Appendix C: Avoidance, Minimization and/or Mitigation Summary

This page intentionally left blank

Appendix C. 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] which 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 California Environmental Quality Act (CEQA).

This page intentionally left blank

HUMAN ENVIRONMENT

Land Use

Project Features

No project features are required.

Avoidance, Minimization, and/or Mitigation Measures

No measures are required.

Growth

Project Features

No project features are required.

Avoidance, Minimization, and/or Mitigation Measures

No measures are required.

Community Impacts (Environmental Justice)

Project Features

No project features are required.

Avoidance, Minimization, and/or Mitigation Measures

No measures are required.

Utilities and Emergency Services

Project Features

Task and Brief Description	Responsible Branch/Staff	Timing/Phase	NSSP Req.	Action Taken to Comply with Task	Task Completed/ Initials/Date	Remarks	Environmental Compliance Initials/Date
PF-UES-1 During final design, utility relocation plans will be prepared in consultation with the affected utility providers/owners for those utilities that will need to be relocated, removed, or protected in-place. If relocation is necessary, the final design will focus on relocating utilities within existing public rights-of-way (ROWs) and/or easements. 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. Utility relocations are anticipated to be completed by the various utility owners prior to or during construction. Prior to utility relocation activities, the Contractor will coordinate with affected utility providers regarding potential utility relocations and inform affected utility users in advance about the date and timing of potential service disruptions.	Caltrans Project Engineer/Resident Engineer	During PS&E Prior to and during construction During PS&E and prior to utility relocation activities					
PF-UES-2 Prior to and during construction, the Contractor will coordinate all temporary mainline, ramp, and arterial roadway closures and detour plans 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.	Caltrans Project Engineer/Resident Engineer	Prior to and during construction					

Avoidance, Minimization, and/or Mitigation Measures

No measures are required.

Traffic and Transportation/Pedestrian and Bicycle Facilities

Project Features

Task and Brief Description	Responsible Branch/Staff	Timing/Phase	NSSP Req.	Action Taken to Comply with Task	Task Completed Initials/Date	Remarks	Environmental Compliance Initials/Date
PF-T-1 **Transportation Management Plan**. A Transportation Management Plan (TMP) will be developed 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 OCTA and the California Department of Transportation (Caltrans) District 12 during final design and will be incorporated into the plans, specifications, and estimates. The purpose of the TMP is to address the short-term traffic and transportation impacts during construction of the project. The objectives of the TMP are to: • Maintain traffic safety during construction • Effectively maintain an acceptable level of traffic flow throughout the transportation system during construction • Minimize traffic delays and facilitate reduction of the overall duration of construction activities • Minimize detours and impacts to pedestrians and bicyclists • Foster public awareness of the project and related transportation and traffic impacts Achieve public acceptance of construction of the project and the TMP measures The TMP will contains, but not be limited to, the following elements intended to reduce traveler delay and enhance traveler safety. These elements will be refined during final design and incorporated in the TMP for implementation during project construction. • **Public Information/Public Awareness Campaign (PAC).** The primary goal of the PAC is to educate motorists, business owners and operators, residents, elected officials, and government agencies about project construction activities and associated transportation impacts. The PAC is an important tool for reaching target audiences with important construction project information and is anticipated to include, but not be limited to: – Rideshare information – Brochures and mailers – Media releases – Paid advertising – Public meetings – Broadcast fax and email services – Telephone hotline – Notification to targeted groups – Commercial traffic reporters/feeds – Project website – Visual information – Local cable television and news – Internet postings • **Traveler Information Strategies.** The effective implementation of a traveler information system during construction is crucial for enabling motorists to make informed decisions about their travel plans and options with real-time traffic information. That real-time traffic information will include information on mainline, ramp, lane, and arterial closures and detours; travel delays; access to adjacent land uses; “businesses are open” signing; and other signing and information to assist travelers in navigating through, around, and in construction areas. Key components of the traveler information system are anticipated to include, but not be limited to: – Fixed and portable changeable message signs – Ground-mounted signs – Automated work zone information systems – Highway advisory radio – Lane closure website – Caltrans highway information network	Caltrans Traffic Engineer/Resident Engineer	During PS&E and project construction					

Task and Brief Description	Responsible Branch/Staff	Timing/Phase	NSSP Req.	Action Taken to Comply with Task	Task Completed Initials/Date	Remarks	Environmental Compliance Initials/Date
– Bicycle and pedestrian information – Commute Smart website • **Incident Management.** Effective incident management will ensure that incidents in and near construction areas are cleared quickly and do not result in substantial delays for the traveling public in the vicinity of work zones. Incident management includes, but is not limited to: – Caltrans Construction Zone Enhanced Enforcement Program (COZEEP) – Freeway Service Patrol – Traffic surveillance stations – Caltrans Transportation Management Center – Traffic management team – Towing services • **Construction Strategies.** The TMP will include procedures to lessen the transportation effects of project-related construction activities and will include, but not be limited to, consideration of the following: – Conflicts with other projects and special events – Construction staging alternatives – Mainline lane closures – Local road closures – Ramp and connector closures (no two consecutive on- or off-ramps in the same direction would be closed at the same time) – Pedestrian and bicycle detours and facility closures – Traffic control improvements – Coordination with other projects – Project phasing – Traffic screens – Truck traffic restrictions • **Demand Management.** Temporarily reducing the overall traffic volumes on the project segment of State Route 55 (SR 55) could reduce the short-term adverse effects of construction on traffic operations. The TMP will include, but not be limited to, the following strategies that could reduce vehicular demand in the study area during project construction: – Rideshare incentives – Transit services – Shuttle services – Variable work hours and telecommuting – Park-and-ride lots • **Alternate Route Strategies.** The TMP will provide strategies for notifying motorists, pedestrians, and bicyclists of planned construction activities. This notification will allow travelers to make informed decisions about their travel plans, including the consideration of possible alternate routes. The TMP will finalize the detour and alternate routes for motorists, specifically addressing the following: – Mainline lane closures – Ramp/connector closures – Local road closures – Temporary highway or shoulder use – Local street improvements – Temporary detours and closures of bicycle and pedestrian facilities – Traffic signal coordination – The design/build contractor will implement the measures in the TMP during construction.							

Avoidance, Minimization, and/or Mitigation Measures

No measures are required.

Visual/Aesthetics

Project Features

Task and Brief Description	Responsible Branch/Staff	Timing/Phase	NSSP Req.	Action Taken to Comply with Task	Task Completed Initials/Date	Remarks	Environmental Compliance Initials/Date
PF-VIS-1 Architectural treatments and features will be included in the final project design to minimize the loss of, and improve the visual quality on, the project segment of SR 55. The architectural treatments will be developed for retaining walls and noise barriers consistent with the Master Plan of Freeway and Transit Corridor Enhancements: Creating a Quality Environment along Orange County's Transportation Network. All wall architectural treatments will be submitted to the California Department of Transportation (Caltrans) District Landscape Architect for review and approval. During construction, the construction contractor will implement the architectural treatments as shown in the project specifications.	Caltrans Project Engineer and Landscape Architect	During PS&E and project construction					
PF-VIS-2 During final design, a landscape architect will prepare a Landscape Plan to address landscape treatment within the State right-of-way (ROW) along the project segment of SR 55. The Landscape Plan will be submitted to the Caltrans District Landscape Architect for review and approval. During construction, the construction contractor will implement the provisions of the approved Landscape Plan as shown in the project specification. The Landscape Plan may include some of the following: • Identifying/defining the minimum standards for providing landscaping: available land, no conflicts with traffic operations and safety, safe access for maintenance and trash removal, and access to irrigation and water if needed • Identifying landscaping and hardscape concepts and materials to maintain or improve the visual character of the existing landscaping in the SR 55 ROW from south of Interstate 5 (I-5) to SR 91, including the mainline, ramps, and along noise barriers and retaining walls. The hardscape concepts and materials shall be consistent with the *Master Plan of Freeway and Transit Corridor Enhancements: Creating a Quality Environment along Orange County's Transportation Network* • Incorporating applicable procedures and requirements in the Caltrans Highway Design Manual, Section 902.1, Planting Guidance • Using drought-resistant plants and xeric (adapted to arid conditions) landscaping techniques • Providing low-maintenance, erosion-control groundcover species and low-height shrubs in the palette to preserve existing views and prevent erosion • Providing landscaping as soon as possible in the construction process to minimize bare soil and potential erosion effects • Ensuring that the landscape plant palette conforms with adopted Caltrans standard specifications • Replacing landscaping on the temporary construction easement (TCE). The Landscape Plan will require coordination with the owner of the TCE regarding replacement landscaping to its original or better condition after completion of use.	Caltrans Project Engineer and Landscape Architect	During PS&E and project construction					

Avoidance, Minimization, and/or Mitigation Measures

No measures are required.

Cultural Resources

Project Features

Task and Brief Description	Responsible Branch/Staff	Timing/Phase	NSSP Req.	Action Taken to Comply with Task	Task Completed Initials/Date	Remarks	Environmental Compliance Initials/Date
PF-CUL-1 If cultural materials are discovered during site preparation, grading, or excavation, the construction contractor will divert all earth-moving activity within and around the immediate discovery area until a qualified archaeologist can assess the nature and significance of the find. At that time, the Caltrans District 12 Environmental Branch Chief will be coordinated with to determine appropriate course of action.	Caltrans Project Engineer, Caltrans Archaeologist, and Resident Engineer	During construction and post construction (if necessary)					
PF-CUL-2 If human remains are discovered during site preparation, grading, or excavation, State Health and Safety Code Section 7050.5 states that further disturbances and activities shall cease in any area or nearby area suspected to overlie remains and the County Coroner shall be contacted. Pursuant to California Public Resources Code (PRC) Section 5097.98, if the remains are thought to be Native American, the Coroner will notify the Native American Heritage Commission, which will then notify the Most Likely Descendant (MLD). At that time, the Caltrans District 12 Environmental Branch Chief will be contacted so they may work with the MLD on the respectful treatment and disposition of the remains. Further provisions of California PRC 5097.98 are to be followed as applicable.	Caltrans Project Engineer, Caltrans Archaeologist, and Resident Engineer	During construction and post construction (if necessary)					

Avoidance, Minimization, and/or Mitigation Measures

No measures are required.

PHYSICAL ENVIRONMENT

Hydrology and Floodplains

Project Features

No project features are required.

Avoidance, Minimization, and/or Mitigation Measures

No measures are required.

Water Quality and Storm Water Runoff

Project Features

Task and Brief Description	Responsible Branch/Staff	Timing/Phase	NSSP Req.	Action Taken to Comply with Task	Task Completed Initials/Date	Remarks	Environmental Compliance Initials/Date
PF-WQ-1 The project would comply with the provisions of the National Pollutant Discharge Elimination System (NPDES) General Permit for Storm Water Discharges Associated with Construction and Land Disturbance Activities (Construction General Permit) (Order No. 2009-0009-DWQ, NPDES No. CAS000002), as amended by Order No. 2010-0014-DWQ and Order No. 2012-0006-DWQ.	Caltrans Resident Engineer	Prior to construction					
PF-WQ-2 The project would comply with the National Pollutant Discharge Elimination System (NPDES) Construction General Permit by preparing and implementing a Storm Water Pollution Prevention Plan (SWPPP) to address all construction-related activities, equipment, and materials that have the potential to impact water quality. The SWPPP will identify the sources of pollutants that may affect the quality of storm water and include Best Management Practices (BMPs) to control the pollutants, such as sediment control, storm drain inlet protection, construction materials management and non-stormwater BMPs. All work must conform to the Construction Site Best Management Practice Requirements specified in the latest edition of the Storm Water Quality Handbooks: Construction Site Best Management Practices Manual to control and minimize impacts of construction and construction-related activities, materials, and pollutants on the watershed. These include, but are not limited to, temporary sediment control, temporary soil stabilization, scheduling, waste management, materials handling, and other non-stormwater BMPs.	Caltrans Resident Engineer	Prior to construction					
PF-WQ-3 Design Pollution Prevention Best Management Practices (BMPs) would be implemented such as preservation of existing vegetation and slope/surface protection systems (permanent soil stabilization), as well as concentrated flow conveyance systems such as roadside concrete ditches, oversized drains, inlets, flared end sections at storm drain outlets, and outlet protection.	Caltrans Project Engineer	Prior to and during construction					
PF-WQ-4 Caltrans-approved treatment Best Management Practices (BMPs) would be implemented consistent with the requirements of the National Pollutant Discharge Elimination System (NPDES) Statewide Storm Water Permit Waste Discharge Requirements for the State of California, Department of Transportation (Caltrans) (Order No. 2012-0011-DWQ, NPDES No. CAS00003, adopted on September 19, 2012, and effective on July 1, 2013), as amended by Order No. 2014-0006-EXEC (effective January 17, 2014), Order No. 2014-0077-DWQ (effective May 20, 2014) and Order No. 2015-0036-EXEC (effective April 7, 2015). Treatment BMPs may include biostrips, biofiltration swales, and infiltration basins.	Caltrans Project Engineer	Prior to and during construction					

Avoidance, Minimization, and/or Mitigation Measures

No measures are required.

Geology/Soils/Seismology/Topography

Project Features

Task and Brief Description	Responsible Branch/Staff	Timing/Phase	NSSP Req.	Action Taken to Comply with Task	Task Completed Initials/Date	Remarks	Environmental Compliance Initials/Date
PF-GEO-1 Geotechnical Investigation. During the Plans, Specifications, and Estimates (PS&E) phase, a detailed geotechnical investigation will be conducted by qualified geotechnical personnel to assess the geotechnical conditions at the project area. The geotechnical investigation will include exploratory borings to investigate site-specific soils and conditions and to collect samples of subsurface soils for laboratory testing. Those soil samples will be tested to evaluate liquefaction potential, collapsibility potential, stability, and corrosion potential. The project-specific findings and recommendations of the geotechnical investigation will be summarized in a Structure Foundation Report and a Geotechnical Design Report to be submitted to the California Department of Transportation (Caltrans) for review and approval. Those findings and recommendations will be incorporated in the final design of the Build Alternative.	Caltrans Project Engineer and Geotechnical Engineer	During PS&E and prior to construction					

Avoidance, Minimization, and/or Mitigation Measures

No measures are required.

Paleontology

Project Features

Task and Brief Description	Responsible Branch/Staff	Timing/Phase	NSSP Req.	Action Taken to Comply with Task	Task Completed Initials/Date	Remarks	Environmental Compliance Initials/Date
PF-PAL-1 If unanticipated paleontological resources are discovered, all work within 60 feet of the discovery must cease and the construction Resident Engineer will be notified. Work cannot continue near the discovery until authorized.	Caltrans Resident Engineer, Caltrans Archaeologist	During construction					

Avoidance, Minimization, and/or Mitigation Measures

Task and Brief Description	Responsible Branch/Staff	Timing/Phase	NSSP Req.	Action Taken to Comply with Task	Task Completed Initials/Date	Remarks	Environmental Compliance Initials/Date
PALEO-1* Prior to construction, or initiated at the 65 percent plans, specification and estimate (PS&E) design phase per Caltrans process, a Paleontological Mitigation Plan (PMP) will be prepared. It should provide recommended monitoring areas based on proposed construction activities and locations in sensitive geologic formations, depth of excavation, and results of geotechnical studies completed in the Area of Project Disturbance (APD) and immediate vicinity; a description of a worker training program; detailed procedures for monitoring, fossil recovery, laboratory analysis, and museum curation; notification procedures in the event of a fossil discovery by a paleontological monitor or other project personnel; and a potential cost estimate for mitigation. A curation agreement with a qualified repository with a curator on staff and retrievable storage will be required if paleontological specimens requiring preservation are identified.	Caltrans Archaeologist, Caltrans Project Engineer/Office Engineer, and Resident Engineer	During PS&E					
PALEO-2* Construction monitoring should initially be implemented for excavations occurring in areas of sediments with paleontological high sensitivity, with the exception of pile-driving activities and drilling using an auger bit that is less than 3 feet in diameter. Excavations in areas of low sensitivity sediments should be periodically spot checked when impacted depths exceed 5 feet to check for the presence of underlying older, high sensitivity deposits unless the depth to underlying sensitive sediments can be determined more precisely during the geotechnical review conducted during preparation of the PMP. If it is determined that only Quaternary young alluvial fan deposits (low paleontological potential), Quaternary young wash deposits (low paleontological potential), Quaternary young landslide deposits (low paleontological potential), or artificial fill (low paleontological potential) is impacted, monitoring and spot checking should be reduced or halted at the direction of the Principal Paleontologist. Quaternary young alluvial fan, wash, and landslide sediments and artificial fill should not be monitored. However, any potential fossils in these sediments that are unearthed during construction should be evaluated by the Principal Paleontologist as described in the PMP.	Caltrans Archaeologist, Caltrans Project Engineer, and Resident Engineer	During construction and post construction (if necessary)					

Hazardous Waste/Materials

Project Features

Task and Brief Description	Responsible Branch/Staff	Timing/Phase	NSSP Req.	Action Taken to Comply with Task	Task Completed Initials/Date	Remarks	Environmental Compliance Initials/Date
PF-HAZ-1 An ADL survey consisting of the collection of shallow subsurface soil samples should be conducted within the project limits, adjacent to the current right-of-way, by a certified specialist during the PS&E phase. The survey is required to determine if special handling is required pursuant to Soil Management Agreement for Aerially Deposited Lead-Contaminated Soils effective July 1, 2016, or as otherwise updated. ADL sampling should be completed for incorporation into the construction bid documents.	Caltrans Project Engineer, Certified Specialist	During PS&E					
PF-HAZ-2 Testing and removal requirements for yellow striping should be conducted in accordance with Caltrans Construction Manual Chapter 7-107E and by a certified specialist during the next phase of the project (PS&E).	Caltrans Project Engineer, Certified Specialist	During PS&E					
PF-HAZ-3 If demolition or modification of any structure is required, a comprehensive lead-based paint (LBP) survey and LBP survey shall be completed prior to demolition of any structures. The surveys should be conducted by a certified specialist during the next phase of the project (PS&E). If asbestos-containing materials (ACMs) are identified during an ACM survey, ACMs should be abated in accordance with State and federal laws prior to demolition.	Caltrans Resident Engineer, Certified Specialist	During PS&E and construction (if necessary)					
PF-HAZ-4 Should such materials be encountered during construction, construction activities would be stopped; and further investigation would be completed in accordance with Caltrans Construction Manual for discovery of unknown contamination.	Caltrans Project Engineer/Resident Engineer	During construction					
PF-HAZ-5 If it is determined that disturbance of or within the vicinity of the hazardous materials pipelines is required, additional assessment may be warranted. During the Plans, Specifications, and Estimates (PS&E) phase, the owner of the HVL product pipeline will be contacted to evaluate potential design impacts at that time. All activities will be conducted in accordance with the DOD Final Pipeline Construction and Repair Requirements Manual.	Caltrans Project Engineer	During PS&E					
PF-HAZ-6 If it is determined that ground disturbance within the Southern Pacific Railroad right-of-way is required, additional assessment may be warranted to identify contaminants and potential hazards.	Caltrans Project Engineer	During PS&E					

Air Quality

Project Features

Task and Brief Description	Responsible Branch/Staff	Timing/Phase	NSSP Req.	Action Taken to Comply with Task	Task Completed Initials/Date	Remarks	Environmental Compliance Initials/Date
PF-AQ-1 The construction contractor must comply with the Caltrans' Standard Specifications in Section 14-9 (2015). Section 14-9-02 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.	Caltrans Resident Engineer	During PS&E and construction					
PF-AQ-2 Water or dust palliative will be applied to the site and equipment as often as necessary to control fugitive dust emissions.	Caltrans Resident Engineer	During construction					
PF-AQ-3 Soil binder will be spread on any unpaved roads used for construction purposes, and on all project construction parking areas.	Caltrans Resident Engineer	During construction					
PF-AQ-4 Trucks will be washed as they leave the right-of-way as necessary to control fugitive dust emissions.	Caltrans Resident Engineer	During construction					
PF-AQ-5 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.	Caltrans Resident Engineer	During construction					
PF-AQ-6 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.	Caltrans Resident Engineer	During PS&E and construction					
PF-AQ-7 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.	Caltrans Resident Engineer	During construction					
PF-AQ-8 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.	Caltrans Resident Engineer	During PS&E and construction					
PF-AQ-9 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.	Caltrans Resident Engineer	During construction					
PF-AQ-10 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	During construction					
PF-AQ-11 Dust and mud that are deposited on paved, public roads due to construction activity and traffic will be promptly and regularly removed to reduce particulate matter emissions.	Caltrans Resident Engineer	During construction					
PF-AQ-12 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.	Caltrans Resident Engineer	Prior to and during construction					
PF-AQ-13 Mulch will be installed or vegetation planted as soon as practical after grading to reduce windblown particulate in the area.	Caltrans Resident Engineer	During construction					

Avoidance, Minimization, and Mitigation Measures

No measures are required.

Noise

Project Features

Task and Brief Description	Responsible Branch/Staff	Timing/Phase	NSSP Req.	Action Taken to Comply with Task	Task Completed Initials/Date	Remarks	Environmental Compliance Initials/Date
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) one-hour A-weighted equivalent continuous sound level (Leq(h)) at a distance of 50 feet. In addition, the Contractor would equip all internal combustion engines with a manufacturer-recommended muffler and will not operate any internal combustion engine on the job site without the appropriate muffler.	Caltrans Project Engineer/Caltrans Resident Engineer	During PS&E and construction					
PF-N-2 Noise Barrier No. 1.1 was determined to be feasible and reasonable. This noise barrier will be considered for construction. The final decision on construction of the noise barrier will be made during final design.	Caltrans Resident Engineer	During PS&E					

BIOLOGICAL ENVIRONMENT

Natural Communities

Project Features

No project features are required.

Avoidance, Minimization, and/or Mitigation Measures

No measures are required.

Wetlands and Other Waters

Project Features

Pursuant to the SAMP, the NCCP/HCP required standard Best Management Practices, shown below, to be implemented for drainage features F-1, F-13, F-29, F-30, F-31 and F-32. No additional project features are required.

NCCP/HCP Measures

Task and Brief Description	Responsible Branch/Staff	Timing/Phase	NSSP Req.	Action Taken to Comply with Task	Task Completed Initials/Date	Remarks	Environmental Compliance Initials/Date
PF-BIO-1 Dewatering/Water Diversion (NCCP/HCP Required) Construction activities in special aquatic resources will be restricted to the dry season (June 1 through October 15) when possible. However, open or flowing water may be present during construction. If construction occurs where there is open or flowing water, a strategy that is approved by the resource agencies (e.g., USACOE, CDFW's Lake and Streambed Alteration Program, and RWQCB), such as the creation of cofferdams, will be used to dewater or divert water from the work area. If cofferdams are constructed, implementation of the following cofferdam or water diversion measures is recommended to avoid and lessen aquatic resources impacts during construction: • The cofferdams, filter fabric, and corrugated steel pipe are to be removed from the creek bed after completion of the project. • The timing of work within all channelized waters is to be coordinated with the regulatory agencies. • The cofferdam is to be placed upstream of the work area to direct base flows through an appropriately sized diversion pipe. The diversion pipe will extend through the contractor's work area, where possible, and outlet through a sandbag dam at the downstream end. • Sediment catch basins immediately below the construction site are to be constructed when performing in-channel construction to prevent silt- and sediment-laden water from entering the mainstream flow. Accumulated sediments will be periodically removed from the catch basins.	Caltrans Resident Engineer	During construction					
PF-BIO-2 Stormwater and Water Quality Best Management Practices (NCCP/HCP Required) • Silt Fence. A silt fence is made of a filter fabric that has been entrenched, attached to supporting poles, and sometimes backed by a plastic or wire mesh for support. The silt fence detains sediment-laden water, promoting sedimentation behind the fence. • Fiber Rolls. A fiber roll consists of straw, coir, or other biodegradable materials bound into a tight tubular roll and wrapped by netting, which can be photodegradable or natural. Fiber rolls with plastic netting that poses a wildlife entanglement hazard will not be used. Fiber rolls used for erosion control will be certified as free of noxious weed seed. When fiber rolls are placed at the toe and on the face of slopes along contours, they intercept runoff, reduce its flow velocity, release the runoff as sheet flow, and provide removal of sediment from the runoff. By interrupting the length of a slope, fiber rolls can also reduce sheet and rill erosion until vegetation is established. • Gravel Bag Berms. A series of gravel-filled bags are placed on a level contour to intercept sheet flows. Gravel bags pond sheet flow runoff, allowing sediment to settle out and release runoff slowly as sheet flow, preventing erosion. • Preservation of Existing Vegetation. Carefully planned preservation of existing vegetation minimizes the potential removal or injury to existing trees, vines, shrubs, and grasses that protect soil from erosion. • Stockpile Management. Stockpile management procedures and practices are designed to reduce or eliminate air and stormwater pollution from stockpiles of soil, paving materials such as Portland cement concrete rubble, asphalt concrete, asphalt concrete rubble, aggregate base, aggregate subbase or pre-mixed aggregate, asphalt minder (so called "cold mix" asphalt), and pressure-treated wood.	OCTA HCP/NCCP Manager/Caltrans Project Engineer/Caltrans Resident Engineer	During PS&E, prior to construction, during construction, and post-construction					

Task and Brief Description	Responsible Branch/Staff	Timing/Phase	NSSP Req.	Action Taken to Comply with Task	Task Completed Initials/Date	Remarks	Environmental Compliance Initials/Date
• Vehicle and Equipment Maintenance. Contamination of stormwater resulting from vehicle and equipment maintenance can be prevented or reduced by running a "dry and clean site." The best option would be to perform maintenance activities at an offsite facility. If this option is not available then work should be performed in designated areas only, while providing cover for materials stored outside, checking for leaks and spills, and containing and cleaning up spills immediately. Employees and subcontractors must be trained in proper procedures. As a covered project under the NCCP/HCP, the proposed Project will implement the Caltrans State Storm Water Management Plan (SWMP) and will provide guidance for compliance with the NPDES Permit requirement for discharge. As part of the Project Delivery Stormwater Management Program described in the SWMP, selected Construction Site, Design Pollution Prevention, and Treatment BMPs would be incorporated into the proposed Project. Compliance with the standard requirements of the SWMP for potential short-term (during construction) and long-term (post construction) impacts would avoid or minimize potential substantial impacts on water quality and stormwater runoff. Conformance with the SWMP will include the following: • Covered freeway improvement projects will comply with the provisions of the Caltrans Statewide NPDES Permit (Order No. 2012-0011-DWQ, NPDES No. CAS00003) and the NPDES General Permit, WDRs for Discharges of Storm Water Runoff Associated with Construction Activities (Order No. 2009-0009-DWQ, NPDES No. CAS000002), and any subsequent permit in effect at the time of construction. • A Storm Water Pollution Prevention Plan (SWPPP) will be prepared and implemented to address all construction-related activities, equipment, and materials that have the potential to affect water quality. The SWPPP will identify the sources of pollutants that may affect the quality of stormwater and include the Construction Site BMPs to control pollutants, such as sediment control, catch basin inlet protection, construction materials management, and non-stormwater BMPs. All Construction Site BMPs will follow the latest edition of the Storm Water Quality Handbooks, Project Planning and Design Guide 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-stormwater BMPs. • Caltrans-approved treatment BMPs will be implemented to the MEP consistent with the requirements of the NPDES Permit, Statewide Storm Water Permit, and WDRs for Caltrans Properties, Facilities, and Activities (Order No. 2012-0011-DWQ, NPDES No. CAS000003). Treatment BMPs will include, for example, biofiltration strips/swales, infiltration basins, detention devices, dry weather flow diversion, Gross Solids Removal Devices (GSRDs), media filters, and wet basins. Final determination regarding the selection of treatment BMPs will occur during the design phase. • Design Pollution Prevention 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, oversize drains, flared end sections, and outlet protection/velocity dissipation devices. • Construction site dewatering must conform to the General Waste Discharge Requirements for Discharges to Surface Waters that Pose an Insignificant (de minimus) Threat to Water Quality (Order No R8-2009-0003, National Pollutant Discharge Elimination System No. CAG998001), and any subsequent updates to this permit at the time of construction. Dewatering BMPs must be used to control sediments and pollutants, and the discharges must comply with the WDRs issued by the Santa Ana RWQCB. Pursuant to the OCTA/Caltrans LOP Procedures the following minimization measures would be implemented at the six drainages shown above. • Soil Erosion and Siltation Controls. During project implementation, appropriate erosion and siltation controls such as siltation or turbidity curtains, sedimentation basins, and/or hay bales, or other means designated to minimize turbidity in the watercourse to prevent exceedances of background levels existing at the time of project implementation, shall be used and maintained by OCTA and/or Caltrans in effective operating condition. Projects are exempted from implementing controls if site conditions preclude their use, or if site conditions are such that the proposed work would not increase turbidity levels above the background level existing at the time of the work. All exposed soil and other fills, as well as any work below the ordinary high water mark, must be stabilized at the earliest practicable date to preclude additional damage to the project area through erosion or siltation and no later than November of the year the work is conducted to avoid erosion from storm events.							

Task and Brief Description	Responsible Branch/Staff	Timing/Phase	NSSP Req.	Action Taken to Comply with Task	Task Completed Initials/Date	Remarks	Environmental Compliance Initials/Date
• Equipment. If a personnel would not be subjected to additional, potentially hazardous conditions, heavy equipment working in or crossing wetlands must be placed on temporary construction mats (timber, steel, geotextile, rubber, etc.), or other measures must be taken to minimize soil disturbances such as using low-pressure equipment. Temporary construction mats shall be removed promptly after construction is completed. • Suitable Material. No discharge of dredged or fill material into waters of the U.S. may consist of unsuitable materials (e.g., trash, debris, car bodies, asphalt, etc.), and material discharged must be free from toxic pollutants in toxic amounts (see section 307 of the CWA). • Management of Water Flows. To the maximum extent practicable, the pre-construction course, condition, capacity, and location of open waters must be maintained for each activity, including stream channelization and storm water management activities, except as provided below. The activity must be constructed to withstand expected high flows. The activity must not restrict or impede the passage of normal or high flows, unless the primary purpose of the activity is to impound water or manage high flows. To the maximum extent practicable, the activity must provide for the retention of excess flows from the site and for the maintenance of surface flow rates from the site similar to pre-project conditions, while not increasing water flows from the project site, relocating water, or redirecting water flow beyond pre-project conditions unless it benefits the aquatic environment (e.g., stream restoration activities). • Removal of Temporary Fills and Native Revegetation of Temporary Impact Areas. Any temporary fills must be removed in their entirety and the affected areas must be returned to their pre-construction conditions, including any native riparian and/or wetland vegetation, at the conclusion of the project. To reduce the potential for erosion and to facilitate the recovery of the temporarily affected areas, the Permittee(s) shall hydroseed and re-vegetate the disturbed portions of the earthen stream banks and bottom and floodplain, as appropriate, with native, non-invasive species. Woody riparian vegetation shall be revegetated with container plantings unless other methods are coordinated with and approved by the Corps Regulatory Division. The Permittee(s) shall submit the proposed native planting palette and planting plan for review and approval by the Corps Regulatory Division at least 30 days prior to initiation of construction. The Permittee(s)shall ensure the affected areas (disturbed stream channel bottoms and banks and hydroseeded/replanted areas) are maintained and monitored for a period of two years, minimum, after completing the revegetation activities, such that less than 10 percent (absolute cover) of the areas disturbed by the project are vegetated by non-native and invasive plant species. For each project aquatic feature, the Permittee(s) shall submit to the Corps Regulatory Division a memorandum by December 15th after completion of the minimum two-year maintenance and monitoring period. The memo shall indicate for each project crossing/aquatic impact area, when temporary construction areas were recontoured to preconstruction conditions, when native planting/seeding was completed, the species and percent cover (absolute) of invasive and/or non-invasive plant species that occur onsite each year prior to treatment, and when and how many/the extent of invasive and/or non-invasive plant species that were removed that year. Implementation of the native revegetation of temporary impact areas shall commence immediately following completion of construction or, with written approval from the Corps Regulatory Division, at the beginning of the next growing season after project completion. A delay in native planting to take advantage of the appropriate season should be considered in the application phase to use established LOP procedures in order for appropriate mitigation to be considered by the Corps Regulatory Division. An increase in delay after the LOP has been issued may require a modification to the mitigation requirements and should be coordinated with Corps Regulatory Division to avoid noncompliance action. If native re-vegetation cannot start due to seasonal conflicts (e.g., impacts occurring in late fall/early winter shall not be revegetated until seasonal conditions are conducive to re-vegetation), exposed earth surfaces shall be stabilized immediately with jute-netting, straw matting, or other applicable best management practice to minimize any erosion from wind or water. Native revegetation of temporary impact areas shall be completed within 12 months of initial occurrence of project impacts to waters of the U.S. Any temporal loss of riparian/wetland/stream function caused by delays beyond the 12 months in implementation of native revegetation of temporary impact areas shall be mitigated in-kind through riparian/wetland/stream establishment, re-establishment, rehabilitation, and/or enhancement at a mitigation ratio as determined by the Corps Regulatory Division in accordance with the latest Standard Operating Procedure for Determination of Mitigation Ratios (i.e., current instructions require that the mitigation ratio is increased 0.05:1 for every month of delay). In the event that the Permittee(s) is wholly or partly prevented from revegetating temporary impact areas within the above time frame (causing temporal losses due to delays) because of unforeseeable circumstances or causes beyond reasonable control, and without the fault or negligence of the Construction Lead, including but not limited to natural disasters (e.g., earthquakes,							

Task and Brief Description	Responsible Branch/Staff	Timing/Phase	NSSP Req.	Action Taken to Comply with Task	Task Completed Initials/Date	Remarks	Environmental Compliance Initials/Date
flooding, etc.), OCTA/Caltrans may be excused by such unforeseeable cause(s) from the additional 0.05:1 per each month of delay requirement with Corps Regulatory Division approval. Any on-site native revegetation deemed infeasible as a result of such unforeseeable causes(s) will be considered a permanent impact, and will be mitigated accordingly. Additional exotic species management is required within the SAMP areas to prevent the establishment of invasive exotic vegetation. (See Special Condition 14). If the Corps Regulatory Division determines native revegetation efforts are not resulting in successful recovery of comparable, pre-project aquatic resource functions and services at any temporary impact area, the Corps may require OCTA and/or Caltrans to implement additional native revegetation activities in the treated area, and/or implement additional mitigation activities outside the treated area to ensure aquatic resource losses are minimized or offset adequately. • *Preventive Measures*. Measures must be adopted to prevent potential pollutants from entering the on-site watercourse(s). Within the project area, construction materials, and debris, including fuels, oil, and other liquid substances shall be stored in a manner as to prevent any runoff from entering aquatic areas. • *Staging of Equipment*. Staging, storage, fueling, and maintenance of equipment must be located or occur sufficiently outside of all the water bodies so that any potential spilled materials will not be able to enter any waterway or other body of water. • *Fencing of Project Limits*. The Permittee(s) shall clearly mark the limits of the workspace with flagging or similar means to ensure mechanized equipment does not enter preserved/avoided waters of the U.S. and riparian wetland/habitat areas shown on a project-specific figure attached to the LOP. Adverse impacts to waters of the U.S. beyond the Corps Regulatory Division approved construction footprint are not authorized. Such impacts could result in permit suspension and revocation, administrative, civil, or criminal penalties, and/or substantial, additional, compensatory mitigation requirements. • *Avoidance of Breeding Season*. With regard to federally listed avian species, avoidance of breeding season requirements shall be as described in Special Condition 20 below. For all other species, initial vegetation clearing in waters of the U.S. must occur between September 15 and March 15, which is outside the breeding season. Work in waters of the U.S. may occur during the breeding season between March 15 and September 15 if bird surveys indicate the absence of any nesting birds within a 50-foot radius. • *Site Inspections.* Corps personnel shall be allowed to inspect the site at any time during and immediately after project implementation. In addition, compliance inspections of all compensatory mitigation sites shall be allowed at any time. • *Posting of Conditions.* A copy of the LOP terms and conditions shall be included in all bid packages for the project and shall be available at the work site at all times during periods of work and must be presented upon request by any Corps or other agency personnel with a reasonable reason for making such a request. • *Post-Project Report.* Within 45 days of completion of impacts to waters of the U.S., as-built drawings with an overlay of waters of the U.S. that were impacted and avoided must be submitted to the Corps Regulatory Division. Post-project photographs, which document compliance with permit conditions, must also be provided. Maps and drawing submitted to the Corps Regulatory Division must comply with the Final Map and Drawing Standards for the South Pacific Division Regulatory Program, dated February 10, 2016 (http://www.spd.USACOE.army.mil/Missions/Regulatory/Public-Notices-andReferences/Article/651327/updated-map-and-drawing-standards/). • *Water Quality*. OCTA/Caltrans must obtain an individual project-specific Section 401 water quality certification from the California State Water Resource Control Board or the applicable Regional Water Quality Control Board. By Federal law, no Department of the Army permit can be issued until a Section 401 water quality certification has been issued or waived by the State Water Resource Control Board or the applicable Regional Water Quality Control Board. No Corps-regulated discharges of dredged or fill material into waters of the U.S. may proceed for a particular project until Section 401 water quality certification for that individual project is obtained or otherwise waived and provided to Corps Regulatory Division. – Endangered Species. ▪ OCTA coordinated with the USFWS and CDFW to complete an NCCP/HCP for the M2 Freeway Program projects, including those proposed to be authorized under the LOP procedures. Even with the NCCP/HCP completed and an ESA section 10 permit issued from the USFWS for impacts to							

Task and Brief Description	Responsible Branch/Staff	Timing/Phase	NSSP Req.	Action Taken to Comply with Task	Task Completed Initials/Date	Remarks	Environmental Compliance Initials/Date
covered species from covered projects, consultation between the Corps Regulatory Division or Caltrans and USFWS shall still occur pursuant to section 7 of the ESA for any "may affect" of federally listed species and/or designated critical habitat, prior to initiation of project construction. Protocol or focused surveys for listed species would be conducted as outlined in the NCCP/HCP, and the Corps Regulatory Division or Caltrans would initiate a streamlined section 7 consultation process with the USFWS for each M2 Freeway Program project that may affect federally listed species and/or designated critical habitat. For project actions that "may affect" federally listed as threatened or endangered species not covered under the NCCP/HCP, the Corps Regulatory Division or Caltrans would initiate formal or informal section 7 consultation on an individual project basis. ▪ No activity is authorized that is likely to jeopardize the continued existence of a federally listed as threatened or endangered species or a species proposed for such designation, as identified under the ESA, or which will destroy or adversely modify the critical habitat of such species. OCTA and/or Caltrans shall not begin work on the proposed activity until notified by the Corps Regulatory Division that the requirements of the ESA have been satisfied and that the activity is authorized. ▪ Where applicable, Caltrans, as assigned by Federal Highway Administration (FHWA), under the National Environmental Policy Act (NEPA) Assignment Memorandum of Understanding, should follow their own procedures for complying with the requirements of the ESA. Caltrans must provide the Corps Regulatory Division with the appropriate documentation to demonstrate compliance with those requirements. ▪ OCTA and/or Caltrans shall notify the Corps Regulatory Division if any federally listed species or designated critical habitat (or proposed for such listing or designation) might be affected or is in the vicinity of the project, or if the project is located in designated critical habitat, and shall not begin work on the proposed activity until notified by the Corps Regulatory Division that the requirements of the ESA have been satisfied and that the activity is authorized. For activities that "may affect" federally listed endangered or threatened species or designated critical habitat, the pre-construction notification must include the name(s) of the federally listed as endangered or threatened species that may be affected by the proposed work or that utilize the designated critical habitat that may be affected by the proposed work. The Corps Regulatory Division will determine whether the proposed activity "may affect" or will have "no effect" on federally listed species and/or designated critical habitat, and will notify the OCTA and/or Caltrans of the Corps Regulatory Division's determination within 45 days of receipt of a complete LOP application/preconstruction notification. In cases where the OCTA and/or Caltrans has identified federally listed species or critical habitat that might be affected or is in the vicinity of the project, and has so notified the Corps Regulatory Division, the applicant shall not begin work until the Corps Regulatory Division has provided notification the proposed activities will have "no effect" on federally listed species or critical habitat, or until the LOP has been issued. ▪ As a result of formal or informal consultation with the USFWS, the Corps Regulatory Division may add species-specific endangered/threatened species conditions to the LOP. ▪ Authorization of an activity by a Corps permit does not authorize the "take" of a federally listed as threatened or endangered species or the adverse modification of designated critical habitat of such species as defined under the ESA. In the absence of separate authorization (e.g., an ESA section 10 Permit, a Biological Opinion with "incidental take" provisions, etc.) from the USFWS, both lethal and nonlethal "takes" of protected species are in violation of the ESA. Information on the location of federally listed as threatened and endangered species and their critical habitat can be obtained directly from the offices of the U.S. USFWS and NMFS or their World Wide Web pages at http://www.fws.gov/carlsbad/ and http://www.nmfs.noaa.gov/pr/species/esa/index.htm, respectively. – *Historic Properties.* ▪ In cases where the Corps Regulatory Division determines that the activity "may affect" properties listed, or eligible for listing, on the National Register of Historic Places (NRHP), the activity is not authorized, until the requirements of section 106 of the National Historic Preservation Act (NHPA), including tribal consultation as appropriate, have been satisfied. ▪ Where applicable, Caltrans, as assigned by FHWA under the NEPA Assignment Memorandum of Understanding, should follow their own procedures for complying with the requirements of section							

Task and Brief Description	Responsible Branch/Staff	Timing/Phase	NSSP Req.	Action Taken to Comply with Task	Task Completed Initials/Date	Remarks	Environmental Compliance Initials/Date
106 of the NHPA. Caltrans must provide the Corps Regulatory Division with the appropriate documentation to demonstrate compliance with those requirements. ▪ OCTA and/or Caltrans must submit with their application information on historic properties that might be affected by the proposed work or include a vicinity map indicating the location of the historic properties or the potential for the presence of historic properties listed, or eligible for listing, on the NRHP. Assistance regarding information on the location of or potential for the presence of historic resources can be sought from the State Historic Preservation Officer (SHPO) or Tribal Historic Preservation Officer (THPO), as appropriate, and the NRHP (see 33 C.F.R. §330.4(g)). The Corps shall make a reasonable and good faith effort to carry out appropriate identification efforts, which may include background research, consultation, oral history interviews, sample field investigation, and field survey. Based on the information submitted and these efforts, the Corps shall determine whether the proposed activity has the potential to cause an effect on the historic properties. Where OCTA and/or Caltrans has identified historic properties that the activity may have the potential to cause effects and so notified the Corps, OCTA and/or Caltrans shall not begin the activity until notified by the Corps Regulatory Division either that the activity has no potential to cause effects or that consultation under section 106 of the NHPA has been completed. ▪ Section 106 consultation is not required when the Corps determines that the proposed regulated activity does not have the potential to cause effects on historic properties (see 36 C.F.R. §800.3(a)). If NHPA section 106 consultation is required to occur, the Corps Regulatory Division will notify OCTA and/or Caltrans that work may not begin until section 106 consultation is completed. ▪ OCTA and/or Caltrans should be aware that section 110(k) of the NHPA [16 U.S.C. 470h-2(k)] prevents the Corps from granting a permit or other assistance to an applicant who, with intent to avoid the requirements of section 106 of the NHPA, has intentionally significantly adversely affected a historic property to which the permit would relate, or having legal power to prevent it, allowed such significant adverse effect to occur, unless the Corps, after consultation with the Advisory Council on Historic Preservation (ACHP), determines that circumstances justify granting such assistance despite the adverse effect created or permitted by the applicant. If circumstances justify granting the assistance, the Corps is required to notify the ACHP and provide documentation specifying the circumstances, explaining the degree of damage to the integrity of any historic properties affected, and proposed mitigation. This documentation must include any views obtained from the applicant, SHPO/THPO, appropriate Indian tribes if the undertaking occurs on or affects historic properties on tribal lands or affects properties of interest to those tribes, and other parties known to have a legitimate interest in the impacts from the permitted activity on historic properties. ▪ Section 106 compliance is required for all on-going short term and long-term maintenance activities within the Agua Chinon, Aliso Creek, and Ferber Ranch Preserve mitigation areas. OCTA/Caltrans shall notify the Corps Regulatory Division at least 90 days prior to any ground-disturbing activities within 100 feet of any known cultural resources. All ground-disturbing activities within 100 feet of known cultural resources shall be avoided within or adjacent to waters of the U.S. unless specifically authorized by the Corps Regulatory Division. – *Transfer of LOPs.* If OCTA and/or Caltrans (Permittee(s)) sell(s) the property associated with an LOP, the Permittee(s) may transfer the LOP to the new owner by submitting a letter to the Corps, Los Angeles District, Regulatory Division to validate the transfer. A copy of the LOP and the name and all available contact information, including company name, addresses, telephone numbers, and e-mail address, must be attached to the letter, and the letter must contain the following statement and signature: "When the structures or work authorized by this LOP are still in existence at the time the property is transferred, the terms and conditions of this LOP, including any special conditions, will continue to be binding on the new owner(s) of the property. To validate the transfer of this LOP and the associated liabilities associated with compliance with its terms and conditions, the transferee must sign and date below." – *Compliance Certification.* Each Permittee who receives an LOP from the Corps Regulatory Division must submit a signed certification regarding the completed work and any required compensatory mitigation within 45 days after completing construction activities. The certification form must be forwarded to the Corps Regulatory Division with the LOP and will include:							

Task and Brief Description	Responsible Branch/Staff	Timing/Phase	NSSP Req.	Action Taken to Comply with Task	Task Completed Initials/Date	Remarks	Environmental Compliance Initials/Date
▪ A statement that the authorized work was done in accordance with the LOP authorization, including any general or specific conditions; ▪ A statement that any required compensatory mitigation was completed in accordance with the permit conditions; and ▪ The signature of the Permittee(s) certifying the completion of the work and compensatory mitigation.							

Avoidance, Minimization, and/or Mitigation Measures

No measures are required.

Plant Species

Project Features

No project features are required.

Avoidance, Minimization, and/or Mitigation Measures

No measures are required.

Animal Species

Project Features

No project features are required.

Avoidance, Minimization, and/or Mitigation Measures

Task and Brief Description	Responsible Branch/Staff	Timing/Phase	NSSP Req.	Action Taken to Comply with Task	Task Completed Initials/Date	Remarks	Environmental Compliance Initials/Date
BIO-1 BATS Complete preconstruction bat habitat assessment will be conducted to reevaluate the protection status for bat species potentially within the project area. Preconstruction habitat assessment will include the following: • A bat roost habitat reassessment and acoustic and emergence bat surveys should be completed throughout the Study Area within one year ahead of project implementation. • At project structures that may provide night roost habitat (Lincoln Avenue Undercrossing, Taft Avenue Undercrossing, Chapman Avenue Undercrossing, and WB SR 22 Separation), determine which species may be present and their approximate number through acoustic monitoring and exit counts. • Verify if maternity colonies are present. • Ascertain which species are using project structures for night roosting. • Determine if special conservation measures may apply based on current regulatory practices, including exclusion measures, if necessary.	Caltrans Project Biologist	During PS&E and construction					
BIO-2 MIGRATORY BIRDS To minimize impacts to potential nesting birds, the proposed Minimization Measure will implement the NCCP/HCP Nesting Bird Policy as follows: • Proposed project activities (including, but not limited to, staging and disturbances to native and non-native vegetation, structures, and substrates) should occur outside the avian breeding season, which generally runs from February 1 to September 30 (as early as January 1 for some birds) to avoid disturbance to breeding birds or destruction of the nest or eggs. Depending on the avian species present, a qualified biologist may determine that a change in the breeding season dates is warranted. • If the Construction Lead determines that avoidance of the avian breeding season is not feasible, at least two weeks prior to the initiation of project activities, a qualified biologist with experience in conducting breeding bird surveys will conduct weekly bird surveys to detect presence/absence of native bird species occurring in suitable nesting habitat that is to be directly or indirectly disturbed and (as access to adjacent areas allows) any other such habitat within an appropriate buffer distance of the disturbance area. Generally, the buffer distance should be 300 feet (500 feet for raptors); however, because the covered freeway improvement projects will generally occur along noisy freeways, a buffer distance as low as 100 feet for non-raptors could be appropriate. If a narrow buffer distance is warranted, the Construction Lead will have a qualified biologist identify the appropriate buffer distances for raptors and non-raptors and notify the Wildlife Agencies. The surveys should continue on a weekly basis, with the last survey being conducted no more than three days prior to the initiation of project activities. If a native or nesting bird species is found, the Construction Lead will do one of the following to avoid and minimize impacts on native birds and the nest or eggs of any birds: – Implement default 300-foot minimum avoidance buffers for all birds and 500-foot minimum avoidance buffers for all raptor species. The breeding habitat/nest site will be fenced and/or flagged in all directions, and this area will not be disturbed until the nest becomes inactive, the young have fledged, the young are no longer being fed by the parents, the young have left the area, and the young will no longer be impacted by the project.	Resident Engineer/ Caltrans Project Biologist	During PS&E and prior to construction					

Task and Brief Description	Responsible Branch/Staff	Timing/Phase	NSSP Req.	Action Taken to Comply with Task	Task Completed Initials/Date	Remarks	Environmental Compliance Initials/Date
– If a narrower buffer distance is determined appropriate by the qualified biologist, the Construction Lead will develop a project-specific Nesting Bird Management Plan. The site-specific nest protection plan will be developed collaboratively with Wildlife Agencies and submitted to the Wildlife Agencies, although the Wildlife Agencies will not be responsible for approving the narrower buffer distance and the Nesting Bird Management Plan. The Plan should include detailed methodologies and definitions to enable a qualified avian biologist to monitor and implement nest-specific buffers based on topography, vegetation, species, and individual bird behavior. This Nesting Bird Management Plan will be supported by a Nest Log that tracks each nest and its outcome. The Nest Log will be submitted to the Wildlife Agencies at the end of each week. – The Construction Lead may propose an alternative plan for avoidance and nesting birds for Wildlife Agencies' review and approval. – Flagging, stakes, and/or construction fencing should be used to demarcate the inside boundary of the buffer between the project activities and the nest. The Construction Lead personnel, including all contractors working on site, should be instructed on the sensitivity of the area. The Construction Lead will document the results of the recommended protective measures described above to demonstrate compliance with applicable State and federal laws pertaining to the protection of native birds. – The biological monitor will be present on site during all grubbing and clearing of vegetation to ensure that these activities remain within the project footprint (i.e., outside the demarcated buffer) and that the flagging/stakes/fencing is being maintained, and to minimize the likelihood that active nests are abandoned or fail due to project activities. The biological monitor will send weekly monitoring reports to the OCTA NCCP Administrator during the grubbing and clearing of vegetation and will notify the OCTA NCCP Administrator immediately if project activities take, possess, or needlessly destroy the nest or eggs of any bird as well as birds-of-prey and their nest or eggs. Within 48 hours of damage to an active nest or eggs or observed death or injury of birds protected under State law or the Migratory Bird Treaty Act (MBTA) (which includes, but not is limited to, the birds on the Covered Species list), OCTA will notify the Wildlife Agencies.							

Threatened and Endangered Species

Project Features

No project features are required.

Avoidance, Minimization, and/or Mitigation Measures

No measures are required.

Invasive Species

Project Features

No project features are required.

Avoidance, Minimization, and/or Mitigation Measures

Task and Brief Description	Responsible Branch/Staff	Timing/Phase	NSSP Req.	Action Taken to Comply with Task	Task Completed Initials/Date	Remarks	Environmental Compliance Initials/Date
BIO-3 INVASIVE SPECIES To minimize impacts associated with the potential to spread invasive plant species, the following environmental control measures have been incorporated into the proposed project, including avoiding the use of invasive plant material during and after construction, a weed abatement program, and litter control, as stated below: • **Weed Abatement Program.** In compliance with Executive Order 13112, and guidance from the Federal Highway Administration (FHWA), the landscaping and erosion control plans included in the project will not use species listed as invasive. A weed abatement program shall be developed for the proposed project and incorporated into the Plans, Specifications, and Estimates (PS&E) package to avoid and/or minimize the importation of non-native plant material during and after construction. At a minimum, the program shall include the following measures: – During construction, invasive plant material will be removed from the proposed project work area. All removed invasive plant material will be disposed of properly in a landfill or other suitable facility. – 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. – During construction, soil and vegetation disturbance will be minimized to the greatest extent feasible. – During construction, the Construction Contractor shall ensure that all active portions of the construction site are watered a minimum of twice daily, or more often when needed due to dry or windy conditions, to prevent excessive amounts of dust. – During construction, the Construction Contractor shall ensure that all material stockpiled is sufficiently watered or covered to prevent excessive amounts of dust. During construction, soil, gravel, and rock will be obtained from weed-free sources. – Only certified weed-free straw, mulch, and/or fiber rolls will be used for erosion control. – After construction, affected areas adjacent to native vegetation will be revegetated with plant species that are native to the vicinity as approved by the District Biologist. – After construction, all revegetated areas will avoid the use of species listed on the California Invasive Plant Council (Cal-IPC) California Invasive Plant Inventory that have a High or Moderate rating. – Erosion control and/or revegetation sites will be monitored after construction to detect and control the introduction/invasion of non-native species. The monitoring period will be determined in consultation with resource agencies. – Eradication procedures (e.g., spraying and/or hand weeding) will be outlined should an infestation occur; the use of herbicides will be prohibited within and adjacent to native vegetation, except as specifically authorized and monitored by the District Biologist. – All woody invasive species will be removed from the proposed project limits. • **Best Management Practices During Construction**. All equipment maintenance, staging, and dispensing of fuel, oil, or any other such activities will occur in developed or designated nonsensitive 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. • **Trash Control**. To avoid attacking predators of Covered Species and other sensitive species, the proposed project site will be kept as clean of debris as possible. All food-related trash items will be enclosed in sealed containers and regularly removed from the site(s). • **Invasive Species Control**. Invasive species will be removed from the project work area and controlled during construction. The use of known invasive plant species (i.e., plant species listed in California Invasive Plant Council's [Cal-IPC's] California Invasive Plant Inventory with a High or Moderate rating) will be prohibited for construction, revegetation, and landscaping activities. Project measures will be included to ensure invasive plant material is not spread from the project site to other areas by disposal	Resident Engineer/ Caltrans Project Biologist	During PS&E and construction					

Task and Brief Description	Responsible Branch/Staff	Timing/Phase	NSSP Req.	Action Taken to Comply with Task	Task Completed Initials/Date	Remarks	Environmental Compliance Initials/Date
off site or by tracking seed on equipment, clothing, and shoes. 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. All 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. Eradication strategies (i.e., weed abatement programs) will be employed should an invasion occur during construction.							

Energy

Project Features

No project features are required.

Avoidance, Minimization, and/or Mitigation Measures

No measures are required.

Climate Change (Greenhouse Gas Emissions)

Project Features

Task and Brief Description	Responsible Branch/Staff	Timing/Phase	NSSP Req.	Action Taken to Comply with Task	Task Completed Initials/Date	Remarks	Environmental Compliance Initials/Date
PF-GHG-1 Landscaping reduces surface warming and, through photosynthesis, decreases carbon dioxide (CO2). The final design plans will provide landscaping where necessary within the corridor to provide aesthetic treatment, replacement planting, or mitigation planting for the project. The landscape planting would help offset project CO2 emissions.	Caltrans Project Engineer	During PS&E					
PF-GHG-2 The final design plans will incorporate the use of energy-efficient lighting, such as light-emitting diode (LED) traffic signals, to the extent feasible. LED bulbs consume 10 percent of the electricity of traditional lights, which will also help reduce the project's CO2 emissions.	Caltrans Project Engineer	During PS&E					
PF-GHG-3 During construction, the Construction Contractor will comply with Caltrans Standard Specification Provisions that restrict idling time for lane closure during construction to 10 minutes in each direction. In addition, the Construction Contractor must comply with Title 13, California Code of Regulations Section 2449(d)(3), which was adopted by the California Air Resources Board on June 15, 2008. That regulation restricts idling of construction vehicles to no longer than five consecutive minutes. Compliance with this regulation reduces harmful emissions from diesel-powered construction vehicles.	Caltrans Resident Engineer	During construction					
PF-GHG-4 The project will incorporate the Best Available Control Technologies (BACT) as approved by Caltrans for projects during final design/construction (2030- 2032) as applicable:: • Use cement blended with the maximum feasible amount of flash or other materials (i.e., limestone) that reduce GHG emission from cement production. • Use lighter-colored pavement where feasible to increase albedo. • Use recycled water or grey water for fugitive dust control. • Employ energy- and fuel-efficient vehicles and equipment, zero- and/or near-zero emission technologies where available. • Encourage ride-sharing and carpooling for construction crews. • Use asphalt alternatives (i.e., rubberized hot-mix asphalt) to pave roadways. • Reduce construction waste and maximize the use of recycled materials (reduces consumption of raw materials, reduces landfill waste, and encourages cost savings). • Incorporate measures to reduce consumption of potable water. • Encourage improved fuel efficiency from construction equipment (examples provided below): • Maintain equipment in proper tune and working condition • Right size equipment for the job • Use equipment with new technologies Already included in GHG 4. • Construction Environmental Training: Supplement existing training with information regarding methods to reduce GHG emissions related to construction. • Encourage the use of alternative bridge construction (ABC) (reduce construction windows, use of more precast elements that in turn reduce need for additional falsework, forms, bracing, etc.) • Maximize use of recycled materials (e.g., tire rubber). • Salvage large removed trees for lumber or similar on-site beneficial uses other than standard wood-chipping. (e.g., use in roadside landscape projects or green infrastructure components). • On-site recycling of existing project features is encouraged: (e.g., MBGR, light standards, sub-base granular material, or native material that meets Caltrans specifications for incorporation into new work). • Lower the rolling resistance of highway surfaces as much as possible while still maintaining design and safety standards.	Caltrans Project Engineer	During PS&E and construction					

Task and Brief Description	Responsible Branch/Staff	Timing/Phase	NSSP Req.	Action Taken to Comply with Task	Task Completed Initials/Date	Remarks	Environmental Compliance Initials/Date
• Earthwork Balance: Reduce the need for transport of earthen materials by balancing cut and fill quantities. • Cold in-place recycling: This pavement rehabilitation treatment is used on low traffic-volume, hot mix asphalt (HMA) pavements to extend the pavement service life and to recycle natural resources. The treatment also reduces emissions and energy use associated with processing and hauling these materials. • Reduce need for electric lighting by using ultra-reflective sign materials that are illuminated by headlights.							

Avoidance, Minimization, and/or Mitigation Measures

No measures are required.

Cumulative Impacts

No Project Features, Avoidance, Minimization, or Mitigation Measures beyond those listed above are required.