in the construction plans for SJJPA/SJRRC review prior to construction. • SJJPA/SJRRC shall include in the construction contract implementation and maintenance plans as a requirement 	<ul style="list-style-type: none"> • SJJPA/SJRRC review and approval of landscape plan prior to construction.
<p>Mitigation Measure AE-3.2: Apply aesthetic design treatments to pedestrian overcrossings, aerial structures, tunnel openings, bridges, and retaining walls.</p> <p>SJRRC will implement an aesthetic design treatment for pedestrian overcrossings over tracks, aerial structures, railway bridges, and retaining walls with high visibility. Choosing earth-toned colors for the surfaces will be less distracting to viewers than light or brightly colored surfaces. The design motif applied to structures will reflect a combination of naturally colored surfaces as well as surfaces that are textured to appear like natural materials (e.g., rock or cobble). Alternatively, a design theme may be incorporated (e.g., wildlife and plants from</p>	<ul style="list-style-type: none"> • SJJPA/SJRRC • Design Contractor 	<ul style="list-style-type: none"> • Pre-Construction 	<ul style="list-style-type: none"> • Design contractor shall include the aesthetic design elements in the construction plans for SJJPA/SJRRC review prior to construction. 	<ul style="list-style-type: none"> • SJJPA/SJRRC review and approval of aesthetic design treatment plan prior to construction.

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<p>local native oak woodlands; traditional architectural elements, such as inset panels; other designs that reflect local heritage or the environment) using form liners. This will reduce visual monotony, soften verticality, reduce glare, and be more visually pleasing to viewers than plain surfaces for retaining walls, exterior-facing barriers, and girders on bridges, elements that will be visible to traffic or recreational viewers at the overcrossings, abutments, side supports, and columns or on the decking. Roughened retaining wall surfaces would soften the verticality of wall faces by providing visual texture and reducing the amount of smooth surface, which can reflect light. The color of the wall will also be carefully considered. Studies have shown that structures that are two to three degrees darker than the color of the general surrounding area create less of a visual impact than structures with matching or lighter hues (BLM 2008).</p>				
<p>Mitigation Measure AE-3.3 Apply aesthetic surface treatments to fencing, pedestrian bridge safety barriers, light standards, cable railings, pedestrian shelters, and signal houses.</p> <p>New fencing, pedestrian bridge safety barriers, light standards, cable railings, pedestrian shelters, and signal houses associated with the proposed facilities will be colored or painted a shade that is two to three shades darker than the general surrounding area. Colors will be chosen from U.S. Department of the Interior, Bureau of Land Management, Standard Environmental Colors Chart CC-001, June 2008, which provides suitable colors for a variety of landscape types (BLM 2008). Color selection will be made based on the existing conditions at each location and will be based on the coloring of the most prevalent season. Paints will be a dull, flat, or satin finish to reduce the potential for glare; the use of glossy paints for surfaces will be avoided. Appropriate paint types will be selected that ensure durability for the finished structures.</p>	<ul style="list-style-type: none"> • SJJPA/SJRRRC • Design Contractor 	<ul style="list-style-type: none"> • Pre-Construction 	<ul style="list-style-type: none"> • Design contractor shall include the aesthetic design elements in the construction plans for SJJPA/SJRRRC review prior to construction. 	<ul style="list-style-type: none"> • SJJPA/SJRRRC review and approval of aesthetic design treatment plan prior to construction.

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<p>Mitigation Measure AE-4.1: Install screened construction fencing between residents and nighttime work areas where no visual screening is present.</p> <p>Solid-screened temporary construction fencing at least 6 feet high will be provided along the boundary of the construction site where nighttime lighting would occur, between the construction site and the residences, in the following locations:</p> <ul style="list-style-type: none"> • Along Franklin Road for residences within 300 feet of the proposed Pollock Siding Upgrade • Along the east side of the UPRR tracks for residences between R Street and P Street in the vicinity of the proposed Midtown Sacramento Station and associated track improvements • Along the NEMDC east levee and UPRR tracks between Arcade Creek and Rio Linda Creek for residences on the east side of the levee in the vicinity of the proposed Del Paso Siding Upgrade/Extension. <p>A minimum of 200 linear feet of shielded construction fencing will be provided. The shielded fencing will be proximate to the location of the lighting (e.g., if lighting is required on top of the NEMDC east levee, then the fencing will also be placed on top of the levee).</p>	<ul style="list-style-type: none"> • Construction Contractor 	<ul style="list-style-type: none"> • Construction 	<ul style="list-style-type: none"> • Construction contractor shall include construction screen plans for SJJPA/SJRRC review prior to construction. • SJJPA/SJRRC shall require construction contractor to implement plans. 	<ul style="list-style-type: none"> • SJJPA/SJRRC review and approval of visual screening plan prior to construction.
Agricultural Resources				
<p>Mitigation Measure AG-1.1: Restore Important Farmlands used for temporary staging areas.</p> <p>Prior to any ground-disturbing activities at the site of a temporary construction staging area located on Important Farmland, the Contractor will prepare a restoration plan addressing specific actions, sequence of implementation, parties responsible for implementation and successful achievement of restoration for temporary impacts. Actions will include removing and stockpiling the top 18 inches of soil for replacement on-site during restoration activities. Before beginning construction use of sites on Important Farmland, the Contractor will submit the restoration plan</p>	<ul style="list-style-type: none"> • SJJPA/SJRRC • Construction Contractor 	<ul style="list-style-type: none"> • Pre-Construction 	<ul style="list-style-type: none"> • Construction contractor shall submit restoration plans for SJJPA/SJRRC review prior to construction. • SJJPA/SJRRC shall require construction contractor to implement plans and ensure plans are implemented as stated in the construction contract. 	<ul style="list-style-type: none"> • SJJPA/SJRRC review and approval of restoration plans prior to construction. • SJJPA/SJRRC review and approval of restoration documentation.

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<p>to the SJRRC for review and obtain SJRRC approval (and if applicable, landowner approval). The restoration plan will include time-stamped photo documentation of the preconstruction conditions of all temporary staging areas.</p> <p>The SJRRC will ensure that the contractor returns all construction access, material laydown, and staging areas on Important Farmlands to a condition equal to the preconstruction staging condition.</p>				
<p>Mitigation Measure AG-2.1: Conserve Important Farmlands (Prime Farmland, Farmland of Statewide Importance, and Unique Farmland).</p> <p>SJRRC will enter into an agreement with the Department of Conservation and its California Farmland Conservancy Program to implement agricultural land mitigation. SJRRC will fund the California Farmland Conservancy Program's work to identify suitable agricultural land for mitigation of impacts and to fund the purchase of agricultural conservation easements from willing sellers.</p> <p>The performance standards for this measure are to preserve Important Farmland in an amount commensurate with the quantity and quality of the converted farmlands, within the same agricultural regions as the impacts occur, at a replacement ratio of not less than 1:1 for Important Farmlands that are permanently converted to non-agricultural uses.</p> <p>SJRRC will document implementation of Mitigation Measure AG-2.1 through issuance of a compliance memorandum.</p>	<ul style="list-style-type: none"> • SJJPA/SJRRC 	<ul style="list-style-type: none"> • Pre-Construction • Construction • Post Construction 	<ul style="list-style-type: none"> • SJJPA/SJRRC will develop and sign an agreement with the Department of Conservation. • SJJPA/SJRRC will complete their compliance memorandum. 	<ul style="list-style-type: none"> • SJJPA/SJRRC shall report completion of the agreement to the SJJPA/SJRRC board prior to the completion of construction.
<p>Mitigation Measure AG-4.1: Consult with the San Joaquin County Community Development Department and Board of Supervisors on the adoption of a change in zoning designation for the parcels proposed for the Lodi Station or the Lodi Station South Alternative.</p> <p>SJRRC will consult and coordinate with the San Joaquin Community Development Department and the San</p>	<ul style="list-style-type: none"> • SJJPA/SJRRC 	<ul style="list-style-type: none"> • Pre-Construction 	<ul style="list-style-type: none"> • SJJPA/SJRRC will consult and coordinate with the San Joaquin County Community Development Department and Board of Supervisors to adopt a zoning change in Lodi. 	<ul style="list-style-type: none"> • SJJPA/SJRRC shall report completion of the consultation to the SJJPA/SJRRC board.

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<p>Joaquin Board of Supervisors to change the zoning designation for the parcels proposed for the Lodi Station or Lodi Station South Alternative from the current AG-40 to a designation that allows transit uses.</p>				
Air Quality				
<p>Mitigation Measure AQ-2.1: Implement advanced emissions controls for off-road equipment. SJRRRC shall require that the construction contractor for all off-road equipment greater than 25 horsepower have engines that meet or exceed Tier 4 Final off-road emission standards, if commercially available. The Community Development Department for each of San Joaquin and Sacramento County will verify compliance with this measure prior to the issuance of a grading permit for construction activities within the respective jurisdictions.</p>	<ul style="list-style-type: none"> • SJJPA/SJRRRC • Design Contractor • Construction Contractor 	<ul style="list-style-type: none"> • Pre-Construction • Construction 	<ul style="list-style-type: none"> • Design Contractor shall include an emissions control plan in construction plans for SJJPA/SJRRRC review prior to construction. • Construction contractor shall document field compliance with the equipment requirements and provide to SJJPA/SJRRRC periodically during construction. • SJJPA/SJRRRC shall include as contract requirement 	<ul style="list-style-type: none"> • SJJPA/SJRRRC review and approval of emissions control prior to construction. • SJJPA/SJRRRC shall review compliance with equipment requirements during construction.
<p>Mitigation Measure AQ-2.2: Implement advanced emissions controls for locomotives used for construction. SJRRRC will require all diesel-powered locomotives used for construction to have engines that meet or exceed Tier 4 locomotive emission standards. The local community development or community works department, dependent upon the location of construction, will verify compliance with this measure prior to the issuance of a grading permit for construction activities within the respective jurisdictions.</p>	<ul style="list-style-type: none"> • SJJPA/SJRRRC • Construction Contractor 	<ul style="list-style-type: none"> • Pre-construction • Construction 	<ul style="list-style-type: none"> • SJJPA/SJRRRC shall include the specifics of this MM as a construction contract requirement • SJJPA/SJRRRC shall verify compliance measures with the respective jurisdictions 	<ul style="list-style-type: none"> • SJJPA/SJRRRC review and approval of emissions control prior to construction. • SJJPA/SJRRRC shall review compliance with equipment requirements during construction.
<p>Mitigation Measure AQ-2.3: Implement fugitive dust control measures at all construction and staging areas to reduce construction-related fugitive dust, consistent with SJVAPCD Regulation VIII and SMAQMD Basic Emission Control Practices. SJRRRC shall require that the construction contractor comply with fugitive dust control measures listed below or</p>	<ul style="list-style-type: none"> • SJJPA/SJRRRC • Construction Contractor 	<ul style="list-style-type: none"> • Pre-construction • Construction 	<ul style="list-style-type: none"> • Construction contractor shall submit an emissions control plan for SJJPA/SJRRRC review prior to construction. • Construction contractor shall document field compliance with the equipment 	<ul style="list-style-type: none"> • SJJPA/SJRRRC review and approval of emissions control prior to construction. • SJJPA/SJRRRC shall review compliance with equipment requirements

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<p>as they may be updated in the future by the SJVAPCD or SMAQMD. These measures reflect the SJVAPCD's Regulation VIII and the Basic Construction Emission Control Practices identified by the SMAQMD. The local community development or community works department, dependent upon the location of construction, will verify compliance with these measures prior to the issuance of a grading permit for construction activities within the respective jurisdictions.</p> <ul style="list-style-type: none"> • Water all exposed active construction area surfaces two times daily. Stabilize all on-site unpaved roads using water or chemical stabilizer/suppressant. Exposed surfaces include, but are not limited to, soil piles, graded areas, unpaved parking areas, staging areas, and access roads. All disturbed areas, including storage piles, that are not being actively utilized for construction purposes, shall be effectively stabilized to prevent dust emissions by being sprayed with water or chemical stabilizer/suppressant, or by being covered with a tarp or other suitable cover or vegetative ground cover. • Install wind barriers at the windward sides of construction areas. Suspend excavation and grading activity when winds exceed 20 miles per hour. • Cover or maintain at least 2 feet of free board space on haul trucks transporting soil, sand, or other loose material on the site. Any haul trucks that would be traveling along freeways or major roadways should be covered. Clean the interior of cargo compartments on emptied haul trucks prior to leaving a site. • Prevent track out by installing track out control device. Use wet power vacuum street sweepers to remove any visible track of mud or dirt onto adjacent public roads at least once a day. The use of dry powered sweeping is prohibited. • Limit vehicle speeds on unpaved roads to 15 miles per hour (mph). • All roadways, driveways, sidewalks, and parking lots to 			<p>requirements and provide to SJJPA/SJRRRC periodically during construction.</p> <ul style="list-style-type: none"> • SJJPA/SJRRRC shall include as contract requirement 	<p>during construction.</p>

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<p>be paved should be completed as soon as possible. In addition, building pads should be laid as soon as possible after grading unless seeding or soil binders are used.</p> <ul style="list-style-type: none"> • Minimize idling time by either shutting equipment off when not in use or reducing idling time to 5 minutes (as required by California Code of Regulations, Title 13, sections 2449(d) and 2485). Post this requirement prominently at the entrances to the site, where workers will see it. • Provide current certificate(s) of compliance for CARB's In-Use Off-Road Diesel-Fueled Fleets Regulation (California Code of Regulations, Title 13, Sections 2449 and 2449.1). For more information, contact CARB at 877- 593-6677, doors@arb.ca.gov, or www.arb.ca.gov/doors/compliance_cert1.html. • Maintain all construction equipment in proper working condition according to the manufacturer's specifications. The equipment must be checked by a certified mechanic and determined to be in proper condition before it is operated. 				
<p>Mitigation Measure AQ-2.4: Offset construction NO_x emissions.</p> <p>If construction equipment and locomotives with Tier 4 or equivalent engines are unavailable to support construction activities, as required by Mitigation Measure AQ-2.1 and Mitigation Measure AQ-2.2, SJRRC shall participate in the off-site mitigation fee program by each air district, as appropriate. The mitigation fee, if needed, will be set at a level that would bring NO_x emissions to a less-than-significant level (i.e., less than 100 pounds per day or 10 tons per year from construction activities within the SJVAPCD and less than 85 pounds per day from construction activities within the SMAQMD). The off-site mitigation fee may be needed if there is limited availability of equipment that meets or exceeds Tier 4 Final off-road emission standards for heavy-duty diesel engine use, and if the application of other mitigation measures would not</p>	<ul style="list-style-type: none"> • SJJPA/SJRRC • Construction Contractor 	<ul style="list-style-type: none"> • Construction 	<ul style="list-style-type: none"> • Construction contractor shall document field compliance with the equipment requirements and provide to SJJPA/SJRRC periodically during construction. • SJJPA/SJRRC shall include as contract requirement. • SJJPA/SJRRC shall consult with SJVAPCD and SMAQMD as necessary. 	<ul style="list-style-type: none"> • If mitigation is necessary, SJJPA/SJRRC to report implementation to SJJPA/SJRRC board prior to operations.

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<p>bring NOX emissions below the SJVAPCD or SMAQMD threshold during construction. The calculation of fees, if needed, shall occur in consultation with SJVAPCD and SMAQMD, respectively, prior to initiating construction in each air district. The mitigation and administrative fees shall be paid in full by the Project Applicant, or its designee, prior to the local community development or public works department issuing a grading permit that would allow activity that would exceed the respective air district's thresholds. The Project Applicant, or its designee, may negotiate an alternate payment plan based on the timing of construction phases that are expected to exceed the respective air district's thresholds of significance, and would be required to be accepted by and agreed upon in writing with the respective air district prior to the issuance of a grading permit. In coordination with the respective air districts, the Project Applicant, or its designee, may reanalyze the project's construction-related emissions prior to starting construction to update the required mitigation and administrative fees. If an updated analysis is performed, it must be submitted to and approved by the respective air district and local development jurisdiction.</p>				
Biological Resources				
<p>Mitigation Measure BIO-1.1: Minimize the temporary construction impact footprint.</p> <p>To minimize temporary impacts on habitat for special-status species and sensitive habitat, SJJPA and SJRRC shall implement the following measures:</p> <ul style="list-style-type: none"> • During final project design and siting, minimize the temporary project footprint to the areas necessary for construction, and select locations that are already disturbed or developed to the greatest extent feasible. • Avoid known occurrences of all special-status species, wetlands, riparian habitat, and sensitive natural communities to the greatest extent feasible. • Minimize grading to the greatest extent feasible to 	<ul style="list-style-type: none"> • SJJPA/SJRRC • Design Contractor • Construction Contractor 	<ul style="list-style-type: none"> • Pre-Construction • Construction 	<ul style="list-style-type: none"> • Design Contractor shall include a final project design with minimal temporary project footprint for SJJPA/SJRRC review. • SJJPA/SJRRC shall include as contract requirement. 	<ul style="list-style-type: none"> • SJJPA/SJRRC review and approval of construction footprint prior to construction.

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avoid clearing of trees and shrubs.				
<p>Mitigation Measure BIO-1.2: Conduct a Worker Environmental Awareness Training Program for construction personnel.</p> <p>Before any equipment staging, grading, or vegetation removal in areas supporting or potentially supporting sensitive biological resources (e.g., aquatic, riparian, and wetlands habitat; habitat for special-status plant or wildlife species; active bird nests), SJJPA and SJRRC will prepare and implement a worker environmental awareness training program. The training program will be provided to all construction personnel (contractors and subcontractors) to brief them on the need to avoid effects on sensitive biological resources and penalties for not complying with applicable state and federal laws and permit requirements. The training program will be delivered by a biologist and include information on the life history and habitat requirements of special-status species potentially occurring in or adjacent to the improvement footprints; the importance of protecting habitat; and the terms and conditions of applicable permits. The training program will also cover general restrictions and guidelines that must be followed by all construction personnel to reduce or avoid effects on sensitive biological resources during construction. Brochures summarizing special-status and listed species with potential to occur in the project area, as well as project requirements, shall be provided to all crew members (in multiple languages if appropriate). A log shall be maintained of all trained personnel with names and dates of training and shall be made available for review by CDFW and USFWS, or other agencies on request.</p>	<ul style="list-style-type: none"> • SJJPA/SJRRC • Qualified Biologist • Construction Contractor 	<ul style="list-style-type: none"> • Pre-Construction 	<ul style="list-style-type: none"> • SJJPA/SJRRC shall assign a qualified biologist to prepare a special-status and listed species brochure, conduct pre-construction training/tailboard and submit a log of all attended personnel to SJJPA/SJRRC. • SJJPA/SJRRC shall include as contract requirement. 	<ul style="list-style-type: none"> • SJJPA/SJRRC review and approval of environmental awareness plan prior to construction.
<p>Mitigation Measure BIO-1.3: Conduct preconstruction botanical surveys for special-status plants; avoid and minimize impacts during construction.</p> <p>SJJPA and SJRRC shall retain a qualified botanist to conduct preconstruction surveys for special-status plant species specified in Appendix C, Supporting <i>Biological</i></p>	<ul style="list-style-type: none"> • SJJPA/SJRRC • Qualified Botanist 	<ul style="list-style-type: none"> • Pre-Construction 	<ul style="list-style-type: none"> • SJJPA/SJRRC shall assign a qualified botanist to conduct pre-construction botanical survey 1 year prior to construction. 	<ul style="list-style-type: none"> • SJJPA/SJRRC review and approval of survey plan and survey report prior to construction.

Mitigation Measures	Implementation, Monitoring, and Reporting Responsibility	Mitigation Timing	Implementation and Reporting Schedule	Implementation Mechanism or Tool
<p><i>Resources Information.</i> During appropriate species-specific identification periods at least 1 year prior to the initiation of construction, the qualified botanist will survey suitable habitat in the work areas for the species, in accordance with CDFW protocols (California Department of Fish and Game 2018). The results of the surveys, which would require multiple visits because of varying blooming periods and differences in work area construction initiation, would be documented in brief reports or technical memoranda. If the survey demonstrates the absence of special-status plant species in the project area, no further actions would be required.</p> <p>Take of listed plant species such as Bogg's Lake hedge-hyssop, slender Orcutt grass and Sacramento Orcutt grass is not permitted under CESA without appropriate take authorization; therefore, if the qualified botanist encounters a previously undiscovered occurrence of Bogg's Lake hedge hyssop, Sacramento or slender Orcutt grass on a project site, including all access and platform variants, the qualified biologist shall develop an avoidance plan to ensure that the proposed project does not cause take of the species. In the event take cannot be avoided the project proponent may seek related take authorization as provided by the Fish and Game Code or otherwise comply with CESA through an existing Habitat Conservation Plan (if applicable).</p> <p>Known occurrences of special-status plants in the vicinity of project improvements shall be flagged during preconstruction surveys and avoided to the greatest extent feasible. Avoidance measures may consist of placing an equipment limitation zone or equipment exclusion zone (i.e., flagging, fencing, signage) around special-status plant populations so that direct impacts are minimized, while allowing use of any existing roads or other access areas that may pass through the equipment limitation zone or near the equipment exclusion zone.</p>			<ul style="list-style-type: none"> • SJJPA/SJRRC shall include as contract requirement. 	

Mitigation Measures	Implementation, Monitoring, and Reporting Responsibility	Mitigation Timing	Implementation and Reporting Schedule	Implementation Mechanism or Tool
<p>Mitigation Measure BIO-1.4: Develop and implement a revegetation and weed control plan.</p> <p>To control invasive/noxious weeds, SJJPA and SJRRC shall implement or require contactors to implement the following actions to avoid and minimize the spread or introduction of invasive plant species:</p> <ul style="list-style-type: none"> • Clean construction equipment and vehicles in a designated wash area prior to entering and exiting the construction site. • Educate construction supervisors and managers about invasive plant identification and the importance of controlling and preventing the spread of invasive plant infestations. • Treat small, isolated infestations with eradication methods that have been approved by or developed in conjunction with CDFW and USFWS to prevent or destroy viable plant parts or seeds. • Minimize surface disturbance to the greatest extent feasible to complete the work. • Use native, non-invasive species or nonpersistent hybrids in erosion-control plantings to stabilize site conditions and prevent invasive plant species from colonizing. • Use weed-free imported erosion-control materials (or rice straw) in upland areas. • One year after construction, conduct a monitoring visit to each active or previously active (within 1 year) improvement footprint to ensure that no new occurrences of invasive plant species have become established. <p>SJJPA and SJRRC shall reclaim all areas disturbed by project construction, including temporary disturbance areas around construction sites, laydown/staging areas, and temporary access roads using a locally sourced native and naturalized seed mix in ruderal and natural areas; or reclaim to the pre-existing agricultural condition if temporary impacts occur in agricultural lands. For</p>	<ul style="list-style-type: none"> • SJJPA/SJRRC • Construction Contractor • Qualified Biologist 	<ul style="list-style-type: none"> • Pre-Construction • Construction • Post-Construction 	<ul style="list-style-type: none"> • Construction contractor will develop and submit a revegetation plan with the MM Bio-1.4 measures to SJJPA/SJRRC for review. • SJJPA/SJRRC shall include as construction contract requirement. • SJJPA/SJRRC shall assign a qualified biologist to conduct post-construction monitoring, 1-year post construction, to check for invasive plant establishment. 	<ul style="list-style-type: none"> • SJJPA/SJRRC review and approval of weed control plan prior to construction.

Mitigation Measures	Implementation, Monitoring, and Reporting Responsibility	Mitigation Timing	Implementation and Reporting Schedule	Implementation Mechanism or Tool
<p>portions of the proposed project that are outside existing UPRR ROW and overlap with the SJMSCP (i.e., the Lodi Station and Lodi Station South Alternative), the seed mix shall be developed in coordination with the SJMSCP to ensure compliance with any provisions of these conservation plans. A qualified biologist with demonstrated experience with the habitat to be restored shall have oversight for the selection of reclamation species to ensure that temporary impacts, when reclaimed, will have the same habitat value as pre-project conditions.</p>				
<p>Mitigation Measure BIO-1.5: Document affected special-status plant species and prepare a salvage, relocation, or propagation and monitoring plan for special-status plant species.</p> <p>If preconstruction surveys reveal the presence of special-status plant species in the project footprint or areas immediately adjacent, SJJPA and SJRRC shall notify USFWS and/or CDFW, depending on the listing status of the species. All directly affected areas of special-status plants shall be documented by a qualified botanist or ecologist retained by SJJPA and SJRRC prior to impacts. Documentation shall include density and percent cover; key habitat characteristics, including soil type, associated species, hydrology, and topography; photographs of preconstruction conditions; and a map of the location and extent of potentially impacted populations in the project impact area to quantify impacts.</p> <p>For any special-status plant species identified in the project footprint that cannot be avoided, a qualified botanist or restoration ecologist shall prepare a salvage, relocation, or propagation and monitoring plan, as deemed appropriate and in coordination with USFWS and/or CDFW prior to construction to address affected special-status plant species. The plan shall include provisions that address the techniques, location, and procedures required for the successful establishment of the plant populations. The plan shall include provisions</p>	<ul style="list-style-type: none"> • SJJPA/SJRRC • Construction Contractor 	<ul style="list-style-type: none"> • Pre-Construction • Construction • Post-Construction 	<ul style="list-style-type: none"> • SJJPA/SJRRC shall assign a qualified botanist to document any affected special status plants species and notify USFWS and/or CDFW. • Botanist shall carry out the specified measures in MM Bio-1.5. • Botanist shall conduct two surveys a year during construction, and five years of monitoring prior to construction completion. 	<ul style="list-style-type: none"> • SJJPA/SJRRC review and approval of salvage, relocation, or propagation and monitoring plan prior to construction.

Mitigation Measures	Implementation, Monitoring, and Reporting Responsibility	Mitigation Timing	Implementation and Reporting Schedule	Implementation Mechanism or Tool
<p>for performance that address survivability requirements, maintenance, monitoring, implementation, and the annual reporting requirements. Monitoring and success criteria applicable to special-status plant salvage, relocation, or propagation shall require the following:</p> <ul style="list-style-type: none"> • At least two surveys by a qualified botanist or ecologist per monitoring year. • At least 80 percent of the planted area must support vegetation composition and density consistent with reference population conditions. • At least 80 percent of the planted area must support target species amounts similar to reference feature conditions. • A minimum of 5 consecutive years of monitoring to ensure success criteria are met. • Remedial actions to restore intended ecological function of planted areas that fail to meet the success criteria for 3 consecutive years. <p>If Ahart's dwarf rush, dwarf downingia, legenera, pincushion navarretia, or Sanford's arrowhead (or other special-status plants) are detected in an area proposed to be disturbed by the proposed project, SJJPA and SJRRC would implement compensatory mitigation for impacts that assures permanent protection of the species or otherwise mitigate through an existing Habitat Conservation Plan (if applicable).</p>				
<p>Mitigation Measure BIO-1.6: Avoid and minimize impacts on, and compensate for loss of, potentially occupied habitat for vernal pool fairy shrimp and vernal pool tadpole shrimp through consultation with the U.S. Fish and Wildlife Service and implementation of appropriate mitigation.</p> <p>A qualified biologist shall monitor for impacts on potentially occupied vernal pool fairy shrimp and vernal pool tadpole shrimp habitat during construction to ensure that they are identified for avoidance on site plans and preserved on-site to the greatest extent feasible. For all</p>	<ul style="list-style-type: none"> • SJJPA/SJRRC 	<ul style="list-style-type: none"> • Construction • Post-Construction 	<ul style="list-style-type: none"> • SJJPA/SJRRC shall assign a qualified biologist to monitor for impacts during construction and ensure avoidance measures. • Assigned biologist shall report and unavoidable impacts to SJJPA/SJRRC after construction completion. • SJJPA/SJRRC shall compensate unavoidable 	<ul style="list-style-type: none"> • SJJPA/SJRRC review and approval of biological resources avoidance and minimization plan prior to construction.

Mitigation Measures	Implementation, Monitoring, and Reporting Responsibility	Mitigation Timing	Implementation and Reporting Schedule	Implementation Mechanism or Tool
<p>potentially occupied vernal pool fairy shrimp and vernal pool tadpole shrimp habitats that cannot be avoided, SJJPA and SJRRC shall quantify refined impact acreages based on the final design before construction, to identify the degree of actual impacts adequately to determine required mitigation. These impact acreages shall be verified on completion of construction, based on monitoring reports and as-built drawings.</p> <p>SJJPA and SJRRC shall compensate for the project-related temporary loss of approximately 3.35 acres and permanent loss of approximately 1.28 acres of potentially occupied habitat for vernal pool fairy shrimp and vernal pool tadpole shrimp through consultation with the USFWS; obtain incidental take permit (ITP) coverage for proposed project activities; and implement all terms and conditions and compensatory mitigation included in the ITP, as required. USFWS consultation with USACE would occur during the CWA Section 404 permitting process that is required as mitigation for impacts on wetlands and other waters of the United States.</p>			<p>impacts in consultation with USFWS.</p>	
<p>Mitigation Measure BIO-1.7: Conduct a preconstruction VELB shrub survey, establish avoidance buffers, and/or compensate for removal of potentially occupied habitat for VELB through consultation with the U.S. Fish and Wildlife Service and implementation of appropriate mitigation.</p> <p>Before the start of project construction, SJJPA and SJRRC shall retain a qualified biologist to conduct a survey for VELB exit holes in the Old North Sacramento Station and prepare a VELB survey report for SJJPA/SJRRC, to be submitted to USFWS for review and consultation before project construction. The VELB survey report will include the following:</p> <ul style="list-style-type: none"> • The location of elderberry shrubs in the project segment and within 50 meters of the project footprint; • The number of elderberry shrubs that will be directly affected by the proposed project; 	<ul style="list-style-type: none"> • SJJPA/SJRRC 	<ul style="list-style-type: none"> • Pre-Construction • Construction 	<ul style="list-style-type: none"> • SJJPA/SJRRC will assign a qualified biologist to conduct preconstruction surveys, prepare and submit a report for consultation with USFWS. • Assigned biologist shall report and unavoidable impacts to SJJPA/SJRRC after construction completion. • SJJPA/SJRRC shall compensate unavoidable impacts in consultation with USFWS. 	<ul style="list-style-type: none"> • SJJPA/SJRRC review and approval of survey plan and survey report prior to construction.

Mitigation Measures	Implementation, Monitoring, and Reporting Responsibility	Mitigation Timing	Implementation and Reporting Schedule	Implementation Mechanism or Tool
<ul style="list-style-type: none"> • A map that delineates the area that will be directly affected and the elderberry shrub locations within 50 meters of the project footprint; • Information regarding the quality of individual elderberry shrubs and the continuity of riparian habitat outside the project area; • A determination of the presence of exit holes in elderberry stems, and whether or not these stems will be affected by the proposed project; • An evaluation of the surrounding habitat and known VELB occurrences within 800 meters of the proposed project segment; and • A description of surrounding land uses, including land uses that may be incompatible with VELB use or a potential barrier to VELB dispersal. <p>A qualified biologist shall monitor for impacts on potentially occupied VELB habitat prior to and during construction to ensure that elderberries are identified for avoidance on site plans, and preserved on-site to the greatest extent feasible. For all potentially occupied elderberry shrubs that cannot be avoided, SJJPA and SJRRC shall quantify refined impacts based on the final design before construction, to identify the degree of actual impacts adequately to determine required mitigation acreages as described below. These impact totals shall be verified on completion of construction, based on monitoring reports and as-built drawings. To avoid and minimize impacts on VELB and/or its habitat, SJJPA and SJRRC shall coordinate with USFWS to determine project-specific conservation measures. At a minimum, SJJPA and SJRRC shall implement the following measures, which may be amended in consultation with USFWS:</p> <ul style="list-style-type: none"> • To the greatest extent feasible, damaging or removing elderberry shrubs will be avoided. Construction activities that may damage or kill an elderberry shrub (e.g., trenching, paving) will establish an avoidance area of at least 6 meters (20 feet) from the dripline. All 				

Mitigation Measures	Implementation, Monitoring, and Reporting Responsibility	Mitigation Timing	Implementation and Reporting Schedule	Implementation Mechanism or Tool
<p>areas to be avoided during construction activities will be demarcated by installing concrete barriers (K-rails) at locations where daily construction activities will persist for more than 4 weeks, or temporary orange construction fencing (4 foot-high commercial-quality woven polypropylene). In buffer areas, signs will be posted along fencing for the duration of construction. The signs will contain the following text:</p> <p>“This area is habitat of the valley elderberry longhorn beetle, a threatened species, and must not be disturbed. This species is protected by the federal ESA, as amended. Violators are subject to prosecution, fines, and imprisonment.”</p> <ul style="list-style-type: none"> • As much as feasible, all activities that occur within 50 meters (165 feet) of an elderberry shrub will be conducted outside the VELB flight season (March–July). • Trimming elderberry shrubs will occur between November and February. Trimming will avoid removal of any branches or stems that are greater than or equal to 1 inch in diameter. Measures to address regular and/or large-scale maintenance (trimming) will be established in consultation with USFWS. • If determining that adverse impacts on VELB will occur because of the proposed project, SJJPA and SJRRC shall consult with USFWS to determine the appropriate type and amount of compensatory mitigation. Because the proposed project segment is in a non-riparian area, compensation typically will be appropriate for occupied shrubs (USFWS 2017). Appropriate compensatory mitigation can include purchasing credits at a USFWS-approved conservation bank, providing on-site mitigation, or establishing and/or protecting habitat for VELB. At a minimum, impacts on individual shrubs in non-riparian areas will be replaced through a purchase of 1 credit at a USFWS-approved bank for each shrub that will be trimmed, if exit holes are found in any shrub on or within 50 meters (165 feet) of the project area. If 				

Mitigation Measures	Implementation, Monitoring, and Reporting Responsibility	Mitigation Timing	Implementation and Reporting Schedule	Implementation Mechanism or Tool
<p>the occupied shrub will be completely removed by the activity, the entire shrub will be transplanted to a USFWS-approved location, in addition to a credit purchase (USFWS 2017).</p> <p>If removal of any mapped elderberry shrubs cannot be avoided, SJJPA and SJRRC shall compensate for their removal through consultation with the USFWS; obtain incidental take permit (ITP) coverage for project activities; and implement all terms and conditions and compensatory mitigation included in the ITP, as required. Consultation with USFWS would occur by USACE during the required CWA Section 404 permitting (see item "Wetlands" and Mitigation Measure BIO-3.1, below).</p> <p>A qualified biologist shall monitor for impacts on potentially occupied VELB habitat during construction to ensure that elderberries are identified for avoidance on site plans and preserved on-site to the greatest extent feasible. For all potentially occupied elderberry shrubs that cannot be avoided, SJJPA and SJRRC shall quantify refined impacts based on the final design before construction, to identify the degree of actual impacts adequately to determine required mitigation acreages. These impact totals shall be verified on completion of construction based on monitoring reports and as-built drawings.</p>				
<p>Mitigation Measure BIO-1.8: Avoid and minimize impacts on special-status fish while pile driving and implement seasonal restrictions for in-water work.</p> <p>Potential injury and mortality associated with pile driving, which may be required for the pile installation for the new raised track bridge over Arcade Creek, will be minimized by implementing the measures listed below.</p> <p>The contractor will be required to implement the following measures, developed in coordination with project design engineers, to minimize the exposure of special-status fish species to potentially harmful underwater sounds and activities:</p>	<ul style="list-style-type: none"> • SJJPA/SJRRC • Design Contractor • Construction Contractor 	<ul style="list-style-type: none"> • Construction 	<ul style="list-style-type: none"> • Design contractor will include pile driving mitigation measures into final design for SJJPA/SJRRC review. • Construction contractor will adhere to mitigation measures to avoid and minimize impact while pile driving. • SJJPA/SJRRC shall include as construction contract requirement. 	<ul style="list-style-type: none"> • SJJPA/SJRRC review and approval of minimization plan prior to construction.

Mitigation Measures	Implementation, Monitoring, and Reporting Responsibility	Mitigation Timing	Implementation and Reporting Schedule	Implementation Mechanism or Tool
<ul style="list-style-type: none"> • If feasible, the contractor shall vibrate all piles to the maximum depth possible before using an impact hammer. • During impact driving, the contractor shall limit the number of strikes per day to the minimum necessary to complete the work. • The smallest pile driver and minimum force necessary shall be used to complete the work. • During impact driving, the contractor shall be required to use a bubble ring or similar device to minimize the extent to which the interim peak and cumulative sound exposure level (SEL) thresholds are exceeded. • Pile driving activity shall not occur at night. • If feasible, in-water work shall occur behind a dewatered cofferdam. A biologist shall be present at initial dewatering to salvage and rescue any stranded fish. <p>There will be a construction work window of June 15 to October 15 for all work in the Arcade Creek channel. As Arcade Creek is typically dry during the summer months, in-channel work will be completed during the dry period to the maximum extent feasible. This time period will minimize impacts on migrating special-status fish species, such as adult steelhead, which are unlikely to be present during these periods of no flow. In-water work in flowing streams will dewater only up to half of the wetted stream at any time to allow fish passage and any obstruction will be made of clean material.</p>				
<p>Mitigation Measure BIO-1.9: Minimize impacts on wildlife and retain biological monitors during construction.</p> <p>SJJPA and SJRRC shall retain qualified biological monitors to continuously implement the following measures during construction to minimize impacts on wildlife, including western pond turtle and giant garter snake:</p> <ul style="list-style-type: none"> • Monitor construction activity for compliance with all 	<ul style="list-style-type: none"> • SJJPA/SJRRC • Construction Contractor 	<ul style="list-style-type: none"> • Construction 	<ul style="list-style-type: none"> • SJJPA/SJRRC shall assign qualified biologist to monitor work to minimize impacts on wildlife during the construction of the project. • Assigned biologist shall ensure the mitigation measures are implemented. • SJJPA/SJRRC shall include 	<ul style="list-style-type: none"> • SJJPA/SJRRC review and approval of minimization plan prior to construction.

Mitigation Measures	Implementation, Monitoring, and Reporting Responsibility	Mitigation Timing	Implementation and Reporting Schedule	Implementation Mechanism or Tool
<p>project permits and the approved mitigation and monitoring program for the proposed project; report on monitoring activities as required by project permits.</p> <ul style="list-style-type: none"> • During construction activities, if a special-status species is observed (or if an injured or dead special-status species is encountered), the work shall stop in the immediate vicinity. The project applicant shall notify the biological monitor, and the appropriate resource agency (e.g., USFWS and/or CDFW). Any measures required by these agencies shall be implemented, and proof of implementation shall be submitted to the agencies before construction is allowed to proceed. If the species is listed under CESA and in the event take cannot be avoided, the project proponent shall comply with CESA through an existing Habitat Conservation Plan (if applicable) or otherwise seek related take authorization as provided by the Fish and Game Code. • The project applicant shall cap the top opening or fill the three holes on the top (e.g., with a bolt and nut), of any of u-channel posts, signs, or vertical poles installed temporarily or permanently throughout the course of the project to prevent the entrapment of wildlife, especially birds of prey. Fence posts, signs, or vertical poles will be checked periodically during the project. • All fiber rolls, straw wattles, and/or hay bales utilized within and adjacent to the project site shall be free of non-native plant materials. Fiber rolls or erosion control mesh shall be made of loose-weave mesh that is not fused at the intersections of the weave, such as jute, or coconut (coir) fiber, or other products without welded weaves. Products with plastic monofilament or cross joints in the netting that are bound/stitched (such as found in straw wattles/fiber rolls and some erosion control blankets), which may cause entrapment of wildlife, shall not be allowed. • At the end of each workday, the biological monitor shall ensure that all potential wildlife pitfalls (trenches, bores, and other excavations) have been backfilled. If 			<p>as construction contract requirement.</p>	

Mitigation Measures	Implementation, Monitoring, and Reporting Responsibility	Mitigation Timing	Implementation and Reporting Schedule	Implementation Mechanism or Tool
<p>backfilling is not feasible, all trenches, bores, and other excavations shall be sloped at a 3:1 ratio at the ends to provide wildlife escape ramps, or covered completely to prevent wildlife access, or fully enclosed with exclusion fencing. If any wildlife species become entrapped, construction shall not occur until the animal has left the trench or been removed by a qualified biological monitor as feasible.</p> <ul style="list-style-type: none"> • Employees and contractors shall look under vehicles and equipment for the presence of wildlife before moving vehicles and equipment. If wildlife is observed, no vehicles or equipment would be moved until the animal has left voluntarily or is removed by the biological monitor. No listed species shall be handled without the appropriate permits. • Vehicle speed limits shall not exceed 15 miles per hour during construction and operation of the proposed project. A speed limit sign shall be posted at all project site entry locations. • The use of high-intensity lighting, steady burning, or bright lights such as sodium vapor, quartz, halogen, or other bright spotlights shall be continuously minimized. • Nighttime vehicle traffic associated with project activities shall be kept to a minimum volume and speed to prevent mortality of nocturnal wildlife species. <p>To minimize impacts on wildlife at station locations that are adjacent to wildlife habitat and open space, SJJPA and SJRRC shall design and implement lighting controls for station platforms, parking lots, and access roads to the Lodi Station or Lodi Station South Alternative, and Natomas/Sacramento Airport Station. Lighting will be designed to have controls that limit nighttime lighting to the minimum necessary. All lighting will be focused and downward-facing to limit illuminated areas to only the platforms and parking lot. All lighting will shut off during periods of non-use (defined as more than 30 minutes before or after scheduled trains).</p> <p>If fencing is required for new parking lots, rail lines,</p>				

Mitigation Measures	Implementation, Monitoring, and Reporting Responsibility	Mitigation Timing	Implementation and Reporting Schedule	Implementation Mechanism or Tool
platforms, and access roads, wildlife-safe fencing will be used and installed in such a manner so as not to entrap wildlife species at fence lines.				
<p>Mitigation Measure BIO-1.10: Implement measures to avoid western pond turtle and giant garter snake during construction.</p> <p>SJJPA and SJRRC will implement the measures listed below to avoid impacts on western pond turtle and giant garter snake during project construction:</p> <p>Western Pond Turtle</p> <ul style="list-style-type: none"> • Where feasible, construction activities involving construction with heavy equipment (e.g., excavation, grading, contouring) in suitable western pond turtle upland habitat will avoid the western pond turtle egg-laying period (generally mid-May to early July). • Prior to the start of construction in western pond turtle habitat (i.e., any undeveloped areas within 1,300 feet of riverine aquatic habitat, ponds, seasonal wetlands), SJJPA and SJRRC will retain a biologist approved by the CDFW to survey and handle western pond turtles and conduct preconstruction surveys. Surveys will be conducted at each habitat area no more than 7 days prior to the initiation of ground disturbance at that location. • If ground-disturbing activities occur during the nesting or overwintering seasons, 1 week before and within 24 hours of beginning work in suitable aquatic habitat, a qualified biologist will conduct surveys for western pond turtle. The surveys will be timed to coincide with the time of day when turtles are most likely to be active (the cooler part of the day between 8:00 a.m. and 12:00 p.m. during spring and summer). Prior to conducting the surveys, the biologist will locate the microhabitats for turtle basking (logs, rocks, brush thickets) and determine a location to quietly observe turtles. Each survey will include a 30-minute wait time after arriving on the site to allow startled turtles to 	<ul style="list-style-type: none"> • SJJPA/SJRRC • Qualified Biologist • Construction Contractor 	<ul style="list-style-type: none"> • Pre-Construction • Construction 	<ul style="list-style-type: none"> • SJJPA/SJRRC shall assign qualified biologist to monitor work to avoid western pond turtle and giant garter snake during the construction of the project. • Assigned biologist shall ensure the mitigation measures are implemented. • SJJPA/SJRRC shall include as construction contract requirement. 	<ul style="list-style-type: none"> • SJJPA/SJRRC review and approval of avoidance plan prior to construction.

Mitigation Measures	Implementation, Monitoring, and Reporting Responsibility	Mitigation Timing	Implementation and Reporting Schedule	Implementation Mechanism or Tool
<p>return to open basking areas. The survey will consist of a minimum 15-minute observation time per area where turtles could be observed. If western pond turtles are observed during either survey, a biological monitor will be present during construction activities in the aquatic habitat where the turtle was observed; and capture and relocate, if possible, any entrapped turtle. The biological monitor also will be mindful of suitable nesting and overwintering areas in proximity to suitable aquatic habitat, and periodically inspect these areas for nests and turtles.</p> <p>Giant Garter Snake</p> <ul style="list-style-type: none"> • Where feasible, construction activities involving construction with heavy equipment use (e.g., excavation, grading, contouring) in suitable giant garter snake habitat will avoid the snake's inactive/dormant period (generally October 2 to April 30). • To the maximum extent possible, all construction activities in giant garter snake habitat will be conducted during the snake's active period (May 1 to October 1). • To reduce the likelihood of snakes entering the active construction areas that include or are adjacent to freshwater wetlands, slow-moving riverine aquatic habitat, marshes, ditches, and canals in the Central Valley during construction activities, SJJPA and SJRRC or its contractor will install exclusion fencing along the freshwater marsh, aquatic riverine features, and open water areas outside of the environmental footprint (areas within 200 feet of suitable habitat). The exclusion fencing will be installed and maintained for the duration of construction in or adjacent to these features. The fencing will consist of 3- to 4-foot-tall erosion fencing buried at least 6 to 8 inches below the ground. To ensure that construction equipment and personnel do not affect aquatic habitat for giant garter snake outside the construction corridor, orange barrier fencing will be erected (in addition to the exclusion fencing) to clearly define the aquatic habitat to be 				

Mitigation Measures	Implementation, Monitoring, and Reporting Responsibility	Mitigation Timing	Implementation and Reporting Schedule	Implementation Mechanism or Tool
<p>avoided.</p> <ul style="list-style-type: none"> • A qualified biologist will conduct a preconstruction survey in suitable habitat no more than 24 hours before construction. Prior to construction each morning, construction personnel will inspect exclusion and orange barrier fencing to ensure they are in good condition. Observations of snakes in the environmental footprint and access routes will be immediately reported to the biologist, and all activities will cease until appropriate corrective measures have been completed; the snake leaves the construction site under its own volition; or the biologist determines that the snake will not be harmed. The area undergoing construction will be re-inspected and surveyed by the biologist whenever a lapse in construction activity of 2 weeks or more occurs. • Any ground-disturbing activities within 200 feet of giant garter snake habitat that occur after October 1 will be monitored by a USFWS- and a CDFW-approved biologist for the duration of the work. • Vegetation clearing within 200 feet of the banks of potential giant garter snake aquatic habitat will be limited to the minimum area necessary. Giant garter snake habitat outside of—but adjacent to—the construction areas will be flagged, and designated as an environmentally sensitive area to be avoided by all construction personnel. • The movement of heavy equipment within 200 feet of the banks of potential giant garter snake aquatic habitat will be confined to designated access and haul routes to minimize habitat disturbance. • Staging areas will be at least 200 feet from suitable giant garter snake aquatic habitat. <p>Potential injury and mortality associated with pile driving, which may be required for the pile installation for the new bridge across Arcade Creek, will be minimized by implementing the measures listed below.</p>				

Mitigation Measures	Implementation, Monitoring, and Reporting Responsibility	Mitigation Timing	Implementation and Reporting Schedule	Implementation Mechanism or Tool
<ul style="list-style-type: none"> The contractor will be required to implement the following measures, developed in coordination with project design engineers, to minimize the exposure of special-status aquatic wildlife species to potentially harmful underwater sounds and activities: If feasible, the contractor shall vibrate all piles to the maximum depth possible before using an impact hammer. During impact driving, the contractor shall limit the number of strikes per day to the minimum necessary to complete the work. The smallest pile driver and minimum force necessary shall be used to complete the work. During impact driving, the contractor shall be required to use a bubble ring or similar device to minimize the extent to which the interim peak and cumulative SEL thresholds are exceeded. Pile driving activity shall not occur at night. If feasible, in-water work shall occur behind a dewatered cofferdam. A biologist shall be present at initial dewatering to salvage and rescue any stranded wildlife. 				
<p>Mitigation Measure BIO-1.11: Conduct a preconstruction survey for Swainson’s hawk and white-tailed kite, and implement avoidance measures, as needed. Compensate for loss of Swainson’s hawk and white-tailed kite foraging habitat.</p> <p>SJIPA and SJRRC shall implement the following measures to avoid and minimize impacts on Swainson’s hawk and white-tailed kite:</p> <ul style="list-style-type: none"> Trees will not be removed during the breeding season for nesting raptors (March 1 through September 15), unless a survey by a qualified biologist verifies that no active nests are in the trees. For project activities (including construction staging) that begin between March 1 and September 15, SJIPA 	<ul style="list-style-type: none"> SJIPA/SJRRC Qualified Biologist 	<ul style="list-style-type: none"> Pre-Construction Construction Post-Construction 	<ul style="list-style-type: none"> SJIPA/SJRRC shall assign qualified biologist to conduct a pre-construction survey. Assigned biologist shall ensure the mitigation measures are implemented when and if necessary. Assigned biologist will prepare and submit necessary reports to CDFW. SJIPA/SJRRC shall include as construction contract requirement. If there are unavoidable 	<ul style="list-style-type: none"> SJIPA/SJRRC review and approval of survey plan and survey report prior to construction.

Mitigation Measures	Implementation, Monitoring, and Reporting Responsibility	Mitigation Timing	Implementation and Reporting Schedule	Implementation Mechanism or Tool
<p>and SJRRC shall retain a qualified biologist who will conduct preconstruction surveys for Swainson's hawk and white-tailed kite, and identify active nests on and within 0.25 mile of the project area. The surveys will be conducted before the beginning of any staging or construction activities between March 1 and September 15 and a separate survey will be conducted for each breeding season in which project activities will occur.</p> <ul style="list-style-type: none"> • Surveys for Swainson's hawk will be timed in accordance with the Recommended Timing and Methodology for Swainson's Hawk Nesting Surveys in California's Central Valley (Swainson's Hawk Technical Advisory Committee 2000). To meet the minimum level of protection for the species, the surveys will be completed for at least the two survey periods immediately before the project's implementation and/or initiation surveys the year or season prior to construction. Appropriate survey periods will include: <ul style="list-style-type: none"> ○ Between January and March 20, before Swainson's hawk returns from migration, an optional survey of the project segments may be conducted to determine potential nest locations. ○ Between March 20 and April 5, old nests, staging birds, and competing species will be observed. The hawks are expected to be in their territories during survey hours from sunrise to 10 a.m., and from 4 p.m. to sunset. ○ Between April 5 and April 20, both males and females are expected to be actively nest-building, visiting their selected site frequently. Territorial and courtship displays, and copulation will be increased. The birds will tend to vocalize often, and their nest locations will be identified easily. ○ Between June 10 and July 30 (post-fledging), from sunrise to noon, and from 4 p.m. to sunset, young birds are expected to be active and visible. Both adult parents will make numerous trips to the nest, 			<p>impacts, SJJPA and SJRRC shall mitigate for in accordance with Report for Impacts to Swainson's Hawks.</p>	

Mitigation Measures	Implementation, Monitoring, and Reporting Responsibility	Mitigation Timing	Implementation and Reporting Schedule	Implementation Mechanism or Tool
<p>and often will soar above, or will perch near or on the nest tree, allowing easy observation.</p> <p>If no active nests are found, a letter report documenting the survey methods and results will be submitted to CDFW, and no further mitigation will be required.</p> <ul style="list-style-type: none"> • If an active Swainson's hawk or white-tailed kite nest is found, impacts on nesting Swainson's hawks and white-tailed kites will be avoided by establishing appropriate buffers around active nest sites and utilizing a biological monitor to establish baseline nesting behavior and to assess responses to disturbance during construction activities. CDFW guidelines and the SSHCP recommend implementation of a 0.5-mile-wide buffer for Swainson's hawk and a 0.25-mile wide buffer for white-tailed kite, but the size of the buffer may be adjusted if a qualified biologist and SJJPA and SJRRC determine that such an adjustment would not be likely to adversely affect the nest. No project activity will begin in the buffer areas until a qualified biologist has determined, in coordination with CDFW, that the young have fledged, the nest is no longer active, or reducing the buffer will not be likely to result in nest abandonment. Nest monitoring by a qualified biologist during and after construction or staging activities will be required if the activity has the potential to adversely affect a nest. • In the event take of Swainson's hawk cannot be avoided, the project proponent may seek related take authorization as provided by the Fish and Game Code or otherwise comply with CESA through an existing Habitat Conservation Plan (if applicable). • If it is determined during surveys or project implementation that project activities may impact white-tailed kite, project personnel shall fully avoid any impacts that may result in take if white-tailed kite is observed to be utilizing the project area or adjacent area. <p>To mitigate for the permanent removal of habitat, SJJPA</p>				

Mitigation Measures	Implementation, Monitoring, and Reporting Responsibility	Mitigation Timing	Implementation and Reporting Schedule	Implementation Mechanism or Tool
<p>and SJRRC shall mitigate for in accordance with the Staff Report for Impacts to Swainson's Hawks (<i>Buteo swainsoni</i>) in the Central Valley of California (CDFW 1994). Permanent impacts to nesting habitat will be mitigated and may include permanent protection, enhancement, or restoration of suitable nesting habitat, purchase of credits at a CDFW-approved bank or conservation site, or through an existing Habitat Conservation Plan (if applicable). Permanent impacts to foraging habitat will be mitigated and may include permanent protection, enhancement, or restoration of suitable nesting habitat, purchase of credits at a CDFW-approved bank or conservation site, or through an existing Habitat Conservation Plan (if applicable). As portions of the project footprint are in unincorporated Sacramento County, SJJPA and SJRRC may also participate in Sacramento County's voluntary Swainson's Hawk Mitigation Program.</p>				
<p>Mitigation Measure BIO-1.12: Conduct preconstruction surveys for western burrowing owl and implement avoidance measures, as needed.</p> <p>Prior to any ground disturbance, SJJPA and SJRRC shall retain an approved biologist to conduct preconstruction surveys in all areas that were identified as suitable habitat for burrowing owls (i.e., annual grassland and row/crop fields) in and adjacent to project components. The purpose of the preconstruction surveys is to document the presence or absence of burrowing owls on the project site, particularly in areas within 150 meters of construction activities. To maximize the likelihood of detecting owls, the preconstruction surveys will consist of 3 or more surveys during daylight hours, a minimum of 3 hours, and each survey will be 3 weeks apart. The preconstruction surveys must be conducted during peel breeding season (April 15 to July 15) (CDFW 2012). The surveys will begin 1 hour before sunrise and continue until at least 2 hours after sunrise (minimum of 3 hours total); Additional time may be required for large project sites. It is also recommended that surveys occur during</p>	<ul style="list-style-type: none"> • SJJPA/SJRRC • Qualified Biologist 	<ul style="list-style-type: none"> • Pre-Construction • Construction 	<ul style="list-style-type: none"> • SJJPA/SJRRC shall assign qualified biologist to conduct a pre-construction survey. • Assigned biologist will monitor construction work for potential impacts. • Assigned biologist shall ensure the mitigation measures are implemented when and if necessary. • Assigned biologist will prepare and submit necessary reports to CDFW. • SJJPA/SJRRC shall include as construction contract requirement. 	<ul style="list-style-type: none"> • SJJPA/SJRRC review and approval of survey plan and survey report prior to construction.

Mitigation Measures	Implementation, Monitoring, and Reporting Responsibility	Mitigation Timing	Implementation and Reporting Schedule	Implementation Mechanism or Tool
<p>three important periods in the burrowing owl's breeding season; during the incubation period, during the nesting period, and during the late nestling period in order to maximize the effectiveness of detecting burrowing owl (CDFW 2012). All owls observed will be counted, and their location will be mapped. Therefore, SJJPA and SJRRC must begin surveys the nesting season prior to construction.</p> <p>If western burrowing owl or evidence of western burrowing owl is observed on the project site or within 150-meters of the project site during preconstruction surveys, then the following will occur:</p> <p>During Breeding Season: If the approved biologist finds evidence of western burrowing owls in a project site during the breeding season (February 1 through August 31), all project-related activities will avoid nest sites during the remainder of the breeding season, or while the nest remains occupied by adults or young (nest occupation includes individuals or family groups foraging on or near the site following fledging). Avoidance is establishment of a minimum 150-meter buffer zone around nests. Construction and other project-related activities may occur outside of the 150-meter buffer zone with a qualified biological monitor. Construction and other project-related activities may be allowed inside of the 150-meter non-disturbance buffer during the breeding season if the nest is not disturbed, and the Third-Party Project Proponent develops an avoidance, minimization, and monitoring plan that is approved by the SJJPA and SJRRC prior to project construction, based on the following criteria:</p> <ul style="list-style-type: none"> • Wildlife Agencies approve of the avoidance and minimization plan provided by the project applicant. • An approved biologist monitors the owls for at least 3 days prior to construction to determine baseline nesting and foraging behavior (i.e., behavior without construction). • The same approved biologist monitors the owls during 				

Mitigation Measures	Implementation, Monitoring, and Reporting Responsibility	Mitigation Timing	Implementation and Reporting Schedule	Implementation Mechanism or Tool
<p>construction and finds no change in owl nesting and foraging behavior in response to construction activities.</p> <p>If there is any change in owl nesting and foraging behavior as a result of construction activities, the approved biologist will have authority to shut down activities within the 150-meter buffer. Construction cannot resume within the 250-foot buffer until any owls present are no longer affected by nearby construction activities, and with concurrence from the Wildlife Agencies.</p> <p>If monitoring by the approved biologist indicates that the nest is abandoned prior to the end of nesting season and the burrow is no longer in use, the non-disturbance buffer zone may be removed if approved by the Wildlife Agencies. The approved biologist will excavate the burrow in accordance with the latest CDFW guidelines for burrowing owl to prevent reoccupation after receiving approval from the Wildlife Agencies. The Implementing Entity and Wildlife Agencies will respond to a request from the Third-Party Project Proponent to review the proposed construction monitoring plan within 21 days.</p> <p>During the Non-Breeding Season: During the non-breeding season (September 1 through January 31), the approved biologist will establish a minimum 250-foot non disturbance buffer around occupied burrows. Construction activities outside of this 250-foot buffer will be allowed. Construction activities within the non-disturbance buffer will be allowed if the following criteria are met to prevent owls from abandoning overwintering sites:</p> <ul style="list-style-type: none"> • An approved biologist monitors the owls for at least 3 days prior to construction to determine baseline foraging behavior (i.e., behavior without construction). • The same approved biologist monitors the owls during construction, and finds no change in owl foraging behavior in response to construction activities. • If there is any change in owl foraging behavior as a result of construction activities, the approved biologist will have authority to shut down activities within the 				

Mitigation Measures	Implementation, Monitoring, and Reporting Responsibility	Mitigation Timing	Implementation and Reporting Schedule	Implementation Mechanism or Tool
<p>250-foot buffer.</p> <ul style="list-style-type: none"> If the owls are gone for at least 1 week, the SJJPA and SJRRC may request approval from Wildlife Agencies that an approved biologist excavate usable burrows and install one-way exclusionary devices to prevent owls from re-occupying the site. After all usable burrows are excavated, the buffer zone will be removed, and construction may continue. Monitoring must continue as described above for the non-breeding season as long as the burrow remains active. 				
<p>Mitigation Measure BIO-1.13: Conduct a preconstruction survey for greater sandhill crane roost sites and implement avoidance measures, as needed.</p> <p>Prior to project construction, SJJPA and SJRRC will retain a qualified biologist to conduct preconstruction surveys to determine if active roosting sites are present within a 0.5 mile radius of a project footprint if existing or potential roosting sites were found during initial surveys or if construction activities will occur when wintering flocks are present in the project area (September 1 through March 15). An approved biologist will conduct preconstruction surveys within 15 days prior to initiating ground-disturbing activities, and within 0.5 mile of a project footprint, to determine presence of roosting greater sandhill cranes. Preconstruction surveys will be conducted September 1 through March 15, when wintering flocks are present in the project area. If birds are present at active roosting sites within a 0.5-mile buffer of a project footprint, then the following avoidance measures will be implemented. The qualified biologist will inform SJJPA and SJRRC.</p> <ul style="list-style-type: none"> The SJJPA and SJRRC will establish a 0.5-mile temporary roosting disturbance buffer around the roosting site until the cranes have left, or construct a visual barrier for the duration of project construction. A qualified biologist experienced with greater sandhill 	<ul style="list-style-type: none"> SJJPA/SJRRC 	<ul style="list-style-type: none"> Pre-Construction Construction 	<ul style="list-style-type: none"> SJJPA/SJRRC shall assign qualified biologist to conduct a pre-construction survey. Assigned biologist will monitor construction work for potential impacts. Assigned biologist shall ensure the mitigation measures are implemented when and if necessary. Assigned biologist will prepare and submit necessary reports to CDFW. SJJPA/SJRRC shall include as construction contract requirement. 	<ul style="list-style-type: none"> SJJPA/SJRRC review and approval of survey plan and survey report prior to construction.

Mitigation Measures	Implementation, Monitoring, and Reporting Responsibility	Mitigation Timing	Implementation and Reporting Schedule	Implementation Mechanism or Tool
<p>crane behavior will be retained by the SJJPA and SJRRC to monitor the roosting site throughout the roosting season, and to determine when the birds have left. The approved biologist will be on site daily while construction-related activities are taking place in the disturbance buffer. Work within the temporary disturbance buffer can only occur with the written permission of the SJJPA and SJRRC. If greater sandhill cranes show any sign of disturbance, the qualified biologist will have the authority to shut down construction activities. If roost abandonment occurs, the SJJPA and SJRRC will consult with CDFW to determine the best course of action to avoid harm and harassment of individuals.</p> <ul style="list-style-type: none"> • The qualified biologist will also train construction personnel on the avoidance procedures, buffer zones, and protocols in the event that greater sandhill cranes move into an active construction zone (i.e., outside the buffer zone). • If it is determined during surveys or project implementation that project activities may impact greater sandhill crane, project personnel shall fully avoid any impacts that may result in take of greater sandhill crane. 				
<p>Mitigation Measure BIO-1.14: Conduct a preconstruction survey for nesting birds and other raptors, and implement avoidance measures, as needed.</p> <p>If project implementation is to occur during the bird breeding season (generally February 1 through August 31), SJJPA and SJRRC shall retain a qualified biologist to conduct preconstruction surveys no more than 7 days prior to the start of project implementation to determine if active nest sites for any avian species protected under the federal MBTA occur within all project work areas and a 500-foot buffer for passerines and 0.25-mile buffer for raptors. Additional preconstruction surveys will be conducted in each year in which Project activities occur</p>	<ul style="list-style-type: none"> • SJJPA/SJRRC 	<ul style="list-style-type: none"> • Pre-Construction • Construction 	<ul style="list-style-type: none"> • SJJPA/SJRRC shall assign qualified biologist to conduct a pre-construction survey. • Assigned biologist will monitor construction work for potential impacts. • Assigned biologist shall ensure the mitigation measures are implemented when and if necessary. • Assigned biologist will prepare and submit necessary reports to CDFW. 	<ul style="list-style-type: none"> • SJJPA/SJRRC review and approval of survey plan and survey report prior to construction.

Mitigation Measures	Implementation, Monitoring, and Reporting Responsibility	Mitigation Timing	Implementation and Reporting Schedule	Implementation Mechanism or Tool
<p>during the nesting season. Additional surveys may be needed if a lapse in Project-related activities of 14 days or longer occurs to capture any newly established nests. If work is conducted outside of this timeframe, then no preconstruction surveys are necessary. If an active nest (defined as a bird building a nest, sitting on a nest, carrying food to young, etc.) is found, then the following buffers may apply.</p> <ul style="list-style-type: none"> • 0.25 mile for raptors; • 500 feet for tricolored blackbird; and • 300 feet for all other bird species. <p>At the discretion of the qualified biologist, the buffer for certain species may be reduced to permit project implementation to occur (depending on the duration, intensity, and type of work that is necessary). The biologist will be present to ensure that no harassment or potential take occurs. The biologist will have the authority to stop work if they determine that the activity may result in harassment, through the bird flushing off the nest or preventing adult birds from carrying food to the nest, or otherwise jeopardize the survival of the nest contents (eggs, young, fledglings, etc.).</p> <p>If nesting tricolored blackbirds are present in the project footprint or within 500 feet of any project-related activities, then an approved biologist experienced with tricolored blackbird behavior will be retained by the SJJPA and SJRRC to monitor the nests throughout the nesting season, and to determine when the young have fledged. The approved biologist will be on site daily while construction-related activities are taking place near the disturbance buffer. Work within the nest disturbance buffer will not be permitted. If the approved biologist determines that tricolored blackbirds are exhibiting agitated behavior, construction will cease until the buffer size is increased to a distance necessary to result in no harm or harassment to the nesting tricolored blackbirds. If the biologist determines that the colonies are at risk, a meeting with the SJJPA and SJRRC and Wildlife</p>			<ul style="list-style-type: none"> • SJJPA/SJRRC shall include as construction contract requirement. 	

Mitigation Measures	Implementation, Monitoring, and Reporting Responsibility	Mitigation Timing	Implementation and Reporting Schedule	Implementation Mechanism or Tool
<p>Agencies will be held to determine the best course of action to avoid nest abandonment or take of individuals. The approved biologist will also train construction personnel on the required avoidance procedures, buffer zones, and protocols in the event that a tricolored blackbird flies into an active construction zone (i.e., outside the buffer zone). In the event take of tricolored blackbird or other listed bird cannot be avoided, the SJJPA and SJRRC may seek related take authorization as provided by the Fish and Game Code or otherwise comply with CESA through an existing Habitat Conservation Plan (if applicable).</p> <p>If project-related activities within the 0.25-mile temporary nest disturbance buffer of a special-status raptor are determined to be necessary during the nesting season, then an approved biologist experienced with raptor behavior will be retained by the SJJPA and SJRRC to monitor the nest throughout the nesting season, and to determine when the young have fledged. The approved biologist will be on site daily while construction-related activities are taking place within the disturbance buffer. Work within the temporary nest disturbance buffer can occur with the written permission of the Wildlife Agencies. If nesting raptors begin to exhibit agitated behavior, such as defensive flights at intruders, getting up from a brooding position, or flying off the nest, the approved biologist/monitor will have the authority to shut down construction activities. If agitated behavior is exhibited, the biologist, SJJPA, SJRRC, and Wildlife Agencies will meet to determine the best course of action to avoid nest abandonment or take of individuals. The approved biologist will also train construction personnel on the required avoidance procedures, buffer zones, and protocols in the event that a covered raptor species flies into an active construction zone (i.e., outside the buffer zone).</p>				

Mitigation Measures	Implementation, Monitoring, and Reporting Responsibility	Mitigation Timing	Implementation and Reporting Schedule	Implementation Mechanism or Tool
<p>Mitigation Measure BIO-2.1: Avoid and minimize impacts on sensitive natural communities and riparian habitat.</p> <p>A qualified biologist shall monitor impacts on riparian habitat and sensitive natural communities during construction to ensure that they are identified for avoidance on site plans, and preserved on-site to the greatest extent feasible. For all riparian habitat and sensitive natural communities that cannot be avoided, SJJPA and SJRRC shall quantify refined impact acreages based on the final design before construction, to identify the degree of actual impacts adequately to determine required mitigation acreages under Mitigation Measure BIO-2.2. These impact acreages shall be verified on completion of construction based on monitoring reports and as-built drawings.</p>	<ul style="list-style-type: none"> • SJJPA/SJRRC 	<ul style="list-style-type: none"> • Construction 	<ul style="list-style-type: none"> • SJJPA/SJRRC shall assign qualified biologist to monitor during construction • Assigned biologist shall ensure the mitigation measures are implemented when and if necessary. • SJJPA/SJRRC shall include as construction contract requirement. 	<ul style="list-style-type: none"> • SJJPA/SJRRC review and approval of monitoring plan prior to construction.
<p>Mitigation Measure BIO-2.2: Comply with the Section 1600 Streambed Alteration Agreement.</p> <p>Before construction, SJJPA and SJRRC shall obtain a Section 1600 Streambed Alteration Agreement from CDFW for any activities proposed in or near drainages and/or associated riparian vegetation that could potentially fall under the jurisdiction of CDFW. The project applicant shall implement all conditions in the permit, including any requirements for compensatory mitigation for loss of riparian habitat as part of the Section 1600 Streambed Alteration Agreement. Where feasible, the compensatory mitigation requirement may be combined with those for other mitigation measures such as that required for the USACE CWA Section 404 permit. To comply with Sacramento County General Plan policies related to compensation for the loss of riparian habitats, impacts on riparian habitat shall be mitigated by the preservation riparian habitat at a minimum 1:1 ratio, in perpetuity.</p> <p>If on-site restoration is selected as compensatory mitigation for impacts on riparian habitat, SJJPA and SJRRC shall prepare and implement Mitigation Measure</p>	<ul style="list-style-type: none"> • SJJPA/SJRRC 	<ul style="list-style-type: none"> • Pre-Construction • Construction 	<ul style="list-style-type: none"> • SJJPA and SJRRC shall obtain a Section 1600 Streambed Alteration Agreement from CDFW 	<ul style="list-style-type: none"> • SJJPA/SJRRC shall document Section 1600 compliance.

Mitigation Measures	Implementation, Monitoring, and Reporting Responsibility	Mitigation Timing	Implementation and Reporting Schedule	Implementation Mechanism or Tool
<p>BIO-1.4 “Develop and Implement a Revegetation and Weed Control Plan” to include reestablishment of riparian habitat, including riparian vegetation subject to CDFW jurisdiction, and/or enhancement of existing habitat, on a per-acre basis. To offset the temporary loss of riparian habitat during construction, the minimum mitigation ratio shall be no less than 1.5 acres of riparian habitat restored/created/enhanced for each acre of permanent or temporary impact. The revegetation and weed control plan shall include the following provisions for the restoration of affected riparian habitat:</p> <ul style="list-style-type: none"> • Baseline data collection at reference sites in the project site to establish expected ranges and minimum thresholds for species composition, relative species richness, and vegetative cover (i.e., herbaceous, shrub, and/or woody canopy) for each sensitive habitat that would be affected. • An appropriate species planting palette for each sensitive habitat that would be affected. • Minimum planting densities designed to achieve minimum performance standards for survival cover and density, while maintaining the natural character of the vegetation community being restored/created. • Minimum performance standards for percent survival, species composition, relative species richness, and vegetative cover (i.e., herbaceous, shrub, and/or woody canopy) based on data collected from nearby reference sites and life history traits of the plants being restored (i.e., herbaceous versus woody, fast-growing primary colonizers versus slow-growing successional species). • Compensation for the temporal loss of habitat resulting from the removal of trees. Any trees removed from riparian habitat shall be replaced with the same or similar species at a ratio of 3:1 (three trees planted for every one tree removed). Tree replacement may be carried out concurrently on riparian habitats that are also being restored/created/enhanced on a per-acre 				

Mitigation Measures	Implementation, Monitoring, and Reporting Responsibility	Mitigation Timing	Implementation and Reporting Schedule	Implementation Mechanism or Tool
compensatory basis.				
<p>Mitigation Measure BIO-2.3: Implement siting constraint measures.</p> <p>To comply with local ordinances related to protection of riparian habitats and setback constraints to riparian and sensitive communities, SJJPA and SJRRC shall implement the following measures and provide documentation to the City of Elk Grove and Sacramento County that these design measures have been incorporated in the final siting plan:</p> <ul style="list-style-type: none"> • Requirements set by the City of Elk Grove for the establishment of a 50-foot (as measured from the centerline of the creek) Stream Buffer Zone around Morrison Creek shall be implemented. • All work involving hazardous materials shall be conducted at least 100 feet from stream, wetland, and riparian areas. • A qualified biologist shall be assigned to flag or fence environmentally sensitive areas in the immediate vicinity of construction activity to clearly delineate the extent of the construction (see Mitigation Measures BIO-1.1, BIO-1.3, and BIO-1.6). All construction crew members shall have access to a set of drawings showing the locations of the known environmentally sensitive areas, and shall undergo a Worker Environmental Awareness Training Program (see Mitigation Measure BIO-1.2). • Any rail crossings or other work that would affect drainages and/or riparian vegetation in a drainage shall be conducted in accordance with the project's Streambed Alteration Agreement issued by CDFW. 	<ul style="list-style-type: none"> • SJJPA/SJRRC • Design Contractor • Construction Contractor • Qualified Biologist 	<ul style="list-style-type: none"> • Pre-Construction • Construction 	<ul style="list-style-type: none"> • Design contractor will implement necessary measure for siting constraints into final design for SJJPA/SJRRC review. • SJJPA/SJRRC will provide documentation of final design measures to the City of Elk Grove and Sacramento County. • SJJPA/SJRRC will assign a qualified biologist to implement necessary measures. 	<ul style="list-style-type: none"> • SJJPA/SJRRC review and approval of siting constraint measures prior to construction.
<p>Mitigation Measure BIO-3.1: Avoid and minimize impacts on wetlands and other waters.</p> <p>SJJPA and SJRRC shall avoid and minimize impacts on wetlands and other waters of the United States by implementing the following mitigation measures:</p>	<ul style="list-style-type: none"> • SJJPA/SJRRC • Construction Contractor 	<ul style="list-style-type: none"> • Pre-Construction • Construction 	<ul style="list-style-type: none"> • SJJPA/SJRRC shall assign qualified biologist to conduct a wetland delineation prior to construction. • SJJPA/SJRRC shall obtain a 	<ul style="list-style-type: none"> • SJJPA/SJRRC review and approval of avoidance and minimization plan prior to construction.

Mitigation Measures	Implementation, Monitoring, and Reporting Responsibility	Mitigation Timing	Implementation and Reporting Schedule	Implementation Mechanism or Tool
<ul style="list-style-type: none"> • Before any construction activity, the project applicant shall submit a wetland delineation to USACE for verification. The verified delineation shall serve as the baseline to determine actual project impacts for the purpose of permitting and determining compensatory mitigation needs. The project applicant shall obtain a CWA Section 404 permit from USACE before project construction, and shall abide by all permit conditions, including those for compensatory mitigation. The mitigation ratio will be determined by USACE, but shall be no less than 1:1 for both permanent and temporary impacts to ensure no net loss of wetlands functions and values in the project area in the long term (see Mitigation Measure BIO-3.2). To ensure consistency and a comprehensive approach to mitigation planning, compensatory mitigation may be planned and implemented concurrently with other mitigation requirements, such as those for riparian habitat mitigation under Mitigation Measure BIO-2.2 “Comply with the Section 1600 Streambed Alteration Agreement.” • Construction activities and project components shall be situated at least 100 feet from aquatic resources wherever feasible. <p>Before any construction activity, the project applicant shall assign a qualified biologist to identify the locations of wetlands and other waters and their corresponding setbacks (if applicable), as required by project permits, for avoidance. Identification of wetlands and other waters for avoidance shall be in addition to and distinguished from any required construction boundary fencing or flagging.</p>			<p>CWA Section 404 permit from USACE if found necessary by the wetland delineation</p> <ul style="list-style-type: none"> • Assigned biologist shall ensure the mitigation measures are implemented when and if necessary. • SJJPA/SJRRRC shall include as construction contract requirement. 	
<p>Mitigation Measure BIO-3.2: Compensate for impacts on wetlands and other waters.</p> <p>The standard for mitigation shall be no net loss of wetlands and/or other waters. If restoration is selected as a method of compensatory mitigation, the project applicant shall prepare a Wetland Mitigation and</p>	<ul style="list-style-type: none"> • SJJPA/SJRRRC • Qualified Biologist 	<ul style="list-style-type: none"> • Pre-Construction 	<ul style="list-style-type: none"> • SJJPA/SJRRRC shall assign a qualified biologist to prepare a Wetland Mitigation and Monitoring Plan to submit to USACE for review, determination of adequacy 	<ul style="list-style-type: none"> • SJJPA/SJRRRC review and approval of minimization and compensation plan prior to submittal to USACE.

Mitigation Measures	Implementation, Monitoring, and Reporting Responsibility	Mitigation Timing	Implementation and Reporting Schedule	Implementation Mechanism or Tool
<p>Monitoring Plan as part of the proposed project's Revegetation and Weed Control Plan (Mitigation Measure BIO-1.4), and shall submit it to USACE for review, determination of adequacy, and approval. Mitigation ratios shall be calculated following USACE wetland mitigation procedures, and shall be based on the actual impact acreage of final design per as-built construction drawings and the results of the preconstruction surveys. After review and approval by the pertinent agencies, mitigation shall be carried out at a ratio no less than 1:1, or another ratio approved by the appropriate jurisdictional agency, whichever is higher.</p> <p>The Wetland Mitigation and Monitoring Plan shall be written by a qualified biologist, and shall include the following elements, at minimum:</p> <ul style="list-style-type: none"> • Goals of the plan and permitting requirements satisfied; • Wetland restoration activities and locations, including the restoration of temporarily affected wetlands and other waters to preconstruction condition; • Monitoring and reporting requirements (including monitoring period), and criteria to measure mitigation success; • Remedial measures, should mitigation efforts fall short of established targets; and • The project applicant shall consult with USACE about the adequacy of the plan, and may consult with other agencies, if the plan aims to fulfill multiple permitting and mitigation requirements. 			and approval.	
Cultural Resources				
<p>Mitigation Measure CUL-2.1: Worker cultural resources training.</p> <p>Prior to any construction activities, including demolition and grading, the project developer shall have a qualified archaeologist implement cultural resources sensitivity training to all construction personnel and supervisors who will have the potential to encounter and alter cultural</p>	<ul style="list-style-type: none"> • SJJPA/SJRRC • Qualified Archaeologist 	<ul style="list-style-type: none"> • Pre-Construction • Construction 	<ul style="list-style-type: none"> • SJJPA/SJRRC shall assign a qualified archeologist to conduct appropriate cultural resource sensitivity training to construction contractor and crews prior to ground disturbance. 	<ul style="list-style-type: none"> • SJJPA/SJRRC review and approval of environmental awareness plan prior to construction.

Mitigation Measures	Implementation, Monitoring, and Reporting Responsibility	Mitigation Timing	Implementation and Reporting Schedule	Implementation Mechanism or Tool
<p>resources. The training shall describe, at a minimum:</p> <ul style="list-style-type: none"> • Types of cultural resources that may be expected in the project area; • Types of evidence that indicate the presence of cultural resource (e.g., midden soils, ash, charcoal, chipped or groundstone materials, projectile points, trash scatters or concentrations, privies, structural remains such as foundation footings and walls, bottle and ceramic fragments, or gravestones); • What to do, and who to contact, if cultural resources are encountered; • What to do if bones, especially human remains, are encountered; and • What the legalities are of removing or intentionally disturbing cultural resources or human remains. 				
<p>Mitigation Measure CUL-2.2: Native American monitoring.</p> <p>Prior to completion of the final project design and construction, SJRRC will continue consultation with the previously identified Tribes to discuss areas that may need further field review by tribal members due to of concern that may require a tribal monitor present during ground-disturbing activities of archaeologically and culturally sensitive areas. In the event that a resource is discovered, the archaeologist shall evaluate it to determine its eligibility for the CRHR. If it is a historic resource, unique archaeological resource, or tribal cultural resource as defined by CEQA, SJRRC will consult with the project archaeologist and tribal members regarding methods to ensure that no substantial adverse change would occur to the significance of the resource, either by, but not limited to, avoidance or through archaeological and tribal monitoring.</p>	<ul style="list-style-type: none"> • SJJPA/SJRRC • Qualified Archaeologist 	<ul style="list-style-type: none"> • Pre-Construction • Construction 	<ul style="list-style-type: none"> • SJJPA/SJRRC shall assign a qualified archaeologist to continue the tribal consultation throughout final design and construction of the project. 	<ul style="list-style-type: none"> • SJJPA/SJRRC review and approval of cultural resource monitoring and inadvertent discovery plan prior to construction.
<p>Mitigation Measure CUL-2.3: Inadvertent archaeological discovery.</p> <p>Although it is not anticipated, ground-disturbing activities</p>	<ul style="list-style-type: none"> • SJJPA/SJRRC • Qualified Archeologist 	<ul style="list-style-type: none"> • Construction 	<ul style="list-style-type: none"> • SJJPA/SJRRC shall assign a qualified archaeologist to be available to respond if 	<ul style="list-style-type: none"> • SJJPA/SJRRC review and approval of cultural resource monitoring and

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<p>could result in discovery of damage of as-yet undiscovered archaeological resources as defined in Section 15064.5. If prehistoric or historic-era cultural materials are encountered during project site preparation or construction activities, all ground-disturbing activities in the area of the discovery shall be halted until a qualified archaeologist is and Tribal Representative from consulting Native American Tribes are contacted and can assess the discovery. If the archaeologist and Tribal Representative from consulting Native American Tribes determines that the find does not meet CRHR standards of significance for cultural resources or tribal cultural resources, work activities may proceed.</p> <p>If the discovery is determined to be potentially significant, the archaeologist, in consultation with SJRRC and the appropriate Native American representative, shall determine if preservation in place is feasible. If avoidance is not feasible, project impacts shall be mitigated in accordance with CEQA Guidelines Section 15126.4 (b)(3)(C), which requires implementation of a data recovery plan. The data recovery plan shall include provisions for adequately recovering all scientifically consequential information from and about any discovered archaeological materials, and include recommendations for the treatment of these resources. In-place preservation of the archaeological or cultural resources is the preferred manner of mitigating potential impacts, because it maintains the relationship between the resource and the archaeological context and maintains tribal cultural values and integrity. In-place preservation also reduces the potential for conflicts with the religious or cultural values of groups associated with the resource. Other mitigation options include, but are not limited to, the full or partial removal and curation of the resource. No matter the approach, the resource must be recorded following accepted professional standards on DPR 523 Series forms, and the information submitted to the appropriate CHRIS office (either NCIC or CCIC), along with associated reports.</p>			<p>inadvertent prehistoric or historic-era cultural materials are encountered during ground disturbing activities by the construction contractor.</p>	<p>inadvertent discovery plan prior to construction.</p>

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<p>Mitigation Measure CUL-3.1: Discovery of previously unknown human remains.</p> <p>If human remains are discovered during any construction activities, all work within 100 feet of the remains should be redirected, and the County Coroner notified immediately. At the same time, an archaeologist shall be contacted to assess the situation. If it is determined that the human remains are of Native American origin, the Coroner must notify the NAHC within 24 hours of this identification. The NAHC will identify a Most Likely Descendant (MLD) to provide recommendations for the proper treatment of the remains and any associated grave goods. The archaeologist shall recover scientifically valuable information, as appropriate and in coordination with the MLD. On completion of the archaeologist's assessment, a report should be prepared documenting methods and results, as well as recommendations regarding the treatment of the human remains and any associated archaeological materials. The report should be submitted to the SJRRC and the appropriate Information Center under CHRIS.</p>	<ul style="list-style-type: none"> • SJJPA/SJRRC • Qualified Archeologist 	<ul style="list-style-type: none"> • Construction 	<ul style="list-style-type: none"> • SJJPA/SJRRC shall assign a qualified archaeologist to be available to respond if human remains are encountered during ground disturbing activities by the construction contractor. 	<ul style="list-style-type: none"> • SJJPA/SJRRC review and approval of cultural resource monitoring and inadvertent discovery plan prior to construction.
Geology and Soils				
<p>Mitigation Measure GEO-2.1: Implement Best Management Practices to reduce soil erosion.</p> <p>Implementation of Best Management Practices (BMPs) would include the utilization of gravel bags, straw rolls, and geotextiles to prevent erosion caused by water runoff. Additionally, dust control measures, such as misted water, silt fences, and polymer additives, would control loss of topsoil caused by wind. Furthermore, loss of topsoil during construction activities would be prevented by standard measures required as part of the National Pollutant Discharge Elimination System program (NPDES), as described in Section 3.10, Hydrology and Water Quality. NPDES requires stormwater pollution prevention plans (SWPPPs) that include BMPs to minimize water quality degradation, including erosion and subsequent sediment transport, during construction</p>	<ul style="list-style-type: none"> • SJJPA/SJRRC • Construction Contractor 	<ul style="list-style-type: none"> • Construction 	<ul style="list-style-type: none"> • Construction Contractor shall prepare and submit a SWPPP to for review prior to submitting the appropriate state water board district. 	<ul style="list-style-type: none"> • SJJPA/SJRRC review and approval of SWPPP prior to construction. • RWQCB approval of Water Quality Certification/Waste Discharge Requirements.

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<p>activities. Implementation of these BMPs would further prevent impacts to soil. Therefore, the project's construction would have a less-than-significant impact related to soil erosion and loss of topsoil.</p>				
<p>Mitigation Measure GEO-6.1: Conduct construction personnel education and implement periodic monitoring; stop work if paleontological resources are discovered; assess the significance of the find, and prepare and implement a recovery plan, as required.</p> <p>Before the start of any earthmoving activities, SJRRC will retain a qualified palaeontologist to train all construction personnel involved with earthmoving activities, including the site superintendent, regarding the possibility of encountering fossils; the appearance and types of fossils that are likely to be seen during construction; and proper notification procedures should fossils be encountered. Procedures to be conveyed to workers include halting construction within 50 feet of any potential fossil find and notifying SJRRC.</p> <p>The qualified palaeontologist will also make periodic visits during earthmoving activities in high-sensitivity sites to verify that workers are following the established procedures.</p> <p>If paleontological resources are discovered during earthmoving activities, the construction crew will immediately cease all work within 50 feet of the find and notify SJRRC. SJRRC will retain a qualified palaeontologist to evaluate the resource and prepare a recovery plan, in accordance with SVP guidelines. The recovery plan may include, but is not limited to, a field survey, construction monitoring, sampling and data recovery procedures, museum storage coordination for any specimen recovered, and a report of findings. Recommendations in the recovery plan that are determined by SJRRC, as the CEQA lead agency, to be necessary and feasible will be implemented before construction activities can resume at the site where the paleontological resources were discovered. SJRRC will</p>	<ul style="list-style-type: none"> • SJJPA/SJRRC • Construction Contractor • Qualified palaeontologist 	<ul style="list-style-type: none"> • Pre-Construction • Construction 	<ul style="list-style-type: none"> • SJJPA/SJRRC will retain a qualified paleontologist to conduct training for the construction contractor and to be available to consult if resources are found. • Qualified paleontologist will periodically monitor. 	<ul style="list-style-type: none"> • SJJPA/SJRRC review and approval of paleontological resource monitoring and recovery plan prior to construction.

Mitigation Measures	Implementation, Monitoring, and Reporting Responsibility	Mitigation Timing	Implementation and Reporting Schedule	Implementation Mechanism or Tool
be responsible for ensuring that the monitor's recommendations regarding treatment and reporting are implemented.				
Greenhouse Gas Emissions				
<p>Mitigation Measure GHG-1.1: Implement construction emission reductions to minimize construction-related GHG emissions.</p> <p>The SJRRC shall implement construction GHG emission reduction measures, including the following, as feasible. These are consistent with emission reduction measures identified in the SMAQMD Guidance for Construction GHG Emission Reductions.</p> <ul style="list-style-type: none"> • Improve fuel efficiency from construction equipment: <ul style="list-style-type: none"> ○ Minimize idling time either by shutting equipment off when not in use, or reducing the time of idling to no more than 3 minutes (a 5-minute limit is required by the State airborne toxics control measure [Title 13, Sections 2449 (d)(3) and 2485 of the CCR]). Provide clear signage that posts this requirement for workers at the entrance to the site. ○ Maintain all construction equipment in proper working condition according to manufacturers' specifications. The equipment must be checked by a certified mechanic and determined to be running in proper condition before it is operated. ○ Train equipment operators in proper use of equipment. ○ Use the proper size of equipment for the job. ○ Use equipment with new technologies (repowered engines, electric drive trains). • Perform on-site material hauling with trucks equipped with on-road engines (if determined to be less emissive than off-road engines). • Use alternative fuels for generators such as propane or solar or use electrical power. • Use a CARB low-carbon fuel for construction 	<ul style="list-style-type: none"> • SJJPA/SJRRC • Construction Contractor 	<ul style="list-style-type: none"> • Construction 	<ul style="list-style-type: none"> • Construction contractor shall implement all emission reduction minimization measures. 	<ul style="list-style-type: none"> • SJJPA/SJRRC review and approval of emissions control prior to construction. • SJJPA/SJRRC shall review compliance with equipment requirements during construction.

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<p>equipment.</p> <ul style="list-style-type: none"> Encourage and provide carpools, shuttle vans, transit passes, and/or secure bicycle parking for construction worker commutes. Recycle or salvage non-hazardous construction and demolition debris, with a goal of at least 75 percent by weight. Use locally sourced or recycled construction materials; use wood products certified through a sustainable forestry program. <p>Minimize the amount of concrete for paved surfaces or use a low-carbon concrete option.</p>				
Hazards and Hazardous Materials				
<p>Mitigation Measure HAZ-2.1: Implement voluntary oversight agreement.</p> <p>Prior to construction, SJRRC will establish an agreement with a state regulatory agency to oversee the investigation and management (described in Mitigation Measures HAZ-2.2, HAZ-2.3, and AQ-2.3) of contaminated soil, ballast, and/or groundwater that would potentially be disturbed by construction of the proposed project. Regulatory agency oversight may be provided by, but is not limited to, the State Water Board under the Site Cleanup Program, or DTSC under the Voluntary Cleanup Program.</p>	<ul style="list-style-type: none"> SJPPA/SJRRC 	<ul style="list-style-type: none"> Pre-Construction 	<ul style="list-style-type: none"> SJPPA/SJRRC will establish an agreement with the necessary state regulatory agency for oversight. 	<ul style="list-style-type: none"> SJPPA/SJRRC review and approval of emissions control prior to construction. SJPPA/SJRRC shall review compliance with equipment requirements during construction.
<p>Mitigation Measure HAZ-2.2: Conduct site investigations.</p> <p>Prior to construction, SJRRC will conduct a site investigation for project improvements to evaluate the chemical quality of soil, ballast, and/or groundwater that could be disturbed during construction activities. A licensed professional will prepare a work plan describing how representative samples of soil, ballast, and groundwater will be collected and analyzed for potential contamination in each component from the following potential sources of hazardous materials:</p>	<ul style="list-style-type: none"> SJPPA/SJRRC 	<ul style="list-style-type: none"> Pre-Construction 	<ul style="list-style-type: none"> SJPPA/SJRRC shall assign qualified personnel to conduct site investigations on quality of soil, ballast, and/or groundwater quality. 	<ul style="list-style-type: none"> SJPPA/SJRRC review and approval of site investigation plan prior to submission to RWQCB or DTSC. SJPPA/SJRRC review and site investigation report prior to submission to RWQCB or DTSC.

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<ul style="list-style-type: none"> • Railroad corridors; • Major roadway corridors; • Agricultural land; • Petroleum pipelines; and • Hazardous materials release sites. <p>Work plans will be submitted to the appropriate oversight agency for review and approval. In accordance with the approved work plans, the site investigations will be conducted and evaluated by a licensed professional for the proposed project. A technical report summarizing the field activities and analytical results will be submitted to the appropriate oversight agency for review and approval.</p>				
<p>Mitigation Measure HAZ-2.3: Implement a construction risk management plan (CRMP).</p> <p>Prior to construction, SJRRC will prepare a CRMP for the project improvements that provides a framework for proper characterization and management of contaminated soil, ballast, and groundwater that could be disturbed during construction activities. The CRMP will describe how to meet the following key objectives:</p> <ul style="list-style-type: none"> • Identify various scenarios under which large volumes of soil and railroad ballast generated during construction can be safely reused. • Identify maximum acceptable contaminant levels to protect workers, passengers, the public, and ecological receptors for each soil and ballast reuse scenario. • Identify maximum acceptable contaminant levels to protect station workers and passengers potentially exposed to vapor intrusion, if any, from soil or groundwater contamination. • Identify sampling and analysis, stockpiling, transportation, health and safety, and other procedures by which soil and ballast must be managed to meet safety, regulatory and other standards. • Define how the groundwater that would be encountered during construction will be characterized, 	<ul style="list-style-type: none"> • SJJPA/SJRRC • Construction Contractor 	<ul style="list-style-type: none"> • Pre-Construction 	<ul style="list-style-type: none"> • Construction contractor shall prepare and submit a construction risk management plan (CRMP) to SJJPA/SJRRC for review prior to construction • SJJPA/SJRRC shall include as construction contract requirement. 	<ul style="list-style-type: none"> • SJJPA/SJRRC review and approval of CRMP prior to submission to RWQCB or DTSC. • SJJPA/SJRRC inclusion in maintenance contracts.

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<p>properly managed, and discharged or disposed to a permitted facility.</p> <p>Based on the analytical results of the site investigations required under HAZ-2.2, maximum acceptable contaminant levels will be established for the following soil and ballast reuse scenarios:</p> <ul style="list-style-type: none"> • “Unrestricted Onsite Reuse,” in which soil and ballast excavated from the project component footprints can be reused in any onsite area; • “Stations Reuse,” in which soil and ballast excavated from the project component footprints can be reused in station areas where there is anticipated to be relatively frequent potential exposure; • “Right-of-Way Reuse,” in which soil and ballast excavated from the project component footprints can be reused in areas where there is anticipated to be relative infrequent potential exposure along the ROW of the tracks; and • “Encapsulation,” in which soil and ballast excavated from the project component footprints can be reused under barriers or other structures (and covered on all exposed sides by clean material). <p>To protect ecological receptors, the reuse scenarios will incorporate additional limitations, as necessary, near creeks, surface waters, or other aquatic habitats based on the findings of an ecological risk assessment. Soil or ballast that contains chemical constituents at levels greater than the acceptable reuse scenarios will be disposed of in accordance with RCRA and CCR at a facility permitted to accept the waste. Imported fill materials will be characterized to demonstrate they satisfy the criteria for “Unrestricted Onsite Reuse” established in the CRMP.</p> <p>All extracted groundwater will be considered potentially affected and require characterization to determine the appropriate treatment requirements (if necessary) for discharge or disposal. The extracted groundwater will be</p>				

Mitigation Measures	Implementation, Monitoring, and Reporting Responsibility	Mitigation Timing	Implementation and Reporting Schedule	Implementation Mechanism or Tool
<p>collected and managed for disposal or treatment prior to discharge in compliance with local and state regulations and permit requirements. Based on the preliminary groundwater analytical results from the site investigations required under HAZ-2.2, groundwater discharge and disposal options may include the following:</p> <ul style="list-style-type: none"> • Discharge directly to receiving waters; • Discharge to the local sanitary sewer system; • Discharge to the storm drain system; and • Disposal/recycling at an appropriately permitted offsite facility. <p>Health and safety procedures described in the CRMP will include requirements for an air quality monitoring program during excavation in areas with elevated contaminants of concern to ensure that fugitive dust emissions do not pose an unacceptable health risk to workers or the public. The air monitoring program will identify action levels for total particulates that require respiratory protection, implementation of engineering controls, and ultimately, work stoppage. This monitoring program will be in addition to the fugitive dust controls required under Mitigation Measure AQ 2.3.</p> <p>A licensed professional will prepare the CRMP and submit it to the appropriate oversight agency for review and approval prior to construction. The approved CRMP will be implemented during construction of the proposed project.</p>				
Hydrology and Water Quality				
<p>Mitigation Measure HYD-1.1: Avoid water quality impacts from groundwater or dewatering discharges.</p> <p>Groundwater and dewatering effluent generated by temporary construction dewatering activities will be contained by the construction contractor(s) in an appropriately sized storage tank and tested to determine whether the effluent is contaminated prior to discharging. Testing and discharging of the effluent will be performed</p>	<ul style="list-style-type: none"> • Construction Contractor 	<ul style="list-style-type: none"> • Construction 	<ul style="list-style-type: none"> • Construction contractor will adhere to the specifics of MM HYD-1.1 to avoid water quality impacts from groundwater discharges during construction 	<ul style="list-style-type: none"> • SJJPA/SJRRC review and approval of dewatering plan prior to construction.

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<p>in accordance with the Construction General Permit, Permit for Construction Dewatering Activity (Order No. R5-2016-0079-01), RMP, and applicable resource agency permit requirements, including treating the effluent prior to discharge, if necessary.</p> <p>If groundwater or dewatering effluent would be discharged to storm drainage systems (e.g., storm drains, conveyance pipes, canals, ditches, creeks, and rivers) in accordance with permit requirements, the discharge flow rates will be limited to ensure that the capacity of storm drainage systems would not be exceeded by the discharge. The construction contractor(s) will determine the capacity of storm drainage systems that would receive discharges by coordinating with the local government agencies that have jurisdiction over the protection and maintenance of the storm drainage systems. The capacity of the storm drainage systems will be determined for various times of year and various storm events. If the capacity of the storm drainage systems cannot be determined through coordination with local government agencies, evaluations of the capacity of the storm drainage systems that would receive discharges will be performed and certified by a professional engineer. The discharge flow rates will not exceed the capacity determined for various times of year and various storm events, as required by the local jurisdictional agency.</p> <p>If the effluent is not suitable for discharge to storm drains or directly to receiving waters, as discussed above, the effluent will be discharged to sanitary sewer systems or transported for disposal at an appropriate offsite treatment or disposal facility. If the effluent would be discharged to a sanitary sewer, the appropriate permit will be obtained from the local utility agency with jurisdiction over discharges to the sanitary sewer system, and permit criteria for discharging to the sewer will be followed. These criteria include testing the effluent, the application of treatment technologies that would result in achieving compliance with the wastewater discharge limits and discharging at or below the maximum allowable flow rate.</p>				

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<p>Mitigation Measure HYD-1.2: Avoid water quality impacts from construction adjacent to, within, and crossing over surface waters.</p> <p>The construction contractor(s) will obtain applicable resource agency permits and approvals and comply with permit requirements to prevent impacts on water quality and demonstrate that water quality standards and/or WDRs are not violated. Prior to the start of construction activities that could disturb potentially contaminated soil or sediment adjacent to or within surface waters, sampling and analysis of the potentially contaminated soil or sediment will be performed as required by Mitigation Measure HAZ-2.2 (see Section 3.9, Hazards and Hazardous Materials), to ensure that the soil or sediment is appropriately handled, reused, or disposed of based on the sampling and analysis results. The sampling and analysis results will be presented to the State Water Board for review so that appropriate water quality monitoring parameters can be designated in the permit requirements. The CDFW, USACE, and/or the State Water Board may require the following permit requirements and avoidance measures:</p> <ul style="list-style-type: none"> • Install temporary physical barriers (e.g., coffer dams and/or silt curtains) in water around construction activities to prevent potential localized impacts on water quality (e.g., increase in turbidity) from spreading within the surface water. • Install temporary physical barriers (e.g., elevated platforms and/or netting, or floating platforms) over surface waters and beneath elevated construction activities to prevent construction materials from being released into the surface water below. • Design and install temporary physical barriers as part of permit requirements and avoidance measures to ensure that stream flow (including storm flows) would not be impeded to the degree that adverse flooding impacts could occur. • Perform water quality monitoring, including sampling 	<ul style="list-style-type: none"> • SJJPA/SJRRC • Construction Contractor 	<ul style="list-style-type: none"> • Pre-Construction • Construction 	<ul style="list-style-type: none"> • Construction contractor will adhere to the specifics of MM HYD-1.2 to avoid water quality impacts. • SJJPA/SJRRC shall include as construction contract requirement. 	<ul style="list-style-type: none"> • SJJPA/SJRRC review and approval of SWPPP prior to construction. • RWQCB approval of Water Quality Certification/Waste Discharge Requirements.

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<p>and analysis for constituents required by resource agency permits, which may include total suspended solids, pH, temperature, conductivity, pollutants of concern identified in soil or sediment during preconstruction sampling and analysis, and pollutants with TMDLs established for the surface water if construction activities could result in the release of these pollutants.</p> <ul style="list-style-type: none"> Compare the results of water quality monitoring to performance standards established by the State Water Board in the CWA Section 401 certification. If water quality monitoring indicates that performance standards are not being achieved, additional avoidance measures (e.g., installation of additional silt curtains) will be implemented until water quality monitoring indicates that performance standards are being achieved. 				
<p>Mitigation Measure HYD-3.1: Perform detailed hydraulic evaluations and implement new or modify existing stormwater controls as required to prevent storm drainage system capacity exceedance and reduce pollutant transport.</p> <p>Detailed hydraulic evaluations will be performed and completed during the design phase for all project improvements that include the alteration of drainage patterns such as the alteration and construction of trackside ditches, the construction of new impervious pavement and stormwater drainage systems at stations and parking lots, and the construction of new connections to existing stormwater drainage systems, to ensure that the new stormwater control infrastructure is appropriately designed and that runoff from near-term improvements would not exceed the capacity of storm drainage systems or result in substantial additional pollutant transport. The detailed hydraulic evaluations will be performed in accordance with the requirements of the latest edition of the Caltrans Highway Design Manual for track areas and station platforms, and in accordance with the regulations</p>	<ul style="list-style-type: none"> SJPA/SJRRC Design Contractor 	<ul style="list-style-type: none"> Pre-Construction Construction 	<ul style="list-style-type: none"> Design contractor shall perform detailed hydraulic evaluations and implement any necessary stormwater controls as required. SJPA/SJRRC shall include as design contract requirement. 	<ul style="list-style-type: none"> SJPA/SJRRC review and approval of hydraulic study and modified designs prior to submission to regulatory agencies. Regulatory agency review and approval prior to construction.

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<p>and design requirements of local municipalities (including the local MS4 Permit requirements) for other improvements associated with stations. A professional engineer will perform and certify the following detailed hydraulic evaluations, to ensure that:</p> <ul style="list-style-type: none"> • improvements comply with the regulations and design requirements of local municipalities for discharges to storm drainage systems within those jurisdictions; • improvements are designed to accommodate storm frequencies, precipitation data, and runoff calculations; and • the capacity of existing or proposed storm drainage systems that would receive discharges is adequate. <p>If improvements could result in the exceedance of existing or proposed storm drainage systems and subsequent downstream pollutant transport, modification of onsite stormwater control designs or offsite storm drainage systems will be performed to reduce and control runoff and the potential for flooding. These modifications may include the following measures:</p> <ul style="list-style-type: none"> • reducing impervious surfaces through use of permeable pavement surfaces for station improvements; • increasing the size of drainage ditches, swales, retention basins, infiltration basins, trenches, and cross-drainage facilities within track and station areas; and • increasing the capacity of downstream stormwater drainage systems by increasing the size of offsite storm drains, drainage canals, and retention and infiltration basins. <p>In general, the drainage design for project improvements would involve the following tasks:</p> <ul style="list-style-type: none"> • construct trackside swales or ditches to collect runoff from the track areas; • allow infiltration and detention onsite and offsite, if 				

Mitigation Measures	Implementation, Monitoring, and Reporting Responsibility	Mitigation Timing	Implementation and Reporting Schedule	Implementation Mechanism or Tool
<p>feasible;</p> <ul style="list-style-type: none"> evaluate or improve the capacity of the existing drainage system to carry runoff from near-term improvements, if required; construct cross-culverts under the existing or new tracks to carry runoff across the trackway system to maintain the flow pattern; and <p>construct catch basins as required to convey excess flows from the near-term improvements to the local drainage system and install and operate appropriate BMPs to reduce and/or treat (as required by the appropriate jurisdiction) pollutants washed from new, project-related impervious surfaces.</p>				
<p>Mitigation Measure HYD-4.1: Prevent construction materials from being exposed to storm flooding hazards.</p> <p>Construction materials (particularly soil stockpiles and hazardous materials such as fuels, lubricants, and oils) will not be stored in areas of potential storm flooding inundation (i.e., 100-year or 200-year flood zones and within drainage courses).</p>	<ul style="list-style-type: none"> Construction Contractor 	<ul style="list-style-type: none"> Construction 	<ul style="list-style-type: none"> Construction contractor will adhere to the specifics of MM HYD-4.1 to avoid water quality impacts. SJJPA/SJRRRC shall include as construction contract requirement. 	<ul style="list-style-type: none"> SJJPA/SJRRRC review and approval of construction material storage plan prior to construction.
<p>Mitigation Measure HYD-6.1: Perform hydrologic and hydraulic studies for project improvements to be in floodplains, implement appropriate engineering designs, coordinate with regulatory agencies, and obtain required permits.</p> <p>During the detailed project design phase, SJRRRC will prepare site-specific detailed hydrologic and hydraulic studies for improvements that are proposed within the 100- and 200-year floodplains. The results of these studies will be used to inform the design of proposed improvements, such that they are specifically designed to pass 100- and 200-year flows without impedance as required by RD 1000, FEMA, DWR, USACE, and CVFBP standards so that upstream, onsite, and downstream flooding would not occur. All proposed facilities that are located in mapped floodplains will be designed and</p>	<ul style="list-style-type: none"> SJJPA/SJRRRC Design Contractor 	<ul style="list-style-type: none"> Pre-Construction 	<ul style="list-style-type: none"> Design contractor shall perform detailed hydrologic and hydraulic studies to determine which project improvements will be implemented into final design. SJJPA/SJRRRC shall include as design contract requirement SJJPA/SJRRRC shall coordinate with any required regulatory agencies and obtain necessary permits 	<ul style="list-style-type: none"> SJJPA/SJRRRC review and approval of operational SWPPP prior to construction.

Mitigation Measures	Implementation, Monitoring, and Reporting Responsibility	Mitigation Timing	Implementation and Reporting Schedule	Implementation Mechanism or Tool
<p>engineered to withstand 100-year flood flows (to meet FEMA requirements) and 200-year flood flows (to meet DWR, USACE, and CVFBP requirements), which may require elevating the proposed facilities. The proposed bridge crossings through the Dry Creek floodway associated with the Del Paso Siding Upgrade/Extension (at Arcade and Magpie Creeks) will be designed and engineered to withstand 100- and 200-year flood flows. Furthermore, during the detailed project design phase, SJRRC will consult with DWR and CVFBP regarding project-related work associated with the Thornton Siding Upgrade/Extension to ensure that all project improvements are designed so they will not impair any of the flood improvements that are planned by DWR and CVFBP as part of the CVFPP and the North Delta Flood Control and Ecosystem Restoration Program. Finally, prior to the start of any earthmoving activities, SJRRC will obtain all necessary permits and will provide copies of engineering plans and consult with any necessary agencies with levee jurisdiction, such as RD 1000, DWR, CVFBP, and USACE, for all project-related work that would be required in or through existing levees. Project-related work in or through existing levees will be performed in accordance with the terms of the permits, which would contain site-specific BMPs and measures to protect public safety and water quality that must be implemented, as issued by the applicable regulatory agency.</p>				
Noise				
<p>Mitigation Measure NOI-1.1: Implement a construction noise control plan.</p> <p>A noise control plan that incorporates, 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 will be prepared and implemented:</p> <ul style="list-style-type: none"> • Install temporary construction site sound barriers near noise sources. 	<ul style="list-style-type: none"> • SJJPA/SJRRC • Construction Contractor 	<ul style="list-style-type: none"> • Pre-Construction • Construction 	<ul style="list-style-type: none"> • Construction contractor shall develop and provide a construction noise control plan with the BMP in the MM NOI-1.1 for SJJPA/SJRRC to review. • SJJPA/SJRRC shall include as construction contract requirement 	<ul style="list-style-type: none"> • SJJPA/SJRRC review and approval of construction noise and vibration control plan prior to construction.

Mitigation Measures	Implementation, Monitoring, and Reporting Responsibility	Mitigation Timing	Implementation and Reporting Schedule	Implementation Mechanism or Tool
<ul style="list-style-type: none"> • Use moveable sound barriers at the source of the construction activity. • Avoid the use of impact pile-drivers where possible near noise-sensitive areas, or use quieter alternatives (e.g., 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. • Establish an active community liaison program to keep residents informed about construction, and to provide a procedure for addressing complaints. 				
<p>Mitigation Measure NOI-3.1: Conduct a detailed design-level vibration analysis.</p> <p>During final design of the proposed project, a detailed design-level vibration analysis will be performed for all track improvements that have the potential for adverse vibration impacts. The analysis shall include design features to reduce the potential vibration impacts to less-than-significant levels. Potential measures include possibly relocating crossovers/turnouts to areas without</p>	<ul style="list-style-type: none"> • SJJPA/SJRRC • Design Contractor 	<ul style="list-style-type: none"> • Pre-Construction 	<ul style="list-style-type: none"> • Design contractor shall conduct a vibration analysis to determine the design features to reduce the vibration impacts. • SJJPA/SJRRC shall include as design contract requirement 	<ul style="list-style-type: none"> • SJJPA/SJRRC review and approval of construction noise and vibration control plan prior to construction.

Mitigation Measures	Implementation, Monitoring, and Reporting Responsibility	Mitigation Timing	Implementation and Reporting Schedule	Implementation Mechanism or Tool
sensitive receptors, or through the use of special trackwork at these locations to eliminate the gap in the tracks which causes the increase in vibration levels.				
<p>Mitigation Measure NOI-4.1: Implement a construction vibration control plan.</p> <p>A vibration control plan that incorporates, 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:</p> <ul style="list-style-type: none"> • Avoid the use of impact pile-drivers where possible near vibration-sensitive areas, or use alternative construction methods (e.g., 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. 	<ul style="list-style-type: none"> • SJJPA/SJRRC • Construction Contractor 	<ul style="list-style-type: none"> • Pre-Construction • Construction 	<ul style="list-style-type: none"> • Construction contractor shall develop and submit a vibration control plan for SJJPA/SJRRC review. • SJJPA/SJRRC shall include as design contract requirement 	<ul style="list-style-type: none"> • SJJPA/SJRRC review and approval of construction noise and vibration control plan prior to construction.
Recreation				
<p>Mitigation Measure REC-1.1: Coordinate with the officials with jurisdiction over potentially impacted recreational facilities during the construction phase to minimize impacts to organized athletic events/practices.</p> <p>SJRRC shall coordinate with the officials with jurisdiction over Airport Park, Redwood Park, Johnston Park, and City College athletic facilities to minimize construction-related impacts to organized athletic events/practices at these facilities. Minimization could include advance notification of construction activities and potential rescheduling of construction and/or athletic events/practices at these facilities.</p>	<ul style="list-style-type: none"> • SJJPA/SJRRC • Construction Contractor 	<ul style="list-style-type: none"> • Pre-Construction • Construction 	<ul style="list-style-type: none"> • SJJPA/SJRRC shall coordinate with the appropriate officials to minimize impacts to organized athletic events/practices. 	<ul style="list-style-type: none"> • SJJPA/SJRRC review and approval of recreational safety plan prior to submission to officials with jurisdiction for review.

Mitigation Measures	Implementation, Monitoring, and Reporting Responsibility	Mitigation Timing	Implementation and Reporting Schedule	Implementation Mechanism or Tool
<p>Mitigation Measure REC-1.2: Coordinate with the City of Sacramento to maintain access for the Sacramento Northern Bike Trail.</p> <p>If construction activities require the temporary closure of the Sacramento Northern Bike Trail at-grade crossing near the proposed Old North Sacramento Station, SJRRC and/or the construction contractor shall provide a safe detour through or around the construction site to allow continued use of the trail on either side of the railroad. Efforts should be made to avoid long-term construction-related closure of the Sacramento Northern Bike Trail at-grade crossing. However, if this crossing needs to be closed temporarily during construction, a safe detour will be provided to ensure trail users' continued access to the bike trail on both sides of the railroad via other streets or a relocated railroad crossing and trail connection. Adequate advance notification of any construction-related temporary trail closures shall be posted at the trail site, including contact information and additional information about the closure(s). All construction activities potentially impacting the Sacramento Northern Bike Trail shall be coordinated with the City of Sacramento.</p>	<ul style="list-style-type: none"> • SJJPA/SJRRC • Construction Contractor 	<ul style="list-style-type: none"> • Construction 	<ul style="list-style-type: none"> • SJJPA/SJRRC shall coordinate with the City of Sacramento as necessary. 	<ul style="list-style-type: none"> • SJJPA/SJRRC review and approval of Sacramento Northern Bike Trail detour plan prior to submission to City of Sacramento for review.
Transportation				
<p>Mitigation Measure TRA-1.1: Transportation Management Plan for project construction.</p> <p>The San Joaquin Joint Powers Authority (SJJPA) and the San Joaquin Regional Rail Commission (SJRRC) will coordinate with Caltrans and with public works and transportation departments of local jurisdictions to develop a transportation management plan that will mitigate construction impacts to transit, roadway, bicycle, and pedestrian facilities, while allowing for expeditious completion of construction. Measures that will be implemented throughout the course of project construction will include, but not be limited to, the following:</p> <ul style="list-style-type: none"> • Limit number of simultaneous street closures and consequent detours of transit and automobile traffic in 	<ul style="list-style-type: none"> • SJJPA/SJRRC • Construction Contractor 	<ul style="list-style-type: none"> • Construction 	<ul style="list-style-type: none"> • SJJPA/SJRRC shall develop a transportation management plan to mitigate any potential construction impacts. 	<ul style="list-style-type: none"> • SJJPA/SJRRC review and approval of traffic control plan prior to construction. • Local jurisdiction and Caltrans approval of traffic control plan, as required.

Mitigation Measures	Implementation, Monitoring, and Reporting Responsibility	Mitigation Timing	Implementation and Reporting Schedule	Implementation Mechanism or Tool
<p>each immediate vicinity, with closure timeframe limited as much as feasible for each closure, unless alternative routes are available.</p> <ul style="list-style-type: none"> • Implement traffic control measures to minimize traffic conflicts for all roadway users (regardless of mode) where lane closures and restricted travel speeds will be required for longer periods. • Provide advance notice of all construction-related street closures, durations, and detours to local jurisdictions, emergency service providers, and motorists. • Provide safety measures for motorists, transit vehicles, cyclists, and pedestrians to ensure safe travel through construction zones. • Limit sidewalk (and pedestrian walkway/path) and bikeway closures to one location in each vicinity at a time, with closure timeframe limited as much as feasible for each closure, unless alternative routes are available. • Provide designated areas for construction worker parking wherever feasible to minimize use of parking in residential or business areas. 				
<p>Mitigation Measure TRA-1.2: Freight rail disruption control plan for project construction.</p> <p>SJJPA and SJRRC will make efforts to contain and minimize disruption to freight services during project construction, while allowing for expeditious completion of construction. Measures that will be implemented throughout the course of project construction will include, but will not be limited to, the following:</p> <ul style="list-style-type: none"> • Limit number of simultaneous track closures in each immediate vicinity, with closure timeframe limited as much as feasible for each closure, unless bypass tracks or alternative routes are available. • Provide safety measures for freight rail operations through construction zones. 	<ul style="list-style-type: none"> • SJJPA/SJRRC • Construction Contractor 	<ul style="list-style-type: none"> • Pre-Construction • Construction 	<ul style="list-style-type: none"> • SJJPA/SJRRC shall develop a freight rail disruption control plan to mitigate any potential construction impacts. 	<ul style="list-style-type: none"> • SJJPA/SJRRC review and approval of freight rail disruption control plan prior to construction. • Local jurisdiction and UPRR approval of control plan, as required.

Mitigation Measures	Implementation, Monitoring, and Reporting Responsibility	Mitigation Timing	Implementation and Reporting Schedule	Implementation Mechanism or Tool
<ul style="list-style-type: none"> Require contractors to coordinate with rail dispatch to minimize disruption of rail service in the corridor. Where feasible, maintain acceptable service access for freight operations. Where one open track cannot be maintained for freight use, limit multi-track closures to one location at a time, as much as feasible. Where multi-track closures result in temporary suspension of freight rail service, work with UPRR and freight users to schedule alternative freight service timing to minimize disruption to freight customers. Where such closures will result in substantial diversion to trucks, SJJPA and SJRRC or their construction contractor(s) will coordinate with local jurisdictions and freight carriers to determine preferred truck routes to minimize the effect on the circulation system. Provide advance notice of construction-related track closures to all affected parties. Coordinate with UPRR in advance and during any potential disruption to freight operations and/or UPRR facilities, and maintain emergency access for UPRR for the duration of construction. 				
<p>Mitigation Measure TRA-1.3: Light rail disruption control plan for project construction.</p> <p>SJJPA and SJRRC will make efforts to contain and minimize disruption to SacRT light rail service during project construction, while allowing for expeditious completion of construction. Measures that will be implemented throughout the course of project construction will include, but will not be limited to, the following:</p> <ul style="list-style-type: none"> Provide safety measures for LRT operation through construction zones. Require contractors to coordinate with SacRT dispatch to minimize disruption of LRT service. Where feasible, limit closure of any tracks for 	<ul style="list-style-type: none"> SJJPA/SJRRC Construction Contractor 	<ul style="list-style-type: none"> Construction 	<ul style="list-style-type: none"> SJJPA/SJRRC shall develop a light rail disruption control plan to mitigate any potential construction impacts. 	<ul style="list-style-type: none"> SJJPA/SJRRC review and approval of light rail disruption control plan prior to construction. Local jurisdiction and SacRT approval of control plan, as required.

Mitigation Measures	Implementation, Monitoring, and Reporting Responsibility	Mitigation Timing	Implementation and Reporting Schedule	Implementation Mechanism or Tool
<p>construction activities to periods when LRT service is not scheduled or is less frequent (e.g., weekends or weekday evenings).</p> <ul style="list-style-type: none"> • Where feasible, maintain acceptable service access for LRT operations. • Where track closures result in temporary suspension or substantial disruption to LRT service, work with SacRT to provide alternative transit service around the closure area (e.g., increased bus and shuttle service). • Provide advance notice to transit riders of any temporary suspension of or substantial disruption to LRT service. • Coordinate with SacRT in advance and during any potential disruption to LRT operations and/or LRT facilities and maintain emergency access for SacRT for the duration of construction. 				
Utilities				
<p>Mitigation Measure UT-1.1: Implement a Utility Relocation Plan.</p> <p>SJRRC will coordinate with all utility providers during final design and construction stages to identify utilities potentially impacted by the proposed project, including existing and planned utilities. A utility relocation plan will be developed and implemented to minimize service interruption and safely relocate, repair, or replace affected utilities. SJRRC will assist utility owners in developing a communications plan to inform end users of potential planned service interruptions.</p>	<ul style="list-style-type: none"> • SJJPA/SJRRC • Design Contractor 	<ul style="list-style-type: none"> • Pre-Construction 	<ul style="list-style-type: none"> • Design contractor will identify utilities potentially impacted by project and will develop a utility relocation plan. • SJJPA/SJRRC shall include as design contract requirement 	<ul style="list-style-type: none"> • SJJPA/SJRRC review and approval of utility coordination plan and utility relocation plan prior to construction.

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