Avoidance, Minimization, and Mitigation Measures	Timing	Measure	Responsible Party for Monitoring Implementation of this Measure	Notes on Completion of this Measure
Parks and Recreational Facilities				
MM REC-1	Develop plan during final design phase in consultation with CDFW. Implement plan during construction.	Prior to the completion of construction, the City shall prepare and coordinate with CDFW to obtain approval of a landscaping plan for the Project's temporary impact areas within the BWER. New landscaping shall consist of plant species selected in consultation with CDFW. The City shall implement the landscaping of temporary impact areas as soon as feasible after construction in each area of the project site is completed. Thereafter, CDFW shall maintain and manage these areas as needed as part of the BWER. Also, see MM VIS-3 regarding requirements for the landscaping of temporary impact areas.	City of Los Angeles, Bureau of Engineering	
MM REC-2	Develop a detour plan during final design phase in consultation with LADOT and County. Implement plan during construction.	A detour of the Ballona Creek Bike Path shall be provided during construction until MM REC-3 is implemented. The detour shall consist of an at-grade, signalized crossing of SR-1/Lincoln Boulevard that will be located north of Ballona Creek and South of Culver Boulevard as shown in Figure 2.1.4-7 of the Draft EIR/EA. Public notification signage will be installed at least thirty days prior to implementation of the detour. This detour will be coordinated with the Transportation Management Plan (TMP) required as MM TRANS-1. Alternatively, if desired the City may provide a temporary detour that crosses beneath SR-1/Lincoln Boulevard at a slightly different alignment.	City of Los Angeles, Bureau of Engineering	
MM REC-3	During construction, maintain detour until Ballona Creek Bike Path is re-opened. Incorporate ADA-compliant access ramps during final design phase.	Prior to the completion of construction, the Ballona Creek Bike Path alignment beneath SR-1/Lincoln Boulevard will be built and opened. Also, ADA-compliant access ramps will be constructed from the Bike Path that connect to the east and west sides of SR-1/Lincoln Boulevard immediately north of Ballona Creek, similar to pre-Project conditions.	City of Los Angeles, Bureau of Engineering	
MM REC-4	During final design phase, incorporate replacement plantings at Fiji Gateway Park into final design drawings in consultation with the County.	Temporarily disturbed areas within the Fiji Gateway Park will be re-landscaped in consultation with the County Department of Beaches and Harbors. Also, see MM VIS-3 regarding requirements for the landscaping of temporary impact areas.	City of Los Angeles, Bureau of Engineering	
MM REC-5	Coordinate with CDFW during the final design phase in coordination with regulatory permitting.	The Project will compensate for acquisition of 1.17-acres from the Ballona Wetlands Ecological Reserve through the transfer of 1.17-acres of City-owned land that is adjacent to the Ballona Wetlands Ecological Reserve. Conceptual locations for this land exchange have been coordinated with CDFW are depicted in Figure 2.1.4-3 and Figure 2.1.4-4 of the Draft EIR/EA. Alternatively, if CDFW approvals are not obtained for a land exchange due to the numerous discretionary approvals that will be required, the Project will instead compensate for partial right-of-way acquisition from the Ballona Wetlands Ecological Reserve through the right-of-way appraisal and acquisition process.	City of Los Angeles, Bureau of Engineering	
MM REC-6	During final design phase, incorporate replacement fencing into final design drawings.	Fencing needs to be removed along both sides of SR-1/Lincoln Boulevard along the existing property line with the BWER to allow for construction of Alternative 2. During final design, all fencing removal and replacement locations along the boundary with the BWER shall be identified and specified in the plans. Prior to the completion of construction, the City shall ensure that permanent replacement fencing is installed at all locations where it was removed along the boundary of the project site where it borders the BWER. Replacement fencing will	City of Los Angeles, Bureau of Engineering	

Avoidance, Minimization, and Mitigation Measures	Timing	Measure	Responsible Party for Monitoring Implementation of this Measure	Notes on Completion of this Measure
		consist of standard 6-foot-tall chain link fencing. Plans for fencing removals and replacements shall be provided to the CDFW staff for review and concurrence prior to implementation.		
MM REC-7	Coordinate with CDFW during final design phase. Incorporate access paths into final design drawings.	During final design of the Project, the City shall coordinate with CDFW staff to confirm the status of CDFW's proposed circulation improvements, and to incorporate access paths at the four locations that are shown on Figure 2.1.4-5 of the Draft EIR/EA. The locations of these connections is approximate and will be coordinated with CDFW during final design. The Project's access improvements will be limited to the Project's impact footprint and will not extend into the BWER.	City of Los Angeles, Bureau of Engineering	
MM REC-8	Coordinate with CDFW during final design phase. Incorporate signage locations into final design drawings.	During final design and as part of the Project, the City will work with CDFW to develop and install informational and interpretive signage at the four locations that are shown on Figure 2.1.4-6 of the Draft EIR/EA, or other locations within the Project's impact footprint that are preferred by CDFW. The primary intent of this mitigation measure is to ensure compatibility amongst the Project and the adjacent BWER and to ensure that a place is available for a trail map, rules, and other relevant information to be posted. A secondary purpose of this mitigation measure is to provide locations where informational signage on local biology and/or history can be provided to facilitate an improved understanding and appreciation for the BWER, Ballona Creek, etc.	City of Los Angeles, Bureau of Engineering	
MM REC-9	Coordinate with CDFW during final design.	During final design the City will coordinate with CDFW to determine if CDFW's restoration project will have excess fill dirt available at the time that the Project is planned to be constructed. If CDFW has excess fill dirt available at the time of Project construction, the City shall conduct necessary geotechnical and hazardous materials testing and shall evaluate the soil as necessary to determine its suitability for use as fill soil for the Project. If the soil is determined to be suitable for use, the soil will be utilized to the extent feasible to help achieve part or all of the Project's required 96,524 cubic yards of imported soil. Given that it is not definitively known as to whether or not CDFW will have this soil available at the time of project construction, the Project's air quality, energy, and transportation analyses assume a worst-case scenario that soil will be imported from off-site.	City of Los Angeles, Bureau of Engineering	
Relocation and Real Property Acquisition				
MM ROW-1	Obtain right-of-way during final design phase.	The Project would provide compensation to eligible persons and businesses in accordance with the federal Uniform Relocation Assistance and Property Acquisition Act of 1970, as amended (42 USC Sections 4601-4655) and the California Relocation Act (California Government Code, Section 7260 et. seq.) as applicable.	City of Los Angeles, Bureau of Engineering	
Transportation				
MM TRANS-1	Develop plan during final design. Implement plan during construction.	The contractor will prepare and implement a coordinated Transportation Management Plan (TMP) for the Project to minimize effects to local vehicular traffic, pedestrians, and bicyclists. The TMP shall be submitted to the City and Caltrans 30 days prior to commencement of construction. The TMP shall be consistent with City and Caltrans policies and procedures. At a minimum, the TMP will include the following:	City of Los Angeles, Bureau of Engineering	

Avoidance, Minimization, and Mitigation Measures	Timing	Measure	Responsible Party for Monitoring Implementation of this Measure	Notes on Completion of this Measure
		• A map showing the locations of temporary detours and signage to facilitate local traffic patterns and through traffic requirements. • Requirements for the contractor to conduct a public awareness campaign in advance of and during construction in coordination with the City and Caltrans Public Information Offices. • Requirements for the use of real-time communications with motorists such as changeable message signs to alert motorists of upcoming construction activities, detours, and travel conditions as applicable. • Requirements that Comprehensive Stage Construction and Traffic Handling Plans be prepared and submitted to the City and Caltrans for review and approval. • Requirements to maintain a minimum of two lanes in the northbound and southbound directions of SR-1/Lincoln Boulevard throughout construction, except during off-peak hours when one-lane in each direction may be permitted. Special measures for advance outreach to public service providers and to the local community shall be specified in the TMP to minimize effects to emergency response times and to the community. • Measures to facilitate coordination with transit providers to ensure that bus routes using SR-1/Lincoln Boulevard and Culver Boulevard are not adversely affected during construction. • Requirements to provide 10 days of notice to emergency service providers, local transit providers, and local school districts of any construction activity that would hinder emergency vehicle response time, bus travel routes, or access to/from schools. • Measures to ensure the provision of safe travel for pedestrians and bicyclists during construction, including detouring and maintaining operation of the Ballona Creek Bike Path. A sidewalk and unobstructed pedestrian access would be provided at all times during construction on at least one side of the roadway between Jefferson Boulevard in the south and the Ballona Creek Bike Path in the north.		
MM TRANS-2	Develop plan during final design phase. Implement plan during construction.	The contractor would prepare and implement a Contractor Traffic and Parking Plan to avoid congestion and parking effects during construction. The plan would be submitted to the City and Caltrans for review and approval as an appendix to the TMP. At a minimum, the Contractor Traffic and Parking Plan would: • Specify the number of construction workers and parking spaces needed for each phase of construction. • Specify contractor parking locations for each phase of construction. • Specify the locations of materials staging areas during each phase of construction and the paths of travel for haul trucks and other construction traffic once within the project site. • Identify strategies for reducing contractor trips during peak hours of vehicular congestion such as providing incentives for carpooling.	City of Los Angeles, Bureau of Engineering	

Avoidance, Minimization, and Mitigation Measures	Timing	Measure	Responsible Party for Monitoring Implementation of this Measure	Notes on Completion of this Measure
MM TRANS-3	During final design phase, incorporate bus stop into final design drawings.	The bus stop located north of Jefferson Boulevard would be relocated and upgraded to include seating, a trash can, and a shelter. During construction, a temporary bus stop would be provided.	City of Los Angeles, Bureau of Engineering	
Visual/Aesthetics				
MM VIS-1	Implement during construction.	Construction night lighting would be limited to the maximum extent feasible. The contractor will ensure that all construction lighting is hooded and downcast, and that direct illumination be limited to the active portions of the project site.	City of Los Angeles, Bureau of Engineering	
MM VIS-2	Implement during construction.	To minimize temporary impacts to views, the construction staging area south of Ballona Creek and west of SR-1/Lincoln Boulevard shall be enclosed with an 8-foot-tall or taller chain-link fence with privacy windscreen or similar materials. The contractor would ensure the maintenance of the screening material at all times and shall remove and replace sections of screening material that experience graffiti, wind, or other damage. The contractor shall provide daily visual inspections to ensure the immediate surroundings of construction staging areas are free from construction-related clutter and to maintain the areas in a clean and orderly manner throughout the construction period.	City of Los Angeles, Bureau of Engineering	
MM VIS-3	During final design phase, incorporate into landscaping plans in consultation with property owners.	All existing landscaped areas that would be temporarily disturbed by project construction would receive replacement landscaping. All new landscaping within temporary construction easement areas would consist of appropriate native, non-invasive plant palette that is developed by the City in consultation with each property owner. All proposed landscaping would conform to the latest Model Water Efficient Landscape Ordinance and applicable local ordinances. New landscaping in temporary impact areas within the Ballona Wetlands Ecological Reserve would be coordinated with CDFW as detailed in MM REC-1. Restoration of temporary impact areas within Fiji Gateway Park would be coordinated with the County as detailed in MM REC-4.	City of Los Angeles, Bureau of Engineering	
MM VIS-4	Conduct outreach during early final design and incorporate into final design plans.	During final design, once a bridge architect is selected for the Project, the City will develop aesthetic treatments for the two proposed bridges and for the noise barrier. During final design, the City and bridge architect will work with stakeholders to determine bridge aesthetics for the two replacement bridges, including conducting at least one focused outreach meeting related to aesthetics with California Coastal Commission staff as well as an additional meeting with members of the public. Affected stakeholders will be able to provide input on the preferred architectural style and coloring of the bridges, and preferred style and treatments for the noise barrier.	City of Los Angeles, Bureau of Engineering	
MM VIS-5	During final design phase, incorporate anti-graffiti treatments into final design drawings for bridges, abutments, retaining walls, and noise barrier.	During final design, anti-graffiti treatments shall be specified for the Project's bridges, abutments, retaining walls, and noise barrier.	City of Los Angeles, Bureau of Engineering	
Cultural Resources				
MM CUL-1	Implement during construction.	The City shall ensure that the procedures identified in the Post-Review Discovery and Monitoring Plan (PRDMP) are implemented, including: archaeological monitoring	City of Los Angeles, Bureau of Engineering	

Avoidance, Minimization, and Mitigation Measures	Timing	Measure	Responsible Party for Monitoring Implementation of this Measure	Notes on Completion of this Measure
		procedures; Native American participation in monitoring; environmental sensitivity training; notification procedures; procedures to be implemented in the case of human remains being encountered; procedures and protocols for archaeological field work, laboratory protocols, procedures for processing of isolates and/or secondary deposits if they are encountered during construction; and preparation and submittal of a final Cultural Resources Monitoring Report to Caltrans and to Native American parties that were involved in consultation during the circulation of the Draft EIR/EA period.		
Hydrology and Floodplain				
MM HYD-1	Conduct design-level hydraulic and sea level rise analyses during early final design and incorporate into final design plans.	To ensure adequate vertical clearance from current and future storm water flows within the Creek, during final design the City will prepare and submit design-level hydraulic and sea level rise analyses for the proposed replacement bridge over Ballona Creek. The hydraulic and sea level rise analyses shall be submitted to Caltrans for review as well as to the Los Angeles County Flood Control District and Army Corps of Engineers as part of the 408 permitting process, and the California Coastal Commission during the Coastal Development Permit application process. To confirm the minimum freeboard needed for the bridge, the hydraulic analyses conducted during final design shall contain and/or utilize: the project design and the latest applicable State and Federal sea level rise guidance.	City of Los Angeles, Bureau of Engineering	
MM HYD-2	Conduct design-level hydraulic during early final design and incorporate into final design plans.	During final design, once the sizes and locations of cofferdams are determined, the City shall conduct hydraulic analyses of the proposed cofferdams to determine requirements for flood conveyance, scour avoidance, timing, and sequencing of the use of cofferdams within Ballona Creek.	City of Los Angeles, Bureau of Engineering	
MM-HYD-3	Conduct design-level hydraulic during early final design and incorporate into final design plans.	Prior to construction the Contractor shall develop a Construction Management Plan that shall include detailed phasing of work within Ballona Creek. The Construction Management Plan shall also include hydraulic analyses, as needed, to confirm that work activities would not substantially inhibit downstream flows within Ballona Creek.	City of Los Angeles, Bureau of Engineering	
MM-HYD-4	During final design phase, incorporate into drainage plans.	Increased runoff from the project site would be captured and then detained or retained using storm water best management practices such as swales, underground infiltration chambers, basins, tree wells, or other means. These measures would be specified during final design at the same time that roadway, grading, and drainage plans are being finalized. Also, runoff from the bridge deck of the Ballona Creek bridge would be captured and piped to either side of the bridge for treatment.	City of Los Angeles, Bureau of Engineering	
Water Quality and Storm Water Runoff				
MM WQ-1	Implement during construction.	The Contractor shall develop a Storm Water Pollution Prevention Plan (SWPPP) that shall specify appropriate best management practices to avoid and minimize storm water pollution by construction activities. The Contractor shall implement the SWPPP throughout construction. The SWPPP shall be implemented in accordance with the requirements of the State Water Board and Los Angeles Regional Water Quality Control Board for SWPPP approval, implementation, and reporting.	City of Los Angeles, Bureau of Engineering	

Avoidance, Minimization, and Mitigation Measures	Timing	Measure	Responsible Party for Monitoring Implementation of this Measure	Notes on Completion of this Measure
		At a minimum, the following surface runoff measures, or their equivalent, will be implemented during construction as a part of the SWPPP: • Tires on construction equipment will be washed before the equipment leaves the project site. • Designated locations will be provided for servicing, washing, and refueling equipment, away from temporary channels or swales that would quickly convey runoff to the drainage system and into Ballona Creek or Fiji Ditch. • Hazardous materials (e.g. oil, lubricants, gasoline) will be stored and dispensed at a safe distance (a minimum of 100 feet) Ballona Creek and Fiji Ditch. Fueling of semi-stationary equipment within the 100-foot buffer would only occur in accordance with best management practices approved by the Los Angeles Regional Water Quality Control Board. • Best management practices would be implemented around areas where hazardous materials would be temporarily stored to ensure that any accidental spills are contained and do not contaminate receiving waters. • To prevent potential introduction of any lead-based paint into receiving waters, the contractor(s) will take appropriate measures to eliminate lead-based paint from reaching the receiving waters. If paint removal is necessary during the bridge dismantling process, the contractor will comply with all applicable laws and regulations relative to this process to ensure protection of receiving waters. • The Contractor shall provide stabilized entrances and exits from the project site. • The Contractor shall regularly water or otherwise stabilize non-paved areas of the construction site. • The Contractor shall regularly sweep and vacuum paved surfaces near entrances to the construction site. • The Contractor shall protect storm drain inlets with inserts or linear interrupters such as gravel bag and/or sandbag berms. • The Contractor shall manage stockpiles against wind and water erosion. • The Contractor shall monitor and report BMP performance and conditions before and immediately after the completion of work, in accordance with SWPPP specifications. The Contractor shall install temporary signage with contact information for someone on the Contractor's team that can be contacted by members of the public should they observe and desire to report fugitive dust, track-out, or other potential water quality-related issues during construction.		
MM WQ-2	Develop plan prior to construction. Implement plan during construction.	The Contractor shall develop and implement a Bridge Removal Plan. The plan shall be submitted to the City for review and approval prior to implementation. The plan shall include applicable bridge debris containment measures to collect debris and prevent it from falling into the creek. The plan would include water quality monitoring requirements for work within and above Ballona Creek. The plan would include measures such as: • Use of attachments on construction equipment to catch debris;	City of Los Angeles, Bureau of Engineering	

Avoidance, Minimization, and Mitigation Measures	Timing	Measure	Responsible Party for Monitoring Implementation of this Measure	Notes on Completion of this Measure
		• Use of heavy-duty tarps or netting suspended below the existing bridge deck; • Use of platforms built below the existing bridge deck; • Use of turbidity curtains in lieu of silt curtains. Silt curtains generally refer to impermeable barriers built to hold water and thus provide control of suspended sediment. Silt curtains are generally not used in tidal channels due to the elevated water velocities. An alternative solution is the use of turbidity curtains, which are deployed in a manner similar to silt curtains, but are constructed of a permeable material that allows water to flow through the membrane while trapping suspended sediment. Use of these permeable membrane curtains allows for the barrier to extend from the water surface to the bottom, which provides greater sediment containment over the use of silt curtains; and • Moving concrete sections to land for breaking down rather than breaking them down above the creek.		
MM WQ-3	Implement during construction	Groundwater encountered during construction will be temporarily stored onsite, tested, treated, and then disposed of. A dewatering permit will be obtained from the Regional Water Quality Control Board prior to beginning construction activities that could encounter groundwater. Based on results of the groundwater assessment and recommendations from the Regional Water Quality Control Board, the Contractor may utilize one or a combination of three different approaches to disposing of water obtained from dewatering operations, which are specified below: • Onsite Treatment: This approach involves the installation and usage of a temporary water treatment plant for treating water generated from dewatering operations to reduce the concentrations of pollutants of concern below NPDES limits. • Treatment and Disposal Offsite: This approach involves the temporary storage of water on the project site, waste profiling, and then transporting the water to a regulated facility for treatment and disposal. Based on results of the groundwater investigation, the groundwater could be profiled as either hazardous waste or nonhazardous waste. Disposal into Local Sewer System: This approach would entail disposal of the groundwater into the City of Los Angeles sewage treatment system. The groundwater can be disposed by connecting the dewatering operation to a local sewer line adjacent to the project site or to a trunk line. The type of sewer line connection is dependent upon the rate of flow of the groundwater from the dewatering operation and would be determined by the permitting agency. To dispose of groundwater into the City of Los Angeles sewer system, an Industrial Wastewater Discharge Permit is required, which is issued by the City of Los Angeles Department of Public Works, Bureau of Sanitation, Industrial Waste Management Division (IWMD). To satisfy permit conditions, treatment of discharge water would be required.	City of Los Angeles, Bureau of Engineering	
MM WQ-4	Develop plan and coordinate with regulatory agencies during final design. Implement during construction.	To minimize water quality effects to the temporary removal of the trash screen within Ballona Creek, the Contractor shall implement alternative water quality best management practice during construction of Alternative 2 to intercept trash prior to it passing through the project	City of Los Angeles, Bureau of Engineering	

Avoidance, Minimization, and Mitigation Measures	Timing	Measure	Responsible Party for Monitoring Implementation of this Measure	Notes on Completion of this Measure
		site. This could include strategies such as the temporary placement of the trash screen upstream/east of the proposed replacement Lincoln Boulevard Bridge over Ballona Creek.		
MM WQ-5	During final design phase incorporate these requirements into the drainage plans.	Storm water generated from the widened roadway would be treated for anticipated roadway contaminants prior to the water discharging into Ballona Creek, Fiji Ditch, or other downstream receiving water bodies. Treatment methods could include practices such as biofiltration swales, detention basins, gross solids removal devices, and/or media filters. Also, storm water generated on the bridge deck of the SR-1/Lincoln Boulevard Bridge over Ballona Creek would be piped off the bridge and treated on either side of the bridge before it is allowed to outlet to Ballona creek or other downstream receiving waterbody.	City of Los Angeles, Bureau of Engineering	
Geology and Soils				
MM GEO-1	Conduct field investigation and prepare geotechnical investigation during early final design. Incorporate findings and recommendations into final design.	**MM GEO-1:** During final design, a site-specific design-level geotechnical field investigation will be conducted by a registered geotechnical engineer. The investigation shall comply with all applicable State and local building code requirements. Additional field exploration and laboratory testing will be needed in order to provide geotechnical information adequate for final design development. The City will ensure that project plans and specifications for new structures, foundation design, earthwork, and site preparation incorporate all of the recommendations contained in the site specific investigation. Furthermore, the City will ensure that a structural engineer reviews the site specific recommendations on behalf of the Project, and provides any additional necessary amendments to meet Building Code requirements, and incorporate all applicable recommendations from the investigation in the structural design plans and shall ensure that all structural plans for the Project meet current California Building Code requirements.	City of Los Angeles, Bureau of Engineering	
Paleontology				
MM PALEO-1	Develop plan prior to construction. Implement plan during construction.	The City shall develop and the contractor shall implement a Paleontological Mitigation Plan (PMP). The PMP shall be prepared by a qualified principal paleontologist (defined as a paleontologist meeting the SVP Standards) during final design once adequate project design information regarding subsurface disturbance location, depth and lateral extent is available. The PMP shall be submitted to Caltrans for review and approval prior to beginning construction. The PMP shall identify areas where depth of excavation will extend into areas that are considered sensitive for paleontological resources, based on the final grading plans. The paleontological monitoring program will include the following: • The qualified principal paleontologist shall be present at pre-construction meetings to confer with contractors who will be performing ground disturbing activities.	City of Los Angeles, Bureau of Engineering	

Avoidance, Minimization, and Mitigation Measures	Timing	Measure	Responsible Party for Monitoring Implementation of this Measure	Notes on Completion of this Measure
		• Paleontological monitors, under the direction of a qualified principal paleontologist, shall be on site to inspect cuts for fossils at all times during original ground disturbance involving sensitive geologic formations. • When fossils are discovered, the paleontologist (or paleontological monitor) should recover them. Construction work in these areas shall be temporarily halted or diverted to allow the prompt recovery of fossils. • Any fossils collected from the project site by the paleontological monitor(s) and/or principal paleontologist shall be prepared to the point of identification, sorted, and cataloged. • Prepared fossils, along with copies of all pertinent field notes, photos, and maps, shall be deposited in a scientific institution with paleontological collections. The PMP shall include a written repository agreement for curation into an established museum repository. At the conclusion of construction, the City will prepare a Paleontological Mitigation Report (PMR) for submittal to Caltrans outlining the results of paleontological monitoring. The PMR shall include a summary of findings with an itemized inventory of specimens.		
Hazardous Waste and Materials				
MM HAZ-1	Develop plan prior to construction. Implement recommendations from the plan during construction.	During final design, the City shall develop and implement a sampling and analysis plan (SAP) to evaluate soil and groundwater throughout the project site. The results of the soil and groundwater sampling will determine which soils can be reused on site, and the appropriate handling, transport, and disposal requirements for other soils. The SAP will include the following minimum requirements: • A site investigation work plan and health and safety plan shall be prepared in accordance with Caltrans District 7 requirements for review and will be submitted for approval by the Office of Environmental Engineering during final design and prior to performing the work. • Site investigations shall be conducted for all partial acquisition and temporary construction easement parcels, which would include soil and groundwater sampling. • Three shallow borings to 5 feet below ground surface shall be advanced within impacted areas within APN 4224-009-905. This property was formerly the Tosco/Unocal/76 Station #5071 facility that experienced a release of petroleum products. Soil samples shall be collected and analyzed for TPH, VOCs, and metals. • A limited shallow site investigation will be conducted for impact areas that were previously utilized as part of the Pacific Electric Railway including APNs: 4211-007-920, 4211-007-910, 4211-015-900, and 4211-015-903 to evaluate the presence of potential contaminants originating from railroad land use. Railroad contaminants including metals, petroleum hydrocarbons, herbicides, VOCs, SVOCs, and asbestos shall be analyzed in samples collected from borings along the former railroad alignment.	City of Los Angeles, Bureau of Engineering	

Avoidance, Minimization, and Mitigation Measures	Timing	Measure	Responsible Party for Monitoring Implementation of this Measure	Notes on Completion of this Measure
		• Utility structures requiring removal prior to project construction would have a site investigation performed for hazardous materials and petroleum products. Removal shall be completed in accordance with applicable laws and regulations. Transformers shall be removed by the utility that operates the equipment prior to construction. • Groundwater encountered during construction shall be tested to determine quality and impact on construction, disposal options or National Pollutant Discharge Elimination System (NPDES) permit discharge limitations, and health and safety requirements. The soil samples shall be collected at or just below the static water level to sample soil that may have been affected by contaminated groundwater migrating from offsite properties. Each soil sample shall be labeled with a unique sample identification number, placed in to plastic bags in coolers with ice packs, along with the appropriate chain of custody documentation, and delivered to the analytical testing laboratory within the required testing method holding times. • All soil samples collected for these site investigations shall be collected into Teflon-lined metal or plastic tubes and sealed to minimize the loss of volatile compounds. The groundwater samples shall be collected into glass bottles with Teflon-lined lids and the appropriate preservatives to seal in and preserve volatile compounds, if any. If groundwater is being collected for VOCs, the volume of the groundwater shall be sufficient that no headspace is left in the container when sealed. Each sample shall be labeled with a unique sample identification number, placed in to plastic bags in coolers with ice packs, along with the appropriate chain of custody documentation, and delivered to the analytical testing laboratory within the required testing method holding times. • All soil and groundwater samples shall be analyzed for petroleum hydrocarbons using USEPA Test Method 8015 or equivalent, including a silica gel cleanup (USEPA Test Method 3630C or equivalent) to remove naturally occurring polar non-petroleum hydrocarbons that could interfere with the analyses. • All soil and groundwater samples shall be analyzed for VOCs using USEPA Test Method 8260 or equivalent (at a minimum, the test methods shall be capable of detecting PCE). • Following receipt of laboratory results of the chemical testing, soil or groundwater material that exceeds the DTSC screening levels and/or EPA Region 9 Regional Screening Levels for soil or the public health goals (PHGs) and/or maximum contaminant levels (MCLs) for groundwater, and cannot be reused on site shall be transported by a DTSC-licensed hazardous waste hauler and disposed of at an offsite disposal facility licensed to receive the contaminated soil and groundwater. Alternative disposal options, such as onsite burial, shall be considered for soil and groundwater found not to contain contaminates or having concentrations below the regulatory thresholds.		

Avoidance, Minimization, and Mitigation Measures	Timing	Measure	Responsible Party for Monitoring Implementation of this Measure	Notes on Completion of this Measure
		• When completed, all site investigation reporting shall be submitted to the City and Caltrans Environmental Engineering staff. The City or the Contractor shall implement recommendations from the site investigations to avoid and minimize potential effects from hazardous materials.		
MM HAZ-2	Develop plan prior to construction. Implement recommendations from the plan during construction.	An ADL Site Investigation shall be conducted during final design and prior to Project construction. A work plan for the ADL Site Investigation shall be prepared by the City and submitted to Caltrans Environmental Engineering for review and approval. The ADL Site Investigation will include soil borings approximately every 150 feet along both sides of SR-1/Lincoln Boulevard and Culver Boulevard within the project site. The ADL Site Investigation report shall classify soil in accordance with hazardous waste criteria and provide recommendations for soil management. The Contractor shall implement the recommendations from the ADL Site Investigation regarding the handling, usage, and disposal of soils.	City of Los Angeles, Bureau of Engineering	
MM HAZ-3	Conduct survey during final design and incorporate special provisions into bid package as necessary. Implement recommendations from the plan during construction.	A hazardous materials survey shall be conducted during final design to further evaluate any structures that may contain asbestos containing materials or lead based paint including the SR-1/Lincoln Boulevard Bridge over Ballona Creek, the Culver Boulevard Bridge over SR-1/Lincoln Boulevard, and the remnant abutments of the Pacific Electric Railway bridge that are located immediately north of the Culver Bridge overcrossing. The survey shall be conducted under the oversight of a California Division of Occupational Safety and Health (Cal/OSHA) Certified Asbestos Consultant (CAC) and California Department of Public Health (CDPH) lead Inspector/Assessor and will serve to confirm the presence or absence of asbestos containing materials and lead based paint through collection of bulk samples and laboratory analysis. During final design, special provisions for the Project shall be prepared based on the results of the hazardous materials survey(s) that direct the contractor on the management of hazardous building materials during construction.	City of Los Angeles, Bureau of Engineering	
MM HAZ-4	Develop plan prior to construction. Implement plan during construction.	Prior to construction, the Contractor will develop a health and safety plan. The Contractor shall submit the plan to the City prior to beginning any field work. The plan shall include requirements for health and safety-related monitoring during construction as well as applicable control measures for areas of the project site, such as the use of exhaust and ventilation systems to reduce methane and hydrogen sulfide gas levels; use of respiratory and other personal protective equipment; and training and educating workers. The Contractor shall implement the health and safety plan throughout the construction period.	City of Los Angeles, Bureau of Engineering	
MM HAZ-5	Conduct testing during final design. Remove paint, striping, etc. in accordance with regulatory requirements during construction.	Testing of yellow traffic striping and pavement marking material that needs to be removed as part of the Project shall be performed by the City or Contractor prior to construction. If the testing reveals that striping to be removed requires special handling, the Contractor shall implement the following measures to avoid and minimize potential impacts associated with the removal of pavement markings. • The Contractor shall submit a written work plan to the City for approval. The plan shall describe the locations and approaches to the removal, storage, and disposal of yellow thermoplastic and yellow painted traffic stripe and pavement markings.	City of Los Angeles, Bureau of Engineering	

Avoidance, Minimization, and Mitigation Measures	Timing	Measure	Responsible Party for Monitoring Implementation of this Measure	Notes on Completion of this Measure
		• Yellow thermoplastic and yellow paint to be removed from the project site will be disposed of at a Class 1 disposal facility or a Class 2 disposal facility. Testing of residue is likely to require the EPA's Total Lead and Chromium Method 7000 series. If the yellow thermoplastic and yellow painted traffic stripe and pavement marking residue is transported to a Class 1 disposal facility, a manifest shall be used, and the transporter shall be registered with the California Department of Toxic Substance Control. The contractor will obtain the United States Environmental Protection Agency Identification Number and sign all manifests as the generator within 2 working days of receiving sample test results and approving the test methods. • The Contractor shall prepare a project specific Lead Compliance Plan to minimize worker exposure to lead while handling removed yellow thermoplastic and yellow paint residue. Personal protective equipment, training, and washing facilities required by the Contractor's Lead Compliance Plan shall be supplied by the Contractor. The Contractor shall submit the plan to the City for review and approval prior to beginning work. • Prior to removing yellow thermoplastic and yellow painted traffic stripe and pavement marking, personnel who have no prior training, including State personnel, shall complete a safety training program provided by the Contractor that meets State requirements. • Where grinding or other methods approved by the City are used to remove yellow thermoplastic and yellow painted traffic stripe and pavement marking, the removed residue, including dust, shall be contained and collected immediately. Sweeping equipment shall not be used. Collection shall be by a high efficiency particulate air (HEPA) filter equipped vacuum attachment operated concurrently with the removal operations or other equally effective methods approved by the City. • The removed yellow thermoplastic and yellow painted traffic stripe and pavement marking residue shall be stored and labeled in covered containers, conforming to State provisions. The containers shall be a type approved by the United States Department of Transportation for the transportation and temporary storage of the removed residue. The containers shall be handled so that no spillage will occur. The containers shall be stored in a secured enclosure at a location within the project site until disposal, as approved by the City.		
Air Quality				
MM AQ-1	Implement during construction.	Water or a 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 at the right-of-way line as per SCAQMD Rule 403.	City of Los Angeles, Bureau of Engineering	
MM AQ-2	Implement during construction.	Soil binder will be spread on any unpaved roads used for construction purposes, and on all construction parking areas.	City of Los Angeles, Bureau of Engineering	

Avoidance, Minimization, and Mitigation Measures	Timing	Measure	Responsible Party for Monitoring Implementation of this Measure	Notes on Completion of this Measure
MM AQ-3	Implement during construction.	Trucks will be washed as they leave the project site as necessary to control fugitive dust emissions.	City of Los Angeles, Bureau of Engineering	
MM AQ-4	Implement during construction.	Construction equipment and vehicles will be properly tuned and maintained. All construction equipment will use low sulfur fuel as required by CA Code of Regulations Title 17, Section 93114.	City of Los Angeles, Bureau of Engineering	
MM AQ-5	Implement during construction.	As part of review of design plans and specifications, Caltrans would need to coordinate with the SCAQMD for approval of a nonstandard special provision (NSSP) 14-9.05 to mandate contractors' compliance with the applicable air district rules including measures related to dust control.	City of Los Angeles, Bureau of Engineering	
MM AQ-6	Implement during construction.	Equipment and materials storage sites will be located as far away from residential uses and the Ballona Creek Bike Path as practicable. Caltrans will ensure that the construction contractor adhere to the temporary work areas analyzed in the Project's Environmental Impact Report/Environmental Assessment (EIR/EA) and its supporting technical studies.	City of Los Angeles, Bureau of Engineering	
MM AQ-7	Implement during construction.	Construction areas will be kept clean and orderly.	City of Los Angeles, Bureau of Engineering	
MM AQ-8	Implement during construction.	ESA (Environmentally Sensitive Area)-like areas or their equivalent will be established within 500 feet of sensitive air receptors near the Project. Within these areas, construction activities involving extended idling and maintenance of diesel equipment and vehicles will be prohibited to the extent feasible.	City of Los Angeles, Bureau of Engineering	
MM AQ-9	Implement during construction.	Track-out reduction measures will be used, such as gravel pads at Project access points to minimize dust and mud deposits on roads affected by construction traffic.	City of Los Angeles, Bureau of Engineering	
MM AQ-10	Implement during construction.	All transported loads of soils and wet materials generated during Project construction 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 the emission of dust (particulate matter) during transportation.	City of Los Angeles, Bureau of Engineering	
MM AQ-11	Implement during construction.	Dust and mud that are deposited on paved, public roads due to construction activities will be promptly and regularly removed during Project construction to minimize emission of particulate matter.	City of Los Angeles, Bureau of Engineering	
MM AQ-12	Implement during construction.	To the extent feasible, Project construction traffic will be scheduled and routed to reduce congestion and related air quality impacts caused by idling vehicles traveling along local roads during peak travel times.	City of Los Angeles, Bureau of Engineering	
MM AQ-13	Implement during construction.	Mulch will be installed, or vegetation will be planted as soon as practical after grading to reduce windblown particulate in the area. Certain methods of mulch placement, such as straw blowing, may themselves cause dust and visible emission issues; therefore, controls such as dampened straw will be used as needed.	City of Los Angeles, Bureau of Engineering	
MM AQ-14	Implement during construction.	Under the California Air Resources Board's (ARB) idling emissions rule, 2008 and newer model year heavy-duty diesel engines used for the Project will be equipped with a nonprogrammable engine shutdown system that automatically shuts down the engine after 5	City of Los Angeles, Bureau of Engineering	

Avoidance, Minimization, and Mitigation Measures	Timing	Measure	Responsible Party for Monitoring Implementation of this Measure	Notes on Completion of this Measure
		minutes of idling, or optionally meet a stringent nitrogen oxides (NO_X) idling emission standard. This rule applies to diesel-fueled commercial motor vehicles that operate in California with gross vehicular weight ratings of greater than 10,000 pounds that are or must be licensed for operation on highways.		
MM AQ-15	Implement during construction.	To the extent feasible, all construction signal/message boards used for the Project shall be solar powered.	City of Los Angeles, Bureau of Engineering	
MM AQ-16	Implement during construction.	To the extent feasible, electricity for Project construction shall be obtained from power poles rather than temporary diesel or gasoline generators.	City of Los Angeles, Bureau of Engineering	
MM AQ-17	Implement during construction.	To the extent feasible, the use of recycled materials shall be maximized.	City of Los Angeles, Bureau of Engineering	
MM AQ-18	Implement during construction.	To the extent feasible, construction and demolition waste shall be reused or recycled in order to reduce construction waste and reduce consumption of raw materials as well as reducing waste and transportation to area landfills.	City of Los Angeles, Bureau of Engineering	
MM AQ-19	Implement during construction.	To the extent feasible, the use of potable water during Project consumption shall be reduced and replaced with recycled water.	City of Los Angeles, Bureau of Engineering	
Noise and Vibration				
MM NOI-1	Implement during construction.	Noise produced from construction equipment shall be operated consistent with Caltrans Specification 14 8.02, “Noise Control” which establishes nighttime construction noise limits and SSP 14-8.02, which requires noise from construction activities to follow the limits established by the City and County of Los Angeles. Project construction noise will be below these limits by implementing noise attenuation measures which can include, but not limited to, including engine enclosures/mufflers, allocating the noisiest activities to the least noise sensitive portions of the day, substitution to quieter equipment, use of portable noise barriers, siting stationary equipment and staging areas away from nearby noise sensitive uses, as well as other noise reduction measures. Compliance with the noise limits will be confirmed through onsite noise monitoring.	City of Los Angeles, Bureau of Engineering	
Natural Communities				
MM BIO-1	Incorporate ESA fencing into final design. Implement during construction.	Prior to construction, highly visible barriers (e.g., orange construction fencing) shall be installed along the boundaries of the Project footprint to designate the limits of disturbance for the Project under the direction of a qualified biologist. No Project activity of any type shall be conducted outside of the Project’s limits of disturbance. The City shall be responsible for ensuring that the protective barrier/fencing remains in place throughout construction and that it is removed upon completion of construction.	City of Los Angeles, Bureau of Engineering	
MM BIO-2	Implement during construction.	A qualified biological monitor approved by USFWS and CDFW shall monitor construction activities for the duration of construction. The biological monitor shall monitor all vegetation clearing activities, work during the avian nesting season, work during measurable rain events, and during work within jurisdictional waters, and shall visit the project site on a weekly basis otherwise throughout construction. The biological monitor shall have the authority to	City of Los Angeles, Bureau of Engineering	

Avoidance, Minimization, and Mitigation Measures	Timing	Measure	Responsible Party for Monitoring Implementation of this Measure	Notes on Completion of this Measure
		temporarily stop and divert work in coordination with the contractor as needed to minimize impacts to biological resources and/or water quality and to prevent disturbance of habitat and special-status species within and adjacent to Project work areas to the extent practicable. The biological monitor shall inspect the ESA fencing and other construction best management practices (BMPs) associated with protecting plants and wildlife during each site visit and shall provide monitoring reports following each site visit to the City and Caltrans. The biological monitor shall work with Project construction staff during biological monitoring to salvage native wildlife species of low mobility that may be killed or injured prior to and during Project-related vegetation or ground disturbances. To the extent feasible, salvaged species shall be relocated to adjacent suitable habitat not subject to Project ground disturbance. Any non-native flora or fauna can be abated by the biologist through any legal means available. Ongoing monitoring and weekly reporting shall occur for the duration of the construction activity to document implementation of BMPs and mitigation measures, and to ensure that construction occurs within the temporary and permanent impact limits established in the Draft EIR/EA.		
MM BIO-3	WEAP would be developed prior to construction. WEAP would be delivered to construction contractors at the beginning and throughout construction.	Prior to construction, a Worker Environmental Awareness Program (WEAP) shall be implemented for work crews by qualified biologist(s). The WEAP training shall be presented to all construction personnel. Training materials and briefings shall include but not be limited to, discussion of the Federal and state Endangered Species Acts, the consequences of noncompliance with Project permitting requirements, identification and values of sensitive plant and wildlife species and significant natural plant community habitats, the limits of construction activities, fire protection measures, hazardous substance spill prevention and containment measures, a contact person in the event of the discovery of dead or injured wildlife, and review of mitigation requirements. Training materials and a course outline shall be provided to the CDFW for review and approval at least 30 days prior to the start of project construction. Maps showing the location of sensitive wildlife or populations of rare plants, exclusion areas, or other construction limitations (i.e., limited operating periods) shall be provided to the environmental monitors and work crews prior to ground disturbance.	City of Los Angeles, Bureau of Engineering	
MM BIO-4	Implement during construction.	All construction equipment shall be operated in a manner to prevent accidental damage to areas outside of the limits of disturbance. No structure of any kind, vegetation removal, ground disturbance, or incidental storage of equipment or supplies, shall be allowed outside of the limits of disturbance.	City of Los Angeles, Bureau of Engineering	
MM BIO-5	No more than one year prior to the beginning of Project construction.	An updated focused plant survey will be conducted no more than one year prior to the beginning of Project construction to identify any shifts in the locations of sensitive plants and vegetation communities. The locations of special status natural communities that are adjacent to the Project's temporary and permanent impact footprints will be delineated as ESAs on the Project's plans.	City of Los Angeles, Bureau of Engineering	
MM BIO-6	Coordinate with Coastal Commission, CDFW, and other agencies regarding	The City shall mitigate for temporary impacts to Menzie's golden bush scrub at a minimum 1:1 ratio through the planting of Menzie's golden bush scrub within the temporarily impacted areas of the BWER.	City of Los Angeles, Bureau of Engineering	

Avoidance, Minimization, and Mitigation Measures	Timing	Measure	Responsible Party for Monitoring Implementation of this Measure	Notes on Completion of this Measure
	mitigation during final design as part of the regulatory permitting process	The City shall mitigate for permanent impacts to Menzies's golden bush scrub at a minimum 1:1 ratio using one of the following approaches: • Preparing and implementing a Habitat Mitigation and Monitoring Plan (HMMP) to establish Menzie's golden bush scrub at a 1:1 ratio within City-controlled lands that are adjacent to the BWER; • Providing funding to CDFW to establish Menzie's golden bush scrub at a 1:1 ratio within the BWER; or Purchase of credits for a habitat type containing Menzie's golden bush scrub from a mitigation bank at a 1:1 ratio.		
MM BIO-7	Coordinate with Coastal Commission, CDFW, and other agencies regarding mitigation during final design as part of the regulatory permitting process	The City shall mitigate for temporary impacts to California bulrush marsh at a 1:1 ratio through the planting of California bulrush marsh within the temporarily impacted areas of the BWER, or within temporarily impacted drainages such as Fiji Ditch, Feature 3 just north of the Culver Loop, etc.	City of Los Angeles, Bureau of Engineering	
MM BIO-8	Implement during construction.	Arroyo willow thicket, which is located entirely within the Culver Loop, would be removed by hand tools unless authorized to remove by mechanical means by CDFW and USFWS.	City of Los Angeles, Bureau of Engineering	
MM BIO-9	Coordinate with Coastal Commission, CDFW, and other agencies regarding mitigation during final design as part of the regulatory permitting process	The City shall mitigate for permanent impacts to arroyo willow thicket at a minimum 1:1 ratio using one of the following approaches: • Preparing and implementing a Habitat Mitigation and Monitoring Plan (HMMP) to establish arroyo willow thicket at a 1:1 ratio within City-controlled lands that are adjacent to the BWER; • Providing funding to CDFW to establish arroyo willow thicket at a 1:1 ratio within the BWER; or • Purchase of credits for a habitat type containing arroyo willow thicket from a mitigation bank at a 1:1 ratio.	City of Los Angeles, Bureau of Engineering	
Wetlands and Other Waters				
MM BIO-10	Develop plan during final design phase in consultation with CDFW. Implement plan during construction.	All temporary impacts to vegetated portions of Feature 1 (Fiji Ditch) shall be re-planted with native plant species in consultation with property owners and permitting agencies.	City of Los Angeles, Bureau of Engineering	
MM BIO-11	Implementing during construction.	The City shall ensure that: • No ground-disturbance, deposition of fill, or vegetation clearing activities within jurisdictional drainages shall occur until all regulatory permits have been obtained. This includes a USACE Section 404 Permit; an RWQCB Section 401 Water Quality Certification; a CDFW Section 1602 Streambed Alteration Agreement; and a CCC Coastal Development Permit (CDP). • The Contractor shall maintain a copy of agency permits at the construction site throughout the duration of construction. • Compensatory mitigation shall be provided at a minimum 1:1 ratio for permanent impacts to waters under the regulatory authority of the USACE, the RWQCB, the CDFW, and the CCC. Final details of the compensatory mitigation shall be determined	City of Los Angeles, Bureau of Engineering	

Avoidance, Minimization, and Mitigation Measures	Timing	Measure	Responsible Party for Monitoring Implementation of this Measure	Notes on Completion of this Measure
		within the regulatory permits. Mitigation for permanent impacts to waters would consist of one of the following approaches: a. Providing funding to CDFW to rehabilitate, enhance, or restore jurisdictional waters within the BWER; b. Preparing and implementing a Habitat Mitigation and Monitoring Plan (HMMP) to rehabilitate, enhance, or restore jurisdictional waters within City-controlled lands that are adjacent to the BWER; or c. Purchase of credits from a mitigation bank.		
Plant Species				
MM BIO-12	Coordinate with Coastal Commission, CDFW, and other agencies regarding mitigation during final design as part of the regulatory permitting process	The City shall mitigate for permanent impacts to Lewis' evening-primrose at a minimum of 1:1 ratio (number of plants established: number of plants impacted) using one of the following means: • By incorporating Lewis' evening-primrose into the planting plan for the temporarily impacted areas of the BWER; • By incorporating Lewis' evening-primrose into a Habitat Mitigation and Monitoring Plan (HMMP) for City-controlled lands that are adjacent to the BWER; or • Providing funding to CDFW to establish Lewis' evening-primrose within the BWER.	City of Los Angeles, Bureau of Engineering	
MM BIO-13	Coordinate with Coastal Commission, CDFW, and other agencies regarding mitigation during final design as part of the regulatory permitting process	If suffrutescent wallflower, south coast branching phacelia, or woolly seablite are determined to be present with the impact area per the survey results from **MM BIO-5**, the City shall mitigate for permanent impacts to the species at a minimum 1:1 ratio (number of plants established: number of plants impacted) using one of the following means: • By incorporating the species into the planting plan for the temporarily impacted areas of the BWER; • By incorporating the species into a Habitat Mitigation and Monitoring Plan (HMMP) for City-controlled lands that are adjacent to the BWER; or • Providing funding to CDFW to establish the species within the BWER. If the survey results associated with **MM BIO-5**, finds the species is absent, no further mitigation would be needed.	City of Los Angeles, Bureau of Engineering	
MM BIO-14	Coordinate with Coastal Commission, CDFW, and other agencies regarding mitigation during final design as part of the regulatory permitting process	During final design and prior to any Project-related vegetation removal, a certified arborist shall assess all trees and shrubs identified for removal to determine if they would be considered protected based on the City of Los Angeles Municipal Code. If any protected trees or shrubs would need to be removed as part of Alternative 2, then a permit would be required from the City's Board of Public Works, which would ensure that appropriate tree replacement occurs.	City of Los Angeles, Bureau of Engineering	
Animal Species				
MM BIO-15	Develop plan during final design. Implement prior to and during construction.	To ensure the minimization of impacts to nesting avian species, the following measures shall be implemented pursuant to the MBTA and California Fish and Game Code. • Prior to construction, a qualified biologist shall prepare a site-specific Nesting Bird Management Plan for CDFW approval. The plan shall detail methods and definitions	City of Los Angeles, Bureau of Engineering	

Avoidance, Minimization, and Mitigation Measures	Timing	Measure	Responsible Party for Monitoring Implementation of this Measure	Notes on Completion of this Measure
		to enable a qualified biologist to monitor and implement nest-specific buffers based on topography, vegetation, species, and individual bird behavior. The plan shall include requirements for a nest log, which would track each nest and its outcome. The nest log would be submitted to CDFW at the end of each work week for the duration of the avian nesting seasons when construction activities are occurring. • For Project activities that will occur during the avian nesting season (generally February 1 – September 1), a qualified biologist shall conduct pre-construction nesting avian surveys no more than three days prior to the initiation of Project construction activities to determine the presence or absence of active nests. The survey shall encompass the project site and a 500-foot-buffer. If a lapse in work of three days or longer occurs during the avian nesting season, another survey shall be conducted prior to work being reinitiated that involves vegetation removal and/or ground disturbance. Further, a qualified biologist shall survey the vegetation removal area every subsequent 72 hours during the avian nesting season until vegetation grubbing and removal is complete. Surveys shall include any potential habitat within 500 feet of active construction activities, including trees, shrubs, and on the ground, or on nearby structures that might be directly or indirectly impacted by Project activities. • If active nests are observed, a no-disturbance buffer marked with exclusion fencing or other similarly effective means will be established and maintained until the qualified biologist determines that the nest has fledged or failed. The no-disturbance buffer shall conform to distances identified in the site-specific Nesting Bird Management Plan approved for this project.		
MM BIO-16	Implement prior to and during construction.	A qualified biologist shall conduct a pre-construction survey for the wandering (saltmarsh) skipper within the proposed impact area before construction. If this species is observed and is in imminent danger from construction activities, a qualified biologist shall attempt to relocate the wandering skipper to appropriate habitat outside the impact area or they shall be allowed to leave the impact area on their own.	City of Los Angeles, Bureau of Engineering	
MM BIO-17	Implement prior to and during construction.	A pre-construction survey for special status reptile species shall be conducted by a qualified biologist in suitable habitat within the proposed impact area. If any special status reptile species is observed within the Project impact area, a reptile relocation plan shall be prepared and submitted to the City, Caltrans, and CDFW for review and approval. The reptile relocation plan shall identify the parameters of any potential relocation effort including: the qualifications of the biologist to monitor construction activities in suitable habitat, and to capture and relocate any special status individuals observed within the impact area; methods to capture and relocate the relevant special status species; and precise locations of the suitable habitat within the BWER to relocate the captured species to.	City of Los Angeles, Bureau of Engineering	
MM BIO-18	Implement prior to and during construction.	A pre-construction survey for nesting raptors shall be done by a qualified biologist within the limits of Project disturbance. Any active nest found during survey efforts shall be mapped on the construction plans. If nesting activity is present, the active site shall be protected until nesting activity ends to ensure compliance with Section 3503.5 of the California Fish and	City of Los Angeles, Bureau of Engineering	

Avoidance, Minimization, and Mitigation Measures	Timing	Measure	Responsible Party for Monitoring Implementation of this Measure	Notes on Completion of this Measure
		Game Code. Nesting activity for raptors in the region normally occurs from January 1 to September 1. If no active nests are found, no further mitigation would be required. Results of the surveys shall be provided to the CDFW and Caltrans. To protect any nest site, the following restrictions on construction would be required between January 1 and September 1 (or until nests are no longer active, as determined by a qualified biologist): (1) clearing limits shall be established a minimum of 500 feet in any direction from any occupied nest and (2) access and surveying shall be restricted within 150 feet of any occupied nest. Any encroachment into the buffer area around the known nest shall only be allowed if it is determined by a qualified biologist that the proposed activity shall not disturb the nest occupants. Construction during the nesting season can occur only at the sites if a qualified biologist determines that fledglings have left the nest.		
MM BIO-19	Implement prior to and during construction.	A qualified biologist shall conduct wintering/breeding protocol burrowing owl surveys in accordance with CDFW's 2012 Staff Report on Burrowing Owl Mitigation to determine whether or not owls are present within the project site no more than one year of beginning construction. If burrowing owls are detected, a Burrowing Owl Management Plan will be prepared and that will then be submitted to CDFW and Caltrans for review and approval prior to commencement of construction. The Burrowing Owl Management Plan will be based on CDFW's 2012 Staff Report on Burrowing Owl Mitigation and address owl specific minimization and avoidance measures, and measures to protect occupied habitat. The Burrowing Owl Management Plan will include mitigation for impacted occupied burrows at no less than a 3:1 ratio by installation of artificial burrows.	City of Los Angeles, Bureau of Engineering	
MM BIO-20	Implement prior to and during construction.	Bridge demolition or vegetation removal activities within potential bat roosting habitat shall avoid the maternity roosting season (March 1 to October 1) to the extent feasible. If work must be conducted within the maternity roosting season, prior to the start of work within or near trees, bridges or other structures within the work area, a qualified bat biologist shall conduct a preconstruction survey to determine if bats are roosting within the Project work area. If bats are not roosting, no further mitigation is required. If bats are roosting, all maternity roosts shall be avoided and an appropriate no-disturbance buffer shall be established at the discretion of a qualified bat biologist. No work shall be allowed within the buffer during maternity roosting without prior approval by CDFW. A combination of acoustic surveys of habitat around structures, structure inspection, and exit counts shall be used to survey the area that may be directly or indirectly impacted by the Project. As bats may utilize dense tree canopies, snags, or bridges over creeks/water, these habitat types should be specifically surveyed. Foraging areas should also be identified and specific flight routes to those foraging areas as well. Bats shall be identified to the most specific taxonomic level possible, and roosts shall be evaluated to determine their size and significance. Bat surveys shall include: 1) the location of all roosting sites (location shall be adequately described and drawn on a map); 2) the number of bats present at the time of visit (count or estimate); 3) all species of bat observed shall be identified to the best extent feasible (include how the species was identified); 4) the location, approximate amount and distribution of all bat droppings shall be	City of Los Angeles, Bureau of Engineering	

Avoidance, Minimization, and Mitigation Measures	Timing	Measure	Responsible Party for Monitoring Implementation of this Measure	Notes on Completion of this Measure
		described and shown on a map; 5) the type of roost; night roost (rest at night while out feeding) versus a day roost (maternity colony) shall also be clearly stated; and 6) all survey results shall be provided to CDFW and Caltrans.		
MM BIO-21	Implement prior to and during construction.	Prior to felling any tree with potential to support tree-roosting bat species, the following procedures shall be applied: 1) Trees shall only be trimmed and/or felled outside of the maternity roosting season (prior to March 1 or after October 1); 2) All tree felling and removal shall be conducted under the direction of a qualified bat biologist; 3) All trees shall be removed in two stages, where in the first stage, the tree will be felled by slowly lowering it to the ground (either the entire tree or large, intact portions of the tree) and left on the ground, untrimmed and uncovered for a minimum of 24 hours allowing bats to leave during the night, followed by the second stage of removal where the tree can then be dismantled or cut into smaller parts and removed.	City of Los Angeles, Bureau of Engineering	
MM BIO-22	Implement prior to and during construction.	If bats are determined by a qualified biologist to be roosting within bridges and other structures within the work area and unavoidable Project-related impacts to the roosting bats are anticipated, bats shall be humanely evicted and excluded from those structures. The humane eviction/exclusion shall be conducted in the fall (October or November) preceding work activities that could affect roosting bats. Exclusion in the fall is recommended to avoid impacts to hibernating bats (typically December through February in southern California) or a maternity roost (typically April through August in southern California) when roost occupants are not able to evacuate.	City of Los Angeles, Bureau of Engineering	
MM BIO-23	Implement prior to and during construction.	During installation of humane eviction/exclusion materials, if needed, each crevice shall be inspected using flashlights or fiber optic scopes for the presence of day-roosting bats. At crevices where the absence of day-roosting bats is confirmed, the crevices immediately shall be sealed using materials such as foam backer rod or pipe insulation secured with adhesive to prevent bats from entering and using the crevices. At crevices where bats are visibly present or where absence cannot be confirmed, humane eviction devices shall be installed that would allow the bats to exit the crevice but prevent them from returning. The qualified biologist performing the humane eviction shall determine the exact type of eviction device to be installed and exclusionary device used. The eviction device shall remain in place for at least 14 days following installation to allow sufficient time for all the bats to vacate the crevice. After the eviction period, the eviction device shall be removed, and exclusion material installed. The exclusion material shall remain in place for the duration of work activities and shall be inspected weekly by a qualified biologist. All aspects of the humane eviction/exclusion of bats shall be supervised directly and monitored by a qualified biologist approved by CDFW. Following completion of activities that could impact roosting bats, the exclusion devices shall be removed by the contractor (under supervision of the qualified biologist) to allow bats to return to the roost crevices.	City of Los Angeles, Bureau of Engineering	
MM BIO-24	Implement prior to and during construction.	Prior to the start of the construction day and at the end of the construction day, all open trenches, holes, or other excavations shall be inspected by the qualified biologist for the presence of small mammals and other wildlife prior to backfilling. Excavations that remain	City of Los Angeles, Bureau of Engineering	

Avoidance, Minimization, and Mitigation Measures	Timing	Measure	Responsible Party for Monitoring Implementation of this Measure	Notes on Completion of this Measure
		open overnight shall be covered to prevent wildlife from becoming trapped. If any small mammals are observed in the trenches or excavated areas, a ramp will be placed in the trench/excavated area to allow the animal to escape, or a qualified biologist shall relocate any animals found within excavated areas.		
Threatened and Endangered Species				
MM BIO-25	Conduct survey prior to construction, but no more than one year prior to the start of project removal of native vegetation. Implement rest of the measure during construction.	No more than one year prior to the start of Project native vegetation removal, a qualified biologist will conduct a pre-construction survey in areas of suitable habitat within the project site to locate active Crotch bumble bee nests, if any. The survey shall be conducted during the peak flight season for a colony's males and workers increasing the likelihood of nest detection, which typically occurs from June through July. If no active Crotch bumble bee nest is observed within the project site during the survey, then the species will be determined to be absent from the project site and no additional measures will be necessary. The survey results will remain valid until February 15 of the following year. If an active nest is determined to be within the project site, then a 500-foot no impact buffer shall be established in vegetated areas around the nest site. The no impact buffer may be removed if permitted following coordination with CDFW. If no Crotch bumble bee are found during the preconstruction survey noted above, Alternative 2 would not have a substantial adverse effect on the Crotch bumble bee and no further mitigation would be required. If Crotch bumble are found during the preconstruction survey, active nest(s) will be avoided through implementation of a 500-foot avoidance buffer, and the City will obtain an Incidental Take Permit or a Consistency Determination from CDFW to address effects to the Crotch bumble bee. The consultation shall confirm that the avoidance and minimization measures listed above are sufficient to protect this species from potential effects, and whether additional compensatory mitigation may be required.	City of Los Angeles, Bureau of Engineering	
MM BIO-26	Implement prior to and during construction.	To avoid direct impacts to steelhead, marine mammals, and sea turtles that may occur in Ballona Creek during in-water construction, a 320-foot (100 meter) safety zone shall be maintained around in-water work areas. At the discretion of the NOAA/NMFS and USFWS, based on the findings of initial biological monitoring, the size or configuration of the in-water marine mammal safety zone may change. The purpose of the marine mammal safety zone is to prevent animal entrapment or to cause hearing loss resulting from pile-driving activities.	City of Los Angeles, Bureau of Engineering	
MM BIO-27	Implement prior to and during construction.	A qualified biologist will conduct daily surveys during in-water activities in Ballona Creek to inspect the work zone and adjacent waters for marine mammals, western pond turtles, and sea turtles. Unless otherwise modified by the resource agencies, biological monitoring of in-water work will continue until all earth-moving and noise generating work has been completed within the Ballona Creek channel.	City of Los Angeles, Bureau of Engineering	
MM BIO-28	Implement prior to and during construction.	In-water work activities and/or other activities that could adversely affect aquatic wildlife, including steelhead, marine mammals, and sea turtles, shall be halted if a steelhead, marine mammal, or sea turtle enters the 320-foot marine mammal safety zone and resume only after the animal has been gone from the area for a minimum of 15 minutes.	City of Los Angeles, Bureau of Engineering	

Avoidance, Minimization, and Mitigation Measures	Timing	Measure	Responsible Party for Monitoring Implementation of this Measure	Notes on Completion of this Measure
MM BIO-29	Implement prior to and during construction.	A "soft start" will be used to initiate pile driving activities within Ballona Creek whereby pile driving will be limited to one or two strikes at less than full strength to allow any steelhead or other fish species present to leave the project site and to allow the biological monitor an opportunity to document the behavior of animals in the project site.	City of Los Angeles, Bureau of Engineering	
MM BIO-30	Implement prior to and during construction.	Biological monitoring shall include underwater noise monitoring, which will be conducted full-time during in-water work. Underwater noise monitoring will be initiated 500 meters from the bridge site. The location of underwater noise monitoring activities will be adjusted as necessary based on measured underwater sound levels so that monitoring is occurring at the location where noise levels are at the 160-dBA threshold based on the behavioral disruption for impulsive noise threshold identified in the NOAA Fisheries In-water Acoustic Thresholds Technical Guidance table (NOAA 2022c). If noise monitoring determines that noise levels are greater than 160 dBA outside of the initial 500-meter area, the qualified biologist will consult with NOAA/NMFS regarding the appropriate avoidance and minimization measures. Construction activities will be stopped when a marine mammal is within the greater than 160 dBA area identified by noise monitoring and will only be resumed when the animal has left the area. In addition, the qualified biologist will confirm that bubble curtains (specified below) are being used effectively and to document and evaluate any fish impacts (including mortality). The biological monitor shall provide monitoring reports following site visits to the City and Caltrans.	City of Los Angeles, Bureau of Engineering	
MM BIO-31	Implement prior to and during construction.	Bubble curtains shall be used for in-water work within Ballona Creek to minimize underwater noise disturbance from construction. The bubble curtains shall entirely encircle the active in-water work area (e.g., the pile being removed/installed, placement of riprap; etc.), allowing sufficient space for construction crews to operate. The bubble curtains shall also act as a barrier to prevent green turtle (and other aquatic wildlife) from entering the work area. The bubble curtains shall be moved as the active work area progresses across the channel; at no time shall the bubble curtains entirely eliminate movement up and down the channel (e.g., the bubble curtains shall not span the channel). Bubble curtains will be used in combination with turbidity curtains to manage sediment and silt transport resulting from construction activities. A qualified biologist shall be present during the initiation of work within the water and shall conduct site visits on an as-needed basis to confirm that bubble curtains are being used effectively. The qualified biologist shall provide monitoring reports to the City and Caltrans following site visits.	City of Los Angeles, Bureau of Engineering	
MM BIO-32	Implement prior to and during construction.	Sound pressure levels resulting from pile-driving activities shall comply with the Interim Criteria for Injury to Fish from Pile Driving Activities (e.g., 206 decibels [dB] peak for all size of fish; 187 dB accumulated sound exposure level [SEL] for fish 2 grams or greater; and 183 dB accumulated SEL for fish less than 2 grams). An acoustical technician shall conduct noise monitoring in collaboration with the biological monitor to ensure that sound pressure levels do not exceed these criteria. A noise monitoring report shall be submitted to the City and Caltrans documenting implementation of noise monitoring requirements.	City of Los Angeles, Bureau of Engineering	

Avoidance, Minimization, and Mitigation Measures	Timing	Measure	Responsible Party for Monitoring Implementation of this Measure	Notes on Completion of this Measure
MM BIO-33	Implement prior to and during construction.	Turbidity curtains shall be deployed around pile removal zones to minimize the spread of turbid plumes outside the construction area within Ballona Creek. During construction, the Contractor shall implement a water quality monitoring program that evaluates and tests for water quality degradation in areas adjacent to and outside the turbidity curtain in Ballona Creek.	City of Los Angeles, Bureau of Engineering	
MM BIO-34	Implement prior to and during construction.	Focused visual encounter surveys for the western spadefoot shall be conducted by a qualified biologist in suitable habitat within the proposed impact area and a 500-foot buffer prior to construction. The surveys shall consist of three survey visits with one survey conducted in the month of February, one in March, and one in April. To the extent possible (depending on weather conditions), the surveys will be timed within one week of a storm or series of storms that produces at least one inch of rainfall. The surveys will include diurnal and nocturnal searches to determine the presence of tadpoles or adults. If the species is determined to be absent, no additional measures are necessary. If the species is determined to be onsite or within 500 feet of the impact area, Project activities within suitable habitat shall be postponed until an impact avoidance and minimization plan is approved by CDFW and USFWS and formal consultation or the equivalent with USFWS has been completed. The plan shall identify measures to prevent construction-related impacts from occurring, such as installing silt fencing around the area to be impacted following confirmation that no individuals are present within the area to be fenced.	City of Los Angeles, Bureau of Engineering	
MM BIO-35	Implement prior to and during construction.	Focused visual surveys for western pond turtle shall be conducted by a qualified biologist within suitable habitat in the impact area and a 500-foot buffer to locate basking or foraging turtles. A total of four surveys will be conducted during the breeding season of this species (April to August) depending on suitable weather conditions. Surveys will be planned for April to May, since this is when breeding most often occurs, but the schedule may be adjusted by the surveying Biologist. If the species is determined to be absent, no additional measures are necessary. If the species is determined to be onsite or within 500 feet of the impact area, Project activities within suitable habitat shall be postponed until an impact avoidance and minimization plan is approved by CDFW and USFWS and formal consultation or the equivalent with USFWS has been completed. The plan shall identify measures to prevent construction-related impacts from occurring, such as installing silt fencing around the area to be impacted following confirmation that no individuals are present within the area to be fenced. Agency consultation(s) shall confirm that the avoidance and minimization measures identified are sufficient to protect the species from adverse effects. Otherwise, additional mitigation required by USFWS or CDFW would be implemented as determined through the permitting process.	City of Los Angeles, Bureau of Engineering	
MM BIO-36	Conduct surveys no more than two years prior to beginning project construction, ground disturbance, and/or vegetation removal.	An updated focused survey for the following bird species will be performed no more than two years prior to starting Project construction: coastal California gnatcatcher and least Bell's vireo. Previous surveys determined these species to be absent from the Project impact area. If the survey results determine that the Project would directly impact area occupied nesting habitat of coastal California gnatcatcher or least Bell's vireo, Caltrans, on behalf of the FHWA, will undertake Section 7 consultation with the USFWS to address potential effects. If	City of Los Angeles, Bureau of Engineering	

Avoidance, Minimization, and Mitigation Measures	Timing	Measure	Responsible Party for Monitoring Implementation of this Measure	Notes on Completion of this Measure
		the survey results determine that the Project would directly impact area occupied nesting habitat of least Bell's vireo, the City will also obtain an Incidental Take Permit or a Consistency Determination from CDFW to address potential effects. Agency consultation(s) shall confirm that the avoidance and minimization measures identified are sufficient to protect these species from adverse effects. Otherwise, additional mitigation required by USFWS or CDFW would be implemented as determined through the permitting process.		
Invasive Species				
MM BIO-37	Develop plan during final design. Implement plan during construction.	A Noxious Weed Control Plan shall be prepared by a qualified biologist and submitted to CDFW for review and approval prior to the start of Project construction. The plan shall include measures to ensure that noxious weeds are not spread and to prevent the establishment of non-native, invasive vegetation. The plan shall be implemented during all Project-related activities, and shall include, but not be limited to, the following: 1) control measures for invasive plant species on the site, 2) Project-specific procedures for handling noxious/invasive plants to prevent sprouting or regrowth, 3) Project-specific procedures for cleaning equipment, and 4) Project-specific transportation of vegetation debris off site. The Noxious Weed Control Plan shall be reviewed during the WEAP training. During site preparation and mobilization, the Contractor shall remove all invasive weeds designated by the Cal-IPC within Project's designated construction staging and storage areas.	City of Los Angeles, Bureau of Engineering	