

# Appendix E Standard Measures

Resource Area	Standard Measure Number	Standard Measure Title and Description
Air Quality	Standard Measure AQ-1	<p>Caltrans special provisions and standard specifications include the requirement to minimize or eliminate dust through application of water or dust palliatives. The following construction dust and equipment exhaust emissions measures shall be implemented when practical, during all phases of construction work:</p> <p>Control measures will be implemented as specified in Caltrans 2018 Standard Specifications Section 10-5 “Dust Control”, Section 14-9 “Air Quality” and Section 18 “Dust Palliatives”.</p> <p>The proposed project would also comply with rules and regulations pertaining to the control of fugitive dust and prevention of public nuisance published by the SMAQMD and YSAQMD.</p>
Aesthetics/ Visual Resources	Standard Measure AR-1	Aesthetic treatment (such as tribal patterns) to the bridges/guardrails/retaining walls would be included to address context sensitivity.
Aesthetics/ Visual Resources	Standard Measure AR-2	Temporary access roads, construction easements, and staging areas that were previously vegetated would be restored to a natural contour and revegetated with regionally-appropriate native vegetation.
Aesthetics/ Visual Resources	Standard Measure AR-3	Where feasible, guardrail terminals would be buried; otherwise, an appropriate terminal system would be used, if appropriate.
Aesthetics/ Visual Resources	Standard Measure AR-4	Where feasible, construction lighting would be limited to within the area of work.
Aesthetics/ Visual Resources	Standard Measure AR-5	Where feasible, the removal of established trees and vegetation would be minimized. Environmentally sensitive areas would have Temporary High Visibility Fencing (THVF) installed before start of construction to demarcate areas where vegetation would be preserved and root systems of trees protected.
Biological Resources	Standard Measure BIO-1	<b>General.</b> Before start of work, as required by permit or consultation conditions, a Caltrans biologist would meet with the contractor to brief them on environmental permit conditions and requirements relative to each stage of the proposed project, including, but not limited to, work windows, drilling site management, and how to identify and report regulated species within the project areas.

Resource Area	Standard Measure Number	Standard Measure Title and Description
Biological Resources	Standard Measure BIO-2	<p><b>Animal Species.</b></p> <ul style="list-style-type: none"> <li>A. To protect migratory and nongame birds (occupied nests and eggs), if possible, vegetation removal would be limited to the period outside of the bird breeding season (removal would occur between September 16 and January 31). If vegetation removal is required during the breeding season, a nesting bird survey would be conducted by a qualified biologist within one week prior to vegetation removal. If an active nest is located, the biologist would coordinate with CDFW to establish appropriate species-specific buffer(s) and any monitoring requirements. The buffer would be delineated around each active nest and construction activities would be excluded from these areas until birds have fledged, or the nest is determined to be unoccupied.</li> <li>B. Pre-construction surveys for active raptor nests within one-quarter mile of the construction area would be conducted by a qualified biologist within one week prior to initiation of construction activities. Areas to be surveyed would be limited to those areas subject to increased disturbance because of construction activities (i.e., areas where existing traffic or human activity is greater than or equal to construction-related disturbance need not be surveyed). If any active raptor nests are identified, appropriate conservation measures (as determined by a qualified biologist) would be implemented. These measures may include, but are not limited to, establishing a construction-free buffer zone around the active nest site, biological monitoring of the active nest site, and delaying construction activities near the active nest site until the young have fledged.</li> <li>C. To prevent attracting corvids (birds of the Corvidae family which include jays, crows, and ravens), no trash or foodstuffs would be left or stored on-site. All trash would be deposited in a secure container daily and disposed of at an approved waste facility at least once a week. Also, on-site workers would not attempt to attract or feed any wildlife.</li> <li>D. Artificial night lighting may be required. To reduce potential disturbance to sensitive resources, lighting would be temporary, and directed specifically on the portion of the work area actively under construction. Use of artificial lighting would be limited to Cal/OSHA work area lighting requirements.</li> <li>E. Protocol surveys would be performed for Swainson's hawk, burrowing owl, and giant garter snake during the breeding season for each construction season (every year of construction). If species are discovered during construction, work would stop in the area of discovery and coordination with the appropriate resource agencies would occur.</li> <li>F. An Aquatic Giant Garter Snake (GGS) Habitat Dewatering Plan would be prepared. The plan would include appropriate measures, including the identification of dewatering areas. The Contractor will dewater suitable habitat (e.g., wetlands, drainages, rice fields) and ensure the habitat remains dry for at least 15 consecutive days after April 15 and prior to excavating or filling potential habitat. Dewatering would be limited to April 15 to October 1.</li> </ul>

Resource Area	Standard Measure Number	Standard Measure Title and Description
Biological Resources	Standard Measure BIO-3	<p><b>Invasive Species.</b>                      Invasive non-native species control would be implemented. Measures would include:</p> <ul style="list-style-type: none"> <li>• Straw, straw bales, seed, mulch, or other material used for erosion control or landscaping which would be free of noxious weed seed and propagules.</li> <li>• All equipment would be thoroughly cleaned of all dirt and vegetation prior to entering the job site to prevent importing invasive non-native species. Project personnel would adhere to the latest version of the California Department of Fish and Wildlife Aquatic Invasive Species Cleaning/Decontamination Protocol (Northern Region) for all field gear and equipment in contact with water.</li> </ul>
Biological Resources	Standard Measure BIO-4	<ul style="list-style-type: none"> <li>A. Plant Species, Sensitive Natural Communities, and Environmentally Sensitive Habitat Areas.</li> <li>B. Seasonally appropriate, pre-construction surveys for sensitive plant species would be completed (or updated) by a qualified biologist prior to construction in accordance with Protocols for Surveying and Evaluating Impacts to Special Status Native Plant Populations and Natural Communities (CDFW 2018).</li> <li>C. A Revegetation Plan would be prepared which would include a plant palette, establishment period, watering regimen, monitoring requirements, and pest control measures. The Revegetation Plan would also address measures for wetland and riparian areas temporarily impacted by the project.</li> <li>D. Prior to the start of work, Temporary High Visibility Fencing (THVF) and/or flagging would be installed around sensitive natural communities, environmentally sensitive habitat areas, rare plant occurrences, intermittent streams, and wetlands and other waters, where appropriate. No work would occur within fenced/flagged areas.</li> <li>E. Where feasible, the structural root zone would be identified around each large diameter tree (&gt;2-foot DBH) directly adjacent to project activities, and work within the zone would be limited.</li> <li>F. When possible, excavation of roots of large diameter trees (&gt;2-foot DBH) would not be conducted with mechanical excavator or other ripping tools. Instead, roots would be severed using a combination of root-friendly excavation and severance methods (e.g., sharp-bladed pruning instruments or chainsaw). At a minimum, jagged roots would be pruned away to make sharp, clean cuts.</li> <li>G. After completion, all superfluous construction materials would be completely removed from the site. The site would then be restored by regrading and stabilizing with a hydroseed mixture of native species along with fast growing sterile erosion control seed, as required by the Erosion Control Plan.</li> </ul>
Community Character and Cohesion	Standard Measure COM-1*	<p><b>Public Outreach Program.</b> Caltrans will prepare and implement a planned public outreach program to keep the area residents, businesses, emergency service providers, and transit operators informed of the Project construction schedule.</p>

Resource Area	Standard Measure Number	Standard Measure Title and Description
Cultural Resources	Standard Measure CR-3	If cultural materials are discovered during construction, work activity within a 60-foot radius of the discovery would be stopped and the area secured until a qualified archaeologist can assess the nature and significance of the find in consultation with the State Historic Preservation Officer (SHPO).
Cultural Resources	Standard Measure CR-4	<p>If human remains and related items are discovered on private or State land, they would be treated in accordance with State Health and Safety Code § 7050.5. Further disturbances and activities would cease in any area or nearby area suspected to overlie remains, and the County Coroner contacted. Pursuant to California Public Resources Code (PRC) § 5097.98, if the remains are thought to be Native American, the coroner would notify the Native American Heritage Commission (NAHC) who would then notify the Most Likely Descendant (MLD).</p> <p>Human remains and related items discovered on federally-owned lands would be treated in accordance with the Native American Graves Repatriation Act of 1990 (NAGPRA) (23 USC 3001). The procedures for dealing with the discovery of human remains, funerary objects, or sacred objects on federal land are described in the regulations that implement NAGPRA 43 CFR Part 10. All work in the vicinity of the discovery shall be halted and the administering agency's archaeologist would be notified immediately. Project activities in the vicinity of the discovery would not resume until the federal agency complies with the 43 CFR Part 10 regulations and provides notification to proceed.</p>
Equity	Standard Measure EQ-1*	If a tolled lane option (Alternatives 3a, 3b, 4a, 4b, 5a, or 5b) is selected as the preferred alternative, Caltrans' future-appointed tolling authority would be required to implement a tolling program in alignment with Caltrans Language Access Plan (2020) and Deputy Directive 91-R2, which would accommodate use of toll lane options by limited English proficiency community members. Caltrans 2020 Language Access Plan lays out reasonable steps to provide limited English proficiency individuals with meaningful access to all Caltrans activities, including the provision of translation and interpretation services to the public. The tolling authority would adhere to these policies.
Geological Resources	Standard Measure GS-1	The project would be designed to minimize slope failure, settlement, and erosion using recommended construction techniques and Best Management Practices (BMPs). New earthen slopes would be vegetated to reduce erosion potential
Geological Resources	Standard Measure GS-2	In the unlikely event that paleontological resources (fossils) are encountered, all work within a 60-foot radius of the discovery would stop, the area would be secured, and the work would not resume until appropriate measures are taken.
Greenhouse Gas	Standard Measure GHG-1	Caltrans Standard Specification "Air Quality" requires compliance by the contractor with all applicable laws and regulations related to air quality (Caltrans Standard Specification [SS] 14-9).
Greenhouse Gas	Standard Measure GHG-2	Compliance with Title 13 of the California Code of Regulations, which includes restricting idling of diesel-fueled commercial motor vehicles and equipment with gross weight ratings of greater than 10,000 pounds to no more than 5 minutes.

Resource Area	Standard Measure Number	Standard Measure Title and Description
Greenhouse Gas	Standard Measure GHG-3	Caltrans Standard Specification "Emissions Reduction" ensures construction activities adhere to the most recent emissions reduction regulations mandated by the California Air Resource Board (CARB) (Caltrans SS 7-1.02C).
Greenhouse Gas	Standard Measure GHG-4	Use of a Transportation Management Plan (TMP) to minimize vehicle delays and idling emissions. As part of this, traffic would be scheduled and directed to reduce congestion and related air quality impacts caused by idling vehicles along the highway during peak travel times.
Greenhouse Gas	Standard Measure GHG-5	All areas temporarily disturbed during construction would be revegetated with appropriate native species, as appropriate. Landscaping reduces surface warming and, through photosynthesis, decreases CO <sub>2</sub> . This replanting would help offset any potential CO <sub>2</sub> emissions increase.
Greenhouse Gas	Standard Measure GHG-6	Pedestrian and bicycle access will be maintained during project activities.
Hazards and Hazardous Materials	Standard Measure HW-1	Per Caltrans requirements, the contractor(s) would prepare a project-specific Lead Compliance Plan (CCR Title 8, § 1532.1, the "Lead in Construction" standard) to reduce worker exposure to lead-impacted soil. The plan would include protocols for environmental and personnel monitoring, requirements for personal protective equipment, and other health and safety protocols and procedures for the handling of lead-impacted soil.
Hazards and Hazardous Materials	Standard Measure HW-2	When identified as containing hazardous levels of lead, traffic stripes would be removed and disposed of in accordance with Caltrans Standard Special Provision "Residue Containing Lead from Paint and Thermoplastic."
Hazards and Hazardous Materials	Standard Measure HW-3	If treated wood waste (such as removal of sign posts or guardrail) is generated during this project, it would be disposed of in accordance with Standard Specification "Treated Wood Waste."
Noise	Standard Measure NOI-1*	<p><b>Construction Equipment.</b> All construction equipment shall conform to Section 14-8.02, Noise Control, of the latest Standard Specifications.</p> <ul style="list-style-type: none"> <li>• Control and monitor noise resulting from work activities.</li> <li>• Do not exceed 86 dBA Lmax at 50 feet from the job site from 9:00 p.m. to 6:00 a.m.</li> <li>• Equip an internal combustion engine with the manufacturer recommended muffler. Do not operate an internal combustion engine on the job site without the appropriate muffler</li> </ul>
Noise	Standard Measure NOI-2*	<p><b>Maintaining Internal Combustion Engines.</b> All internal combustion engines would be maintained properly to minimize noise generation. Equip all internal combustion engine driven equipment with manufacturer recommended intake and exhaust mufflers that are in good condition and appropriate for the equipment.</p>
Noise	Standard Measure NOI-3*	<p><b>Idling of Internal Combustion Engines.</b> Unnecessary idling of internal combustion engines within 100 feet of residences shall be strictly prohibited.</p>

Resource Area	Standard Measure Number	Standard Measure Title and Description
Noise	Standard Measure NOI-4*	<b>Sensitive Receptors.</b> Noise-generating equipment shall be located as far as practical from sensitive receptors when sensitive receptors adjoin or are near the construction project area.
Noise	Standard Measure NOI-5*	<b>Quiet Air Compressors.</b> "Quiet" air compressors and other "quiet" equipment shall be utilized where such technology exists.
Transportation and Traffic	Standard Measure TT-1	Pedestrian and bicycle access would be maintained during construction.
Transportation and Traffic	Standard Measure TT-2	The contractor would be required to schedule and conduct work to avoid unnecessary inconvenience to the public and to maintain access to driveways, houses, and buildings within the work zones.
Transportation and Traffic	Standard Measure TT-3	A Transportation Management Plan (TMP) would be applied to the project.
Utilities and Service Systems	Standard Measure UE-1	All emergency response agencies in the project area would be notified of the project construction schedule and would have access to I-80 and US 50 throughout the construction period.
Utilities and Service Systems	Standard Measure UE-2	Caltrans would coordinate with utility providers to plan for relocation of any utilities to ensure utility customers would be notified of potential service disruptions before relocation.
Utilities and Service Systems	Standard Measure UE-3	The contractor would be required to submit a jobsite fire prevention plan as required by Cal OSHA before starting job site activities. In the event of an emergency or wildfire, the contractor would cooperate with fire prevention authorities.

Resource Area	Standard Measure Number	Standard Measure Title and Description
Water Quality	Standard Measure WQ-1	<p>The project would comply with the Provisions of the Caltrans Statewide National Pollutant Discharge Elimination System (NPDES) Permit (Order 2012-0011-DWQ) as amended by subsequent orders, which became effective July 1, 2013, for projects that result in a land disturbance of one acre or more, and the Construction General Permit (Order 2009-0009-DWQ).</p> <p>Before any ground-disturbing activities, the contractor would prepare a Stormwater Pollution Prevention Plan (SWPPP) (per the Construction General Permit Order 2009-0009-DWQ) or Water Pollution Control Program (WPCP) (projects that result in a land disturbance of less than one acre) that includes erosion control measures and construction waste containment measures to protect Waters of the State during project construction.</p> <p>The SWPPP or WPCP would identify the sources of pollutants that may affect the quality of stormwater; include construction site Best Management Practices (BMPs) to control sedimentation, erosion, and potential chemical pollutants; provide for construction materials management; include non-stormwater BMPs; and include routine inspections and a monitoring and reporting plan. All construction site BMPs would follow the latest edition of the Caltrans Storm Water Quality Handbooks: Construction Site BMPs Manual to control and reduce the impacts of construction-related activities, materials, and pollutants on the watershed.</p> <p>The project SWPPP or WPCP would be continuously updated to adapt to changing site conditions during the construction phase.</p> <p>Construction may require one or more of the following temporary construction site BMPs:</p> <ul style="list-style-type: none"> <li>• Any spills or leaks from construction equipment (i.e., fuel, oil, hydraulic fluid, and grease) would be cleaned up in accordance with applicable local, state, and/or federal regulations.</li> <li>• Accumulated stormwater, groundwater, or surface water from excavations or temporary containment facilities would be removed by dewatering.</li> <li>• Water generated from the dewatering operations would be discharged on-site for dust control and/or to an infiltration basin, or disposed of offsite.</li> <li>• Temporary sediment control and soil stabilization devices would be installed.</li> <li>• Existing vegetated areas would be maintained to the maximum extent practicable.</li> <li>• Clearing, grubbing, and excavation would be limited to specific locations, as delineated on the plans, to maximize the preservation of existing vegetation.</li> <li>• Vegetation reestablishment or other stabilization measures would be implemented on disturbed soil areas, per the Erosion Control Plan.</li> <li>• Soil disturbing work would be limited during the rainy season.</li> </ul>

Resource Area	Standard Measure Number	Standard Measure Title and Description
Water Quality	Standard Measure WQ-2	<p>The project would incorporate pollution prevention and design measures consistent with the 2016 Caltrans Storm Water Management Plan. This plan complies with the requirements of the Caltrans Statewide NPDES Permit (Order 2012-0011-DWQ) as amended by subsequent orders.</p> <p>The project design may include one or more of the following:</p> <ul style="list-style-type: none"> <li>• Vegetated surfaces would feature native plants, and revegetation would use the seed mixture, mulch, tackifier, and fertilizer recommended in the Erosion Control Plan prepared for the project.</li> <li>• Where possible, stormwater would be directed in such a way as to sheet flow across vegetated slopes, thus providing filtration of any potential pollutants.</li> </ul>
Water Quality	Standard Measure WQ-3*	<p><b>Dewatering.</b> During the design phase, if groundwater dewatering activities are anticipated, Caltrans will coordinate with the District NPDES Coordinator to prepare a dewatering and discharge work plan in compliance with the 2018 Caltrans Standard Specifications (2018 CSS), Section 13-4.03G, which will include parameters and requirements for monitoring during construction activities.</p>
Water Quality	Standard Measure WQ-4*	<p><b>Stormwater Data Report.</b> During design, Caltrans will prepare a Stormwater Data Report which will describe whether Permanent Treatment BMPs will be considered.</p>

Notes:\* = Standard Measures that were not identified in the Caltrans North Region Standard Measures and Best Management Practices, dated June 9, 2021.