

Supplemental Mitigation Monitoring and Reporting Program Capitol Corridor Joint Powers Authority

Sacramento to Roseville Third Main Track Project Supplemental EIR State Clearinghouse No. 2014072005

Section 1: Authority

This Supplemental Mitigation Monitoring and Reporting Program (Supplemental MMRP) has been prepared pursuant to the California Environmental Quality Act (CEQA) and the State CEQA Guidelines to provide for monitoring of the mitigation measures required by certification of the Sacramento to Roseville Third Main Track Project (Project or SR3T Project) Draft Supplemental Environmental Impact Report (SEIR). Section 21081.6 of the California Public Resources Code and Section 15091(d) of the CEQA Guidelines require a lead agency to adopt an environmental MMRP when approving a project that adopts findings of significant impacts and incorporates mitigation measures into the project or imposed as conditions of project approval in order to mitigate or avoid significant impacts. The purpose of a MMRP is to ensure that when an EIR identifies measures to reduce potential adverse environmental impacts, those measures are implemented as detailed in the environmental document. A Draft SEIR has been prepared by the Capitol Corridor Joint Powers Authority (CCJPA) for the revised Project.

This Supplemental MMRP gives the CCJPA primary responsibility for taking all actions necessary to implement the mitigation measures according to the specifications provided for each measure and for demonstrating that the action has been successfully completed. This report will be kept on file at the CCJPA offices located at 2150 Webster Street, 3rd Floor, Oakland CA 92612.

Section 2: Monitoring Schedule

The CCJPA will be responsible for ensuring compliance with mitigation monitoring required for implementation of the revised SR3T Project. Once construction of the facilities has begun and is underway, monitoring of the mitigation measures associated with construction will be carried out by CCJPA and/or the contractor(s) implementing the mitigation. Once construction of the facilities has been completed, CCJPA will monitor as deemed necessary.

Section 3: Changes to Mitigation Measures

In November 2015, the CCJPA certified the EIR for the SR3T Project (2015 EIR) and adopted a Mitigation Monitoring and Reporting Program for the approved Project (2015 MMRP). Since then, a Supplemental EIR has been adopted for implementation of the SR3T Project. This Supplemental MMRP is required to ensure that any new or revised mitigation measures to reduce potential adverse environmental impacts identified in the Supplemental EIR are implemented.



This Supplemental MMRP is intended to supplement the programmatic measures in the 2015 MMRP and includes all mitigation measures from the 2015 MMRP for the previously certified SR3T Project, as well as any new, revised, and/or renumbered mitigation measures associated with the revised SR3T Project.

Section 4: Supporting Documentation

Findings and related documentation supporting the findings involving modifications to mitigation measures will be maintained in the SR3T Project file with the Supplemental MMRP and will be made available to the public upon a written public records request.

Section 5: Mitigation Monitoring Matrix

The Supplemental MMRP is organized in a matrix format and identifies the required mitigation measures and the time frame for monitoring. The mitigation measures are presented by environmental issue area. The first column identifies the mitigation measure. The second column, entitled "Time Frame/Monitoring Milestone," refers to the timing for implementing mitigation measures and when monitoring would occur. The third column, entitled "Implementing Party," refers to the party that will conduct the monitoring to ensure compliance with the mitigation measure. CCJPA and/or the contractor(s) working on the revised Project will be responsible for monitoring the mitigation measures. The fourth column, entitled "Enforcement Agency," refers to the agency responsible for ensuring that the mitigation measure is implemented. The fifth column, entitled "Verified Date/Initial", is provided so that once implementation of the measure is complete, the responsible party will verify its implementation.

Mitigation Measures	Monitoring Phase or Milestone	Implementing Party	Enforcement Agency	Verified Date/Initial
<p>AES-2a: Minimize visual disruption through vegetation retention and placement of staging areas. To minimize visual disruption, construction activities would implement the following measures.</p> <ul style="list-style-type: none"> • Limit preconstruction vegetation removal to that necessary for construction. • Where possible, preserve existing vegetation, particularly along the edge of construction areas, to help screen views • After construction, regrade and revegetate areas disturbed by construction and staging to pre-project conditions • To the extent feasible, do not site construction staging areas immediately adjacent to existing residential, recreational, or other sensitive visual receptors. 	During and following construction of Project	CCJPA designee (Construction Contractor, UPRR, and/or Caltrans)	CCJPA	
<p>AES-2b: Minimize fugitive light from portable sources used for construction. The construction contractor shall minimize fugitive light from portable lighting sources used during construction by adhering to the following practices.</p> <ul style="list-style-type: none"> • Project-related light and glare shall be minimized to the maximum extent feasible within the constraints of safety considerations. • Color-corrected halide lights shall be used. • Portable lights shall be operated at the lowest allowable wattage and height and shall be raised to no more than 20 feet above ground level. • All lights shall be screened and directed down toward work activities and away from the night sky and nearby residents to the maximum extent within the constraints of safety considerations. • The number of nighttime lights used shall be minimized to the greatest extent possible. <p>Implementation of this measure will reduce—to the extent feasible as governed by site-specific safety requirements—the overall amount of nighttime light and glare introduced to the Project vicinity during construction.</p>	During construction of Project	CCJPA designee (Construction Contractor, UPRR, and/or Caltrans)	CCJPA	
<p>AES-2c: Screen Ancillary Project Facilities. Ancillary Project facilities shall not be sited near residences, parks, or other sensitive visual receptors. Where avoidance is not feasible, facilities shall be screened with perimeter landscape screening.</p>	During construction and design of Project	CCJPA designee (Construction Contractor, UPRR, and/or Caltrans)	CCJPA	



Mitigation Measures	Monitoring Phase or Milestone	Implementing Party	Enforcement Agency	Verified Date/Initial
<p>AQ-2a: Implement air district– recommended basic and enhanced best management practices to reduce construction-related NOX emissions (SMAQMD and PCAPCD). CCJPA shall require construction contractors to implement basic and enhanced NOX construction mitigation measures recommended by SMAQMD and PCAPCD. Emission reduction measures shall include, at a minimum, the following applicable measures (additional measures may be identified by SMAQMD, PCAPCD, or the contractor, as appropriate). All measures shall be included in the final design and contractor specifications for the Project.</p> <ul style="list-style-type: none"> • Minimize idling time either by shutting equipment off when not in use or by reducing the time of idling to 5 minutes [required by California Code of Regulations, Title 13, sections 2449(d)(3) and 2485]. Provide clear signage that posts this requirement for workers at the entrances to the site. Many construction companies comply with the idling restriction through equipment inspection and maintenance programs. • Maintain all construction equipment in proper working condition in accordance with manufacturer’s specifications. The equipment must be checked by a certified mechanic and determined to be running in proper condition before it is operated. • Submit to SMAQMD and PCAPCD a comprehensive inventory of all offroad construction equipment of 50 or more horsepower that shall be used an aggregate of 40 or more hours during any portion of construction. <ul style="list-style-type: none"> ○ The inventory shall include the horsepower rating, engine model year, and projected hours of use for each piece of equipment. ○ The Project representative shall provide the anticipated construction timeline including start date, and name and phone number of the project manager and onsite foreman. ○ This information shall be submitted at least 4 business days prior to the use of subject heavy-duty offroad equipment. ○ The inventory shall be updated and submitted monthly throughout the duration of the Project, except that an inventory shall not be required for any 30-day period in which no construction activity occurs. • Provide a plan for approval by SMAQMD and PCAPCD demonstrating that the heavy-duty offroad vehicles (50 horsepower or more) to be used in Project construction, including owned, leased, and subcontractor vehicles, shall 	During construction of Project	CCJPA designee (Construction Contractor, UPRR, and/or Caltrans)	CCJPA	



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<p>achieve a Project-wide fleet-average 20 percent NOX reduction and 45 percent particulate reduction compared to the most recent ARB fleet average.</p> <ul style="list-style-type: none"> ○ This plan shall be submitted in conjunction with the equipment inventory. ○ Acceptable options for reducing emissions may include use of late model engines, low emission diesel products, alternative fuels, engine retrofit technology, after-treatment products, and/or other options as they become available. <ul style="list-style-type: none"> ● Ensure that emissions from all offroad diesel powered equipment used on the project site do not exceed 40 percent opacity for more than three minutes in any one hour. <ul style="list-style-type: none"> ○ Any equipment found to exceed 40 percent opacity (or Ringelmann 2.0) shall be repaired immediately ○ Noncompliant equipment shall be documented and a summary provided to SMAQMD and PCAPCD monthly ○ A visual survey of all in-operation equipment shall be made at least weekly. ○ A monthly summary of the visual survey results shall be submitted throughout the duration of the Project, except that the monthly summary shall not be required for any 30-day period in which no construction activity occurs. The monthly summary shall include the quantity and type of vehicles surveyed as well as the dates of each survey. ● SMAQMD, PCAPCD, and/or other officials may conduct periodic site inspections to determine compliance. 				
<p>AQ-2b: Use modern fleet for on-road material delivery and haul trucks during construction to reduce NOX emissions (SMAQMD and PCAPCD). CCJPA shall ensure that construction contracts stipulate that all on road heavy-duty diesel trucks with a gross vehicle weight rating of 19,500 pounds or greater used at the Project site shall comply with EPA 2007 on road emission standards for PM10 and NOX (0.01 and 0.20 grams per break horsepower-hour, respectively). These PM10 and NOX standards were phased in through the 2007 and 2010 model years on a percent of sales basis (50 percent of sales in 2007–2009 and 100 percent of sales in 2010). This mitigation</p>	During construction of Project	CCJPA designee (Construction Contractor, UPRR, and/or Caltrans)	CCJPA	



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measure assumes that all on road heavy-duty diesel trucks are compliant with EPA 2007 on road emission standards.				
<p>AQ-2c: Reduce construction emissions to below SMAQMD and PCAPCD NOX thresholds (SMAQMD and PCAPCD). CCJPA shall ensure that construction-related emissions do not exceed SMAQMD’s construction NOX threshold of 85 pounds per day. Potential measures in addition to those listed in Mitigation Measures AQ-2a and AQ-2b include but are not limited to those listed below.</p> <ul style="list-style-type: none"> • Require the usage of EPA-rated Tier 3 or higher rated construction equipment. In general, the following NOX reductions can be achieved when replacing Tier 2 equipment (fleet average) with higher rated engine tiers. <ul style="list-style-type: none"> ○ Tier 3—38 percent NOX reduction. ○ Tier 4 interim—68 percent NOX reduction. ○ Tier 4 final—94 percent NOX reduction. • Work with SMAQMD to purchase NOX credits to offset remaining NOX construction emissions exceeding SMAQMD thresholds. <p><u>CCJPA shall also ensure that construction-related emissions do not exceed PCAPCD’s construction NO_x threshold of 82 pounds per day. Potential measures include but are not limited to those listed below.</u></p> <ul style="list-style-type: none"> • <u>Require the usage of EPA-rated Tier 4 Final rated construction equipment. In general, replacing Tier 2 equipment with Tier 4 Final equipment can result in a 94% reduction in NO_x emissions.</u> • <u>Require the usage of EPA-rated Tier 4 locomotives for ballast hauling between quarries and the Project site.</u> • <u>Work with PCAPCD to purchase NO_x credits to offset remaining NO_x construction emissions exceeding PCAPCD thresholds.</u> 	During construction of Project	CCJPA designee (Construction Contractor, UPRR, and/or Caltrans)	CCJPA	
<p>Mitigation Measure AQ-4: Implement air district–recommended basic best management practices to reduce construction-related fugitive dust emissions (SMAQMD and PCAPCD). CCJPA shall require construction contractors to implement</p>	During construction	CCJPA designee (Construction	CCJPA	



Mitigation Measures	Monitoring Phase or Milestone	Implementing Party	Enforcement Agency	Verified Date/Initial
<p>basic fugitive dust construction mitigation measures recommended by SMAQMD and PCAPCD. Emission reduction measures shall include, at a minimum, the following applicable measures (additional measures may be identified by SMAQMD, PCAPCD, or the contractor, as appropriate).</p> <ul style="list-style-type: none"> • Water all exposed surfaces two times daily. Exposed surfaces include but are not limited to soil piles, graded areas, unpaved parking areas, staging areas, and access roads. • Cover or maintain at least 2 feet of freeboard space on haul trucks transporting soil, sand, or other loose material on the site. Any haul trucks that travel along freeways or major roadways shall be covered. • Use wet power vacuum street sweepers to remove any visible trackout mud or dirt onto adjacent public roads at least once a day. Use of dry power sweeping is prohibited. • Limit vehicle speeds on unpaved roads to 15 miles per hour (mph). All roadways, driveways, sidewalks, and parking lots to be paved shall be completed as soon as possible. In addition, building pads shall be laid as soon as possible after grading unless seeding or soil binders are used. 		Contractor, UPRR, and/or Caltrans)		
<p>BIO-1a: Install fencing and/or flagging to protect sensitive biological resources. Prior to construction, UPRR's contractor shall install high-visibility orange construction fencing and/or flagging, as appropriate, along the perimeter of the work area adjacent to Environmentally Sensitive Areas (e.g., sensitive habitats and elderberry shrubs). Where specific buffer distances are required for sensitive biological resources, they shall be specified under the corresponding measures below. UPRR shall ensure that the final construction plans show the locations where fencing will be installed. The plans shall also define the fencing installation procedure. UPRR or contractor (at the discretion of UPRR) shall ensure that the fencing is maintained throughout the duration of the construction period. If the fencing is removed, damaged, or otherwise compromised during the construction period, construction activities shall cease until the fencing is repaired or replaced. The Project's special provisions package shall provide clear language regarding acceptable fencing material and prohibited construction-related</p>	Prior to and during construction	CCJPA designee (Construction Contractor, UPRR, and/or Caltrans)	UPRR	



Mitigation Measures	Monitoring Phase or Milestone	Implementing Party	Enforcement Agency	Verified Date/Initial
<p>activities, vehicle operation, material and equipment storage, and other surface-disturbing activities within Environmentally Sensitive Area.</p>				
<p>BIO-1b: Implement a worker environmental awareness training program for construction personnel. Before any equipment staging, grading, or tree removal is undertaken in the PIA, UPRR shall prepare and implement a worker environmental awareness training program. The training program shall be provided to all construction personnel (contractors and subcontractors) to brief them on the need to avoid effects on sensitive biological resources (e.g., riparian habitat, active bird nests, bat roosts) located in the PIA and the penalties for not complying with applicable state and federal laws and permit requirements. The training program shall be delivered by a biologist who will inform all construction personnel about the life history and habitat requirements of special-status species with potential for occurrence onsite, the importance of maintaining habitat, and the terms and conditions of the BOs and other permits.</p> <p>The training program shall 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 of the Build alternative.</p>	<p>Prior to and throughout construction</p>	<p>CCJPA designee (Construction Contractor, UPRR, and/or Caltrans)</p>	<p>CCJPA</p>	
<p>BIO-1c: Retain a qualified biologist to conduct periodic monitoring during construction in sensitive habitats. UPRR shall retain a qualified biologist to implement the worker environmental awareness training program and to conduct periodic site visits during construction activities that involve ground disturbance (e.g., vegetation removal, grading, excavation, bridge construction) within or adjacent to Environmentally Sensitive Areas. The timing and frequency shall be determined through coordination with UPRR, but monitoring shall take place at least weekly. The purpose of the monitoring is to ensure that measures identified in this report are properly implemented to avoid and minimize effects on sensitive biological resources and to ensure that the Project complies with all applicable permit requirements and agency conditions of approval. The biologist shall ensure that fencing around Environmentally Sensitive Areas remains in place during construction and that no construction personnel, equipment, or runoff/sediment from the construction area enters Environmentally Sensitive Areas. The monitor shall complete a monitoring log for each site visit, and a final monitoring report shall be prepared at the end of construction for submittal to</p>	<p>Prior to and throughout construction of Project</p>	<p>CCJPA designee (Construction Contractor, UPRR, and/or Caltrans)</p>	<p>CCJPA</p>	



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<p>CCJPA, the Federal Railroad Administration (FRA), and other overseeing agencies (i.e., CDFW, USFWS, and NMFS), as appropriate.</p>				
<p>BIO-1d: Compensate for temporary and permanent impacts on waters of the United States, including wetlands. To compensate for temporary and permanent Project impacts on waters of the United States, UPRR shall purchase credits at an approved mitigation bank to ensure no net loss of wetland functions and values. The acreage or value of compensatory mitigation for the loss of aquatic habitat for vernal pool crustaceans and giant gartersnake (discussed in Impacts BIO-5 and BIO-7) may be counted toward compensatory mitigation for waters of the United States. The minimum compensation ratio for wetlands and other waters shall be 1:1 (1 acre of wetland or other waters habitat credit for every 1 acre of impact) to ensure no net loss of habitat functions and values.</p>	Prior to construction	CCJPA designee (Construction Contractor, UPRR, and/or Caltrans)	CCJPA	
<p>BIO-2a: Minimize potential for the long-term loss of riparian communities. To the extent possible, UPRR shall ensure that the contractor minimizes the potential for the long-term loss of riparian vegetation by trimming vegetation rather than removing entire shrubs. Shrubs that need to be trimmed shall be cut at least 1 foot above ground level to leave the root systems intact and allow for more rapid regeneration. Cutting shall be limited to the minimum area necessary within the construction zone. Cutting shall be allowed only for shrubs (all trees shall be avoided) in areas that do not provide habitat for special-status species. Disturbance or removal of vegetation shall not exceed the minimum necessary to complete construction and future operations. Except for the vegetation specifically identified for trimming and/or removal in the notification, no native oak trees with a trunk diameter at breast height (dbh) greater than 6 inches will be removed or damaged without prior consultation and approval. Using hand tools (e.g., clippers, chainsaw), trees may be trimmed to the extent necessary to gain access to the work sites. All cleared material/vegetation shall be removed out of the riparian/stream zone.</p> <p>SRA habitat or natural woody riparian habitat shall be avoided or preserved to the maximum extent practicable. Emergent and submergent vegetation shall be retained where feasible.</p>	Prior to construction	CCJPA designee (Construction Contractor, UPRR, and/or Caltrans)	CCJPA	



Mitigation Measures	Monitoring Phase or Milestone	Implementing Party	Enforcement Agency	Verified Date/Initial
<p>BIO-2b: Compensate for the loss of riparian communities (including SRA cover). UPRR shall compensate for temporary and permanent impacts on riparian communities and the associated SRA cover by preparing and implementing a riparian mitigation plan. The primary goals of the plan will be to compensate for Project-related loss or degradation of riparian habitats toward achieving no net loss of habitat acreage and functions over the long term through vegetation planting, habitat enhancement, and/or offsite compensation (mitigation bank credit purchase). The plan shall consider and incorporate the applicable policies (CO- 58, CO-59, CO-60, CO-61, CO-62, CO-138, CO-139, CO-140, and CO-141) in the Sacramento County 2030 General Plan (Sacramento County 2011) and their associated implementation measures. The following compensatory mitigation options shall be described in detail in the plan.</p> <ul style="list-style-type: none"> • Mitigation bank credit purchase. UPRR may choose to purchase mitigation bank credits for non-SRA riparian communities if this approach is determined to be appropriate and is acceptable to the resource agencies. UPRR shall provide written evidence to the resource agencies that compensation has been established through the purchase of mitigation credits. The amount to be paid will be the fee that is in effect at the time the fee is paid. The mitigation will be approved by CDFW and may be modified during the permitting process. • Onsite and/or offsite restoration in the local watersheds. Restoration activities shall be undertaken for both SRA communities and non-SRA communities as specified below. Onsite restoration shall be required for all areas temporarily disturbed by construction. For onsite or offsite replacement plantings, UPRR shall prepare a mitigation planting plan that specifies the species list, number of each species, planting locations, and maintenance requirements. Plantings shall consist of cuttings taken from local plants or plants grown from local material. Planted species for mitigation plantings shall be similar to those removed from the PIA and shall include native species such as valley oak, Fremont cottonwood, Oregon ash, black willow, red willow, and arroyo willow. All plantings shall be fitted with exclusion cages or other suitable protection from herbivory. Plantings shall be irrigated for up to 3 years or until established. 	Prior to construction	CCJPA designee (Construction Contractor, UPRR, and/or Caltrans)	CCJPA	



Mitigation Measures	Monitoring Phase or Milestone	Implementing Party	Enforcement Agency	Verified Date/Initial
<p>Onsite restoration efforts should occur in the same year as construction impacts. Plantings shall be monitored annually for 3 years or as required in the Project permits. If 75 percent of the plants survive at the end of the monitoring period, the revegetation shall be considered successful. If the survival criterion is not met at the end of the monitoring period, planting and monitoring shall be repeated after mortality causes have been identified and corrected.</p> <p>Riparian forest compensation shall be consistent with the requirements of the local tree ordinances to ensure compensation for losses of individual protected trees.</p> <p>To provide a more accurate estimate of tree loss, an arborist survey shall be conducted upon completion of 90 percent design plans for the Project. In addition to a description of the potentially affected trees, the arborist survey report shall include the precise location of the trunk and the size of the dripline for all trees whose trunk or canopy overlap with the PIA.</p> <p>To satisfy NMFS and compensate for the loss of SRA cover, this measure includes the following provisions.</p> <ul style="list-style-type: none"> ○ Replace affected SRA cover vegetation at a 2:1 linear replacement ratio by planting native riparian trees in temporary impact areas and along existing unshaded banks (i.e., 2 linear feet replaced for every 1 foot affected). This ratio will be confirmed with NMFS and should be consistent with the BO issued for the Project. ○ Plant native riparian trees onsite to the maximum extent practicable, followed by planting on adjacent reaches of affected streams to minimize the need for offsite mitigation. ○ Plant riparian trees that are intended to provide SRA cover along the water's edge at summer low flows and at levels sufficiently dense to provide shade along at least 85 percent of the bank's length when the plant reaches maturity. ○ Ensure that riparian plantings intended for SRA cover mitigation are planted within 10 feet (horizontal distance) of the summer wetted channel. 				



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<p>This maximum planting distance will ensure that riparian plantings will contribute to SRA cover once they approach maturity.</p> <ul style="list-style-type: none"> ○ Monitor and evaluate the revegetation success of riparian plantings intended for SRA cover mitigation as described above. 				
<p>BIO-3: Implement measures to avoid long-term effects on special-status plants documented in the Project impact area. If special-status plant species are found during the floristic survey, to the extent practicable and in consideration of other design requirements and constraints (e.g., meeting Project objectives and needs, avoidance of other sensitive resources) UPRR shall design the third track alignment to avoid or minimize potential impacts on special-status plants. If special-status plants cannot be avoided, UPRR shall consult with CDFW and USFWS (if federally listed species are found) to determine the appropriate compensatory measures for direct and indirect impacts that could result from Build Alternative construction.</p> <p>Measures may include preserving and enhancing existing populations, creation of offsite populations on Project mitigation sites through seed collection or transplantation, and restoring or creating suitable habitat in sufficient quantities to achieve no net loss of occupied habitat or individuals. A mitigation and monitoring plan shall be developed that describes how unavoidable effects on special-status plants will be compensated.</p>	Prior to and during construction of Project	CCJPA designee (Construction Contractor, UPRR, and/or Caltrans)	CCJPA	
<p>BIO-4: Implement measures to avoid and minimize impacts on valley elderberry longhorn beetles and their habitat. A buffer zone of 100 feet or more shall be established and maintained around elderberry shrubs within the PIA, as feasible. Complete avoidance may be assumed when a 100-foot (or wider) buffer is established and maintained around elderberry plants with stems measuring 1 inch or more in diameter at ground level. In addition, the following avoidance and minimization efforts shall be implemented for construction operations in the vicinity of any elderberry shrubs that are not removed.</p> <ul style="list-style-type: none"> • All areas to be avoided during construction activities, specifically the 100-foot buffer zone around elderberry shrubs, shall be fenced and flagged. In areas where encroachment on the 100-foot buffer has been approved by USFWS, a minimum setback of at least 20 feet from the dripline of each elderberry shrub shall be 	Prior to and during construction of Project	CCJPA designee (Construction Contractor, UPRR, and/or Caltrans)	CCJPA	



Mitigation Measures	Monitoring Phase or Milestone	Implementing Party	Enforcement Agency	Verified Date/Initial
<p>provided to the extent practicable. In some cases, construction activity may be required within 20 feet of a shrub; in such cases, k-rails shall be placed at the greatest possible distance from the shrubs.</p> <ul style="list-style-type: none"> • Signage shall be erected every 50 feet along the edge of avoidance areas with the following information: "This area is habitat of the valley elderberry longhorn beetle, a federally listed threatened species, and must not be disturbed. This species is protected by the Endangered Species Act of 1973, as amended. Violators are subject to prosecution, fines, and imprisonment." The signage shall be clearly readable from a distance of 20 feet and shall be maintained for the duration of construction. • Preconstruction surveys shall be conducted for elderberry shrubs in the PIA and within 100 feet of the PIA. Preconstruction surveys shall be conducted to comply with mitigation measures. • Temporary construction impacts within the buffer area (i.e., within 100 feet of elderberry shrubs) shall be restored. If any portion of the buffer area is temporarily disturbed during construction, it shall be revegetated with native plants and erosion control shall be provided. • No insecticides, herbicides, fertilizers, or other chemicals that might harm the beetle or its host plant shall be used within 100 feet of any elderberry plant with one or more stems measuring 1 inch or more in diameter at ground level. All drainage water during and following construction shall be diverted away from elderberry shrubs. • A written description of how buffer areas are to be restored, protected, and maintained after construction is completed shall be provided to USFWS. Mowing of grass can occur from July through April to reduce fire hazard; however, no mowing should occur within 5 feet of elderberry shrub stems. Mowing shall be conducted in a manner to avoid damaging shrubs. • Dirt roadways and other areas of disturbed bare ground within 100 feet of elderberry shrubs shall be watered at least twice a day to minimize dust emissions. Water shall not be sprayed directly on elderberry shrubs to avoid attracting Argentine ants. 				



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<ul style="list-style-type: none"> • For those shrubs that require being moved, direct impacts on valley elderberry longhorn beetles could occur during transplanting. Transplanting of elderberry shrubs has the potential to result in take of individual beetles because larvae or adults, if present in the stems, could be crushed or dislodged from the stems and become separated from the shrub. Transplanted elderberry shrubs may also experience stress, decline in health, or die due to changes in soil, hydrology, microclimate, or associated vegetation. The following measures shall be implemented in the event that transplantation or replacement of existing elderberry shrubs is required. <ul style="list-style-type: none"> ○ The transplantation guidelines outlined in the Conservation Guidelines for the Valley Elderberry Longhorn Beetle (U.S. Fish and Wildlife Service 1999) shall be followed. These transplantation guidelines dictate the necessary timing and details of the transplanting. At the discretion of USFWS, shrubs that are unlikely to survive transplantation because of poor condition or location, or plants that would be extremely difficult to move because of access problems, may be exempted from transplantation. ○ The loss of elderberry shrubs that must be transplanted or removed to facilitate construction of the Project shall be mitigated according to the requirements contained in the Conservation Guidelines for the Valley Elderberry Longhorn Beetle (U.S. Fish and Wildlife Service 1999). Elderberry shrubs shall be transplanted to or replaced in an offsite conservation area along with the appropriate number of elderberry seedlings/cuttings and associative native species as described in the Guidelines. ○ In cases where transplantation is not possible, minimization ratios shall be increased to offset the additional habitat loss. ○ Each elderberry stem measuring 1 inch or more in diameter at ground level that is adversely affected (i.e., transplanted, removed, or trimmed) shall be replaced, in the conservation area, with elderberry seedlings or cuttings at a ratio ranging from 1:1 to 8:1 (new plantings to affected stems) depending on the size class of the affected stem, presence or absence of exit holes, and whether the shrub is located in a riparian or a nonriparian area. 				



Mitigation Measures	Monitoring Phase or Milestone	Implementing Party	Enforcement Agency	Verified Date/Initial
<p>BIO-5: Compensate for direct and indirect effects on vernal pool fairy shrimp and vernal pool tadpole shrimp habitat. UPRR shall compensate for direct and indirect effects on vernal pool fairy shrimp and vernal pool tadpole shrimp habitat by implementing habitat preservation and creation as mitigation. Mitigation credits shall be purchased prior to commencement of any Project activities that could result in habitat loss or degradation.</p> <ul style="list-style-type: none"> • Habitat preservation: UPRR shall compensate for the direct permanent and temporary loss of habitat and indirect (habitat degradation) impacts on habitat for vernal pool fairy shrimp and vernal pool tadpole shrimp at a ratio of 2:1 by purchasing vernal pool preservation credits from a USFWS-approved conservation bank. • Habitat creation: UPRR shall compensate for the direct permanent or temporary loss of habitat for vernal pool fairy shrimp and vernal pool tadpole shrimp at a ratio of 1:1 by purchasing vernal pool creation credits from a USFWS-approved conservation bank. 	Prior to construction	CCJPA designee (Construction Contractor, UPRR, and/or Caltrans)	CCJPA	
<p>BIO-6: Implement avoidance and minimization measures to reduce potential impacts on special-status fish. UPRR shall comply with all water pollution protection provisions and conditions established by all regulatory authorities with jurisdiction over the Project. These measures include but are not limited to those listed below.</p> <ul style="list-style-type: none"> • Risk of direct take of special-status fish species will be minimized by avoiding in-channel construction on the main channel of the American River during the peak migration period (November through May). • Prior to excavation activities at abutments, temporary sediment control structures shall be placed downslope of the area where disturbance of native soil is anticipated. Excavated soil shall be hauled away from the job site and disposed of at an appropriately permitted disposal facility. • All disturbed areas that will not be covered by paving shall be stabilized to prevent erosion by using temporary soil stabilization BMPs. An erosion control and water quality protection plan shall be prepared subject to review and 	Prior to and during construction of Project	CCJPA designee (Construction Contractor, UPRR, and/or Caltrans)	CCJPA	



Mitigation Measures	Monitoring Phase or Milestone	Implementing Party	Enforcement Agency	Verified Date/Initial
<p>approval by the Central Valley Water Board. The plan will include but not be limited to the following measures to protect water quality during construction</p> <ul style="list-style-type: none"> ○ Construction activities within the area delineated by the OHWM on both sides shall be limited to the period from May 30 to October 1 of each construction year. ○ Construction activities that take place between October 15 and May 15 within the leveed floodway, but above the OHWM, shall be limited to those actions that can adequately withstand high river flows without resulting in the inundation of and entrainment of materials during flood flows. ○ Temporary stockpiling of construction material, including vehicles, portable equipment, supplies, fuels and chemicals, and stockpiled or exposed soils, shall be restricted to designated construction staging areas within the PIA. ○ Sheet metal cofferdams shall be used for all areas of extended in-water work, and pumped water will be routed to either: (1) a sedimentation pond located on a flat stable area above the OHWM that prevents silt-laden runoff to enter the river, or (2) a sedimentation tank/holding facility that allows only clear water to return to the river, with settled solids disposed of at an appropriate offsite location. ○ Erosion control measures that prevent soil or sediment from entering the river shall be implemented, monitored for effectiveness, and maintained throughout construction operations. ○ Refueling of construction equipment and vehicles within the leveed floodway shall only occur where conditions meet all the following criteria: above the OHWM; within designated, paved, bermed areas where possible spills shall be readily contained; and away from all wetlands avoidance areas. ○ Truck and cement equipment shall not be cleaned within the leveed floodway. Equipment and vehicles operated within the leveed floodway shall be checked and maintained daily prior to operation to prevent leaks of fuels, lubricant, or other fluids to the river. 				



Mitigation Measures	Monitoring Phase or Milestone	Implementing Party	Enforcement Agency	Verified Date/Initial
<ul style="list-style-type: none"> ○ Litter and construction debris shall be removed from below the OHWM daily and disposed of at an appropriate site. All litter, debris, unused materials, equipment, and supplies shall be removed from construction staging areas above the OHWM at the end of each summer construction season. ○ No onsite harvesting of in-situ gravels shall be allowed for temporary landings and ramps. Where additional earth material is required below the OHWM, clean gravels (from an offsite commercial/permitted source) shall be the preferred material. If another type of engineered fill is required, it shall likewise be obtained from an offsite permitted source, and all excess earth material shall be properly disposed of outside the leveed floodway upon completion of the construction phase. If CDFW determines that the excess gravels used for fill would benefit fisheries, these gravels may be left onsite, consistent with an approved CDFW Streambed Alteration Agreement. ● An effluent monitor plan that includes routine monitoring and reporting of discharge water and receiving water conditions must be prepared by the contractor and approved by the Central Valley Water Board. ● All tailings and drilling fluids from the construction of any cast-in-hole pilings for the new railroad bridge shall be contained and end-hauled from the site for proper disposal. ● To avoid or minimize potential impacts on listed salmonids related to increased turbidity and sedimentation, turbidity increases associated with Project construction activities should not exceed the Central Valley Water Board water quality objectives for turbidity in the Sacramento River Basin (California Regional Water Quality Control Board Central Valley Region 2011). Turbidity levels are defined in nephelometric turbidity units (NTUs). The current threshold for turbidity levels in the American River, as listed in the Water Quality Control Plan for the Central Valley, is 10 NTUs. Increases in turbidity attributable to controllable water quality factors in response to Project activities may not exceed the following limits. 				



Mitigation Measures	Monitoring Phase or Milestone	Implementing Party	Enforcement Agency	Verified Date/Initial
<ul style="list-style-type: none"> ○ Where natural turbidity is between 0 and 5 NTUs, increases shall not exceed 1 NTU. ○ Where natural turbidity is greater than 5 NTUs, increases shall not exceed 20 percent. <p>To ensure that turbidity levels do not exceed these thresholds during instream Project construction activities, UPRR shall retain a qualified water quality specialist to monitor turbidity levels from 50 feet upstream to 300 feet downstream of the point of in-stream construction activities. When construction activities potentially have the greatest water quality impact (e.g., during installation of temporary construction platform), water samples shall be collected four times daily or as outlined by the agencies. In the event of a detectable plume, work shall halt until the plume has dissipated to satisfactory levels.</p>				
<p>BIO-7: Implement avoidance and minimization measures to reduce potential impacts on giant gartersnake. In areas that are identified as suitable upland and aquatic habitat for giant gartersnake, the following avoidance and minimization measures shall be implemented in accordance with the programmatic consultation.</p> <ul style="list-style-type: none"> • Minimize disturbed areas to only those required to complete Project construction. • Limit construction windows to warm months (May 1–October 1) when snakes are more likely to be active and able to avoid construction activities. • Use exclusionary fencing to avoid wetland and other areas outside the proposed construction ROW. • Survey for giant gartersnakes in suitable aquatic or upland habitat in the PIA and within 200 feet of the PIA within 24 hours prior to the onset of construction and any time activities are halted for more than 2 weeks thereafter. • Allow any giant gartersnakes encountered to move away from construction activities on their own. 	Prior to and during construction of Project	CCJPA designee (Construction Contractor, UPRR, and/or Caltrans)	CCJPA	



Mitigation Measures	Monitoring Phase or Milestone	Implementing Party	Enforcement Agency	Verified Date/Initial
<ul style="list-style-type: none"> Prohibit the use of plastic, monofilament, jute, or similar erosion control matting that could entangle snakes in the PIA. In giant gartersnake habitat, restore temporary impact areas to pre-project conditions within the same season or, at most, the same calendar year. Monitor restored habitat and the construction zone for 1 calendar year, including a photo documentation report containing pre- and postconstruction photos, for submittal to USFWS 1 year from the date the restoration is completed. Permanent Project-related impacts on aquatic and upland GGS habitat shall be replaced at a minimum ration of 3:1 (acres preserved to acres affected). 				
<p>BIO-8: Implement measures to avoid and minimize impacts on western pond turtles. UPRR shall implement the following measures to avoid and minimize impacts on western pond turtle.</p> <ul style="list-style-type: none"> Preconstruction surveys for western pond turtle shall be conducted within the BSA by a CDFW-approved biologist prior to the initiation of construction activities. If western pond turtle is found in the BSA during preconstruction surveys, CDFW shall be notified within 72 hours to determine the appropriate measures to prevent impacts on the species. A qualified biologist shall be present during initial construction activities in Dry Creek, Magpie Creek, and the American River and during any dewatering activities. If any western pond turtles are observed in the construction area, including any dewatered areas, they shall be captured and relocated to an appropriate location up or downstream of the construction area 	Prior to and during construction of Project	CCJPA designee (Construction Contractor, UPRR, and/or Caltrans)	CCJPA	
<p>BIO-9: Implement measures to avoid and minimize impacts on tricolored blackbirds during the breeding season. If construction is scheduled to start during the breeding season (February 15–September 15), UPRR shall retain a CDFW-approved biologist to conduct preconstruction surveys for tricolored blackbird in the BSA. If tricolored blackbird nesting colonies are found in the BSA during pre-construction surveys, CDFW shall be notified within 72 hours to determine the appropriate measures to prevent impacts on the species. At a minimum, a 250-foot no disturbance buffer shall be established between the nesting colony and Project activities. The buffer distance</p>	Prior to and during construction of Project	CCJPA designee (Construction Contractor, UPRR, and/or Caltrans)	CCJPA	



Mitigation Measures	Monitoring Phase or Milestone	Implementing Party	Enforcement Agency	Verified Date/Initial
<p>may be modified based on coordination with CDFW and additional avoidance measures, such as periodic monitoring, may be required to ensure that the buffer distance is sufficient to avoid adverse effects.</p>				
<p>BIO-10a: Implement measures to avoid and minimize impacts on Swainson’s hawk and other nesting raptors. UPRR shall implement the following measures to avoid and minimize impacts on Swainson’s hawk and other nesting raptors.</p> <ul style="list-style-type: none"> • If construction activities occur during the Swainson’s hawk nesting period (February 15–September 15), UPRR shall retain a qualified biologist to conduct preconstruction surveys to identify active nests in accessible areas within 0.5 mile of the PIA according to the Recommended Timing and Methodology for Swainson’s Hawk Nesting Surveys in California’s Central Valley established by the Swainson’s Hawk Technical Advisory Committee (2000). The surveys shall be conducted before the approval of grading and/or improvement plans (as applicable) and no more than 14 days before the beginning of construction for all Project phases. If no nests are found, no further measures are required. • If active nests are found, impacts on nesting Swainson’s hawk shall be avoided by establishment of a 1,000-foot no-disturbance buffer between the nest and Project activities. No Project activity shall commence within the buffer area until a qualified biologist confirms that any young have fledged and the nest is no longer active. The size of the buffer may be adjusted if a qualified biologist and the City of Sacramento, in consultation with CDFW, determine that such an adjustment would not be likely to adversely affect the nesting hawks. If the buffer distance is reduced, nest monitoring may be required by CDFW to ensure that the Project does not result in adverse effects (nest failure). • If construction begins during the typical breeding season for other raptors (February 15– September 15), preconstruction surveys shall be conducted by a qualified biologist within 72 hours prior to commencement of construction to determine presence/absence of nests in and directly adjacent to the BSA. If no nests are found during the survey, no further actions are necessary. If construction begins outside the breeding season, no preconstruction surveys are necessary. 	<p>Prior to and during construction</p>	<p>CCJPA designee (Construction Contractor, UPRR, and/or Caltrans)</p>	<p>CCJPA</p>	



Mitigation Measures	Monitoring Phase or Milestone	Implementing Party	Enforcement Agency	Verified Date/Initial
<ul style="list-style-type: none"> If active nests for other raptors are identified during the preconstruction surveys, they shall be protected during the breeding season while the nest is occupied by adults or young. The occupied nest shall be monitored by a qualified biologist to determine when the nest is no longer in use. Protection will include the establishment of a 500-foot no-disturbance buffer around the nest, and highly visible temporary construction fencing will delineate the identified buffer zone. This buffer may be reduced in areas with dense vegetation, buildings, or other habitat features between Project activities and the active nest, or as determined by a qualified biologist coordinating with CDFW. No construction shall take place within this buffer zone unless approved by CDFW. 				
<p>BIO-10b: Implement measures to avoid and minimize impacts on burrowing owls. The following avoidance and minimization measures for western burrowing owl shall be implemented to reduce potential impacts on the species.</p> <ul style="list-style-type: none"> A qualified biologist shall conduct western burrowing owl surveys inside and adjacent to the PIA to identify burrow locations within 14 days prior to site mobilization in accordance with the 2012 Staff Report on Burrowing Owl Mitigation (California Department of Fish and Wildlife 2012). If construction is delayed or suspended for more than 30 days after the survey, the area shall be resurveyed. Surveys for occupied burrows shall be completed within all construction areas and within 250 feet from the proposed Project work areas (where possible and appropriate based on habitat). All occupied burrows will be mapped on an aerial photo. At least 15 days prior to the expected start of any Project-related ground-disturbing activities or the restart of activities, UPRR shall report any western burrowing owl observations to the CNDDDB. If no burrowing owls are detected during the preconstruction survey, no further action is necessary. Based on the burrowing owl survey results, the following actions shall be taken by UPRR to offset impacts on occupied burrows during construction (as outlined in the 2012 Staff Report on Burrowing Owl Mitigation) 	Prior to and during construction of Project	CCJPA designee (Construction Contractor, UPRR, and/or Caltrans)	CCJPA	

Mitigation Measures	Monitoring Phase or Milestone	Implementing Party	Enforcement Agency	Verified Date/Initial
<ul style="list-style-type: none"> ○ During the nonbreeding season (September 1–January 31), no disturbance shall occur within an approximately 160-foot radius of an occupied burrow. During the nesting season (February 1–August 31), occupied burrows shall not be disturbed within an 820- foot radius unless a CDFW-approved biologist verifies through noninvasive methods that either (1) the birds have not begun egg-laying and incubation, or (2) that juveniles from the occupied burrows are foraging independently and are capable of independent survival. ○ If owls must be moved away from the disturbance area, passive relocation techniques (as outlined by CDFW [i.e., use of one-way doors]) rather than trapping should be used. At least 1 or more weeks will be necessary to accomplish this and allow the owls to acclimate to alternate burrows. ○ If unpaired or paired owls are present in or adjacent to areas scheduled for disturbance or degradation (e.g., grading) and nesting is not occurring, owls are to be removed per CDFW-approved passive relocation protocols. Passive relocation requires the use of one-way exclusion doors, which must remain in place at least 48 hours prior to site disturbance to ensure that owls have left the burrow prior to construction. For active burrows with nonbreeding owls that are outside the PIA but within 150 of Project activities, CDFW shall be consulted to determine if relocation is necessary. An exclusion plan shall be required subject to CDFW approval. ○ If paired owls are nesting in areas scheduled for disturbance or degradation, nest(s) shall be avoided from February 1 through August 31 by establishing a minimum 500- foot no-disturbance buffer or until fledging has occurred. Following fledging, owls may be passively relocated. This buffer may be reduced in areas with dense vegetation, buildings, or other habitat features between Project activities and the active nest, or as determined by a qualified biologist coordinating with CDFW. 				
<p>BIO-11: Implement measures to avoid and minimize impacts on other migratory birds. UPRR shall implement the following measures to avoid and minimize impacts to other migratory birds.</p>	Prior to and during construction	CCJPA designee (Construction Contractor,	CCJPA	



Mitigation Measures	Monitoring Phase or Milestone	Implementing Party	Enforcement Agency	Verified Date/Initial
<ul style="list-style-type: none"> If construction begins during the typical breeding season for migratory birds (February 15–September 15), preconstruction surveys shall be conducted by a qualified biologist within 72 hours prior to commencement of construction to determine presence/absence of nests in and directly adjacent to the BSA. If no nests are found during the survey, no further actions are necessary. If construction begins outside the breeding season, no preconstruction surveys are necessary. If active bird nests are identified during the preconstruction surveys, they shall be protected during the breeding season while the nest is occupied by adults or young. The occupied nest shall be monitored by a qualified biologist to determine when the nest is no longer in use. Protection shall include the establishment of a minimum 50-foot no-disturbance buffer around the nest and highly visible temporary construction fencing will delineate the identified buffer zone. The extent of the buffer shall be determined by a qualified biologist, coordinating with USFWS as necessary, and shall be based on the species, type of construction activity, presence of barriers between the nest and Project activities, and ambient noise levels. <p>The following additional avoidance and minimization measures shall be incorporated if nesting barn or cliff swallows, black phoebes, purple martins, or song sparrows are identified in the BSA. Swallows, black phoebes, and purple martins could attempt to establish nests and/or occupy existing nests under bridges in the BSA prior to construction. The following measures shall be followed to prevent impacts on bridge-nesting swallows, black phoebes, or other migratory birds.</p> <ul style="list-style-type: none"> All existing unoccupied swallow and black phoebe nests found on the undersides of the bridges shall be removed between September 16 and February 14 prior to the year of construction. Exclusionary netting shall be installed around the undersides of the bridges before February 15 of the construction year to prevent new nests from being constructed and to prevent the reoccupation of existing nests that were not removed. Netting will remain in place until the end of the typical nesting season (September 15) or the completion of construction activities, whichever is first. During the nesting season, the netting shall be monitored weekly to ensure that it remains intact and does not 		UPRR, and/or Caltrans)		

Mitigation Measures	Monitoring Phase or Milestone	Implementing Party	Enforcement Agency	Verified Date/Initial
<p>entrap birds. More frequent monitoring visits shall be made as necessary, especially in areas with high foot-traffic.</p>				
<p>BIO-12: Implement measures to avoid and minimize impacts on pallid bats. UPRR shall implement the following measures to avoid and minimize impacts on bats.</p> <ul style="list-style-type: none"> • Preconstruction visual bat surveys shall be conducted by a bat specialist to inspect the undersides of bridges and potential roost trees in the BSA for roosting bats within 72 hours prior to commencement of construction. If no potential bat roosts are found, no further actions are necessary. • If construction activities in the vicinity of potential roosting sites stop for a period of 2 weeks or longer, surveys shall be repeated prior to reinitiating construction activities. • If an active bat roost is identified during the preconstruction survey but the structure or tree will not be disturbed, then the roost shall be identified as a sensitive resource and will be avoided; no additional measures are necessary. • If it is determined that bats are using bridges/structures or trees that will be removed or disturbed, the bat specialist shall consult with CDFW to identify protective measures to avoid and minimize impacts on roosting bats based on the type of roost and timing of activities. These measures could include but are not limited to the following. <ul style="list-style-type: none"> ○ If feasible, tree removal/trimming and removal or modification of structures containing an active roost shall be avoided between April 15 and September 15 (the maternity period) to avoid impacts on reproductively active females and dependent young. ○ If a nonmaternity roost is located within a structure that would be removed or modified in a manner that would expose the roost, bats shall be excluded from the structure by a qualified wildlife management specialist working with a bat biologist. An exclusion plan shall be developed in coordination with CDFW that identifies the type of exclusion material/devices to be used, the location and method for installing the devices, and a monitoring schedule for checking the effectiveness of the 	<p>Prior to and during construction</p>	<p>CCJPA designee (Construction Contractor, UPRR, and/or Caltrans)</p>	<p>CCJPA</p>	



Mitigation Measures	Monitoring Phase or Milestone	Implementing Party	Enforcement Agency	Verified Date/Initial
<p>devices. Because bats are expected to tolerate temporary construction noise and vibrations, bats will not be excluded from structures if no direct impacts on the roost are anticipated.</p> <ul style="list-style-type: none"> ○ If a maternity roost is located, whether solitary or colonial, that roost shall remain undisturbed until September 15 or until a qualified biologist has determined that the roost is no longer active. ○ If avoidance of nonmaternity roost trees is not possible, tree removal or trimming shall be monitored by a qualified biologist. Prior to removal/trimming, the tree will be gently shaken, and several minutes should pass before felling trees or trimming limbs to allow bats time to arouse and leave the tree. The tree then will be removed in pieces, rather than felling the entire tree. ● At the discretion of UPRR, additional bat boxes could be installed along Dry and Magpie Creeks and the American River to provide alternate roost sites for any bats displaced by construction activities. 				
<p>BIO-14: Avoid and minimize the spread of invasive plant species during Project construction. UPRR or its contractor shall be responsible for avoiding and minimizing the introduction of new invasive plants and the spread of invasive plants previously documented in the BSA. Two or more of the BMPs listed below shall be written into the construction specifications and implemented during Project construction.</p> <ul style="list-style-type: none"> ● Retain all fill material onsite to prevent the spread of invasive plants to uninfested areas. ● Use a weed-free source for erosion control materials (e.g., straw wattles for erosion control that are weed-free or contain less than 1 percent weed seed). ● Prevent invasive plant contamination of Project materials during transport and when stockpiling (e.g., by covering soil stockpiles with a heavy-duty, contractor-grade tarpaulin). ● Use sterile wheatgrass seed and native plant stock during revegetation. 	Prior to and during construction	CCJPA designee (Construction Contractor, UPRR, and/or Caltrans)	CCJPA	



Mitigation Measures	Monitoring Phase or Milestone	Implementing Party	Enforcement Agency	Verified Date/Initial
<ul style="list-style-type: none"> Revegetate and/or mulch disturbed soils within 30 days of completion of ground-disturbing activities to reduce the likelihood of invasive plant establishment. <p>The goal for implementation of two or more of these BMPs is to minimize the disturbance and transport of soil and vegetation to the greatest extent feasible to complete the work. Detailed information about implementing these BMPs can be found in Cal-IPC's Preventing the Spread of Invasive Plants: Best Management Practices for Transportation and Utility Corridors (2012).</p>				
<p>CUL-1a: Conduct archaeological presence/absence testing in areas of the APE adjacent to the American River prior to final design. Prior to completion of final design, CCJPA shall retain a qualified archaeologist meeting the Secretary of Interior's Standards for archeological documentation, to conduct archaeological presence/absence testing in areas of the APE adjacent to the American River where bridge construction activities shall occur. The purpose of the testing will be to determine whether buried archaeological resources are present in these portions of the APE. The study shall include contacting the NAHC and interested parties, conducting presence/absence testing, and reporting.</p> <p>The testing shall consist of at least six mechanically excavated trenches, three on each side of the American River where the proposed bridge would be constructed. All attempts shall be made to place trenches in those locations where the proposed bridge footings would be located.</p> <p>Trenches shall measure at least 15 feet long and shall be excavated with a backhoe equipped with a bucket at least 3 feet wide. Trenches shall be excavated to at least 2 feet below the maximum depth of ground disturbance that would result from bridge construction, or until trenching is no longer feasible or safe.</p> <p>An archaeologist shall study excavated sediments placed in backfill piles on a backhoe bucket-by-bucket basis and shall examine trench sidewalls for evidence of archaeological deposits.</p> <p>When potential archaeological material is observed in either excavated sediments or trench sidewalls, an archaeologist shall enter trenches to better view the material and</p>	Prior to completion of final design	CCJPA	CCJPA	



Mitigation Measures	Monitoring Phase or Milestone	Implementing Party	Enforcement Agency	Verified Date/Initial
<p>determine its nature. Buried archaeological material can range from a single flake (lithic debitage) or discolored soil to an obvious buried midden component. Indicators of archaeological sensitivity or the presence of archaeological deposits may include patches of reddish oxidized soils, fire affected rock (FAR), carbon, bone, shell, or artifacts. The location and potential extent of the site shall be taken into consideration to determine appropriate next steps.</p> <p>For the purposes of the subsurface survey, the threshold for terminating the investigation and requiring either avoidance measures or archaeological evaluative testing shall be the identification of more than three pieces of lithic debitage per trench, any midden soil, formal tools, any culturally associated prehistoric faunal remains, any discrete prehistoric or historic-period features, or historic-period refuse with multiple artifact types.</p> <p>The archaeologist shall document the results of the testing in a cultural resources technical report. The report shall include: (1) a summary of relevant background information; (2) a complete discussion of methods and results; (3) recommendations of NRHP and CRHR eligibility for any identified resources; (4) assessment of Project impacts on the resources; and (5) recommended mitigation measures for any identified resources, if applicable. If a site is determined to be eligible for listing in the NHRP, further consultation with SHPO will be necessary for treatment of this site. Examples of potential treatment measures include modifying Project design for avoidance of identified archaeological resources and additional archaeological testing of the archaeological resources to evaluate them for NRHP-eligibility, eligibility as a historical resource pursuant to CEQA Guidelines Section 15064.5, and eligibility as a unique archaeological resource pursuant to PRC Section 21083.2.</p>				
<p>CUL-1b: Conduct archaeological construction monitoring during ground-disturbing activities in archaeologically sensitive areas and halt work if previously unrecorded cultural resources are encountered and determined to be NRHP eligible. CCJPA shall retain an archaeologist to conduct archaeological construction monitoring during ground-disturbing construction activities in previously undisturbed soil in archaeologically sensitive areas as identified in the cultural resources inventory and evaluation report (ICF International 2014). The monitoring shall be supervised by an archaeologist that meets the Secretary of Interior's Standards for archeological</p>	During ground-disturbing activities in archaeologically sensitive areas	CCJPA	CCJPA	



Mitigation Measures	Monitoring Phase or Milestone	Implementing Party	Enforcement Agency	Verified Date/Initial
<p>documentation. The onsite archaeological monitor shall observe the ground-disturbing activities to ensure that no archaeological material is present or disturbed during those activities. CCJPA may invite, and retain if so desired, a Native American monitor to assist in the archaeological monitoring. If potential archaeological material is observed, all work within 100 feet of the find shall cease, and the archaeologist and (if appropriate) a Native American representative shall assess the significance of the find. If the find is determined to be potentially (1) NRHP-eligible; (2) a historical resource pursuant to CEQA Guidelines Section 15064.5; or (3) a unique archaeological resource pursuant to PRC Section 21083.2, CCJPA shall consult with SHPO, appropriate Native American tribes, and other appropriate interested parties to determine treatment measures pursuant to 36 CFR 800.13.</p>				
<p>CUL-3: Conduct archaeological construction monitoring during ground-disturbing activities in archaeologically sensitive areas and halt work if human remains are encountered. CCJPA shall retain an archaeologist to conduct archaeological construction monitoring during ground-disturbing construction activities in previously undisturbed soil in archaeologically sensitive areas as identified in the cultural resources inventory and evaluation report (ICF International 2014). The monitoring shall be supervised by an archaeologist that meets the Secretary of Interior’s Standards for Archeology. The onsite archaeological monitor shall observe the ground-disturbing activities to ensure that no human remains are present or disturbed during those activities. CCJPA may invite, and retain if so desired, a Native American monitor to assist in the archaeological monitoring. During any Project excavation, regardless of the presence of an archaeological monitor, if human remains (or remains that are suspected to be human) are discovered, all work shall cease in the vicinity of the find (within a minimum of 100 feet) and the appropriate county coroner shall be notified immediately. If the coroner determines the remains to be Native American in origin, the coroner shall be responsible for notifying the NAHC, which will appoint a most-likely descendant (MLD) (PRC Section 5097.99). The archaeologist, CCJPA, lead federal agency, SHPO, and MLD shall make all reasonable efforts to develop an agreement for the dignified treatment of human remains and associated or unassociated funerary objects (CCR Title 14 Section 15064.5[d]). The agreement shall take into consideration the appropriate excavation, removal, recordation, analysis, custodianship, curation, and final disposition of the human remains and associated or unassociated funerary objects. The</p>	<p>During ground-disturbing construction activities in previously undisturbed archaeologically sensitive areas</p>	<p>CCJPA</p>	<p>CCJPA</p>	



Mitigation Measures	Monitoring Phase or Milestone	Implementing Party	Enforcement Agency	Verified Date/Initial
<p>MLD shall have 24 hours after notification by the NAHC to make their recommendation (PRC Section 5097.98). If the MLD does not agree to the reburial method, the Project shall follow PRC Section 5097.98(b), which states, “the landowner or his or her authorized representative shall reinter the human remains and items associated with Native American burials with appropriate dignity on the property in a location not subject to further subsurface disturbance.”</p>				
<p>GEO-8a: Educate construction personnel in recognizing fossil material. Prior to construction, UPRR shall ensure that all construction personnel receive training provided by a qualified professional paleontologist who is experienced in teaching non specialists to ensure that construction personnel can recognize fossil materials in the event any are discovered during construction.</p>	Prior to construction	CCJPA designee (Construction Contractor, UPRR, and/or Caltrans)	CCJPA	
<p>GEO-8b: Stop work if substantial fossil remains are encountered during construction. If substantial fossil remains (particularly vertebrate remains) are discovered during earth disturbing activities, the construction contractor shall stop activities immediately until a State registered professional geologist or qualified professional paleontologist can assess the nature and importance of the find and a qualified professional paleontologist can recommend appropriate treatment. Treatment may include preparation and recovery of fossil materials so that they can be housed in an appropriate museum or university collection and may also include preparation of a report for publication describing the finds. UPRR shall be responsible for ensuring that recommendations regarding treatment and reporting are implemented.</p>	During construction	CCJPA designee (Construction Contractor, UPRR, and/or Caltrans)	CCJPA	
<p>GEO-8c: Retain a qualified professional paleontologist to monitor significant ground-disturbing activities. Prior to construction, UPRR shall retain a qualified professional paleontologist as defined by SVP’s Standard Procedures for the Assessment and Mitigation of Adverse Impacts to Paleontological Resources (2010) to monitor activities with the potential to disturb sensitive paleontological resources. Data gathered during detailed Project design shall be used to determine the activities that will require the presence of a monitor. In general, these activities include any ground-disturbing activities involving excavation deeper than 3 feet in areas with high potential to contain sensitive paleontological resources. Recovered fossils shall be prepared so that they can be properly documented. Recovered fossils shall then be curated at a</p>	Prior to and during construction	CCJPA designee (Construction Contractor, UPRR, and/or Caltrans)	CCJPA	

Mitigation Measures	Monitoring Phase or Milestone	Implementing Party	Enforcement Agency	Verified Date/Initial
facility that will properly house and label them, maintain the association between the fossils and field data about the fossils' provenance, and make the information available to the scientific community.				
HAZ-1: Ensure safe handling and storage of hazardous materials. Before the commencement of Project construction, the construction contractor shall ensure that any employee handling hazardous materials is trained in the safe handling and storage of hazardous materials per all applicable regulations (e.g., OSHA hazardous materials standards listed in 29 CFR 1910 Subpart H), and staging areas where hazardous materials would be stored during construction shall be identified in accordance with applicable state and federal regulations. Similarly, during operations, UPRR and CCJPA personnel shall be likewise trained in the safe handling and storage of hazardous materials.	Before the commencement of Project construction; during operations	CCJPA designee (Construction Contractor, UPRR, and/or Caltrans)	UPRR; CCJPA	
HAZ-2a: Conduct Phase II Environmental Site Assessment studies. Prior to construction of the Build Alternative, Phase II soil studies shall be conducted to assess areas of proposed improvements to provide site-specific data upon which to rely when developing the Soil Management Plan (discussed in Mitigation Measure HAZ-3). The Phase II studies can include but are not limited to the following. <ul style="list-style-type: none"> • A scope of work consisting of prefield activities, such as preparation of a Health and Safety Plan (HASP), marking boring locations, and obtaining utility clearance; and field activities, such as identifying appropriate sampling procedures, health and safety measures, chemical testing methods, and quality assurance/quality control (QA/QC) procedures in accordance with the ASTM Standard. • Necessary permits for boring advancement. • A Sampling and Analysis Plan (SAP) in accordance with the scope of work. • Laboratory analyses conducted by a state-certified laboratory. 	Prior to construction	CCJPA designee (Construction Contractor, UPRR, and/or Caltrans)	CCJPA	
HAZ-2b: Prepare a Soil Management Plan. The Soil Management Plan (SMP) shall address the concerns associated with releases of contaminated soil within and adjacent to the railroad ROW and railyard areas. The SMP shall include specifications for procedures to manage affected soil during construction.	Prior to construction	CCJPA designee (Construction Contractor,	CCJPA	

Mitigation Measures	Monitoring Phase or Milestone	Implementing Party	Enforcement Agency	Verified Date/Initial
		UPRR, and/or Caltrans)		
<p>HAZ-4: Minimize risk of wildland fire. Before the commencement of construction of the Build Alternative, the construction contractor shall ensure that staging areas, welding areas, or other areas slated for construction equipment are cleared of dried vegetation or other materials that could serve as fire fuel. Any construction equipment that normally includes a spark arrester shall be equipped with an arrester in good working order.</p>	Prior to construction	CCJPA designee (Construction Contractor, UPRR, and/or Caltrans)	CCJPA	
<p>NOI-1a: Implement Noise Control Plan and noise-reducing construction practices. The construction contractor shall implement noise-reducing construction practices to limit construction noise to the maximum levels recommended by FTA. On days when work is limited to the hours of 7:00 a.m. to 10:00 p.m., the 1-hour Leq at any noise-sensitive receiver shall be limited to 77 dBA where feasible. On days when work will include nighttime activity, the 1-hour Leq at any noise sensitive receiver shall be limited to 69 dBA. The construction contractor shall prepare a Noise Control Plan that demonstrates how the contractor will comply with the noise limits specified above.</p> <p>Measures that can be implemented to control noise include but are not limited to the following.</p> <ul style="list-style-type: none"> • Use specialty equipment with enclosed engines and/or high-performance mufflers. • Locate equipment and staging areas as far from noise-sensitive receivers as possible. • Limit unnecessary idling of equipment. • Install temporary noise barriers between noise sources and noise sensitive uses. • Route construction-related truck traffic away from residential streets to the extent permitted by the relevant jurisdiction. 	During construction of Project	CCJPA designee (Construction Contractor, UPRR, and/or Caltrans)	CCJPA	

Mitigation Measures	Monitoring Phase or Milestone	Implementing Party	Enforcement Agency	Verified Date/Initial
<ul style="list-style-type: none"> Avoid impact pile driving when possible (the current construction plans do not include any impact pile driving). 				
<p>NOI-1b: Relocate special trackwork farther from sensitive receivers or install low-impact frog. One of the two noise mitigation options below shall be implemented to reduce predicted noise levels near crossovers to below the FTA/FRA moderate noise impact threshold.</p> <ul style="list-style-type: none"> Relocate the special trackwork so that it is farther from sensitive receivers. If the special trackwork cannot be relocated away from sensitive receivers, install a low-impact frog. 	During construction of the Project	CCJPA designee (Construction Contractor, UPRR, and/or Caltrans)	CCJPA	
<p>NOI-2a: Implement vibration-reducing construction practices. In the event that vibration generated by soil compaction and other high-vibration construction processes cause vibration inside residences that is intrusive to building occupants, one or more of the measures below shall be implemented to reduce the potential for annoyance from construction vibration.</p> <ul style="list-style-type: none"> Avoid performing high-vibration construction activities such as soil compaction and pile driving near residences. For example, use drilled piles instead of impact pile driving. Alert residents and building owners when there will be construction activities that could cause vibration amplitudes sufficient to be intrusive to building occupants. An understanding as to what is causing vibration can often reduce the potential for annoyance. Provide residents and building owners a liaison to contact for reporting vibration levels that are annoying. If a sufficient number of complaints are made, measure the vibration levels to determine if vibration reduction efforts are required. 	If applicable, during construction	CCJPA designee (Construction Contractor, UPRR, and/or Caltrans)	CCJPA	
<p>NOI-2b: Install low-impact frog. Install a low-impact frog at the crossover near cluster R5. A frog is the special insert used where two rails cross. Low-impact frogs are alternatives to typical frogs that provide a smoother transition through the gap in the</p>	Prior to construction	CCJPA designee (Construction Contractor,	CCJPA	

Mitigation Measures	Monitoring Phase or Milestone	Implementing Party	Enforcement Agency	Verified Date/Initial
rails, resulting in lower vibration levels. Examples of low-impact frogs include monoblock frogs, flange-bearing frogs, and moveable point frog.		UPRR, and/or Caltrans)		
REC 3a: Coordinate and provide advance notice of construction activities in Sutter's Landing Regional Park. UPRR shall coordinate construction activities at Sutter's Landing Regional Park with the City of Sacramento so that the City can inform users regarding construction activities. At least 10 days advance notice shall be provided regarding any trail closures or detours. To the extent possible, trails shall be kept open at all times.	Prior to construction	CCJPA designee (Construction Contractor, UPRR, and/or Caltrans)	CCJPA	
REC-3b: Maintain safe access to the Jedediah Smith Memorial Bike Trail and other trails. Because the Jedediah Smith Memorial Bike Trail passes beneath the existing trestle of the American River Bridge, a detour shall be implemented during construction of the new bridge to ensure that safe access remains available. Pedestrian, bike, and equestrian access to the river would be maintained. Similarly, access to the unnamed bike trail in Sutter's Landing Regional Park would be maintained by use of a detour.	Prior to construction	CCJPA designee (Construction Contractor, UPRR, and/or Caltrans)	CCJPA	
REC-3c: Maintain an open channel in the American River at all times. An open channel for boat traffic shall be maintained under the bridge at all times. Construction equipment in the river and other potential impediments to recreation shall be equipped with required safety markings (e.g., lights).	Prior to construction	CCJPA designee (Construction Contractor, UPRR, and/or Caltrans)	CCJPA	
REC-3d: Coordinate construction activities in the American River with Sacramento County and California State Parks. UPRR shall coordinate construction activities with Sacramento County and California State Parks, providing at least 10 days advance notice for any construction activities in the American River.	Prior to construction	CCJPA designee (Construction Contractor, UPRR, and/or Caltrans)	CCJPA	
REC-3e: Coordinate and provide advance notice of construction activities in the American River Parkway. UPRR shall coordinate construction activities in the American River Parkway with the Sacramento County Regional Parks Department at least 10 days in advance of start of construction and regularly while construction	Prior to and during Project construction	CCJPA designee (Construction Contractor,	CCJPA	



Mitigation Measures	Monitoring Phase or Milestone	Implementing Party	Enforcement Agency	Verified Date/Initial
activities are ongoing in the Parkway. Written notices regarding construction activities shall be regularly and prominently posted in the Parkway to keep the public informed.		UPRR, and/or Caltrans)		
REC-3f: Provide potential impediments to recreation with appropriate safety markings. All construction equipment and other potential impediments to recreational activities and access in the American River Parkway shall be equipped with required safety markings (e.g., lights, signage).	Prior to and during Project construction	CCJPA designee (Construction Contractor, UPRR, and/or Caltrans)	CCJPA	
<p>REC-3g: Compensate for loss of 0.14 acre of American River Parkway. In accordance with Section 5404 of the California Public Park Preservation Act, the loss of acreage at the American River Parkway shall be compensated for by either providing new acreage at a suitable location or improving the unacquired portion of the parkland and facilities.</p> <p>CCJPA shall work with the County of Sacramento to identify sites that are considered suitable as replacement land or to identify appropriate park improvements following the steps listed below.</p> <ul style="list-style-type: none"> • Conduct a fair-market value assessment of the value of the land being acquired. • Coordinate with the County regarding compensation and appropriate enhancement measures 	Prior to construction	CCJPA designee (Construction Contractor, UPRR, and/or Caltrans)	CCJPA	
<p>TRA-2: Implement site-specific construction traffic management plan (TMP). CCJPA, in coordination with UPRR, shall prepare site-specific TMPs for each road crossing prior to the initiation of construction. UPRR shall be responsible for Project management or may contract with one or more construction management firms to ensure that construction contractors' crews and schedules are coordinated and that the plans and TMP specifications are being followed. The TMPs shall address the specific steps to be taken before, during, and after construction to minimize transportation impacts on all modes, including the mitigation measures and environmental commitments identified in this environmental document. Such measures include but are not limited to signage, flagging, limits on periods of closure, and provision for passage of</p>	Prior to construction	CCJPA designee (Construction Contractor, UPRR, and/or Caltrans)	CCJPA	

Mitigation Measures	Monitoring Phase or Milestone	Implementing Party	Enforcement Agency	Verified Date/Initial
<p>emergency vehicles during construction. UPRR shall be responsible for developing the TMPs in consultation with the applicable transportation entities listed below.</p> <ul style="list-style-type: none"> • Caltrans for state and federal roadway facilities. • Local agencies including City of Sacramento, County of Sacramento, City of Citrus Heights, and City of Roseville for local transportation facilities such as roads and bike paths. • Transit providers, including but not limited to, Regional Transit and Roseville Transit. • Rail operators. • U.S. Coast Guard. • City and county parks departments. • California Department of Parks and Recreation (DPR) <u>Sacramento County Department of Regional Parks</u> for work in the American River Parkway. <p>UPRR shall ensure that the TMPs are implemented prior to beginning construction at any given site, including in-water construction sites. If necessary to minimize unexpected operational impacts or delays experienced during real-time construction, UPRR shall be responsible for modifying the TMP in coordination with the appropriate transportation entities to address these effects.</p> <p>Each TMP shall include the following provisions, as applicable to the conditions.</p> <ul style="list-style-type: none"> • Description and deployment of signage warning of roadway surface conditions such as loose gravel, steel plates, or similar conditions that could be hazardous to road cycling activity on roadways open to bicycle traffic. • Description and deployment of signage and barricades to be used around the work sites. • Description and deployment of buoys, signage, or other effective means to warn boaters of in-water work areas and restrictions on access. Description of warning devices and signage (e.g., buoys labeled “boats keep out” or “no wake 				



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<p>zone”) in compliance with U.S. Coast Guard Private Aid to Navigation requirements and effective during non-daylight hours and periods of dense fog.</p> <ul style="list-style-type: none"> • Use of flag people or temporary traffic signals/signage as necessary to slow or detour traffic. • Notifications for the public, emergency service providers, cycling organizations, bike shops, schools, the U.S. Coast Guard, boating organizations, marinas, city and county parks departments, and DPR, where applicable, describing construction activities that could affect transportation and water navigation. • Outreach (through public meetings and/or flyers and other advertisements). • Procedures for construction area evacuation in the case of an emergency declared by county or other local authorities. • Designation of alternate access routes via detours and bridges to maintain continual circulation for local travelers in and around construction zones, including bicycle riders, pedestrians, and boaters, where applicable. • Description of construction staging areas, material delivery routes, and specification of construction vehicle travel hour limits. • Notifications to commercial and leisure boating communities of proposed operations in the waterways, including posting notices at local marinas and public launch ramps. This information shall provide details regarding construction site location(s); construction schedules; and identification of no-wake zones, speed-restricted zones, and detours, where applicable • No-wake zones and speed restrictions shall be established as part of development of the site-specific plans and shall be designated to protect the safety of construction workers and recreationists. • Scheduling for oversized material deliveries to the work site to minimize peak hour traffic conflicts, and location of haul routes. • Provisions that direct haulers pull over in the event of an emergency. If an emergency Vehicle is approaching on a narrow two-way roadway, specify 				

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<p>measures to ensure that appropriate maneuvers shall be conducted by the construction vehicles to allow continual access for the emergency vehicles at the time of an emergency.</p> <ul style="list-style-type: none"> • Control for any temporary road closure, detour, or other disruption to traffic circulation, including any temporary partial closures of the water channel. • Designation and posting of offsite vehicle staging and parking areas. • Posting of information for contact in case of emergency or complaint. • Designation of daily construction time windows during which construction is restricted or rail operations would need to be suspended for any activity within the UPRR ROW. • Coordination with rail providers (i.e., Amtrak, UPRR) to develop alternative interim transportation modes (e.g., trucks or buses) that could be used to provide freight and/or passenger service during any longer term railroad closures. • Coordination with transit providers (i.e., RT, Roseville Transit) to develop, where feasible, daily construction time windows during which transit operations would not be either detoured or substantially slowed. • Routine posting of information to the 511.org website regarding construction delays and detours • Other actions to be identified and developed as necessary by the construction manager/resident engineer to ensure that temporary impacts on transportation facilities are minimized. 				
<p>TRA-3: Provide sufficient all-day and multi-day parking supply at the Roseville Station as Capitol Corridor service expands. CCJPA shall provide sufficient all-day and multi-day parking supply at the Roseville Station, preferably within a 5-minute walk, as CCJPA IPR service expands. This determination shall consider shared parking opportunities with adjacent land uses and would be made in consultation with the City of Roseville. Project completion is anticipated to occur in conjunction with increased</p>	Prior to construction	CCJPA, City of Roseville	CCJPA	



Mitigation Measures	Monitoring Phase or Milestone	Implementing Party	Enforcement Agency	Verified Date/Initial
<p>economic activity (e.g., funding availability) and as land use development occurs in the DSP area. Parking is currently available near the Roseville Station, in surface lots near City Hall, and at the City's parking garage south of the UPRR tracks.</p> <p>CCJPA shall inform the City of Roseville about the timing of potential service expansion opportunities and the projected parking demand.</p> <p>CCJPA shall support efforts by the City to obtain grant or other funding that is necessary to construct parking supply or station access improvements.</p>				
<p>UT-9: Coordinate with utility service providers prior to construction. UPRR shall coordinate with all utility providers during final design and construction stages to identify utility relocation and disruption plans that would minimize any service outages and safely relocate any affected utilities. Strategies for addressing potential utility disruptions shall be developed. UPRR shall coordinate with all affected utility providers to restrict utility service disruption by time duration and geographic extent. As part of this effort, UPRR shall assist utility and service providers in developing a communications plan to minimize effects on end users.</p>	Prior to construction	CCJPA designee (Construction Contractor, UPRR, and/or Caltrans)	CCJPA	
<p>WQ-8: Implement bridge design modifications and field studies to minimize potential flood-related impacts. Additional design modifications to reduce the overall impact of the proposed bridge structures on the potential for flooding shall be considered in the design phase to reduce potential flood-related impacts. Any additional changes to the bridge configuration during a future design process will need to be incorporated into the HEC-RAS (hydraulic modeling software) model and results recomputed. It is anticipated that additional field survey and bathymetry (i.e., underwater topography) data cross sections would be collected during a future design phase to verify HEC-RAS model results and help determine potential bridge design modifications.</p>	Prior to construction	CCJPA designee (Construction Contractor, UPRR, and/or Caltrans)	CCJPA	

