

TABLE 1
SUMMARY OF MITIGATION MONITORING REQUIREMENTS

Mitigation Measure	Timing/Implementation	Responsible Parties	Verification (date and initials)
GEOLOGY/SOILS			
<i>Mitigation Measure #1 – Erosion and Sedimentation Control</i>			
<p>A. Type D erosion-control measures (i.e., hydroseeding) shall be implemented during construction of the proposed project in non-riparian upland areas. These measures shall conform to the provisions in Section 20-3 of the Caltrans Standard Specifications and the special provisions included in the contract for the project.</p> <p>B. Erosion-control work shall consist of one application of erosion-control materials within non-riparian upland areas to embankment slopes, excavation slopes, and other areas designated by the project Engineer. These materials shall consist of fiber, seed, commercial fertilizer, and water. These materials shall conform to Section 20-2 of the Caltrans Standard Specifications and the specifications discussed below. Commercial fertilizer used for non-riparian upland areas shall conform to the provisions in Section 20-2.02 of the Caltrans Standard Specifications.</p> <p>C. Activities that increase erosion potential shall be restricted to the relatively dry summer and early fall period to the maximum extent practicable to minimize the potential for rainfall events to transport sediment to the adjacent surface water features. If these activities must take place during the late fall, winter, or spring, then temporary erosion and sediment control Best Management Practices (BMPs) will be placed and operational at the end of each construction day and maintained until permanent erosion-control features are in place.</p> <p>D. Areas where wetland and upland vegetation need to be removed shall be identified in advance of ground disturbance and limited to only those areas that have been approved by the City.</p> <p>E. When construction has been completed, weed-free mulch shall be applied to disturbed areas within 10 days in order to reduce the potential for short-term erosion. Prior to a rain event or when there is a greater than 50 percent possibility of rain forecasted by the National Weather Service during the next 24 hours, weed-free mulch shall be applied to all exposed areas upon completion of the day's activities.</p>	<p>During Construction</p>	<p>Contractor (implementation) City of Redding (monitoring)</p>	

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<p>Soils shall not be left exposed during the rainy season.</p> <p>F. BMPs such as filter fences and catch basins shall be placed below all construction activities near the Sacramento River and other adjacent surface water features to intercept sediment before it reaches the waterway. These structures shall be installed prior to any clearing or grading activities.</p> <p>G. Spoil sites shall be located such that they do not drain directly into a surface water feature. Temporary spoil sites shall be protected from the potential for erosion using BMPs such as compaction, mulching, and containment.</p> <p>H. Sediment control measures shall be in place prior to the onset of the rainy season and will be monitored and maintained in good working condition until disturbed areas have been stabilized.</p>			
HYDROLOGY AND WATER QUALITY			
Implement Mitigation Measure #1 – Erosion and Sedimentation Control		Contractor (implementation) City of Redding (monitoring)	
AIR QUALITY			
Mitigation Measure #2 - Fugitive Dust Emissions (Construction Phase)			
<p>A. Use of watering, at least twice daily, on all exposed or active construction areas.</p> <p>B. Implementation of speed control on all exposed or active construction areas.</p> <p>C. Suspension of all grading activities when winds, measured as instantaneous gusts, exceed 20 miles per hour (mph).</p> <p>D. Daily cleaning of each established carryout point.</p> <p>E. Either cover or maintain a freeboard height of at least 2 feet on all trucks hauling dirt, sand, soil, road base materials, or other types of loose materials to and from the site.</p> <p>F. Re-establishment of appropriate ground-cover on finished construction areas as soon as project schedule allows.</p>	During Construction	Contractor (implementation) City of Redding (monitoring)	

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<p>G. Exposed stockpiles of soil and other backfill material shall be enclosed or covered, and watered twice daily or have soil binders added.</p> <p>H. Any topsoil which is removed for the construction operation shall be stored on-site in piles not to exceed 4 feet in height. These topsoil piles shall be clearly marked and flagged. Topsoil piles which will not be immediately returned to use shall be re-vegetated with a non-persistent erosion-control mixture.</p> <p>I. Spoil piles shall be marked and flagged separately from native topsoil stockpiles. These spoil piles shall also be planted with a non-persistent erosion-control seed mix unless they are to be immediately used. Maximum height for spoil stockpiles shall be 4 feet to allow development of microorganisms prior to placing back into the construction area.</p> <p>J. Equipment and manual watering will be conducted on all stockpiles and exposed or disturbed soil surfaces, as necessary, to reduce airborne dust.</p>			
Mitigation Measure #3 - Mobile Construction Equipment (Construction Phase)			
<p>A. Minimize equipment idling and run-time via daily scheduling of equipment types and use rates.</p> <p>B. Use of CARB-certified low-sulfur diesel fuel.</p> <p>C. Ensure compliance with all applicable EPA and/or CARB-tiered emissions standards for off-road construction equipment engines.</p>	During Construction	Contractor (implementation) City of Redding (monitoring)	
BIOLOGICAL RESOURCES			
Mitigation Measure #4 - Valley Elderberry Longhorn Beetle			
<p>A. Prior to construction, a Worker Environmental Awareness Program for construction workers shall be conducted by a qualified biologist. The program shall provide all workers with information on their responsibilities with regard to sensitive biological resources, including the federally listed VELB, and the need to protect its elderberry host plant.</p> <p>B. Measures to protect buffer areas will be instituted prior to construction and will include fencing and signs.</p>	<p>Pre-Construction (elderberry shrub surveys; establish buffers; train workers)</p> <p>During Construction (maintain buffers)</p>	<p>City of Redding (implementation) City of Redding (monitoring)</p>	

Mitigation Measure	Timing/Implementation	Responsible Parties	Verification (date and initials)
<p>C. No insecticides, herbicides, fertilizers, or other chemicals that might harm the beetle or its host plant shall be used within 100 feet of any elderberry plant with one or more stems measuring 1.0 inch or greater in diameter at ground level.</p> <p>D. Any damage to the buffer area during construction shall be restored following construction. Restoration shall include erosion control and re-vegetation with native plants as appropriate.</p> <p>E. Mitigation requirements for direct impacts to this species are outlined in the <i>Conservation Guidelines for the Valley Elderberry Longhorn Beetle</i> (USFWS 1999) (Guidelines). Three elderberry shrubs that are considered suitable habitat for the federally listed VELB will require removal: E01, E02, and E03. Because the project area is linear in nature and lacks suitable restoration sites, mitigation is proposed at the Stillwater Plains Mitigation Bank via the purchase of a total of 0.73 acre of credit. Elderberries removed by the project will be transplanted to the Bank between November and February of the year prior to construction as per the Guidelines. The Bank will perform all monitoring and management of the plants.</p>	<p>Post-Construction (restore disturbed areas)</p> <p>During Construction</p>		
Mitigation Measure #5 - Fox Sedge			
<p>A. Prior to the start of construction activities in the project-study corridor, exclusionary fencing shall be erected around the known occurrences of fox sedge. If necessary, a qualified botanist should be present to assist with locating these special-status plant populations. The exclusionary fencing shall be periodically inspected throughout each period of construction and be repaired as necessary.</p> <p>B. Prior to ground disturbance (if occurs), seed heads shall be collected in late summer. Dried seeds can be stored in a dark, cool, dry place for a maximum of 1 year and should be planted in the fall or spring. The Stillwater Plains Mitigation Bank has been consulted and is receptive to fox sedge seed introduction at Stillwater. Staff at Stillwater will need two months' notice before receipt of parent material.</p> <p>C. Soil removed from the intermittent drainage where fox sedge occurs within the project corridor will be stockpiled and placed back into the disturbed areas following construction. The top 8 inches of soil shall be removed and stockpiled. Soil shall not be stockpiled for more than 1 month. If soils will be stockpiled for more than 1 month, arrangements shall be made to transfer parent material to another restoration site or to</p>	<p>Pre-Construction (botanical surveys; establish buffers)</p> <p>Pre-Construction (collect seeds; notify bank)</p> <p>During Construction (stockpile soil)</p>	<p>City of Redding (implementation)</p> <p>City of Redding (monitoring)</p>	

Mitigation Measure	Timing/Implementation	Responsible Parties	Verification (date and initials)
Mitigation Measure #7 - Special-Status Bats			
<p>A. A pre-demolition survey for roosting bats will be conducted prior to removal of potential roost trees. The survey should be conducted by a qualified biologist. No activities that would result in disturbance to active roosts will proceed prior to the completed surveys. If no active roosts are found, then no further action would be warranted. If an active maternity roost is present, a qualified biologist should determine the extent of a construction-free zone to be established around it since these species are known to abandon young when disturbed. If either a maternity roost or hibernacula are present, the following measures will be implemented. CDFG should also be notified of any active nurseries in the construction zone.</p> <p>B. If an active nursery roost is located and the project cannot be redesigned to avoid removal of the occupied structure, tree removal will commence before maternity colonies form (i.e., prior to March 1) or after young are volant (flying) (i.e., after July 31). The disturbance-free buffer zones described in the previous mitigation measure will be observed during the maternity roost season (March 1–July 31).</p> <p>C. If a non-breeding bat hibernaculum is found in a tree scheduled to be removed, the individuals will be safely evicted, under the direction of a qualified biologist, by opening the roosting area to allow air flow through the cavity. Tree removal should then follow no less than the following day (i.e., there should be no less than one night between initial disturbance for air flow and the demolition). This action should allow bats to leave during dark hours, thus increasing their chance of finding new roosts with a minimum of potential predation during daylight. Trees with roosts that need to be removed should first be disturbed at dusk, just prior to removal that same evening, to allow bats to escape during the darker hours.</p>	<p>Pre-Construction (wildlife surveys; establish buffers; remove vegetation)</p>	<p>City of Redding (implementation) City of Redding (monitoring)</p>	
Mitigation Measure #8 - Protection/Replacement of Jurisdictional Waters			
<p>A. To the extent practicable, the discharge of dredged or fill material into “waters of the U.S.,” including wetlands, shall be avoided (this also includes waters not subject to Corps jurisdiction, but subject to Regional Water Quality Control Board (RWQCB) jurisdiction).</p> <p>B. Prior to any discharge of dredged or fill material into “waters of the U.S.,” including wetlands, authorization under a Nationwide Permit or</p>	<p>Pre-Construction (permits will be acquired; compensatory mitigation established)</p>	<p>City of Redding (permit acquisition) Contractor (implementation) City of Redding</p>	

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<p>Individual Permit shall be obtained from the Corps. For fill requiring a Corps permit, water quality certification shall be obtained from the RWQCB prior to discharge of dredged or fill material.</p> <p>C. Prior to any activities that would obstruct the flow of or alter the bed, channel, or bank of any intermittent or ephemeral creeks, notification of streambed alteration shall be submitted to the CDFG; and if required, a Streambed Alteration Agreement shall be obtained.</p> <p>D. Construction activities that will have an impact on “waters of the U.S.” shall be conducted during the dry season to the extent feasible to minimize erosion.</p> <p>E. If the above mitigation is not sufficient to compensate for impacts to “other waters”, loss of features shall be compensated through purchase of appropriate credits at a Corps-approved mitigation bank, or appropriate payment into a Corps-approved in-lieu fee fund, or through placement of avoided waters and associated riparian buffers into a conservation easement or similar protective mechanism. The amount of avoided waters to be permanently protected shall be sufficient to offset the impact and shall be determined by the Corps and the applicant during the permitting process.</p> <p>F. Appropriate sediment control measures to protect avoided “waters of the U.S.” shall be in place prior to the onset of construction and shall be monitored and maintained until construction activities have ceased. Temporary stockpiling of excavated or imported material shall occur only in approved areas. Excess excavated soil shall be used on site or disposed of at a regional landfill or other appropriate facility. Stockpiles that are to remain on the site through the wet season shall be protected to prevent erosion (e.g., silt fences, straw bales).</p> <p>G. All measures contained in permits or associated with agency approvals shall be implemented.</p>	<p>During Construction (avoidance; implement mitigation measures)</p>	<p>(monitoring)</p>	
<p>Mitigation Measure #9 - Trees</p>			
<p>The following tree-preservation measures shall apply to the project for trees with 6-inch dbh or greater.</p> <p>A. The final design of the project shall provide for the identification and protection of trees adjacent to the initial right-of-way improvements and trees adjacent to or within the project staging area.</p> <p>B. The final design of the project shall consider alternatives for reducing the impact of the staging area on trees. This could include relocation</p>	<p>Pre-Construction (tree surveys; meet with contractors; establish buffers)</p>	<p>City of Redding (survey implementation) City of Redding (monitoring)</p>	

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<p>of the staging area, reduction in the size of the staging area, use of two or more smaller staging areas, or other means. The final location and size of the project staging area shall be approved by the Development Services Director.</p> <p>C. Any trees identified for preservation shall be flagged and avoided during construction in accordance with the standards of Section 18.45.090 of the Redding Municipal Code.</p> <p>D. To implement the final design, it may be necessary for the City to retain a qualified biologist to conduct a tree survey of the entire project corridor to identify the condition of all native or non-native trees with a dbh of 6 inches or greater (protected trees) that are located within the proposed construction areas and that are subject to removal. The biologist shall record the following key characteristics: species, diameter, condition/health, and any special considerations.</p> <p>E. No vehicles, construction equipment, mobile offices, or materials should be parked or located within the driplines of trees that are to be preserved. Minimum growing areas as required by individual species should be located and driplines of trees should be fenced to excluded vehicle and foot traffic.</p> <p>F. No soil surface removal greater than 1 foot in depth should occur within the driplines of trees to be preserved. No cuts should occur within 5 feet of their trunks.</p> <p>G. No earthen fill greater than 1 foot deep should be placed within the driplines of trees to be preserved or within 5 feet of their trunks.</p> <p>H. Where approval of a proposed development or other site work will result in encroachment within the drip line of a protected tree, special measures should be incorporated to allow the roots to obtain oxygen, water, and nutrients.</p> <p>I. No storage or dumping of oil, gasoline, chemicals, or other substance that may be harmful to trees shall occur within the drip line of any protected tree or on any other location from which such substances might enter the drip line of a protected tree.</p>	<p>During Construction (preserve trees)</p>	<p>Contractor (implementation) City of Redding (monitoring)</p>	

Mitigation Measure	Timing/Implementation	Responsible Parties	Verification (date and initials)
<p>potentially hazardous materials, as well as the proper procedures for cleaning up and reporting of any spills. If necessary, containment berms shall be constructed to prevent spilled materials from reaching surface water features.</p> <p>B. Equipment and materials shall be stored away from surface water features.</p> <p>C. Vehicles and equipment used during construction shall receive proper and timely maintenance to reduce the potential for mechanical breakdowns leading to a spill of materials into a surface water feature. Maintenance and fueling shall be conducted in an area at least 150 feet away from the Sacramento River.</p>			
NOISE			
Mitigation Measure #12 - Noise			
<p>If the project design does not necessitate removal of the noise receptor at location R2 (2381 South Bonnyview Road), then one or a combination of the following measures will be implemented.</p> <p>A. Windows facing South Bonnyview Road will be replaced with windows having a Sound Transmission Class rating of 30 or greater. An interior noise level of 45 decibels or less shall be achieved.</p> <p>B. Driveway access will be moved from its current location on the north side of the property to the south side of the property. A noise barrier will be constructed along the front and sides, as necessary, to achieve a noise reduction level of 5 decibels or greater.</p>	During Construction	Contractor (implementation) City of Redding (monitoring)	
AESTHETICS			
Mitigation Measure #13 - Loss of Trees			
<p>A. The City of Redding will plant trees along the newly configured median that would be constructed. The number of newly planted landscape trees shall be no less than the number of landscape trees that were removed as a result of project construction. Landscape within the new medians and along the newly configured sidewalk will be similar to or more aesthetically diverse (i.e., mixture of tree and shrub species) than the existing landscape. The landscape should enhance the aesthetic value along South Bonnyview Road to improve the scenic views in the</p>	During Construction	Contractor (implementation) City of Redding (monitoring)	

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<p>project corridor.</p> <p>B. All areas of ground disturbance will be re-vegetated with erosion-control methods to minimize the effects of storm-water runoff and to maintain water quality. Vegetation selected for erosion control will consist of plant species adapted to the specific project area and should be compatible with the existing habitat of the area. The erosion-control mix shall be free from invasive and noxious plant species.</p> <p>C. Oak trees that are impacted and/or removed due to construction activities will be mitigated by incorporating oaks into the landscaping plan where feasible and reasonable. See also Mitigation Measure 9.</p>	<p>Post-Construction</p>		