Task and Brief Description	Responsible Branch / Staff	Timing / Phase	NSSP Req.	Action Taken to Comply with Task	Task Completed		Remarks	Environmental Compliance	
Farmland					Initial	Date		Initial	Date
Measure FRM-1: Caltrans will comply with Government Code Section 51293(d), ensuring that the land surface disturbed for the relocation of utilities will be restored to its original conditions.	Caltrans	Construction/ Post-Construction							
Utility/Emergency Services									
Measure UTL-1: Detailed utility coordination and verification will be required during the final design phase of the project. The locations of the utilities will not be determined until final design, in coordination with the affected utility owner.	Caltrans	Final Design Phase							
Traffic and Transportation									
Measure TRA-1: A Traffic Management Plan (TMP) should be prepared during the detailed design phase for the Build Alternative, in accordance with Caltrans requirements and guidelines. The TMP should address traffic impacts from staged construction, detours, and specific traffic handling concerns during construction of the project. The objective of the TMP is to minimize the impacts that construction activities would have on the traveling public. Traffic management strategies that require action by the construction contractor should be presented in detail in the Build Alternative's technical specifications of the bid contract, and should be considered part of the project. In implementing the TMP, Caltrans should produce and disseminate press releases and other documents, as necessary, to adequately notify and inform motorists, business community groups, local entities, emergency services, and elected officials of upcoming road closures and detours. This responsibility includes advance notification to local newspapers, television and radio stations, and emergency response providers. Caltrans construction staff should also submit weekly information regarding the daily traffic impacts to State facilities to the Caltrans District 4 Public Information Office. This information should be included in the Weekly Traffic Updates, which are dispersed to all news media outlets and other interested agencies.	Caltrans	Final Design Phase							
Visual/Aesthetics									
Measure VIS-1: Existing landscaping and other roadside vegetation removed by the Build Alternative will be replaced where proper setback exists and where feasible per Caltrans policy. Replacement planting would be accomplished as a separate contract, funded from the parent roadway contract, and would include a three-year plant establishment period. Landscape plans shall be developed during the final design phases and be approved by Caltrans.	Caltrans/ Contractor	Final Design Phase							
Measure VIS-2: Replacement landscaping within the designated Landscaped Freeway location between post miles 15.52 and 16.27 (between the Cordelia Truck Scales and Abernathy Road overcrossing) and post miles 17.03 and 19.71 (from just west of the West Texas Street undercrossing to the Air Base Parkway overcrossing) will be designed such that the criteria for the Landscaped Freeway will be maintained. In these areas, planting must be continuous (no gaps ≥ 200 feet), ornamental (not functional), a least 1,000 feet long, on at least one side of the freeway, and require reasonable maintenance.	Caltrans/ Contractor	Final Design Phase							
Measure VIS-3: To reduce the visual impact of new retaining walls, aesthetic treatments consisting of color, texture and/or patterning will be applied to reduce visual impacts. The aesthetic treatment shall be context sensitive to the location and be compatible with existing walls in the project area. If concrete drainage ditches are required along the top of and behind the retaining walls, the ditch should be stained to match the overall color of the wall. Necessary earthwork shall include slope rounding and contour grading where feasible. Aesthetic treatments shall be developed during the final design phases and be approved by Caltrans.	Design Engineer	Final Design Phase							
Measure VIS-4: Where required, retaining wall cable safety railing should have black or brown vinyl cladding to make them less obtrusive and help them blend with the setting.	Design Engineer	Final Design Phase							
Measure VIS-5: Concrete safety-shaped barriers should be sand blasted to a medium finish to minimize glare and deter graffiti. Barriers at the bottom of retaining walls should be stained to match the overall wall color if deemed appropriate by the Office of Landscape Architecture during the design phase.	Design Engineer	Final Design Phase							
Measure VIS-6: As directed by Caltrans, appropriate light and glare screening measures will be used at the Construction Staging Areas including the use of downward cast lighting.	Caltrans/ Contractor	During Construction							

Task and Brief Description	Responsible Branch / Staff	Timing / Phase	NSSP Req.	Action Taken to Comply with Task	Task Completed		Remarks	Environmental Compliance	
Cultural Resources									
Measure CUL-1: If cultural materials are discovered during construction, all earth-moving activity within and around the immediate discovery area will be diverted until a qualified archeologist can assess the nature and significance of the find. Additional study or survey will be needed if the project design changes or project limits are extended beyond the present survey limits.	Contractor	During Construction							
Measure CUL-2: If human remains are discovered, 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 contacted. Pursuant to Public Resources Code Section 5097.98, if the remains are thought to be Native American, the coroner will notify the Native American Heritage Commission (NAHC) who will then notify the Most Likely Descendent (MLD). At this time, the person who discovered the remains will contact District 4 Environmental Branch so that they may work with the MLD on the respectful treatment and disposition of the remains. Further provisions of PRC 5097.98 are to be followed as applicable.	Contractor	During Construction							
Measure CUL-3: Per the ESA Action Plan, unintentional adverse effects on archeological resources will be avoided by establishing ESAs around the known archaeological site boundaries within the APE. A summary of the ESA Action Plan tasks are outlined below. Caltrans shall inform interested Native Americans about the proposed project activities and the ESA Action Plan prior to construction. • The Caltrans Archeologist will review the final design package to ensure that the ESAs are appropriately included in the plans and specifications, and can clearly guide construction, and will notify the appropriate Native American group. • At least three weeks in advance, the Caltrans Resident Engineer and Archaeologist will coordinate to clearly delineate and install the ESAs, as specified in the design package. The Caltrans Archeologist will supervise and monitor ESA fence installation. • Prior to construction workers shall be informed of the ESAs and expectations. The ESAs will be discussed during a pre-construction meeting. The importance of the ESAs will be discussed with construction personnel and it will be stressed that no construction activity (including storing or staging of equipment or materials) should occur within an ESA and that workers must remain outside of the ESAs at all times. Construction personnel will be informed of historic preservation laws that protect archaeological sites against any disturbance or removal of artifacts. The ESA boundaries, expected activities, and equipment should be defined. Workers should be educated about what cultural materials might be encountered, to stop work if any are encountered, and how to communicate with the Caltrans Archeologist. • The Caltrans Archeologist will be notified when construction begins and will inspect the construction area on a periodic basis to ensure that the ESAs are not breached. • The Resident Engineer will inform the Caltrans Archeologist when construction is finished. The Contractor, under supervision of the Caltrans Archeologist, will remove temporary ESA fencing at the conclusion of construction.	Caltrans Archaeologist	Pre-Construction/ During Construction							

Task and Brief Description	Responsible Branch / Staff	Timing / Phase	NSSP Req.	Action Taken to Comply with Task	Task Completed		Remarks	Environmental Compliance	
Hydrology and Floodplain									
HYDR-1: Construction of the Build Alternative will be planned so as to avoid adverse effects to the natural and beneficial floodplain values to the maximum extent practicable. Any impacts to the natural and beneficial floodplain values would be reduced with re-vegetation, storm water treatment, or other requirements as designated by the relevant permits.	Design Engineer	Final Design Phase/ Pre-Construction							
Water Quality and Storm Water Runoff									
Measure WQ-1: Pursuant to the Construction General Permit, A Storm Water Pollution Prevention Program (SWPPP) would be developed for the project and would comply with the Caltrans SWMP which includes guidance for Design staff to include special provisions in construction contracts to include measures to protect sensitive areas and to prevent and minimize storm water and non-storm water discharges. The SWPPP would reference the Caltrans Construction Site BMPs Manual. This manual is comprehensive and includes many other protective measures and guidance to prevent and minimize pollutant discharges. **Table 2.2-8** outlines temporary BMPs to be implemented, at a minimum. Further evaluation of the BMPs necessary for the Build Alternative to comply with the permits and other regulatory agency requirements would be detailed during the final design phase. Refer to **Section 2.2.2**, Water Quality and Storm Water Runoff for more detail.	Caltrans/ Contractor	During Construction							
Measure WQ-2: The drainage and landscape elements listed below can be utilized as design pollution prevention BMPs for the Build Alternative, as specified by the Design Engineer. The following elements would be considered during the final design phase: • Consideration of downstream effects related to potentially increased flow: The Build Alternative would discharge into unlined ditches; therefore, necessary erosion control would be applied to the ditches to minimize erosion downstream from potentially increased discharge. • Preservation of existing vegetation: Preserving existing vegetation is beneficial. The Build Alternative would avoid any disturbance beyond what will be necessary to widen the existing transportation facilities. • Concentrated flow conveyance systems: The Build Alternative has the potential to create water gullies, create and modify existing ditches, dikes, and berms, and require the concentration of surface flows. If necessary, flow attenuating devices would be implemented (e.g., flared-end-section, outlet protection/velocity dissipation devices). • Slope/Surface Protection Systems: The Build Alternative would create or modify existing slopes. Necessary erosion control features would be incorporated for work along steep grades. When practicable, slope stability and erosion concerns would be reduced by maintaining or matching existing slopes. • Hydromodification: In order to manage hydromodification, volume-reduction elements may be proposed during the design phase to match, or closely match, the pre- and post-construction hydrographs. Measures to address hydromodification impacts can include structural measures, such as underground detention, and non-structural measures, through the modification of proposed treatment BMPs (see **Measure WQ-3**). The proposed measures must be designed to show that storm water runoff discharge rates and durations match the pre-project conditions within a certain percentage of the peak flow rates during storm events. All creek crossings along the project limits were determined to have a “low risk” for hydromodification, with the exception of Soda Springs Creek, which was determined to have a “moderate risk” for hydromodification. Measures to address hydromodification should be prioritized at Soda Springs Creek, and considered at all the low risk receiving waters. If hydromodification measures are difficult to implement, and the receiving water bodies are “low risk,” then an exemption may be granted, at the discretion of the RWQCBs. A complete hydromodification susceptibility assessment and negation with the RWQCBs will be conducted during the final design phase.	Caltrans	Final Design Phase							

Task and Brief Description	Responsible Branch / Staff	Timing / Phase	NSSP Req.	Action Taken to Comply with Task	Task Completed		Remarks	Environmental Compliance	
Measure WQ-3: Typical permanent treatment BMPs may include infiltration device such as vegetated basins and/or swales along the roadways that collect storm water runoff. The basins allow pollutants to settle and filter out prior to the storm water entering the drainage systems. Caltrans has an approved list treatment BMPs that have been studied and verified to remove targeted design constituents and provide general pollutant removal. In addition, the San Francisco RWQCB suggests the use of both infiltration and retention devices for pollutant removal or reduction while promoting the effort to mimic predevelopment hydrology by reducing flow rates and velocity and allowing for groundwater recharge. Although retention devices are not currently approved Caltrans BMP devices, the feasibility and determination of preferred treatment BMP type would be coordinated to ensure both Caltrans and regional requirements are met.	Design Engineer	Final Design Phase							
Geology/Soils/Seismic/Topography									
Measure GEO-1: As part of the final design phase, Caltrans requires preparation of the geotechnical design reports that incorporate the results of additional subsurface field work and laboratory testing. Site specific subsurface soil conditions, slope stabilities, and groundwater conditions within the Build Alternative area would be verified during the preparation of these geotechnical design reports. The identification of the site specific soil conditions within the project limits would be used to determine the appropriate final design for the foundations and footings that would support the proposed Build Alternative improvements. Caltrans' standard design and construction guidelines incorporate engineering standards that address seismic risks. Proposed structures including, retaining walls, sound walls, and embankments constructed within the geologic study area would consider seismically-induced liquefaction and settlement during the final design phase. The final design phase would also include the evaluation of the Design Response Spectrum, which measures the ground motion or acceleration caused by the input of a vibration from an earthquake at a specific location and can help understand how structures would respond to earthquakes in a given place.	Design Engineer	Final Design Phase							
Measure GEO 2: With respect to worker safety during construction, OSHA requires employers to comply with hazard-specific safety and health standards. Pursuant to Section 5(a) (1) of Occupational Health and Safety Administration (OSHA), employers must provide their employees with a workplace free from recognized hazards likely to cause death or serious physical harm. Potential seismic-related hazards to workers during construction are expected to be less than substantial with compliance with the OSHA and compliance with Caltrans' standard design and construction guidelines.	Contractor	During Construction							

Task and Brief Description	Responsible Branch / Staff	Timing / Phase	NSSP Req.	Action Taken to Comply with Task	Task Completed		Remarks	Environmental Compliance	
Paleontology									
Mitigation Measure PAL-A: During the final design phase of the project, a qualified professional paleontologist would be retained to both design a monitoring and mitigation program, and implement the program during project-related excavation and earth disturbance activities. The paleontological resource monitoring and mitigation program would include: • preconstruction coordination • construction monitoring • emergency discovery procedures • sampling and data recovery, if needed • preparation, identification, and analysis of the significance of fossil specimens salvaged, if any • museum storage of any specimens and data recovered • reporting This program will be described in the Paleontological Monitoring Program (PMP), which will be prepared by the qualified professional paleontologist during the design phase of the project. The PMP will also describe fieldwork and laboratory methods; curation requirements; report format, content, and distribution; and proposed staff and their qualifications. Prior to the start of construction, the professional paleontologist would conduct a field survey of exposures of sensitive geological units within the construction footprint that would be disturbed. Earth-moving construction activities would be monitored and inspected for the presence of potentially fossiliferous sediments. Ground disturbance and earth-moving activities will only require paleontological mitigation if they will impact a geologic unit of high potential to produce significant fossils either because that unit occurs at the surface or excavation could encounter it at depth. Activities that occur solely within units with low potential to produce significant fossils (i.e., Guinda, Sites, and Funks formations of the Great Valley Sequence; and Holocene Alluvial deposits) and solely within previously disturbed material underlying the I-80 right-of-way, would not require mitigation. Monitoring would not need to be conducted in sediments that have been previously disturbed or in areas where exposed sediments would be buried, but not otherwise disturbed. Prior to the start of construction, construction personnel involved with earth-moving activities would be informed that fossils could be discovered during excavating, that these fossils are protected by laws, on the appearance of common fossils, and on proper notification procedures should fossils be discovered. This worker training would be prepared and presented by a qualified professional paleontologist.	Professional Paleontologist/ Contractor	Final Design Phase / Pre-Construction							

Task and Brief Description	Responsible Branch / Staff	Timing / Phase	NSSP Req.	Action Taken to Comply with Task	Task Completed		Remarks	Environmental Compliance	
Hazardous Waste/Materials									
Measure HAZ-1: During the design phase of the project, a preliminary site investigation would be performed to investigate potential hazardous materials concerns related to soil and groundwater within the project limits, as identified in the ISA. A work plan for the preliminary site investigation would be submitted to Caltrans for review and approval. Additional investigation may be required to fully evaluate potential hazardous materials issues if concerns are identified during the preliminary site investigation. The preliminary site investigation report for the project would be provided to project contractors so that the findings can be incorporated into their Health and Safety and Hazard Communication Programs. The general areas and contaminants of concern for investigating soil and groundwater are summarized further below. Based on the findings and recommendations of the preliminary site investigation, the Build Alternative may need to implement special soil, groundwater, and construction materials management and disposal procedures for hazardous materials, as well as construction worker health and safety measures during construction (see Measures **HAZ-2** through **HAZ-5**). If such implementation occurs, required coordination with the Alameda County Department of Environmental Health (ACDEH) Certified Unified Program Agency (CUPA) would occur. The ACDEH CUPA is the administrative agency that coordinates and enforces numerous local, state, and federal hazardous materials management and environmental protection programs in the county.	Design Engineer	Pre-Construction							
Measure HAZ-2: In accordance with Caltrans protocol, a site safety plan would be prepared and implemented prior to initiation of any construction/development activities to reduce potential health and safety hazards to workers and the public. In accordance with Caltrans' standard special provision related to earth work, the contractor would be notified that lead will be present in the construction area, and would be required to prepare a lead compliance plan to prevent or minimize worker exposure to lead. Caltrans soil sampling requirements for potential reuse of lead-contaminated soil are summarized further below.	Design Engineer	Pre-Construction							
Measure HAZ-3: An asbestos and lead-based paint survey would be conducted by a qualified professional for the bridge structures that are subject to demolition as part of the Build Alternative. All loose and peeling lead-based paint and asbestos-containing material would be removed prior to the demolition of the bridge structure by a certified contractor(s) in accordance with local, state, and federal requirements.	Certified Contractor/ Professional	Pre-Construction/ During Construction							
Measure HAZ-4: Yellow thermoplastic and yellow paint striping and markings on existing roadways would be analyzed for lead chromate prior to disturbance or removal in accordance with Chapter 7 of Caltrans' Construction Manual. Alternatively, yellow stripe and pavement markings may be managed in accordance with Caltrans standard special provision 14-11-07.	Contractor	Pre-Construction/ During Construction							
Measure HAZ-5: Representative soil and/or groundwater sampling would be conducted by a licensed professional to evaluate the potential presence of hazardous materials in soil and groundwater within the project limits prior to construction and earthwork activities. The sampling would be performed in accordance with the work plan that has been reviewed and approved by Caltrans. Soil samples collected would be analyzed for total lead and soluble lead to evaluate potential reuse of lead-affected soils in accordance with the Department of Toxic Substances Control's variance issued to Caltrans. Soil and groundwater analytical results would be screened against the San Francisco Bay Regional Water Quality Control Board's Environmental Screening Levels to determine appropriate actions that would ensure the protection of construction workers, future site users, and the environment, and also be screened against hazardous waste thresholds to determine soil management options. Implementation of the subsurface sampling for the entire Build Alternative alignment is anticipated to cost approximately $375,000. The soil and groundwater sampling would likely be a three-month endeavor, assuming property access and approval of the work plan is obtained in a timely fashion.	Certified Contractor/ Professional	Pre-Construction/ During Construction							

Task and Brief Description	Responsible Branch / Staff	Timing / Phase	NSSP Req.	Action Taken to Comply with Task	Task Completed		Remarks	Environmental Compliance	
Air Quality									
Measure AIR-1: Construction period to air quality effects are short-term in duration and, therefore, will not result in long-term adverse conditions. Implementation of the following measures, some of which may also be required for other purposes such as storm water pollution control will reduce any air quality impacts resulting from construction activities: • The construction contractor must comply with Caltrans' Standard Specifications in Section 14-9 (2010). 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. Section 14-9.03 is directed at controlling dust. If dust palliative materials other than water are to be used, material specifications are described in Section 18.	Contractor	During Construction							
Measure AIR-2: Water or dust palliative will be applied to the site and equipment as often as necessary to control fugitive dust emissions. Fugitive emissions generally must meet a "no visible dust" criterion either at the point of emissions or at the right-of-way line depending on local regulations.	Contractor	During Construction							
Measure AIR-3: Measures to reduce PM10, PM2.5 and diesel particulate matter from construction would be incorporated to the extent feasible to ensure that short-term health impacts to nearby sensitive receptors are avoided. These include: • All exposed surfaces (e.g., parking areas, staging areas, soil piles, graded areas, and unpaved access roads) shall be watered two times per day. • All haul trucks transporting soil, sand, or other loose material off-site shall be covered. • All visible mud or dirt track-out onto adjacent public roads shall be removed using wet power vacuum street sweepers at least once per day. The use of dry power' sweeping is prohibited. • All vehicle speeds on unpaved roads shall be limited to 15 mph. • All roadways, driveways, and sidewalks to be paved shall be completed as soon as possible. Building pads shall be laid as soon as possible after grading unless seeding or soil binders are used. • Idling times shall be minimized either by shutting equipment off when not in use or reducing the maximum idling time to 5 minutes (as required by the California airborne toxics control measure Title 13, Section 2485 of California Code of Regulations [CCR]). Clear signage shall be provided for construction workers at all access points. • All construction equipment shall be maintained and properly tuned in accordance with manufacturer's specifications. All equipment shall be checked by a certified mechanic and determined to be running in proper condition prior to operation. At a minimum, all equipment should meet the current CARB fleet standards. • Post a publicly visible sign with the telephone number and person to contact at the Lead Agency regarding dust complaints. This person shall respond and take corrective action within 48 hours. The Air District's phone number shall also be visible to ensure compliance with applicable regulations.	Contractor	During Construction							

Task and Brief Description	Responsible Branch / Staff	Timing / Phase	NSSP Req.	Action Taken to Comply with Task	Task Completed		Remarks	Environmental Compliance	
Noise									
Mitigation Measure NOI -A: Based on the studies completed to date, Caltrans intends to incorporate noise abatement in the form of the following noise barriers: • Barrier SW11, along the north side of Davis Street/Hickory Lane on-ramp to westbound I-80, with a respective length and height of 280 feet and 10 feet. Calculations based on preliminary design data show that the barrier will reduce noise levels by 7 dBA for 5 residences at a cost of $136,100. • Barrier SW12a, along the eastbound I-80 edge of shoulder, in front of the Sunset Circle Mobile Homes Complex, with a respective length and height of 1,960 feet and 14 feet. Calculations based on preliminary design data show that the barrier will reduce noise levels by 5 to 10 dBA for 28 residences at a cost of $1,194,900. If during final design conditions have substantially changed, noise abatement may not be necessary. The final decision on noise abatement will be made upon completion of the project design and the public involvement processes.	Caltrans	Final Design Phase							
Measure NOI-1: To reduce the potential for noise impacts resulting from construction activities, the following measures would be implemented during construction: • Require all construction equipment to conform to Section 14-8.02, Noise Control, of the latest Standard Specifications. Section 14-8.02 states that construction noise shall not exceed an Lmax of 86 dBA at 50 feet from job site activities between the hours of 9 p.m. to 6 a.m. • Noise-generating construction activities outside of the typical daytime hours of 7:00 a.m. to 7:00 p.m., will require contractor(s) to implement a construction noise monitoring program and, if feasible, provide additional avoidance measures as necessary (in the form of noise control blankets or other temporary noise barriers, etc.) for affected receptors. • Pile driving activities would be limited to daytime hours only, where feasible. The contractor(s) would be required to equip all internal combustion engine equipment with intake and exhaust mufflers that are in good condition and appropriate for the machines. • Unnecessary idling of internal combustion engines within 100 feet of residences would be strictly prohibited. • The contractor(s) would be required to locate stationary noise generating equipment as far as possible from sensitive receptors. • The contractor(s) would be required to utilize "quiet" air compressors and other "quiet" equipment, where such technology exists. • The contractor(s) would prepare a detailed construction plan identifying the schedule for major noise-generating construction activities and distribute this plan to adjacent noise-sensitive receptors. The construction plan would also list the construction noise reduction measures listed above, as applicable.	Contractor	During Construction							

Task and Brief Description	Responsible Branch / Staff	Timing / Phase	NSSP Req.	Action Taken to Comply with Task	Task Completed		Remarks	Environmental Compliance	
Natural Communities									
Mitigation Measure BIO-A: Compensation for impacts to 1.35 acres of oak woodland habitat will be mitigated at a replacement ratio of 2:1 within the BSA and, if needed, outside the BSA. An on-site Mitigation Monitoring Plan (MMP) for replacement of trees and shrubs will be developed by Caltrans. The MMP will specify that the mitigation plantings either will be composed of the same species and at the same ratios as those removed, or will reflect the composition and density of a reference site near the BSA. In addition, planting areas will be seeded with a native seed mixture that is similar in species and cover to what occurs in each of the oak woodland habitats. All woody plant materials will be replaced using a local native seed source. If the replacement of oak woodland habitat cannot be implemented within the BSA, or there is not a sufficient area to mitigate oak woodland tree and shrub impacts, as determined by Caltrans, acreage for oak woodland plantings will be acquired within the vicinity of the project.	Caltrans	Final Design Phase							
Mitigation Measure BIO-B: . Prior to issuance of a grading permit, Caltrans will prepare an Oak Woodland Habitat Mitigation & Monitoring Plan (HMMP) for oak woodland habitat creation. An open space or conservation easement, or other similar instrument, will be recorded on property associated with the mitigation lands to protect the created habitats' plant and wildlife resources in perpetuity. The Oak Woodland HMMP will be prepared by a qualified restoration ecologist and will provide, at a minimum, the following items: • Habitat impacts summary and proposed habitat mitigation actions • Goals of the restoration to achieve no net loss • The location of the mitigation sites and existing site conditions • Mitigation design including: • Proposed site construction schedule • Description of existing and proposed soils, hydrology, geomorphology and geotechnical stability • Site preparation and grading plan • Invasive species eradication plan, if applicable • Soil amendments and other site preparation • Planting plan (plant procurement/propagation/installation) • Maintenance plan • Monitoring measures, performance and success criteria • Monitoring methods, duration, and schedule • Contingency measures and remedial actions • Reporting measures This mitigation will be deemed complete and Caltrans released from further responsibilities when the final success criteria have been met as determined by applicable regulatory/resource agencies.	Caltrans	Permitting Phase							

Task and Brief Description	Responsible Branch / Staff	Timing / Phase	NSSP Req.	Action Taken to Comply with Task	Task Completed		Remarks	Environmental Compliance	
Wetlands and other Waters of the U.S.									
Mitigation Measure BIO-C: Compensation for permanent impacts on up to 0.17 acre of aquatic and wetland habitat will be mitigated at a replacement ratio of 1:1 (created wetlands: impacted wetlands) based on square footage offsite. These effects may be mitigated at a USACE-approved wetland mitigation bank with a service area that covers the project, such as the Elsie Gridley mitigation bank, or at a turn-key mitigation property located in close proximity to the project, such as Grizzly Bay Preserve. Temporary impacts on 1.23 acres of aquatic habitat (i.e. impacted areas not previously mitigated) will be mitigated on-site by restoring impacted areas to pre-project conditions.	Caltrans	Final Design Phase							
Mitigation Measure BIO-D: Compensatory Mitigation for Riparian Woodland Replacement. Compensation for permanent impacts to up to 0.03 acre of riparian habitat will be mitigated at a replacement ratio of 3:1 (habitat replaced: habitat lost) based on acreage offsite . These effects may be mitigated at a CDFW-approved riparian mitigation bank with a service area that covers the project, such as the Elsie Gridley mitigation bank, or at a turnkey mitigation property located in close proximity to the project, such as Grizzly Bay Preserve.	Caltrans	Final Design Phase							
Animal Species									
Mitigation Measure BIO-E: Compensatory mitigation will be provided in the form of habitat preservation and/or management if burrowing owls are located in the BSA during pre-construction surveys. The loss of foraging and nesting habitat in the project construction area will be offset by acquiring and permanently protecting suitable foraging and breeding habitat.	Caltrans	Pre-Construction							
Threatened and Endangered Species									
Mitigation Measure BIO-F: Compensatory Mitigation for the California Red-Legged Frog. Caltrans will mitigate for any permanent loss of California red-legged frog dispersal or foraging habitat at a 2:1 ratio (mitigation : impact) and any temporary loss of dispersal and foraging habitat at a 1:1 ratio on an acreage basis, estimated at approximately 1.02 acres of habitat to be preserved. Compensatory mitigation may be carried out through purchasing credits at a habitat mitigation bank and/or one or both of the following methods, in order of preference: • Establishment of a conservation easement for habitat used for California red-legged frog dispersal. • Purchase of USFWS-approved banking credits for upland dispersal habitat. • Provide funds to conservation group for aid and support of California red-legged frog conservation.	Caltrans	Final Design Phase							
Biological Measures Incorporated into the Project Design									
Measure BIO-1: Orange construction barrier fencing will be installed to identify ESAs, including oak and riparian woodlands, present within the BSA but that are to be avoided by project activities. A qualified biologist will identify sensitive biological resources adjacent to the construction area before the final design plans are prepared so that the areas to be fenced can be included in the plans. Temporary fences around the ESAs will be installed as one of the first orders of work in accordance with Caltrans specifications. Before construction, the construction contractor will work with the project engineer and a resource specialist to identify the locations for the barrier fencing and will place stakes around the sensitive resource sites to indicate these locations. The protected areas will be designated as ESAs and identified clearly on the construction plans. The fencing will be installed before construction activities are initiated, maintained throughout the construction period, and be removed after completion of construction.	Contractor/ Biologist	Final Design Phase/ Pre-Construction/ During Construction							

Task and Brief Description	Responsible Branch / Staff	Timing / Phase	NSSP Req.	Action Taken to Comply with Task	Task Completed		Remarks	Environmental Compliance	
Measure BIO-2: The following Caltrans standard BMP's shall be implemented during construction to avoid or minimize impacts on aquatic habitats: • All work within the banks of an active channel will be restricted to the dry season (June 1–October 15). • Orange construction barrier fencing will be installed to identify environmentally sensitive areas (ESAs), including aquatic and wetland habitat, present within the BSA but that are to be avoided by project activities. A qualified biologist will identify sensitive biological resources adjacent to the construction area before the final design plans are prepared so that the areas to be fenced can be included in the plans. • Temporary fences around the ESAs will be installed as one of the first orders of work in accordance with Caltrans specifications. Before construction, the construction contractor will work with the project engineer and a resource specialist to identify the locations for the barrier fencing and will place stakes around the sensitive resource sites to indicate these locations. The protected areas will be designated as ESAs and identified clearly on the construction plans. The fencing will be installed before construction activities are initiated, maintained throughout the construction period, and removed only after completion of construction. • Caltrans will implement BMPs as recommended or required by the State Water Quality Control Board to protect water quality. These measures will include, but are not limited to the following: • No debris, soil, silt, sand, bark, slash, sawdust, cement, concrete, washings, petroleum products or other organic or earthen material will be allowed to enter into or be placed where it may be washed by rainfall or runoff into waters of the U.S./State or aquatic habitat. • No equipment will be operated in the live stream channel. • Equipment staging and parking areas will occur within established access areas in upland habitat above the top of bank. • Machinery or vehicle refueling, washing, and maintenance will occur at least 60 feet from the top-of-bank. Equipment will be regularly maintained to prevent fluid leaks. Any leaks will be captured in containers until the equipment is moved to a repair location. • A spill prevention and response plan will be prepared prior to construction and will be implemented immediately for cleanup of fluid or hazardous materials spills. • Standard erosion control and slope stabilization measures will be required for work performed in any area where erosion could lead to sedimentation of a water body. • Caltrans will provide a dewatering and diversion plan for agency approval as needed.	Caltrans/ Contractor	During Construction							
Measure BIO-3. A Worker Environmental Awareness Training (WEAT) program will be given by a qualified biologist before the onset of to explain to construction personnel how best to avoid the accidental take of steelhead and Chinook salmon and the valley elderberry longhorn beetle. The biologist will conduct a training session that will be scheduled as a mandatory informational field meeting for contractors and all construction personnel. Handouts, illustrations, photographs, and/or project mapping showing areas where minimization and avoidance measures are being implemented will be included as part of this worker awareness program. Upon completion of the program, employees will sign a form stating that they attended the training session and understand all the conservation and protection measures.	Caltrans/ Contractor	Pre-Construction							
Measure BIO-4. All work within a low-flow channel associated with the construction of the Ulatis and Horse creek bridge modifications will occur during the dry season (June 1to October 15). During this time, drainage flows in Ulatis and Horse creeks are expected to be at annual lows, and it is possible that the drainages may be completely dry; during this time, steelhead and Chinook are expected to be absent from the reaches of Ulatis and Horse creeks within the BSA.	Caltrans/ Contractor	During Construction							
Measure BIO-5. When work in a flowing stream is unavoidable and before work commences, any stream flow will be diverted around the work area by a barrier/cofferdam, temporary culvert, or a new channel capable of permitting upstream and downstream fish movement. The material used to construct the cofferdams will be clean material, contained, for example in sacks, and placed over plastic or filter fabric (or like material) so it can be completely removed from the streambed and preserve existing riverbed substrate. Construction of the barrier/cofferdam or the new channel will normally begin in the downstream area and continue in an upstream direction and the flow will be diverted only when construction of the diversion is completed.	Caltrans/ Contractor	During Construction							
Measure BIO-6. During construction activities that involve physical modification of any bridge over aquatic habitat, netting or other structures will be installed under the existing bridge to prevent debris from entering the channel, as such debris could degrade water quality downstream and potentially injure steelhead or Chinook salmon (e.g., when work on the bridge deck is occurring during the wet season).	Caltrans/ Contractor	During Construction							

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Measure BIO-7. If flow is present in the drainage when in-water construction is scheduled to occur, a qualified biologist will be present to monitor all activities involving the placement of fill in the drainage, including any cofferdam construction. The biologist will inspect the area where the cofferdam will be constructed prior to construction and will ensure that any fish have vacated the cofferdam area before in-water work begins. A water diversion plan will be developed and submitted to resource agencies prior to construction start. Once all fish have moved out of the work area, the cofferdam will be completed so that fish cannot re-enter this area.	Contractor/ Biologist	During Construction							
Measure BIO-8. If at any time an individual steelhead or Chinook salmon appears to be at risk of injury or mortality due to project-related activities, all work will stop until Caltrans has consulted with NMFS to determine a means of avoiding impacts on the individual(s).	Caltrans	During Construction							
Measure BIO-9. In order to avoid and minimize project impacts on badgers, a qualified mammalogist will conduct pre-construction surveys for badger dens non-native annual grassland throughout the BSA, within two weeks prior to groundbreaking. Because badger dens, if present, are most likely to occur in open grassland and ruderal habitats, this survey could be conducted in conjunction with the preconstruction survey for burrowing owls.	Caltrans/ Mammalogist	Pre-Construction							
Measure BIO-10. If an active badger maternity den is located, the mammalogist will determine the size of a construction-free buffer that will be maintained around the den to avoid impacts on the den during the pupping season (i.e., February 15 through July 1, or as otherwise determined through surveys and monitoring of the den), in consultation with the CDFW.	Contractor/ Mammalogist	During Construction							
Measure BIO-11. If an active den is found outside of the pupping season, the badger will be evicted by excavation of the den using hand tools, in consultation with the CDFW and under the supervision of a qualified biologist. These precautionary measures will ensure that no active pupping dens are impacted by the project.	Contractor/ Biologist	During Construction							
Measure BIO-12. A qualified biologist will conduct a pre-construction survey for western pond turtles and their nests. If a western pond turtle is found in an area where it could be injured or killed by project activities, the qualified biologist will relocate the turtle to an appropriate site outside the project area.	Caltrans/ Biologist	Pre-Construction							
Measure BIO-13. If an active western pond turtle nest is detected within the activity area, a 25-foot buffer zone around the nest will be established and maintained during the nesting season (April 1 through August 31). The buffer zone will remain in place until the young have left the nest, as determined by a qualified biologist.	Contractor/ Biologist	During Construction							
Measure BIO-14. Following the initial survey, a qualified biologist will conduct a survey of the aquatic habitat within the activity area each morning prior to the onset of construction activities. If a turtle is located, all work in the vicinity will immediately cease, and a qualified biologist will be contacted. Work within the area will not resume until the turtle has been relocated or has moved out of the area where it could be impacted.	Caltrans/ Biologist	Pre-Construction							
Measure BIO-15. Work within 100 feet of bridges/crossings identified in Table 9 of Caltrans 2014i as providing suitable bat day roosting habitat (i.e., Laguna Creek Bridge and Soda Springs Culvert) will be avoided during the maternity season (April 1 through July 31) to the extent feasible. Outside of the maternity season, when construction activities will occur within 100 feet of the roost, the bats may be habituated enough to noise and vibration that they may tolerate the work activities and not abandon the roost. Those bats that cannot tolerate this disturbance are expected to leave the roost, dispersing to other roost habitat in the vicinity (e.g., other bridges). However, based on the bats' obvious habituation to noise and vibrations associated with existing traffic, impacts on the colony will be lower if the bats are allowed to decide whether to abandon based on their own level of tolerance than if the bats are evicted prior to work, which is assured of causing the abandonment of the entire colony. As a result, no eviction of bats is proposed for work conducted outside of the maternity season. Performing work outside of the maternity season will ensure that no non-flying young are abandoned or harmed during work activities. Further, in case the bats do disperse from the bridge when work commences, all work activities involving jackhammering within 100 feet of the roost will commence in the evening, after sunset, in order to minimize the risk of predation of bats leaving the roost. If work within 100 feet of potential day roosts sites during the maternity season cannot be avoided, the following measures will be implemented.	Contractor	During Construction							

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Measure BIO-16. If jackhammering or other ground-disturbing activities will occur on the freeway immediately above a potential day roost, bats will be safely evicted from the potential roost site under the direction of a qualified bat biologist. Eviction activities will be performed prior to the breeding season (i.e. April 1) in the year in which project activities are scheduled to occur. Eviction of bats will occur at night to decrease the likelihood of predation (compared to eviction during the day). Evictions will occur between September 1and March 32, outside the maternity season, but will not occur during long periods of inclement or cold weather (as determined by the bat biologist) when prey are not available or bats are in torpor. Following eviction, bat exclusion devices will be installed to prevent bats from taking up occupancy of the structure prior to the onset of the proposed activity.	Contrractor/ Biologist	During Construction							
Measure BIO-17. If jackhammering or other ground-disturbing activities will not occur on the freeway immediately above the roost but will occur within 100 feet of the roost, a qualified bat biologist will determine whether the bats will be evicted, using the methods outlined in **BIO-15** and **BIO-16**, on a case-by-case basis depending on the level of disturbance that is proposed.	Contractor/ Bat Biologist	During Construction							
Measure BIO-18. Pre-construction surveys for burrowing owls will be conducted in potential habitat in conformance with the CDFW's 2012 protocol (CDFW 2012).	Biologist	Pre-Construction							
Measure BIO-19. If burrowing owls are present during the nonbreeding season, (generally 1 September 1to January 31), the approved biologist will establish a protective buffer zone in coordination with resource agencies. During the breeding season (generally 1 February 1 to August 31), a 250-foot buffer, within which no new project-related activities will be permissible, will be maintained between project activities and occupied nests. Owls present between February 1and August 31 will be assumed to be nesting unless monitoring evidence indicates that the owls are no longer nesting, or the young owls are foraging independently, or only a single owl (rather than a breeding pair) is present after 1 July and there is no evidence that young owls are present, in which case the buffer may be reduced or the owls may be relocated prior to August 31, in consultation with the CDFW.	Caltrans/ Biologist	Pre-Construction							
Measure BIO-20. If construction will directly impact occupied burrows, eviction of owls will occur in coordination with the regulatory agencies.	Caltrans/ Biologist	Pre-Construction							
Measure BIO-21. If vegetation is to be removed by the project, potential nesting substrate (e.g., bushes, trees, snags, grass, and suitable artificial surfaces) that will be disturbed should be removed during the nonbreeding season (i.e., they should be removed between September 1and February 14), if feasible, to help preclude nesting. If it is not feasible to schedule vegetation removal during the nonbreeding season, then pre-construction surveys for nesting birds will be conducted by a qualified biologist to ensure that no nests will be disturbed during project implementation. This survey will be conducted no more than seven days prior to the initiation of construction activities. During this survey, the ornithologist will inspect all trees, shrubs, and other potential nesting habitats in and immediately adjacent to the BSA for nests. If an active nest is found sufficiently close to work areas to be disturbed by these activities, the biologist, in consultation with the CDFW, will determine the extent of a buffer zone to be established around the nest, typically 300 feet for raptors and 50 feet for other birds, to ensure that no nests of species protected by the MBTA or the California Fish and Game Code will be disturbed during project implementation.	Caltrans/ Biologist	Pre-Construction							
Measure BIO-22. Alternatively, nest starts may be removed on a regular basis (e.g., every second or third day), starting in late January or early February, or measures such as exclusion netting may be placed over the existing bridges to prevent active nests (i.e., nests with eggs or young) from becoming established. Netting needs to be installed by an experienced deterrence contractor and be well maintained to prevent entanglement or entrapment of birds.	Deterrence Contractor	During Construction							
Measure BIO-23. Because the entire BSA is already subject to disturbance by vehicles, activities that will be prohibited from occurring within the buffer zone around a nest will be determined on a case-by-case basis. In general, activities prohibited within such a buffer while a nest is active will be limited to new construction-related activities (i.e., activities that were not ongoing when the nest was constructed) involving significantly greater noise, human presence, or vibrations than were present prior to nest initiation.	Contractor	During Construction							
Measure BIO-24. Before any ground-disturbing activity, orange construction barrier fencing will be installed to identify ESAs, including elderberry shrubs, present within the BSA but that are to be avoided (i.e., no ground disturbance activities will occur within 20 feet of the shrub) by project activities. The fencing will be installed at least 20 feet from the driplines of all elderberry shrubs on which direct impacts will be completely avoided. A qualified biologist will identify sensitive biological resources adjacent to the construction area before the final design plans are prepared so that the areas to be fenced can be included in the plans.	Biologist	Pre-Construction							

Task and Brief Description	Responsible Branch / Staff	Timing / Phase	NSSP Req.	Action Taken to Comply with Task	Task Completed		Remarks	Environmental Compliance	
Measure BIO-25. Temporary fences around the ESAs will be installed as one of the first orders of work in accordance with Caltrans specifications. Before construction, the construction contractor will work with the project engineer and a resource specialist to identify the locations for the barrier fencing and will place stakes around the sensitive resource sites to indicate these locations. The protected areas will be designated as ESAs and identified clearly on the construction plans. The fencing will be installed before construction activities are initiated, maintained throughout the construction period, and be removed after completion of construction.	Caltrans/ Contractor	Pre-Construction/ During Construction							
Measure BIO-26. Any damage to the buffer area during construction will be restored following construction. Restoration will include erosion control and re-vegetation with native plants as appropriate.	Caltrans/ Contractor	During Construction/ Post-Construction							
Measure BIO-27. No insecticides, herbicides, fertilizers, or other chemicals that might harm the beetle or its host plant will be used within 100 feet of any elderberry plant with one or more stems measuring 1.0 inch or greater in diameter at ground level.	Contractor	During Construction							
Measure BIO-28. Caltrans will include provisions in the construction bid documents that the contractor will implement a dust control program to limit fugitive dust emissions. The dust control program may include, but not be limited, to the following elements, as appropriate: • Water active construction sites at least twice daily. • Pursuant to California Vehicle Code, Section 23114 (State of California 2004), all trucks hauling soil and other loose material to and from the construction site will be covered or should maintain at least 2 feet of freeboard (i.e., minimum vertical distance between top of load and the trailer). • Exposed stockpiles of soil and other backfill material will be enclosed or covered, and watered twice daily or have soil binders added. • Any topsoil that is removed for the construction operation will be stored on-site in piles not to exceed 4 feet in height. These topsoil piles will be clearly marked and flagged. Topsoil piles that will not be immediately returned to use will be revegetated with a non-persistent erosion control mixture.	Caltrans/ Contractor	Pre-Construction/ During Construction							
Measure BIO-29. Caltrans will submit to the USFWS the name(s) and credentials of biologists who would conduct activities related to the California red-legged frog specified in the following measures: • A WEAT program will be given by an approved biologist before the onset of construction within potential California red-legged frog habitat to explain to construction personnel how best to avoid the accidental take of red-legged frogs. The biologist will conduct a training session that will be scheduled as a mandatory informational field meeting for contractors and all construction personnel. Handouts, illustrations, photographs, and/or project mapping showing areas where minimization and avoidance measures are being implemented will be included as part of this worker awareness program. Upon completion of the program, employees will sign a form stating that they attended the training session and understand all the conservation and protection measures. • Prior to the initiation of the pre-construction survey, a relocation plan for any California red-legged frogs found on the project site will be submitted to the USFWS for approval. • The approved biologist will perform pre-construction surveys. • A USFWS-approved biologist will be present at all times during initial disturbance of potential red-legged frog habitat to monitor for red-legged frogs. • All construction pipes, culverts, or similar structures that are stored at the site within suitable red-legged frog habitat for one or more overnight periods will be either securely capped prior to storage or thoroughly inspected by the approved biologist or on-site monitor before the pipe is subsequently buried, capped, or otherwise used or moved in any way. If a California red-legged frog is discovered inside a pipe, the approved biologist will move the animal to an approved location, as described above. • During project activities, all trash that may attract predators will be properly contained, removed from the work site, and disposed of regularly. Following construction, all trash and construction debris will be removed from work areas. • A qualified biologist will permanently remove any individuals of exotic species.	Caltrans	Pre-Construction							

Task and Brief Description	Responsible Branch / Staff	Timing / Phase	NSSP Req.	Action Taken to Comply with Task	Task Completed		Remarks	Environmental Compliance	
Measure BIO-30. If construction-related work is conducted outside the nesting period (February 1 through August 31), potential impacts on active nests of Swainson's hawks will be avoided. If it is not feasible to schedule construction during the nonbreeding season, the following measures will be implemented. • A pre-construction survey for nesting Swainson's hawks within 0.25 miles of the BSA will be conducted within 15 days prior to the initiation of construction activities; this survey will be conducted by a qualified biologist. If an active Swainson's hawk nest is detected, the following measure will be implemented. • To reduce the potential for Swainson's hawks to abandon their nest or territory due to construction disturbance during their reproductive period, if nesting Swainson's hawks are present, a buffer free from new disturbance will be established within a 600-foot radius of the nest. No new project-related activities (i.e., activities that were not already ongoing when the nest was established, or that are of a substantially greater intensity than when the nest was established) will be undertaken within the buffer. In some cases (e.g., if the construction is not visible from the nest site), it is possible that a lesser buffer would be adequate to avoid disturbance of the nesting Swainson's hawks, but such a variance would require approval of the CDFW. In such a case, the biologist and agency personnel will agree on a reduced buffer, and the biologist will monitor the behavior of the nesting birds during the two days immediately prior to the onset of construction activities within 0.25 miles of the nest to establish a behavioral baseline. The biologist will also monitor the behavior of the nesting birds during the first full day of construction activity within 0.25 miles of the nest. The biologist will look for signs of stress such as repeated alarm calls, agitated behavior, or departure of the birds from the nest. If the birds do not show signs of habituation to the new disturbance by resuming their normal nesting activities, work within the vicinity of the nest will stop and the CDFW will be consulted to refine the buffer determination. If the birds continue their normal activities, the biologist will inspect the nest site every one to two days (the frequency determined in consultation with the CDFW) for as long as the nest is active and work is ongoing within the reduced buffer to confirm that the birds are tolerant of the construction activities. Any required buffer will remain in place until young are no longer dependent on the nest, or until the nesting attempt fails (for reasons other than project activities) and it is determined that the birds will not attempt to re-nest. A qualified biologist will determine through direct observation when the nest is no longer in use (e.g., if the young have fledged or the nesting fails for non-project-related reasons). Constant monitoring of the nest is not necessary, but before construction activities occur within the agreed-upon buffer, the biologist must have confirmed that the nest is no longer active.	Biologist	Pre-Construction							
Measure BIO-31. In compliance with the Executive Order on Invasive Species, EO 13112, and guidance from the Federal Highway Administration (FHWA), the landscaping and erosion control included in the project will not use species listed as invasive. In areas of particular sensitivity, extra precautions will be taken if invasive species are found in or next to the construction areas. These include the inspection and cleaning of construction equipment and eradication strategies to be implemented should an invasion occur.	Caltrans/ Contractor	Design Phase/ During Construction							
Measure BIO-32: Compliance with the Biological Opinion. Caltrans will include a copy of the biological opinion within its solicitations for design and construction of the proposed project, making the primary contractor aware of all requirements and obligations included within the biological opinion, and to educate and inform all other contractors involved in the project as to the requirements of the biological opinion. The Resident Engineer or their designee will be responsible for implementing the Conservation Measures and Terms and Conditions of the biological opinion. The Resident Engineer or their designee will maintain a copy of the biological opinion onsite whenever construction is taking place. Their name and telephone number will be provided to the USFWS at least 30 calendar days prior to groundbreaking. Prior to ground breaking, the Resident Engineer will submit a letter to the USFWS verifying that they possess a copy of the biological opinion and have read the Terms and Conditions.	Caltrans/ Resident Engineer/ Contractor	Design Phase/ During Construction							