

Summary

S.1 Joint CEQA/NEPA Document

The Proposed Project is a joint project by the California Department of Transportation (Caltrans) and the Federal Highway Administration (FHWA), and is subject to state and federal environmental review requirements. Project documentation, therefore, has been prepared in compliance with both the California Environmental Quality Act (CEQA) and the National Environmental Policy Act (NEPA). Caltrans is the lead agency under both CEQA and NEPA. In addition, FHWA's responsibility for environmental review, consultation, and any other action required in accordance with applicable federal laws for this project is being, or has been, carried-out by Caltrans under its assumption of responsibility pursuant to 23 United States Code (USC) 327.

Some impacts determined to be significant under CEQA may not lead to a determination of significance under NEPA. Because NEPA is concerned with the significance of the Project as a whole, quite often a "lower level" document is prepared for NEPA. One of the most common joint document types is an Environmental Impact Report/Environmental Assessment (EIR/EA).

After receiving comments from the public and reviewing agencies, a Final Supplemental EIR/EIS will be prepared. Caltrans may prepare additional environmental and/or engineering studies to address comments. The Final Supplemental EIR/EIS will include responses to comments received on the Draft EIR/EIS. Upon approval of the Proposed Project, a Notice of Determination will be published for compliance with CEQA. Caltrans will issue a single document that consists of the Supplemental Final EIS and ROD pursuant to Pub. L. 112-141, 126 Stat. 405, Section 1319(b) unless it is determined that statutory criteria or practicability considerations preclude issuance of such a combined document.

Caltrans in cooperation with the Foothill/Eastern Transportation Corridor Agency (F/ETCA) (responsible agency pursuant to the *State CEQA Guidelines* Section 15381 and sponsoring agency) proposes the State Route 241 (SR-241)/State Route 91 (SR-91) Express Lanes Connector Project (Proposed Project) to construct a median-to-median connector between SR-241 and the tolled lanes in the median of SR-91 (*91 Express Lanes*). SR-241 is a tolled facility, starting at the Oso Parkway interchange, in south Orange County, to its terminus at SR-91. The Orange County

Transportation Authority (OCTA) *91 Express Lanes* is a tolled facility, two lanes in each direction, located in the median of SR-91, from State Route 55 (SR-55), to the Orange/Riverside County Line (east of the SR-241 interchange). The existing junction of SR-241 and SR-91 connects all lanes of northbound SR-241 to the non-tolled, general purpose lanes of eastbound and westbound SR-91 and the eastbound and westbound SR-91 to southbound SR-241. There is currently no direct connection between the SR-241 and the *91 Express Lanes*.

S.2 Project Background/History

In May 1994, F/ETCA, in cooperation with Caltrans/FHWA, prepared and approved a Final Environmental Impact Report (EIR) and Final Environmental Impact Statement (EIS) to construct the Eastern Transportation Corridor (ETC) (SR-241) as a limited access highway (tollway), starting at the Santa Ana Freeway (Interstate 5/State Route 133 [I-5/SR-133]) interchange, to its terminus at SR-91.

The Systems Management Concept (SMC)¹ for the ETC projected that each Build Alternative would be staged, incorporating general purpose traffic and eventually high-occupancy vehicle (HOV) “carpool” lanes, to meet the forecasted demand. Under the SMC, ETC construction would be completed in one stage, with three or more phases.

The Preferred Alternative selected for the ETC as documented in the Final EIR and Final EIS included a single alignment called the North Leg through Gypsum and Blind Canyons transitioning to the East Leg south of Santiago Canyon Road. The East Leg crosses Loma Ridge near Rattlesnake Canyon, extends southeasterly toward Siphon Reservoir where the ETC interchanges with the Foothill Transportation Corridor (FTC) and then extends southerly along the Orange County Great Park to the I-5/SR-133 interchange. Construction of the ETC began in 1996 and finished in 1998.

The Proposed Project is a later phase of the ETC. It was originally evaluated as an SR-241/SR-91 HOV direct connector in the 1991 ETC Draft EIR/EIS, the 1992 ETC Final EIR, and the 1994 ETC Final EIS.

¹ The SMC defines the environment in which the freeway is to operate, and the needs of the users. It is a tool by which regions, agencies, and traffic management centers identify the optimal solution on their preferred approach, capabilities, and constraints.

To implement this later phase of the ETC, this Supplemental Draft EIR/EIS has been prepared to:

- Focus on the northern end of the original project
- Address changes to environmental conditions and regulatory requirements
- Address the extended Project Limits on SR-91 to the east; and
- Comply with 23 CFR 771.129(b): *A written evaluation of the final EIS will be required before further approvals may be granted if major steps to advance the action (e.g., authority to undertake final design, authority to acquire a significant portion of the right-of-way, or approval of the plans, specifications, and estimates) have not occurred within three years after the approval of the final EIS...* Because the SR-241/SR-91 Express Lanes Connector design was postponed longer than 3 years after the ETC Final EIS approval, the median-to-median connector is required to be re-evaluated in compliance with NEPA.

S.3 Purpose and Need

The Project Purpose is a set of objectives the Proposed Project is intended to meet. The Project Need is the range of transportation deficiencies that the Proposed Project was initiated to address.

S.3.1 Purpose of the Proposed Project

In addition to the originally intended objectives of the ETC, changed circumstances at the junction of SR-241 and SR-91 have led to the following objectives for the Proposed Project:

- Implement the build out of the ETC, as approved in 1994
- Attain compatibility with the SR-91 mainline and SR-91 Express Lanes
- Improve traffic flow and operations by reducing weaving across multiple general purpose lanes between the SR-91 Express Lanes and the SR-241 general purpose lane connectors
- Enhance the efficiency of the tolled system, thereby reducing congestion on the non-tolled system on the SR-91

S.3.2 Need for the Proposed Project

There is a need for improved access between SR-241 and SR-91. Roadway deficiencies are described below:

- Demand exceeds capacity on the northbound SR-241 connector to the eastbound SR-91 and on the westbound SR-91 connector to the southbound SR-241
- Northbound vehicles on SR-241 cannot access the eastbound SR-91 Express Lanes.
- Westbound SR-91 Express Lanes motorists cannot access southbound SR-241.
- The weaving between the general purpose connectors and the median lanes is an issue because it degrades the level of service due to increased vehicle density. In addition, the weaving operations contribute to sideswipe accidents.

S.4 Project Description

The Proposed Project proposes to improve access and reduce congestion at the SR-241/SR-91 interchange by providing a direct connector between SR-241 and the 91 *Express Lanes*. The Proposed Project, located in the cities of Anaheim, Yorba Linda, and Corona, and the counties of Orange and Riverside is proposed to be a tolled facility with a total length of approximately 8.7 miles (mi).

The improvements for the connector include 5.9 mi in the cities of Anaheim and Yorba Linda and unincorporated areas of Orange and Riverside counties, from south of Windy Ridge Wildlife Undercrossing on SR-241 to Coal Canyon Undercrossing on SR-91. The remaining 2.8 mi of the Proposed Project include signage improvements (advance signage) in the cities of Anaheim (1.2 mi), Yorba Linda (0.1 mi), and Corona (1.5 mi) and unincorporated Orange and Riverside counties, with exact placement of the signage pending the Final Design process. The Proposed Project is mostly within existing Caltrans right-of-way, with one partial acquisition required adjacent to eastbound SR-91. Construction access and staging areas would occur within existing Caltrans right-of-way and the partial acquisition adjacent to eastbound SR-91 as noted above. The partial acquisition would not result in the displacement or relocation of any residents or businesses.

This Draft Supplemental EIR/EIS includes a No Build Alternative and only one Build Alternative (Preferred Alternative) for the median-to-median connector for the following reasons:

- The median-to-median connector is a component of a previously approved project and alternative selected during the 1992 EIR Certification and 1994 Record of Decision (ROD) for the original ETC project;

- Various alternatives were studied for the previously approved project that included consideration of a reasonable range of potentially feasible alternatives; and
- There are limited locations for a median-to-median connector between SR-241 and SR-91.

S.4.1 Build Alternative (Two-Lane Tolloed Express Lanes Connector) (Preferred Alternative)

The Build Alternative would construct a two-lane express lane median-to-median connector between SR-241 and SR-91, which would connect lanes from the median of northbound SR-241 to the existing eastbound median *91 Express Lanes*. The reverse movement would also be accommodated, from the westbound median *91 Express Lanes* to the median of southbound SR-241.

The Build Alternative would merge into the existing *91 Express Lanes* at Coal Canyon Undercrossing. The Riverside County Transportation Commission's (RCTC) SR-91 Corridor Improvement Project (CIP) will extend the express lanes on SR-91 east to Interstate 15 (I-15). The Build Alternative is compatible with the approved SR-91 CIP for both the initial and ultimate configurations, including the number and widths of the express lanes, express auxiliary lanes, and general purpose lanes.

On March 24, 2016, the Project Development Team evaluated the Build Alternative and the No Build Alternative to develop a recommendation to Caltrans for the Preferred Alternative. Due to the fact that there was only one Build Alternative, no systematic criteria were developed to compare the Build Alternative to the No Build Alternative. However, the reasons for selecting the Build Alternative as the Preferred Alternative include:

- Meeting the Proposed Project's Purpose and Need
- Consistency with the planned facility
- Consistency with regional transportation and air quality planning

In addition, the environmental impacts of the Build Alternative were in an acceptable range (all substantial environmental impacts can be avoided, minimized, or mitigated) when compared to the No Build Alternative. The Build Alternative would implement the selected alternative in the ETC Final EIR and ROD for the Final EIS. While the Build Alternative meets the Proposed Project's Purpose and Need, the identification of it as the Preferred Alternative was also based upon the following factors:

- Various alternatives were studied for the previously approved project that included consideration of a reasonable range of potentially feasible alternatives; and
- There are limited locations for a median-to-median connector between SR-241 and SR-91.

The following sections describe the permanent and temporary features of the Build Alternative. Additional details and a corresponding figure are provided in Chapter 2.

S.4.1.1 Permanent Project Features

New Lanes and Roadway Alignment

Improvements on Southbound SR-241

On southbound SR-241, an additional lane and shoulder would be provided by widening Windy Ridge Wildlife Undercrossing into the existing median and improving the highway median for approximately 10,000 feet (ft) to the north.

Improvements on Northbound SR-241

Starting approximately 3,700 ft north of the Windy Ridge Wildlife Undercrossing, an additional lane and shoulder would be provided by widening into the existing highway median for approximately 5,000 ft. The two express (northbound and southbound) connector lanes would converge in the existing SR-241 median on fill for approximately 800 ft. The connector then spans over the existing northbound SR-241 to the westbound SR-91 general purpose lane connector and the SR-91/Gypsum Canyon Road interchange on two new bridge structures approximately 570 ft and 1,590 ft in length, respectively (to merge in the median of SR-91).

Improvements on Eastbound SR-91

To accommodate the addition of the median-to-median connector, eastbound SR-91 would be realigned to the south. The northbound SR-241 to eastbound 91 Express Lanes connector would continue on eastbound SR-91, ending approximately 1,000 ft west of Coal Canyon Undercrossing. An eastbound auxiliary express lane would be constructed within the 91 Express Lanes. The proposed auxiliary express lane would begin approximately 2,000 ft east of Gypsum Canyon Road Undercrossing to Coal Canyon Undercrossing joining the initial phase of the SR-91 CIP at Coal Canyon Undercrossing. These improvements would provide a four-lane express lane facility, tapering down to three lanes between the connector and Coal Canyon Undercrossing. The number of existing eastbound SR-91 general purpose lanes would be maintained

within the project limits. The eastbound *91 Express Lanes* would have a 4 ft buffer on the right separating the general purpose lanes, and a 4 ft buffer to the left separating the express connector lane. The buffers would transition to 0 ft to join the SR-91 CIP at the eastern terminus of the Project Limits. Approximately 4,500 ft west of Coal Canyon Undercrossing, grading into an existing slope on the south side of SR-91 would be required to accommodate the realigned eastbound SR-91 lanes. The grading would span approximately 1,300 ft along eastbound SR-91. A maintenance access road would be provided along the edge of slope grading. These improvements would provide a four-lane express lane facility, tapering down to three lanes between the connector and Coal Canyon Undercrossing.

Improvements on Westbound SR-91

At the eastern terminus of the Project, the westbound *91 Express Lanes* would be restriped and the median widened to accommodate the addition of the express connector lane within the *91 Express Lanes* to the southbound SR-241 median-to-median connector. The connector lane would begin approximately 1,000 ft west of Coal Canyon Undercrossing and extend west for approximately 4,500 ft in the SR-91 median ending at the express lanes connector. The auxiliary express lane at the SR-91 CIP connection would be extended in the westbound direction ending 2,000 ft west of Coal Canyon Undercrossing. These improvements would provide a four-lane overlap section along westbound SR-91 for approximately 1,000 ft. This 1,000 ft overlap would accommodate weaving between traffic accessing the southbound SR-241 median-to-median connector and the westbound *91 Express Lanes*. The existing eastbound SR-91 lanes would be shifted to the south.

Striped Buffers and Channelizers

The Build Alternative would provide a striped buffer with surface mounted channelizers to separate the SR-91 general purpose lanes from the *91 Express Lanes* and a new striped buffer to separate the eastbound express lane connector lane from the *91 Express Lanes*. The eastbound express lane buffers would taper from 0 to 4 ft and the westbound express lane buffers would taper from 0 to 2 ft.

Ramp Realignment

The SR-91/Gypsum Canyon Road interchange on- and off-ramps and the northbound SR-241 to eastbound SR-91 general purpose connector would be realigned to accommodate the median-to-median connector. A design variation for this interchange is a roundabout configuration.

Bridge Structures and Bridge Widening

Two new overcrossing structures would be constructed and two existing bridges would be widened as follows:

- **SR-241/SR-91 Connector Overcrossing Structures:** Two new structures would connect traffic from northbound SR-241 to eastbound SR-91 and from westbound SR-91 to southbound SR-241.
- **Gypsum Canyon Undercrossing Widening:** On eastbound SR-91, the existing Gypsum Canyon Undercrossing would be widened to the south.
- **Windy Ridge Wildlife Undercrossing Widening:** On southbound SR-241, the Windy Ridge Wildlife Undercrossing would be widened to the east.

All structures would be constructed using a cast-in-place, pre-stressed, concrete box girder.

Graded Slopes

Manufactured fill slopes would not exceed a 4:1 ratio. Manufactured cut slopes would not exceed a 2:1 ratio. Graded slopes would be contoured consistent with the existing topography, and would be seeded with native plant species consistent with existing vegetation.

Guard Rails/Barriers

Additional pavement would be added between the existing northbound SR-241/eastbound SR-91 and the northbound SR-241/westbound SR-91 general purpose connectors to accommodate a future concrete barrier separation to prevent vehicles traveling on the northbound SR-241/westbound SR-91 general purpose connector to “queue jump” into the eastbound SR-91 general purpose connector. This feature would improve traffic flow on SR-241 and would be added in a later phase of the Proposed Project if queue jumping continues after pavement marking and striping are implemented in this area.

Guard rails would be constructed along the new SR-241/SR-91 median-to-median connector embankments and structures.

An existing barrier along the inside shoulder of north SR-241 (just south of the Windy Ridge Undercrossing) would be removed to allow for advance signage.

Retaining Walls

Four retaining walls are required for the Proposed Project. One wall would be constructed in the median of SR-241 to support median widening and to accommodate the future addition of a southbound lane per the ETC ultimate plan. This wall would be approximately 2,900 ft long and up to 15 ft high. Two Mechanically Stabilized Earth retaining walls would be constructed in the median of SR-91 to support the connector as it transitions to an elevated structure. These walls would be approximately 1,350 ft long and up to 15 ft high, but views would be blocked by the existing structures associated with the junction of SR-241 and SR-91. One retaining wall would be constructed adjacent to eastbound SR-91, approximately 2,200 ft west of the Coal Canyon Undercrossing and would be approximately 1,025 ft long and up to 28 ft high. However, this retaining wall would face vacant land to the south; only the top 3 ft of the retaining wall cap would be visible from SR-91.

Advance Signage

On SR-241 at the southern end of the Proposed Project, signage would be modified approximately 0.2 mi south of the Windy Ridge Wildlife Undercrossing. In addition, signage improvements would also be made on SR-91 between Coal Canyon Undercrossing and Green River Road and west of SR-241 within the existing SR-91 median and highway footprint.

Water Quality Best Management Practices

Design Pollution Prevention best management practices (BMPs) proposed as part of the Proposed Project include dikes, overside drains, ditches, berms, swales, modifications to the existing storm drain system, the preservation of existing vegetation, and replanting new slopes with appropriate native vegetation. Proposed Treatment BMPs include five biofiltration swales and strips and two media filters along eastbound SR-91.

Drainage Improvements

New drainage features would be constructed and existing features would be modified along SR-241 and within the SR-241/SR-91 interchange. The improvements include the construction of new drop inlets with connecting pipes, new guard rails with dikes, median drainage, and deck drains; modification of existing drop inlets; replacement of edge drains; and removal or abandonment of existing drop inlets and existing culverts. The proposed drainage improvements would be linked to the existing drainage system and would preserve the existing drainage patterns as much as possible, including draining all storm water to the Santa Ana River.

Landscaping

Replacement landscaping will be provided in the following areas: (1) the area between the SR-241 general purpose connector (northbound SR-241 to eastbound SR-91) and the SR-241 general purpose connector (westbound SR-91 to southbound SR-241); and (2) the slope and other vegetated areas on the south side of SR-91, within the disturbance limits.

Transportation System Management(TSM)/Transportation Demand Management (TDM) Features

TSM elements include ramp metering, auxiliary lanes, and traffic signal coordination. In addition, the Build Alternative proposes to have dynamic traffic management technology (toll pricing varies based on express lanes demand).

The addition of a median-to-median toll connector included in the Build Alternative is a TDM feature in and of itself because it would provide additional capacity for HOVs and buses. The Build Alternative would improve travel time, increase the efficiency of the freeway system within the traffic Study Area, and reduce congestion and delay.

Noise Attenuation

No feasible noise attenuation (sound barrier) has been identified for the Proposed Project.

Right-of-Way Acquisition

The Build Alternative would be constructed mostly within existing Caltrans right-of-way. However, one partial acquisition adjacent to eastbound SR-91 would be required. Approximately 5 acres of land on the slope approximately 3,600 ft west of Coal Canyon, on Assessor's Parcel Number 085-071-56 would be acquired. This parcel is currently part of the Irvine Ranch National Natural Landmark, owned by the County of Orange with a Conservation Easement held by The Nature Conservancy. The Conservation Easement allows for "necessary infrastructure improvement." A maintenance access road would be constructed on this slope.

Design Exceptions (Advisory and Mandatory)

The Build Alternative would require design exceptions. Design exceptions are necessary when the proposed design deviates from the standard design features in the Caltrans Highway Design Manual. For example, the design standard for a freeway travel lane is 12 ft; design exceptions would be requested for locations where the lane

widths would be 11 ft to match the lane widths approved for the SR-91 CIP. The Build Alternative would require mandatory design exceptions for stopping sight distance, superelevation rate, minimum curve radius, travelway width, minimum shoulder width, and minimum ramp to local road intersection distance. In addition, the Build Alternative would require advisory design exceptions for superelevation transition, compound curve superelevation, compound curve, reversing curve, single lane connector through lane drop, and side slopes.

S.4.1.2 Temporary Project Features

Temporary Restriping

The existing number of through lanes on the mainlines of SR-241 and SR-91 would be maintained during construction by restriping the existing lanes using reduced lane widths and shifting traffic within those corridors to maintain the existing capacity. The *91 Express Lanes* would also be temporarily restriped to maintain two lanes in the eastbound direction.

The eastbound off-ramp and eastbound loop on-ramp at Gypsum Canyon Road would be restriped to allow construction of the two realigned eastbound ramps. One lane would be provided on the off-ramp, and two lanes would be provided on the loop on-ramp. In addition, the existing northbound SR-241 to the eastbound SR-91 connector would be restriped to provide two lanes during construction of the eastbound SR-91 widening, as well as construction of the realigned northbound SR-241 to the eastbound SR-91 connector.

Construction Barriers

During construction, all work areas would be protected by temporary safety devices, such as Temporary Railing (Type K), Temporary Crash Cushions, and other safety features in accordance with federal, State, and local agency requirements.

Detours and Closures

Temporary detours and weekend or nighttime closures would be required at the Gypsum Canyon Road interchange on- and off-ramps and the northbound SR-241 to eastbound SR-91 connector.

Construction Access and Staging Areas

Construction access and staging areas would be located within the junction of SR-241 and SR-91 in existing Caltrans right-of-way and the partial property acquisition adjacent to SR-91. Access would also be required to the SR-91 median at Coal

Canyon (only limited daytime access), at Gypsum Canyon, and for scheduled maintenance.

S.4.2 No Build (No Action) Alternative

The No Build Alternative would maintain the current configurations of SR-241 and SR-91 in the Project Area. The SR-91 CIP is under construction and will extend the existing OCTA *91 Express Lanes* east from the Orange/Riverside County Line to I-15 in the City of Corona. With completion of the SR-91 CIP, SR-91 will have continuous express lanes between SR-55 and I-15. The No Build Alternative would not include a direct connector between the SR-241 and the *91 Express Lanes*; therefore, the gap between SR-241 and the *91 Express Lanes* would not be closed. As a result, motorists traveling north on SR-241 would have to use the general purpose lane connector to SR-91 and then weave across several lanes to access the eastbound RCTC SR-91 Express Lanes at the merge area near Green River Road. Similarly, motorists traveling west in the RCTC SR-91 Express Lanes would have to exit at Green River Road, merge across lanes, and use the general purpose lane connector to southbound SR-241. In addition, under the No Build Alternative, motorists would not be prevented from inappropriately “queue jumping” during congested traffic periods, thereby disrupting traffic flow on the northbound SR-241 connector to the eastbound SR-91 general purpose lanes during PM peak hours.

Although smaller localized projects could be considered, approved, and implemented on their own merits, no other major corridor improvements would be implemented on the project segments of SR-241 and SR-91 under the No Build Alternative.

Because the No Build Alternative does not include the improvements proposed as part of the Build Alternative, the No Build Alternative provides a benchmark by which the public and decision-makers can compare the magnitude of the effects of the Build Alternative.

S.5 Project Impacts

Table S-1 summarizes the potential impacts of the Proposed Project and the No Build Alternative and identifies avoidance and minimization measures. Where applicable, some of these measures are sometimes also mitigation measures, as discussed in Chapter 4 of this Supplemental EIR/EIS. For detailed information regarding the impacts of each alternative, see Chapters 3 and 4 of this Supplemental EIR/EIS and the associated technical studies.

Table S-1 Summary of Project Impacts

Resource Impacts	No Build Alternative	Build Alternative (Preferred Alternative)	Avoidance, Minimization, and/or Mitigation Measures
Cost	Not applicable	\$120 million	Not applicable
Construction Duration	Not applicable	24 months	Not applicable
Land Use	<p>Land Use Conversion</p> <ul style="list-style-type: none"> No impacts <p>Land Use Consistency</p> <ul style="list-style-type: none"> Inconsistent with several plans and policies to improve regional mobility. <p>Parks and Recreational Effects and Section 4(f) Use</p> <ul style="list-style-type: none"> No impacts 	<p>Land Use Conversion</p> <ul style="list-style-type: none"> Permanent conversion, through acquisition, of approximately 5 acres of land designated as parkland/reserve to transportation. No temporary impacts. <p>Land Use Consistency</p> <ul style="list-style-type: none"> Consistent with the goals, objectives, and policies of all surrounding communities' General Plans; the 2012 RTP/SCS; 2015 FTIP; the Orange County Central and Coastal NCCP/HCP; the Western Riverside MSHCP; the Orange County MPAH; and the Orange County LRTP. No temporary impacts. <p>Parks and Recreational Effects and Section 4(f) Use</p> <p><i>Gypsum Canyon Nature Preserve</i></p> <ul style="list-style-type: none"> Permanent use: approximately 5 acres (preliminary de minimis finding for the use). Temporary use: none. Temporary minimal visual, dust, and noise proximity effects. <p><i>Weir Canyon Nature Preserve</i></p> <ul style="list-style-type: none"> No temporary or permanent use. Temporary minimal visual, dust, and noise proximity effects. 	<p>Effects to parks and recreation and Section 4(f) resources will be minimized by implementation of Measures AQ-1 through AQ-5, provided in Section 3.12, Air Quality, and Measure N-1, provided in Section 3.13, Noise.</p>

Table S-1 Summary of Project Impacts

Resource Impacts	No Build Alternative	Build Alternative (Preferred Alternative)	Avoidance, Minimization, and/or Mitigation Measures
		<p><i>Chino Hills State Park</i></p> <ul style="list-style-type: none"> • No temporary or permanent use. • Temporary minimal visual, dust, and noise proximity effects. <p><i>Santa Ana River Trail/Bike Lane</i></p> <ul style="list-style-type: none"> • No temporary or permanent use. • Temporary minimal visual, dust, and noise proximity effects. <p><i>Featherly Regional Park</i></p> <ul style="list-style-type: none"> • No temporary or permanent use. • Temporary minimal visual, dust, and noise proximity effects. <p><i>Green River Golf Club</i></p> <ul style="list-style-type: none"> • No temporary or permanent use. • Temporary minimal visual, dust, and noise proximity effects. <p><i>Brush Canyon Park</i></p> <ul style="list-style-type: none"> • No temporary or permanent use. <p><i>Santiago Oaks Regional Park</i></p> <ul style="list-style-type: none"> • No temporary or permanent use. <p><i>Running Springs Elementary School Recreational Facilities</i></p> <ul style="list-style-type: none"> • No temporary or permanent use. <p><i>Other Trails and Fire Roads</i></p> <ul style="list-style-type: none"> • No temporary or permanent use. • Temporary minimal visual, dust, and noise proximity effects. 	

Table S-1 Summary of Project Impacts

Resource Impacts	No Build Alternative	Build Alternative (Preferred Alternative)	Avoidance, Minimization, and/or Mitigation Measures
Growth	No impacts	No impacts	None
Community Impacts	<p>Community Character and Cohesion</p> <ul style="list-style-type: none"> Accessibility to and mobility in the SR-241/SR-91 interchange area would continue to deteriorate. <p>Relocations and Real Property Acquisition</p> <ul style="list-style-type: none"> No Impacts <p>Environmental Justice</p> <ul style="list-style-type: none"> Similar to the overall communities, environmental justice populations would receive no benefits by the reduction in access and mobility in the Project Area. 	<p>Community Character and Cohesion</p> <p><i>Temporary Impacts</i></p> <ul style="list-style-type: none"> Minimal impacts due to construction noise and dust. Closure of one lane in each direction on SR-241 and SR-91 at various times to construct the median-to-median connector and install advance signage. Detours and weekend or nighttime closures at the SR-91/Gypsum Canyon Road interchange ramps to realign the ramps and construct bridge supports for the new connector. Detours and weekend or nighttime closures at the existing northbound SR-241 to eastbound SR-91 connector to widen SR-91 to the south. Construction lighting. <p><i>Permanent Impacts</i></p> <ul style="list-style-type: none"> Long-term visual changes because of permanent alteration of existing visual environment at the junction of SR-241 and SR-91 (retaining walls, piers/ supports, and buffers. Improved access and circulation along SR-241 and SR-91 in the Project Area by providing a direct connection between SR-241 and the <i>91 Express Lanes</i>. <p>Relocations and Real Property Acquisition</p> <p><i>Temporary Impacts</i></p> <ul style="list-style-type: none"> No impacts. 	<ul style="list-style-type: none"> Measure TR-1 in Section 3.5 (implementation of a TMP) would minimize temporary impacts to community character and cohesion. Temporary air quality impacts would be minimized based on implementation of Measures AQ-1 through AQ-5, which are provided in Section 3.12, Air Quality. Temporary noise impacts would be minimized based on implementation of Measure N-1, which is provided in Section 3.12, Noise. Measures V-1 through V-7, found in Section 3.6.5, will be implemented to minimize potential impacts to visual resources. These measures include lighting fixtures, context-sensitive design, architectural treatments, and landscaping.

Table S-1 Summary of Project Impacts

Resource Impacts	No Build Alternative	Build Alternative (Preferred Alternative)	Avoidance, Minimization, and/or Mitigation Measures
		<p><i>Permanent Impacts</i></p> <ul style="list-style-type: none"> Partial acquisition of one undeveloped County of Orange-owned property (Assessor's Parcel Number 085-071-56). No displacement or relocation of any residents or businesses. <p>Environmental Justice</p> <p><i>Temporary Impacts</i></p> <ul style="list-style-type: none"> With implementation of Measures N-1, AQ-1 through AQ-5, TR-1, and V-1 through V-7, construction of the Build Alternative would not result in adverse impacts that are appreciably more severe or greater in magnitude on environmental justice populations than the adverse effects experienced by non-environmental justice populations. Therefore, the Build Alternative would not cause disproportionately high and adverse temporary effects on minority or low-income populations, as listed above. <p><i>Permanent Impacts</i></p> <ul style="list-style-type: none"> Similar to the overall communities, environmental justice populations would receive no benefits by the reduction in access and mobility in the Project Area. Operation of the Build Alternative would not result in adverse impacts that are appreciably more severe or greater in magnitude on environmental justice populations than the adverse effects 	<ul style="list-style-type: none"> Temporary noise impacts would be minimized based on implementation of Measure N-1, which is provided in Section 3.12, Noise. Temporary air quality impacts would be minimized based on implementation of Measures AQ-1 through AQ-5, which are provided in Section 3.12, Air Quality. Measure TR-1 in Section 3.5 (implementation of a TMP) would minimize temporary impacts to community character and cohesion. Temporary visual impacts to environmental justice communities would be minimized based on implementation of Measures V-1 through V-7.

Table S-1 Summary of Project Impacts

Resource Impacts	No Build Alternative	Build Alternative (Preferred Alternative)	Avoidance, Minimization, and/or Mitigation Measures
		experienced by non-environmental justice populations.	
Utilities and Emergency Services	<p>Utilities</p> <ul style="list-style-type: none"> No impacts <p>Emergency Services</p> <ul style="list-style-type: none"> Providers would not benefit from improved mobility and reduced traffic congestion. 	<p>Utilities</p> <p><i>Temporary Impacts</i></p> <ul style="list-style-type: none"> Utility disruptions could occur. <p><i>Permanent Impacts</i></p> <ul style="list-style-type: none"> No impacts to utilities. <p>Emergency Services</p> <p><i>Temporary Impacts</i></p> <ul style="list-style-type: none"> Delay in response time for emergency services. <p><i>Permanent Impacts</i></p> <ul style="list-style-type: none"> May improve response times for emergency services using SR-241 and SR-91. Emergency service providers would be able to use the express lanes connector when the general purpose lane connector is experiencing heavy traffic volumes and slow travel speeds. 	<p>Minimization Measure UES-1: Utilities. During final design, utility protection-in-place plans will be prepared 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 the additional public rights-of-way and/or easements required for the Proposed Project 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.</p> <p>Prior to and during construction F/ETCA will ensure that the components of any utility relocation plans provided in the project specifications are properly implemented by the construction contractor.</p>
			<p>Minimization Measure UES-2: Law Enforcement, Fire Protection, and Emergency Medical Service Providers. Prior to and during construction, F/ETCA will require the construction 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. The plans shall be developed in coordination with the</p>

Table S-1 Summary of Project Impacts

Resource Impacts	No Build Alternative	Build Alternative (Preferred Alternative)	Avoidance, Minimization, and/or Mitigation Measures
			<p>affected agencies and shall include the identification of alternative routes and access to construction areas for emergency vehicles.</p> <p>Minimization Measure UES-3: Law Enforcement, Fire Protection, and Emergency Medical Service Providers. Prior to operation of the connector, an emergency call box shall be placed along the alignment in compliance with OCTA Call Box placement policies.</p> <p>ETC Final EIR and Final EIS Measure U-2. <i>In conjunction with Final Design, the TCA shall explore the joint use of Corridor maintenance roads, if needed, by the County and utility companies. (North and East Legs)</i></p> <p>ETC Final EIR and Final EIS Measure PS-2. <i>The impact on other law enforcement agencies is considered to be minor. Implementation of several measures by the TCA shall assist law enforcement agencies in fulfilling their responsibilities and in avoiding confusion in providing service to their jurisdictions. These measures are: clear identification of jurisdictional boundaries along the Corridor, clearly signed and well lit intersections, and distance location markers along the Corridor. (North and East Legs)</i></p>

Table S-1 Summary of Project Impacts

Resource Impacts	No Build Alternative	Build Alternative (Preferred Alternative)	Avoidance, Minimization, and/or Mitigation Measures
<p>Traffic and Transportation</p>	<p>Temporary Impacts</p> <ul style="list-style-type: none"> No impacts <p>Permanent Impacts</p> <ul style="list-style-type: none"> Overall, increased travel time, reduced speed, increased vehicle hours traveled, and increased queues in the SR-91 corridor study area. 	<p><i>Temporary Impacts</i></p> <ul style="list-style-type: none"> Detours and closures are expected to result in some delays to the traveling public. <p><i>Permanent Impacts</i></p> <ul style="list-style-type: none"> Vehicle throughput in the SR-91 corridor would improve, vehicles miles traveled would increase, and travel time would decrease. Traffic would shift from other regional routes (SR-91 between SR-55 and SR-241, SR-55, and surface streets) to SR-241 as a result of the additional capacity of the new connector. The length of the northbound SR-241 to the eastbound SR-91 queue on the general purpose ramp would shorten in the PM peak period. The length of the queues would shorten at the SR-91 westbound mainline bottleneck between the Green River Road interchange and the <i>91 Express Lanes</i> ingress in the AM peak period. There would be a reduction in friction due to fewer vehicles weaving from the northbound SR-241 to the eastbound SR-91 general purpose ramp to the RCTC SR-91 Express lanes. There would be an increase in friction on eastbound SR-91, because more vehicles must exit the <i>91 Express Lanes</i> and enter the general purpose lanes and fewer cars can leave the general purpose lanes and 	<p>Minimization Measure TR-1: Transportation Management Plan. Ensure that a Transportation Management Plan (TMP) is completed in consultation with the California Department of Transportation and included in the Plans, Specifications, and Estimates for implementation by the contractor prior to and during construction of any project improvements. The TMP will be prepared by a qualified traffic engineer and will address traffic impacts from temporary detours and weekend or nighttime closures to reduce traveler delays and enhance traveler safety during project construction. The TMP may include the following elements:</p> <ul style="list-style-type: none"> Public awareness campaign Highway advisory radio Portable changeable message signs Temporary loop sensor/signals Bus or shuttle service Construction Zone Enhanced Enforcement Program <p>ETC Final EIR and Final EIS Measure T-13. <i>During final design, the TCA shall establish ETC bridge structure clearances to provide an absolute minimum construction false work vertical clearance of 14.0 feet over existing and planned arterial undercrossing identified in the Orange County Master Plan of Arterial Highways.</i></p> <p>ETC Final EIR and Final EIS Measure C-15. <i>All traffic control measures shall conform with applicable local and State Regulations.</i></p>

Table S-1 Summary of Project Impacts

Resource Impacts	No Build Alternative	Build Alternative (Preferred Alternative)	Avoidance, Minimization, and/or Mitigation Measures
		enter the RCTC SR-91 Express Lanes due to the increase in traffic volumes on the express lanes connector.	
Visual and Aesthetics	No impacts	<p><i>Temporary Impacts</i></p> <ul style="list-style-type: none"> • Sensitive viewers, including motorists and residents, would be exposed to views of cleared vegetation, graded slopes, construction vehicles, equipment, and other materials. • Periodic nighttime construction, safety/security lighting would be used during some stages of construction. <p><i>Permanent Impacts</i></p> <ul style="list-style-type: none"> • The proposed median-to-median connector would appear similar to the existing general purpose lane connectors at the SR-241/SR-91 interchange because the new structure would be of similar profile as the existing structures and would be in the Caltrans right-of-way between the existing SR-241/SR-91 northbound-to-southbound connectors. • Motorists traveling on SR-91 would experience views of the express lane bridge connector and retaining walls, but views of open space and other visual resources in the vicinity of the SR-241/SR-91 interchange would not be obstructed. • Residents with high viewer sensitivity with views of the Project Area would experience permanent views of the proposed express lanes connector but the 	<p>Minimization Measure V-1: Lighting Fixtures. In conjunction with Final Design, proposed lighting fixtures shall be hooded where feasible and lighting shall be directed on the site to minimize potential intrusion of light and glare onto nearby land uses. Lighting shall be designed consistent with the existing lighting along the State Route 241 corridor.</p> <p>Minimization Measure V-2: Hillsides. To avoid visual impacts resulting from cut hillsides and filled topography, hills should be preserved where possible. All disturbed areas associated with cut-and-fill activities should appear similar in color to existing topography. Manufactured fill slopes should not exceed a four-to-one ratio. Manufactured cut slopes should not exceed a two-to-one ratio. Rounding of manufactured slopes should be applied.</p> <p>Minimization Measure V-3: Architectural Treatments. To maintain consistency with the existing infrastructure (i.e., bridges and walls, etc.) in the Project Area, landscape and/or architectural treatments (i.e., color, texture, etc.) for the structure elements of the Proposed Project shall be determined in consultation with the District Landscape Architect during the Final Design process.</p> <p>Minimization Measure V-4: Landscaping. To maintain the context of the Project Area (color, form, and texture) the Proposed Project shall install landscaping that is compatible with the existing</p>

Table S-1 Summary of Project Impacts

Resource Impacts	No Build Alternative	Build Alternative (Preferred Alternative)	Avoidance, Minimization, and/or Mitigation Measures
		<p>existing views of hillsides, ridgelines, and open space would not be obstructed.</p> <ul style="list-style-type: none"> Grading for the Proposed Project features would remove vegetation and modify slopes. 	<p>landscape along the freeway. The landscape concept and plant palette shall be determined in consultation with the District Landscape Architect during the Final Design process. Erosion control plant species utilized shall be determined by the District Landscape Architect to ensure that the mix and application strategy is appropriate for the specific soil composition of the area. Drought-tolerant native species shall be used adjacent to areas of native habitat. Enhanced plantings shall occur adjacent to wildlife crossings.</p> <p>Minimization Measure V-5: Construction Lighting. For all nighttime construction activities, necessary lighting for safety and construction purposes shall be contained and directed toward the specific area of construction.</p> <p>Measure V-6: Context-sensitive Solutions. Context-sensitive solutions will be used. Slopes graded for the Build Alternative will be contoured consistent with the existing topography, and all disturbed soil areas will be seeded with drought-tolerant native plant species consistent with existing vegetation.</p> <p>Measure V-7: Tree Planting. Permanently impacted Coast live oak, California walnut, and sycamore trees will be replaced at a minimum 2:1 ratio. Heritage oaks (oaks greater than 36 inches in diameter at breast height) will be replaced at a minimum 3:1 ratio.</p> <p>ETC Final EIR and Final EIS Measure C-19. Where</p>

Table S-1 Summary of Project Impacts

Resource Impacts	No Build Alternative	Build Alternative (Preferred Alternative)	Avoidance, Minimization, and/or Mitigation Measures
			<p><i>appropriate and feasible, construction staging areas shall be located inconspicuously to minimize adverse visual effects on residential and recreation areas. They shall be located to avoid any additional impacts on biological, historical or cultural resources. (Construction Staging, North and East Legs)</i></p>
<p>Cultural Resources</p>	<p>No impacts</p>	<p><i>Temporary Impacts</i></p> <ul style="list-style-type: none"> • Not applicable. <p><i>Permanent Impacts</i></p> <ul style="list-style-type: none"> • No impacts to known archaeological or historic resources. • Potential for impacts to previously unknown buried cultural materials or human remains. 	<p>Avoidance and Minimization Measure CR-1: Cultural Materials. If cultural materials are discovered during construction, all earthmoving activity within and around the immediate discovery area will be diverted until a qualified archaeologist can assess the nature and significance of the find. At that time, the Caltrans District 12 Environmental Branch Chief will be contacted to ensure that Section 106 compliance is maintained.</p> <p>Avoidance and Minimization Measure CR-2: Human Remains. If human remains are discovered, State Health and Safety Code Section 7050.5 states that further disturbances and activities will cease in any area or nearby area suspected to overlie remains, and the County Coroner will be contacted. Pursuant to Public Resources Code (PRC) Section 5097.98, if the remains are thought to be Native American, the Coroner will notify the Native American Heritage Commission (NAHC), who will designate the Most Likely Descendent (MLD). At this time, the Caltrans District 12 Environmental Branch Chief will be contacted so that they may work with the MLD on the respectful treatment and disposition of the remains. Further provisions of PRC 5097.98 are to be followed as applicable.</p>

Table S-1 Summary of Project Impacts

Resource Impacts	No Build Alternative	Build Alternative (Preferred Alternative)	Avoidance, Minimization, and/or Mitigation Measures
<p>Water Quality and Storm Water Runoff</p>	<ul style="list-style-type: none"> No impacts 	<p><i>Temporary Impacts</i></p> <ul style="list-style-type: none"> Potential for soil erosion, sediment transport, release of hazardous materials, increased pollutants in runoff, groundwater dewatering. <p><i>Permanent Impacts</i></p> <ul style="list-style-type: none"> Increase in impervious area by approximately 20.5 acres. Potential increased pollutants in runoff due to increased impervious area and volume of runoff. Proposed treatment BMPs would reduce pollutants. 	<p>Minimization Measure WQ-1: Construction General Permit. The Proposed Project will comply with the requirements prescribed in the National Pollutant Discharge Elimination System (NPDES) General Permit for Storm Water Discharges Associated with Construction and Land Disturbance Activities (Construction General Permit) Order No. 2009-009-DWQ, as amended, or any future replacement permit. The Proposed Project shall comply with the Construction General Permit by preparing and implementing a Storm Water Pollution Prevention Plan (SWPPP) to address all construction-related activities, equipment, and materials that have the potential to impact water quality for the appropriate Risk Level. The SWPPP will identify the sources of pollutants that may affect the quality of storm water and include Best Management Practices (BMPs) to control the pollutants, such as Sediment Control, Catch Basin Inlet Protection, Construction Materials Management and Nonstorm Water BMPs. All work shall conform to the Construction Site BMP requirements specified in the latest edition of the Caltrans <i>Storm Water Quality Handbooks: Construction Site Best Management Practices Manual</i> to control and minimize the impacts of construction and construction-related activities, materials, and pollutants on the watershed. These include, but are not limited to, temporary sediment control, temporary soil stabilization, waste management and materials pollution control, wind erosion control, and other nonstorm water BMPs.</p> <p>Minimization Measure WQ-2: Caltrans Permit. The Proposed Project will comply with the provisions of</p>

Table S-1 Summary of Project Impacts

Resource Impacts	No Build Alternative	Build Alternative (Preferred Alternative)	Avoidance, Minimization, and/or Mitigation Measures
			<p>the National Pollutant Discharge Elimination System (NPDES) Statewide Storm Water Permit, <i>Waste Discharge Requirements (WDRs) for the State of California, Department of Transportation</i>, Order No. 2012-0011-DWQ, NPDES No. CAS000003 (Caltrans Permit), as amended, or any future replacement permit.</p> <p>Minimization Measure WQ-3: Design Pollution Prevention Best Management Practices. Caltrans-approved Design Pollution Prevention BMPs will be implemented to the maximum extent practicable (MEP) consistent with the requirements of the <i>Waste Discharge Requirements (WDRs) for the State of California, Department of Transportation</i>, Order No. 2012-0011-DWQ, NPDES No. CAS000003 (Caltrans Permit) and the Caltrans Project Planning and Design Guide. Design Pollution Prevention BMPs include preservation of existing vegetation, slope/surface protection systems (erosion control/reseeding and replanting of vegetation) dikes, overside drains, and concentrated flow conveyance systems such as ditches, berms, and biofiltration swales and strips.</p> <p>Minimization Measure WQ-4: Treatment Best Management Practices. Caltrans-approved Treatment BMPs will be implemented to the MEP consistent with the requirements of the Caltrans Permit, which is described in Measure WQ-2 and the Project Planning and Design Guide. Treatment BMPs may include biofiltration swales, biofiltration strips, and media filters.</p>

Table S-1 Summary of Project Impacts

Resource Impacts	No Build Alternative	Build Alternative (Preferred Alternative)	Avoidance, Minimization, and/or Mitigation Measures
			<p>Minimization Measure WQ-5: Groundwater Dewatering. If groundwater dewatering is required, the Proposed Project will comply with the provisions of General Waste Discharge Requirements for Discharges to Surface Waters that Pose an Insignificant (De Minimus) Threat to Water Quality, Order No. R8-2015-0004, NPDES No. CAG998001, as they relate to discharge of non-storm water dewatering wastes for the Proposed Project.</p> <p>ETC Final EIR and Final EIS Measure W-12. <i>In conjunction with final design, entry into drainages shall be avoided during site preparation, grading and construction, except where required for construction. Activity in drainages shall be limited to crossings rather than using the lengths of drainage courses for access or for parking automobiles, trucks, and construction equipment. In addition, these areas will be marked for "limited access" on construction plans.</i></p> <p>ETC Final EIR and Final EIS Measure W-14. <i>During site preparation, grading, and construction, vehicles and equipment shall not be parked in washes or other drainages.</i></p> <p>ETC Final EIR and Final EIS Measure W-15. <i>During site preparation, grading and construction, overwatering shall be avoided in washes and other drainages.</i></p> <p>ETC Final EIR and Final EIS Measure WQ-2. <i>The TCA will ensure that all herbicides used in landscaping and weed control are handled, stored, applied, and disposed of consistent with all applicable federal, state, and local regulations.</i></p>

Table S-1 Summary of Project Impacts

Resource Impacts	No Build Alternative	Build Alternative (Preferred Alternative)	Avoidance, Minimization, and/or Mitigation Measures
			<p>ETC Final EIR and Final EIS. Measure WQ-3. <i>Whenever feasible, construction vehicles will be rinsed before leaving the construction area to remove mud and other materials before the vehicles leave the site.</i></p> <p>ETC Final EIR and Final EIS Measure E-1. <i>In conjunction with final design, the TCA shall map native vegetation outside the right-of-way on grading and construction plans to indicate vegetation to protect from use as vehicle travel or parking areas, storage of equipment and storage of debris or building materials.</i></p> <p>ETC Final EIR and Final EIS Measure E-3. <i>During final design, the TCA shall ensure that all proposed grading shall conform to the Caltrans Highway Design Manual and the TCA Project Manual Guidelines. All applicable policies and guidelines shall be listed in the grading plans.</i></p> <p>ETC Final EIR and Final EIS Measure E-6. <i>In conjunction with final design, the TCA shall ensure that cut and fill slopes shall not be steeper than 2:1. Where steeper slopes are indicated, TCA shall, in conjunction with final design, prepare geologic and engineering analyses. These analyses shall determine the safety of those slopes and proposed erosion control measures consistent with Caltrans design standards.</i></p> <p>ETC Final EIR and Final EIS Measure E-9. <i>As part of final design, TCA shall ensure that all slopes shall</i></p>

Table S-1 Summary of Project Impacts

Resource Impacts	No Build Alternative	Build Alternative (Preferred Alternative)	Avoidance, Minimization, and/or Mitigation Measures
			<p><i>conform to slope criteria developed by TCA and Caltrans. All slope criteria shall be noted on final plans.</i></p> <p>ETC Final EIR and Final EIS Measure E-10. <i>Fills shall not encroach on natural watercourses or improved channels except as shown on the approved project plans.</i></p> <p>ETC Final EIR and Final EIS Measure E-11. <i>Fills placed against watercourses shall have suitable protection against erosion during storm flows, such as riprap, protective walls, and culverts.</i></p> <p>ETC Final EIR and Final EIS Measure E-12. <i>During site preparation, grading, and construction, the TCA shall ensure that excavated materials shall not be deposited or stored in or alongside watercourses where the materials can be washed away by high water or storm runoff.</i></p> <p>ETC Final EIR and Final EIS Measure E-13. <i>During site preparation and grading, the TCA shall ensure that all land shall be graded to drain and dispose of surface water without ponding, except where approved by Caltrans or the affected responsible public agency.</i></p>
Geology, Soils, Seismic, and Topography	No impacts	<p><i>Temporary Impacts</i></p> <ul style="list-style-type: none"> • Ground motion from seismic activities, liquefaction, and landslides. • Potential for unstable slopes and erosion. <p><i>Permanent Impacts</i></p> <ul style="list-style-type: none"> • Potential for seismic impacts to 	<p>Minimization Measure GEO-1: Final Geotechnical Report. During Final Design, a qualified geotechnical engineer will conduct a comprehensive geologic and geotechnical investigation and prepare a design-level geotechnical report. This report will document geology-related constraints and hazards such as fault-induced ground rupture, slope</p>

Table S-1 Summary of Project Impacts

Resource Impacts	No Build Alternative	Build Alternative (Preferred Alternative)	Avoidance, Minimization, and/or Mitigation Measures
		<p>structures.</p> <ul style="list-style-type: none"> • Potential for unstable slopes and erosion. • Potential for liquefaction. • Minor changes to topography. 	<p>instability, settlement, liquefaction, or related secondary seismic impacts that may be present along the alignment of the Build Alternative. The performance standard for this report will be the California Department of Transportation’s (Caltrans) Geotechnical Manual (2012 or most recent version) standards as they apply to the project features and structures. The measures recommended in the design-level geotechnical report will be incorporated into the Final Design and project specifications. The construction contractor will implement the measures recommended in the design-level geotechnical reports as included in the project design and specifications.</p> <p>Minimization Measure GEO-2: Quality Assurance/Quality Control Plan. During Final Design, a quality assurance/quality control (QA/QC) plan will be prepared and implemented during construction. The QA/QC plan will include observing, monitoring, and testing by the Project Geotechnical Engineer and/or the Project Geologist 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 contractor, or if different site conditions are encountered, appropriate changes are made to accommodate such issues. Weekly reports will be prepared during all project-related grading, excavation, and construction activities.</p>

Table S-1 Summary of Project Impacts

Resource Impacts	No Build Alternative	Build Alternative (Preferred Alternative)	Avoidance, Minimization, and/or Mitigation Measures
Paleontology	No impacts	<p><i>Temporary Impacts</i></p> <ul style="list-style-type: none"> • Not applicable. <p><i>Permanent Impacts</i></p> <ul style="list-style-type: none"> • Potential to impact scientifically valuable fossil-bearing formations.¹ 	<p>Mitigation Measure PAL-1: Paleontological Mitigation Plan.</p> <p>During Final Design, a Paleontological Mitigation Plan (PMP) will be prepared and adhered to during construction. The PMP will follow the guidelines of the Society of Vertebrate Paleontologists (SVP) and Caltrans. The PMP will include, but not be limited to:</p> <ol style="list-style-type: none"> Attendance at the pregrade meeting by a qualified paleontologist or representative; Preconstruction field survey by the paleontological mitigation team; Monitoring during construction excavation by the paleontological mitigation team; Collection of representative samples from geologic formations; Sieving of bulk samples for microfossil recovery; Preparation of specimens to the point of identification and permanent preservation; Curation of fossils into a repository with permanent retrievable storage that meets Caltrans' requirements; and Preparation of a Paleontological Mitigation Report documenting the implementation of the Paleontological Mitigation Plan.
Hazardous Wastes and Materials	<ul style="list-style-type: none"> • No impacts 	<p><i>Temporary Impacts</i></p> <ul style="list-style-type: none"> • Potential to encounter aerially deposited lead (unpaved areas adjacent to SR-91), asbestos-containing materials (Gypsum 	<p>Minimization Measure HAZ-1: Aerially Deposited Lead. Consistent with Minimization Measure MW-3 of the State Route 91 Corridor Improvement Project Final Environmental Impact Report/Environmental</p>

¹ This impact is less than significant with mitigation under CEQA.

Table S-1 Summary of Project Impacts

Resource Impacts	No Build Alternative	Build Alternative (Preferred Alternative)	Avoidance, Minimization, and/or Mitigation Measures
		<p>Canyon bridge structure 55-0506), chemically treated wood waste (guardrails, and landscape timber, etc.), and lead-based paint in traffic striping (SR-241 and SR-91).</p> <ul style="list-style-type: none"> • Potential to rupture an unused petroleum pipeline with an unspecified location that may contain residual material that would need disposal. • Due to historical uses in the area, there is a potential to encounter unrecorded hazardous waste during construction. <p><i>Permanent Impacts</i></p> <ul style="list-style-type: none"> • No impacts other than routine use of hazardous materials associated with maintenance of a transportation facility. 	<p>Impact Statement (SR-91 CIP 2012 Final EIR/EIS), dated August 2012, the Project Engineer will ensure that a qualified consultant conducts a new soil Aerially Deposited Lead (ADL) evaluation and/or investigation for this project at the Design Phase. The previous ADL test results may be used if applicable along with any new ADL test results. The new soil ADL evaluation and/or investigation will be consistent with the new DTSC Lead Agreement contaminant concentration limits. In addition, new DTSC Lead Agreement soil reuse requirements and restrictions will apply.</p> <p>A Lead Compliance Plan will be prepared to address workers' health and safety.</p> <p>Minimization Measure HAZ-2: Asbestos-Containing Materials. During the design phase, a certified specialist will confirm the presence or absence of asbestos in the Gypsum Canyon Road Undercrossing, if demolition/renovation of the bridge structure will occur as part of the Proposed Project. If asbestos is present, the certified asbestos abatement specialist should monitor the disposal of the asbestos-containing materials as they are uncovered. The construction contractor will comply with the Caltrans Standard Specifications Section 14-9.02 pertaining to air pollution control compliance with rules, regulations, ordinances, and statues during renovation and demolition activities.</p> <p>Minimization Measure HAZ-3: Treated Wood Waste. During construction, the construction contractor will comply with Caltrans Standard</p>

Table S-1 Summary of Project Impacts

Resource Impacts	No Build Alternative	Build Alternative (Preferred Alternative)	Avoidance, Minimization, and/or Mitigation Measures
			<p>Specifications Section 14-10 pertaining to the handling and disposal of treated wood waste.</p> <p>Minimization Measure HAZ-4: Traffic Striping. During construction, the construction contractor will comply with Caltrans Standard Specifications Section 14-11 pertaining to the testing, removal, and disposal of any traffic striping and pavement-marking materials.</p> <p>Minimization Measure HAZ-5: Petroleum Pipeline. During construction, the construction contractor will comply with Caltrans Standard Specifications pertaining to excavation. The contractor shall notify the regional notification center, ensuring that all utility owners within the project disturbance limits identify the locations of underground transmission lines and facilities (including underground petroleum pipelines).</p>
			<p>Minimization Measure HAZ-6: Construction Contingency Plan. Prior to the start of construction, the construction contractor will prepare a Construction Contingency Plan (CCP) in accordance with Caltrans Unknown Hazards Procedures for Construction, in the Caltrans Construction Manual. The CCP will include provisions for emergency response in the event that unidentified hazardous materials, petroleum hydrocarbons, or hazardous or solid wastes are discovered during construction activities. The CCP will address field screening, contaminant materials testing methods, mitigation and contaminate management requirements, and health and safety requirements for construction workers.</p>

Table S-1 Summary of Project Impacts

Resource Impacts	No Build Alternative	Build Alternative (Preferred Alternative)	Avoidance, Minimization, and/or Mitigation Measures
			<p>The construction contractor will implement the CCP during all construction activities. During construction, the Resident Engineer will require the construction contractor to cease work immediately if an unexpected release of hazardous substances is found in reportable quantities. If an unexpected release of hazardous substances is found in reportable quantities, the Resident Engineer will require the construction contractor to notify the National Response Center by calling 1-800-424-8802. The construction contractor will perform clean up of unexpected releases under the appropriate federal, State, and local agency oversight.</p> <p>ETC Final EIR and Final EIS Measure HW-2. <i>Hazardous substances are strictly regulated by the Environmental Protection Agency (U.S. EPA), the California and National Occupational Safety and Health Administration (OSHA) and the United States Department of Transportation (DOT). The DOT specifies the procedures for safely transporting hazardous materials, as well as the procedures to follow in case of accidental spills during transport, in the 49 Code of Federal Regulations (CFR) series of regulations (parts 100 through 177). U.S. EPA specifies the requirements for proper labeling and placarding of hazardous substances. The American National Standards Institute recommends safety procedures for handling and storing hazardous materials, and OSHA specifies the procedures required for using and storing hazardous materials. These procedures shall be followed during all ETC site preparation, grading, construction, operations, and maintenance.</i></p>

Table S-1 Summary of Project Impacts

Resource Impacts	No Build Alternative	Build Alternative (Preferred Alternative)	Avoidance, Minimization, and/or Mitigation Measures
<p>Air Quality</p>	<ul style="list-style-type: none"> May have an incremental detrimental effect due to no reduction of congestion on roadway links in the Proposed Project vicinity. 	<p><i>Temporary Impacts</i></p> <ul style="list-style-type: none"> Short-term degradation of air quality may occur due to the release of particulate emissions generated by excavation, grading, hauling, and other construction activities. <p><i>Permanent Impacts</i></p> <ul style="list-style-type: none"> No new regional vehicular emission impacts. May have a beneficial effect in helping to reduce congestion on roads in the Proposed Project vicinity. 	<p>Minimization Measure AQ-1: Fugitive Dust Source Controls. During clearing, grading, earthmoving, and excavation operations, excessive fugitive dust emissions will be controlled by regular watering or other dust preventive measures using the following procedures, as specified in the South Coast Air Quality Management District (SCAQMD) Rule 403.</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 site or off site will be either sufficiently watered or securely covered to prevent excessive amounts of dust. The area disturbed by clearing, grading, earthmoving, or excavation operations will be minimized so as to prevent excessive amounts of dust. These control techniques will be indicated in project specifications. Visible dust beyond the property line emanating from the Proposed Project will be prevented to the maximum extent feasible. <p>Minimization Measure AQ-2: Ozone Precursor Emission Controls. Project grading plans will show the duration of construction. Ozone precursor emissions from construction equipment vehicles will be controlled by maintaining equipment engines in good condition and in proper tune per manufacturers' specifications.</p>

Table S-1 Summary of Project Impacts

Resource Impacts	No Build Alternative	Build Alternative (Preferred Alternative)	Avoidance, Minimization, and/or Mitigation Measures
			<p>Minimization Measure AQ-3: Prevention of Spills onto Public Streets. All trucks hauling excavated or graded material on site will 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.</p> <p>Minimization Measure AQ-4: Caltrans Standard Specifications for Construction. The contractor will adhere to Caltrans Standard Specifications for Construction (Sections 14.9 02 and 14 9.03).</p> <p>Minimization Measure AQ-5: Construction Vehicles Prohibition. All construction vehicles both on- and off-site shall be prohibited from idling in excess of 10 minutes.</p>
Noise	No impacts	<p><i>Temporary Impacts</i></p> <ul style="list-style-type: none"> Noise from construction activities may intermittently dominate the noise environment in the immediate area of construction. However, construction noise would be short-term, intermittent, and overshadowed by local traffic noise. <p><i>Permanent Impacts</i></p> <ul style="list-style-type: none"> Noise levels would increase by 3 dBA or less, which is barely perceptible to the human ear. 	<p>Minimization Measure N-1: Control of Construction Noise Levels. The control of noise from construction activities will conform to the California Department of Transportation (Caltrans) Standard Specifications, Section 14-8.02, "Noise Control." The nighttime noise level from the contractor's operations, between the hours of 9:00 p.m. and 6:00 a.m., will not exceed 86 A-weighted decibels (dBA) one-hour A weighted equivalent continuous sound level ($L_{eq}(h)$) at a distance of 50 feet. In addition, the contractor would equip all internal combustion engines with a manufacturer-recommended muffler and will not operate any internal combustion engine on the job site without the appropriate muffler.</p>

Table S-1 Summary of Project Impacts

Resource Impacts	No Build Alternative	Build Alternative (Preferred Alternative)	Avoidance, Minimization, and/or Mitigation Measures
<p>Energy</p>	<ul style="list-style-type: none"> Temporary indirect impacts from the manufacture of vehicles that operate on SR-241 and SR-91. Increase in VHT in 2017 and 2040, which will increase energy consumption when compared to the Build Alternative. 	<p><i>Temporary Impacts</i></p> <ul style="list-style-type: none"> Indirect energy impacts from the manufacture of vehicles that would operate on the project facilities and be used for project construction. However, the Proposed Project would not, on its own, increase the manufacture of vehicles; therefore, the per-vehicle indirect energy impacts for the baseline (No Build), the Build Alternative, and the existing condition would all be the same. Energy costs associated with construction of roads and structures. <p><i>Permanent Impacts</i></p> <ul style="list-style-type: none"> Total net change in VHT in 2017 would decrease by 726 VHT, indicating a slight increase in efficiency compared to the No Build Alternative. Therefore, vehicle fuel/energy consumption would be reduced. A 0.3 percent reduction in direct energy use annually in 2040 due to reduction in VMT. A 1.5 percent increase in maintenance-related permanent indirect energy consumption in 2040 due to increase in VMT. 	<p>None</p>
<p>Natural Communities</p>	<p>No impacts</p>	<p><i>Temporary Impacts</i></p> <ul style="list-style-type: none"> Total impacts to 29.70 acres of coastal sage scrub. Impacts to 23.68 acres of coastal sage scrub within the NCCP/HCP Plan Area. Within the SR-91 right-of-way, impacts to 	<p>Minimization Measure NC-1: Coastal California Gnatcatcher Environmentally Sensitive Areas. <i>Prior to the commencement of grading operations or other activities involving substantial soil disturbance, all areas of CSS habitat to be avoided under the provisions of the NCCP/HCP shall be identified with</i></p>

Table S-1 Summary of Project Impacts

Resource Impacts	No Build Alternative	Build Alternative (Preferred Alternative)	Avoidance, Minimization, and/or Mitigation Measures
		<p>approximately 6 acres in the NCCP/HCP Plan Area and 0.02 acre of coastal sage scrub in Caltrans right-of-way outside the NCCP/HCP Plan Area.</p> <ul style="list-style-type: none"> • Impacts to 8 coast live oak and 15 sycamore trees. • Impacts to Windy Ridge Wildlife Undercrossing. <p><i>Permanent Impacts</i></p> <ul style="list-style-type: none"> • Impacts to 10.41 acres of coastal sage scrub in Caltrans right-of-way in the NCCP/HCP Plan Area. • Impacts to 3.25 acres of coastal sage scrub outside Caltrans right-of-way in the NCCP/HCP Plan Area. • Impacts to 6 coast live oak trees. 	<p><i>temporary fencing or other markers clearly visible to construction personnel. Additionally, prior to the commencement of grading operations or other activities involving disturbance of CSS, a survey will be conducted to locate CAGN and cactus wrens within 100 ft of the outer extent of projected soil disturbance activities. The locations of any such species shall be clearly marked and identified on the construction/grading plans.</i></p> <p>Minimization Measure NC-2: Nesting Coastal California Gnatcatchers. <i>During clearing or construction, to the maximum extent practicable, no grading of CSS habitat that is occupied by nesting CAGN will occur during the breeding season (February 15 through July 15). It is expressly understood that this provision and the remaining provisions of these “construction-related minimization measures” are subject to public health and safety considerations. These considerations include unexpected slope stabilization, erosion control measures, and emergency facility repairs. In the event of such public health and safety circumstances, landowners or public agencies/utilities will provide USFWS/CDFW with the maximum practicable notice (or such notice as is specified in the NCCP/HCP) to allow for capture of CAGN, cactus wrens (Campylorhynchus brunneicapillus), and any other CSS Identified Species that are not otherwise flushed and will carry out the following measures only to the extent practicable in the context of the public health and safety considerations.</i></p> <p>The breeding season is now considered to be from</p>

Table S-1 Summary of Project Impacts

Resource Impacts	No Build Alternative	Build Alternative (Preferred Alternative)	Avoidance, Minimization, and/or Mitigation Measures
			<p>February 15 through August 31; therefore, these dates are applicable to this measure.</p> <p>Minimization Measure NC-3: Biological Monitor. <i>A monitoring biologist acceptable to USFWS/CDFW will be on site during any clearing of CSS. The landowner or relevant public agency/utility will advise USFWS/CDFW at least 7 calendar days (preferably 14 calendar days) prior to the clearing of any habitat occupied by Identified Species to allow USFWS/CDFW to work with the monitoring biologist in connection with bird flushing/capture activities. The monitoring biologist will flush Identified Species (avian or other mobile Identified Species) from occupied habitat areas immediately prior to brush-clearing and earth-moving activities. If birds cannot be flushed, they will be captured in mist nets, if feasible, and relocated to areas of the site to be protected or to the NCCP/HCP Reserve System. It will be the responsibility of the monitoring biologist to ensure that Identified Species will not be directly impacted by brush-clearing and earth-moving equipment in a manner that also allows for construction activities on a timely basis.</i></p> <p>Minimization Measure NC-4: Coastal Sage Scrub Environmentally Sensitive Area. <i>Following the completion of initial grading/earth movement activities, all areas of CSS habitat to be avoided by construction equipment and personnel will be marked with temporary fencing or other appropriate markers clearly visible to construction personnel. No construction access, parking, or storage of equipment or materials will be permitted within such</i></p>

Table S-1 Summary of Project Impacts

Resource Impacts	No Build Alternative	Build Alternative (Preferred Alternative)	Avoidance, Minimization, and/or Mitigation Measures
			<p><i>marked areas.</i></p> <p>Minimization Measure NC-5: Coastal Sage Scrub Access Restrictions. <i>In areas bordering the NCCP/HCP Reserve System or Special Linkage/Special Management areas containing substantial CSS identified in the NCCP/HCP for protection, vehicle transportation routes between cut-and-fill locations will be restricted to a minimum number during construction consistent with project construction requirements. Waste dirt or rubble will not be deposited on adjacent CSS identified in the NCCP/HCP for protection. Preconstruction meetings involving the monitoring biologist, construction supervisors, and equipment operators will be conducted and documented to ensure maximum practicable adherence to these measures.</i></p> <p>Minimization Measure NC-6: Coastal Sage Scrub Dust Control. <i>CSS identified in the NCCP/HCP for protection and located within the likely dust drift radius of construction areas shall be periodically sprayed with water to reduce accumulated dust on the leaves as recommended by the monitoring biologist.</i></p> <p>Minimization Measure NC-7: Coast Live Oak Tree Environmentally Sensitive Areas. <i>Prior to clearing or construction, highly visible barriers and, as needed, silt fencing will be installed around the protected zone of any oak tree or oak habitat. Such areas will be designated on the project specifications as Environmentally Sensitive Areas (ESAs) to be</i></p>

Table S-1 Summary of Project Impacts

Resource Impacts	No Build Alternative	Build Alternative (Preferred Alternative)	Avoidance, Minimization, and/or Mitigation Measures
			<p>preserved. The ESAs will extend 5 ft outside the dripline or 15 ft from the trunk of each tree, whichever is greater, unless the area includes a road shoulder or existing asphalt. In those instances, safety requires the road shoulder or existing asphalt not be included in the ESA and the boundary of the ESA will be modified accordingly. These modified ESAs are included because impacts to oaks may occur within these road shoulder and asphalt areas if roots become exposed, soil surrounding roots is excessively compacted, material is deposited over roots, or branches or roots are broken or damaged.</p> <p>In addition, to avoid breaking overhanging branches, branch trimming may be required. Proper tree pruning procedures will be followed.</p> <p>No grading or fill activity of any type will be permitted within the ESAs for trees that are expected to be preserved. In addition, heavy equipment, including motor vehicles, will not be allowed to operate in the ESAs. All construction equipment will be operated in such a manner as to prevent accidental damage to nearby oaks. No structure of any kind, or incidental storage of equipment or supplies, will be allowed in the ESAs. Silt fence barriers will be installed at the ESA boundaries to prevent accidental deposition of fill material in areas where trees are immediately adjacent to planned construction activities.</p> <p>Minimization Measure NC-8: Coast Live Oak Tree Replacement. During Final Design, the TCA will develop a revegetation program to help compensate for lost oak trees with spacing criteria to be</p>

Table S-1 Summary of Project Impacts

Resource Impacts	No Build Alternative	Build Alternative (Preferred Alternative)	Avoidance, Minimization, and/or Mitigation Measures
			<p>determined by the Project Biologist. Senate Concurrent Resolution No. 17 (filed with the Secretary of State on September 1, 1989) requests all State agencies to preserve and protect native oak woodlands to the maximum extent feasible or to provide for replacement plantings. Impacts to any oak trees (excluding California scrub oaks) with trunk sizes greater than 8 inches diameter at breast height (dbh), but less than 36 inches dbh, will be replaced at a minimum mitigation-to-impact ratio of 1:1. Heritage oaks (oaks greater than 36 inches dbh) will be replaced at a minimum mitigation-to-impact ratio of 3:1. Replacement resources will include a combination of plantings such as acorns, 5-gallon, and 15-gallon trees and/or transplantation where feasible. Replacement plantings may take place in TCA or Caltrans right-of-way or suitable areas in proximity to the project limits.</p> <p>Minimization Measure NC-9: Existing Wildlife Fencing. If necessary for construction access, the existing wildlife fencing will be removed only after installation of temporary fencing to protect against wildlife-vehicle incidents during construction. Temporary fencing will be the same or greater height than the existing wildlife fencing and must be maintained and functional throughout project construction. After construction, any temporary fencing will be replaced with new permanent fencing consistent with the existing wildlife fencing.</p> <p>Minimization Measure NC-10: Windy Ridge Wildlife Undercrossing Revegetation. Following the completion of the project construction, all</p>

Table S-1 Summary of Project Impacts

Resource Impacts	No Build Alternative	Build Alternative (Preferred Alternative)	Avoidance, Minimization, and/or Mitigation Measures
			<p>disturbed habitat adjacent to Windy Ridge Wildlife Undercrossing will be restored with native vegetation.</p> <p>Minimization Measure NC-11: Construction Lighting and Staging. Construction equipment maintenance, lighting, and staging must be in designated areas, away from Windy Ridge Wildlife Undercrossing and Coal Canyon Undercrossing.</p> <p>Minimization Measure NC-12: Windy Ridge Wildlife Undercrossing and Coal Canyon Undercrossing Avoidance. During construction, Windy Ridge Wildlife Undercrossing and Coal Canyon Undercrossing will be avoided as much as is feasible. Activity that must take place at the Windy Ridge Wildlife Undercrossing and Coal Canyon Undercrossing will be done as quickly as possible and only during daylight hours, subject to public health and safety considerations. If work must be done at night, noise and direct lighting will be directed away from Windy Ridge Wildlife Undercrossing and Coal Canyon Undercrossing.</p> <p>During vibratory pile driving at Coal Canyon Undercrossing, a noise barrier (temporary construction barrier or a noise curtain surrounding the pile driver) will be installed and monitored. In addition, vibratory pile driving will be limited to no more than 30 minutes in a particular hour.</p> <p>Minimization Measure NC-13: Windy Ridge Wildlife Undercrossing and Coal Canyon Undercrossing Access. Windy Ridge Wildlife Undercrossing and Coal Canyon Undercrossing will be kept clear of all equipment or structures that could</p>

Table S-1 Summary of Project Impacts

Resource Impacts	No Build Alternative	Build Alternative (Preferred Alternative)	Avoidance, Minimization, and/or Mitigation Measures
			<p>potentially serve as barriers to wildlife passage.</p> <p>Minimization Measure NC-14: Windy Ridge Wildlife Undercrossing Construction Staging. Within Windy Ridge Wildlife Undercrossing, structures required for bridgework will be erected as to not block the main underpass. Scaffolding and false work will be restricted to the sides of the underpass to maintain the functionality of the crossing for wildlife movement.</p> <p>Minimization Measure NC-15: Western Riverside County Multiple Species Habitat Conservation Plan Construction Guidelines. Construction activities in the SR-91 Advanced Signage Area in Riverside County will comply with the objectives, policies, procedures, and guidelines from Section 7.5.3: Construction Guidelines as well as (BMPs outlined in Appendix C (WR-MSHCP Volume 1) of the Western Riverside County Multiple Species Habitat Conservation Plan (WR-MSHCP).</p> <p>The applicable guidelines from Section 7.5.3: Construction Guidelines are:</p> <ul style="list-style-type: none"> • <i>When work is conducted during the fire season (as identified by the Riverside County Fire Department) adjacent to coastal sage scrub or chaparral vegetation, appropriate fire-fighting equipment (e.g., extinguishers, shovels, and water tankers) shall be available on the site during all phases of project construction to help minimize the chance of human-caused wildfires. Shields, protective mats, and/or additional fire</i>

Table S-1 Summary of Project Impacts

Resource Impacts	No Build Alternative	Build Alternative (Preferred Alternative)	Avoidance, Minimization, and/or Mitigation Measures
			<p><i>preventative methods shall be used during grinding, welding, and other spark-inducing activities. Personnel trained in fire hazards, preventative actions, and responses to fires shall advise contractors regarding fire risk from all construction-related activities.</i></p> <ul style="list-style-type: none"> • <i>Waste, dirt, rubble, or trash shall not be deposited in the Conservation Area or on native habitat.</i> <p>The applicable practices from the 15 practices listed in Appendix C: Standard Best Management Practices are:</p> <ul style="list-style-type: none"> • <i>The footprint of disturbance shall be minimized to the maximum extent feasible. Access to sites shall be via pre-existing access routes to the greatest extent possible.</i> • <i>To avoid attracting predators of the species of concern, the project site shall be kept clean of debris. All food-related trash items shall be enclosed in sealed containers and regularly removed from the project site.</i> • <i>Construction employees shall strictly limit their activities, vehicles, equipment, and construction materials to the footprint and designated staging areas and routes of travel. The construction area(s) shall be the minimal area necessary to complete the project construction activities and shall be specified in the construction plans. Construction limits will be fenced with orange snow screen. Exclusion fencing should be maintained until the completion of all construction activities. Employees shall be instructed that their</i>

Table S-1 Summary of Project Impacts

Resource Impacts	No Build Alternative	Build Alternative (Preferred Alternative)	Avoidance, Minimization, and/or Mitigation Measures
			<p><i>activities are restricted to the construction areas.</i></p> <ul style="list-style-type: none"> • <i>The Permittee shall have the right to access and inspect any sites of approved projects including any restoration/enhancement area for compliance with project approval conditions including these BMPs.</i> <p>Avoidance and Minimization Measure NC-16: Sensitive Species and Habitats. In conjunction with the final design and prior to site preparation, all sensitive species and special habitats within 300 feet of the Project Area shall be mapped on the grading plans by a qualified biologist. Sensitive and candidate species and special habitats shall be defined as:</p> <ul style="list-style-type: none"> • Coastal California gnatcatcher • Cactus wren • Designated critical habitat for Coastal California gnatcatcher • Thread-leaved brodiaea • Designated critical habitat for Braunton’s milk-vetch • Least Bell’s vireo • Southwestern willow flycatcher • Drainages and streambeds • Coastal sage scrub • Coast Live Oak Woodland <p>ETC Final EIR and Final EIS Measure B-2. <i>Prior to grading and site preparation, all native oak, sycamore, and willow trees of 4 inches in diameter at breast height (DBH-4.5 ft from mean ground level) within the Project limits and within 20 ft of grading</i></p>

Table S-1 Summary of Project Impacts

Resource Impacts	No Build Alternative	Build Alternative (Preferred Alternative)	Avoidance, Minimization, and/or Mitigation Measures
			<p><i>and construction operations shall be tagged and numbered with permanent tags. The tag numbers of the trees to be protected and those to be removed shall be noted. Records of these numbers shall be kept by TCA, the Resource Management Coordinator/Monitor and the Orange County Environmental Management Agency/Environmental Planning Division for use in mitigation/replacement and monitoring of tree resources before, during and after grading and construction activities.</i></p> <p>ETC Final EIR and Final EIS Measure B-3. <i>Prior to grading and site preparation, all trees subject to removal shall be marked with a red "X" on the trunk. Trees to be preserved shall be marked with yellow flagging visible from all direction.</i></p> <p>ETC Final EIR and Final EIS Measure B-4. <i>In conjunction with grading, site preparation and construction, short term soil stabilization using accepted soil protection techniques and native species shall be conducted under the direction of a qualified biologist, where determined to be appropriate to protect sage scrub communities.</i></p> <p>ETC Final EIR and Final EIS. Measure B-8. <i>For the period covering all site preparation, grading and construction, a resource management coordinator shall monitor wildlife [and plant] habitat preservation to ensure that the ESAs and areas outside the Caltrans right-of-way are not adversely impacted. The monitor shall be on site before, during, and after the completion of site preparation, grading and construction.</i></p>

Table S-1 Summary of Project Impacts

Resource Impacts	No Build Alternative	Build Alternative (Preferred Alternative)	Avoidance, Minimization, and/or Mitigation Measures
			<p>ETC Final EIR and Final EIS Measure B-11. <i>Prior to site preparation, grading and construction, the TCA shall implement procedures for protecting sensitive and candidate species and special habitats [particularly Braunton’s milk-vetch critical habitat] identified and mapped on grading plans during site preparation, grading, construction and maintenance activities by following Caltrans Environmentally Sensitive Area procedures</i></p> <p>ETC Final EIR and Final EIS Measure B-25. <i>During site preparation and grading, the TCA shall phase operations around important habitat areas to allow for completion of nesting and breeding activities for the coastal California gnatcatcher and raptor species occurring in oak woodland as well as willow and sycamore forested woodlands. This measure will be conducted and overseen by a qualified biologist.</i></p>

Table S-1 Summary of Project Impacts

Resource Impacts	No Build Alternative	Build Alternative (Preferred Alternative)	Avoidance, Minimization, and/or Mitigation Measures
<p>Wetlands and Other Waters</p>	<p>No impacts</p>	<p><i>Temporary Impacts</i></p> <ul style="list-style-type: none"> • Impacts to less than 0.53 acre of non-wetland USACE waters inside Caltrans right-of-way and less than 0.01 acres outside Caltrans right-of-way. • Potential for indirect impacts to functions and values of on-site drainages and downstream areas. • Impacts to approximately 1.01 acres of CDFW jurisdictional areas inside Caltrans right-of-way and approximately 0.03 acre outside Caltrans right-of-way. • Impacts to less than 0.53 acre of RWQCB jurisdictional areas inside Caltrans right-of-way and less than 0.01 acre outside Caltrans right-of-way. <p><i>Permanent Impacts</i></p> <ul style="list-style-type: none"> • Impacts to approximately 0.45 acre of USACE jurisdictional non-wetland waters inside Caltrans right-of-way and approximately 0.02 acre outside Caltrans right-of-way. • Impacts to approximately 0.66 acre of CDFW jurisdictional areas inside Caltrans right-of-way and approximately 0.20 acre outside Caltrans right-of-way. • Impacts to approximately 0.45 acre of RWQCB jurisdictional areas inside Caltrans right-of-way and approximately 0.02 acre outside Caltrans right-of-way. 	<p>Minimization Measure WET-1: Nationwide Permit. Prior to initiation of construction, a permit will be obtained through the United States Army Corps of Engineers (USACE) pursuant to Section 404 of the Clean Water Act. As part of coordination with the USACE, a Nationwide Permit will be pursued, if appropriate.</p> <p>Minimization Measure WET-2: Streambed Alteration Agreement. Prior to initiation of construction, a Streambed Alteration Agreement (SAA) with the California Department of Fish and Wildlife will be obtained and any specifications in the SAA will be implemented.</p> <p>Minimization Measure WET-3: Water Quality Certification. Prior to initiation of construction, a Section 401 Water Quality Certification from the Santa Ana Regional Water Quality Control Board will be obtained and any specifications in the Certification will be implemented.</p> <p>ETC Final EIR and Final EIS Measure B-13. <i>In conjunction with final design, the TCA shall, to the extent feasible, construct stream bank reinforcements of ungrouted riprap gabions or other appropriate material at the shallowest possible slope (2:1 or less), allowing for the replacement of soil and the subsequent revegetation of these areas with riparian plant species.</i></p>

Table S-1 Summary of Project Impacts

Resource Impacts	No Build Alternative	Build Alternative (Preferred Alternative)	Avoidance, Minimization, and/or Mitigation Measures
<p>Plant Species</p>	<p>No impacts</p>	<p><i>Temporary Impacts</i></p> <ul style="list-style-type: none"> • Potential indirect impacts to California black walnut trees near the Gypsum Canyon off-ramp due to the potential for fuel spills from construction equipment and activities of construction equipment or personnel outside designated construction areas and ESAs in the vicinity of the trees. • Potential direct impacts to Coulter’s Matilija poppy and potential temporary indirect impacts due to the potential for fuel spills from construction equipment and activities of construction equipment or personnel outside designated construction areas and ESAs. <p><i>Permanent Impacts</i></p> <ul style="list-style-type: none"> • Potential direct impacts to 3 California black walnut saplings. • Coulter’s Matilija poppies in the slope area south of SR-91 would be removed. 	<p>Minimization Measure PS-1: California Black Walnut Environmentally Sensitive Areas. Prior to clearing or construction, highly visible barriers (such as orange construction fencing) will be installed around the protected zone of any southern California black walnut tree and designated as an Environmentally Sensitive Area (ESA) to be preserved for those trees not within the footprint of project structures or areas of ground disturbance. The protected zone will extend 5 feet (ft) outside of the drip line or 15 ft from the trunk of the tree, whichever is greater. No grading or fill activity of any type will be permitted within the ESA. 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 California black walnut trees. No structure of any kind, or incidental storage of equipment or supplies, will be allowed within the ESA. Silt fence barriers will be installed at the ESA boundary to prevent accidental deposition of fill material in areas where trees are immediately adjacent to planned grading activities.</p> <p>Minimization Measure PS-2: California Black Walnut Sapling Relocations. The California black walnut saplings in the median of the SR-241/SR-91 interchange will be assessed at the time of construction and relocated within Caltrans right-of-way, if feasible.</p> <p>Minimization Measure PS-3: Coulter’s Matilija Poppies Environmentally Sensitive Areas. Prior to clearing or construction, highly visible barriers (such</p>

Table S-1 Summary of Project Impacts

Resource Impacts	No Build Alternative	Build Alternative (Preferred Alternative)	Avoidance, Minimization, and/or Mitigation Measures
			<p>as orange construction fencing) will be installed around the protected zone of any Coulter's Matilija poppies and designated as an ESA to be preserved to the extent feasible. The protected zone will extend 5 ft outside of the vegetation edge. No grading or fill activity of any type will be permitted within the ESA. 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 Coulter's Matilija poppies. No structure of any kind, or incidental storage of equipment or supplies, will be allowed within the ESA. Silt fence barriers will be installed at the ESA boundary to prevent accidental deposition of fill material in areas where Coulter's Matilija poppies are adjacent to planned grading activities.</p>
Animal Species	No impacts	<p><i>Temporary Impacts</i></p> <ul style="list-style-type: none"> • May redirect foraging golden eagles away from the borders of the BSA during construction. • Potential indirect impacts to species that occupy the coastal sage scrub and chaparral natural communities through the disturbance of potentially suitable habitat. • Impacts to special-status bat species including noise, dust, night lighting, and human encroachment, and reduced access to roost sites in the crevices of bridges and overhead structures. • Potential indirect impacts to grassland and open space species through the disturbance of approximately 14.1 acres 	<p>Minimization Measure AS-1: Nesting Birds. Prior to clearing or construction, to avoid impacts to nesting birds, any native vegetation removal or tree-(native or exotic) trimming activities will occur outside of the bird nesting season (February 15 through August 31). In the event that vegetation clearing is necessary during the nesting season or if construction activities or access have the potential to impact nesting birds, a qualified biologist will conduct a preconstruction survey to identify the locations of nests. Should nesting birds be found, an exclusionary buffer will be established by the qualified biologist. This buffer will be clearly marked in the field by construction personnel under guidance of the qualified biologist, and construction or clearing will not be conducted within this zone until the qualified biologist determines that the young have fledged or</p>

Table S-1 Summary of Project Impacts

Resource Impacts	No Build Alternative	Build Alternative (Preferred Alternative)	Avoidance, Minimization, and/or Mitigation Measures
		<p>of potential habitat.</p> <ul style="list-style-type: none"> • Direct impacts to nesting birds through vegetation clearing, grading, and tree removal. • Potential indirect impacts to nesting birds due to disturbances near trees occupied by nesting birds if tree-trimming activities were to occur during the nesting season. <p><i>Permanent Impacts</i></p> <ul style="list-style-type: none"> • Indirect impacts to species that occupy coastal sage scrub and chaparral through the removal of potential suitable habitat. • Indirect impacts to special-status grassland animal species through potential habitat loss. • Potential indirect impacts to nesting birds due to loss of foraging and nesting habitat as a result of loss of vegetation or changes in habitat types. 	<p>the nest is no longer active.</p> <p>Construction of the Coal Canyon Undercrossing access ramp and widening of Windy Ridge Wildlife Undercrossing will be conducted outside the bird nesting season (February 15 through August 31).</p> <p>Periodic monitoring by the project biologist will be conducted as needed to ensure that construction activities do not impact bridge-nesting birds at Coal Canyon Undercrossing and Windy Ridge Wildlife Undercrossing.</p> <p>Minimization Measure AS-2: Bat Maternity Roosting Survey. A qualified bat biologist will survey the Project Area during the maternity roosting period, typically in June, to assess the potential for its use as a maternity roost because maternity roosts are generally formed in late spring. The 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.</p> <p>Minimization Measure AS-3: Bridgework Schedule. To prevent impacts to bridge and crevice-roosting bats, all bridgework will be scheduled between September 1 and November 30 to avoid hibernating bats and the maternity season. If this is not feasible, temporary bat eviction and exclusion devices will be installed between September 1 and November 20 prior to the initiation of construction activities and under the supervision of a qualified bat</p>

Table S-1 Summary of Project Impacts

Resource Impacts	No Build Alternative	Build Alternative (Preferred Alternative)	Avoidance, Minimization, and/or Mitigation Measures
			<p>biologist. Exclusion devices will be installed during the fall, or as otherwise directed by a qualified biologist, to avoid trapping flightless young inside during the summer months or hibernating individuals during the winter. Such exclusion efforts will be continued to keep the structures free of bats until the completion of construction on those structures, at which time the devices will be removed to allow the bats to resume roosting in the structure and prevent any permanent loss of bat-roosting habitat. All bat exclusion techniques will be coordinated between the District Biologist and the resource agencies.</p> <p>Avoidance and Minimization Measure AS-4: Construction Work Activities. To avoid or minimize impacts to bats at a night roost, work activities are not to occur within 100 feet of the structure between sunset and sunrise. If construction work must be performed at night in the vicinity of the bridge structure containing a night roost, noise and direct lighting will be directed away from the structure or lighting will be specifically focused on the section of the bridge actively under construction to minimize impacts to night-roosting bats.</p> <p>Avoidance and Minimization Measure AS-5: Bird Exclusion Netting. Airspace access to and from a bridge structure containing a night roost will not be restricted. Bird exclusion netting will not be used unless made from thick plastic and installed with no exposed overlap joints. Clearing of vegetation in the vicinity of the structure will also be minimized to the greatest extent practicable.</p>

Table S-1 Summary of Project Impacts

Resource Impacts	No Build Alternative	Build Alternative (Preferred Alternative)	Avoidance, Minimization, and/or Mitigation Measures
			<p>Minimization Measure AS-6: Unfilled Expansion. Subject to public health and safety considerations, existing unfilled expansion joints will remain unfilled and unobstructed to prevent permanent loss of existing day- and/or night-roosting habitat. Habitat for bats may be enhanced in the project limits by leaving newly created expansion joints unrubberized so that they are available to bats for day roosting after construction is complete.</p> <p>Avoidance Measure AS-7: Burrowing Owl Survey. In accordance with the California Department of Fish and Wildlife survey guidelines for burrowing owl, a take avoidance survey shall be conducted no less than 14 days prior to initiating ground-disturbance activities and, if time lapses between project activities, a final survey may be conducted within 24 hours prior to ground disturbance.</p>
Threatened and Endangered Species	No impacts	<p><i>Temporary Impacts</i></p> <ul style="list-style-type: none"> • Potential indirect impacts through the accumulation of dust on the leaves of any Braunton’s milk-vetch plants in designated critical habitat. • Potential to impact thread-leaved brodiaea. • Potential to redirect foraging bald eagles, least Bell’s vireo, and southwestern willow flycatcher away from the BSA. • Indirect impacts to coastal California gnatcatcher due to increased exposure to noise, vibration, dust, nighttime lighting, and human presence. 	<p>Avoidance Measure TE-1: Construction Work Limits Review. During Final Design, the construction work limits will be reviewed to ensure that the lateral work limits are reduced to avoid designated Braunton’s milk-vetch critical habitat and that construction staging areas are located in areas that have been previously disturbed or developed. All designated critical habitat for Braunton’s milk-vetch adjacent to and outside the project disturbance limits will be delineated on the project specifications as environmentally sensitive areas (ESAs) prior to any construction activities near those areas.</p>

Table S-1 Summary of Project Impacts

Resource Impacts	No Build Alternative	Build Alternative (Preferred Alternative)	Avoidance, Minimization, and/or Mitigation Measures
		<ul style="list-style-type: none"> • Direct impacts to coastal California gnatcatcher through habitat disturbance and removal. • Impacts to 11.85 acres of coastal California gnatcatcher occupied habitat in the median of the SR-241/SR-91 interchange in the NCCP/HCP Plan Area. • Impacts to 12.8 acres of designated coastal California gnatcatcher critical habitat in the NCCP/HCP Plan Area. • Impacts to 7.96 acres of designated coastal California gnatcatcher habitat outside the NCCP/HCP Plan Area in Caltrans right-of-way. <p><i>Permanent Impacts</i></p> <ul style="list-style-type: none"> • Potential minor impacts to thread-leaved brodiaea habitat. • Indirect impacts to coastal California gnatcatcher as a result of increased exposure to noise, vibration, and dust. • Take of coastal California gnatcatcher in the NCCP/HCP Plan Area through the permanent loss of 2.98 acres of occupied habitat in the median of the existing junction of SR-241 and SR-91.¹ • Take of designated coastal California gnatcatcher critical habitat in the NCCP/HCP Plan Area through the permanent loss of approximately 19.72 acres.¹ 	<p>Avoidance and Minimization Measure TE-2: Thread-leaved brodiaea Preconstruction Surveys and Environmentally Sensitive Areas. Preconstruction surveys will be conducted to determine if thread-leaved brodiaea is present in the Project Area. If this species is found in the Project Area, prior to clearing or construction, highly visible barriers (such as orange construction fencing) will be installed around the protected zone of any thread-leaved brodiaea individuals and designated as an ESA to be preserved to the extent feasible. The protected zone will extend 5 ft outside of the vegetation edge. No grading or fill activity of any type will be permitted within the ESA. 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 thread-leaved brodiaea. No structure of any kind, or incidental storage of equipment or supplies, will be allowed within the ESA. Silt fence barriers will be installed at the ESA boundary to prevent accidental deposition of fill material in areas where thread-leaved brodiaea is adjacent to planned grading activities.</p> <p>Avoidance Measure TE-3: Coastal California Gnatcatcher Survey. Prior to the commencement of grading operations or other activities involving disturbance of coastal sage scrub or areas of coastal California gnatcatcher designated critical habitat (with constituent elements), a survey will be conducted to</p>

¹ This impact is less than significant with mitigation under CEQA.

Table S-1 Summary of Project Impacts

Resource Impacts	No Build Alternative	Build Alternative (Preferred Alternative)	Avoidance, Minimization, and/or Mitigation Measures
		<ul style="list-style-type: none"> • Take of designated coastal California gnatcatcher habitat outside the NCCP/HCP Plan Area as a result of impacts to 1.18 acres in Caltrans right-of-way.¹ • Potential loss of a minimal amount (approximately 1 acre of chaparral) of potential foraging habitat for least Bell's vireo and southwestern willow flycatcher. 	<p>locate coastal California gnatcatcher within 100 feet (ft) of the outer extent of projected soil disturbance activities and the locations of coastal California gnatcatchers shall be clearly marked and identified on the construction/grading plans. The 100 ft buffer outside the project soil disturbance limits will be clearly marked in the field by construction personnel under the guidance of the biologist. Construction or clearing will not be conducted within the project disturbance limits adjacent to the 100 ft buffer until the biologist determines that the young have fledged or the nest is no longer active.</p> <p>Avoidance Measure TE-4: Barrier Installation. Prior to clearing or construction, highly visible barriers (such as orange construction fencing) will be installed around coastal sage scrub and coastal California gnatcatcher designated critical habitat (with constituent elements) adjacent to and outside the project footprint to designate ESAs. No grading or fill activity of any type will be permitted within the ESAs and 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 ESAs. No structure of any kind, or incidental storage of equipment or supplies, will be allowed within the ESAs. Silt fence barriers will be installed at the ESA boundaries adjacent to the project footprint to prevent accidental deposition of fill material in areas where vegetation is adjacent to planned grading activities.</p> <p>Avoidance Measure TE-5: Construction Activities Monitoring. A qualified biologist will monitor all</p>

Table S-1 Summary of Project Impacts

Resource Impacts	No Build Alternative	Build Alternative (Preferred Alternative)	Avoidance, Minimization, and/or Mitigation Measures
			<p>construction activities for the duration of the project construction in areas adjacent to ESAs to flush out any wildlife species present from the construction areas prior to construction and to ensure that vegetation removal, best management practices, ESAs, and all avoidance and minimization measures are properly followed.</p> <p>Avoidance and Minimization Measure TE-6: Shielded Lighting. Shielded lighting will be used for any nighttime construction adjacent to coastal sage scrub within coastal California gnatcatcher designated critical habitat to avoid and minimize artificial night lighting effects on the gnatcatcher.</p> <p>Mitigation Measure TE-7: Section 7 Consultation. Prior to construction, Section 7 consultation with the United States Fish and Wildlife Service (USFWS) will be conducted to address effects to coastal California gnatcatcher and coastal California gnatcatcher occupied and/or critical habitat outside the Natural Communities Conservation Plan (NCCP) Area. Impacts to coastal sage scrub in coastal California gnatcatcher occupied habitat or designated critical habitat outside the NCCP Area will be mitigated at a minimum mitigation ratio of 2:1 for permanent impacts and 1:1 for temporary impacts. The final mitigation ratio will be determined through coordination among Caltrans, the Foothill/Eastern Transportation Corridor Agency (F/ETCA), the USFWS, and the federal Section 7 consultation between Caltrans and the USFWS. Re-initiation or a new formal Section 7 consultation is needed for the following reasons:</p>

Table S-1 Summary of Project Impacts

Resource Impacts	No Build Alternative	Build Alternative (Preferred Alternative)	Avoidance, Minimization, and/or Mitigation Measures
			<p>a. To request concurrence with “May affect, not likely to adversely affect” determinations for Braunton’s milk-vetch, thread-leaved broadiaea, least Bell’s vireo, and southwestern willow flycatcher.</p> <p>b. To request concurrence with a “May affect, likely to adversely affect” determination for the coastal California gnatcatcher.</p> <p>c. To verify the proposed impacts to and mitigation for occupied coastal sage scrub (CSS), not occupied CSS, and designated coastal California gnatcatcher critical habitat covered and mitigated under the NCCP/HCP agreement and the Eastern Transportation Corridor (ETC) Biological Opinion (1-6-94-F-17).</p> <p>d. To verify that the proposed incidental take number of coastal California gnatcatcher (habitat supporting up to three pairs) will be within or exceed the amount of take specified in the incidental take statement included in the ETC Biological Opinion (1-6-94-F-17).</p> <p>e. To request concurrence with “May affect, not likely to adversely affect” determinations for Braunton’s milk-vetch and coastal California gnatcatcher critical habitat outside NCCP/Habitat Conservation Plan (HCP) covered areas.</p> <p>Avoidance and Minimization Measure TE-8: Foraging Special-Status Riparian Birds. Prior to vegetation clearing or construction within the species foraging habitat areas during the nesting period, a</p>

Table S-1 Summary of Project Impacts

Resource Impacts	No Build Alternative	Build Alternative (Preferred Alternative)	Avoidance, Minimization, and/or Mitigation Measures
			<p>qualified biologist will conduct a preconstruction survey to identify the locations of any special-status riparian birds. If foraging individuals are found within the vegetation clearing area during the breeding season, clearing will be delayed until the species are absent. Per the NCCP/HCP construction minimization measures, outside the breeding season, the monitoring biologist will flush NCCP/HCP identified species from the area, prior to brush-clearing and earth-moving activities.</p> <p>ETC Final EIR and Final EIS Measure B-27. <i>Grading and construction activities shall be redirected temporarily around any nesting sites for a distance of 500 ft for candidate and listed species of birds and at a distance of 1,000 ft for raptors during nesting and breeding seasons. In the event that a coyote, bobcat, or mountain lion den is located, grading and construction operations shall be redirected around the den for a distance of 1,000 ft.</i> <i>The nesting sites and dens should be resurveyed toward the end of the breeding seasons of these species to verify completion of the breeding cycle. Nests and dens that will be removed due to ETC must be removed during the nonbreeding season only.</i></p>
Invasive Species	No impacts	<ul style="list-style-type: none"> Potential to spread invasive species by the entering and exiting of construction equipment contaminated by invasive species, disturbances to soil surfaces, and improper removal and disposal of invasive species that result in the seed being spread along the highway. 	<p>Minimization Measure IS-1: Weed Abatement Program/Non-Standard Special Provisions. During Final Design, a qualified landscape architect will develop a Weed Abatement Program/Non-Standard Special Provisions (NSSP) for inclusion in the project specifications. The Weed Abatement Program/NSSP will be developed in compliance with Executive Order 13112 to minimize the potential for intrusion or export</p>

Table S-1 Summary of Project Impacts

Resource Impacts	No Build Alternative	Build Alternative (Preferred Alternative)	Avoidance, Minimization, and/or Mitigation Measures
			<p>of invasive plant species to and from the Biological Study Area during project construction. At a minimum, the following will be included in the Weed Abatement Program/NSSP and implemented prior to and during construction to address potential effects associated with invasive species. The Weed Abatement Program/NSSP will define the specific details, frequency, and, if applicable, performance standards for the following individual activities and requirements:</p> <ul style="list-style-type: none"> • Inspect and clean construction equipment at the beginning and end of each day and prior to transporting equipment from one project location to another. • Limit soil and vegetation disturbance to those areas specifically required for the project construction. • Obtain soil, gravel, and rock from weed-free sources. • Use only certified weed-free straw, mulch, and/or fiber rolls for erosion control during construction. • Prior to the completion of construction, revegetate affected areas adjacent to native vegetation with plant species that are native to the vicinity and approved by California Department of Transportation (Caltrans) District 12 Biologists. • Not use any species listed in the California Invasive Plant Council Invasive Plant Inventory with a High or Moderate rating in revegetation. • After construction, ensure that erosion control

Table S-1 Summary of Project Impacts

Resource Impacts	No Build Alternative	Build Alternative (Preferred Alternative)	Avoidance, Minimization, and/or Mitigation Measures
			<p>and revegetation sites are monitored until achievement of the project-specific performance standards defined in the Weed Abatement Program/NSSP or a period of 1 year, whichever is greater, after installation, to detect nonnative species prior to the establishment of the native vegetation.</p> <ul style="list-style-type: none"> • Implement eradication procedures (e.g., spraying and/or hand weeding) should an infestation occur during or after construction. The use of herbicides will be prohibited within and adjacent to native vegetation, except as specifically authorized and monitored by Caltrans District 12 Biologists during and after project construction. • During construction, reduce indirect impacts of exotic plant infestations and litter by roadside maintenance at least once daily during construction to remove litter and weeds from the right-of-way.
Cumulative Impacts	No impacts	<p>The Build Alternative, when considered with other cumulative projects as stated in Table 3.1.3 would contribute incrementally to cumulatively considerable impacts related to:</p> <ul style="list-style-type: none"> • Potential permanent impacts to paleontological resources when excavations extend into fossiliferous formations. • Permanent and/or temporary removal of coastal sage scrub and grassland, which has the potential to result in adverse impacts to special-status plant and animal species. 	Project-specific measures described within this table would avoid or reduce and minimize potential cumulative impacts.

Table S-1 Summary of Project Impacts

Resource Impacts	No Build Alternative	Build Alternative (Preferred Alternative)	Avoidance, Minimization, and/or Mitigation Measures
Climate Change	No impacts	<ul style="list-style-type: none"> The increase in average vehicle speeds in the Project Area by 2–4 miles per hour would decrease the average delay per vehicle by up to 20 percent, which would help offset the 3,400 to 7,800 increase in daily trips. No substantial change to greenhouse gas emissions. 	None

BMP = Best Management Practices

BSA = biological study area

Caltrans = California Department of Transportation

CDFW = California Department of Fish and Wildlife

dBA = A-weighted decibels

ESA = Environmental Site Assessment

FTIP = Federal Transportation Improvement Program

HCP = Habitat Conservation Plan

LRTP = Long-Range Transportation Plan

MPAH = Master Plan of Arterial Highways

MSHCP = Multiple Species Habitat Conservation Plan

NCCP = Natural Communities Conservation Plan

RCTC = Riverside County Transportation Commission

RTP = Regional Transportation Plan

RWQCB = Regional Water Quality Control Board

SCS = Sustainable Communities Strategy

SR-241 = State Route 241

SR-55 = State Route 55

SR-91 = State Route 91

USACE = United States Army Corps of Engineers

VHT = vehicle hours traveled

VMT = vehicle miles traveled

S.6 Coordination with Public and Other Agencies

Early and continuing coordination with the general public and appropriate public agencies is an essential part of the environmental process. It helps planners determine the necessary scope of environmental documentation and level of analysis required, and to identify potential impacts, mitigation measures, and related environmental requirements. Agency consultation and public participation for this project has been accomplished through a variety of formal and informal methods, including Project Development Team meetings, Conceptual Operations Meetings, interagency coordination/consultation meetings, and public announcements placed in local newspapers, the *Federal Register*, at the Orange County Clerk's office, and in public libraries. Chapter 5 discusses the results of Caltrans' efforts to fully identify, address, and resolve project-related issues through early and continuing coordination.

S.6.1 Unresolved Issues or Areas of Controversy

The Proposed Project is a later phase of the ETC that would be constructed in the median of SR-241 and SR-91, and therefore, there are no known unresolved issues or areas of controversy.

S.6.2 Project Schedule

Table S.2 summarizes the general schedule for the Proposed Project, subject to funding availability and obtaining all required approvals and permits.

Table S.2 Project Schedule

Milestone	Estimated Date
Circulation of Draft Supplemental EIR/EIS	late 2016
Completion of Final Supplemental EIR/EIS and Record of Decision	late 2017
Completion of anticipated permits, licenses, and approvals after Record of Decision	early 2018
Anticipated start of construction	mid 2018

S.6.3 Permits and Approvals Needed

Table S.3 identifies the permits and/or approvals that are or may be required prior to or during construction and/or operation of the Build Alternative.

Table S.3 Permits and Approvals Needed

Agency	Permit/Approval	Status/When Required
Federal Highway Administration	Air Quality Conformity Analysis Determination	The Air Quality Conformity report will be submitted to FHWA after receipt of public comments on the Draft Supplemental EIR/EIS. FHWA will make a conformity determination prior to Caltrans approval of the Final Supplemental EIR/EIS.
United States Fish and Wildlife Service	Section 7 consultation for threatened and endangered species.	A new Biological Opinion will be obtained prior to approval of the Final Supplemental EIR/EIS.
United States Army Corps of Engineers	Section 404 Permit for filling or dredging of waters of the United States	A Nationwide Permit will be obtained during Final Design.
California Department of Fish and Wildlife	1602 Lake or Streambed Alteration Agreement for impacts to jurisdictional areas	An agreement will be obtained during Final Design.
State Water Resources Control Board	Caltrans NPDES Permit	Permit issued to Caltrans on September 19, 2012, for discharges from State right-of-way. The State Water Resources Control Board and Santa Ana Regional Water Quality Control Board will be notified of the Project during final design pursuant to the permit requirements.
	Section 402 NPDES Permit (Construction Activity) for waste discharge requirements during construction	Permit Registration Documents, including an NOI, will be submitted at least 7 days prior to the start of construction.
Santa Ana Regional Water Quality Control Board	Section 401 Water Quality Certification for impacts to jurisdictional areas	Certification will be obtained during final design.
	Section 402 NPDES Permit (Groundwater Dewatering)	If groundwater dewatering is required, an NOI will be submitted at least 60 days prior to the start of construction.
Various Utilities	Encroachment Permits for protection-in-place and possible relocations	During Final Design
City of Anaheim	Potential Encroachment Permit	During Final Design
Orange County Parks	Concurrence on Section 4(f) De Minimus Determination	Caltrans has submitted a letter to Orange County Parks with the preliminary determination. Concurrence will be obtained during PA/ED during preparation of the Final Supplemental EIR/EIS.
	Approval of land transfer (partial acquisition)	During right-of-way acquisition process.

EIR/EIS = Environmental Impact Report/Environmental Impact Statement

ETC = Eastern Transportation Corridor

FHWA = Federal Highway Administration

NOI = Notice of Intent

NPDES = National Pollutant Discharge Elimination System

PA/ED = Project Approval/Environmental Documentation