APPENDIX I: Mitigation Monitoring and Reporting Program

Mitigation Monitoring and Reporting Plan

The Del Puerto Water District and San Joaquin River Exchange Contractors Water Authority (Exchange Contractors), working together as Project Partners, are proposing to construct and operate the Del Puerto Canyon Reservoir (DPCR). The Del Puerto Water District is the CEQA Lead Agency for completion of the Environmental Impact Report and the San Joaquin River Exchanges Contractors Water Authority is a Responsible Agency working with the Lead Agency to build and operate the project. This MMRP provides a plan for implementation of mitigation measures that pertain to the proposed project.

The MMRP contains all of the mitigation measures that were presented in the Draft EIR, with some minor modifications based on comments received from agencies during public review of the Draft EIR. The table is organized by Mitigation Measure and because some measures address several different impacts, multiple impacts may be listed in the Impact Statement, where applicable.

Mitigation measures have been included in the project to reduce or avoid potential environmental impacts associated with project construction and operation. Section 21081.6 of the California Public Resources Code requires a CEQA lead or responsible agency that approves or carries out a project where an EIR has identified measures to mitigate significant environmental effects to adopt a "reporting monitoring program for adopted or required changes to mitigate or avoid significant environmental effects." In accordance with Section 21081.6 of the Public Resources Code, this MMRP has been prepared.

Impact Statement	Mitigation Measure (Exact Text)	Party Responsible for Implementation and Reporting	Review and Approval by:	Monitoring and Reporting Actions	Implementation Schedule -Design -Pre-construction -Construction -Operation	Verification: Status/ Date Completed/ Initials
Aesthetics						
AES-1: Substantial Damage to Scenic Resources within a State Scenic Highway and Substantial Degradation of Existing Visual Character or Quality, or a Substantial Adverse Effect on a Scenic Vista	**AES-1: Implement Color Palette Consistent with Existing Environment** The pumping plant's above-grade structures shall be painted a matte color consistent with the area's visual aesthetic, generally matte tan or light brown. Roofing for above-grade structures shall be matte as well to minimize potential glare.	Del Puerto Water District and Exchange Contractors	Del Puerto Water District and Exchange Contractors	1. Confirm that color palette requirements are included in plans and specifications. 2. Confirm above grade structures are painted appropriately with suitable roofing material. Document compliance and retain in project file.	1. Design 2. Construction	1._____ 2._____
AES-2: New Sources of Substantial Light or Glare	**AES-2: Nighttime Construction Lighting** Nighttime construction lighting shall be shielded and oriented downward to minimize effects on any nearby receptors including habitat for wildlife species. Lighting shall be directed toward active construction areas only and shall have the minimum brightness necessary to ensure worker safety.	Del Puerto Water District and Exchange Contractors	Del Puerto Water District and Exchange Contractors	1. Confirm that lighting measures are included in specifications. 2. Monitor construction activities to verify that measures are implemented during construction. Document compliance and retain in project file.	1. Design 2. Construction	1._____ 2._____
AES-2: New Sources of Substantial Light or Glare	**AES-3: Directional Lighting for Dam Control Building, Inlet/Outlet Works Control Building and Bifurcation Structure in Unincorporated Stanislaus County** Nighttime lighting for the main dam's control building, the inlet/outlet control building, and bifurcation structure shall be equipped with directional shields that aim light downward and away from adjacent roadways and adjacent undeveloped areas that may provide habitat for wildlife species. In addition, the placement of lighting fixtures would be selected to concentrate light on-site to avoid spillover.	Del Puerto Water District and Exchange Contractors	Del Puerto Water District and Exchange Contractors	1. Confirm that lighting measures are included in plans and specifications for structures. 2. Confirm lighting is installed properly. Document compliance and retain in project file.	1. Design 2. Construction	1._____ 2._____

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Air Quality and Energy						
AIR-2: Increase of Nonattainment Criteria Pollutants AIR-3: Sensitive Receptors ENE-1: Inefficient, Wasteful, Or Unnecessary Use of Energy Resources	**AIR-1: Reduce NOx Emissions** NO_X emissions associated with construction activities shall be reduced to 10 tons per year through on-site equipment and hauling vehicle mitigation measures to the extent feasible. All vehicles and equipment used during construction shall be maintained and properly tuned in accordance with the manufacturer's specifications. All equipment shall be checked by a certified mechanic and determined to be running in proper condition prior to operation. Emissions reduction methods may be chosen from any combination of the following measures: • Use of alternative fueled vehicles • Use of newer tier engines • Use of phased material hauling trips • Use of after-market pollution control devices to reduce emissions • Lengthening the construction schedule to reduce the annual intensity of construction activities After certification of the DEIR, but before emissions associated with proposed project activities begin, the Del Puerto Water District and Exchange Contractors shall be responsible for producing a SJVAPCD-approved air quality impact assessment analysis to determine the projected maximum project emissions which incorporates the most current proposed equipment fleet, hours of operation, duration of work, and on-site NO_X reduction measures, based on final project design and phasing. If all feasible on-site measures have been implemented and annual emissions are anticipated to still be above 10 tons per year for NO_X, then the Project Partners shall enter into a Voluntary Emissions Reduction Agreement (VERA) with SJVAPCD. The VERA would provide pound-for-pound mitigation of air emissions increases down to a net zero emissions per year as required under general conformity through a process that develops, funds, and implements emission reduction projects. To ensure emission reductions targeted by the VERA occur at the same time as project emissions, and thereby achieve net zero annual emissions, the Project Partners shall enter into a VERA with SJVAPCD prior to the release of NO_X emissions associated with proposed project activities. SJVAPCD would serve as administrator of the emissions reduction projects and verifier of the successful mitigation effort. Under the VERA, the Project Partners shall agree to mitigate project-specific emissions by providing funds for the SJVAPCD's Emission Reduction Incentive Program (ERIP). The funds would be disbursed by ERIP in the form of grants for projects that achieve emission reductions. Types of emission reduction projects that have been funded in the past include electrification of stationary internal combustion engines (such as agricultural irrigation pumps), replacing old heavy-duty trucks with new, cleaner, more efficient heavy-duty trucks, and replacement of old farm tractors. The Project Partners would request that funding disbursement priority would be given to emission reduction projects of Partner landowners. The initial agreement would generally be based on the projected maximum emissions increases as calculated by a SJVAPCD-approved air quality impact assessment and contain the corresponding maximum fiscal obligation. However, because the goal is to mitigate actual emissions, the SJVAPCD has designed flexibility into the VERA such that the final mitigation would be based on actual emissions related to the project as determined by actual equipment used, hours of operation, and duration of work. After the project is mitigated, the SJVAPCD would certify to the lead agency that the mitigation is completed, providing the lead agency with an enforceable mitigation measure demonstrating that project-specific emissions have been mitigated to less than significant.	Del Puerto Water District and Exchange Contractors	Del Puerto Water District and Exchange Contractors, SVJAPCD	1. Confirm that air quality measures are included in specifications. 2. Update emissions estimates and submit air quality impact assessment to SJVAPCD; if needed implement VERA. 3. Monitor construction activities to verify that measures are implemented during construction. Document compliance and retain in project file.	1. Design 2. Pre-construction 3. Construction	1._____ 2._____ 3._____

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Biological Resources						
BIO-TERR-1: Substantial adverse effect on candidate, sensitive or special status species	**BIO-TERR-1a Avoid and Minimize Impacts on Biological Resources** The Project Partners shall incorporate the following measures into construction plans. • Employees and contractors performing construction and decommissioning activities will receive environmental sensitivity training. Training will include review of environmental laws, mitigation measures, permit conditions, and other requirements that must be followed by all personnel to reduce or avoid effects on biological resources during construction activities. • Vehicles and equipment will be parked on pavement, existing roads, and previously disturbed areas to the extent practicable. • Offroad vehicle travel will be avoided outside of the construction footprint. • Grading will be restricted to the minimum area necessary. • Prior to ground-disturbing activities, sensitive habitats will be flagged by a USFWS and CDFW approved biologist and temporary fencing will be in place during construction to reduce the potential for vehicles and equipment to stray into these areas. • Vehicles or equipment will not be refueled within 100 feet of a wetland, stream, or other waterway unless a bermed and lined refueling area (i.e., a created berm made of sandbags or other removable material) is constructed. • Erosion control measures will be implemented to reduce sedimentation in nearby aquatic habitat when activities are the source of potential erosion. Plastic monofilament netting (erosion control matting) or similar material containing netting will not be used at the project site. Acceptable substitutes include coconut coir matting or tackified hydroseeding compounds. • The following will not be allowed at or near work sites for project activities: trash dumping, firearms, open fires (such as barbecues), hunting, and pets. • First- and second-generation rodenticides will not be used within the project site except for the limited use of zinc phosphide, or a rodenticide allowed for use by the California Department of Pesticide Regulation. • An approved biologist will be on site during initial ground-disturbing activities within and adjacent to grassland areas and during the removal of any trees. The biologist will assist the crew, as needed, to comply with all project implementation restrictions and guidelines. In addition, the biologist will be responsible for ensuring that contractors maintain exclusion areas adjacent to sensitive biological resources, and for documenting compliance with all biological resources–related mitigation measures.	Del Puerto Water District and Exchange Contractors	Del Puerto Water District and Exchange Contractors	1. Verify training requirements and general restrictions and guidelines are incorporated into project specifications. 2. Verify that specifications include requirements for sensitive habitat avoidance. 3. Confirm training has been completed. 4. Confirm that biologist is on site for initial ground disturbing activities. 5. Confirm that construction personnel comply with required procedures. Document compliance and retain in project file.	1. Design 2. Design 3. Pre-construction 4. Construction 5. Construction	1._____ 2._____ 3._____ 4._____ 5._____

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BIO-TERR-1: Substantial adverse effect on candidate, sensitive or special status species	**BIO-TERR-1b: Avoid and Compensate for Adverse Effects on Special-Status Plant Species** Because the 2020 spring botanical surveys were inconclusive for several special-status plants that grow in grasslands, surveys of the grasslands must be conducted for special-status plants, prior to the start of any proposed project activities, by qualified botanists in accordance with the appropriate protocols. The surveys shall be conducted in accordance with Protocols for Surveying and Evaluating Impacts to Special Status Native Plant Populations and Natural Communities (California Department of Fish and Wildlife 2018c) during the season that special-status plant species would be evident and identifiable, which generally is during their blooming season. The surveys shall be conducted within no more than 3 years prior to the start of ground-disturbing activities. The results of the survey shall be submitted to DPWD and CDFW for review no less than 1 year prior to the start of ground-disturbing activities. The report will include the location and description of all proposed work areas and the location and description of all occupied habitat for special-status plant species, and it will identify locations where effective avoidance measures could be implemented. In areas where no special-status plant species are present no further mitigation would be required. Where surveys determine that a special-status plant species is present in or adjacent to a project area where temporary ground-disturbing activities would take place, project impacts on the species shall be avoided through the establishment of activity exclusion zones, within which no ground-disturbing activities will take place, including construction staging, or other temporary work areas. Activity exclusion zones for special-status plant species shall be established around each occupied habitat site, the boundaries of which shall be clearly marked with standard orange plastic construction exclusion fencing or its equivalent. The establishment of activity exclusion zones shall not be required if no construction-related disturbances will occur within 250 feet of the occupied habitat. The size of activity exclusion zones may be reduced through consultation with a qualified biologist and with concurrence from CDFW based on site-specific conditions. Prior to any activities that would result in permanent impacts on special-status plants, compensation habitat for each affected species shall be acquired and permanently protected at a ratio of 2 acres protected for every 1 acre that would be lost. Compensation habitat shall consist of existing, off-site occupied habitat acquired in-fee, through conservation easements, or from a certified conservation bank. The compensation habitat shall be monitored annually to verify that the habitat suitability is maintained. An operations and management plan shall be prepared and implemented for each compensation habitat, with funding provided through an endowment, to monitor the habitat and determine and implement appropriate management measures to maintain the habitat. Annual monitoring reports shall be submitted to CDFW for review and determination that the project remains in compliance with the mitigation.	Del Puerto Water District and Exchange Contractors	Del Puerto Water District and Exchange Contractors, CDFW	1. Verify completion of special-status plant surveys. 2. Confirm establishment of exclusion zones to protect sensitive plants in or adjacent to temporary work areas. 3. Confirm acquisition of compensation habitat for any permanent impacts. 4. If compensation habitat is managed by Project Partners, confirm submittal of annual monitoring reports to CDFW. Mitigation bank operator(s) shall be responsible for monitoring if compensation habitat is obtained from certified conservation bank. Document compliance and retain in project file.	1. Design 2. Pre-construction 3. Pre-Construction 4. Operation	1._____ 2._____ 3._____ 4._____
BIO-TERR-1: Substantial adverse effect on candidate, sensitive or special status species	**BIO-TERR-1c: Compensate for the loss of habitat occupied by vernal pool fairy shrimp and/or vernal pool tadpole shrimp** At least one year prior to impacting any of the potential vernal pool branchiopod habitat, a biologist with a 10(a)(1)(A) recovery permit for vernal pool branchiopods shall conduct protocol level surveys for federally listed vernal pool branchiopods following the USFWS's 2015 Survey Guidelines for the Listed Large Branchiopods. These surveys require the completion of one dry season survey and one wet season survey. If no federally listed branchiopods are present, no further mitigation would be required other than requirements under federal and state laws protecting wetlands. If federally listed branchiopods are determined to be present and are located in permanent disturbance areas then the Project Partners shall compensate for the loss of federally listed vernal pool branchiopod habitat through the purchase of credits from a USFWS approved mitigation bank at a conservation acreage of 2:1 protection and 1:1 restoration.	Del Puerto Water District and Exchange Contractors	Del Puerto Water District and Exchange Contractors, USFWS	1. Verify completion of surveys. 2. If necessary, confirm acquisition of mitigation bank credits for any permanent impacts. Document compliance and retain in project file.	1. Design 2. Pre-construction	1._____ 2._____

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BIO-TERR-1: Substantial adverse effect on candidate, sensitive or special status species	**BIO-TERR-1d: Avoid, Minimize, and Compensate for Impacts of Valley Elderberry Longhorn beetle:** *Preconstruction Exit Hole Surveys* Prior to filling the reservoir, elderberry shrubs in the inundation footprint shall be surveyed for exit holes following the guidance in the USFWS's Framework to determine if they have potentially become occupied by valley elderberry longhorn beetle. *Avoidance and Minimization Measures* The following measures come from the USFWS's 2017 Framework and are intended to be implemented where project construction occurs within 165 feet of elderberry shrubs, which currently is limited to one shrub near where the new road alignment ties back into the existing Del Puerto Canyon Road. • Fencing. All areas to be avoided during construction activities will be fenced and/or flagged as close to construction limits as feasible. • Avoidance area. Activities that may damage or kill an elderberry shrub (e.g., trenching, paving) may need an avoidance area of at least 6 meters (20 feet) from the drip-line, depending on the type of activity. • Worker education. A qualified biologist will provide training for all contractors, work crews, and any onsite personnel on the status of the VELB, its host plant and habitat, the need to avoid damaging the elderberry shrubs, and the possible penalties for noncompliance. • Construction monitoring. A qualified biologist will monitor the work area at project-appropriate intervals to assure that all avoidance and minimization measures are implemented. The amount and duration of monitoring will depend on the project specifics and will be discussed with the Service biologist. • Timing. As much as feasible, all activities that could occur within 50 meters (165 feet) of an elderberry shrub, will be conducted outside of the flight season of the VELB (March - July). • Trimming. Trimming may remove or destroy VELB eggs and/or larvae and may reduce the health and vigor of the elderberry shrub. In order to avoid and minimize adverse effects to VELB when trimming, trimming will occur between November and February and will avoid the removal of any branches or stems that are ≥ 1 inch in diameter. Measures to address regular and/or large-scale maintenance (trimming) shall be established in consultation with USFWS. • Chemical Usage. Herbicides will not be used within the drip-line of the shrub. Insecticides will not be used within 30 meters (98 feet) of an elderberry shrub. All chemicals will be applied using a backpack sprayer or similar direct application method. 12 Mowing. Mechanical weed removal within the drip-line of the shrub will be limited to the season when adults are not active (August - February) and will avoid damaging the elderberry. • Erosion Control and Re-vegetation. Erosion control will be implemented and the affected area will be re-vegetated with appropriate native plants. *Compensation* If no occupied shrubs would be lost, no further mitigation would be required. If shrubs determined to be occupied by valley elderberry longhorn beetle are lost due to project construction and/or inundation, the Project Partners shall compensate for the loss of individual shrubs by purchasing credits at a USFWS approved mitigation bank. Per the USFWS 2017 Framework, those shrubs that can be transplanted (i.e., those not on cliffs and those that are likely to withstand transplantation) will also be moved to the USFWS approved mitigation bank. The specific location for the mitigation will be developed during Reclamation's consultation with the USFWS.	Del Puerto Water District and Exchange Contractors	Del Puerto Water District and Exchange Contractors, USFWS	1. Verify completion of exit hole surveys. 2. Confirm establishment of exclusion zones to protect elderberry shrubs in or adjacent to temporary work areas. 3. Verify that worker education is conducted. 4. Confirm avoidance measures implemented. 5. If needed, confirm acquisition of mitigation bank credits for any permanent impacts and shrubs are transplanted where feasible. Document compliance and retain in project file.	1. Design 2. Pre-construction 3. Pre-construction 4. Construction 5. Pre-construction	1._____ 2._____ 3._____ 4._____ 5._____

BIO-TERR-1: Substantial adverse effect on candidate, sensitive or special status species	**BIO-TERR-1e: Avoid and Minimize on Special-Status Amphibians:** *Conduct Protocol Level Surveys* To guide the implementation of avoidance and minimization measures, protocol level surveys for California tiger salamander, California red-legged frog, and foothill yellow-legged frog shall be conducted by a USFWS and CDFW-approved biologist (approved biologist) that possess necessary handling permits (California tiger salamander only). • California tiger salamander surveys will be conducted in potentially suitable habitat according to the USFWS's and CDFW's Interim Guidance on Site Assessment and Field Surveys for Determining Presence or a Negative Finding of the California Tiger Salamander (U.S. Fish and Wildlife Service and California Department of Fish and Wildlife 2003). • California red-legged frogs surveys will be conducted in potentially suitable habitat according to the USFWS's Revised Guidance on Site Assessments and Field Surveys for the California Red-legged Frog (U.S. Fish and Wildlife Service 2005). • Foothill yellow-legged frog surveys will be conducted according to CDFW's Considerations for Conserving the Foothill Yellow-Legged Frog (California Department of Fish and Wildlife 2018b) or the most up to date survey protocol at that time. No specific protocol has been developed for western spadefoot toad but presence will be determined by conducting surveys during the winter and spring to identify adults, egg masses, larvae, and/or metamorphs. *Avoidance and Minimization Measures* The following measures shall be implemented to avoid and minimize effects on special-status amphibians during construction and maintenance activities, if presence is confirmed by protocol level surveys of special-status amphibians as described above. • Ground disturbance will be limited to permanent and temporary impact areas identified in final plans for the reservoir. • The pond that falls within the area identified as needed for access to and construction of two of the saddle dams will be avoided during construction by placing high visibility fencing around the perimeter of the pond. The fencing will be open at the bottom to allow the movement of wildlife in and out of the pond. • The approved biologist will be present during all ground-disturbing activities and during any activities involving heavy equipment in used in or adjacent to suitable upland and/or aquatic habitat. • Maintenance activities in vegetated areas will be conducted during the dry season (generally April 1 to October 14) and will avoid and minimize disturbance to small mammal burrows. Use of first- and second-generation rodenticides shall not be permitted except for the limited use of zinc phosphide, or a rodenticide allowed for use by the California Department of Pesticide Regulation. • Within habitat for California tiger salamander, California red-legged frog, and western spadefoot toad initial ground-disturbing activities will not take place during the rainy season, generally October 15 to March 31 (or until the first measurable rain of 1 inch or greater), to avoid the period when most amphibian movement across upland habitat are expected to occur. • Ground disturbing activities may take place during the wet season in areas where potential habitat for special-status amphibians has been removed and when an approved biologist is present to monitor activities. • When work occurs in special-status amphibian habitat, the approved biologist will conduct a pre-activity survey immediately prior to work beginning. The biologist will inspect beneath equipment, vehicles, and stored materials that had been left in the work area overnight. • If a special-status amphibian is found in a work area it will at first be allowed to move out of the work area on its own but if there is no suitable habitat for the animal to freely move to it will be relocated by the approved biologist to a pre-determined location identified in coordination with USFWS and CDFW. • To prevent the accidental entrapment of species during construction, all excavated trenches and holes deeper than 6 inches will be ramped at the end of the workday to allow trapped animals a means of escaping. Earthen ramps will be constructed at each end of the active trench and boards will be placed in open holes. Each day that a trench and/or hold is open and prior to backfilling, these areas will be inspected by a USFWS and CDFW approved monitor. If an animal is found trapped in a trench or hole, construction will cease until it exits the trench or hole on its own or is relocated to an approved location by a USFWS and CDFW-approved biologist. • If work in suitable special-status amphibian habitat occurs during the rainy season, generally October 15 to March 31, and lasts for more than 1 day, exclusion fencing will be installed between the work area and areas of suitable	Del Puerto Water District and Exchange Contractors	Del Puerto Water District and Exchange Contractors, CDFW, USFWS	1. Verify completion of protocol-level surveys. 2. If species are present, confirm that avoidance and minimization measures are included in project specifications and in operation and maintenance manuals for project. 3. If species are present, confirm completion of pre-construction surveys. 4. Verify monitoring during construction, if needed, and document implementation of all protection measures during construction. Document compliance and retain in project file.	1. Design 2. Design 3. Pre-Construction 4. Construction	1._____ 2._____ 3._____ 4._____

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	habitat. A USFWS and CDFW approved biologist will determine where exclusion fencing will be installed. The fencing will be installed to a depth of 6 inches and be at least 36 inches above grade. The contractor will avoid placing fencing on top of ground squirrel burrows. A qualified biologist will inspect the fencing daily for the presence of these species. • If the exclusion fence is found to be compromised at any time, a survey will be conducted immediately preceding construction activity that occurs in special-status amphibian habitat or in advance of any activity that may result in take of the species. The biologist will search along exclusion fences and in pipes and beneath vehicles before they are moved. The survey will include a careful inspection of all potential hiding spots, such as along exclusion fencing, large downed woody debris, the perimeter of ponds, wetlands, and riparian areas. Any special-status amphibians found will either be allowed to move on its own accord or will be captured and relocated as described above. • Between when construction begins and when the reservoir is filled, when construction activities occur in streams, temporary aquatic barriers such as hardware cloth will be installed both up and downstream of the in-stream work area, and special-status amphibians will be relocated and excluded from the work area. The approved biologist will establish an adequate buffer on both sides of creeks and around potential aquatic habitat and will restrict entry during the construction period. • If the use of pumps is necessary for diverting flows or dewatering Del Puerto Creek during construction of the dam, pump intakes will be fitted with a screen-type device consisting of, at minimum, a water intake strainer. Water intake strainers are most appropriate for low-volume diversion projects. For high-volume water diversion projects or other diversion activities that may warrant greater protection, pump intakes shall be fitted with screens made of woven mesh, perforated plate, or wedge wire. The screen medium must be able to withstand forces related to pumping and be of sufficient size to prevent amphibian larvae from entering the intake and being diverted within the water.					
BIO-TERR-1: Substantial adverse effect on candidate, sensitive or special status species	**BIO-TERR-1f: Compensation for the loss of California Tiger Salamander Habitat** If protocol level surveys determine that California tiger salamander is not present in the study area, then no further mitigation is required. If California tiger salamander is present in aquatic and upland habitat in the study area, the habitat permanently lost due to the proposed project shall be mitigated at a minimum of 1:1. Mitigation shall be achieved through either purchasing credits a USFWS and CDFW approved mitigation bank or through the purchase of a conservation easement with an associated endowment approved by USFWS and CDFW. Any conservation lands will be shown to be occupied by California tiger salamander and will be managed in perpetuity for the benefit of the species. Details of the mitigation shall be further developed in consultation with USFWS and CDFW.	Del Puerto Water District and Exchange Contractors	Del Puerto Water District and Exchange Contractors, CDFW, USFWS	1. Confirm acquisition of compensation habitat for any permanent impacts. Document compliance and retain in project file.	1. Pre-construction	1._____
BIO-TERR-1: Substantial adverse effect on candidate, sensitive or special status species	**BIO-TERR-1g: Compensate for the Loss of California Red-legged Frog Habitat** If protocol level surveys determine that California red-legged frog is not present, no compensatory mitigation would be required. If California red-legged frog is present in aquatic and upland habitat in the study area, the habitat permanently impacted due to the proposed project shall be mitigated at a minimum of 1:1. Mitigation shall be achieved through either purchasing credits at a USFWS approved mitigation bank or through the purchase of a conservation easement with an associated endowment approved by USFWS. Any conservation lands will be shown to be occupied by California red-legged frog and will be managed in perpetuity for the benefit of the species. Details of the mitigation shall be further developed in consultation with USFWS.	Del Puerto Water District and Exchange Contractors	Del Puerto Water District and Exchange Contractors, CDFW, USFWS	1. Confirm acquisition of compensation habitat for any permanent impacts. Document compliance and retain in project file.	1. Pre-construction	1._____
BIO-TERR-1: Substantial adverse effect on candidate, sensitive or special status species	**BIO-TERR-1h: Compensate for the Loss of Foothill Yellow-legged Frog Habitat** If surveys determine that foothill yellow-legged frog is not present in Del Puerto Creek no further mitigation is necessary. If foothill yellow-legged from is present, the habitat permanently impacted due to the proposed project shall be fully mitigated by either purchasing property and/or a conservation easement that contains stream habitat of similar quality and quantity and that is currently occupied by foothill yellow-legged frog and/or represents an area that has been historically occupied and where successful recolonization is likely (e.g., known occupation in nearby watershed or tributary). A final mitigation plan shall be developed and approved by CDFW. The plan shall include measures for the long-term management of these lands for the benefit of foothill yellow-legged frog and include adaptive management measures.	Del Puerto Water District and Exchange Contractors	Del Puerto Water District and Exchange Contractors, CDFW	1. Confirm acquisition of compensation habitat for any permanent impacts. Document compliance and retain in project file.	1. Pre-construction	1._____

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BIO-TERR-1: Substantial adverse effect on candidate, sensitive or special status species	**BIO-TERR-1i: Avoid and Minimize Impacts on Special-Status Reptiles** The following measures shall be implemented to ensure that the proposed project does not have a significant impact on special-status reptiles. • The approved biologist monitoring construction will survey for special-status reptiles in areas of suitable habitat (i.e., permanent removal of 138 acres and temporary disturbance of 530 acres of grassland and scrub) immediately prior to initial ground disturbing activities and vegetation removal. If special-status reptiles are not found, no additional measures are required. • If any special-status reptiles are found, work will not begin until they are allowed to passively move out of the work area or are relocated to a CDFW-approved relocation site. Relocation of these species would require consulting with CDFW and a letter from CDFW authorizing this activity o No monofilament plastic will be used for erosion control. o The approved biologist will inspect open trenches and pits and under construction equipment and materials left on site for special-status reptiles each morning before equipment and materials are moved. o Ground disturbance in suitable habitat will be minimized to the extent practicable. o Vegetation outside the work area will not be removed. o All vegetation removal will be monitored by the approved biologist to minimize impacts on special-status reptiles.	Del Puerto Water District and Exchange Contractors	Del Puerto Water District and Exchange Contractors, CDFW	1. Verify completion of surveys. 2. Confirm passive relocation has occurred or individuals relocated. 3. Verify establishment of exclusion zones as needed. 4. Confirm inspection and monitoring by biologist if species are determined to be present. Document compliance and retain in project file.	1. Pre-construction 2. Pre-Construction 3. Pre-Construction 4. Construction	1._____ 2._____ 3._____ 4._____

BIO-TERR-1: Substantial adverse effect on candidate, sensitive or special status species	**BIO-TERR-1j: Avoid and Minimize Impacts on Western Burrowing Owl** The following measures, which were developed based on the *Staff Report on Burrowing Owl Mitigation* (California Department of Fish and Game 2012), shall be implemented to avoid and minimize potential adverse impacts on burrowing owls prior to and during project construction and maintenance activities that require large areas of ground disturbance (e.g., grading). • A qualified biologist will conduct preconstruction take avoidance surveys for burrowing owl 14 days prior to and a second survey within 24 hours of initiating ground-disturbing activities and before the filling of the reservoir. The survey area will encompass the work area and a 500-foot buffer around this area, as well as the inundation area. If no burrowing owls are found, then no further mitigation would be required unless there is a lapse in time before the start of construction activities. • To the maximum extent feasible, construction activities within 500 feet of active burrowing owl burrows will be avoided during the nesting season (February 1–August 31). • If an active burrow is identified near a proposed work area and work cannot be conducted outside the nesting season (February 1–August 31), a no-activity zone will be established by a biologist experienced with burrowing owls in coordination with CDFW. The no-activity zone will be large enough to avoid nest abandonment and will extend a minimum of 250 feet around the burrow. • If burrowing owls are present at the site during the nonbreeding season (September 1–January 31), a qualified biologist will establish a no-activity zone that extends a minimum of 150 feet around the burrow. • If the designated no-activity zone for either breeding or non-breeding burrowing owls cannot be established, a wildlife biologist experienced in burrowing owl behavior will evaluate site-specific conditions and, in coordination with CDFW, recommend a smaller buffer (if possible) that still minimizes the potential to disturb the owls. The site-specific buffer will consider the type and extent of the proposed activity occurring near the occupied burrow, the duration and timing of the activity, the sensitivity and habituation of the owls, and the dissimilarity of the proposed activity to background activities. • If burrowing owls are present in the direct disturbance area and cannot be avoided during the non-breeding season (generally September 1–January 31), passive relocation techniques (e.g., installing one-way doors at burrow entrances) may be used. Passive relocation may also be used during the breeding season (February 1–August 30) if a biologist with burrowing owl experience, coordinating with CDFW, determines through site surveillance and/or scoping that the burrow is not occupied by burrowing owl adults, young or eggs. Passive relocation will be accomplished by installing one-way doors (e.g., modified dryer vents or other CDFW approved method), which will be left in place for a minimum of 1 week and monitored daily to ensure that the owls have left the burrow. Excavation of the burrow will be conducted using hand tools. During excavation of the burrow, a section of flexible plastic pipe (at least 3 inches in diameter) will be inserted into the burrow tunnel to maintain an escape route for any animals that may be inside the burrow. • Any owls in occupied burrows within the reservoir footprint shall be relocated using passive relocation techniques. • Avoid destruction of unoccupied burrows outside the work area and place visible markers near burrows to ensure that they are not collapsed. • Conduct ongoing surveillance of the project site for burrowing owls during project activities. If additional owls are observed using burrows within 500 feet of construction, the on-site biological monitor will determine, in coordination with CDFW, if the owl(s) are or would be affected by construction activities and if additional exclusion zones are required. • If burrowing owls are detected during preconstruction surveys, the Project Partners will compensate for the loss of burrowing habitat according to the guidelines in *Staff Report on Burrowing Owl Mitigation* (California Department of Fish and Game 2012). These guidelines do not recommend minimum habitat replacement ratios but do note that the conservation area should be comparable to or better than that of the impact area, of sufficiently large acreage, and should support burrowing mammals. Any such conservation may be combined with conservation areas that are developed for this project for Swainson's hawk and/or San Joaquin kit fox. If burrowing owl conservation is appropriate on these lands, the respective mitigation and monitoring plans developed for these areas will be modified to include measures for the maintenance and enhancement of habitat for burrowing owl.	Del Puerto Water District and Exchange Contractors	Del Puerto Water District and Exchange Contractors, CDFW	1. Confirm requirements for borrowing owl protection are included in specifications. 2. Verify completion of pre-construction surveys. 3. Verify buffers are established if owls are found during surveys. 4. Verify completion of passive relocation, if needed. 5. Monitor construction activities to verify that measures are implemented as needed during construction. 6. Verify completion of habitat enhancement, if needed. 7. Monitor effectiveness of habitat enhancement, if needed. Document compliance and retain in project file.	1. Design 2. Pre-Construction 3. Pre-Construction 4. Pre-Construction 5. Construction 6. Pre-Construction 7. Post-Construction	1._____ 2._____ 3._____ 4._____ 5._____ 6._____ 7._____
BIO-TERR-1: Substantial adverse effect on candidate, sensitive or special status species	**BIO-TERR-1k: Avoid and Minimize Impacts on Nesting Birds** To the maximum extent practicable, the removal of structures and vegetation (trees, shrubs, and ground vegetation) shall take place during the non-breeding season for most migratory birds. This timing is highly preferable because if an active nest is found during preconstruction surveys in a tree (or other vegetation) that would be removed by project construction, the tree (or other vegetation) would not be allowed to be removed until the end of the nesting season or until the nestlings	Del Puerto Water District and Exchange Contractors	Del Puerto Water District and Exchange Contractors	1. Confirm that requirements for nesting bird protection are included in specifications.	1. Design 2. Pre-Construction 3. Pre-Construction	1._____ 2._____

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	have fledged, which could delay construction. If vegetation cannot be removed during the non-nesting season, or if ground cover re-establishes in areas where vegetation has been removed, the affected area must be surveyed for nesting birds. Should structure and vegetation removal activities occur between February 15 and September 30, a qualified biologist shall conduct preconstruction surveys for active nesting birds. If an active nest is found in the survey area, a no-disturbance buffer area will be established around the nest site to avoid disturbance or destruction of the nest until the end of the breeding season or until after a qualified wildlife biologist determines that the young have fledged and moved out of the project area (this timing varies by species). Buffers shall be developed by the biologist based on the species nesting behavior, their sensitivity to disturbance, the type or work taking place during the nesting season, and considering the surrounding topography and vegetation, which may attenuate noise and block visual disturbances. Buffers will be at a minimum of 50 feet from disturbance for more common ground nesting birds and a minimum of 500 feet for tree nesting raptors. Initial reservoir filling shall begin outside the nesting season.			2. Verify completion of pre-construction surveys if removals occur during nesting season. 3. Verify buffers are established if nesting birds are found. 4. Monitor construction activities to verify measures are implemented as needed during construction. 5. Confirm initial reservoir filling occurs outside nesting season. Document compliance and retain in project file.	4. Construction 5. Post-Construction	3._____ 4._____ 5._____
BIO-TERR-1: Substantial adverse effect on candidate, sensitive or special status species	**BIO-TERR-1l: Avoid and Minimize Impacts on Swainson's Hawk** The Project Partners shall retain a wildlife biologist experienced in surveying for Swainson's hawk to conduct surveys for the species in the spring/summer prior to construction. The surveys shall be conducted within the limits of disturbance and in a buffer area up to 0.25 mile from the limits of disturbance. The size of the buffer area surveyed will be based on the type of habitat present and the line-of-sight from the construction area to surrounding suitable breeding habitat. Surveys shall follow the methods in Recommended Timing and Methodology for Swainson's Hawk Nesting Surveys in California's Central Valley (Swainson's Hawk Technical Advisory Committee 2000). A minimum of six surveys shall be conducted according to these methods. If a variance of the survey distance or number of surveys is necessary, the Project Partners shall coordinate with CDFW regarding appropriate survey methods based on proposed construction activities. Surveys generally will be conducted from February to July. Survey methods and results will be reported to the Project Partners and CDFW. Removal of trees within the reservoir inundation area shall take place outside the Swainson's hawk nesting season. Active Swainson's hawk nests within 600 feet of the areas of active construction activities shall be monitored by a wildlife biologist with experience in monitoring Swainson's hawk nests. The monitor shall document the location of active nests, coordinate with the Project Partners and CDFW, and record all observations in a daily monitoring log. The monitor shall have the authority to temporarily stop work if activities are disrupting nesting behavior to the point of resulting in potential take (i.e., eggs and young chicks are still in the nest, and adults appear agitated and could potentially abandon the nest). The monitor shall work closely with the contractor, the Project Partners, and CDFW to develop plans for minimizing disturbance, such as modifying or delaying certain construction activities. A minimum non-disturbance buffer of 600 feet (radius) shall be established around all active Swainson's hawk nests. No entry of any kind related to construction will be allowed within this buffer while the nest is active, unless approved by CDFW through issuance of an Incidental Take Permit or through coordination during project construction. The buffer size may be modified based on site-specific conditions, including line-of-sight, topography, type of disturbance, existing ambient noise and disturbance levels, and other relevant factors. Entry into the buffer for construction activities shall be granted when the biological monitor determines that the young have fledged and are capable of independent survival, or that the nest has failed, and the nest site is no longer active. All buffer adjustments shall be approved by CDFW.	Del Puerto Water District and Exchange Contractors	Del Puerto Water District and Exchange Contractors, CDFW	1. Confirm that requirements for Swainson's hawk protection are included in specifications. 2. Verify completion of pre-construction surveys of habitat and trees to be removed. 3. Verify trees in inundation area removed outside nesting season. 4. Verify buffers are established if Swainson's hawks are found during surveys. Document compliance and retain in project file.	1. Design 2. Pre-Construction 3. Pre-Construction 4. Construction	1._____ 2._____ 3._____ 4._____
BIO-TERR-1: Substantial adverse effect on candidate, sensitive or special status species	**BIO-TERR-1m: Compensate for the Loss of Swainson's Hawk Foraging Habitat** The permanent loss of Swainson's hawk foraging habitat will be mitigated according to the guidance in the *Staff Report Regarding Mitigation for Impacts to Swainson's Hawks (Buteo swainsoni) in the Central Valley of California* (California Department of Fish and Game 1994). This guidance includes recommended mitigation ratios based on the proximity to an active nest (used during one or more of the last 5 years preceding the initiation of the activity).	Del Puerto Water District and Exchange Contractors	Del Puerto Water District and Exchange Contractors, CDFW	1. Confirm acquisition of compensation habitat for any permanent impacts. Document compliance and retain in project file.	1. Pre-construction	1._____

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BIO-TERR-1: Substantial adverse effect on candidate, sensitive or special status species	**BIO-TERR-1n: Avoid and Minimize Impacts on Bats** To avoid and minimize potential impacts on pallid bat, western red bat, and non-special-status bat species from the removal of trees and buildings, the Project Partners shall implement the following actions. *Preconstruction Surveys* Within 2 weeks prior to rock outcrop disturbance, tree removal, and any building demolition (e.g., sheds and other outbuildings), a qualified biologist shall examine rock outcrops to be disturbed, trees to be removed, and buildings planned for demolition for suitable bat roosting habitat. High-quality habitat features (e.g., deep crevices, large tree cavities, basal hollows, loose or peeling bark, larger snags, abandoned buildings) shall be identified, and the area around these features searched for bats and bat sign (e.g., guano, culled insect parts, staining). Riparian woodland and stands of mature broadleaf trees shall be considered potential habitat for solitary foliage-roosting bat species. If suitable roosting habitat and/or bat sign is detected, biologists shall conduct an evening visual emergence survey of the source habitat feature, from a half hour before sunset to 1–2 hours after sunset for a minimum of two nights. Full-spectrum acoustic detectors shall be used during emergence surveys to assist in species identification. Detectors shall be set to record bat calls for the duration of each night. All emergence and monitoring surveys shall be conducted during favorable weather conditions (calm nights with temperatures conducive to bat activity and no precipitation predicted). The biologist shall analyze the bat call data using appropriate software and prepare a report that will be submitted to the Project Partners and CDFW. *Timing of Rock Outcrop Disturbance, Tree Removal, and Building Demolition* Rock outcrops, trees, and buildings planned for removal and demolition shall have exclusion devices installed between September 15 and October 31 to avoid affecting maternal and hibernating bat roosts. The exact timing of removal and demolition shall be determined based on the results of preconstruction surveys of rock outcrops, trees, and buildings (i.e., if it is determined bats are present). *Protective Measures* Protective measures may be necessary if it is determined that bats are using rock outcrops, buildings or trees in the project footprint as roost sites, or if special-status bat species are detected during acoustic monitoring. The following measures shall be implemented when roosts are found within rock outcrops, trees, or buildings planned for removal according to the timing discussed above. Specific measures will be approved by the Project Partners and CDFW prior to excluding bats from occupied roosts. • Exclusion from roosts will take place late in the day or in the evening to reduce the likelihood of evicted bats falling prey to diurnal predators and will take place during weather and temperature conditions conducive to bat activity. • Biologists experienced with bats and bat evictions will carry out or oversee the exclusion tasks and will monitor rock outcrop disturbance, tree removal and building demolition if they are determined to be occupied. • Trees that provide suitable roost habitat will be removed in pieces, rather than felling the entire tree and shall be done late in the day or in the evening to reduce the likelihood of evicted bats falling prey to diurnal predators, and will take place during warm weather conditions conducive to bat activity. • Structural changes may be made to a known roost proposed for removal, to create conditions in the roost that are undesirable to roosting bats and encourage the bats to leave on their own (e.g., open additional portals so that temperature, wind, light and precipitation regime in the roost change). Structural changes to the roost will be authorized by CDFW and will be performed during the appropriate exclusion timing (listed above) to avoid harming bats. • Non-injurious harassment at the roost site, such as ultrasound deterrents or other sensory irritants, may be used to encourage bats to leave on their own. • One-way door devices will be used where appropriate to allow bats to leave the roost but not to return.	Del Puerto Water District and Exchange Contractors	Del Puerto Water District and Exchange Contractors, CDFW	1. Confirm measures to protect bats are included in specifications, including requirements for removal/disturbance of structures, trees and rock outcrops. 2. Verify completion of preconstruction surveys. 3. If surveys detect bats, confirm that appropriate protection measures are implemented. Document compliance and retain in project file.	1. Design 2. Pre-Construction 3. Construction	1._____ 2._____ 3._____

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	• Prior to rock outcrop disturbance, building demolition, and/or tree removal/trimming and after other eviction efforts have been attempted, any confirmed roost site will be gently shaken or repeatedly struck with a heavy implement such as a sledgehammer or an axe. Several minutes shall pass before beginning disturbance, demolition work, and felling trees to allow bats time to arouse and leave the roost. A biological monitor will search downed vegetation for dead and injured bats. The presence of dead or injured bats will be reported to CDFW. Injured bats will be transported to the nearest CDFW-permitted wildlife rehabilitation facility.					

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BIO-TERR-1: Substantial adverse effect on candidate, sensitive or special status species	**BIO-TERR-1o: Avoid and Minimize Impacts on San Joaquin Kit Fox** The following measures have been adapted from the USFWS's *U.S. Fish and Wildlife Service Standard Recommendations for Protection of the Endangered San Joaquin Kit Fox Prior to or During Ground Disturbance* (Standard Recommendations) (U.S. Fish and Wildlife Service 2011). A qualified biologist shall conduct a preconstruction survey, within the limits of proposed temporary and permanent construction footprints in the habitat identified in Figure 3.4-5, no less than 14 days and no more than 30 days before the beginning of ground disturbance. The biologist shall conduct den searches by systematically walking transects spaced 30 to 100 feet apart through the action area. Transect distance shall be determined on the basis of the height of vegetation such that 100 percent visual coverage of the ground disturbing area is achieved. If dens are found during the survey, the biologist shall map the location of each den as well as record the size and shape of the den entrance; the presence of tracks, scat, and prey remains; and if the den was recently excavated. Dens shall be classified in one of the following four den status categories: • Potential den: Any subterranean hole within the species' range that has entrances of appropriate dimensions for which available evidence is sufficient to conclude that it is being used or has been used by a San Joaquin kit fox (5 to 8 inches in diameter). Potential dens comprise: (1) any suitable subterranean hole; or (2) any den or burrow of another species (e.g., coyote, badger, red fox, or ground squirrel) that otherwise has appropriate characteristics for San Joaquin kit fox use. • Known den: Any existing natural den or artificial structure that is used or has been used at any time in the past by a San Joaquin kit fox. Evidence of use may include historical records; past or current radio telemetry or spotlighting data; San Joaquin kit fox signs such as tracks, scat, and/or prey remains; or other reasonable proof that a given den is being or has been used by a San Joaquin kit fox. • Natal or pupping den: Any den used by San Joaquin kit fox to whelp and/or rear their pups. Natal/pupping dens may be larger with more numerous entrances than dens occupied exclusively by adults. These dens typically have more San Joaquin kit fox tracks, scat, and prey remains in the vicinity of the den, and may have a broader apron of matted dirt and/or vegetation at one or more entrances. A natal den, defined as a den in which San Joaquin kit fox pups are actually whelped but not necessarily reared, is a more restrictive version of the pupping den. In practice, however, it is difficult to distinguish between the two; therefore, for purposes of this definition either term applies. • Atypical den: Any artificial structure that has been or is being occupied by a San Joaquin kit fox. Atypical dens may include pipes, culverts, and diggings beneath concrete slabs and buildings. If no potential dens are present, no further avoidance measures would be required. If potential San Joaquin kit fox dens are present, their disturbance and destruction shall be avoided. Results of the survey shall be submitted to USFWS and CDFW within one week of the completion of the survey and prior to the beginning of ground disturbance and/or construction activities likely to affect San Joaquin kit fox. If dens are located within the project footprint, the following avoidance buffers shall be applied: • Potential den – 50 feet • Atypical den – 50 feet • Known Den – 100 feet • Natal/pupping den – USFWS and CDFW shall be contacted for further guidance If the den is within the construction footprint and/or reservoir inundation area and if avoidance buffers are not possible, then dens may be collapsed following the guidance in the Standard Recommendations. Additional avoidance and minimization measures identified in the Standard Recommendations shall be implemented during construction in suitable kit fox habitat.	Del Puerto Water District and Exchange Contractors	Del Puerto Water District and Exchange Contractors, CDFW, USFWS	1. Confirm that requirements for kit fox protection are included in specifications. 2. Verify completion of preconstruction surveys of kit fox habitat. 3. Verify notification of USFWS and CDFW. 4. Confirm that avoidance buffers are established for dens in temporary disturbance areas and dens are collapsed appropriately if avoidance is not possible. 5. Verify implementation of standard measures during construction. Document compliance and retain in project file.	1. Design 2. Pre-Construction 3. Pre-Construction 4. Pre-Construction 5. Construction	1._____ 2._____ 3._____ 4._____ 5._____

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BIO-TERR-1: Substantial adverse effect on candidate, sensitive or special status species	**BIO-TERR-1p: Compensate for the Loss of San Joaquin Kit Dispersal Habitat** To compensate for the loss of potential kit fox dispersal habitat, the Project Partners shall obtain conservation easements on properties along the I-5/California Aqueduct corridors from Sperry Avenue/Diablo Grande Parkway (at I-5) north to the area around Del Puerto Creek to improve San Joaquin kit fox dispersal habitat in this area. Suitable areas for conservation easements are located to the east of I-5 to the California Aqueduct or to the west of I-5 (in between I-5 and the proposed dam structure). Both areas currently have abandoned orchards with dense understories of herbs and grasses that are unusable for San Joaquin kit fox. Improvements may include but would not be limited to removing old orchards, implementing vegetation management to keep herbs and grasses short, improve conditions for ground squirrel colonization (e.g., remove thatch, discontinue rodent control measures), and provide artificial kit fox dens along this corridor. A final mitigation plan shall be developed with input from USFWS and CDFW during consultation with the agencies. The plan shall include measures for the long-term management of these lands for the benefit of San Joaquin kit fox dispersal and include adaptive management measures.	Del Puerto Water District and Exchange Contractors	Del Puerto Water District and Exchange Contractors, CDFW, USFWS	1. Verify acquisition and improvement of conservation easements for kit fox dispersal. 2. Document consultation with agencies. Document compliance and retain in project file.	1. Design 2. Pre-Construction	1._____ 2._____
BIO-TERR-1: Substantial adverse effect on candidate, sensitive or special status species	**BIO-TERR-1q: Avoid and Minimize Impacts on American Badger** A qualified biologist shall conduct a preconstruction survey, within the limits of proposed temporary and permanent construction footprints, no more than 30 days before the beginning of ground disturbance. The biologist shall conduct den searches by systematically walking transects spaced 30 to 100 feet apart through the action area. Transect distance shall be determined on the basis of the height of vegetation such that 100 percent visual coverage of the ground disturbing area is achieved. If dens are found during the survey, the biologist shall map the location of each den as well as record the size and shape of the den entrance; the presence of tracks, scat, and prey remains; and if the den was recently excavated. If no dens are found no further mitigation is necessary. If potential American badger dens are located within the proposed work area and cannot be avoided during construction, a qualified biologist shall determine if the dens are occupied or were recently occupied using remote cameras, media tracking, or methodology coordinated with CDFW. If unoccupied, the qualified biologist shall request permission from CDFW to temporarily plug the burrow entrance with sandbags to prevent badgers from re-using them during construction, and or if necessary, to collapse these dens by hand. If occupied, the biologist shall consult with CDFW regarding best practices for encouraging the badger(s) to move to alternate dens outside the work areas, including excavation or construction of artificial dens.	Del Puerto Water District and Exchange Contractors	Del Puerto Water District and Exchange Contractors, CDFW	1. Confirm completion of preconstruction surveys. 2. Verify that dens are plugged or collapsed, and badgers relocated, if necessary. Document compliance and retain in project file.	1. Pre-Construction 2. Pre-Construction	1._____ 2._____
BIO-TERR-2: Substantial Adverse Effect on Riparian Habitat or Other Sensitive Natural Community LU-1: Conflict with Any Applicable Land Use Plan, Policy, or Regulation	**BIO-TERR-2: Compensate for Effects on Riparian Habitat or Other Sensitive Natural Community** Riparian habitat shall be created or acquired and permanently protected to compensate for project effects to ensure no net loss of riparian habitat functions and values. Land that could be acquired could include acres upstream of the reservoir or elsewhere that satisfied appropriate compensation ratios. Compensation ratios shall be based on site-specific information and determined through coordination with state and federal agencies (CDFW, USFWS, USACE, SWRCB). The compensation shall be at a minimum 1:1 ratio (1 acre restored or created for every 1 acre filled) and may be a combination of offsite restoration/creation and mitigation credits. A restoration and monitoring plan shall be developed and implemented concurrently with project construction. The plan shall describe how riparian habitat will be created and monitored, including funding mechanisms and appropriate long-term management measures, and agency reporting requirements.	Del Puerto Water District and Exchange Contractors	Del Puerto Water District and Exchange Contractors, CDFW, USFWS, USACE, SWRCB	1. Verify acquisition of compensation plant community and wetland habitat. 2. Document consultation with agencies. 3. Confirm preparation of management and monitoring plan for compensation habitat. Document compliance and retain in project file.	1. Pre-Construction 2. Pre-Construction 3. Construction	1._____ 2._____ 3._____
BIO-TERR-3: Substantial Adverse Effect on State or Federally Protected Wetlands	**BIO-TERR-3: Compensate for Adverse Effects on State or Federally Protected Wetlands** Suitable wetland habitat shall be created or acquired and permanently protected to compensate for project effects to ensure no net loss of wetland habitat functions and values. Compensation ratios shall be based on site-specific information and determined through coordination with state and federal agencies (CDFW, USFWS, USACE, SWRCB). The compensation shall be at a minimum 1:1 ratio (1 acre restored or created for every 1 acre filled) and may be a combination of offsite restoration/creation and mitigation credits. A restoration and monitoring plan shall be developed and implemented. The plan shall describe how wetland habitat will be created and monitored, including funding mechanisms and appropriate long-term management measures, and agency reporting requirements.	Del Puerto Water District and Exchange Contractors	Del Puerto Water District and Exchange Contractors, CDFW, USFWS, USACE, SWRCB	1. Verify acquisition of compensation wetland habitat. 2. Document consultation with agencies. 3. Confirm preparation of management and monitoring plan. Document compliance and retain in project file.	1. Pre-Construction 2. Pre-Construction 3. Construction	1._____ 2._____ 3._____

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BIO-TERR-4: Interference with the Movement of Native Resident or Migratory Wildlife Species or Established Native Resident or Migratory Wildlife Corridors or Use of Native Wildlife Nursery Sites	**BIO-TERR-4a: Implement Wildlife Crossings** Wildlife crossings and directional wildlife fencing will be incorporated into the new roadway. Crossings shall be composed of bridges and oversized culverts where possible. At all cut/fill locations, wildlife crossing will be considered; pre-engineered, prefabricated structures will be considered in lieu of fill. Crossings shall maximize structure height as much as possible to maximize openness and structure function for a wide range of species including larger ungulates and species which prefer large crossing. Larger structures shall be a minimum of 15 feet in height. Wildlife crossings and fencing shall be designed using the most up-to-date road ecology and wildlife crossing manuals and handbooks.	Del Puerto Water District and Exchange Contractors	Del Puerto Water District and Exchange Contractors	1. Confirm that requirements for crossings and fencing are included in plans for new road. 2. Confirm crossings are built as required. Document compliance and retain in project file.	1. Design 2. Post - construction	1._____ 2._____
BIO-TERR-4: Interference with the Movement of Native Resident or Migratory Wildlife Species or Established Native Resident or Migratory Wildlife Corridors or Use of Native Wildlife Nursery Sites	**BIO-TERR-4b: Wildlife Corridor Preservation and Enhancement** Wildlife connectivity and habitat between the proposed project and I-5 shall be conserved to the maximum extent possible in order to preserve a wide swath of habitat between I-5 and the proposed project. The conserved land shall be as wide as possible and shall incorporate habitat heterogeneity in order to facilitate the movement for a broad range of species.	Del Puerto Water District and Exchange Contractors	Del Puerto Water District and Exchange Contractors	1. Confirm that project plans include habitat corridor between project facilities and I-5. 2. Confirm suitable corridor is present. Document compliance and retain in project file.	1. Design 2. Post - construction	1._____ 2._____
BIO-TERR-4: Interference with the Movement of Native Resident or Migratory Wildlife Species or Established Native Resident or Migratory Wildlife Corridors or Use of Native Wildlife Nursery Sites	**BIO-TERR-4c: Roadway Wildlife Crossing Signage** Non-standard wildlife crossing warning signs shall be installed to alert and educate drivers to maintain the speed limit and stay alert for wildlife crossing the roadway. The signs shall engage drivers by providing explicit instructions. Flashing lights may also be used to draw driver attention to the signs.	Del Puerto Water District and Exchange Contractors	Del Puerto Water District and Exchange Contractors	1. Confirm that project plans and specification include required signage. 2. Verify signs installed. Document compliance and retain in project file.	1. Design 2. Post - construction	1._____ 2._____
BIO-TERR-5: Conflict with Local Policies or Ordinances Protecting Biological Resources	**BIO-TERR-5: Develop a Management Plan for the Protection and Enhancement of Oak Woodlands** Per Policy 4, 4.1, of the Stanislaus County General Plan, the Project Partners shall develop and implement a management plan for the protection and enhancement of oak woodlands to offset the loss of oak woodlands from the project. This plan will include measures for the protection, management, and enhancement of oak woodlands on lands that are acquired for the development of the reservoir but that are above the high-water line for the reservoir. A minimum of 1 acre of oak woodland shall be preserved, managed, and monitored for every acre of oak woodland lost as a result of project implementation.	Del Puerto Water District and Exchange Contractors	Del Puerto Water District and Exchange Contractors	1. Verify preparation of management plan. 2. Confirm implementation of plan. Document compliance and retain in project file.	1. Pre-Construction 2. Post-Construction	1._____ 2._____

BIO-FISH-1: Substantial Adverse Effect on Candidate, Sensitive, or Special Status Species	**BIO-FISH-1: Spawning Gravel Monitoring and Mitigation** A spawning gravel mitigation and monitoring plan shall be developed and implemented by the Project Partners to address potential impacts on white sturgeon spawning habitat in the San Joaquin River. The goal of the plan will be to ensure no long-term deficits in the supply of gravel from Del Puerto Creek to the San Joaquin River. The plan shall include pre- and post-project measurements of bedload transport rates, channel morphology, and bed composition in lower Del Puerto Creek, and an implementation plan for augmenting gravel in this reach if monitoring detects a significant reduction in gravel loads to the San Joaquin River. The purpose of pre-project monitoring would be to define baseline bedload transport rates and channel and bed characteristics prior to dam construction and operation. These measurements would serve as a reference point for evaluating changes in the sediment budget of lower Del Puerto Creek following dam construction. Existing modeling results of the sediment transport capacity of Del Puerto Creek near the proposed dam site and near its confluence with the San Joaquin River would be used to establish initial estimates of gravel transport loads associated with the proposed environmental flow releases (≥ 500 cfs) (Woodard & Curran 2019). These estimates would be used in combination with pre- and post-project measurements of sediment transport and channel and bed characteristics to evaluate changes in the supply of gravel to the San Joaquin River. A professional geomorphologist shall develop a detailed geomorphic monitoring and assessment plan that will be included as part of the mitigation and monitoring plan. Key components of the plan will include a statement of the goals and objectives, pre-project surveys to establish sediment transport and channel monitoring stations, and a detailed description of the sampling design and pre- and post-project monitoring and assessment methods. The number and location of monitoring stations shall be sufficient to characterize pre- and post-project trends in gravel inputs, storage, and outputs in lower Del Puerto Creek as well as associated changes in channel form (e.g., cross sections) and size composition of the bed material. The need for post-project gravel augmentation will be based on the detection of significant changes in sediment (gravel) transport loads, channel form, and bed composition in lower Del Puerto Creek. Because the proposed environmental flow releases are expected to maintain the sediment transport capacity of the creek, any major deficits in the supply of gravel to the channel downstream of the dam would be expected to result in reductions in gravel transport loads and potential changes in channel and bed characteristics such as bed incision, bank widening, and bed coarsening. The following criteria are proposed as thresholds to determine substantial sediment deficits and the need for gravel augmentation: • Post-project measurements of gravel transport loads during peak flow releases indicate that loads have been substantially reduced (>10%) relative to pre-project levels. • A comparison of pre- and post-project channel characteristics (bed elevations, channel widths, and slopes) indicates a substantial change (>10%) in channel morphology associated with a sediment deficit. • A comparison of pre- and post-project bed composition measurements indicates a substantial reduction (>10%) in the amount of gravel (2- to 64-mm diameter) available for transport in the active channel of lower Del Puerto Creek. Because the frequency of monitoring will be dictated by the frequency of major flow events and environmental releases, sediment and channel monitoring will be conducted over a sufficient period to encompass at least three major flow events (≥ 500 cfs) during the post-project monitoring period. Repeated measurements of sediment and channel characteristics over a number of years are necessary to detect major shifts in the sediment regime amid the variability in scour and fill dynamics that may occur over shorter time frames. Although it would be ideal to monitor an equal number of pre-project events, this will likely not be possible because of the limited time frame before project implementation. In this case, the modeled or estimated sediment transport capacity of the creek and the characterization of pre-project channel and bed characteristics will serve as the primary reference conditions for the post-project evaluation. The spawning gravel mitigation and monitoring plan shall also include a description of the spawning gravel augmentation program that would be implemented if monitoring detects a significant reduction in the supply of gravel to the San Joaquin River. The plan will include a list of potential gravel sources (borrow or spoil sites[1]), a description of the methods for determining the locations of gravel placement sites, a description of the monitoring methods that will be used to ensure the effectiveness of mitigation, and a description of the implementation schedule, agency coordination requirements, funding commitments, reporting, and regulatory/permitting requirements of the program.	Del Puerto Water District and Exchange Contractors	Del Puerto Water District and Exchange Contractors	1. Confirm preparation of monitoring and assessment plan and completion of pre-project surveys. 2. Verify completion of post-project assessment. 3. If deficits in gravel transport are identified confirm implementation of gravel augmentation plan. Document compliance and retain in project file.	1. Pre-construction 2. Post-Construction 3. Operation	1._____ 2._____ 3._____
Cultural Resources						
CULT-2: Substantial Adverse Change in Significance of an Archaeological Resource	**CULT-1: Treatment Plan for Site P-50-0344** Prior to construction, a Cultural Resources Treatment Plan shall be implemented for site P-50-0344. The treatment plan will establish the procedures and documentation needed to carry out data recovery for the resource. The treatment plan	Del Puerto Water District	Del Puerto Water District	1. Confirm preparation of treatment plan.	1. Pre-Construction	1._____

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	will include field methods required for data recovery excavations, requirements and procedures for recordation, analysis, curation, reporting, and any other documentation or methods used for adequately mitigating the site. Collectively, the treatment plan shall characterize the nature of the assemblage and data potential at the site as well as synthesize and capture data that may be lost caused by the construction and operations impacts of the project.	and Exchange Contractors	and Exchange Contractors	2. Verify completion of data recovery. Document compliance and retain in project file.	2. Pre-construction	2._____
CULT-2: Substantial Adverse Change in Significance of an Archaeological Resource	**CULT-2: Implement measures to protect previously unidentified cultural resources** Construction will stop if potential cultural resources are encountered. If signs of an archaeological site, such as any unusual or large amounts of bone, stone, or shell, lumber, ceramics, cans, bottles, or any other prehistoric (Native American) or historic cultural resources are uncovered during grading or other construction activities, work will be halted within 100 feet of the find and the Del Puerto Water District and Exchange Contractors will be notified. A qualified archaeologist meeting the Secretary of the Interior's Professional Qualification Standards for prehistoric and historic archaeology shall be retained to evaluate the significance of the find and shall have the authority to modify the temporary no-work 100-foot radius as appropriate, using professional judgement. will be consulted for an on-site evaluation. If the site is or appears to be eligible for listing on the CRHR, additional mitigation, further testing for evaluation, and/or data recovery may be necessary. If the qualified archaeologist determines that the find does not represent a cultural resource, then work may resume immediately and no further agency coordination is required. During operations, a qualified archeologist will conduct a pedestrian survey of the reservoir shore (i.e., the primary area where the water level fluctuates) during periodic maintenance periods of the reservoir or facilities (once every 5-years). This pedestrian survey will identify if there are unknown buried archaeological resources that may have been exposed during water level fluctuations. If cultural resources are found, the archaeologist will determine whether the resource is or appears to be eligible for listing on the CRHR and may be significant pursuant to Appendix G of the *CEQA Guidelines* §15064.5 and PRC Section 21083.2. If the resources are determined to be eligible and significant, the archaeologist will recover the resource(s) pursuant to standard data recovery practices prior to the refilling of the reservoir.	Del Puerto Water District and Exchange Contractors	Del Puerto Water District and Exchange Contractors	1. Confirm that specifications include measures requiring appropriate handling of inadvertent discoveries and that construction personnel are briefed on procedures. 2. If signs of an archaeological site are encountered confirm that construction is halted, archaeologist evaluates find, and appropriate measures are taken. 3. Verify that shoreline surveys are conducted once every 5 years. Document compliance and retain in project file.	1. Pre-construction 2. Construction 3. Operation	1._____ 2._____ 3._____ 4._____
CULT-3: Disturbance of Human Remains	**CULT-3: Implement measures if construction activities inadvertently discover or disturb human remains** If human remains are discovered during any stage of construction, including disarticulated or cremated remains, the construction contractor will immediately cease all ground-disturbing activities within 100 feet of the remains and notify the Del Puerto Water District and the Stanislaus County Coroner. In accordance with California Health and Safety Code section 7050.5, no further disturbance will occur until the following steps have been completed: • The Stanislaus County Coroner has made the necessary findings as to the origin and disposition pursuant to Public Resources Code section 5097.98. • If the remains are determined by the County Coroner to be Native American, the Coroner shall notify NAHC within 24 hours. A professional archaeologist with Native American burial experience will conduct a field investigation of the specific site and consult with the most likely descendant, if any, identified by the NAHC. As necessary and appropriate, the professional archaeologist may provide technical assistance to the most likely descendant, including the excavation and removal of the human remains.	Del Puerto Water District and Exchange Contractors	Del Puerto Water District and Exchange Contractors, County Coroner, NAHC	1. Confirm appropriate notifications have occurred if human burials are encountered. 2. Confirm human remains have been accorded appropriate treatment. Document compliance and retain in project file.	1. Construction 2. Construction.	1._____ 2._____
Geology, Soils, and Seismicity						
GEO-1: Substantial adverse effects due to strong seismic ground shaking, seismic-related ground failure, including liquefaction, and landslides Resources	**GEO-1: Perform Design-Level Geotechnical Evaluations for Seismic Hazards** During the design phase for the proposed project, the Project Partners shall prepare a design level Geotechnical Investigation and Report. The Geotechnical Investigation and Report shall further investigate and evaluate subsurface conditions, potential geohazards, and provide further project – specific information for development of excavation and construction plans and procedures. The geotechnical evaluations shall include appropriate site-specific geotechnical investigations including those focused on the geologic units and soils of the project area that could become unstable as a result of the project and shall be based on the site conditions, location, and professional opinion of the geotechnical engineer. Investigations may include subsurface drilling, soil testing, and analysis of site seismic response to determine	Del Puerto Water District and Exchange Contractors	Del Puerto Water District and Exchange Contractors	1. Confirm geotechnical evaluations have been completed. 2. Verify that plans and specifications incorporate measures identified in the geotechnical study.	1. Design 2. Design.	1._____ 2._____

[1] Existing sites include the spoil site that is currently used for ongoing channel maintenance activities in Del Puerto Creek (California Department of Water Resources 2015).

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GEO-3: Location of the proposed project on a geologic unit or soil that is unstable, or that would become unstable as a result of the Project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction, or collapse	appropriate and feasible measures to be incorporated into the project design. A geotechnical interpretive report shall be prepared to detail the findings of the evaluations. The performance standard to be used in the geotechnical evaluations will be minimization of the hazards associated with seismic ground shaking, landslides, and subsidence. If the results of the geotechnical investigations indicate the presence of hazards, appropriate support and protection measures shall be designed and implemented. Potential landslide mitigation measures that could be considered include avoidance of the feature, or reduction of vulnerability to the project through engineering design. Engineered mitigation options may include subdrains, dewatering, and/or systems to prevent surface water infiltration, and/or design of appropriate stabilization approaches to reduce driving forces and/or increase resisting forces, including retaining walls and mechanically stabilized embankments. Monitoring of the hazardous features including performance of any mitigation option will be included as part of the long-term operation and maintenance of the proposed project. Recommendations provided in the Geotechnical Investigation and Report shall be incorporated into the final construction plans and specifications and shall augment the design and construction requirements of the California Department of Water Resources Division of Safety of Dams (DSOD) dam safety guidelines. Design of the project shall comply with all measures required by DSOD.					
GEO-2: Substantial soil erosion or loss of topsoil HYD-1: Violate any Water Quality Standards or Waste Discharge Requirements or Otherwise Substantially Degrade Surface or Ground Water Quality	**GEO-2: Prepare and implement a SWPPP and associated BMPs** Before any ground-disturbing activities begin, the Project Partners shall prepare a Project Specific SWPPP that will be implemented as part of the Construction General Permitting Process. The contractor hired by the Project Partners to implement the SWPPP shall review and certify they will implement the BMPS identified on the SWPPP, including an erosion control plan, and measures to eliminate construction waste measures to ensure that waters of the United States and the state are protected. The SWPPP shall include site design measures to minimize off-site stormwater runoff that might otherwise affect surrounding habitats. The Central Valley Regional Water Quality Control Board will review and monitor the effectiveness of the SWPPP through mandatory reporting by the Project Partners and the construction contractor as required. The SWPPP shall be prepared with the following objectives: • Identify all pollutant sources, including sources of sediment, that may affect the quality of stormwater discharges from construction of the project. • Identify BMPs that effectively reduce or eliminate pollutants in stormwater discharges and authorized non-stormwater discharges from the site during construction to the Best Available Technology/Best Control Technology standard. • Provide calculations and design details as well as BMP controls for site run-on that are complete and correct. • Identify project discharge points and receiving waters. • Provide stabilization BMPs to reduce or eliminate pollutants following construction. The construction contractor shall implement the SWPPP, including all BMPs, and shall inspect all BMPs during construction. Potential SWPPP BMPs could include but would not be limited to the following: • Preserve existing vegetation where possible. • Roughen the surfaces of final grades to prevent erosion, decrease runoff, increase infiltration, and aid in vegetation establishment. • Place riparian buffers or filter strips along the perimeter of the disturbed area to intercept pollutants before off-site discharge. \ • Place fiber rolls around on-site drain inlets to prevent sediment and construction related debris from entering inlets. • Place fiber rolls along down-gradient disturbed areas of the site to reduce runoff flow velocities and prevent sediment from leaving the site. • Place silt fences down-gradient of disturbed areas to slow down runoff and retain sediment. • Stabilize the construction entrance to reduce the tracking of mud and dirt onto public roads by construction vehicles.	Del Puerto Water District and Exchange Contractors	Del Puerto Water District and Exchange Contractors	1. Verify preparation of SWPPP. 2. Confirm implementation of BMPs. Document compliance and retain in project file.	1. Pre-Construction 2. Construction	1._____ 2._____

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	• Stage excavated and stored construction materials and soil stockpiles in stable areas and cover or stabilize materials to prevent erosion. • Stabilize temporary construction entrances to limit transport/introduction of invasive species and control fugitive dust emissions.					
GEO-4: Location of the proposed project on expansive soil creating substantial direct or indirect risk to life or property	**GEO-3: Site-specific geotechnical investigation for soil expansion** The design-level geotechnical evaluation shall consider the potential for expansive soils and include measures that would ensure that structures are not damaged by expanding and contracting soils. Feasible measures would include removal and replacement of soil, deep foundations, or deep mixing of compressible or expansive soils with stabilizing agents. All measures included in the geotechnical evaluation shall be incorporated into project design specifications.	Del Puerto Water District and Exchange Contractors	Del Puerto Water District and Exchange Contractors	1. Confirm geotechnical evaluations have been completed. 2. Verify that plans and specifications incorporate measures identified in the geotechnical study.	1. Design 2. Design.	1._____ 2._____
GEO-5: Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature	**GEO-4: Preparation and implementation of a Paleontological Resources monitoring and protection plan** A Paleontological Resources, Monitoring, and Protection Plan (Paleontological Plan) shall be prepared for the proposed project by a paleontologist or similar professional. The Paleontological Plan shall include BMPs to be followed by the contractor during construction of the proposed project. The Paleontological Plan may include, but is not limited to: • Processes and requirements for the observation of grading and earth disturbing activities to watch for fossils or other paleontological resources including identification of those construction activities/components of the proposed project that might require monitoring. • A process to follow if paleontological resources are discovered, including: o Stop all work and salvage unearthed fossil remains including simple excavation of exposed specimens or, if necessary, plaster-jacketing of large and/or fragile specimens, or richly fossiliferous deposits o Record stratigraphic and geologic data to provide a context for the recovered fossil remains, typically including a detailed description of all paleontological localities within the project site, as well as the lithology of fossil-bearing strata within the measured stratigraphic section, if feasible, and photographic documentation of the geologic setting o Prepare collected fossil remains for curation, to include cleaning the fossils by removing the enclosing rock material, stabilizing fragile specimens using glues and other hardeners, if necessary, and repairing broken specimens; o Curate, catalog and identify the fossil remains to the lowest taxon possible, inventory specimens, assign catalog numbers, and enter the appropriate specimen and locality data into a collection database; and o Transfer the cataloged fossil remains to an accredited institution (museum or university) in California that maintains paleontological collections for archival storage and/or display. The transfer shall include copies of relevant field notes, maps, stratigraphic sections, and photographs. o Prepare a Paleontological Resources Mitigation Report summarizing the field and laboratory methods used, the stratigraphic units inspected, the types of fossils recovered, and the significance of the fossils collected, and provide this report to the Project Partners, Stanislaus County, and appropriate paleontological programs/institutions near the proposed project site such as the University of California (Berkeley) Museum of Paleontology or the Natural History Museum of Los Angeles County. The Paleontological Plan shall be reviewed and implemented by the Project Partners and the contractor.	Del Puerto Water District and Exchange Contractors	Del Puerto Water District and Exchange Contractors	1. Confirm preparation of paleontological plan. 2. Confirm that plans and specifications incorporate measures identified in the Paleontological Plan. 3. If resources are encountered verify appropriate treatment and curation of fossil remains. Document compliance and retain in project file.	1. Pre-Construction 2. Pre-Construction 3. Construction	1._____ 2._____ 3._____

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Greenhouse Gas Emissions						
GHG-1: Generate greenhouse gas emissions that may have a significant impact on the environment GHG-2: Conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of greenhouse gases	**GHG-1: Best Performance Standards** The Project Partners shall implement all feasible Best Performance Standards. The SJVAPCD defines Best Performance Standards as "the most effective in-practice means of reducing or limiting GHG emissions from a GHG emissions source." Types of Best Performance Standards that the proposed project shall implement during construction could include but would not be limited to: • Use equipment types that rely on electric and/ or hybrid fuel, which has the potential to reduce GHG emissions up to 22% (CAPCOA 2010). Note that biodiesel fuel use, while beneficial for reducing particulate matter emissions, does not have a substantial effect, and may actually increase, NO_X and CO_2e emissions. • Limit the size of the construction vehicle fleet, especially vehicles with high Hp (e.g., helicopters), as much as possible. • Limit the amount of time that construction vehicles are operating. • Maintain construction equipment in the best possible working order to maximize engine fuel efficiency • All equipment shall be operated by a properly trained worker to minimize unnecessary vehicle use. • Encourage workers to carpool to and from the site. • Phase vendor and hauling trips. • Where cost effective, mitigate the project's GHG emissions through the one-time purchase of accredited carbon offsets (current price is approximately \$0.50/$MTCO_2e$ for international offsets, \$3.50/$MTCO_2e$ for offsets within the United States, and \$8.50/$MTCO_2e$ for in-state offsets) Types of Best Performance Standards that the proposed project shall implement during long-term operations include: • Implement the most energy efficient equipment design possible • Rely on alternative sources of energy, such as solar, hydro or wind power • Encourage operations and maintenance employees to carpool or otherwise commute using a method other than a single-occupancy fossil-fuel powered vehicle.	Del Puerto Water District and Exchange Contractors	Del Puerto Water District and Exchange Contractors	1. Confirm specifications include best performance standards to reduce GHG emissions during construction. 2. Document purchase of carbon offsets, if applicable. 3. Verify implementation of measures during construction. 4.Verify use of energy efficient pumps. 5. Document use of carbon neutral energy sources, if applicable. 6. Document transportation measures, if applicable. Document compliance and retain in project file.	1. Design 2. Pre-Construction 3. Construction 4. Design 5. Operation 6. Operation	1._____ 2._____ 3._____ 4._____ 5._____ 6._____
Hazards and Hazardous Materials						
HAZ-1: Create a Hazard through Reasonably Foreseeable Upset and Accident Conditions to the Public and the Environment Involving Release of Hazardous Materials into the Environment	**HAZ-1a: Hazardous Materials Management and Spill Control Plan** Before construction begins, the Project Partners shall require all construction contractors to develop and implement a Hazardous Materials Management and Spill Control Plan (HMMSCP) that includes project-specific contingency plan for hazardous materials and waste operations, including management of contaminated soil. The HMMSCP shall be reviewed and approved by Project Partners and shall establish policies and procedures consistent with applicable codes and regulations, including but not limited to the California Building and Fire Codes, as well federal OSHA and Cal/OSHA regulations. Any substance defined by the California Accidental Release Program as extremely hazardous would also require preparation of a Risk Management Plan. Elements of the HMMSCP shall include, but not be limited to the following: • A discussion of hazardous materials management, including delineation of hazardous material storage areas, access and egress routes, waterways, emergency assembly areas, and temporary hazardous waste storage areas; • Notification and documentation of procedures; and • Spill control and countermeasures, including employee spill prevention/response training.	Del Puerto Water District and Exchange Contractors	Del Puerto Water District and Exchange Contractors	1. Confirm requirement for HMMSCP is included in specifications. 2. Confirm contractor has prepared plan, and required elements are included. 3. Confirm implementation of plan. Document compliance and retain in project file.	1. Design 2. Pre-construction 3. Construction	1._____ 2._____ 3._____

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HAZ-1: Create a Hazard through Reasonably Foreseeable Upset and Accident Conditions to the Public and the Environment Involving Release of Hazardous Materials into the Environment	**HAZ-1b: Preparation of Hazardous Materials Business Plan** If project operations involve the use, handling or storage of hazardous materials in excess of threshold quantities, prior to operation of the new facilities, Project Partners shall prepare and implement a Hazardous Materials Business Plan (HMBP) for the proposed project. The plan shall be prepared in accordance with the Hazardous Materials Business Plan Program (California Health and Safety Code, Section 25500, et seq., and the related regulations in CCR Title 19 Section 2620, et seq.), and shall be filed with the California Environmental Reporting System. The HMBP shall include a hazardous materials inventory, site plan, an emergency response plan, and requirements for employee training.	Del Puerto Water District and Exchange Contractors	Del Puerto Water District and Exchange Contractors	1. Confirm preparation of HMBP. 2. Verify submittal to California Environmental Reporting System. Document compliance and retain in project file.	1. Prior to start of operations 2. Prior to start of operations	1._____ 2._____
HAZ-1: Create a Hazard through Reasonably Foreseeable Upset and Accident Conditions to the Public and the Environment Involving Release of Hazardous Materials into the Environment	**HAZ-1c: Implement Avoidance and Minimization Measures for Impacts Related to the Abandoned Oil Wells** During the project design phase, Project Partners shall verify exact locations of all wells where project construction would disturb the soil above the well location and shall mark the locations of wells for future reference. Special attention shall be paid to Wells 3 and 6, which are potentially located in the footprint of the reservoir inundation area and roadway realignment, respectively. For any well that is outside the project footprint but within 100 feet of the proposed construction area, Project Partners shall impose a 10-foot, no-build buffer zone around the well. If any wells are within the area that would be affected by construction or operation of the project. Project Partners shall determine if avoidance is feasible, and if the avoidance is not possible, **Mitigation Measure HAZ-1d** shall be implemented.	Del Puerto Water District and Exchange Contractors	Del Puerto Water District and Exchange Contractors	1. Confirm locations of wells identified. 2. Confirm design avoids inundation of wells, if feasible. Document compliance and retain in project file. .	1. Design 2. Design	1._____ 2._____ 3._____
HAZ-1: Create a Hazard through Reasonably Foreseeable Upset and Accident Conditions to the Public and the Environment Involving Release of Hazardous Materials into the Environment	**HAZ-1d: Management of Abandoned Oil Wells** For any wells determined to be within the proposed footprint of project facilities, Project Partners shall work with the Geologic Energy Management Division (CalGEM) to ensure that any abandoned well within the inundation area of the Del Puerto Canyon Reservoir is abandoned to current standards. CalGEM will conduct a lease and site inspection for the well. If the well is determined to be hazardous it shall be re-abandoned to current standards. If any unknown wells are discovered during project construction CalGEM shall be notified immediately. Work on abandoned wells shall be permitted and approved by CalGEM, including any modifications, re-abandonment, or mitigation of leaking fluids or gas. Project Partners shall communicate pertinent information from CalGEM to the appropriate county recorder for inclusion in the title information of the subject real property. Physical access to any abandoned well shall be maintained in the event re-abandonment becomes necessary in the future. Rig access shall be maintained to allow a well servicing rig and associated necessary equipment to reach the well without disturbing the surrounding infrastructure. Requirements for physical access shall be considered during design and shall be coordinated with CalGEM.	Del Puerto Water District and Exchange Contractors	Del Puerto Water District and Exchange Contractors, CalGEM	1. If necessary, verify appropriate abandonment of any wells in inundation area. 2. Confirm access to abandoned wells is incorporated in design. 3. Confirm specifications prescribe actions to be taken for any unknown wells discovered during construction. 4. Verify compliance with CalGEM requirements pertaining to abandoned wells. Document compliance and retain in project file.	1. Design 2. Design 3. Design 4. Construction	1._____ 2._____ 3._____ 4._____

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HAZ-1: Create a Hazard through Reasonably Foreseeable Upset and Accident Conditions to the Public and the Environment Involving Release of Hazardous Materials into the Environment	**HAZ-1e: Soil Sampling and Disposal** Prior to acquiring property or obtaining easements for construction of project facilities, Project Partners shall complete a Phase I Environmental Site Assessment for soil and groundwater contamination and potential hazardous materials in structures. The recommendations set forth in the Phase I assessment shall be implemented to the satisfaction of applicable agencies before construction begins. If Phase I assessments indicate the potential for contamination, a Phase II Environmental Site Assessment shall be completed before construction begins. The Phase II assessment may include building material, soil and/or groundwater sampling and analysis for any anticipated contaminants. If the Phase I assessment identifies potential presence of contamination from agricultural activities, the Phase II Assessment would include evaluation of abandoned orchards to test for the presence of organochlorine pesticides (OCPs) in accordance with DTSC's Interim Guidance for Sampling Agricultural Properties. The Phase II sampling is intended to identify how to dispose of any potentially harmful material from excavations, and to determine if construction workers need specialized personal protective equipment while constructing the pipeline through that area. Contaminated soil will not be reused for backfill following excavation. If soil or groundwater contaminated by potentially hazardous materials is exposed or encountered during construction that was not identified in the Phase I assessment, the appropriate hazardous materials agencies shall be notified. If contaminated soils must be excavated and removed from the site, the removal of contaminated soil would be subject to the measures described under **Mitigation Measure HAZ-1a.**	Del Puerto Water District and Exchange Contractors	Del Puerto Water District and Exchange Contractors, DTSC	1. Confirm completion of Phase I assessment. 2. If necessary, confirm completion of Phase II assessment. 3. Confirm appropriate requirements are included in specification if needed. 4. Confirm appropriate disposal of any contaminated soil present in the project area. Document compliance and retain in project file.	1. Design 2. Design 3. Design 4. Construction	1._____ 2._____ 3._____ 4._____
Hydrology and Water Quality						
HYD-1: Violate any Water Quality Standards or Waste Discharge Requirements or Otherwise Substantially Degrade Surface or Ground Water Quality	**HYD-1a: Comply with General Order for Dewatering or Other Appropriate NPDES Permit** To minimize the impacts to water quality from dewatering activities, the Project Partners shall implement measures contained in the General Order for Dewatering or other appropriate NPDES permit or Waste Discharge Requirement.	Del Puerto Water District and Exchange Contractors	Del Puerto Water District and Exchange Contractors	1. Confirm requirements for permitting of dewatering are included in specifications.. 2. Confirm contractor has obtained authorization for discharge 3. Verify implementation of requirements during construction. Document compliance and retain in project file.	1. Design 2. Pre-construction 3. Construction	1._____ 2._____ 3._____
HYD-1: Violate any Water Quality Standards or Waste Discharge Requirements or Otherwise Substantially Degrade Surface or Ground Water Quality	**HYD-1b: Comply with Reclamation Monitoring Plan for Non-Project Water Pump-in** To minimize impacts to water quality for downstream users of the CVP, the Project Partners shall implement a monitoring plan based on the *Delta Mendota Canal Non-Project Water Pump-in Program Monitoring Plan* (USBR 2018) to ensure compliance with Reclamation water quality standards. The monitoring plan will include sampling and testing of water quality prior to water entering the DMC. Contingency plans shall be implemented if water quality does not meet Reclamation standards.	Del Puerto Water District and Exchange Contractors	Del Puerto Water District and Exchange Contractors, Reclamation	1. Confirm preparation of monitoring plan. 2. Confirm ongoing water quality monitoring. Document compliance and retain in project file.	1. Pre-construction 2. Operation	1._____ 2._____
HYD-2: Substantially Decrease Groundwater Supplies or Interfere Substantially with Groundwater Recharge Such That the Project May Impede Sustainable Groundwater Management of the Basin	**HYD-2: Develop Operation Requirements to Deliver Recharge Water to Lower Del Puerto Creek** The Project Partners shall develop an operations manual that describes water delivery to the lower reach of Del Puerto Creek below the proposed dam to make up for lost natural seepage due to the proposed project. The manual shall provide releases, for the City of Patterson's benefit depending on water year type and Del Puerto Creek inflows, of up to 1,700 AFY. Such releases will augment existing/no-project in-stream recharge conditions.	Del Puerto Water District and Exchange Contractors	Del Puerto Water District and Exchange Contractors, City of Patterson	1. Confirm completion of operations manual. 2. Document implementation of program of releases. Document compliance and retain in project file.	1. Design 2. Operation	1._____ 2._____
Land Use and Recreation						
LU-1: Conflict with Any Applicable Land Use Plan, Policy, or Regulation	**LU-1: Minimize Transmission Structures in Highway Service Commercial Areas** The relocated transmission towers shall be sited to avoid areas zoned for highway service commercial use.	Del Puerto Water District and Exchange Contractors	Del Puerto Water District and Exchange Contractors	1. Confirm location of towers is outside highway commercial area. Document compliance and retain in project file.	1. Design	1._____

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Traffic and Transportation						
TR-1: Conflict with a Plan, Ordinance or Policy Addressing the Circulation System, Including Transit, Roadway, Bicycle and Pedestrian Facilities	**TR-1: I-5 Sperry Avenue Interchange Improvements Project Contributions** The Project Partners shall work with Stanislaus County and the City of Patterson to contribute a fair share toward the planned I-5 Sperry Avenue Interchange Improvements project. The signal at the I-5 Southbound Ramps intersection is required to mitigate the project impact. The signal at the I-5 Northbound Ramps intersection is recommended to provide efficient operations at both intersections, which are closely spaced and which would not function acceptably with signal control at one intersection and side-street stop-control at the other. The proportional share calculation should take into account the existing deficiency at the Southbound Ramps intersection and the non-project traffic volume growth between the existing conditions and near-term conditions without the project, as well as the County and City's plans to secure other state and federal funding for the Interchange Improvements project. Alternatively, the Project Partners may pay a traffic mitigation fee per peak hour trip or another negotiated contribution. Because the planned Interchange Improvements Project is not expected to be fully funded and complete until after the proposed project's construction period, Stanislaus County and the City of Patterson may choose to use the funding contribution, along with other funding sources if available, to erect temporary traffic signals during dam and roadway realignment construction. In addition to contributing funding for a traffic signal at the I-5/Sperry Avenue Interchange, the project partners shall explore development of alternative access to the dam site. It may be possible to direct a portion of the construction traffic along Zacharias Road. Although the public road ends at the DMC, there are bridges across the DMC and California Aqueduct and an undercrossing of Interstate 5, which could provide access to the dam site.	Del Puerto Water District and Exchange Contractors	Del Puerto Water District and Exchange Contractors, Stanislaus County	1. Document financial contribution to interchange project or payment of mitigation fee. 2. If alternate access is determined to be feasible, confirm that access requirements are included in specifications. 3. Verify compliance with the specifications regarding access. Document compliance and retain in project file.	1. Pre-Construction 2. Design 3. Construction	1._____ 2._____ 3._____
TR-3: Substantially Increase Hazards Due to a Geometric Design Feature (e.g., Sharp Curves or Dangerous Intersections) or Incompatible Uses (e.g., Farm Equipment) TR-4: Result in Inadequate Emergency Access	**TR-2: Implementation of Construction Traffic Management Plan** The Project Partners shall prepare a detailed Construction Traffic Management Plan to address traffic conditions throughout the construction period. As part of the plan development, the Project Partners and their construction contractors shall meet with appropriate Stanislaus County, City of Patterson, and Caltrans departments to determine traffic management strategies to reduce, to the maximum extent feasible, traffic congestion and safety effects during construction of the proposed project. The Project Partners shall develop the plans for review and approval by the appropriate City, County and Caltrans departments. The plans shall include at least the following items and requirements: A. A set of comprehensive traffic control measures, including scheduling of major truck trips and deliveries to avoid peak traffic hours, detour signs if required, lane closure procedures, signs, cones for drivers, and designated construction access routes. B. Location of construction staging areas for materials, equipment, and vehicles at approved locations. C. A process for responding to, and tracking, complaints pertaining to construction activity, including identification of an on-site complaint manager. The manager shall determine the cause of the complaints and shall take prompt action to correct the problem. D. Provision for accommodation of pedestrians and bicyclists in the construction area. E. Provision for parking management and spaces on the project site for all construction workers to ensure that construction workers do not park on-street where insufficient shoulder space exists. F. A plan for restoration of pavement to pre-construction conditions after completion of all construction. G. Other items deemed necessary by the City, County and Caltrans during preparation of the Construction Traffic Management Plan.	Del Puerto Water District and Exchange Contractors	Del Puerto Water District and Exchange Contractors, Stanislaus County Department of Public Works, City of Patterson, Caltrans	1. Confirm requirement for Traffic Management Plan is incorporated in specifications. 2. Review and approve Plan and confirm submittal to appropriate City, County and Caltrans departments. 3. Confirm measures are implemented during construction. Document compliance and retain in project file.	1. Design 2. Pre-Construction 3. Construction	1._____ 2._____ 3._____

Agency Abbreviations: CDFW=California Department of Fish and Wildlife, CalGEM=California Geologic Energy Management Division, DTSC=Department of Toxic Substances Control, NAHC=Native American Heritage Commission, SJVAPCD=San Joaquin Valley Air Pollution Control District, SWRCB=State Water Resources Control Board, USFWS=U.S. Fish and Wildlife Services, USACE=U.S. Army Corps of Engineers