

Appendix E Avoidance, Minimization, and/or Mitigation Summary

In order to be sure that all of the environmental measures identified in this document are executed at the appropriate times, the following mitigation program (as articulated on the proposed Environmental Commitments Record [ECR] that follows) would be implemented. During project design, avoidance, minimization, and /or mitigation measures will be incorporated into the project's final plans, specifications, and cost estimates, as appropriate. All permits will be obtained prior to implementation of the project. During construction, environmental and construction/engineering staff will ensure that the commitments contained in this ECR are fulfilled. Following construction and appropriate phases of project delivery, long-term mitigation maintenance and monitoring will take place, as applicable. As the following ECR is a draft, some fields have not been completed, and will be filled out as each of the measures is implemented. Note that some measures may apply to more than one resource area. Duplicative or redundant measures have not been included in this ECR. An asterisk (*) denotes mitigation for a significant impact under CEQA. Avoidance, minimization, mitigation, conservation and compensatory measures identified in the Environmental Commitment Record (ECR) for the SR-133 Safety Project (EA 0N0600) is hereby incorporated by reference.

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Task and Brief Description	Responsible Branch, Staff	Timing / Phase	NSSP Req.	Action Taken to Comply with Task	Task Completed		Remarks	Environmental Compliance	
					Initials	Date		Initials	Date
HUMAN ENVIRONMENT									
Land Use									
<i>Project Features</i>									
PF-LU-1 Restoration of Land Used Temporarily. Before the onset of construction use, the construction contractor shall generate time-stamped photo documentation of the pre-construction conditions of all temporary staging areas. All construction access, mobilization, material laydown, and staging areas would be returned to a condition equal to the pre-construction staging condition. Native vegetation removed during construction activities would be replaced.	Caltrans Project Engineer Caltrans Resident Engineer	Design Construction	No						
PF-LU-2 Compensation for Publicly Owned Parks Under the California Park Preservation Act: Per Public Resources Code Division 5, Chapter 2.5, Section 5401 of the California Park Preservation Act, the California Department of Transportation (Caltrans) would provide compensation or land, or both, for all permanent acquisitions of property from publicly owned parks, consistent with the requirements of the California Park Preservation Act of 1971. The California Park Preservation Act requires that the compensation or land, or both, for the taking of the park land and facilities be equal to one of the following: <ul style="list-style-type: none"> • The cost of acquiring substitute park land of comparable characteristics, substantially equal size, and condition; or • Substitute park land of comparable characteristics, substantially equal size, and condition; or • Any combination of substitute parkland and compensation in an amount sufficient to provide substitute parkland of comparable characteristics, substantially equal size, and condition. During the right-of-way acquisition process, Caltrans would consult with the public agency with jurisdiction over any publicly owned park from which Caltrans requires permanent acquisition of property regarding the specific conditions of acquisition and compensation for.	Caltrans Right-of-Way	Design	No						
PF-LU-3 Permanent Acquisition of Property from Parks and Recreation Resources. All permanent acquisition of property for the proposed project, including any federally funded improvements, will be conducted by the California Department of Transportation (Caltrans) in compliance with the Uniform Relocation Assistance and Real Property Acquisition Policies Act (Uniform Act) of 1970 as amended. The Uniform Act establishes minimum standards for federally funded programs and projects that require the acquisition of real property. The Uniform Act's protections and assistance apply to the acquisition, rehabilitation, or demolition of real property for federal or federally funded projects. The conditions of acquisition and compensation for the project improvements will be developed by Caltrans in consultation with the officials with jurisdiction of each affected property.	Caltrans Right-of-Way	Design	No						

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PF-LU-4 Construction activities within Coastal Zone: Limit construction activities in the portion of the project area within the Coastal Zone between Memorial Day weekend and Labor Day in order to avoid the peak season for coastal access.	Caltrans Project Engineer Caltrans Resident Engineer	Design During construction	No						
<i>Avoidance, Minimization, and/or Mitigation Measures</i>									
PR-1 To ensure that the project does not result in a net loss of Reserve acreage or function and thus is consistent with the NCCP/HCP, Caltrans has committed to work with the Natural Communities Coalition and signatories to the NCCP/HCP to add to the Reserve habitat that is of equivalent to or greater than the habitat removed from the Reserve, both in terms of acreage and habitat quality. This boundary modification to the Reserve must be completed prior to project implementation for the project to be consistent with the NCCP/HCP.	Caltrans Biologist	Design Construction	No						
PR-2 Existing coast live oak trees (<i>Quercus agrifolia</i>) within the subject's project's limit of disturbance shall be protected in place. A qualified arborist shall be retained to develop tree protection measures to minimize impacts to the existing tree root systems during construction. OC Parks understands that recent design revisions including removal of one UCAP at Station 121+00 in the southbound direction south of El Toro road has the potential to reduce impacts to oak trees within the project area. Caltrans will continue to coordinate with OC Parks throughout the project design process and agrees to employ a qualified arborist to monitor activities impacting oak trees during construction.	Caltrans Biologist, and Resident Engineer	Design Construction	No						
PR-3 The subject project as described in the initial environmental review called for 10-ft high retaining wall with cable fencing along the westerly edge of the roadway abutting Laguna Coast Wilderness Park. OC Parks provided comment that the retaining wall, as originally contemplated in the Build Alternative, constituted a moderate to high visual impact and therefore, could not concur with a finding of <i>de minimis</i> impact. Caltrans subsequently performed a geotechnical analysis and found that the wall can be eliminated by contour grading the natural sandstone slope. At OC Parks' request, due to potential impacts to up to 14 oak trees in the grading area, Caltrans has re-evaluated this approach and is now proposing a hybrid/combo option that would include a low retaining wall/minimal slope grading solution to further reduce impacts to natural resources in this area. Caltrans will contour grade the slope to create naturalistic undulating slopes to mimic the surrounding natural terrain. During final engineering design, Caltrans will continue to coordinate with OC Parks to finalize details of this hybrid/combo option. Additionally, OC Parks remains concerned about potential viewshed impacts from the Stagecoach South trail due to the potential for native vegetation disturbance/removal. Caltrans shall mitigate any such disturbance by replanting/ revegetating the area of concern with native vegetation, to OC Parks' satisfaction.	Caltrans Biologist, and Resident Engineer	Design Construction Post construction	No						

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					Initials	Date		Initials	Date
PR-4 Caltrans shall install new boundary fencing to match existing cable strand fencing. Caltrans will revegetate the graded slope with appropriate native habitat and ensure plant species are established with a minimum 5-year plant establishment period, including exotic plant species removal and re-application of native seed and/or replanting of container plants as necessary. Temporary irrigation will be required, and removed following plant establishment.	Project Engineer Caltrans Biologist, Resident Engineer	Design Construction Post construction	No						
PR-5 OC Parks supports Caltrans' efforts to coordinate with SCE to accomplish utility relocations within Caltrans right-of-way, in order to minimize impacts to natural resources. Reducing the project's footprint may also serve to reduce Caltrans' mitigation requirements, in particular riparian habitat for which mitigation opportunities are limited.	Caltrans Project Engineer	Design	No						
PR-6 The project proposes to add an additional 12-ft travel lane and an 8-ft shoulder for southbound SR-133 in front of the existing driveway for Laguna Coast Wilderness Park Willow Canyon Staging Area. OC Parks has notified Caltrans of its concerns regarding added safety risk associated with staff and park vehicle turn movements to and from the driveway to navigate the additional travel lanes. Caltrans will review safety issues at the Willow Canyon Staging Area and incorporate appropriate safety features as needed. Such features shall not include a no left turn requirement for vehicles entering and exiting the staging area. Caltrans shall allow for a portion of the bike lane shoulder near the Willow Canyon Staging Area driveway to be used for vehicles entering and exiting the staging area.	Caltrans Project Engineer Caltrans Traffic Engineer	Design Construction	No						
PR-7 The existing Laguna Coast Wilderness Park monument sign near the Willow Canyon Staging Area driveway may be impacted by the project. Should the sign need to be relocated due to project construction, Caltrans shall relocate the sign to a location approved by OC Parks. (This measure has been incorporated into the project design as part of Component 3.)	Caltrans Project Engineer Caltrans Resident Engineer	Design Construction	No						
PR-8 Caltrans agrees to improve the Willow Canyon Staging Area driveway apron by installing asphalt pavement in area of the existing decomposed granite in order to improve safety for vehicular ingress and egress.1 (This measure has been incorporated into the project design as part of Component 3.)	Caltrans Project Engineer Caltrans Resident Engineer	Design Construction	No						
Community Impacts									
<i>Project Features</i>									
See Land Use (PF-LU-1) and Traffic and Transportation/Pedestrian and Bicycle Facilities (PF-TR-1), (PF-UES-2)									
<i>Avoidance, Minimization, and/or Mitigation Measures</i>									
No measures are required.									

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					Initials	Date		Initials	Date
Utilities and Emergency Services									
<i>Project Features</i>									
<p>PF-UES-1 During final design, utility relocation plans for those utilities that will need to be relocated, removed, or protected-in-place will be prepared in consultation with the affected utility relocation providers/owners.</p> <p>If relocation is necessary, the final design will focus on relocating utilities within the State right-of-way or other existing public rights-of-way and/or easements. If relocation outside of existing rights-of-way or additional public rights-of-way and/or easements required for the project is necessary, the final design will focus on relocating those facilities 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, the construction contractor will implement the components of the utility relocation plans provided in the project specifications.</p> <p>Prior to utility relocation activities, the Resident Engineer will coordinate with affected utility providers regarding potential utility relocations and inform affected utility users in advance of the date and timing of potential service disruptions.</p>	<p>Caltrans Project Engineer Caltrans Resident Engineer</p>	<p>Prior to and during construction</p> <p>Design prior to utility relocation activities</p>	No						
<p>PF-UES-2 All temporary closures and detour plans would be coordinated with law enforcement, fire protection, and emergency medical service providers to minimize temporary delays in emergency response times, including the identification of alternative routes for emergency vehicles and routes across the construction areas that are developed in coordination with the affected agencies.</p>	<p>Caltrans Project Engineer Caltrans Resident Engineer</p>	<p>Prior to and during construction</p>	No						
<i>Avoidance, Minimization, and/or Mitigation Measures</i>									
No measures are required.									
Traffic and Transportation/Pedestrian and Bicycle Facilities									
<i>Project Features</i>									
<p>PF-TR-1 A Transportation Management Plan (TMP) will be finalized during final design and will be implemented by the construction contractor during project construction to address short-term traffic circulation and access effects during project construction. Specifically, during final design, a qualified traffic engineer will prepare the TMP, which will include, but not be limited to, the elements described below to reduce traveler delays and enhance traveler safety during project construction. The TMP will be approved by the California Department of Transportation (Caltrans) District 12 during final design and will be incorporated into the plans, specifications, and estimates for implementation by the construction contractor.</p> <p>The objectives of the TMP consist of the following:</p> <ul style="list-style-type: none"> Enhance motorist and worker safety during construction Maintain an acceptable level of traffic flow during construction 	<p>Caltrans Traffic Engineer Caltrans Resident Engineer Caltrans Project Engineer</p>	<p>Design and project construction</p>	No						

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<ul style="list-style-type: none"> Minimize detours and impacts to pedestrians and bicyclists Foster public awareness of the project and related traffic impacts <p>The TMP will contain, but not be limited to, the following elements intended to reduce traveler delay and enhance traveler safety, a public information/awareness campaign, traveler information strategies, incident management, construction strategies, demand management, and alternate route strategies. These elements will be refined during final design and incorporated into the TMP for implementation by the construction contractor during project construction.</p>										
<i>Avoidance, Minimization, and/or Mitigation Measures</i>										
No measures are required.										
Visual/Aesthetics										
<i>Project Features</i>										
PF-VIS-1	Landscaping/Plantings. Replacement planting will be included in final design to compensate for the loss of existing vegetation, including trees, removed during construction. Vegetation removed for roadway widening will be replaced with native plants similar to existing plant communities.	Caltrans Project Engineer, and Landscape Architect Resident Engineer	Design, Construction post construction	No						
<i>Avoidance, Minimization, and/or Mitigation Measures</i>										
VIS-1*	MGS Treatments. In order to maintain the visual character and quality of the project area, new and replaced Midwest Guardrail System (MGS) will be treated with an organic stain in order to remove the new, shiny galvanized metal appearance. This will result in an earth-tone color applied to the MGS.	Caltrans Project Engineer, and Landscape Architect Resident Engineer	Design and construction	Yes						
VIS-2	The California Department of Transportation (Caltrans) will continue to coordinate with OC Parks during the design phase to finalize details of the 1.5:1 slope vs. hybrid/combo option, which includes combining a low retaining wall and minimal slope grading.	Caltrans Project Engineer	Design							
Cultural Resources										
<i>Project Features</i>										
PF-CUL-1	Discovery of Cultural Materials. If cultural materials are discovered during site preparation, grading, or excavation, the construction Contractor will divert all earthmoving activity within and around the immediate discovery area until a qualified archaeologist can assess the nature and significance of the find. At that time, coordination will be maintained with the California Department of Transportation (Caltrans) District 12 Environmental Branch Chief or the District 12 Native American Coordinator to determine an appropriate course of action. If the discovery of cultural materials occurs outside the Caltrans right-of-way, then coordination with the appropriate local agency will be conducted as well.	Caltrans Project Engineer, Archaeologist, and Resident Engineer	During construction and post construction (if necessary)	No						

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PF-CUL-2 If human remains are discovered, California Health and Safety Code (H&SC) Section 7050.5 states that further disturbances and activities shall stop in any area or nearby area suspected to overlie remains, and the County Coroner contacted. If the remains are thought by the Coroner to be Native American, the Coroner will notify the Native American Heritage Commission (NAHC), who, pursuant to California Public Resource Code (PRC) Section 5097.98, will then notify the Most Likely Descendant (MLD). At that time, the person who discovered the remains will contact the Caltrans District 12 Environmental Branch Chief or the District 12 Native American Coordinator 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.	Caltrans Project Engineer, Caltrans Archaeologist, and Resident Engineer	During, construction and post construction (if necessary)	No						
<i>Avoidance, Minimization, and/or Mitigation Measures</i>									
CUL-3* Construction Monitoring. Caltrans will incorporate the County CEQA measure and Archaeological Monitoring and Native American Monitoring (Juaneno and Gabrieleno) will be conducted for all ground-disturbing activities and an Archaeological Monitoring Area (AMA) will be delineated on project plans during the Plans, Specifications, and Estimates (PS&E) phase and incorporated into the final construction contract. A final Archaeological Monitoring Report would be required after construction is completed to document the monitoring efforts and any resources identified.	Caltrans Project Engineer, Caltrans Archaeologist, and Resident Engineer	Design construction and post construction (if necessary)	No						
PHYSICAL ENVIRONMENT									
Hydrology and Floodplain									
<i>Project Features</i>									
No measures are required.									
<i>Avoidance, Minimization, and/or Mitigation Measures</i>									
HYD-1 Floodplain Design Measures. During the plan, specification, and estimate (PS&E) phase, Caltrans Project Engineer will ensure that the following routine measures are incorporated into the final design and construction plans to minimize potential impacts to the Laguna Canyon Creek floodplain and floodway and preserve beneficial floodplain values: <ul style="list-style-type: none"> • Provide positive drainage during construction and refrain from filling designated floodplains • Implement design pollution prevention and treatment Best Management Practices (BMPs) in accordance with Caltrans' Storm Water Management Program and Plans Preparation Design Guide • Prepare and implement a Storm Water Pollution Prevention Plan (SWPPP), which includes erosion control and water quality protection during in-stream construction and post-construction. • Prepare Rain Event Action Plans (REAP) that discusses Contractor avoidance and mitigation for high flow events • Provide adequate conveyance capacity at stream crossings to ensure no net increase in velocity. A hydraulic analysis shall be completed to assess 	Caltrans Resident Engineer Caltrans Project Engineer	Design Construction	No						

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<p>pre-construction and post-construction hydraulic conditions. If the velocity is increased and becomes erosive, protection need be provided for the crossings</p> <ul style="list-style-type: none"> The existing earthen trapezoidal channel along southbound SR-133 from El Toro Road to SR-73 Interchange will be replaced with an articulated concrete block channel. 									
HYD-2 Conditional Letter of Map Revision. During the PS&E phase, Caltrans will process a CLOMR for the designated Laguna Canyon Creek 100-year floodplain and floodway through the Orange County Public Works Flood Division and FEMA. The improvements associated with the Build Alternative within the Laguna Canyon Creek FEMA designated 100-year floodplain and floodway will not be constructed until the CLOMR is approved by FEMA.	Caltrans Project Engineer Caltrans Resident Engineer	Design Construction	No						
HYD-3 Letter of Map Revision. Upon completion of construction, Caltrans will process a LOMR for the Laguna Canyon Creek 100-year floodplain and floodway through the Orange County Public Works Flood Division and FEMA.	Caltrans Resident Engineer	After construction							
Geology/Soils/Seismic/Topography									
<i>Project Features</i>									
No Project Features are required.									
<i>Avoidance, Minimization, and Mitigation Measures</i>									
GEO-1 Prior to the start of construction and during the Design Phase, a site-specific geotechnical investigation shall be conducted by a Qualified Geologist per Caltrans' standards. All proposed improvements shall be designed in accordance with the conclusions and recommendations provided in the site-specific investigation.	Caltrans Project Engineer Caltrans Resident Engineer	Design Pre-Construction							
Water Quality and Storm Water Runoff									
<i>Project Features</i>									
PF-WQ-1 The project will comply with the provisions of the National Pollutant Discharge Elimination System (NPDES) Permit and Waste Discharge Requirements for the State of California, Department of Transportation, Order No. 2012-0011-DWQ, NPDES No. CAS00003 and the and any subsequent permits in effect at the time of construction	Caltrans Project Engineer Caltrans Resident Engineer	During construction	No						
PF-WQ-2 The project will comply with the provisions of the NPDES General Permit for Storm Water Discharges Associated with Construction and Land Disturbance Activities (Construction General Permit) Order No. 2009-0009- DWQ, NPDES No. CAS000002 and any subsequent permits in effect at the time of construction.	Caltrans Project Engineer Caltrans Resident Engineer	Prior to construction	No						
PF-WQ-3 The project will 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 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 BMPs to control the pollutants, such as sediment control, catch basin inlet protection, construction materials management, and non-storm	Caltrans Project Engineer Caltrans Resident Engineer	Prior to and during construction	No						

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water BMPs. All work must conform to the Construction Site BMP requirements specified in the latest edition of the <i>Storm Water Quality Handbooks: Construction Site Best Management Practices Manual</i> (May 2017) to control and minimize the impacts of construction and construction related activities, material, and pollutants on the watershed. These include, but are not limited to temporary sediment control, temporary soil stabilization, scheduling, waste management, materials handling, and other non-storm water BMPs.									
PF-WQ-4 Design Pollution Prevention Best Management Practices (BMPs) will be implemented such as preservation of existing vegetation, slope/ surface protection systems (permanent soil stabilization), concentrated flow conveyance systems such as ditches, berms, dikes and swales, overside drains, flared end sections, and outlet protection/ velocity dissipation devices.	Caltrans Project Engineer Caltrans Resident Engineer	Prior to and during construction	No						
PF-WQ-5 Caltrans approved treatment Best Management Practices (BMPs) will be implemented consistent with the requirements of National Pollutant Discharge Elimination System (NPDES) Permit and Waste Discharge Requirements for the State of California, Department of Transportation, Order No. 2012-0011-DWQ, NPDES No. CAS00003 and any subsequent permits in effect at the time of construction. Treatment BMPs may include biofiltration strips, biofiltration swales, infiltration basins, detention devices, dry weather flow diversion, Gross Solids Removal Devices (GSRDs), media filters, and wet basins.	Caltrans Project Engineer Caltrans Resident Engineer	Prior to and during construction	No						
PF-WQ-6 If dewatering is required, construction site dewatering must comply with the General Waste Discharge Requirements for Groundwater Extraction Discharges to Surface Waters within the San Diego Region (Order No. R9-2015-0013, NPDES No. CAG919003) and any subsequent updates to the permit at the time of construction. This Permit addresses temporary dewatering operations during construction. Dewatering BMPs must be used to control sediment and pollutants, and the discharges must comply with the WDRs issued by the San Diego RWQCB.	Caltrans Resident Engineer Caltrans Resident Engineer	During construction	No						
Paleontology									
<i>Project Features</i>									
No Project Features are required.									
<i>Avoidance, Minimization, and Mitigation Measures</i>									
PAL-1* Paleontological Mitigation Plan. A Qualified Paleontologist will prepare a Paleontological Mitigation Plan (PMP) following the guidelines in the California Department of Transportation (Caltrans) Standard Environmental Reference (SER), Environmental Handbook, Volume 1, Chapter 8 – Paleontology (June 2016 or more current) and guidelines developed by the Society of Vertebrate Paleontology (SVP 2010). The PMP will be prepared concurrently with final design plans during the Plans, Specifications, and Estimates (PS&E) phase.	Caltrans Archaeologist, Caltrans Project Engineer, and Resident Engineer	Design and construction and post construction (if necessary)	No						

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Hazardous Waste/Materials									
<i>Project Features</i>									
PF-HAZ-1 During the Plans, Specifications, and Estimates (PS&E), soil sampling will be conducted for aerially deposited lead (ADL) in unpaved locations immediately adjacent to State Route 133 (SR-133) for ADL-related impacts. The ADL investigation will be conducted by the California Department of Transportation (Caltrans) Environmental Engineering Branch (EE) during the early stage of design. The Caltrans Design Branch should provide the EE with the layout plans showing the locations of soils subject to disturbance at the early stage of design. If lead contamination is found, the results will be included in the PS&E document.	Caltrans Resident Engineer Caltrans Project Engineer	Construction	No						
PF-HAZ-2 During the design phase, the yellow traffic striping and pavement marking materials will be tested for lead and lead chromate. If hazardous materials are discovered, the Construction Contractor will remove and properly dispose of any materials in accordance with the California Department of Transportation (Caltrans) Construction Manual (July 2017), Chapter 7, Section 7-107, Hazardous Waste and Contamination.	Caltrans Resident Engineer Caltrans Project Engineer	Construction							
PF-HAZ-3 During the Project Approval and Environmental Document (PA&ED) phase, ACM investigation will be conducted by trained and/or licensed professionals and will comply with the United States Environmental Protection Agency (EPA), National Emission Standards for Hazardous Air Pollutants (NESHAPs), Code of Federal Regulations (CFR) Title 40, Southern California Air Quality Management District (SCAQMD) Rule 1403, and Department of Housing and Urban Development (HUD) and California Department of Public Health (CDPH) guidelines. Potential locations for this investigation include the alignment of the existing 36-inch water line located along the southbound shoulder of SR-133. The results of the investigation will provide a description of the ACM locations, estimated quantity, and recommendations for removal, containment, and off-site transportation and disposal.	Caltrans Resident Engineer Caltrans Project Engineer	During PA/ED							
PF-HAZ-4 During construction, the construction contractor will monitor soil excavation for visible soil staining, odor, and the possible presence of unknown hazardous material sources. If hazardous material contamination or sources are suspected or identified during project construction activities, the construction contractor will be required to cease work in the area and to have an environmental professional evaluate the soils and materials to determine the appropriate course of action required, consistent with the Unknown Hazards Procedures in Chapter 7 in the Caltrans Construction Manual (August 2006).	Construction contractor Caltrans Project Engineer	During construction							

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Air Quality									
<i>Project Features</i>									
PF-AQ-1 The construction contractor must comply with the Department's Standard Specifications in Section 14. <ul style="list-style-type: none"> • Section 14 specifically requires compliance by the contractor with all applicable laws and regulations related to air quality, including air pollution control district and air quality management district regulations and local ordinances. • Section 14 is directed at controlling dust. If dust palliative materials other than water are to be used, material specifications are described in Section 18. • Water or dust palliative will be applied to the site and equipment as often as necessary to control fugitive dust emissions. Fugitive emissions generally must meet a "no visible dust" criterion either at the point of emissions or at the right-of-way line, depending on local regulations. • Soil binder will be spread on any unpaved roads used for construction purposes, and on all project construction parking areas. • Trucks will be washed as they leave the right-of-way as necessary to control fugitive dust emissions. • Construction equipment and vehicles will be properly tuned and maintained. All construction equipment will use low sulfur fuel as required by California Code of Regulations Title 17, Section 93114. • A dust control plan will be developed documenting sprinkling, temporary paving, speed limits, and timely revegetation of disturbed slopes as needed to minimize construction impacts to existing communities. • Equipment and materials storage sites will be located as far away from residential and park uses as practicable. Construction areas will be kept clean and orderly. • ESA (Environmentally Sensitive Area)-like areas or their equivalent will be established near sensitive air receptors. Within these areas, construction activities involving the extended idling of diesel equipment or vehicles will be prohibited, to the extent feasible. • Track-out reduction measures, such as gravel pads at project access points to minimize dust and mud deposits on roads affected by construction traffic, will be used. • All transported loads of soils and wet materials will be covered before transport, or adequate freeboard (space from the top of the material to the top of the truck) will be provided to minimize emission of dust (particulate matter) during transportation. 	Caltrans Resident Engineer Caltrans Project Engineer	Construction	No						

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<ul style="list-style-type: none"> Dust and mud that are deposited on paved, public roads due to construction activity and traffic will be promptly and regularly removed to decrease particulate matter. To the extent feasible, construction traffic will be scheduled and routed to reduce congestion and related air quality impacts caused by idling vehicles along local roads during peak travel times. Mulch will be installed or vegetation planted as soon as practical after grading to reduce windblown particulate in the area. [Be aware that certain methods of mulch placement, such as straw blowing, may themselves cause dust and visible emission issues and may need to use controls such as dampened straw.] 									
<i>Avoidance and Minimization Measures</i>									
No mitigation is required.									
Noise									
<i>Project Feature</i>									
PF-N-1	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) at a distance of 50 feet.	Caltrans Resident Engineer Caltrans Project Engineer	construction	No					
<i>Avoidance, Minimization, and/or Mitigation Measures</i>									
N-1	Noise from construction activities and equipment will be minimized by sequencing construction activities and staging construction equipment at appropriate locations depending on the current phase of construction.	Caltrans Project Engineer Caltrans Resident Engineer	Design and construction	No					
BIOLOGICAL ENVIRONMENT									
Natural Communities									
<i>Project Feature</i>									
No Project Features are required.									
<i>Avoidance, Minimization, and/or Mitigation Measures</i>									
BIO-1	Delineation of ESAs. Prior to construction, highly visible barriers (e.g., orange construction fencing) will be installed along the boundaries of the project footprint to designate ESAs that are to be preserved. No project activity of any type will be permitted within these ESAs. In addition, heavy equipment, including motor vehicles, will not be allowed to operate within the ESAs. All construction equipment will be operated in a manner so as to prevent accidental damage to ESAs. No structure of any kind, or incidental storage of equipment or supplies, will be allowed within these protected zones. Silt fence barriers will be installed at the ESA boundary to prevent accidental deposition of fill material in areas where vegetation is immediately adjacent to planned grading activities.	Caltrans Project Engineer, Resident Engineer, Generalist, and Biologist	Design and prior to construction	No					

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					Initials	Date		Initials	Date
BIO-2 Restoration of Temporary Impacts to Native Vegetation. Areas of natural habitat that are temporarily affected by construction activities will be restored with native shrubs and grasses. The restoration effort will emulate surrounding vegetation characteristics. For state highway construction projects, revegetation plans will be part of the project design following California Department of Transportation (Caltrans) landscape architecture guidelines and requirements. Restoration plans will be reviewed and approved by the involved regulatory agencies (e.g., the California Department of Fish and Wildlife [CDFW], Orange County Parks [OC Parks], the United States Fish and Wildlife Service [USFWS], the Regional Water Quality Control Board [RWQCB], United States Army Corps of Engineers, and/or the Local Coastal Program [LCP]).	Caltrans Resident Engineer, and Biologist Caltrans Project Engineer	Design and post construction	No						
BIO-3 Best Management Practices (BMPs) During Construction. All equipment maintenance, staging, and dispensing of fuel, oil, or any other such activities will occur in developed or designated non-sensitive upland habitat areas. The designated upland areas will be located in such a manner as to prevent any spill runoff from entering waters of the United States or adjacent sensitive vegetation communities. Dust control measures will be implemented by the contractor to reduce excessive dust emissions. Dust control measures will be carried out at least two times per day during periods of grading or other activities that would disturb soils, and may include wetting work areas, the use of soil binders on dirt roads, and wetting or covering stockpiles. Fire suppression capability, including extinguishers, shovels, and water tankers, will be available onsite whenever construction occurs during the fire season (as determined by the Orange County fire department). Activities that may produce sparks, including welding or grinding, will use protective gear to reduce fire risks, such as shields and protective mats.	Caltrans Resident Engineer, Caltrans Biologist	Design Construction and post construction	Yes						
BIO-4 Invasive Species Control. A weed abatement plan will be developed to minimize the spread and importation of non-native plant material during and after construction in compliance with Executive Order 13112. Project measures will be included to ensure invasive plant material is not spread from the project site to other areas by disposal off site or by tracking seed on equipment, clothing, and shoes. Invasive species will be removed from the project work area and controlled during construction. If invasive plants are established, then the use of herbicides will be prohibited within, and adjacent to, native vegetation except as specifically authorized by the Caltrans Biologist. The use of known invasive plant species (i.e., plant species listed in the California Invasive Plant Council [Cal-IPC] California Invasive Plant Inventory with a high or moderate rating) will be prohibited for construction, revegetation, and landscaping activities. Only certified weed-free straw, mulch, and/or fiber rolls will be used for erosion control. In addition, soil, gravel, and rock will be obtained from	Resident Engineer Caltrans Project Engineer	Design and during and after construction	No						

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weed-free sources. Equipment/material imported from an area of invasive plants must be identified and measures implemented to prevent importation and spreading of non-native plant material within the project site. During construction, the construction contractor shall inspect and clean construction equipment at the beginning of each day and prior to transporting equipment from one project location to another. The construction equipment will be cleaned with water to remove dirt, seeds, vegetative material, or other debris that could contain or hold seeds of noxious weeds before arriving to and leaving the project site.									
BIO-5 Biological Monitoring. A qualified biologist will monitor construction activities prior to and during vegetation removal for the duration of the project to ensure that practicable measures are being employed to avoid and minimize incidental disturbance of habitat and covered species inside and outside the project footprint.	Caltrans Biologist Resident Engineer	Design and during grading and construction	No						
BIO-6 On-Site Training. All personnel involved in the on-site project construction will be required to participate in a pre-construction environmental training program to understand the avoidance and minimization measures and resource agency permit obligations for the project.	Caltrans Biologist, and Resident Engineer	Design and prior to construction							
BIO-7 Avoidance of Oak Tree Dripline. Environmentally Sensitive Area (ESA) fencing will be installed around the dripline of the retained trees to avoid or minimize unnecessary encroachment and prohibit mechanical activity within the root zone. No construction activities or placement of structures should occur within the root zone of any retained oak trees. Landscaping, trenching, or irrigation systems should not be installed within the root zone of any retained oak trees. Sedimentation and siltation should be controlled to avoid filling around an oak tree's base.	Caltrans Biologist, and Resident Engineer Caltrans Project Engineer	Design and prior to construction	No						
BIO-8 Monitor Retained Oak Trees. Monitor retained oak trees adjacent to the project during grading and construction activities. Monitoring of retained oak trees should occur at intervals warranted by the site conditions and level of activity. A qualified arborist should conduct all monitoring. All oak tree removals should be verified to check for damage to any retained oak trees growing in close proximity to the removed oak trees.	Caltrans Biologist Resident Engineer	Design and during grading and construction	No						
BIO-9 Conduct Pruning of Retained Oak Trees According to Approved Standards. All pruning should be directed by an International Society of Arboriculture (ISA)-certified arborist and performed by ISA-certified tree workers in accordance with the Best Management Practices (BMPs) for Pruning by the ISA Society of Arboriculture and should adhere to the most recent editions of the American National Standards Institute (ANSI) for Tree Care Operations and Pruning A300, Part 1	Caltrans Biologist Caltrans Resident Engineer	Design and during construction	No						

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BIO-10 Oak Tree Replacement. In compliance with State Senate Concurrent Resolution No. 17, impacts to upland oak trees (excluding California scrub oak [<i>Quercus berberidifolia</i>]) 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, as feasible. Heritage oaks (i.e., oaks with trunk sizes greater than 36 inches DBH) will be replaced at a minimum mitigation-to-impact ratio of 3:1, as feasible. It should be noted that coast live oak trees not associated with riparian areas are not subject to the requirements of a Streambed Alteration Agreement. For impacts to oak trees located within associated riparian habitat (under the jurisdiction of CDFW), compensation will be provided under Measure BIO-11. Based on a determination of suitable and available open land, permanent impacts to upland and riparian coast live oak trees will be mitigated in close proximity to the project disturbance limits, within the County of Orange parks. If insufficient land is available within adjacent OC Parks lands, Caltrans will propose off-site mitigation and will determine the location of the planting site(s) during the project design phase.	Caltrans Biologist	Design and post construction	No						
BIO-11* Compensatory Mitigation for Riparian Habitats. Temporary impacts to riparian habitat will be restored with native shrubs and grasses after construction of all project components is completed. Caltrans proposes to mitigate permanent impacts to jurisdictional features (including wetlands and riparian habitats) within the project watershed, where feasible. If additional mitigation acreage is required, Caltrans proposes that permanent effects will be mitigated off-site at a 3:1 ratio by purchasing mitigation credits from the San Luis Rey Mitigation Bank. The San Luis Rey Mitigation Bank is approved to provide mitigation for permitted projects under USACE Section 404 permits, RWQCB Section 401 certifications, and CDFW 1600 streambed alteration agreements.	Caltrans Biologist	Design and post construction							
Wetlands and Other Waters									
<i>Project Feature</i>									
No Project Features are required									
<i>Avoidance, Minimization, and/or Mitigation Measures</i>									
See Natural Communities (BIO-1 through BIO-11)									
Plant Species									
<i>Project Feature</i>									
No Project Features are required									
<i>Avoidance, Minimization, and/or Mitigation Measures</i>									
See Natural Communities (BIO-1 through BIO-6 and BIO-11)									
BIO-12 Special-Status Plant ESA Fencing. Retained southern California black walnut trees shall be protected in place and delineated by ESA fencing. If large populations of any other special-status plant species are observed during vegetation clearing or project limit staking, additional ESA fencing will be installed. For unavoidable direct effects to individual plants, attempts will be made to salvage the affected plants and incorporate them into the revegetation effort described in Measure BIO-2.	Caltrans Biologist Caltrans Project Engineer Caltrans Resident Engineer	Design and during construction	No						

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Animal Species									
<i>Project Feature</i>									
No Project Features are required									
<i>Avoidance, Minimization, and/or Mitigation Measures</i>									
See Natural Communities (BIO-1 through BIO-6)									
BIO-13	Avoidance of Breeding Season and Nesting Bird Surveys. Vegetation clearing will occur outside the nesting season. If vegetation clearing will occur during nesting season (February 1 through September 30), at least 2 weeks prior to the initiation of construction activities during the nesting bird/raptor season, a qualified biologist with experience in conducting breeding bird surveys will conduct weekly bird surveys with the last survey being conducted no more than 3 days prior to the initiation of project activities to detect the presence/absence of migratory and resident bird species occurring in suitable nesting habitat. 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 the guidance of the biologist, and construction or clearing will not be conducted in this zone until the biologist determines that the young have fledged or the nest is no longer active. Work may only occur during the breeding season if nesting bird surveys indicate the absence of any active nests within the work area.	Caltrans Resident Engineer, Caltrans Biologist	during construction	No					
BIO-14	Pre-Construction Clearance Surveys. Prior to construction (including vegetation clearing and grubbing), a biologist familiar with regional special-status species will survey areas adjacent to ESA boundaries to flush any wildlife species present.	Caltrans Biologist Caltrans Project Engineer Caltrans Resident Engineer	Design and during construction	No					
BIO-15	Trash Storage. Trash will be stored in closed containers so that it is not readily accessible to scavengers and will be removed from the construction site on a daily basis so as not to attract potential special-status species predators.	Caltrans Resident Engineer Caltrans Project Engineer	during construction						
BIO-16	Night Lighting During Construction. During nighttime construction work, night lighting will be used only in the area actively being worked on and will be focused on the direct area of work.	Caltrans Resident Engineer	Design and during nighttime work for project construction	No					
BIO-17	Access to Roost Features. Airspace access to and from the suitable bat roost features of the Laguna Canyon Creek triple-pipe culvert beneath the southbound State Route 73 (SR-73) off-ramp and the Laguna Canyon Creek single-box culvert beneath the State Route 133 (SR-133) will not be obstructed except in direct work areas. This measure is intended to minimize impacts to suitable bat-roosting habitat during construction. Bat species documented in the BSA include: Yuma myotis (<i>Myotis yumanensis</i>), big brown bat (<i>Eptesicus fuscus</i>), silver-haired bat (<i>Lasionycteris noctivagans</i>), western mastiff bat (<i>Eumops perotis</i>), and California myotis (<i>Myotis californicus</i>).	Caltrans Biologist, Resident Engineer	Design and during construction	No					

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BIO-18 Preconstruction Daytime Bat Assessment. During the year prior to the start of project construction, a daytime assessment will be conducted by a qualified bat biologist to reexamine areas that are suitable for bat use. If bat sign is observed at that time, then preconstruction bat surveys will be conducted to confirm whether the areas with suitable habitat identified during the preliminary assessment are utilized by bats for day roosting and/or night roosting and to ascertain the level of bat foraging and roosting activity at each of these locations. This preconstruction bat assessment is to be conducted during the year prior to construction to allow for preventative measures to be developed, if warranted. If roosting bats or maternity colonies were observed during a prior year survey, an exclusion device will be installed prior to the beginning of construction.	Caltrans Resident Engineer Biologist	Prior to construction	No						
BIO-19 Pre-Clearing Bat Roosting Surveys and Trimming Restrictions. Prior to tree removal or trimming, large trees and snags should be examined by a qualified bat biologist to ensure that no roosting bats are present. Palm frond trimming, if necessary, should be conducted outside the maternity season (i.e., April 15-August 31) to avoid potential mortality to flightless young.	Caltrans Resident Engineer Biologist	Design and during construction	No						
BIO-20 Bat Maternity Roosting Site Measures. If maternity sites are identified during the preconstruction bat habitat suitability assessment, then no construction activities at that location will be allowed during the maternity season (i.e., April 15–August 31) unless a qualified bat biologist has determined the young have been weaned. The CDFW will be contacted in the event that the preconstruction bat survey documents a maternity colony with the potential to be affected. If maternity sites are present, and it is anticipated that construction activities cannot be completed outside of the maternity season, then Caltrans or its authorized consultant will perform bat eviction and exclusion under the supervision of a qualified bat biologist and in consultation with the CDFW.	Caltrans Biologist, Caltrans Resident Engineer Caltrans Project Engineer	Design and during construction	No						
Threatened and Endangered Species									
<i>Project Feature</i>									
No Project Features are required									
<i>Avoidance, Minimization, and/or Mitigation Measures</i>									
See Natural Communities (BIO-1 through BIO-6) and Animal Species (BIO-13 and BIO-14)									
<i>Conservation Measures</i>									
BIO-21 Protocol Surveys. Protocol surveys will be conducted for the <i>least Bell's vireo</i> during the breeding season within one year prior to the commencement of vegetation clearing and construction activities for the project to ensure that survey information for the project remains up to date. If a <i>least Bell's vireo</i> breeding territory is observed within 500 feet of the project impact area, the Carlsbad Fish and Wildlife Office (CFWO) will be contacted. Consultation may be reinitiated with the CFWO to address potential direct and/or indirect effects that may occur to these species beyond those addressed in this consultation.	Caltrans Biologist	Prior to construction	No						

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BIO-22 Approved Project Biologist. A biologist (Project Biologist) approved by the CFWO will be on site: (a) during initial vegetation clearing and grubbing; and (b) to conduct pre-construction surveys (i.e., three surveys at least 1 week apart with the last survey conducted within 7 days of project initiation) within 500 feet of the project area if construction activities are proposed during the least Bell's vireo breeding season (March 15 to September 15). The Project Biologist will be familiar with the habitats, plants, and wildlife in the project area to ensure that issues relating to biological resources are appropriately and lawfully managed. Caltrans will submit the biologist's name, address, telephone number, and work schedule on the project to the CFWO prior to initiating project impacts. The biologist will be provided with a copy of this consultation. The Project Biologist will attend all pre-construction meetings and be present during the removal of any vegetation to ensure that the approved limits of disturbance are not exceeded and provide periodic monitoring of the impact area. If a least Bell's vireo breeding territory is observed within 500 feet of the project impact area, Caltrans will halt all activities with the potential to adversely affect the least Bell's vireo and will contact the CFWO to determine if additional consultation is necessary.	Caltrans Biologist	During construction	No						
BIO-23 Work Stoppage. The Resident Engineer, in consultation with the Project Biologist, will halt work, if necessary, and confer with the CFWO to ensure the proper implementation of species and habitat protection measures. Caltrans will report any non-compliance issue to the CFWO within one business day of notification.	Resident Engineer/ Caltrans Biologist	During construction							
BIO-24 Site Delineation. Under the supervision of the Project Biologist, the limits of project impacts (including construction staging areas and access routes) will be clearly delineated with bright orange plastic fencing, stakes, flags, or markers that will be installed in a manner that does not impact habitats to be avoided and such that they are clearly visible to personnel on foot and operating heavy equipment. If work occurs beyond the fenced or demarcated limits of impact, all work will cease until the problem has been remedied to the satisfaction of the CFWO. Temporary construction fencing and markers will be maintained in good repair until the completion of project construction and removed upon project completion.	Caltrans Biologist	During final design/during construction							
BIO-25 Biological Reporting. The Project Biologist will submit a final report to the CFWO within 120 days of project completion including photographs of impact areas and adjacent habitat, documentation that authorized impacts were not exceeded, and documentation that general compliance with all Conservation Measures (CMs) were achieved. Raw field notes should be available upon request by the CFWO.	Caltrans Biologist	Prior to completion of construction							

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BIO-26 Employee Education Program. An employee education program will be developed and implemented by the Project Biologist. Each employee (including temporary, contractors, and subcontractors) will receive a training/awareness program prior to working on the proposed project. They will be advised of the potential impact to the listed species and the potential penalties for taking such species. At a minimum, the program will include the following topics: occurrence of the listed and sensitive species in the area (including photographs), their general ecology, sensitivity of the species to human activities, legal protection afforded these species, penalties for violations of Federal and State laws, reporting requirements, and project features designed to reduce the impacts to these species and promote continued successful occupation of the project area.	Caltrans Biologist	During construction							
BIO-27 Clearing and Grubbing Work Period Restrictions. The clearing and grubbing of native habitats for the project will be conducted between September 1 and February 14 to avoid the least Bell's vireo breeding season (or sooner than September 1 if the Project Biologist demonstrates to the satisfaction of the CFWO that all nesting is complete).	Caltrans Biologist/ Project Engineer	Prior to construction							
BIO-28 Temporary Impact Restoration Plan. The 0.78 acre of riparian habitat temporarily impacted by the project will be revegetated and restored with native species. These areas will be returned to original grade, as feasible. Prior to initiating project impacts, Caltrans will submit the restoration plan to the CFWO for review and approval. The restoration plan will include a minimum 5-year plant establishment period. Temporary impact areas will be planted as soon as possible following re-grading after completion of construction to prevent encroachment by nonnative plants.	Caltrans Biologist	Prior to construction							
BIO-29 Habitat Compensation. To offset the project-related permanent impacts to 1.79 acre ¹ of riparian habitat within and adjacent to the Reserve, Caltrans will restore 5.37 acres ¹ of riparian habitat suitable for least Bell's vireo foraging and nesting, or conserve 5.37 acres ¹ of riparian habitat suitable for least Bell's vireo foraging and nesting at a conservation bank. A goal of this measure is to maintain the functions and values of the Reserve, which include the protection and management of unique natural areas like riparian habitat, by focusing restoration or conservation efforts within or adjacent to the Reserve. Prior to project implementation, Caltrans will submit a request for Service review and approval to offset impacts at a conservation bank, or Caltrans will implement the following measures related to the offsite restoration: <ul style="list-style-type: none"> • Complete a restoration plan that is reviewed and approved by the CFWO and identifies the specific location where the restoration will occur, timeline for implementation, methodology to implement the proposed restoration, and quantitative performance criteria that will be achieved for the restoration to be determined successful. 	Caltrans Engineer/ Caltrans Biologist	Prior to project implementation							

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<ul style="list-style-type: none"> Complete a long-term management plan that is reviewed and approved by the CFWO that describes the management actions that will be taken to ensure that the restored habitat is protected and maintained in perpetuity. The long-term management plan will include an estimate of the cost to implement the plan in perpetuity. Establish an endowment or other funding assurance approved by the CFWO to implement the long-term management plan in perpetuity. The long-term management funds will be held by an organization approved by the CFWO. Ensure that the restoration site is conserved, either by conducting the restoration on existing conserved land or recording a conservation easement, deed restriction, or other site protection instrument reviewed and approved by the CFWO. 										
BIO-30 Temporary Impact Trimming Methods. As feasible, native vegetation in temporarily impacted areas will be trimmed at the ground surface, and roots will be left intact to allow for regrowth following project work.	Project Engineer	During construction								
BIO-31 Invasive Plant Species. If invasive weed species are already growing within the project area, special care will be taken during transport, use, and disposal of soils containing invasive weed seeds to ensure that invasive weeds are not spread into new areas by the project. All heavy equipment will be washed and cleaned of debris prior to entering a new area to minimize the spread of invasive weeds. Eradication strategies will be implemented should an invasion of nonnative plant species be observed in the project work area by the Project Biologist.	Project Engineer/ Caltrans Biologist	During construction								
BIO-32 Nighttime Lighting Glare Shields. If nighttime construction is necessary, all project lighting (e.g., staging areas, equipment storage sites, roadway) will be selectively placed and directed toward the construction site and away from adjacent habitats. Construction lighting will be of the lowest illumination necessary for safety, and light glare shields will be used to reduce the extent of illumination into adjacent habitats.	Caltrans Project Engineer	During construction								
BIO-33 Operational Project Lighting. Permanent project lighting will be of the lowest illumination necessary for safety and will be directed toward the road and away from sensitive habitats. Light glare shields will be used to reduce the extent of illumination into sensitive habitats. Caltrans will review the permanent lighting plans for the project and then submit them to the CFWO for review and approval.	Caltrans Project Engineer	During final design								
BIO-34 Construction Staging and Maintenance Zones. All equipment maintenance, staging, and dispensing of fuel, oil, coolant, or any other such activities will be restricted to designated disturbed/developed areas. They will be located such that runoff from the designated areas will not enter sensitive habitats.	Caltrans Project Engineer	During construction								

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BIO-35 Erosion and Sediment Control. Appropriate erosion and siltation controls will be installed prior to the onset of vegetation clearing and be maintained in good repair until the completion of project construction. Erosion and sediment control devices used for the proposed project, including fiber rolls and bonded fiber matrix, will be made from biodegradable materials such as jute, with no plastic mesh, to avoid creating a wildlife entanglement hazard.	Caltrans Project Engineer	During construction							
BIO-36 Storm Water Pollution Prevention Plan. A construction Storm Water Pollution Prevention Plan (SWPPP) and soil erosion and sedimentation plan will be developed to minimize erosion and identify best management practices that will be implemented during construction to maintain water quality.	Caltrans Project Engineer	Prior to construction							
BIO-37 Fugitive Dust. Impacts from fugitive dust will be avoided and minimized through watering and other appropriate measures.	Caltrans Project Engineer	During construction							
BIO-38 Project Site Housekeeping. The project site will be kept as clean of debris as possible. Food-related trash items will be kept in enclosed containers and regularly removed from the site.	Caltrans Project Engineer	During construction							
BIO-39 Borrow and Disposal Sites. If fill must be borrowed from, or disposed of offsite, the construction contractor will identify any necessary borrow and disposal sites and provide this information to Caltrans for review. Caltrans will review borrow and disposal site information and submit the information to the CFWO. If borrow or disposal activities may affect a listed species or critical habitat, Caltrans will reinitiate Section 7 consultation.	Caltrans Project Engineer	During final design							
BIO-40 Domestic Pets. Project personnel will be prohibited from bringing domestic pets to the construction site to ensure that domestic pets do not disturb or depredate wildlife in the adjacent native habitat.	Caltrans Project Engineer	During construction							
Greenhouse Gas Emissions									
<i>Project Feature</i>									
See Transportation and Traffic (PF-TR-1)									
PF-AQ-1 The construction contractor must comply with the Department's Standard Specifications in Section 14.	Caltrans Resident Engineer Caltrans Project Engineer	and construction	No						
<ul style="list-style-type: none"> Section 14 specifically requires compliance by the contractor with all applicable laws and regulations related to air quality, including air pollution control district and air quality management district regulations and local ordinances. Section 14 is directed at controlling dust. If dust palliative materials other than water are to be used, material specifications are described in Section 18. Water or dust palliative will be applied to the site and equipment as often as necessary to control fugitive dust emissions. Fugitive emissions generally must meet a "no visible dust" criterion either at the point of emissions or at the right-of-way line, depending on local regulations. Soil binder will be spread on any unpaved roads used for construction purposes, and on all project 									

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<p>construction parking areas.</p> <ul style="list-style-type: none"> • Trucks will be washed as they leave the right-of-way as necessary to control fugitive dust emissions. • Construction equipment and vehicles will be properly tuned and maintained. All construction equipment will use low sulfur fuel as required by California Code of Regulations Title 17, Section 93114. • A dust control plan will be developed documenting sprinkling, temporary paving, speed limits, and timely revegetation of disturbed slopes as needed to minimize construction impacts to existing communities. • Equipment and materials storage sites will be located as far away from residential and park uses as practicable. Construction areas will be kept clean and orderly. • ESA (Environmentally Sensitive Area)-like areas or their equivalent will be established near sensitive air receptors. Within these areas, construction activities involving the extended idling of diesel equipment or vehicles will be prohibited, to the extent feasible. • Track-out reduction measures, such as gravel pads at project access points to minimize dust and mud deposits on roads affected by construction traffic, will be used. • All transported loads of soils and wet materials will be covered before transport, or adequate freeboard (space from the top of the material to the top of the truck) will be provided to minimize emission of dust (particulate matter) during transportation. • Dust and mud that are deposited on paved, public roads due to construction activity and traffic will be promptly and regularly removed to decrease particulate matter. • To the extent feasible, construction traffic will be scheduled and routed to reduce congestion and related air quality impacts caused by idling vehicles along local roads during peak travel times. • Mulch will be installed or vegetation planted as soon as practical after grading to reduce windblown particulate in the area. [Be aware that certain methods of mulch placement, such as straw blowing, may themselves cause dust and visible emission issues and may need to use controls such as dampened straw.] 									

* denotes mitigation measures under CEQA.