

Appendix E Environmental Commitments Record

The purpose of the Environmental Commitments Record (ECR) provided in this appendix is to assign responsibility for the implementation, monitoring, and timing of each avoidance, minimization, and mitigation measure that has been identified to address impacts of the proposed project. The Department is the Lead Agency under NEPA and CEQA for the proposed project. RCTC, as the agency sponsoring the project, would administer the design, right-of-way acquisition, and construction of the project, and manage the design/build contractors. As a result, RCTC is required to ensure compliance with each of the adopted avoidance, minimization, and mitigation measures listed in the ECR. Nearly all of the avoidance, minimization, and mitigation measures listed in the ECR will be the responsibility of RCTC to implement, monitor, and document. There are a few measures the Department will be responsible for implementing. For example, Measure PR-1 requires the Department to continue consultation with State Parks on appropriate compensation for the use of land in CHSP.

Table E-1 lists each of the environmental topics evaluated in the environmental document and the avoidance, minimization, and mitigation measures required to reduce or eliminate project impacts related to those topics. Two columns in the table list the timing of the measures and the RCTC or Department staff person or party responsible for ensuring that each measure is implemented. The next two columns are blank to allow RCTC or the Department to add the actions taken to implement the measures and the verification date of each measure. These columns will be used as a reference for verifying that each mitigation measure is implemented and that ongoing measures are regularly checked. Once the project is constructed, RCTC will prepare a summary report that will include documentation of the environmental certification and compliance with the measures in the ECR.

Table E-1 Environmental Commitments Record

No.	Avoidance, Minimization, and/or Mitigation Measures	Responsible Party	Timing/Phase	Action Taken to Comply with Measures	Date
LAND USE					
LU-1	<p>If a Build Alternative is selected for implementation, Riverside County Transportation Commission (RCTC) will request the County of Riverside and the cities along the alignments of State Route 91 (SR-91) and Interstate 15 (I-15) to amend their respective General Plans to reflect the selected SR-91 Corridor Improvement Project (CIP) alternative and the modification of land use designations for properties that would be acquired for the project which are not currently designated for transportation uses.</p>	RCTC	During final design	--	--
PR-1	<p>During public circulation of the Draft EIR/EIS, the Department will continue to consult with State Parks on appropriate compensation for the use of land in CHSP protected under the requirements of Sections 4(f) and 6(f), for the 0.06 ac of land that would be used for the columns under both Alternatives 1 and 2. This measure is subject to refinement/modification as part of the Department's ongoing consultation with State Parks regarding the project effects on CHSP and the measures to address those effects.</p> <p>The compensation will be provided to State Parks prior to the use of any land in CHSP. That compensation would be:</p> <ul style="list-style-type: none"> • Due to the impacts from the Section 4(f) use, monetary compensation would be provided or the use of the 0.06 ac of land may be compensated for with the provision of replacement land adjacent to the existing boundary of CHSP. Any replacement land would be equivalent to or better than the 0.06 ac of land in CHSP used for the column footings. • Due to the impacts from the Section 6(f) use, compensation for the small 0.06 ac permanent conversion of land protected under Section 6(f) would be the provision of replacement land adjacent to the existing boundary of CHSP, or monetary compensation, as agreed to by the NPS and State Parks. Any replacement land would be equivalent to or better than the 0.06 ac of land in CHSP used for the column footings and the aerial easement. 	The Department	During public circulation of the Draft EIR/EIS	--	--

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No.	Avoidance, Minimization, and/or Mitigation Measures	Responsible Party	Timing/Phase	Action Taken to Comply with Measures	Date
PR-2	During circulation of the Draft EIR/EIS, the Department will coordinate with State Parks on the identification of specific improvements to the existing trailhead in the vicinity of the Green River Road off-ramp. The Department would contribute to the planning and implementation of improvements in that area, which could include upgrading the trailhead, provision of trail/park signing, and/or installation of vegetation in the trailhead area. This measure is subject to refinement/modification as part of the Department's ongoing consultation with State Parks regarding the project effects on CHSP and the measures to address those effects.	The Department	During public circulation of the Draft EIR/EIS	--	--
PR-3	RCTC, as the project sponsor, will continue to coordinate with State Parks and other agencies on the identification of improvements that would support and expand regional trail connectivity for pedestrians, bicyclists, and equestrians. RCTC is committed to supporting State Parks in providing features and other improvements to support and expand regional trail connectivity. This measure is subject to refinement/modification as part of the Department's ongoing consultation with State Parks regarding the project effects on CHSP and the measures to address those effects.	RCTC's Project Manager	Ongoing	--	--
GROWTH					
--	No avoidance, minimization, and/or mitigation measures are required.	--	--	--	--
FARMLANDS/TIMBERLANDS					
--	Measure CI-3, provided below under Community Impacts, addresses potential impacts related to remainder parcels and access to agricultural parcels.	--	--	--	--
COMMUNITY IMPACTS					
CI-1	The RCTC Project Engineer will ensure that design refinements are incorporated in the final design and project specifications to minimize impacts to existing land uses related to the temporary use and/or permanent acquisition of property.	RCTC's Project Engineer	During final design	--	--
	Prior to and during construction, RCTC's Resident Engineer will ensure that the design refinements included in the project specifications to minimize impacts to existing land uses related to temporary use and/or permanent acquisition of property are properly implemented by the design/build contractor.	RCTC's Resident Engineer	Prior to and during construction	--	--

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No.	Avoidance, Minimization, and/or Mitigation Measures	Responsible Party	Timing/Phase	Action Taken to Comply with Measures	Date
CI-2	Where property acquisition and relocation are unavoidable, RCTC's Right-of-Way Agents will follow the provisions of the Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970 (Uniform Act) and the 1987 Amendments as implemented by the Uniform Relocation Assistance and Real Property Acquisition Regulations for Federal and Federally Assisted Programs. Appendix D in the Environmental Impact Report/Environmental Impact Statement (EIR/EIS) provides a summary of the RCTC Relocation Assistance Program for implementing the Uniform Act.	RCTC's Right-of-Way Agents	During property acquisition	--	--
CI-3	Where possible during final design, RCTC's Right-of-Way Agents and the Project Engineer will work with owners of commercial, agricultural, and industrial uses subject to partial property acquisitions to reconfigure those uses on site in such a manner as to enable them to remain in operation. If a commercial or industrial partial acquisition cannot be reconfigured to allow for continued operation, RCTC's Right-of-Way Agents will work with the property owners to either relocate that use to land designated for that given land use, preferably within the boundaries of the study area or to provide compensation for the land pursuant to the provisions of the Uniform Act. If an agricultural use cannot be reconfigured to allow for its continued operation, the property owner will be compensated pursuant to the provisions of the Uniform Act as required in Measure CI-2 and the agricultural use will be discontinued.	RCTC's Right-of-Way Agents and the Project Engineer	During final design	--	--
UTILITIES/EMERGENCY SERVICES					
UES-1	Utilities. During final design, RCTC's Project Engineer will prepare utility relocation plans in consultation with the affected utility providers/owners for those utility facilities anticipated to be relocated, removed, and protected in-place. Final design will focus on avoiding utility relocations. If relocation is necessary, final design will focus on relocating utilities within the State right-of-way or within other existing public rights-of-way and/or easements. If relocation outside of existing or proposed public rights-of-way and/or easements is necessary, final design will focus on relocating those facilities in such a manner as to minimize environmental impacts as a result of project construction and ongoing maintenance and repair activities. The utility relocation plans will be included in the project specifications.	RCTC's Project Engineer	During final design	--	--

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No.	Avoidance, Minimization, and/or Mitigation Measures	Responsible Party	Timing/Phase	Action Taken to Comply with Measures	Date
	Utilities. Prior to and during construction, the RCTC Resident Engineer will ensure that the components of the utility relocation plans provided in the project specifications are properly implemented by the design/build contractor.	RCTC Resident Engineer	Prior to and during construction	--	--
UES-2	Law Enforcement, Fire Protection, and Emergency Medical Service Providers. Prior to and during construction, RCTC's Resident Engineer will require the design/build contractor to coordinate all temporary ramp and lane closures and detour plans with law enforcement, fire protection, and emergency medical service providers to minimize temporary delays in emergency response times as part of the <i>Final Transportation Management Plan (TMP)</i> and Ramp Closure Studies required in Measures T-1 and T-2, including the identification of alternative routes and routes across the construction areas for emergency vehicles developed in coordination with the affected agencies.	RCTC's Resident Engineer	Prior to and during construction	--	--
TRAFFIC AND TRANSPORTATION/PEDESTRIAN AND BICYCLE FACILITIES					
T-1	<p>Transportation Management Plan. During final design, RCTC's Project Engineer will refine the <i>Final Preliminary TMP</i> to address specific short-term traffic impacts during construction of the proposed project. The objectives of the <i>Final Preliminary TMP</i> are to:</p> <ul style="list-style-type: none"> • Maintain traffic safety during construction • Effectively maintain an acceptable level of traffic flow throughout the transportation system during construction • Minimize traffic delays and facilitate reduction of overall duration of construction activities • Minimize detours and impacts to pedestrians and bicyclists • Foster public awareness of the project and related impacts • Achieve public acceptance of construction of the project and the proposed TMP measures. <p>The existing <i>Final Preliminary TMP</i> contains the following elements intended to reduce traveler delay and enhance traveler safety. These elements will be refined during final design and incorporated in the Final TMP for implementation during project construction.</p> <ul style="list-style-type: none"> • Public Information/Public Awareness Campaign (PAC). The 	RCTC's Project Engineer	During final design	--	--

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No.	Avoidance, Minimization, and/or Mitigation Measures	Responsible Party	Timing/Phase	Action Taken to Comply with Measures	Date
	<p>primary goal of the PAC is to educate motorists, business owners/ operators, residents, elected officials, and government agencies about construction activities and associated impacts. The PAC is an important tool for reaching target audiences with important construction project information and will include, but not be limited to:</p> <ul style="list-style-type: none"> • Rideshare information • Brochures and mailers • Media releases • Paid advertising • Public meetings • Broadcast fax and email services • Telephone hotline • Notification to targeted groups • Commercial traffic reporters/feeds • Project website • Visual information • Local cable television and news • Internet postings <p>• Traveler Information Strategies. The effective implementation of a traveler information system during construction is crucial for enabling motorists to make informed decisions about their travel plans and options with real-time traffic information. Key components of this system will include, but not be limited to:</p> <ul style="list-style-type: none"> • Fixed changeable message signs • Portable changeable message signs • Ground-mounted signs • Automated work zone information systems • Highway advisory radio • Lane closure website • California Department of Transportation (Department) highway information network • Bicycle and pedestrian information • Commute Smart website 				

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No.	Avoidance, Minimization, and/or Mitigation Measures	Responsible Party	Timing/Phase	Action Taken to Comply with Measures	Date
	<ul style="list-style-type: none"> • Incident Management. Effective incident management will ensure that incidents in construction areas are cleared quickly and do not lead to substantial delays for the traveling public through work zones. Incident management includes, but is not limited to: <ul style="list-style-type: none"> • Construction Zone Enhanced Enforcement Program (COZEEP) • Freeway service patrol for construction • Traffic surveillance stations • Transportation Management Center Unit 370 • Traffic management team • Towing services • Construction Strategies. The TMP will include procedures to lessen the effect of typical construction activities and will include, but not be limited to, consideration of the following: <ul style="list-style-type: none"> • Conflicts with other projects and special events • Construction staging alternatives • Mainline lane closures • Local road closures • Ramp/connector closures • Pedestrian and bicycle detours and facility closures • Traffic control improvements • Coordination with other projects • Project phasing • Traffic screens • Truck traffic restrictions • Demand Management. Temporarily reducing the overall traffic volumes on the project segments of SR-91 and Interstate 15 (I-15) could reduce the short-term adverse effects of construction on traffic operations. The TMP will include, but not be limited to, the following strategies that could reduce vehicular demand in the study area during project construction: <ul style="list-style-type: none"> • Rideshare incentives • Transit services • Shuttle services 				

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No.	Avoidance, Minimization, and/or Mitigation Measures	Responsible Party	Timing/Phase	Action Taken to Comply with Measures	Date
	<ul style="list-style-type: none"> • Variable work hours/telecommuting • High-occupancy vehicle (HOV) lanes/ramps • Park-and-ride lots • Alternate Route Strategies. The TMP provides strategies for notifying motorists, pedestrians, and bicyclists, especially interregional commuters, of planned construction activities. This notification will allow travelers to make informed decisions about their travel plans, including the consideration of possible alternate routes. <p>The TMP will consider the development of alternate routes for motorists to address the following:</p> <ul style="list-style-type: none"> • Mainline lane closures • Ramp/connector closures • Local road closures • Temporary highway or shoulder use • Local street improvements • Temporary detours and closures of bicycle and pedestrian facilities • Traffic signal coordination 				
	<p>RCTC's Resident Engineer will ensure that the measures in the Final TMP are properly implemented by the design/build contractor prior to and during construction.</p>	<p>RCTC's Resident Engineer</p>	<p>Prior to and during construction</p>	<p>--</p>	<p>--</p>
<p>T-2</p>	<p>Management of Ramp Closures. During final design, RCTC's Project Engineer will refine the <i>Ramp Closure Study</i> to address specific short-term impacts associated with ramp closures longer than 10 days during construction. The objectives of the refined <i>Ramp Closure Study</i> will be to:</p> <ul style="list-style-type: none"> • Minimize inconvenience to the traveling public • Minimize closures • Avoid or minimize concurrently multiple closures where possible • Coordinate closures as needed with other projects and activities 	<p>RCTC's Project Engineer</p>	<p>During final design</p>	<p>--</p>	<p>--</p>
	<p>Prior to and during construction, RCTC's Resident Engineer will ensure that the measures included in the Ramp Closure Study are properly implemented by the design/build contractor.</p>	<p>RCTC's Resident Engineer</p>	<p>Prior to and during construction</p>	<p>--</p>	<p>--</p>

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T-3	<p>Fair Share Contributions. RCTC's Project Manager will ensure that RCTC pays the fair share contribution for the project-related impacts at area intersections. Those fair shares are shown by intersection in Table T-3.1. The recommended improvements include additional turn and through lanes. Summaries of the improved intersection delays and levels of service (LOS) are provided in Tables T-3.2, T-3.3, and T-3.4 for 2015 with the Initial Phase of Alternative 2, Design Year 2035 with Alternative 1, and Design Year 2035 with Alternative 2 conditions, respectively.</p> <p>Note: The tables cited in this measure are provided following the last page of Table E-1.</p>	RCTC's Project Manager	During final design	--	--
T-4	<p>During final design, the RCTC Project Engineer will ensure that the final design and project specifications for the widened areas in the undercrossings on SR-91 and I-15 include appropriate lighting for vehicles and pedestrians. The RCTC Project Engineer will also assess the need for additional lighting in the original parts of the undercrossings in the event the longer undercrossings result in the need for additional lighting in those areas. That additional lighting, if any, will also be shown in the project specifications.</p>	RCTC's Project Engineer	During final design	--	--
	<p>The RCTC Project Engineer will have any lighting considered at Coal Canyon Road reviewed and approved by the Project Biologist prior to incorporation in the project specifications to ensure the lighting does not affect the use of Coal Canyon Road as a wildlife crossing.</p>	RCTC's Project Engineer and the Project Biologist	During final design	--	--
	<p>During construction, the RCTC Resident Engineer will require the design/build contractor to implement the lighting in undercrossings as shown in the project specifications.</p>	RCTC's Resident Engineer	During construction	--	--
VISUAL/AESTHETICS					
V-1	<p>Construction Plan. To address adverse impacts associated with views of construction access and staging areas, RCTC's Resident Engineer will require the design/build contractor to construct the project in accordance with the Caltrans Standard Construction Specifications, including appropriate measures to address visual impacts during construction.</p>	RCTC's Resident Engineer	During construction	--	--

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No.	Avoidance, Minimization, and/or Mitigation Measures	Responsible Party	Timing/Phase	Action Taken to Comply with Measures	Date
V-2	<p>Structure Elements. To address adverse impacts of the project structures, the Project Engineer will ensure that the final project design incorporates the mitigation and minimization elements A–D, below, and that these enhancements to structures are incorporated in the design and construction of sound walls, retaining walls, and bridge elements and will not be “follow-up” enhancements.</p>	RCTC’s Project Engineer	During final design	--	--
	<p>During construction, RCTC’s Resident Engineer will ensure that the design/build contractor constructs the retaining and sound walls, medians, bridges, and other structures consistent with aesthetic and design features included in the project specifications. RCTC’s Resident Engineer will ensure that those aesthetic and design features are constructed during the construction phase when the impact occurs.</p>	RCTC’s Resident Engineer	During construction	--	--
	<p>A. Sound walls in low-density, developed areas or those fronting private property will be heavily textured (i.e. split-face or fractured rib) and integrally colored to minimize reflected glare and visual mass. Sound walls facing public-use areas (parks, streets, etc.) will incorporate textures and color as above plus site-specific aesthetic features (local or historical references) to minimize/mitigate impacts to community character and to restore a “sense of place.” Specific color selection for sound walls will be determined by the <i>215/91 Corridor Master Plan</i>.</p>	RCTC’s Resident Engineer	During construction	--	--
	<p>B. Retaining walls (including walls associated with bridge structures) will be heavily textured (i.e., split-face or fractured rib) to minimize glare and visual mass. Retaining walls facing public use areas (parks, streets, etc.) over 9 feet (ft) high will be heavily textured (i.e., split-face or fractured rib) and include site-specific aesthetic features (local or historical references). Color (integral or applied) is not required for retaining walls.</p>	RCTC’s Resident Engineer	During construction	--	--
	<p>C. In addition to texture and color as described in A and B, above, sound walls and retaining walls with low-density development or recreational viewer groups will include planting of trees or trees and shrubs at the base of the walls (non-motorist side) to minimize loss of visual unity. Plantings will be local native species or ornamental species that require no irrigation after establishment. These plantings will not require permanent irrigation.</p>	RCTC’s Resident Engineer	During construction	--	--

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	D. Slope paving in all areas with bicyclist and pedestrian viewers will include texture (i.e. stamped slate). In urban areas, slope paving will incorporate site-specific aesthetic features in addition to texture. Texture and pattern will be used to minimize the visual impacts of increased hard surface, and reinforce community identify, offsetting reduced community connectivity associated with increased bridge widths.	RCTC's Resident Engineer	During construction	--	--
V-3	Highway Planting: RCTC's Project Engineer will ensure that replacement planting to mitigate the loss of existing landscaping is included in the final design. Replacement planting will be funded with the project's construction and will include no less than 3 years of plant establishment. All planting must be reviewed and approved by the District Landscape Architect.	RCTC's Project Engineer with the approval of a Department District 8 Landscape Architect	During final design	--	--
	RCTC's Project Engineer will ensure that the replacement planting is under construction within 2 years of acceptance of the highway contract that damaged or removed the existing planting.	RCTC's Project Engineer	Within 2 years of acceptance of the highway contract that damaged or removed the existing planting	--	--
	RCTC's Project Engineer will ensure the project plans show that where plantable right-of-way is reduced (as at Main Street), replacement planting will be trees, ground cover, permanent irrigation, and enhanced structural elements. Enhanced structural elements will minimize the impact of reduced planting areas. Enhanced structural elements will include enhanced pedestrian facilities (such as pavement treatments, graphics, or above-standard decorative pedestrian lighting) and may incorporate community entry features into the structures.	RCTC's Project Engineer	During final design	--	--
	RCTC's Project Engineer will ensure that the project plans show that where plant-able right-of-way is eliminated (as at residential areas on both sides of SR-91 between just east of Lincoln Boulevard to approximately 400 ft west of East Grand Boulevard), the loss will be mitigated by off-site planting. Planting of street trees or other approved planting with permanent irrigation in City right-of-way such as at the base of proposed retaining walls at Bollero Place and the 600 to 700 block of West Second Street will minimize the loss of existing landscape. The off-site tree planting will minimize the visual presence of	RCTC's Project Engineer	During final design	--	--

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	the widened adjacent mainline. Replacement of existing trees by new street trees will be at a 1:1 (new tree to existing tree) ratio. To minimize the visual loss of the mature existing trees, these mitigating/ replacement street trees will be planted at no less than 36 in box size.				
	RCTC's Project Engineer will ensure that where plantable right-of-way is eliminated without the prospect of site-adjacent mitigation (as at the industrial areas just east of East Grand Boulevard or the above residential areas if street planting is not accepted by the City), the loss will be mitigated by planting within the project limits. This planting will be at a 4:1 (new tree to existing tree) ratio. If vehicle recovery distances prohibit tree planting in any selected area, mitigation planting may be achieved at a ratio of 10 new shrubs to 1 existing tree. For this mitigation planting, all trees will be no less than 15-gallon size and all shrubs will be no less than 5-gallon size.	RCTC's Project Engineer	During final design	--	--
	RCTC's Project Engineer will ensure that the project plans show that all mitigation planting within the State right-of-way, where appropriate, will include native tree and shrub species, and include temporary irrigation for establishment. Replacement planting will include permanent irrigation. The Project Engineer will refer to the Project Development and Procedures Manual (PDPM) for the Department's policy regarding planting, and Measures V-2 and V-3 above.	RCTC's Project Engineer	During final design	--	--
	RCTC's Resident Engineer will ensure that the design/build contractor properly implements the landscaping and structural treatment components described in Measures V-1 through V-4.	RCTC Resident Engineer	During construction	--	--
V-4	Light and Glare. To reduce glare, RCTC's Project Engineer will ensure that the project plans specify lighting fixtures with non-glare hoods and that lighting is designed to illuminate only the right-of-way. The lighting plans will require the review and approval of the Department and applicable cities and counties before construction to assure compliance with their applicable policies regarding public street lighting. Increased glare from proposed walls, structures and pavement will be minimized by measures identified in V-2 and V-3.	RCTC's Project Engineer with the review and approval of Caltrans and the applicable Cities	During final design	--	--
	RCTC's Resident Engineer will ensure that the project lighting plan included in the project specifications is implemented by the design/build contractor during construction.	RCTC's Resident Engineer	During construction	--	--

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CULTURAL RESOURCES					
CR-1	RCTC's Resident Engineer will require the design/build contractor to have a Native American monitor present and conducting monitoring during construction activities in areas identified by the Pechanga Band of Mission Indians and considered sensitive as shown in the project specifications.	RCTC's Resident Engineer	During construction in areas noted on the project specifications for cultural resources monitoring	--	--
HYDROLOGY AND FLOODPLAINS					
--	As discussed in Section 3.10, Water Quality and Storm Water Runoff, in the EIR/EIS, Construction Site, Design Pollution Prevention, and Treatment best management practices (BMPs) will be implemented to minimize water quality-related impacts to the 100-year floodplain and the associated beneficial uses. As discussed in Section 3.17, Natural Communities, and Section 3.18, Wetlands and Other Waters, in the EIR/EIS measures to minimize impacts and preserve natural and beneficial floodplain values include installation of construction fencing around riparian/riverine vegetation to be preserved and compensatory mitigation for temporary and permanent impacts to riparian and aquatic habitats. With implementation of these measures, no other specific measures for impacts to hydrology floodplains are required.	--	--	--	--
WATER QUALITY AND STORM WATER RUNOFF					
WQ-1	Prior to and during construction, RCTC's Resident Engineer will require the design/build contractor to comply with the provisions of the National Pollutant Discharge Elimination System (NPDES) General Permit for Storm Water Discharges Associated with Construction and Land Disturbance Activities (Order No. 2009-0009-DWQ, NPDES No. CAS000002), and any subsequent permit, as they relate to the project construction activities. This will include submission of the Permit Registration Documents, including a Notice of Intent (NOI), risk assessment, site map, Storm Water Pollution Prevention Plan (SWPPP), annual fee, and signed certification statement to the State Water Resources Control Board (SWRCB) at least 14 days prior to the start of construction. The SWPPP will meet the requirements of the Construction General Permit and will identify potential pollutant sources associated with construction activities; identify non-storm water discharges; develop a water quality monitoring and sampling plan; and	RCTC's Resident Engineer	Prior to and during construction	--	--

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No.	Avoidance, Minimization, and/or Mitigation Measures	Responsible Party	Timing/Phase	Action Taken to Comply with Measures	Date
	<p>identify, implement, and maintain BMPs to reduce or eliminate pollutants associated with the construction site. The BMPs identified in the SWPPP will be implemented during project construction. A Notice of Termination (NOT) will be submitted to the SWRCB on the completion of construction and the stabilization of the site. RCTC's Resident Engineer will also require the design/build contractor to implement SWRCB Resolution No. 2001-046 requiring sampling and analysis during project construction.</p>				
WQ-2	<p>Prior to and during construction, RCTC's Resident Engineer will require the design/build contractor to comply with the provisions of the General Waste Discharge Requirements for Discharges to Surface Waters that Pose an Insignificant (De Minimus) Threat to Water Quality, Order No. R8-2009-0003, NPDES No. CAG998001, as they relate to discharge of non-storm-water dewatering wastes for the project. This will include submitting to the Santa Ana Regional Water Quality Control Board (RWQCB) an NOI at least 60 days prior to the start of construction, notification of discharge at least 5 days prior to any planned discharges, and monitoring reports by the 30th day of each month following the monitoring period.</p>	<p>RCTC's Resident Engineer</p>	<p>Prior to and during construction</p>	<p>--</p>	<p>--</p>
WQ-3	<p>Prior to and during construction, RCTC's Resident Engineer will require the design/build contractor to follow the procedures outlined in the Caltrans Storm Water Quality Handbooks, Project Planning and Design Guide (July 2010 or subsequent issuance) for implementing Design Pollution Prevention and Treatment BMPs for the project. This will include coordination with the Santa Ana RWQCB with respect to the feasibility, maintenance, and monitoring of Treatment BMPs as set forth in the Department's Statewide Storm Water Management Plan (SWMP, May 2003 or subsequent issuance). RCTC's Resident Engineer will also require the design/build contractor to comply with other provisions identified in the NPDES Permit, Statewide Storm Water Permit, and Waste Discharge Requirements for the State of California, Department of Transportation (Order No. 99-06-DWQ, NPDES No. CAS000003). RCTC's Resident Engineer will also require the design/build contractor to comply with other provisions identified in the NPDES Permit and Waste Discharge Requirements for the Riverside County Flood Control and Water Conservation District, the County of Riverside, and the incorporated cities of Riverside County within the Santa Ana Region.</p>	<p>RCTC's Resident Engineer</p>	<p>Prior to and during construction</p>	<p>--</p>	<p>--</p>

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GEOLOGY/SEISMIC/TOPOGRAPHY					
GEO-1	<p>During final design, RCTC's Project Engineer or a Project Geotechnical Engineer or Project Geologist under contract to RCTC will prepare a design-level geotechnical report. This report will document soil-related constraints and hazards such as slope instability, settlement, liquefaction, or related secondary seismic impacts that may be present along the project segments of SR-91 and I-15. This report will require review and approval by the Department. The performance standard for this report will be the geotechnical design standards of the State of California and the Department, as applicable.</p> <p>The report will include but not be limited to:</p> <ul style="list-style-type: none"> • Evaluation of expansive soils and recommendations regarding construction procedures and/or design criteria to minimize the effect of these soils on the construction of the project and to minimize effects related to expansive soils on project facilities in the long term. • Identification of potential liquefiable areas within the project limits and recommendations for mitigation. • Evaluation of the corrosion potential of soils along those segments of the project alignment not previously tested (i.e., areas along I-15 and the westbound side of SR-91). • Demonstration that no retaining walls or excavations will occur in the existing landslide areas, or that landslide stabilization measures independent of the retaining wall design are included in the final project design. • Demonstration that the design of all proposed retaining walls is geotechnically suitable for project area soils, and verification that project design has considered and addressed the possibility of scour associated with the Santa Ana River. • Demonstration that side slopes can be designed and graded so that surface erosion of the engineered fill is not increased compared to existing, natural conditions. <p>RCTC's Project Engineer will incorporate the measures recommended in the design-level geotechnical report in the final design and project specifications.</p>	RCTC's Project Engineer and RCTC's Project Geotechnical Engineer and/or Project Geologist	During final design	--	--

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	RCTC's Resident Engineer will require the design/build contractor to implement the measures recommended in the design level geotechnical report as included in the project specifications.	RCTC's Resident Engineer	Prior to and during construction	--	--
GEO-2	RCTC's Resident Engineer will maintain a quality assurance/quality control plan during construction. The plan will include observing, monitoring, and testing by the Project Geotechnical Engineer and/or the Project Geologist under contract to RCTC prior to and during construction to confirm that the geotechnical/geologic recommendations from the design-level geotechnical report and standard design and construction practices are fulfilled by the design/build contractor, or if different site conditions are encountered, appropriate changes are made to accommodate such issues. The geotechnical engineer will submit weekly reports to RCTC and the Department during all project-related grading, excavation, and construction activities.	RCTC's Resident Engineer and RCTC's Project Geotechnical Engineer and/or Project Geologist	Prior to and during construction	--	--
GEO-3	<p>During final design, if blasting is required, RCTC's Project Engineer will require the design/build contractor to prepare a blasting plan to minimize potential hazards related to blasting activities. The blasting plan will address all applicable standards in accordance with the United States Department of the Interior, Office of Surface Mining. The issues to be addressed in the blasting plan will include, but are not limited to, the following: hours of blasting activity, notification to adjacent property owners, noise and vibration, and dust control.</p> <p>RCTC's Resident Engineer will require the design/build contractor to implement the blasting plan prior to and during any blasting during construction.</p>	RCTC's Project Engineer	During final design	--	--
PALEONTOLOGY					
PAL-1	Following preparation of suitable construction drawings and elevations and during final design, RCTC's Project Engineer will require the Designated Principal Paleontologist under contract to RCTC to prepare a <i>Paleontological Mitigation Plan</i> (PMP). The PMP will provide guidance for developing and implementing paleontological mitigation efforts, including field work, laboratory methods, and curation. This PMP will be consistent with guidelines provided in the Department's <i>Standard Environmental Reference</i> (SER), Environmental Handbook, Volume I, Chapter 8, Paleontology, the Counties of Riverside and Orange, and the	RCTC's Project Engineer and RCTC's Designated Qualified Paleontologist	During final design	--	--

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No.	Avoidance, Minimization, and/or Mitigation Measures	Responsible Party	Timing/Phase	Action Taken to Comply with Measures	Date
	<p>Society of Vertebrate Paleontology (SVP), and will be specifically tailored to the resources and sedimentary formations in the disturbance limits.</p> <p>The part of the PMP that covers excavation will include but not be limited to:</p> <ul style="list-style-type: none"> • Prior to any ground disturbance, RCTC's Designated Principal Paleontologist or his/her representative will attend a meeting with the design/build contractor to explain the likelihood for encountering paleontological resources during construction, what resources may be discovered, and the methods that will be employed if anything is discovered. • RCTC's Principal Paleontologist will conduct a preconstruction field survey in areas identified as having high paleontological sensitivity after vegetation and any pavement are removed, followed by salvage of any observed surface paleontological resources prior to the beginning of additional ground-disturbing activities. The survey will be conducted by the Principal Paleontologist or their representative who is qualified to identify vertebrate, invertebrate, and plant fossils. • During ground disturbance, grading, and excavation, RCTC's Project Engineer will require the design/build contractor to retain a Principal Paleontologist. The Principal Paleontologist will provide a Paleontological Monitor who is qualified to recognize and professionally collect vertebrate, invertebrate, and plant fossils. The qualified Paleontological Monitor will initially be present on site on a full-time basis whenever these types of construction activities occur in sediments that have a high paleontological sensitivity rating and also on a spot-check basis in sediments that have a low sensitivity rating. Monitoring may be reduced to a part-time basis if no resources are being discovered in sediments with a high sensitivity rating. Any reduction or modification in scheduling of monitoring will be determined by the Principal Paleontologist and RCTC's Resident Engineer. The qualified Paleontological Monitor will inspect fresh cuts and/or spoils piles to recover paleontological resources. That monitor will be empowered to temporarily divert construction equipment away from the immediate area of the discovery. The monitor will be 				

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No.	Avoidance, Minimization, and/or Mitigation Measures	Responsible Party	Timing/Phase	Action Taken to Comply with Measures	Date
	<p>equipped to rapidly stabilize and remove fossils to avoid prolonged delays to construction schedules. If large mammal fossils or large concentrations of fossils are encountered, RCTC's Resident Engineer will require the design/build contractor to make heavy equipment available to assist in the removal and collection of large materials.</p> <ul style="list-style-type: none"> • Localized concentrations of small (or micro-) vertebrates may be found in all native sediments. Therefore, the qualified Paleontological Monitor will occasionally spot-screen native sediments through one-eighth- to one-twentieth-inch mesh screens to determine whether microfossils are present. If microfossils are encountered, a standard sediment sample (up to 3 cubic yards or 6,000 pounds) will be collected and processed through one-twentieth-inch mesh screens to recover additional fossils. Processing of large bulk samples is best accomplished at a designated location within the project limits that will be accessible throughout the duration of construction but will also be away from any cut or fill areas or active construction areas. Processing is usually completed concurrently with construction and with the intent to have all processing completed before, or just after, project completion. A small corner of a staging or equipment parking area is an ideal location for this activity. If water is not available, the location should be accessible for a water truck to occasionally fill containers with water. • RCTC's Project Engineer will require the Principal Paleontologist or their representative to prepare any recovered specimens to the point of identification and permanent preservation. This includes sorting any washed mass samples to recover small invertebrate and vertebrate fossils, the removal of surplus sediment from around larger specimens to reduce the volume of storage for the repository and storage cost, and the addition of approved chemical hardeners/ stabilizers to fragile specimens. This is best accomplished at a designated laboratory with access to fossil preparation tools, magnifying equipment, storage boxes and vials, and chemical hardeners. Processing of fossils through the lab is best accomplished concurrently with construction, especially if numerous fossils are being collected. 				

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No.	Avoidance, Minimization, and/or Mitigation Measures	Responsible Party	Timing/Phase	Action Taken to Comply with Measures	Date
	<ul style="list-style-type: none"> Specimens will be identified to the lowest taxonomic level possible and curated into an institutional repository with retrievable storage. Repository institutions usually charge a one-time fee based on volume, so removing surplus sediment is important. The repository institution may be a local museum or university that has a curator who can retrieve the specimens on request. RCTC's Project Manager and the Department will require that a draft curation agreement be in place between the Principal Paleontologist and an approved curation facility prior to the initiation of paleontological monitoring and mitigation activities for the project. 				
	<ul style="list-style-type: none"> RCTC's Resident Engineer will require the design/build contractor to comply with the provisions of the PMP during all ground disturbance, grading, and excavation activities. This will include appropriate coordination with RCTC's Designated Principal Paleontologist and the provision of qualified paleontological monitors consistent with the provisions of the PMP. 	RCTC's Resident Engineer	During all ground disturbance, grading, and excavation activities	--	--
	<ul style="list-style-type: none"> After the completion of all ground disturbance and grading, RCTC's Project Manager will require the design/build contractor to have the design/build contractor's Designated Principal Paleontologist to prepare a <i>Final Paleontological Mitigation Report</i> (PMR) that summarizes the project area investigated, the field and laboratory methods used, the stratigraphic units inspected, the types of fossils recovered, and the scientific significance of the curated collection. RCTC's Project Manager will retain a copy of the report for the RCTC project files and will provide a copy of the report to the Department. 	RCTC's Project Manager	After the completion of all ground disturbance, grading, and excavation activities	--	--
HAZARDOUS WASTE/MATERIALS					
HW-1	Prior to the completion of the Project Approval and Environmental Document (PA&ED), RCTC's Project Engineer will ensure that a qualified consultant conducts a Phase I Environmental Site Assessment for the Mobil No. 18-FLM site (616 Paseo Grande Street, Corona, California), the Honda Cars of Corona site (231 South Lincoln Avenue, Corona, California), and the Lyon/Copley Association site (102 South Main Street, Corona, California) in accordance with American Society for Testing and Materials [ASTM] Standard E 1527-05 because these properties are open release sites that will be either partially or fully acquired as part of the proposed project.	RCTC's Project Engineer	Prior to completion of PA&ED	--	--

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No.	Avoidance, Minimization, and/or Mitigation Measures	Responsible Party	Timing/Phase	Action Taken to Comply with Measures	Date
	<p>The Phase I Environmental Site Assessment will identify any Recognized Environmental Conditions (RECs) associated with on- or off-site releases and provide appropriate minimization, avoidance, and mitigation measures to prevent unnecessary exposure to contaminants during construction activities. Depending on the results of the Phase I Environmental Site Assessment, RCTC's Project Engineer may require the consultant to conduct subsequent sampling (Phase II) to determine the presence and/or absence of contaminated soil and/or groundwater or to characterize the extent of contamination on site. RCTC's Project Engineer will require the consultant to complete any recommended Phase II testing prior to the completion of PA&ED. The results of these studies will inform RCTC of any RECs that may impact the value of the properties acquired.</p>				
HW-2	<p>Prior to the completion of the Plans, Specifications, and Estimates (PS&E) phase and before any ground disturbance activities, RCTC's Project Engineer will ensure that a qualified consultant conducts site investigations for any new release sites that are within the project right-of-way. RCTC's Project Engineer will require the qualified consultant to conduct these site investigations in compliance with applicable federal, State, and local regulations. The site investigations will meet or exceed the requirements of the United States Environmental Protection Agency (EPA) Standards and Practices for All Appropriate Inquiries (Federal Register 66070, Volume 70, No. 210, November 1, 2005). If contaminants are determined to be present during the site investigation, RCTC's Project Engineer may require the qualified consultant to prepare one or more of the following specialized reports: Remedial Actions Options Report, Sensitive Receptor Survey, Human Health/ Ecological Risk Assessment, and/or Quarterly Monitoring Report.</p>	<p>RCTC's Project Engineer</p>	<p>Prior to completion of the PS&E phase and before any ground-disturbing activities</p>	<p>--</p>	<p>--</p>
HW-3	<p>Prior to the completion of the PS&E phase and before any ground disturbance activities, RCTC's Project Engineer will ensure that a qualified consultant conducts an aerially deposited lead (ADL) study for soil if excavation will exceed 3 ft below ground surface (bgs) in unpaved locations adjacent to the State right-of-way between Gypsum Canyon Road and Magnolia Avenue, or 5 ft bgs in unpaved locations in areas proposed for fiber-optic signage along eastbound SR-91 starting east of the Weir Canyon Road undercrossing and extending east of the Gypsum Canyon Road undercrossing.</p>	<p>RCTC's Project Engineer</p>	<p>Prior to completion of the PS&E phase and before any ground-disturbing activities</p>	<p>--</p>	<p>--</p>

Table E-1 Environmental Commitments Record

No.	Avoidance, Minimization, and/or Mitigation Measures	Responsible Party	Timing/Phase	Action Taken to Comply with Measures	Date
	If soils within the project disturbance limits along SR-91 are removed offsite during construction, RCTC's Resident Engineer will require that the design/build contractor treat the soil as State hazardous waste and to properly dispose of those soils at an appropriate State certified landfill facility.	RCTC's Resident Engineer	During construction	--	--
HW-4	Prior to the completion of the PA&ED phase, RCTC's Project Engineer will ensure that a certified consultant conducts predemolition asbestos and/or lead-based paint (LBP) surveys of any road structures that will be renovated or demolished during project construction.	RCTC's Project Engineer	Prior to completion of the PA&ED phase	--	--
	RCTC's Resident Engineer will require the design/build contractor to properly dispose of any materials from these structures that exceed California Health and Safety Code criteria for hazardous waste at an appropriate State-certified landfill facility.	RCTC's Resident Engineer	During construction	--	--
	Prior to completion of the PS&E phase and before any ground disturbance, demolition, or renovation activities, RCTC's Project Engineer will ensure that a certified consultant conducts predemolition asbestos, LBP, and polychlorinated biphenyl (PCB) surveys of any buildings that will be renovated or demolished.	RCTC's Project Engineer	Prior to completion of the PS&E phase and before any ground-disturbing activities	--	--
	RCTC's Resident Engineer will require the design/build contractor to properly dispose of any materials from these structures that exceed California Health and Safety Code criteria for hazardous waste at an appropriate State-certified landfill facility.	RCTC's Resident Engineer	During construction	--	--
HW-5	Prior to the completion of the PS&E phase and before any ground disturbance activities, RCTC's Project Engineer will ensure that inspections are conducted for potential PCBs in utility pole-mounted transformers that will be relocated or removed as part of the project.	RCTC's Project Engineer	Prior to completion of the PS&E phase and before any ground-disturbing activities	--	--
	RCTC's Resident Engineer will require the design/build contractor to consider leaking transformers a PCB hazard unless tested and confirmed otherwise, and to handle them accordingly.	RCTC's Resident Engineer	During construction	--	--
HW-6	During construction, RCTC's Resident Engineer will require the design/build contractor to test, remove, and dispose of any yellow traffic striping and pavement marking materials in accordance with the Department's Construction Manual, Chapter 7-106.	RCTC's Resident Engineer	During construction	--	--

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No.	Avoidance, Minimization, and/or Mitigation Measures	Responsible Party	Timing/Phase	Action Taken to Comply with Measures	Date
HW-7	Dewatering is anticipated during construction. Therefore, RCTC's Resident Engineer will require the design/build contractor to comply with the State General Permit or an individual permit from the RWQCB, Santa Ana Region, consistent with NPDES requirements. The RWQCB will decide which permit is applicable and whether sampling is required once it receives and reviews the NOI. RCTC's Resident Engineer will require the design/build contractor to conduct additional coordination with the Riverside County Department of Environmental Health (RCDEH) when groundwater dewatering will occur in the vicinity of contaminated soils or contaminated groundwater sites. RCTC's Resident Engineer will provide the design/build contractor with the Waste Discharge Identification Number or a copy of an individual permit (as applicable) issued by the RWQCB prior to construction.	RCTC's Resident Engineer	Prior to and during construction	--	--
HW-8	Prior to the completion of the PS&E phase and before any ground disturbance activities, RCTC's Project Engineer will ensure that soil adjacent to the Burlington Northern Santa Fe (BNSF) railroad tracks that will be disturbed during construction be sampled for the presence of petroleum hydrocarbons, metals, solvents, and other potential contaminants (e.g., polynuclear aromatic hydrocarbons [PNAs], kerosene, asbestos containing materials (ACMs), chlorinated hydrocarbons, pesticides, and herbicides) to determine whether the soils require special handling and disposal during construction.	RCTC's Project Engineer	Prior to completion of the PS&E phase and before any ground-disturbing activities	--	--
	RCTC's Resident Engineer will require the design/build contractor to properly dispose of all soils exceeding the criteria for State or federal hazardous waste at an appropriate State-certified landfill facility.	RCTC's Resident Engineer	During construction	--	--
HW-9	Prior to the completion of the PA&ED phase, RCTC's Project Engineer will ensure that soil sampling for herbicides and pesticides in areas of historic and current agricultural use, where soil has not been disturbed (through grading, etc.) is conducted, if these areas will be disturbed by project construction. The analytical results of the soil sampling will determine the appropriate handling and disposal of the soils during construction.	RCTC's Project Engineer	Prior to completion of PA&ED phase and before any ground-disturbing activities	--	--
	RCTC's Resident Engineer will require the design/build contractor to appropriately handle and properly dispose of contaminated soils during construction.	RCTC's Resident Engineer	During construction	--	--

Table E-1 Environmental Commitments Record

No.	Avoidance, Minimization, and/or Mitigation Measures	Responsible Party	Timing/Phase	Action Taken to Comply with Measures	Date
HW-10	Prior to the completion of PA&ED, RCTC's Project Engineer will ensure that soil sampling for herbicides, pesticides, and fungicides in the areas that will be disturbed by the project construction on the Green River Golf Club property is conducted. The analytical results of the soil sampling will determine the appropriate handling and disposal of the soils during construction.	RCTC's Project Engineer	Prior to completion of the PA&ED phase and before any ground-disturbing activities	--	--
	RCTC's Resident Engineer will require the design/build contractor to appropriately handle and properly dispose of contaminated soils during construction.	RCTC's Resident Engineer	During construction	--	--
HW-11	Prior to the start of construction, RCTC's Project Engineer will require the design/build contractor to prepare a site-specific Health and Safety Plan (HASP) by a certified industrial hygienist. The HASP will be based on evaluation of proposed construction activities, the potential hazards identified in the Phase I Environmental Site Assessment, and any future assessments prepared for the proposed project. The HASP will outline specific procedures for encountering expected and unexpected contaminants. It will include safe work practices, contaminant monitoring, the need for personal protective equipment, emergency response procedures, and safety training requirements to protect construction workers and third parties working on site. The HASP will be in compliance with the requirements of 29 Code of Federal Regulations (CFR) 1910 and 1926 and all other applicable federal, State, and local regulations and requirements.	RCTC's Project Engineer	Prior to construction	--	--
	RCTC's Resident Engineer will require the design/build contractor to implement the requirements in the HASP during construction.	RCTC's Resident Engineer	During construction	--	--
HW-12	Prior to the start of construction, RCTC's Resident Engineer will require the design/build contractor to prepare a soils and groundwater Contaminant Management Plan (CMP). The CMP will include procedures for contaminant monitoring and identification as well as temporary storage, handling, treatment, and disposal of hazardous waste and materials in accordance with applicable federal, State, and local regulations and requirements.	RCTC's Resident Engineer	Prior to construction	--	--
	Prior to and during construction, RCTC's Resident Engineer will require the design/build contractor to implement the soils and groundwater CMP.	RCTC's Resident Engineer	Prior to and during construction	--	--

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No.	Avoidance, Minimization, and/or Mitigation Measures	Responsible Party	Timing/Phase	Action Taken to Comply with Measures	Date
HW-13	Prior to the start of construction, RCTC's Resident Engineer will require the design/build contractor to prepare a Construction Contingency Plan (CCP) in accordance with the Department's Unknown Hazards Procedures for Construction. The CCP will include provisions for emergency response in the event that unidentified underground storage tanks (USTs), hazardous materials, petroleum hydrocarbons, or hazardous or solid wastes are discovered during construction activities. The CCP will address UST decommissioning, field screening, contaminant materials testing methods, mitigation and contaminant management requirements, and health and safety requirements for construction workers.	RCTC's Resident Engineer	Prior to construction	--	--
	During construction, RCTC's Resident Engineer will require the design/build contractor to cease work immediately if an unexpected release of hazardous substances is found in reportable quantities. RCTC's Resident Engineer will ensure that the design/build contractor implements the CCP. If an unexpected release of hazardous substances is found in reportable quantities, RCTC's Resident Engineer will require the design/build contractor to notify the National Response Center by calling 1-800-424-8802. RCTC's Resident Engineer will require the design/build contractor to perform cleanup of unexpected releases under the appropriate federal, State, or local agency oversight.	RCTC's Resident Engineer	During construction	--	--
HW-14	RCTC's Resident Engineer will require the design/build contractor to notify the Underground Service Alert (USA) at least 2 days prior to excavation by calling 811 to ensure that all utility owners within the project disturbance limits identify the locations of underground transmission lines and facilities.	RCTC's Resident Engineer	At least 2 days prior to any excavation	--	--
HW-15	RCTC's Resident Engineer will require the design/build contractor to submit the fees to the South Coast Air Quality Management District (SCAQMD) at least 10 days prior to proceeding with any demolition or renovation of a structure (refer to SCAQMD Rule 1403). RCTC's Resident Engineer will require the design/build contractor to adhere to the requirements of SCAQMD Rule 1403 during renovation and demolition activities.	RCTC's Resident Engineer	At least 10 days prior to any demolition or renovation of structures	--	--
HW-16	Prior to the completion of the PS&E phase and before any ground disturbance activities, RCTC's Project Engineer will ensure that all wooden utility poles, railroad ties, and other treated wood waste material that will be removed or relocated as part of the project are	RCTC's Project Engineer	Prior to completion of the PS&E phase and before any ground-disturbing		

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No.	Avoidance, Minimization, and/or Mitigation Measures	Responsible Party	Timing/Phase	Action Taken to Comply with Measures	Date
	tested for wood treatments/preservatives such as creosote and pentachlorophenol. RCTC's Project Engineer will also require that soils surrounding railroad ties be tested for wood treatments/preservatives such as creosote and pentachlorophenol.		activities		
	Prior to and during construction, RCTC's Resident Engineer will require the design/build contractor to properly dispose of all treated wood waste at a wood waste disposal facility approved by the California Department of Toxic Substances Control (DTSC) Chapter 34, Article 1, Alternative Management Standards for Wood Treated Waste. In addition, RCTC's Resident Engineer will require the design/build contractor to ensure that any personnel who come in contact with treated wood waste or contaminated soils will follow all applicable requirements under Caltrans Standard Special Provision (SSP 14-010) for treated wood waste and Titles 8 and 22 Section 34, §67386.1 through §67386.12 (Alternative Management Standards for Treated Wood Waste) of the California Code of Regulations (CCR) and be trained in the proper identification, disposal, and safe handling of treated wood waste and contaminated soils.	RCTC's Resident Engineer	Prior to and during construction	--	--
HW-17	If Alternative 2 with design variations 2c, 2d, 2g, or 2h is selected as the project, RCTC's Project Manager and Project Engineer will coordinate with Southern California Edison (SCE) to request SCE's preparation of environmental documentation for the relocation of the SCE substation (APN 118-101-015) prior to completion of right-of-way acquisition for the project.	RCTC's Project Manager and Project Engineer	Prior to completion of right-of-way acquisition	--	--
AIR QUALITY					
SC-1	<p>During clearing, grading, earth-moving, and excavation operations, RCTC's Resident Engineer will require the design/build contractor to control excessive fugitive dust emissions by regular watering or other dust preventive measures using the following procedures, as specified in SCAQMD Rule 403 and as included in the project specifications:</p> <ul style="list-style-type: none"> • All material excavated or graded will be sufficiently watered to prevent excessive amounts of dust. • Watering will occur at least twice daily with complete coverage, preferably in the late morning and after work is done for the day. • All material transported on or off site will be either sufficiently watered or securely covered to prevent excessive amounts of dust. 	RCTC's Resident Engineer	During clearing, grading, earth-moving, and excavation operations	--	--

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No.	Avoidance, Minimization, and/or Mitigation Measures	Responsible Party	Timing/Phase	Action Taken to Comply with Measures	Date
	<ul style="list-style-type: none"> The area disturbed by clearing, grading, earth-moving, or excavation operations will be minimized so as to prevent excessive amounts of dust. <p>RCTC's Resident Engineer will periodically conduct site inspections to ensure that the design/build contractor is complying with the provisions of this measure.</p>				
SC-2	RCTC's Project Engineer will ensure that the grading plans and project specifications show the anticipated duration of construction.	RCTC's Project Engineer	During final design	--	--
	RCTC's Resident Engineer will require the design/build contractor to control ozone precursor emissions from construction equipment vehicles by maintaining equipment engines in good condition and in proper tune per the manufacturers' specifications. RCTC's Resident Engineer will periodically inspect construction equipment to ensure that the design/build contractor is complying with this measure.	RCTC's Resident Engineer	During construction	--	--
SC-3	RCTC's Resident Engineer will require the design/build contractor to ensure that all trucks hauling excavated or graded material from the site comply with State Vehicle Code Section 23114, with special attention to Sections 23114(b)(F), (e)(2) and (e)(4) as amended, regarding the prevention of such material spilling onto public streets and roads.	RCTC's Resident Engineer	During construction	--	--
SC-4	RCTC's Resident Engineer will ensure that the design/build contractor complies with the Department's Standard Specifications for Construction (Sections 10 and 18 [Dust Control] and Section 39-3.06 [Asphalt Concrete Plant Emissions]).	RCTC's Resident Engineer	During construction	--	--
SC-5	During the final preconstruction inspection, the RCTC's Project Geologist will conduct appropriate testing to determine whether there are asbestos-containing materials (ACMs) present in the project disturbance limits.	RCTC's Project Geologist	Prior to completion of the PS&E phase and before any ground-disturbing activities	--	--
	If the RCTC's Project Geologist determines that ACMs are present in the project disturbance limits during the final inspection prior to construction, RCTC's Resident Engineer will require the design/build contractor to properly remove and dispose of those ACMs.	RCTC's Resident Engineer	During construction	--	--

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No.	Avoidance, Minimization, and/or Mitigation Measures	Responsible Party	Timing/Phase	Action Taken to Comply with Measures	Date
NOISE					
N-1	Based on studies completed to date, RCTC intends to incorporate noise abatement in the form of reasonable and feasible barriers at 15 to 16 locations, depending on the selected alternative, ranging in height from 8 ft to 14 ft, depending on the alternative and the design variations. Calculations based on preliminary design data indicate that the barriers will reduce noise levels by 5 to 15 A-weighted decibels (dBA) for 333 to 419 homes and the Green River Golf Course, depending on the design variation. If during final design conditions have substantially changed, noise abatement at some of these locations may not be necessary. The final decision on noise abatement will be made on completion of the project design and the public involvement processes for the environmental document.	RCTC's Project Engineer	During final design	--	--
	RCTC's Resident Engineer will require the design/build contractor to construct the noise abatement measures included in the final design and project specifications.	RCTC's Resident Engineer	During construction	--	--
N-2	<p>RCTC's Resident Engineer will require the design/build contractor to control noise from construction activity consistent with the Department's Standard Specifications, Section 14-8.02, "Noise Control," and Standard Special Provisions S5-310. RCTC's Resident Engineer will require the design/build contractor to ensure that noise levels from construction operations within the State right-of-way between the hours of 9:00 p.m. and 6:00 a.m. not exceed 86 dBA at a distance of 50 ft. The noise level requirement will apply to the equipment on the job site or related to the job, including, but not limited to trucks, transit mixers, or transient equipment that may or may not be owned by the contractor.</p> <p>RCTC's Resident Engineer will require the design/build contractor to use an alternative warning method instead of a sound signal unless required by safety laws. In addition, RCTC's Resident Engineer will require the design/build contractor to equip all internal combustion engines with the manufacturer-recommended mufflers and not operate any internal combustion engine on the job site without the appropriate mufflers. As directed by RCTC's Resident Engineer, the design/build contractor will implement appropriate additional noise mitigation measures, including changing the location of stationary construction equipment, turning off idling equipment, rescheduling construction</p>	RCTC's Resident Engineer	During construction	--	--

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No.	Avoidance, Minimization, and/or Mitigation Measures	Responsible Party	Timing/Phase	Action Taken to Comply with Measures	Date
	activity, notifying adjacent residents in advance of construction work, and installing acoustic barriers around stationary construction noise sources.				
N-3	In accordance with the Municipal Codes of the Cities of Anaheim, Corona, Riverside, and Norco, RCTC's Resident Engineer will require the design/build contractor to limit construction activities to between the hours of 7:00 a.m. and 7:00 p.m., Monday through Friday, excluding weekends and holidays. If construction is needed outside those hours or days, RCTC's Resident Engineer will require the design/build contractor to coordinate with the affected local jurisdiction. If the local jurisdiction approves construction hours that are different from those imposed by this measure, then the design/build contractor will immediately request that RCTC's Resident Engineer consider a modification to this measure in accordance with the California Environmental Quality Act (CEQA) to allow construction during the new hours that the local jurisdiction approved. In addition to Measure N-3, Measure GEO-3 specifically addresses potential noise control in the event blasting is necessary during construction along SR-91 east of I-15.	RCTC's Resident Engineer	During construction	--	--
ENERGY					
--	No avoidance, minimization, and/or mitigation measures are required.	--	--	--	--
NATURAL COMMUNITIES					
--	Compensatory Mitigation Compensatory mitigation for the effects to coastal sage scrub (CSS) vegetation within Riverside County will be achieved through project consistency with the Western Riverside County Multiple Species Habitat Conservation Plan (MSHCP). Compensatory mitigation for CSS vegetation not occupied by California gnatcatcher (CAGN) or within CAGN-designated critical habitat is not expected to be required. Permanent effects to CSS vegetation in Orange County occupied by CAGN or within CAGN-designated critical habitat will be mitigated at a minimum mitigation ratio of 3:1. Compensatory mitigation for the total permanent effects for Alternatives 1 and 2 will be conducted off site in advance during the Initial Phases of project construction. This requires off-site acquisition of conservation lands and restoration efforts to enhance and/or create CSS habitat. Temporary effects to CSS vegetation would be mitigated at a minimum mitigation ratio of 1:1 to be	RCTC's Project Manager, RCTC's Resident Engineer, and the Department	During final design	--	--

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No.	Avoidance, Minimization, and/or Mitigation Measures	Responsible Party	Timing/Phase	Action Taken to Comply with Measures	Date
	<p>replaced on site in kind after the temporary impact has occurred. These mitigation ratios are consistent with United States Fish and Wildlife Service (USFWS) standards. Options for compensatory mitigation for the Orange County part of the proposed project will be evaluated and environmental clearance will be obtained (if necessary) through coordination among RCTC, third-party landowners, the Department, and the resource agencies, and may include advanced mitigation. Compensatory mitigation for riparian communities in both counties will be required for United States Army Corps of Engineers (Corps) Section 404 and California Department of Fish and Game (CDFG) Section 1600 permitting. Typically, riparian habitat subject to Corps and CDFG jurisdiction is mitigated at a minimum mitigation-to-effect ratio of 2:1 for permanent effects and 1:1 for temporary effects, which is consistent with Corps and CDFG policies for no net loss of riparian/riverine habitat (e.g., wetlands) standards. Mitigation for permanent effects will be conducted in advance during the Initial Phases in the form of habitat restoration and/or enhancement in on- or off-site areas where similar riparian habitat exists. Temporary effects to riparian communities will be mitigated at a minimum mitigation ratio of 1:1 to be replaced on site in kind after the temporary impact has occurred. Final details for compensatory mitigation will be coordinated and environmental clearance will be obtained (if necessary) through coordination among RCTC, the Department, the resource agencies, and third-party landowners.</p> <p>Prior to beginning construction, a Habitat Mitigation and Monitoring Plan (HMMP) will be developed in coordination with the Corps, CDFG, and USFWS that ensures no net loss of riparian habitat value or acreage. Final details for compensatory mitigation will be evaluated through coordination among the Department, RCTC, and the resource agencies. The HMMP will comply with all terms and conditions set forth in the permits and opinions issued by the resource agencies for the proposed project and will typically include the following provisions:</p> <ul style="list-style-type: none"> • Permanent effects to native habitat will be replaced on or off site at a minimum 2:1 ratio with in-kind habitat. Temporary effects to native vegetation will be replaced at a minimum 1:1 ratio with in-kind habitat 				

Table E-1 Environmental Commitments Record

No.	Avoidance, Minimization, and/or Mitigation Measures	Responsible Party	Timing/Phase	Action Taken to Comply with Measures	Date
	<p>restored in place within the project area. If off-site restoration is conducted, it will be done within the same watershed as the proposed project.</p> <ul style="list-style-type: none"> • The HMMP will identify a success criterion of at least 80 percent cover of native riparian vegetation or composition structure similar to existing adjacent high-quality riparian vegetation. • Further criteria specified in the HMMP will include an establishment period for the replacement habitat, regular trash removal, and regular maintenance and monitoring activities to ensure the success of the mitigation plan. After construction, annual summary reports of biological monitoring will be provided to the Corps, CDFG, and USFWS documenting the monitoring effort. The duration of the monitoring and reporting will be established by resource agency permit conditions. • Compensatory mitigation for effects to oak trees (excluding California scrub oaks) with trunk sizes above 8 inches in diameter at breast height (dbh) will involve replacement at a mitigation-to-effect ratio of 3:1, if feasible. Heritage oaks (oaks with a greater than 36-inch dbh) will be replaced at a mitigation-to-effect ratio of 10:1, if feasible. 				
NC-1	<p>During final design, RCTC's Project Engineer will coordinate with the Designated Qualified Biologist to delineate all environmentally sensitive areas (ESAs) within the project footprint and the immediately surrounding areas in the project specifications. ESAs include CSS, chaparral, and riparian/riverine vegetation; the protected zone of any oak tree (5 ft outside the dripline or 15 ft from the trunk of the tree, whichever is greater) or oak habitat; and designated critical habitat (with constituent elements). In addition, all restoration and mitigation areas at Coal Canyon adjacent to the project footprint will be designated ESAs on the project plans.</p>	RCTC's Project Engineer and the Designated Qualified Biologist	During final design	--	--
	<p>Prior to clearing or construction, RCTC's Resident Engineer will require the design/build contractor to install highly visible barriers (such as orange construction fencing) around all designated ESAs. No grading or fill activity of any type will be permitted within the ESAs. In addition, no construction activities, materials, or equipment will be allowed within the ESAs. All construction equipment will be operated in a manner so as to prevent accidental damage to nearby preserved areas. No structure of any kind, or incidental storage of equipment or supplies, will be allowed</p>	RCTC's Resident Engineer	Prior to clearing or construction	--	--

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No.	Avoidance, Minimization, and/or Mitigation Measures	Responsible Party	Timing/Phase	Action Taken to Comply with Measures	Date
	within the ESAs. Silt fence barriers will be installed at the ESA boundaries to prevent accidental deposition of fill material in areas where vegetation is adjacent to planned grading activities.				
NC-2	RCTC's Resident Engineer will require the design/build contractor to have a Designated Qualified Biologist under contract. The Designated Qualified Biologist will monitor construction in the vicinity of the ESAs for the duration of construction to flush any wildlife species present prior to construction and to ensure that all vegetation removal, BMPs, ESAs, and all avoidance and minimization measures are properly implemented.	RCTC's Project Engineer	Prior to and during construction	--	--
NC-3	To avoid effects to nesting birds, RCTC's Resident Engineer will require the design/build contractor to conduct any native or exotic vegetation removal or tree trimming activities outside of the nesting bird season (i.e., February 15–August 31 within Orange County and March 1–June 30 within Riverside County). In the event that vegetation clearing is necessary during the nesting season, RCTC's Resident Engineer will require the design/build contractor to have the Designated Qualified Biologist conduct a preconstruction survey to identify the locations of nests prior to construction. Should nesting birds be found, RCTC's Resident Engineer will require the design/build contractor to establish an exclusionary buffer developed in consultation among RCTC's Resident Engineer, the design/build contractor, and the Designated Qualified Biologist. This buffer will be clearly marked in the field by construction personnel under guidance of the design/build contractor's Designated Qualified Biologist, and construction or clearing will not be conducted within this zone until the Designated Qualified Biologist determines that the young have fledged or the nest is no longer active.	RCTC's Resident Engineer and the design/build contractor's Designated Qualified Biologist	Prior to and during construction	--	--
NC-4	When work is conducted during the fire season (as identified by the Orange County Fire Authority [OCFA] or the Riverside County Fire Department) adjacent to CSS or chaparral vegetation, RCTC's Resident Engineer will require the design/build contractor to ensure that appropriate firefighting equipment (e.g., extinguishers, shovels, water tankers) is available on site during all phases of project construction to help minimize the potential for human-caused wildfires. Shields, protective mats, and/or other fire-preventive methods will be used during grinding, welding, and other spark-inducing activities. Personnel trained in fire hazards, preventive actions, and responses to fires will	RCTC's Resident Engineer and the design/build contractor's Designated Qualified Biologist	During construction	--	--

Table E-1 Environmental Commitments Record

No.	Avoidance, Minimization, and/or Mitigation Measures	Responsible Party	Timing/Phase	Action Taken to Comply with Measures	Date
	<p>advise contractors regarding fire risk from all construction-related activities.</p> <p>If OCFA requires the RCTC to clear defensible spaces during construction, the RCTC's Resident Engineer, the design/build contractor, and the design/build contractor's Designated Qualified Biologist will coordinate with the USFWS prior to this clearing effort. In the event there are resources in the areas identified for defensible clearing, RCTC's Resident Engineer and the Designated Qualified Biologist will coordinate with any applicable permitting agencies regarding possible effects to those resources prior to approving the defensible clearing of any areas by the contractor.</p>				
NC-5	<p>During final design, the Project Engineer will coordinate with the Designated Qualified Biologist to identify developed or nonsensitive upland habitat areas appropriate for use during construction for equipment maintenance, staging, dispensing of fuel and oil, or any other such activities and will delineate and identify those areas on the project specifications. The Designated Qualified Biologist will specifically identify developed or nonsensitive upland habitat areas to prevent any spill runoff on those sites from entering waters of the United States.</p>	<p>RCTC's Resident Engineer and the Designated Qualified Biologist</p>	<p>During final design</p>	<p>--</p>	<p>--</p>
	<p>During construction, RCTC's Resident Engineer will require the design/build contractor to ensure that all equipment maintenance, staging, dispensing of fuel and oil, or any other such activities occur in developed or designated nonsensitive upland habitat areas designated in the project specifications for those uses.</p>	<p>RCTC's Resident Engineer</p>	<p>During construction</p>	<p>--</p>	<p>--</p>
NC-6	<p>During final design, RCTC's Project Engineer will coordinate with the Designated Qualified Biologist to identify the locations of all existing wildlife fencing and will delineate and identify those areas on the project specifications.</p>	<p>RCTC's Resident Engineer and the Designated Qualified Biologist</p>	<p>During final design</p>	<p>--</p>	<p>--</p>
	<p>Prior to and during construction, RCTC's Resident Engineer will require the design/build contractor to install new fencing prior to the removal of any existing wildlife fencing to protect against wildlife-vehicle incidents. The new fencing must be the same or greater height than the previous wildlife fence. The</p>	<p>RCTC's Resident Engineer</p>	<p>Prior to and during construction</p>	<p>--</p>	<p>--</p>
	<p>RCTC Resident Engineer will require the design/build contractor to ensure that the fencing is maintained and functional throughout the project construction.</p>	<p>RCTC's Resident Engineer</p>	<p>Prior to and during construction</p>	<p>--</p>	<p>--</p>

Table E-1 Environmental Commitments Record

No.	Avoidance, Minimization, and/or Mitigation Measures	Responsible Party	Timing/Phase	Action Taken to Comply with Measures	Date
	The Department will ensure that the fencing is maintained and functional throughout the life of the project to prevent wildlife-vehicle incidents.	The Department	During operations	--	--
NC-7	During final design, RCTC's Project Engineer will coordinate with the Designated Qualified Biologist to identify the habitat adjacent to Coal Canyon, Fresno Canyon/Wardlow Wash, and Bedford Wash that is anticipated to be disturbed by construction activities and will delineate those areas on the project specifications.	RCTC's Project Engineer and the Designated Qualified Biologist	During final design	--	--
	RCTC's Resident Engineer will require the design/build contractor to restore disturbed habitat adjacent to Coal Canyon, Fresno Canyon/Wardlow Wash, and Bedford Wash with native vegetation to the best extent feasible during and after construction.	RCTC's Resident Engineer	During and after construction	--	--
NC-8	During final design, RCTC's Project Engineer will coordinate with the Designated Qualified Biologist to delineate all wildlife corridors within the project footprint and the immediately surrounding areas as ESAs in the project specifications.	RCTC's Project Engineer and the Designated Qualified Biologist	During final design	--	--
	Prior to and during construction, RCTC's Resident Engineer will require the design/build contractor to ensure that equipment maintenance, lighting, and staging are limited to designated areas away from wildlife corridor entrances.	RCTC's Resident Engineer	Prior to and during construction	--	--
NC-9	During final design, RCTC's Project Engineer will develop design and construction management measures to direct temporary construction noise and nighttime construction lighting and permanent facility lighting away from the wildlife corridors, bridges (structures potentially occupied by bats), biologically sensitive areas, Western Riverside County MSHCP Conservation Areas, vegetated drainages, CSS in CAGN-designated critical habitat with long-term conservation value for covered species. Those design measures will be approved by Department District 8 Biology/Environmental prior to final PS&E.	RCTC's Project Engineer with the approval of Department's Biology/Environmental	Prior to the completion of PS&E	--	--
	If construction work must be done at night, RCTC's Resident Engineer will require the design/build contractor to properly implement the measures developed during final design to direct noise and direct lighting away from the wildlife corridors, bridges, and biologically sensitive areas during those nighttime construction activities.	RCTC's Resident Engineer	During any nighttime construction near wildlife corridors, bridges (potentially occupied by bats), and biologically sensitive areas	--	--

Table E-1 Environmental Commitments Record

No.	Avoidance, Minimization, and/or Mitigation Measures	Responsible Party	Timing/Phase	Action Taken to Comply with Measures	Date
NC-10	Prior to and during construction, RCTC's Resident Engineer will require the design/build contractor to keep the wildlife corridors clear of all equipment or structures that could potentially serve as barriers to wildlife passage.	RCTC's Resident Engineer	Prior to and during construction	--	--
NC-11	During final design, RCTC's Project Engineer will ensure that the existing culvert structures that will be extended or modified by the project are designed so that they are at least as compatible with wildlife usage as the existing culvert structures. Those culverts will be shown on the project specifications.	RCTC's Project Engineer	During final design	--	--
	RCTC's Resident Engineer will require the design/build contractor to properly implement these compatible culvert designs during construction.	RCTC's Resident Engineer	During construction	--	--
NC-12	Within Coal Canyon, Fresno Canyon/Wardlow Wash, and Bedford Wash, RCTC's Resident Engineer will require the design/build contractor to limit the hours of construction within 1,000 ft from the centerline of each of these crossing to daylight hours (7:00 a.m.-4:00 p.m.) to the best extent feasible to ensure continued use of these wildlife corridors during construction.	RCTC's Resident Engineer	Prior to and during construction	--	--
NC-13	During final design, RCTC's Project Engineer will ensure that the design and construction process for all structures required for bridgework within Coal Canyon, Fresno Canyon/Wardlow Wash, and Bedford Wash, will not block the main underpass at these locations during construction. RCTC's Project Engineer will ensure that the design of the scaffolding and false work is restricted to the sides of the underpass and limits of the existing exclusionary chain-link fence to maintain the existing width of the wildlife corridor during construction activities.	RCTC's Project Engineer	During final design	--	--
	During construction within Coal Canyon, Fresno Canyon/Wardlow Wash, and Bedford Wash, RCTC's Resident Engineer will require the design/build contractor to ensure that all structures required for bridgework are installed and constructed consistent with the final design specifically to avoid blocking the main underpass during construction and to restrict all scaffolding and false work to the sides of the underpass and limits of the existing exclusionary chain-link fence to maintain the existing width of the wildlife corridor during construction activities.	RCTC's Resident Engineer	During construction	--	--

Table E-1 Environmental Commitments Record

No.	Avoidance, Minimization, and/or Mitigation Measures	Responsible Party	Timing/Phase	Action Taken to Comply with Measures	Date
NC-14	Minimal equipment staging area is available at the eastbound Coal Canyon off-ramp along the sides of the paved road and will be used for the staging of equipment for Coal Canyon work only. During final design, RCTC's Project Engineer will ensure that the available area for construction staging at the eastbound Coal Canyon off-ramp is delineated on the project specifications.	RCTC's Project Engineer	During final design	--	--
	RCTC's Resident Engineer will require the design/build contractor to minimize the use of this area during construction and, where possible, to avoid the area from February 15 to September 1. RCTC's Resident Engineer will require the design/build contractor to ensure that vehicles staged in this area are equipped with security lights.	RCTC's Resident Engineer	During construction	--	--
NC-15	During construction within Coal Canyon, RCTC's Resident Engineer will require the design/build contractor to keep the Coal Canyon on- and off-ramps open at all times for emergency and police personnel. RCTC's Resident Engineer will require the design/build contractor to ensure that use of the emergency access road as a turnaround or shortcut for any construction or non-emergency traffic is prohibited. That road will only be used during bridge construction and general road construction at Coal Canyon. RCTC's Resident Engineer will also require the design/build contractor to ensure that, in general, no hauling is allowed at night through underpasses and freeway off-ramps.	RCTC's Resident Engineer	During construction	--	--
NC-16	During construction in Coal Canyon, RCTC's Resident Engineer will require the design/build contractor to close the gates at Coal Canyon at the end of each construction day. The locations of those gates will be shown on the project specifications.	RCTC's Resident Engineer	During final design	--	--
NC-17	During final design, RCTC's Project Engineer will coordinate with the Designated Qualified Biologist to identify existing and proposed conservation areas within the project footprint or in the immediately surrounding areas and will designate those areas on the project specifications. To reduce impacts where the project interfaces with existing or proposed conservation areas prior to and during construction, RCTC's Project Manager will ensure that the project complies with the Urban/Wildlands Interface Guidelines in Section 6.1.4 of the Western Riverside County MSHCP. The project specifications will include applicable guidelines from the Western Riverside County MSHCP.	RCTC's Resident Engineer and the Designated Qualified Biologist	During final design	--	--

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No.	Avoidance, Minimization, and/or Mitigation Measures	Responsible Party	Timing/Phase	Action Taken to Comply with Measures	Date
	Prior to and during construction, RCTC's Resident Engineer will require the design/build contractor to comply with guidelines from the Western Riverside County MSHCP included in the project specifications.	RCTC's Resident Engineer	Prior to and during construction	--	--
NC-18	During final design, RCTC's Project Engineer will coordinate with the Designated Qualified Biologist to identify existing Criteria Areas within the project footprint or in the immediately surrounding areas and will designate those areas on the project specifications.	RCTC's Project Engineer	During final design	--	--
	To reduce impacts where the project is located within the Criteria Area, RCTC's Project Manager will ensure that the project complies with the applicable siting and design criteria and the Construction Guidelines in Section 7.5.2 of the Western Riverside County MSHCP. The project specifications will include applicable guidelines from the Western Riverside County MSHCP.	RCTC's Project Manager	During final design	--	--
	During construction, RCTC's Resident Engineer will require the design/build contractor to comply with guidelines from the Western Riverside County MSHCP included in the project specifications.	RCTC's Resident Engineer	During construction	--	--
NC-19	The SR-91 CIP is a covered project. Therefore, RCTC's Resident Engineer will ensure that the SR-91 CIP complies with all Western Riverside County MSHCP Construction Guidelines and Standard BMPs prior to and during construction.	RCTC's Resident Engineer	Prior to and during construction	--	--
WETLANDS AND OTHER WATERS					
WET-1	RCTC's Project Manager will ensure that prior to any clearing or construction, an Individual Permit is obtained through the Corps pursuant to Section 404 of the Clean Water Act (CWA). After coordination with the Corps, if appropriate, a Nationwide Permit will be pursued.	RCTC's Project Manager	Prior to clearing or construction	--	--
	RCTC's Resident Engineer will retain a copy of the Corps permit at the construction site and will ensure that the conditions in that permit are properly implemented prior to and during construction.	RCTC's Resident Engineer	Prior to and during construction	--	--
WET-2	RCTC's Project Manager will ensure that prior to any clearing or construction, a Streambed Alteration Agreement with CDFG is obtained.	RCTC's Project Manager	During final design	--	--
	RCTC's Resident Engineer will retain a copy of the CDFG agreement at the construction site and will ensure that the conditions in that agreement are properly implemented prior to and during construction.	RCTC's Resident Engineer	Prior to and during construction	--	--

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No.	Avoidance, Minimization, and/or Mitigation Measures	Responsible Party	Timing/Phase	Action Taken to Comply with Measures	Date
WET-3	RCTC's Project Manager will ensure that prior to any clearing or construction, a Section 401 Water Quality Certification from the RWQCB is obtained.	RCTC's Project Manager	During final design	--	--
	RCTC's Resident Engineer will retain a copy of the Section 401 certification at the construction site and will ensure that the conditions in that certification are properly implemented prior to and during construction.	RCTC's Resident Engineer	Prior to and during construction	--	--
PLANT SPECIES					
--	The measures provided for natural communities, and threatened and endangered species will adequately avoid and minimize impacts to special-status plant species during construction of the SR-91 CIP Build Alternatives. No additional avoidance, minimization, or compensatory mitigation for plant species is required.	--	--	--	--
ANIMAL SPECIES					
AS-1	During final design, RCTC's Project Engineer will coordinate with the Designated Qualified Biologist to identify all areas of potential burrowing owl (BUOW) habitat within the project footprint or in the immediately surrounding areas and will designate those areas on the project specifications.	RCTC's Project Engineer and the Designated Qualified Biologist	During final design	--	--
	To ensure that any BUOW that may occupy the site in the future are not affected by construction activities, RCTC's Resident Engineer will require the design/build contractor to have preconstruction BUOW surveys conducted by a Designated Qualified Biologist within 30 days prior to any phase of construction in the areas identified as potential BUOW habitat. These preconstruction surveys are also required to comply with the Western Riverside County MSHCP, the federal Migratory Bird Treaty Act (MBTA), and the California Fish and Game Code. If any of the preconstruction surveys determine that BUOW are present, one or more of the following mitigation measures may be required: (1) avoidance of active nests/burrows and surrounding buffer area during construction activities; (2) passive relocation of individual owls; (3) active relocation of individual owls; and (4) preservation of on-site habitat with long-term conservation value for the owl. The specifics of the required measures will be coordinated among the Department District Biologist, RCTC's Project Manager, RCTC's Resident Engineer, the design/build contractor, the design/build contractor's Designated Qualified Biologist, and the resource agencies.	RCTC's Project Manager and Resident Engineer, the Department District Biologist, and resource agencies	Prior to any construction in areas identified as potential BUOW habitat	--	--

Table E-1 Environmental Commitments Record

No.	Avoidance, Minimization, and/or Mitigation Measures	Responsible Party	Timing/Phase	Action Taken to Comply with Measures	Date
	RCTC's Resident Engineer will ensure that any BUOW measures determined to be required based on the results of the preconstruction surveys and the required coordination are properly implemented by the design/build contractor prior to and during construction in the BUOW areas identified in the surveys.	RCTC's Resident Engineer	Prior to and during construction in BUOW areas identified in the preconstruction surveys	--	--
AS-2	During final design, RCTC's Project Engineer will coordinate with the Designated Qualified Biologist to identify all areas of potential bat habitat within the project footprint or in the immediately surrounding areas and will designate those areas on the project specifications.	RCTC's Project Engineer and the Designated Qualified Biologist	During final design	--	--
	RCTC's Project Manager will require the design/build contractor to have a Designated Qualified Bat Biologist survey all potential bat habitat in June, prior to construction, to assess the potential for the presence of maternity roosts because maternity roosts are generally formed in late spring. The Designated Qualified Bat Biologist will also perform preconstruction surveys because bat roosts can change seasonally. The surveys will include a combination of structure inspection, sampling, exit counts, and acoustic surveys.	RCTC's Project Manager	In June and prior to construction	--	--
AS-3	To avoid direct mortality to bats roosting in areas subject to effects from construction activities, RCTC's Resident Engineer will require the design/build contractor to ensure that any structure with potential bat habitat will have temporary bat exclusion devices installed under the supervision of the Designated Qualified Bat Biologist prior to construction. The installation of the exclusion devices will be conducted during the fall (September or October) to avoid trapping flightless young inside during the summer months or hibernating individuals during the winter. Such exclusion efforts must be continued to keep the structures free of bats until the completion of construction. Replacement roosting habitat may also be needed to minimize effects to excluded bats. All bat exclusion techniques will be coordinated among the Department District 8 Biologist, RCTC's Project Manager, RCTC's Resident Engineer, the design/build contractor, the design/build contractor's Designated Qualified Bat Biologist, and the resource agencies.	RCTC's Resident Engineer in coordination with the RCTC Project Manager, the Department District 8 Biologist and the resource agencies	Prior to construction at structures with potential bat habitat	--	--
AS-4	As required in Measure NC-10, RCTC's Resident Engineer will ensure that all construction work on bridges will take place during the day to the best extent feasible. If this is not feasible, effects will be minimized based on design and construction management measures developed	RCTC's Resident Engineer	Prior to and during construction on bridges	--	--

Table E-1 Environmental Commitments Record

No.	Avoidance, Minimization, and/or Mitigation Measures	Responsible Party	Timing/Phase	Action Taken to Comply with Measures	Date
	by the RCTC Project Engineer during final design to direct lighting and noise away from night roosting areas for bats as much as possible.				
AS-5	RCTC's Project Engineer will ensure that the final design specifically addresses keeping riparian vegetation delineated on the project specifications that is adjacent to bat roosting sites intact to the best extent feasible during construction. The measures in final design to achieve this will be included in the project specifications.	RCTC's Project Engineer	During final design	--	--
	Prior to and during construction, RCTC's Resident Engineer will require the design/build contractor to properly implement the measures in the project specifications to keep riparian vegetation adjacent to bat roosting sites intact to the best extent feasible.	RCTC's Resident Engineer	Prior to and during construction	--	--
AS-6	To prevent project effects to bridge- and crevice-nesting birds (i.e., swifts and swallows), RCTC's Resident Engineer will require the design/build contractor to ensure that all work on existing bridges with potential habitat that is conducted between February 15 and October 31 includes removal of all bird nests prior to construction under the guidance and observation of the Designated Qualified Biologist prior to February 1 of that year, before the swallow colony returns to the nesting site. Removal of swallow nests that are under construction must be repeated as frequently as necessary to prevent nest completion or until a nest exclusion device is installed (such as netting or a similar mechanism that keeps birds from building nests). Nest removal and exclusion device installation will be monitored by the Designated Qualified Biologist. Such exclusion efforts must be continued to keep the structures free of swallows until September or completion of construction. All nest exclusion techniques will be coordinated among the Department District 8 Biologist, RCTC's Project Manager, RCTC's Resident Engineer, the design/build contractor, the design/build contractor's Designated Qualified Biologist, and the resource agencies.	RCTC's Resident Engineer and Project Manager, and the Designated Qualified Biologist in coordination with the Department District 8 Biologist and the resource agencies	Prior to construction at structures with potential habitat for bridge- and crevice-nesting birds	--	--

Table E-1 Environmental Commitments Record

No.	Avoidance, Minimization, and/or Mitigation Measures	Responsible Party	Timing/Phase	Action Taken to Comply with Measures	Date
AS-7	<p>During final design, RCTC's Project Manager, the Department District 8 Biologist, and the Designated Qualified Biologist will determine whether structural features providing existing roosting habitat cannot be permanently retained following construction. If that is the case, RCTC's Project Manager, RCTC's Project Engineer, the Department District 8 Biologist, and the Designated Qualified Biologist will identify alternative roosting habitat to be installed during project construction. The project specifications will include suitable designs and specifications for bat exclusion and habitat replacement structures.</p>	<p>RCTC's Project Manager, the Department District 8 Biologist, and the Designated Qualified Biologist</p>	<p>During final design</p>	<p>--</p>	<p>--</p>
	<p>Prior to and during construction, RCTC's Resident Engineer will require the design/build contractor to properly implement the designs and specifications for bat exclusion and habitat replacement structures included in the project specifications. The installation and maintenance of those structures will be monitored by the Designated Qualified Biologist.</p>	<p>RCTC's Resident Engineer and the Designated Qualified Biologist</p>	<p>During construction</p>	<p>--</p>	<p>--</p>
THREATENED AND ENDANGERED SPECIES					
--	<p>Compensatory Measures Section 7 Consultation with the USFWS will be required to address effects to CAGN and primary constituent elements within CAGN-occupied and/or critical habitat areas within the Orange County part of the SR-91 CIP. For these areas, the proposed minimum mitigation ratios of 3:1 for permanent impacts and 1:1 for temporary impacts to CSS are consistent with USFWS standards. In addition, although chaparral is typically not suitable for nesting CAGN, it may be used for foraging and dispersal. Because of this, chaparral within CAGN-designated critical habitat will likely require a minimum mitigation ratio of 1:1 for permanent and temporary impacts. Compensatory mitigation will require on-site restoration within the State right-of-way or off-site acquisition of conservation lands and restoration efforts to enhance or create CSS and/or chaparral. Options for compensatory mitigation for the Orange County part of the SR-91 CIP will be evaluated through coordination between the Department and the resource agencies. Within the Riverside County part of the project, CAGN is a covered species under the Western Riverside County MSHCP. In general, mitigation for impacts to CAGN within Riverside County will be achieved through project consistency with the Western Riverside County MSHCP. Section 7 Consultation with the USFWS will be required to</p>	<p>RCTC's Project Manager in coordination with the Department</p>	<p>Prior to construction</p>	<p>--</p>	<p>--</p>

Table E-1 Environmental Commitments Record

No.	Avoidance, Minimization, and/or Mitigation Measures	Responsible Party	Timing/Phase	Action Taken to Comply with Measures	Date
	<p>address effects to least Bell's vireo (LBV) and LBV-occupied areas. In addition, LBV is a covered species under the Western Riverside County MSHCP. In general, mitigation for impacts to LBV within Riverside County will be achieved through project consistency with the Western Riverside County MSHCP, which requires analysis of project effects and development of compensatory mitigation as described for the riparian/riverine natural communities in Section 3.17.4.1.</p> <p>It was determined by the parties involved in establishing the Western Riverside County MSHCP that take of Stephens' kangaroo rat (SKR) outside the boundaries of the SKR Habitat Conservation Plan (HCP) is covered under the Western Riverside County MSHCP. Thus, take of SKR outside the SKR HCP boundaries but within the Western Riverside County MSHCP plan area is authorized by the Western Riverside County MSHCP. For the parts of the Build Alternatives within the boundaries of the SKR HCP, mitigation will be achieved through project consistency with the SKR HCP. Even though part of the SR-91 CIP is located within the SKR HCP fee area, Riverside County Ordinance 663.10 describes mitigation fee exemptions for specific types of development. Because SR-91 is an existing freeway, any rehabilitation and remodeling of SR-91 is exempt under Section 10(b) of the ordinance.</p> <p>Compensatory mitigation for the riparian/riverine natural communities in Section 3.17.4.1 will benefit the western yellow-billed cuckoo, southwestern willow flycatcher (SWWF), and bald eagle as these species occur or forage within this habitat.</p>				
INVASIVE SPECIES					
IS-1	<p>During final design, RCTC's Project Engineer will develop a weed abatement program for inclusion in the project specifications. That program will be developed in compliance with Executive Order (EO) 13112 to minimize the potential for intrusion or export of invasive plant species to and from the biological study area (BSA) during project construction. At a minimum, the following will be included in the weed abatement program and implemented prior to and during construction to address potential effects associated with invasive species:</p>	RCTC's Project Engineer	During final design	--	--

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No.	Avoidance, Minimization, and/or Mitigation Measures	Responsible Party	Timing/Phase	Action Taken to Comply with Measures	Date
	<ul style="list-style-type: none"> RCTC's Resident Engineer will require the design/build contractor to inspect and clean construction equipment at the beginning and end of each day and prior to transporting equipment from one project location to another. 	RCTC's Resident Engineer	Prior to and during construction	--	--
	<ul style="list-style-type: none"> RCTC's Resident Engineer will require the design/build contractor to minimize soil and vegetation disturbance to the greatest extent feasible. 	RCTC's Resident Engineer	Prior to and during construction	--	--
	<ul style="list-style-type: none"> RCTC's Resident Engineer will require the design/build contractor to obtain soil, gravel, and rock from weed-free sources. 	RCTC's Resident Engineer	During construction	--	--
	<ul style="list-style-type: none"> RCTC's Resident Engineer will require the design/build contractor to use only certified weed-free straw, mulch, and/or fiber rolls for erosion control during construction. 	RCTC's Resident Engineer	During construction	--	--
	<ul style="list-style-type: none"> Prior to the completion of construction, RCTC's Resident Engineer will require the design/build contractor to revegetate affected areas adjacent to native vegetation with plant species that are native to the vicinity and approved by the Department District 8 Biologist. 	RCTC's Resident Engineer with the approval of the Department District 8 Biologist	Prior to the completion of construction	--	--
	<ul style="list-style-type: none"> RCTC's Resident Engineer will require the design/build contractor to not use any species listed in the California Invasive Plant Council (Cal-IPC) California Invasive Plant Inventory with a high or moderate rating in revegetation. 	RCTC's Resident Engineer	Prior and during construction	--	--
	<ul style="list-style-type: none"> After construction, RCTC's Resident Engineer will ensure that erosion control and revegetation sites are monitored until achievement of the performance standards included in the weed abatement program or for a period of 2 to 3 years after installation to detect nonnative species prior to the establishment of the native vegetation. 	RCTC's Resident Engineer	After the completion of project construction	--	--
	<ul style="list-style-type: none"> RCTC's Resident Engineer will require the design/build contractor and the post-construction monitors to implement eradication procedures (e.g., spraying and/or hand weeding) should an infestation occur. The use of herbicides will be prohibited within and adjacent to native vegetation, except as specifically authorized and monitored by the Department District 8 Biologist during and after project construction. 	RCTC's Resident Engineer under supervision by Caltrans District Biologist	During and after project construction	--	--

Table E-1 Environmental Commitments Record

No.	Avoidance, Minimization, and/or Mitigation Measures	Responsible Party	Timing/Phase	Action Taken to Comply with Measures	Date
	<ul style="list-style-type: none"> During construction, RCTC's Resident Engineer will require the design/build contractor to reduce indirect impacts of exotic plant infestations and litter by regular roadside maintenance to remove litter and weeds from the right-of-way. 	RCTC's Resident Engineer	During construction	--	--
	<ul style="list-style-type: none"> Because the Department already conducts regular ongoing maintenance of landscaping in the State right-of-way, no additional project-specific measures for invasive species are required during project operations. 	Department	During operations	--	--
RELATIONSHIP BETWEEN LOCAL SHORT-TERM USES OF THE HUMAN ENVIRONMENT AND THE MAINTENANCE AND ENHANCEMENT OF LONG-TERM PRODUCTIVITY					
--	No avoidance, minimization, and/or mitigation measures are required.	--	--	--	--
IRREVERSIBLE AND IRRETRIEVABLE COMMITMENTS OF RESOURCES THAT WOULD BE INVOLVED IN THE PROPOSED ACTION					
--	No avoidance, minimization, and/or mitigation measures are required.	--	--	--	--
CUMULATIVE IMPACTS					
--	No avoidance, minimization, and/or mitigation measures are required beyond those listed above for Alternatives 1 and 2.	--	--	--	--

¹ The Western Riverside County Multiple Species Habitat Conservation Plan (MSHCP) provides this measurement in metric units.

**Measure T-3:
Table T-3.1 Fair-Share Analysis for Intersection Deficiencies in 2015 and Design Year 2035**

Intersection	Recommended Improvements	Fair-Share (%)		
		2015 Alt 1	2015 Initial Phase of Alt 2 (LPA)	Design Year 2035 Alt 2 (LPA)
Green River Road/SR-91 WB ramps	Add WBL	0%	76%	0%
Green River Road/SR-91 EB ramps	Restripe shared EBL-T to shared EBT-R and add EBL	12%	23%	36%
Auto Center Drive/SR-91 WB ramps	Add 2nd NBL	0%	No mitigation required	0%
Maple Street/Pomona Road	Add 2nd SBT	0%	No mitigation required	0%
Lincoln Avenue/SR-91 WB ramps	Add 2nd NBL; Add 3rd SBT	74%	60%	68%
Lincoln Avenue/SR-91 EB ramps	Restripe shared NBT-R to 2nd NBT and add 3rd NBT and exclusive NBR; Add 2nd SBL	92%	86%	94%
Main Street/North Grand Boulevard	Restripe shared NBT-R to NBT, Add NBR, Add 2nd SBL	63%	38%	96%
Main Street/SR-91 WB ramps	Add 3rd NBT; Restripe SBR to shared SBT-R and add 4th SBT	0%	0%	0%
Main Street/SR-91 EB ramps	Add shared NBT-R; Add 3rd SBT	100%	100%	100%
Main Street/Third Street	Add 3rd NBT; Add 3rd SBT	43%	69%	100%
McKinley Street/Griffin Way	Restripe shared EBT-R to 1st EBT and add 2nd EBR	20%	No mitigation required	16%
McKinley Street/Sampson Avenue	Add 3rd NBT	27%	No mitigation required	48%
Pierce Street/Magnolia Avenue	Add 2nd SBT; Add 2nd EBL and 3rd EBT	0%	0%	0%
Hamner Avenue/Second Street	Add 3rd NBT; Restripe exclusive SBR to shared SBT-R	0%	No mitigation required	1%
Hamner Avenue/Hidden Valley Parkway	Add 3rd NBT and 2nd NBR; Add 2nd SBL and restripe exclusive SBR to shared SBT-R; Add 2nd WBL and restripe shared WBL-T to 2nd WBT	4%	11%	17%
Rimpau Avenue/Magnolia Avenue	Add 2nd NBT; Add 2nd SBT; Restripe shared EBT-R to 3rd EBT and add EBR	0%	No mitigation required	0%
El Sobrante /Magnolia Avenue	Restripe shared NBT-R to 1st NBT and add NBR; Restripe share WBT-R to 2nd WBT, add 3rd WBT and WBR	0%	No mitigation required	0%
I-15 SB ramps/Magnolia Avenue	2035: Restripe shared SBL-T to shared SBL-T-R; Restripe 3rd WBT to 2nd WBL	0%	No mitigation required	0%
I-15 SB ramps/Ontario Avenue	2015: Add 3rd WBT	0%	6%	22%
	2035: Add 2nd EBR; Add 3rd WBT	0%	NA	0%
Bedford Canyon Road/Cajalco Road	Add 2nd SBL; Add 3rd WBT	0%	6%	5%

Source: PB Americas, Inc. 2010.

Alt = Alternative
 EB = eastbound
 EBL = eastbound left
 EBL-T = eastbound left-through
 EBR = eastbound right
 EBT = eastbound through
 EBT-R = eastbound through-right

LPA = Locally Preferred Alternative
 NB = northbound
 NBL = northbound left
 NBR = northbound right
 NBT = northbound through
 NBT-R = northbound through-right
 SB = southbound

SBL = southbound left
 SBL-T = southbound left-through
 SBL-T-R = southbound left-through-right
 SBR = southbound right
 SBT = southbound through
 SBT = southbound through
 SBT-R = southbound through-right

WB = westbound
 WBL = westbound left
 WBL-T = westbound left-through
 WBR = westbound right
 WBT = westbound through
 WBT-R = westbound through-right

Measure T-3:
Table T-3.2 2015 Initial Phase of Alternative 2 (LPA) Recommended Intersection Improvements

Intersection	2015 No Build				2015 Initial Phase of Alt 2 (LPA)				2015 Initial Phase of Alt 2 (LPA) With Improvements				Recommended Improvements ¹
	AM Peak Hour		PM Peak Hour		AM Peak Hour		PM Peak Hour		AM Peak Hour		PM Peak Hour		
	Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)	LOS	
Green River Road / SR-91 WB ramps	62.6	E	26.2	C	68.9	E	31.8	C	60.6	E	24.9	C	Add westbound left
Green River Road / SR-91 EB ramps	29.7	C	96.6	F	29.5	C	114.9	F	31.8	C	35.0	C	Restripe shared EB left-through to shared EB through-right and add EB left
Lincoln Avenue / SR-91 WB ramps ²	-	-	-	-	18.5	B	14.2	B	17.0	B	13.2	B	Add 2nd NB left; add 3rd SB through
Lincoln Avenue / SR-91 EB ramps ²	24.9	C	141.9	F	93.5	F	104.3	F	13.4	B	28.4	C	Restripe shared NB through-right to 2nd NB through, add 3rd NB through and NB right; add 2nd SB left
Main Street / North Grand Boulevard	32.3	C	71.7	E	30.9	C	74.3	E	28.3	C	67.3	E	Add exclusive NB right; add 2nd SB left
Main Street / SR-91 WB ramps ³	29.3	C	87.9	F	24.4	C	73.5	E	20.0	B	49.7	D	Add 3rd NB through; restripe SB right to shared SB through-right and add 4th SB through
Main Street / SR-91 EB ramps ³	14.5	B	20.0	B	16.9	B	33.7	C	15.0	B	23.7	C	Add shared NB through-right; add 3rd SB through
Main Street / Third Street	45.7	D	29.9	C	60.5	E	41.0	D	38.9	D	29.4	C	Add 3rd NB through; add 3rd SB through
Pierce Street / Magnolia Avenue	33.1	C	61.9	E	31.1	C	57.1	E	30.7	C	47.4	D	Add 2nd SB through; add 3rd EB through
Hamner Avenue / Hidden Valley Parkway	39.3	D	85.5	F	40.8	D	90.6	F	28.9	C	44.5	D	Add 3rd NB through and 2nd NB right; restripe shared WB left-through to 2nd WB left
I-15 SB ramps / Ontario Avenue	79.1	E	38.1	D	81.7	F	47.2	D	38.7	D	47.1	D	Add 3rd WB through

Source: Synchro as presented in the *Final Draft Traffic Study Report* (July 2010).

Note: A black box (**F**) represents a deficient segment.

¹ Bold italic type denotes improvement measures that differ from 2015 No Build conditions.

² Geometrics for Alternative 2 (LPA) represent a diamond configuration.

³ Geometrics for Alternative 2 (LPA) are the configuration of a WB slip-ramp from the SR-91 mainline into the collector-distributor facility for the I-15 NB and SB connectors to WB SR-91 to exit at Main Street.

Alt = Alternative
EB = eastbound
I-15 = Interstate 15
LOS = level of service

LPA = Locally Preferred Alternative
NB = northbound
SB = southbound

sec = seconds
SR-91 = State Route 91
WB = westbound

**Measure T-3:
Table T-3.3 Design Year 2035 Alternative 1 Recommended Intersection Improvements**

Intersection	Design Year 2035 No Build				Design Year 2035 Alt 1				Design Year 2035 Alt 1 With Improvements				Recommended Improvements ¹
	AM Peak Hour		PM Peak Hour		AM Peak Hour		PM Peak Hour		AM Peak Hour		PM Peak Hour		
	Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)	LOS	
Green River Road / SR-91 WB ramps	85.0	F	31.6	C	73.8	E	31.7	C	69.1	E	23.3	C	Add WB left
Green River Road / SR-91 EB ramps	42.6	D	158.4	F	38.7	D	163.1	F	39.2	D	53.9	D	Restripe shared EB left-through to shared EB through-right and add EB left
Auto Center Drive / SR-91 WB ramps ²	82.2	F	19.2	B	63.6	E	14.0	B	20.3	C	13.9	B	Add 2nd NB left
Maple Street / Pomona Road	79.1	E	49.8	D	76.0	E	50.9	D	43.0	D	45.8	D	Add 2nd SB through
Lincoln Avenue / SR-91 WB ramps ³	-	-	-	-	96.6	F	33.7	C	15.9	B	15.3	B	Add 2nd NB left; add 3rd SB through
Lincoln Avenue / SR-91 EB ramps ³	35.8	D	66.5	E	183.1	F	123.2	F	17.2	B	14.2	B	Restripe shared NB through-right to 2nd NB through; add 3rd NB through and NB right; add 2nd SB left
Main Street / Grand Boulevard	36.9	D	97.6	F	42.0	D	81.0	F	37.8	D	70.6	E	Restripe shared NB through-right to 2nd NB through and add exclusive NB right; add 2nd SB left
Main Street / SR-91 WB ramps ⁴	25.5	C	137.9	F	43.0	D	119.1	F	31.0	C	78.6	E	Add 3rd NB through; restripe SB right to shared SB through-right and add 4th SB through
Main Street / SR-91 EB ramps ⁴	20.7	C	25.3	C	44.9	D	38.4	D	21.7	C	30.4	C	Add shared NB through-right; add 3rd SB through
Main Street / Third Street	65.4	E	62.5	E	76.6	E	61.9	E	50.7	D	34.6	C	Add 3rd NB through; add 3rd SB through
McKinley Street / Griffin Way	29.3	C	63.7	E	31.1	D	69.0	E	28.7	C	42.9	D	Restripe shared EB through-right to 1st EB through and add 2nd EB right
McKinley Street / Sampson Avenue	38.2	D	53.1	D	40.3	D	56.5	E	41.4	D	44.1	D	Add 3rd NB through; restripe shared WB through-right to WB right
Pierce Street / Magnolia Avenue	56.5	E	143.0	F	46.6	D	116.4	F	39.5	D	53.9	D	Add 2nd SB through; add 2nd EB left and 3rd EB through
Hamner Avenue / Hidden Valley Parkway	257.1	F	184.0	F	225.6	F	181.4	F	56.2	E	50.9	D	Add 3rd NB through and 2nd NB right; add 2nd SB left and restripe SB right to shared SB through-right; add 2nd WB left and restripe shared WB left-through to 2nd WB through

Measure T-3:
Table T-3.3 Design Year 2035 Alternative 1 Recommended Intersection Improvements

Intersection	Design Year 2035 No Build				Design Year 2035 Alt 1				Design Year 2035 Alt 1 With Improvements				Recommended Improvements ¹
	AM Peak Hour		PM Peak Hour		AM Peak Hour		PM Peak Hour		AM Peak Hour		PM Peak Hour		
	Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)	LOS	
Rimpau Avenue / Magnolia Avenue	87.1	F	85.2	F	84.6	F	83.1	F	40.2	D	37.5	D	Add 2nd NB through; add 2nd SB through; restripe shared EB through-right to 3rd EB through and add EB right
El Sobrante Road / Magnolia Avenue	67.6	E	97.2	F	58.6	E	68.7	E	34.3	C	50.8	D	Restripe shared WB through-right to 3rd WB through; add exclusive WB right
I-15 SB ramps / Magnolia Avenue	87.4	F	104.1	F	81.3	F	93.1	F	44.8	D	51.6	D	Restripe shared SB left-through to shared SB left-through-right
I-15 SB ramps / Ontario Avenue	75.0	E	44.2	D	62.2	E	37.4	D	24.5	C	29.6	C	Add 2nd EB right; add 3rd WB through
Bedford Canyon Road / Cajalco Road	21.2	C	183.3	F	23.2	C	167.8	F	17.3	B	27.9	C	Add 2nd SB left; add 3rd WB through

Source: Synchro as presented in the *Final Draft Traffic Study Report* (July 2010).

Note: A black box (**F**) represents a deficient segment.

¹ Bold italic type denotes the improvement measures in addition to 2035 No Build conditions.

² EB braids and WB split diamond configuration are assumed as Alternative 1 conditions.

³ Geometrics for the Alternative 1 Project represent diamond configuration.

⁴ Geometrics for the Alternative 1 Project are the configuration of a WB slip-ramp from the SR-91 mainline into the collector-distributor facility for the I-15 NB and SB connectors to WB SR-91 to exit at Main Street.

Alt = Alternative

EB = eastbound

I-15 = Interstate 15

LOS = level of service

NB = northbound

SB = southbound

sec = seconds

SR-91 = State Route 91

WB = westbound

**Measure T-3:
Table T-3.4 Design Year 2035 Alternative 2 (LPA) Recommended Intersection Improvements**

Intersection	Design Year 2035 No Build				Design Year 2035 Alt 2 (LPA)				Design Year 2035 Alt 2 (LPA) With Improvements				Recommended Improvements ¹
	AM Peak Hour		PM Peak Hour		AM Peak Hour		PM Peak Hour		AM Peak Hour		PM Peak Hour		
	Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)	LOS	
Green River Road / SR-91 WB ramps	85.0	F	31.6	C	79.1	E	33.3	C	73.5	E	20.6	C	Add WB left
Green River Road / SR-91 EB ramps	42.6	D	158.4	R	41.3	D	144.2	F	42.1	D	50.1	D	Restripe shared EB left-through to shared EB through-right and add EB left
Auto Center Drive / SR-91 WB ramps ²	82.2	F	19.2	B	59.3	E	13.6	B	19.0	B	11.7	B	Add 2nd NB left
Maple Street / Pomona Road	79.1	E	49.8	D	70.6	E	46.7	D	46.4	D	39.6	D	Add 2nd SB through
Lincoln Avenue / SR-91 WB ramps ³	-	-	-	-	82.4	F	32.9	C	15.1	B	17.2	B	Add 2nd NB left; add 3rd SB through
Lincoln Avenue / SR-91 EB ramps ³	35.8	D	66.5	E	168.3	F	135.0	F	16.2	B	12.4	B	Restripe shared NB through-right to 2nd NB through; add 3rd NB through and NB right; add 2nd SB left
Main Street / Grand Boulevard	36.9	D	97.6	E	39.5	D	79.0	E	32.1	C	64.6	E	Restripe shared NB through-right to 2nd NB through and add exclusive NB right; add 2nd SB left
Main Street / SR-91 WB ramps ⁴	25.5	C	137.9	F	27.9	C	107.7	F	25.0	C	69.5	E	Add 3rd NB through; restripe SB right to shared SB through-right and add 4th SB through
Main Street / SR-91 EB ramps ⁴	20.7	C	25.3	C	22.8	C	51.6	D	19.0	B	30.8	C	Add shared NB through-right; add 3rd SB through
Main Street / Third Street	65.4	E	62.5	E	108.1	F	54.9	D	66.6	E	35.1	D	Add 3rd NB through; add 3rd SB through
McKinley Street / Griffin Way	29.3	C	63.7	E	30.9	C	68.0	E	30.6	C	40.8	D	Restripe shared EB through-right to 1st EB through and add 2nd EB right
McKinley Street / Sampson Avenue	38.2	D	53.1	D	36.3	D	57.2	E	29.9	C	48.6	D	Add 3rd NB through; restripe shared WB through-right to WB right
Pierce Street / Magnolia Avenue	56.5	E	143.0	F	49.7	D	114.4	F	41.6	D	52.0	D	Add 2nd SB through; add 2nd EB left and 3rd EB through
Hamner Avenue / Hidden Valley Parkway	257.1	F	184.0	F	229.7	F	178.5	F	61.5	E	49.1	D	Add 3rd NB through and 2nd NB right; add 2nd SB left and restripe SB right to shared SB through-right; add 2nd WB left and restripe shared WB left-through to 2nd WB through

Measure T-3:
Table T-3.4 Design Year 2035 Alternative 2 (LPA) Recommended Intersection Improvements

Intersection	Design Year 2035 No Build				Design Year 2035 Alt 2 (LPA)				Design Year 2035 Alt 2 (LPA) With Improvements				Recommended Improvements ¹
	AM Peak Hour		PM Peak Hour		AM Peak Hour		PM Peak Hour		AM Peak Hour		PM Peak Hour		
	Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)	LOS	
Rimpau Avenue / Magnolia Avenue	87.1	F	85.2	F	85.3	F	80.5	F	40.5	D	37.2	D	Add 2nd NB through; add 2nd SB through; restripe shared EB through-right to 3rd EB through and add EB right
El Sobrante Road / Magnolia Avenue	67.6	E	97.2	F	55.6	E	78.9	E	33.2	C	51.3	D	Restripe shared WB through-right to 3rd WB through; add exclusive WB right
I-15 SB ramps / Magnolia Avenue	87.4	F	104.1	F	74.6	E	90.3	F	40.5	D	52.1	D	Restripe shared SB left-through to shared SB left-through-right
I-15 SB ramps / Ontario Avenue	75.0	E	44.2	D	60.2	E	31.5	C	28.9	C	27.9	C	Add 2nd EB right; add 3rd WB through
Bedford Canyon Road / Cajalco Road	21.2	C	183.3	F	23.7	C	191.0	F	17.8	B	29.1	C	Add 2nd SB left; add 3rd WB through

Source: Synchro as presented in the *Final Draft Traffic Study Report* (July 2010).

Note: A black box (**F**) represents a deficient segment.

¹ Bold italic type denotes the improvement measures in addition to 2035 No Build conditions.

² EB braids and WB split diamond configuration are assumed as Alternative 2 (LPA) conditions.

³ Geometrics for the Alternative 2 (LPA) Project represent diamond configuration.

⁴ Geometrics for the Alternative 2 (LPA) Project are the configuration of a WB slip-ramp from the SR-91 mainline into the collector-distributor facility for the I-15 NB and SB connectors to WB SR-91 to exit at Main Street.

Alt = Alternative

EB = eastbound

I-15 = Interstate 15

LOS = level of service

LPA = Locally Preferred Alternative

NB = northbound

SB = southbound

sec = seconds

SR-91 = State Route 91

WB = westbound

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