

Appendix I Mitigation Monitoring and
Reporting Record

Task and Brief Description+	Responsible Agency	Timing / Phase	Action Taken to Comply with Task	Task Completed	Remarks	Environmental Compliance
Land Use						
<p><i>Mitigation Measure LU-1: Provide Fencing at Arlington Park.</i> Implementation of some type of fencing or other positive barrier along the Peabody Road perimeter of Arlington Park would minimize potential conflicts between increased traffic volumes on the roadway and park users.</p>	STA or its representative	Construction				
<p><i>Mitigation Measure LU-2: Maintain Use of Alamo Creek Bicycle Path During Construction.</i> During the proposed three-month construction period, the bicycle path shall remain open. This use could be accomplished by a minor detour of the bicycle path near the construction zone.</p>	STA or its representative	Preconstruction				
Community Impacts						
<p><i>Mitigation Measure CI-1: Reconstruct Displaced Driveways and Replace Displaced Fencing, Signage, Trees, and Landscaping.</i> The project sponsor shall reconstruct driveways displaced by roadway construction to allow for safe property access and use. Additionally, to the extent possible, fencing, signage, trees, and other landscaping displaced by the project on affected residential, business, and agricultural properties shall be replaced.</p>	STA or its representative	Design/ Construction				
<p><i>Mitigation Measure CI-2: Relocate the Travis Unified School District Facility.</i> If the project would make the TUSD property untenable for continued use as a district meeting and storage facility, the project sponsors shall coordinate with the TUSD to locate and purchase a site for relocation of the facility.</p>	STA or its representative	Design/ Construction				
<p><i>Mitigation Measure CI-3: Replace Displaced Parking with On-site In-Kind Parking.</i> This measure would apply to Alternatives D and E. Alternative D. The project sponsors shall reduce the right-of-way as much as possible along the Macro Plastics property to reduce the number</p>	STA or its representative	Design/ Preconstruction				

Date: April 2008
 Environmental Coordinator:
 Solano Transportation Authority
 Phone: (707) 424-6075

MITIGATION MONITORING and REPORTING RECORD
 (MMRR)
 Page 2 of 48

0
 0.0
 RPSTPL 6249 (004)

Task and Brief Description+	Responsible Agency	Timing / Phase	Action Taken to Comply with Task	Task Completed	Remarks	Environmental Compliance
<p>of spaces affected in the parking lot along Huntington Drive. If eliminating spaces cannot be avoided, the project sponsors shall coordinate with the property owner to develop and implement a plan to reconfigure and restripe the parking lot to regain as much lost parking as possible. ● Alternative E. The project sponsor shall reduce the width of the right-of-way as much as possible along the Sommerset Apartments property to reduce the number of spaces affected in the complex's parking lot along Peabody Road. If eliminating spaces cannot be avoided, the project sponsors shall coordinate with the property owner to develop and implement a plan to reconfigure and restripe the parking lot to regain lost parking. The project sponsors shall also coordinate with the property owners of the California Center, Nurich Cabinets, and Tri-City Boat & RV Storage properties to develop and implement plans to reconfigure and restripe the parking lots to replace the parking displaced by Alternative E.</p>						
<p><u>Utilities/Emergency Services</u></p>						
<p><i>Mitigation Measure UT-1: Notify Emergency Service Providers and Allow Emergency Vehicles on Closed Roadways.</i> In the special provisions of the highway contracts, the project sponsor shall require that emergency service providers such as police, fire, and ambulance services be notified at least one week before any streets or intersections are closed during the construction phase. To the extent possible, emergency vehicles shall be allowed through roadway segments temporarily closed for construction purposes. These measures shall also be incorporated into the Transportation Management Plan to be prepared for the project.</p>	<p>STA or its representative</p>	<p>Preconstruction</p>				
<p><u>Traffic and Transportation/Pedestrian and Bicycle Facilities</u></p>						
<p><i>Mitigation Measure TRA-1: Evaluate Unsignalized Study Intersections in the Corridor for Signal Warrants.</i> A full set of warrants for unsignalized study intersections in the corridor shall be investigated based on field-measured traffic data and a thorough study of traffic and roadway</p>	<p>STA or its representative</p>	<p>Design/ Postconstruction monitoring</p>				

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<p>conditions by an experienced engineer under the direction of STA or the local jurisdiction. Regular monitoring of actual traffic conditions and accident data shall be undertaken by the jurisdiction responsible for implementation to prioritize and program intersections for signalization where warrants are met.</p>						
<p><i>Mitigation Measure TRA-2: Implement Traffic Management Plan During Construction.</i> The project sponsors shall prepare and implement a construction phasing plan and Traffic Management Plan (TMP) that defines how traffic operations would be managed and maintained during each phase of construction. The plan shall be developed with the direct participation of the appropriate jurisdiction (Fairfield, Vacaville, Suisun City, and/or Solano County). At least one lane in each direction of the alignment will be available at all times during the construction process. All cross-traffic lanes will be kept open during construction except for during temporary non-peak-hour closures. At least one lane under flagger control will be provided at all times during temporary intersection closures. In addition, the property owners of all businesses adjacent to the construction areas shall be consulted. To the maximum practical extent, the plan shall:</p> <ul style="list-style-type: none"> ● Identify the locations for temporary detours and temporary roads to facilitate local traffic patterns and through-traffic requirements. If temporary roadway or intersection closures are required for construction purposes, the TMP will specify off-peak timeframes for closures. ● Detail how access will be maintained to individual businesses, residences, and farm lands where construction activities may interfere with ingress and egress. Any driveway closures shall take place during non-business hours. ● Notify affected businesses and residents at least two weeks in advance of lane or roadway closures or impacts related to access. Personnel of emergency response services such as fire and police protection will also be notified one to two weeks in advance of any lane or road closures so that alternate routes can be taken. 	<p>STA or its representative</p>	<p>Preconstruction</p>				

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<ul style="list-style-type: none"> ● Specify predetermined haul routes from staging areas to construction sites and to disposal areas of agreement with the appropriate jurisdiction(s) prior to construction. The routes shall follow streets and highways that provide the safest route, minimize truck traffic impacts to sensitive receptors, and have the least impact on traffic. ● Require the contractor to provide information to the public using signs, press releases, and other media tools of traffic closures, detours, or temporary displacement of left-turn lanes. ● Identify a single phone number that property owners and businesses can call for construction scheduling, phasing, and duration information, as well as for complaints. ● Identify construction activities that must take place during off-peak traffic hours or result in temporary road closures due to concerns regarding traffic safety or traffic congestion. Any road closures will be done at night under ordinary circumstances. If unforeseen circumstances require road closing during the day, the appropriate jurisdiction(s) shall be consulted. 						
Visual/Aesthetics						
<p><i>Mitigation Measure VIS-1: Install Temporary Visual Barriers between Construction Staging Areas and Residences.</i> During construction, fencing (e.g., chain link with slats or fencing made of windscreen material) will be installed to obstruct undesirable views of construction staging areas from adjacent residences. The fencing will also help to maintain the privacy of residents. These fences will be approximately 7 feet high and will block views from residents' yards.</p>	STA or its representative	Preconstruction				
<p><i>Mitigation Measure VIS-2: Prepare and Implement a Lighting Plan.</i> STA or the appropriate local agency will require the contractor to prepare and implement a lighting plan that demonstrates that project lighting will not increase ambient nighttime lighting conditions for surrounding residential properties by more than 0.5-foot candles, the recommended level of</p>	STA or its representative	Design/ Preconstruction				

Task and Brief Description+	Responsible Agency	Timing / Phase	Action Taken to Comply with Task	Task Completed	Remarks	Environmental Compliance
<p>illumination for a walkway along a residential roadside. Designs for shields and directional lighting will be included in this plan to minimize the distance at which light emanating from the proposed action is visible and to mitigate the effects of glare. The residential areas will be shielded from lighting effects to the extent feasible. The following points provide additional detail on street lights to be incorporated into the lighting plan:</p> <ul style="list-style-type: none"> ● Street lights will be cut-off-type fixtures that cast low-angle illumination to minimize incidental spillover of light onto adjacent properties and open space. Fixtures that project upward and horizontally shall not be used. ● Street lights will be shaded and directed away from the residential and open space areas adjacent to the project site. ● Street light lamps will provide natural light qualities, and will be used only where necessary for safety and security purposes. ● Street light mountings will be downcast and the height of placement minimized to reduce potential for backscatter into the nighttime sky and incidental spillover into adjacent properties and open space. Street light mountings shall have low-sheen, nonreflective finishes. 						
<p><i>Mitigation Measure VIS-3: Construct Walls and Barriers with Low-Sheen and Non-Reflective Surface Materials.</i> Retaining walls and barriers (e.g., railings) will be designed with low-sheen, nonreflective surface materials to reduce potential for glare. Finishes on walls will be matte and roughened; the use of smoothly troweled surfaces and glossy paint will be avoided.</p>	STA or its representative	Design				
<p><i>Mitigation Measure VIS-4: Incorporate Design Characteristics to Minimize Visual Obtrusion.</i> Structural and vertical elements such as bridges, railings, abutments, piers, supports, and similar features will have a minimum profile to reduce visual intrusion and obstruction. Supports, piers, and railings will have an “open” structure (i.e., “transparency”) wherever possible to facilitate views beyond. Vertical elements will be designed at even intervals and spacing to create aesthetic</p>	STA or its representative	Design				

Task and Brief Description+	Responsible Agency	Timing / Phase	Action Taken to Comply with Task	Task Completed	Remarks	Environmental Compliance
rhythm. Finished surfaces on all vertical features will have color and sheen that minimize contrast with the daytime sky. Additionally, major vertical elements at locations identified by the local agency, such as bridges and creek crossings, will be celebrated through public art and landscape enhancements and will be used as community gateway features.						
<i>Mitigation Measure VIS-5: Provide Aesthetic Treatments to All Noise Barriers.</i> Aesthetic treatments to all noise barriers that may be required for the chosen alternative will be added, including landscaping and low-sheen and non-reflective surface materials. The finish will be matted and roughened, and the use of smooth towed surfaces and glossy paint will be avoided.	STA or its representative	Design				
<u>Hydrology and Floodplains</u>						
<i>Mitigation Measure HYD-1: Prepare Detailed Master Drainage Plan (MDP) and Implement Plan Requirements.</i> In coordination with the cities of Fairfield, Vacaville, and Suisun City, STA shall prepare a detailed drainage report (also called a master drainage plan or runoff design report) for the entire construction area. This MPD shall include detailed hydrology and hydraulics for the chosen alternative's affected creek encroachment areas, bridges, culverts, and associated floodplain areas. This MPD shall be reviewed and approved by the Solano County Water Agency, Solano County, and STA, and reviewed by the Cities of Fairfield, Suisun, and Vacaville. STA shall include in the project design, drawings, and plans the flow and drainage control requirements identified in the MDP in order to prevent flood and flood flow impacts. The drainage system will be designed in accordance with the flood control design criteria of Solano County and the Solano County Water Agency (SCWA). The MDP shall ensure that project design and drainage plans comply with Executive Order 11988, Sections 3.b and 4.c. The MDP shall be prepared by a registered water resources civil engineer before site development begins and shall include: An accurate calculation of pre- and post- project runoff conditions using	STA or its representative	Design/ Preconstruction				

Task and Brief Description+	Responsible Agency	Timing / Phase	Action Taken to Comply with Task	Task Completed	Remarks	Environmental Compliance
<p>standards specified in the Solano County Hydrology Manual. These conditions shall be determined at all water crossings along the project corridor and at intermediate locations necessary to obtain an accurate determination of flood potentials. Post-project runoff conditions shall include any detention structures incorporated into the site design.</p> <p>If post-project runoff rate and volume exceed existing conditions for the design storm event, the MDP shall include calculations of the amount of detention required to reduce stormwater runoff to pre-project levels.</p> <ul style="list-style-type: none"> ● A detailed hydraulic analysis. An accurate determination of base (e.g., irrigation ditch areas) and post-project flood elevation levels and hydraulic conditions using standard hydraulics engineering methods (e.g., Hydrologic Engineering Centers River Analysis System) shall be prepared. These techniques shall be used to accurately evaluate potential changes in design storm flood elevations and flow erosive potential for the design of flow conveyance or control features. Additional topography surveying may be required to accurately describe the existing floodplain within areas not mapped by FEMA (e.g., irrigation/drainage channels adjacent to roads). <p>If post-project conditions exceed drainage design standards as specified in the Solano County Hydrology Manual or if they otherwise contribute to adverse hydraulic impacts in the drainage system, the proposed drainage system structures shall be redesigned to minimize impacts. For example, if the proposed box culvert for Alternative B Alamo Creek is found to create adverse hydraulic impacts in Alamo Creek (e.g., back up of flood flows, concentrated high velocity flow, and others), according to this detailed hydraulic analysis, then other designs shall be assessed (e.g., bridge). One or more system designs shall be prepared to mitigate potential project impacts and to minimize changes from the original plan while mitigating adverse impacts.</p> <p>The standards for proposed drainage systems shall be evaluated on an alternative-specific basis.</p> <ul style="list-style-type: none"> ● An inventory and assessment of any existing drainage facilities within 						

Task and Brief Description+	Responsible Agency	Timing / Phase	Action Taken to Comply with Task	Task Completed	Remarks	Environmental Compliance
<p>the corridor including any necessary upgrades, replacements, redesigns, and rehabilitation.</p> <ul style="list-style-type: none"> Proposed design measures to remove structures from 100-year floodplain areas. Where structures are located below the post-project 100-year flood elevation level, design measures shall be developed and implemented to remove these structures from the floodplain. Any substantial removal or import of fill material, placement or removal of barriers, or placement or removal of drainage systems to remove structures from floodplain shall be included in all hydraulic analyses. A description of the proposed maintenance program for the onsite drainage system(s). 						
<p><i>Mitigation Measure HYD-2: Improve Culverts under Vanden Road and Raise Roadway.</i> The existing culverts under Vanden Road at Union Creek shall be replaced with a bridge or large culvert sufficient for adequate hydraulic capacity during a 100-year flood event. A detailed hydraulic analysis (see Mitigation Measure HYD-1) of the design configurations shall be conducted to determine sizing and efficacy of both the bridge and large culvert structure for mitigating flood conditions. The roadway shall also be raised in this area by approximately 1.6 feet to 3.3 feet above the existing road elevation to be higher than the elevation of the mapped floodplain. These improvements shall be included in all hydrologic and hydraulic analysis specified in Mitigation Measure HYD-1 and will be designed in accordance with Executive Order 11988, Sections 3.b and 4.c.</p>	<p>STA or its representative</p>	<p>Design/ Preconstruction</p>				
<p><u>Water Quality and Stormwater Runoff</u></p>						
<p><i>Mitigation Measure WQ-1: Prepare and Implement a Construction Storm Water Pollution Prevention Plan (SWPPP).</i> The project sponsor is required to prepare a project construction SWPPP before implementation</p>	<p>STA or its representative</p>	<p>Preconstruction</p>				

Task and Brief Description+	Responsible Agency	Timing / Phase	Action Taken to Comply with Task	Task Completed	Remarks	Environmental Compliance
<p>of the proposed action, as a condition of the Construction General Permit. This SWPPP includes pollution prevention measures (e.g., erosion and sediment control measures, and measures to control non-stormwater discharges and hazardous spills), demonstration of compliance with all applicable RWQCB standards, local and regional erosion and sediment control standards, identification of responsible parties, a detailed construction timeline, and a Best Management Practices (BMPs) monitoring and maintenance schedule.</p> <p>The objectives of the SWPPP will be to identify pollutant sources that could affect the quality of stormwater, to implement practices to reduce pollutants in stormwater runoff, and to protect receiving-water quality. Additional BMPs may be required on a project-specific basis. The SWPPP shall include the following BMPs in accordance with the General Construction Permit:</p> <ul style="list-style-type: none"> ● Employment of soil stabilization control measures. Construction scheduling, preservation of existing vegetation, streambank stabilization, and either hydraulic mulch, hydroseed, soil binders, straw mulch, geotextiles, plastic sheeting, erosion control blankets/mats, or a combination of these shall be implemented as part of the project SWPPP. <p>Additional BMPs shall include outlet protection/velocity dissipation devices to prevent erosion caused by concentrated flows. If necessary, earth dikes, drainage swales, and lined ditches may be required for conveyance of surface runoff down sloping land, for interception and diversion of runoff on sloped surfaces, to direct runoff to a stable watercourse or other stable conveyance, to prevent runoff from accumulating at the base of a grade, or to avoid flood damage along roadways and facilities.</p> <ul style="list-style-type: none"> ● Employment of temporary erosion control measures. Minimum requirements shall include silt fences or fiber rolls and street sweeping or vacuuming to be implemented as part of the project construction SWPPP in accordance with the General Construction Permit. <p>Additional BMPs may be required such as sediment/desilting basins,</p>						

Task and Brief Description+	Responsible Agency	Timing / Phase	Action Taken to Comply with Task	Task Completed	Remarks	Environmental Compliance
<p>sediment traps, check dams, gravel bag berms, sandbag berms, strawbale barriers, and stormdrain inlet protection.</p> <ul style="list-style-type: none"> ● Employment of wind erosion control measures. Wind erosion control shall be included in the project construction SWPPP for any construction activities occurring during the dry season SWPPP in accordance with the General Construction Permit. ● Employment of tracking control measures. No tracking control measures are currently minimum project requirements. However, tracking control measures will be implemented as part of the SWPPP in accordance with BMPs when and if necessary. These measures may include stabilized construction entrances, stabilized construction roadways, and entrance/outlet tire washing (wet soils). ● Employment of non-stormwater management BMPs. Minimal BMPs requirements shall include water conservation practices, paving and grinding operations, temporary stream crossings, clear water diversions, illicit connection/illegal discharger detection and reporting, portable water/irrigation, vehicle and equipment cleaning, vehicle and equipment fueling, vehicle and equipment maintenance, pile driving operations, concrete curing, material and equipment use over water, concrete finishing, structure demolition/removal over or adjacent to water, dewatering operations. BMPs for these activities must be implemented as part of the SWPPP unless they are determined to be unnecessary (e.g., equipment maintenance off-site at a permitted facility, no material and equipment use over water, no dewatering of trenches, and others). The project SWPPP shall include clear water diversion BMPs for implementation of any alternatives requiring work within the creek or streams. ● Employment of waste management and materials pollution control BMPs. Minimal required BMPs include material delivery and storage, material use, stockpile management, spill prevention and control, solid waste management, hazardous waste management, contaminated soil management, concrete waste management, sanitary/septic waste 						

Date: April 2008
 Environmental Coordinator:
 Solano Transportation Authority
 Phone: (707) 424-6075

MITIGATION MONITORING and REPORTING RECORD
 (MMRR)
 Page 11 of 48

0
 0.0
 RPSTPL 6249 (004)

Task and Brief Description+	Responsible Agency	Timing / Phase	Action Taken to Comply with Task	Task Completed	Remarks	Environmental Compliance
<p>management, and liquid waste management. These BMPs shall be implemented as part of the project SWPPP.</p> <p>The spill prevention and control plan shall be prepared and implemented to minimize the potential for and effects of spills of hazardous substances during construction. In the event of a spill, the contractor's superintendent will notify the applicable Solano County emergency services office and the California Department of Toxic Substances Control; their spill response and cleanup protocols shall be followed. A written description of the reportable releases that have occurred shall be submitted to the applicable RWQCB, including a description of the spill that indicates the type of material, an estimate of the amount spilled, the date of the spill, an explanation of why the spill occurred, and a description of the steps taken to prevent and control future spills. Spills shall be documented on a spill report form.</p> <p>The SWPPP shall also identify on the construction drawings specific areas where BMPs will be implemented and details for their construction, if applicable. These will be used as the Water Pollution Control (WPC) Plans included as part of the SWPPP. Areas for all soil stabilization, sediment and erosion control, wind erosion, tracking controls, non-stormwater controls, and waste management BMPs shall be included on the drawings.</p> <p>A construction schedule shall be included in the SWPPP and effective dates included on the WPC Plans. The construction schedule shall be implemented to coordinate the timing of land-disturbing activities with installation of soil stabilization and sediment and erosion control measures to reduce potential for sediment erosion and transport. A phased approach should be implemented for construction activities to minimize the amount of disturbed soil areas exposed at any given time. Because of the site-specific conditions of the project corridor, nature of the build alternatives, area of the proposed action, and duration of the proposed construction activities, the SWPPP will generally include limiting soil disturbances during the designated winter rainfall season</p>						

Date: April 2008
 Environmental Coordinator:
 Solano Transportation Authority
 Phone: (707) 424-6075

MITIGATION MONITORING and REPORTING RECORD
 (MMRR)
 Page 12 of 48

0
 0.0
 RPSTPL 6249 (004)

Task and Brief Description+	Responsible Agency	Timing / Phase	Action Taken to Comply with Task	Task Completed	Remarks	Environmental Compliance
<p>(October 15 to April 15). If construction is expected to occur during the rainy season, a winterization erosion and sediment control plan shall also be prepared to prevent soil and sediment transport during the rainy season and BMPs shall be installed prior to the beginning of the rainy season. For completed sections, permanent soil stabilization and sediment controls shall be implemented according to the post-construction storm water management plan.</p> <p>Erosion in disturbed areas shall also be controlled through the use of grading operations to minimize direct routes for conveying runoff to drainage channels, and the use of soil stabilization BMPs such as mulching, erosion control fabrics, or reseeding with grass or other plants where necessary. Standard staging-area practices for sediment-tracking reduction will also be identified where necessary, including vehicle washing and street sweeping. Temporary concentrated flow conveyance systems, such as berms, ditches, and outlet flow velocity dissipation devices, will also be considered to reduce erosion from newly disturbed slopes.</p> <p>Work conducted within the Alamo, New Alamo, and McCoy Creek channels shall include particular BMPs, such as placement of staging areas and potential stockpiles away from stream banks, conducting all in-water work behind cofferdams, sheet piling, or use of other containment facilities to control discharges of contaminated runoff and use of clear-water diversions around the active work site. Monitoring and inspection shall be conducted to for identifying increases in downstream turbidity that would exceed applicable RWQCB water quality objectives and any other request from the 404 permit or 1600 permit.</p> <p>Under the direction of STA or the appropriate local agency engineering staff, the general contractor and subcontractor conducting the work shall be responsible for constructing or implementing, regularly inspecting, and maintaining the BMPs in good working order. They shall also be required to implement appropriate hazardous materials management practices to reduce the possibility of chemical spill or release of</p>						

Task and Brief Description+	Responsible Agency	Timing / Phase	Action Taken to Comply with Task	Task Completed	Remarks	Environmental Compliance
contaminants, including any nonstormwater discharge to drainage channels. Standard hazardous materials management and spill control and response measures will minimize the potential for surface and groundwater contamination.						
<p><i>Mitigation Measure WQ-2: Prepare and Implement a Post-Construction Stormwater Management Plan (SMP).</i> Development and implementation of coordinated drainage features with permanent post-construction BMPs will minimize potential water quality impacts associated with potential roadway runoff. The contractor for the proposed action shall be responsible for constructing permanent post-construction stormwater BMPs, which shall be identified and incorporated into the SMP. The SMP requirements shall accommodate the additional drainage discharges generated by the proposed action, as determined in the associated Master Drainage Plan to be prepared in conformance with Mitigation Measure HY-1, and avoid adverse effects such as offsite erosion, sedimentation, or water quality impairment.</p> <p>Although removal of all contaminants is not feasible, BMPs shall be selected, designed, and sited to remove the Maximum Extent Practicable (MEP) using the Best Available and Conventional Technologies (BAT and BCT, respectively) that is economically feasible. The targeted pollutant removal for the proposed action shall be: 90 percent of sediment, 60 percent of nutrients, and 70 percent of heavy metals in stormwater runoff. The expected pollutant removal success rates listed in Table 3.10-2 suggest that single or multiple BMPs, when properly designed, installed and maintained, can achieve these removal rates. Single BMPs or a group of BMPs can be used to achieve the targeting removal rates. The SMP shall explicitly identify the expected level of BMP effectiveness for removing contaminants and their siting, sizing, and design criteria.</p> <p>Three broad categories of permanent post-construction BMPs and several specific types of BMPs shall be implemented. The first will consist of erosion and sediment control measures, such as preservation of existing</p>	STA or its representative	Preconstruction				

Date: April 2008
 Environmental Coordinator:
 Solano Transportation Authority
 Phone: (707) 424-6075

MITIGATION MONITORING and REPORTING RECORD
 (MMRR)
 Page 14 of 48

0
 0.0
 RPSTPL 6249 (004)

Task and Brief Description+	Responsible Agency	Timing / Phase	Action Taken to Comply with Task	Task Completed	Remarks	Environmental Compliance
<p>vegetation, establishment of stabilized concentrated flow conveyance systems (e.g., ditches, berms, drains, flared culvert end sections, outlet protection, and flow velocity dissipation), slope protection measures, settling basins, grassy swales, and others. Offsite discharges of particulate-associated pollutants are controlled by controlling erosion and sediment transport. The second category shall consist of stormwater flow control management measures that will result in runoff peak flows and volumes similar to those under existing conditions. These flow controls shall be designed and implemented to manage runoff volumes and peak flows from storm events up to the 25-year, 24-hour design storm. By controlling storm flow rates and volumes to be similar to existing conditions, changes in drainage and drainage patterns will be minimized, along with their potential effects on water quality and erosion. Consequently, on- and off-site erosion and sediment transport may be mitigated. Finally, permanent post-construction BMPs shall include measures to capture and treat the first flush of stormwater runoff (0.5 inches) and to allow for infiltration and uptake of pollutants not associated with particulate material such as nutrients, oils and greases, salts, and others. All BMPs selected for the SMP shall be designed according to Caltrans or CASQA (California Stormwater Quality Association) guidelines and design standards, or other methods approved by STA or the Solano County District Engineer.</p> <p>Solano County shall be responsible for approving the SMP and verifying BMP effectiveness. They shall also be responsible for long-term inspection and maintenance of the permanent BMPs within its jurisdictional right-of-way to ensure that the BMPs are maintained in good working order. The cities of Vacaville, Fairfield, and Suisun City shall be responsible for long-term inspection and maintenance within their rights-of way.</p>						
<u>Geology, Soils, and Seismicity</u>						
<i>Mitigation Measure GEO-1: Stop Work if Unique Geologic or</i>	STA or its	Construction				

Task and Brief Description+	Responsible Agency	Timing / Phase	Action Taken to Comply with Task	Task Completed	Remarks	Environmental Compliance
<p><i>Paleontological Materials Are Discovered during Construction.</i> If unique geological or paleontological materials are inadvertently discovered during ground-disturbing activities, the construction contractor shall stop work in that area and within 100 ft of the find until a qualified geologist/paleontologist can assess the significance of the find and develop appropriate treatment measures. Treatment measures shall be developed in consultation with STA and Caltrans and may include excavation and removal.</p>	representative					
<p><u>Hazardous Waste and Materials</u></p>						
<p><i>Mitigation Measure HAZ-1: Develop a Health and Safety Plan to Address Worker Health and Safety.</i> A Health and Safety Plan (HSP) shall be prepared to address worker safety when working with potentially hazardous materials, including biological contaminants, potentially lead-based paint, transformer fluids, soils potentially containing ADL, and other construction-related materials within the right-of-way for any soil disturbance. Proper worker safety for handling and removal of contaminated soil materials shall also be included in the HSP and the HSP shall address worker safety when working in areas with agricultural chemicals.</p> <p>Furthermore, the STA or the appropriate local agency shall confirm the location of underground pipeline crossings and prepare and implement the HSP for excavation work at these pipeline crossings prior to excavation activities. Critical locations may require a private utility location or special excavation techniques. The HSP shall address worker safety when working near pipeline crossings and emergency plans in the event of a pipeline rupture or if a pre-existing leak is encountered during construction.</p>	STA or its representative	Preconstruction				
<p><i>Mitigation Measure HAZ-2: Perform Additional Literature Review to Identify Potential for Historical Contamination.</i> During the design phase, STA shall perform a literature review, including a file review at the Solano County Resource Management Agency, to determine past site</p>	STA or its representative	Preconstruction				

Date: April 2008
 Environmental Coordinator:
 Solano Transportation Authority
 Phone: (707) 424-6075

MITIGATION MONITORING and REPORTING RECORD
 (MMRR)
 Page 16 of 48

0
 0.0
 RPSTPL 6249 (004)

Task and Brief Description+	Responsible Agency	Timing / Phase	Action Taken to Comply with Task	Task Completed	Remarks	Environmental Compliance
<p>uses and the extent of any hazardous materials issues that may exist at the auto wrecking facilities (Adco Auto Wreckers on Cement Hill Road and Fairvac Auto and Truck Wrecking on Peabody Road), If there is a potential for contamination from these sites within the proposed alignment in this area, soil sampling and screening for potential contaminants shall be conducted at representative locations according to a Solano County Resource Management Agency approved Sampling Plan for a Phase II site assessment. If contaminated soil and/or groundwater is encountered during the site screening, a Health and Safety Plan shall be completed to address potential worker health and safety issues while working with contaminated soil and/or groundwater and a Soil Management Plan shall be completed to address excavation, removal, and disposal of contaminated soil. These plans shall be approved by the Solano County Resource Management Agency or other appropriate regulatory agency prior to grading of the project segment within this area.</p>						
<p><i>Mitigation Measure HAZ-3: Conduct Soil Sampling and Analysis to Identify and Remove Contaminated Soil.</i> STA or the appropriate local agency shall require the construction contractor to perform a detailed walking reconnaissance of the UPRR and former Sacramento Northern Railroad tracks immediately adjacent to or intersected by the planned roadway alignment. This reconnaissance shall be performed to identify potentially stained soil, and lubricator and battery boxes containing oil, grease, and other petroleum hydrocarbons along project segments within 50 feet of existing or former railroad alignments. The contractor shall also inspect leaking storage tank sites (all alternatives) and the Kinder Morgan petroleum pipeline alignment in the corridor (Alternatives B, C, and D). Leaking storage tanks at the Bonfare Market, Owens-Illinois Plastic Products Plant, Flying J, and former Shell service station shall be inspected and sampled for contamination.</p> <p>If potentially contaminated sites are encountered, a Soil Management Plan shall be completed to address testing, excavation, removal, and</p>	<p>STA or its representative</p>	<p>Preconstruction</p>				

Task and Brief Description+	Responsible Agency	Timing / Phase	Action Taken to Comply with Task	Task Completed	Remarks	Environmental Compliance
disposal of contaminated soil. If soil staining or visible contaminants are encountered during construction, soil sampling and analysis shall be performed and contaminated soil removed from the site and transported to an approved disposal facility in compliance with Occupational Safety and Health Administration (OSHA) safety regulations under the direction of the agency overseeing the project. The Solano County Resource Management Agency and local fire departments shall be notified immediately if contamination is encountered during construction.						
<i>Mitigation Measure HAZ-4: Conduct Sampling, Testing, Removal, Storage, Transportation, and Disposal of Yellow Striping along Existing Roadway.</i> Before construction, STA or the appropriate local agency shall ensure that sampling and testing of yellow pavement striping scheduled for removal is performed to determine whether lead is present. If lead is present, the striping shall be removed according to regulatory procedures. If the existing pavement would be buried by new pavement as part of the project, this mitigation measure would not be required. Burying existing pavement would effectively eliminate precipitation contact with the lead-contaminated paint and the potential for lead to leach from the paint into soils and runoff. All aspects of the proposed action associated with removal, storage, transportation, and disposal will be in strict accordance with appropriate regulations. Lead-containing stripe materials shall be disposed of at a Class 1 disposal facility.	STA or its representative	Construction				
<i>Mitigation Measure HAZ-5: Conduct Sampling and Analysis of Transformer Fluid from Electrical Transformers.</i> If leaks from electrical transformers that will either remain within the project construction zone or require removal or relocation are encountered before or during construction, STA or the appropriate local agency shall ensure that the transformer fluid is sampled and analyzed by qualified personnel for detectable levels of PCBs. A PCB site investigation is required within Caltrans right-of-way for any soil disturbance. The owner of the transformers shall verify the contents of the transformer before relocation and take proper mitigation actions, if required. If PCBs are detected, the	STA or its representative	Preconstruction/ Construction				

Task and Brief Description+	Responsible Agency	Timing / Phase	Action Taken to Comply with Task	Task Completed	Remarks	Environmental Compliance
transformer shall be removed and disposed of in accordance with regulatory agency requirements. Any stained soil encountered below electrical transformers with detectable PCB levels shall also be handled and disposed of in accordance with regulatory agency requirements.						
<i>Mitigation Measure HAZ-6: Conduct Testing for Aerially Deposited Lead in Surface and Near-Surface Soils.</i> During the design phase of the project, STA or the appropriate local agency shall ensure that the contractor conducts a preliminary investigation and screening for ADL for portions of the project located immediately adjacent to Leisure Town Road (north of Alamo Drive), Peabody Road, Air Base Parkway, and Walters Road (from south of Air Base Parkway to Petersen Road) to determine the levels of lead in the surface and near-surface soils. If ADL is encountered above the regulatory thresholds, a Soil Management Plan, approved by the Solano County Resource Management Agency or other appropriate regulatory authority, shall be completed to address excavation, removal, and disposal of contaminated soil. Lead-impacted soils shall be handled or disposed of in accordance with regulatory agency requirements.	STA or its representative	Preconstruction				
<i>Mitigation Measure HAZ-7: Time Construction to Avoid Exposure of Construction Workers to Respiratory Irritants from Aerially Applied Chemicals.</i> Construction activities adjacent to agricultural fields shall not occur during aerial application of chemicals and for at least 24 hours following application or for as long as recommended by the chemical label, whichever time period is greater. STA or the appropriate local agency shall ensure that the contractor coordinates with individual growers on the timing of aerially applied chemicals on parcels within or adjacent to the corridor to avoid effects on workers during construction.	STA or its representative	Construction				
<i>Mitigation Measure HAZ-8: Test Soil and Groundwater at LUST and UST sites and Remove Contaminated Soil.</i> Soil and groundwater samples will be taken using direct push Geoprobe equipment within the vicinity of the UST and LUST sites. The samples will be tested for petroleum hydrocarbons	STA or its representative	Construction				

Task and Brief Description+	Responsible Agency	Timing / Phase	Action Taken to Comply with Task	Task Completed	Remarks	Environmental Compliance
<p>and CAM-17 metals. Leaking storage tanks at the Bonfare Market, Owens-Illinois Plastic Products Plant, Flying J, and former Shell service station shall be inspected and sampled for contamination. A report will be submitted to STA upon receipt of analytical results. Areas of contaminated soil will be transported off site, if necessary. Impacted groundwater will be containerized in a Baker tank and analyzed prior to evaluating disposal options. An environmental report summarizing field activities and analytical results will be prepared for sites. This report would include a summary of excavation and disposal activities for impacted soil and/or groundwater.</p>						
<p><i>Mitigation Measure HAZ-9: Phase 2 Environmental Site Assessments (ESA).</i> As part of the design process, site specific Phase 2 ESAs will be conducted for each parcel that requires a full or partial right-of-way take. The Phase 2 ESA will be conducted in accordance with requirements of the Final Rule for All Appropriate Inquires (AII) promulgated as an amendment to CERCLA. Areas potentially impacted with contaminants will be investigated and sampled, the constituents of concern identified, and any impacts delineated in the Phase 2 ESA. STA or the local agency will make every effort to have the property owner, or responsible party, investigate and clean-up the contamination prior to acquisition.</p>	STA or its representative	Design/ Preconstruction				
<p><u>Air Quality</u></p>						
<p><i>Mitigation Measure AQ-1: Implement Construction Mitigation Measures to Reduce Construction Equipment Exhaust Emissions.</i> If a project exceeds the YSAQMD threshold, the District recommends implementation of construction equipment exhaust control measures to reduce a project's construction impacts to a less-than-adverse level. Therefore, the following measures will be implemented as part of the project: STA or the appropriate local agency shall require all construction contractors to reduce construction-related emissions by restricting unnecessary vehicle idling to 5 minutes, use of late model engines, low-</p>	STA or its representative	Construction				

Task and Brief Description+	Responsible Agency	Timing / Phase	Action Taken to Comply with Task	Task Completed	Remarks	Environmental Compliance
emission diesel products, alternative fuels, engine retrofit technology, after-treatment products, and/or other options as they become available.						
<p><i>Mitigation Measure AQ-2: Implement Construction Mitigation Measures to Reduce Construction Emissions, as Required by the BAAQMD.</i> As discussed, BAAQMD requires implementation of control measures to reduce a project's construction impacts to a less-than-adverse level. Therefore, the following measures will be implemented as part of the project:</p> <ul style="list-style-type: none"> ● Water exposed surfaces twice daily ● Cover all trucks hauling soil, sand, and other loose materials or maintain at least 2 feet of freeboard ● Pave, apply water three times daily, or apply nontoxic soil stabilizers on all unpaved access roads, parking areas, and staging areas at construction sites ● Sweep daily with water sweepers all paved access roads, parking areas, and staging areas at construction sites ● Sweep streets daily with water sweepers if visible soil material is carried onto adjacent public streets ● Hydroseed or apply nontoxic soil stabilizers to inactive construction areas (previously graded areas inactive for 10 days or more) ● Enclose, cover, water twice daily, or apply nontoxic soil binders to exposed stockpiles (dirt, sand, etc.) ● Limit traffic speeds on unpaved roads to 15 mph ● Install sandbags or other erosion control measures to prevent silt runoff to public roadways ● Replace vegetation in disturbed areas as quickly as possible. 	STA or its representative	Construction				

Task and Brief Description+	Responsible Agency	Timing / Phase	Action Taken to Comply with Task	Task Completed	Remarks	Environmental Compliance
<u>Noise</u>						
<p><i>Mitigation Measure N-1: Employ Noise-Reduction Construction Measures.</i> The construction contractor will employ noise-reducing construction practices such that noise from construction does not exceed 90 dBA at noise-sensitive uses during daytime hours. Measures that can be used to limit noise may include the following:</p> <ul style="list-style-type: none"> ● Locating equipment as far as practical from noise-sensitive uses ● Using sound-control devices such as mufflers on equipment ● Turning off idling equipment ● Using equipment that is quieter than standard equipment ● Selecting construction-access routes that affect the fewest number of people ● Using noise-reducing enclosures around noise-generating equipment ● Constructing barriers between noise sources and noise-sensitive land uses or taking advantage of existing barrier features (terrain, structures) to block sound transmission ● Temporarily relocating residents during periods of high construction noise that cannot be reduced effectively by other means <p>The construction contractor will prepare a detailed noise control plan based on the construction methods proposed. This plan will identify specific measures determined to be feasible by Solano County that will be taken to ensure compliance with the noise limits specified above. The noise control plan will be reviewed and approved by STA before any noise-generating construction activity begins.</p>	STA or its representative	Construction				
<p><i>Mitigation Measure N-2: Prohibit Nighttime Construction Activities.</i> Consistent with Vacaville Noise Ordinance, STA or the appropriate local agency will ensure that construction activities are prohibited between 10:00 p.m. and 6:00 a.m. Monday through Saturday or until 8:00 a.m. on Sunday mornings. This stipulation will be made part of the</p>	STA or its representative	Construction				

Task and Brief Description+	Responsible Agency	Timing / Phase	Action Taken to Comply with Task	Task Completed	Remarks	Environmental Compliance
construction contract.						
<p><i>Mitigation Measure N-3: Disseminate Essential Information to Residences and Implement a Complaint/Response Tracking Program.</i> The construction contractor will notify residences within 500 feet of the construction areas of the construction schedule in writing before construction. The construction contractor will designate a noise disturbance coordinator who will be responsible for responding to complaints regarding construction noise. The coordinator will determine the cause of the complaint and ensure that reasonable measures are implemented to correct the problem. A contact telephone number for the noise disturbance coordinator will be posted conspicuously on construction site fences and will be included in the written notification of the construction schedule sent to nearby residents.</p>	STA or its representative	Construction				
<u>Biological Environment</u>						
<p><i>Mitigation Measure BR-1: Avoid and Minimize Potential Indirect Disturbance of Riparian Communities.</i> To the extent possible, STA or the appropriate local agency will ensure that the contractor will avoid and minimize potential indirect disturbance of riparian communities by implementing the following measures:</p> <ul style="list-style-type: none"> ● Riparian communities, such as those along Old Alamo Creek, that are located adjacent to all construction zones will be protected by installing temporary construction fencing to protect riparian vegetation outside the construction zone. The locations of the fencing will be marked in the field with stakes and flagging and shown on the construction drawings. The construction specifications will contain clear language that prohibits all construction-related activities, vehicle operation, material and equipment storage, and other surface-disturbing activities within the fenced environmentally sensitive areas. ● The potential for long-term loss of riparian vegetation within the construction zone will be minimized by trimming vegetation rather than 	STA or its representative	Preconstruction/ Construction				

Task and Brief Description+	Responsible Agency	Timing / Phase	Action Taken to Comply with Task	Task Completed	Remarks	Environmental Compliance
<p>removing entire shrubs. Shrubs that need to be trimmed will be cut at least 1 foot above ground level to leave the root systems intact and allow for more rapid regeneration. Cutting will be limited to the minimum area necessary within the construction zone. Cutting will be allowed only for shrubs; all trees will be avoided. Also, cutting will be allowed only in areas that do not provide habitat for sensitive species. To protect nesting birds, STA or the appropriate local agency will not allow pruning or removal of woody riparian vegetation between March 1 and August 15.</p> <ul style="list-style-type: none"> ● A certified arborist will be retained to perform any necessary pruning or root cutting of riparian trees within the construction zone to further minimize harm to vegetation and ensure rapid regeneration. ● Areas that undergo vegetative pruning and tree removal will be inspected immediately before construction, immediately after construction, and one year after construction to determine the amount of existing vegetative cover, cover that has been removed, and cover that resprouts. If after one year these areas have not resprouted sufficiently to return the cover to the pre-project level, the contractor will replant the areas with the same species to reestablish the cover to the pre-project condition. ● Work in riparian areas, such as those along Old Alamo Creek, will be conducted between April 15 and October 15, and disturbed areas will be stabilized with erosion control measures before October 15. 						
<p><i>Mitigation Measure BR-2: Compensate for Permanent Loss of Riparian Communities.</i> STA or the appropriate local agency will compensate for construction-related permanent loss of riparian communities, such as those along Old Alamo Creek, due to direct impacts at a minimum ratio of 2:1 (2 acres restored or created for every 1 acre permanently affected) as described in the Draft MSHCP. For Alternatives B, C, and D, compensation requirements are based on a total direct impact on 2.1 acres. For Alternative E, compensation requirements are based on a total direct impact on 0.4 acres. Compensation may be a combination of onsite or offsite restoration/creation (i.e., restore riparian in areas disturbed by</p>	<p>STA or its representative</p>	<p>Construction</p>				

Task and Brief Description+	Responsible Agency	Timing / Phase	Action Taken to Comply with Task	Task Completed	Remarks	Environmental Compliance
<p>construction where possible, or at an agency-approved offsite mitigation area), contribution of funds to CDFG for restoration activities on public lands, and mitigation credits. The resource agencies may require a higher compensation ratio as part of their permit authorizations. This ratio will be confirmed through coordination with State and federal agencies as part of the permitting process for the proposed action. One or more of the following compensation options will be implemented by STA or the appropriate local agency for any riparian vegetation that is removed.</p> <ul style="list-style-type: none"> ● Funds will be contributed to CDFG for riparian restoration activities along the Old Alamo Creek corridor or on other public lands in the project vicinity. STA or the appropriate local agency will contact appropriate individuals to determine whether there is a potential to create, restore, or enhance riparian habitat in appropriate preserves. ● A riparian restoration plan will be developed and implemented that involves creating or enhancing riparian habitat in the construction area or project vicinity. STA or the appropriate local agency will retain a restoration ecologist to develop a riparian restoration plan that identifies erosion control, habitat replacement, and maintenance and enhancement of riparian habitat as the primary mitigation goals. Potential restoration sites will be evaluated by STA or the appropriate local agency to determine whether this is a feasible option. If STA or the appropriate local agency determines that onsite or offsite restoration is possible, a restoration plan will be developed that describes where and when restoration will occur and who will be responsible for developing, implementing, and monitoring the restoration plan. Potential mitigation sites in the Old Alamo Creek corridor that could be used to create or enhance riparian habitat include riparian areas that currently support non-native species (e.g., giant reed). In these areas, non-native species would be removed and replanted with native riparian species, and sparsely vegetated or degraded riparian areas that could be enhanced by planting native woody species. <p>Potential mitigation sites in the Old Alamo Creek corridor will be</p>						

Task and Brief Description+	Responsible Agency	Timing / Phase	Action Taken to Comply with Task	Task Completed	Remarks	Environmental Compliance
<p>evaluated as part of a formal riparian mitigation plan. The following factors will be assessed as part of the plan: soils, hydrology (including groundwater levels and surface inundation), land use, potential disturbances, habitat functions, costs associated with maintaining the plantings, and overall potential for survival.</p> <p>The riparian restoration plan will also include a list of recommended plant species, design specifications, an implementation plan, a maintenance program, and a mitigation monitoring program that includes CDFG-approved performance standards (e.g., 70 percent survival of trees and shrubs planted after five years). The plan will also identify appropriate methods for eradicating infestations of weeds. At least 5 years of monitoring (longer if required as a condition of permits) will be conducted by STA or the appropriate local agency to document the degree of success or failure in achieving success criteria (to be determined in consultation with CDFG as part of the mitigation monitoring plan) and to identify remedial actions. Annual monitoring reports will be submitted to CDFG, the Corps, Caltrans, and other interested agencies. Each report will summarize data collected during the monitoring period, describe how the habitats are progressing in terms of the success criteria, and discuss any remedial actions performed. Additional reporting requirements imposed by permit conditions will be incorporated into the mitigation plan and implemented as appropriate.</p>						
<p><i>Mitigation Measure BR-3: Plant Native Trees in Rural Landscaping Areas.</i> As proposed, STA or the appropriate local agency will plant native trees in rural areas as part of project landscaping. For rural areas in annual grassland communities, landscaping will include coast live oak (<i>Quercus agrifolia</i>), valley oak (<i>Quercus lobata</i>), interior live oak (<i>Quercus wislizenii</i>), and coyote brush (<i>Baccharis pilularis</i>). For drainages in rural areas, landscaping will include box elder (<i>Acer negundo</i> var. <i>californicum</i>), California black walnut (<i>Juglans californica</i> var. <i>hindsii</i>), valley oak (<i>Quercus lobata</i>), California sycamore (<i>Platanus racemosa</i>), Fremont's cottonwood (<i>Populus fremontii</i>), California</p>	<p>STA or its representative</p>	<p>Construction</p>				

Task and Brief Description+	Responsible Agency	Timing / Phase	Action Taken to Comply with Task	Task Completed	Remarks	Environmental Compliance
blackberry (<i>Rubus ursinus</i>), and Goodding's willow (<i>Salix gooddingii</i>). STA or the appropriate local agency shall monitor planted trees for five years, and ensure survivorship of a minimum of 80 percent of planted trees after five years by replanting any trees that do not survive.						
<p><i>Mitigation Measure BR-4: Obtain and Comply with Conditions of Clean Water Act Permits and Streambed Alteration Agreement.</i> Before any construction activities are initiated, STA or the appropriate local agency will obtain the following permits:</p> <ul style="list-style-type: none"> ● CWA Section 404 permit from the Corps, or Report of Waste Discharge for Waters of the State, ● CWA Section 401 water quality certification from the RWQCB ● CWA Section 402/NPDES permit from State Water Resources Control Board (SWRCB) (requiring preparation of a SWPPP) ● CFGC Section 1602 streambed alteration agreement from CDFG <p>Copies of these permits will be provided to the contractor with the construction specifications. STA or the appropriate local agency will be responsible for ensuring compliance with the conditions set forth in these permits. STA or the appropriate local agency will also be responsible for the preparation and implementation of a Mitigation Monitoring Plan based on the permit requirements. The monitoring period shall not be less than five years. The target criteria for specified years of monitoring are as follows (though these may be subject to change pending consultation with the Corps during the permit process):</p> <p>Year 1 50 percent combined area and basal cover (rhizomatous turf) of all vegetation in the preserve wetland; at least two hydrophytic plants co-dominant with whatever other vegetative cover exists.</p> <p>Year 3 60 percent combined area and basal cover (rhizomatous turf) of all vegetation in the preserve wetland; prevalence of hydrophytic species in terms of both cover and dominant species composition of the vegetation; native vascular species will comprise 50% of the vegetation in the preserve wetland.</p>	STA or its representative	Preconstruction				

Task and Brief Description+	Responsible Agency	Timing / Phase	Action Taken to Comply with Task	Task Completed	Remarks	Environmental Compliance
<p>Year 5 70 percent combined area and basal cover (rhizomatous turf) of all vegetation in the preserve wetland. More than 50 percent dominance in terms of both cover and species composition of FAC, FACW, and OBL species throughout the preserved wetland area; native vascular species will comprise 65% of the vegetation in the preserve wetlands</p> <p>Once the necessary permits are obtained, STA or the appropriate lead agency shall implement Mitigation Measures BR-8 and BR-9 as indicated in the above permits.</p>						
<p><i>Mitigation Measure BR-5: Implement Measures to Protect Water Quality.</i> STA or the appropriate local agency will ensure that the contractor implements the general measures recommended in Section 3.10, Water Quality and Stormwater Runoff, to protect water quality and aquatic resources in Old Alamo Creek, Union Creek, McCoy Creek, tributary streams, and wetlands. Implementation of Mitigation Measures WQ-1 to WQ-3 under Section 3.10, Water Quality and Stormwater Runoff, will concurrently satisfy water quality protection requirements under this section.</p>	STA or its representative	Construction				
<p><i>Mitigation Measure BR-6: Avoid and Minimize Disturbance of Waters of the United States and Nonjurisdictional Wetlands.</i> STA or the appropriate local agency will ensure that the contractor will minimize indirect impacts on waters of the United States and nonjurisdictional wetlands throughout the study area by implementing the following measures:</p> <ul style="list-style-type: none"> ● To maintain hydrologic connections, the project design will include culverts for all seasonal and perennial drainages that are waters of the United States, and/or waters of the State. ● Construction activities will be prohibited in saturated or ponded waters during the wet season (spring and winter) to the maximum extent possible. Where such activities are unavoidable, protective practices, such as using padding or vehicles with balloon tires, will be employed. ● Where determined necessary, geotextile cushions and other appropriate materials (e.g., timber pads, prefabricated equipment pads, geotextile 	STA or its representative	Construction				

Task and Brief Description+	Responsible Agency	Timing / Phase	Action Taken to Comply with Task	Task Completed	Remarks	Environmental Compliance
<p>fabric) will be used in saturated conditions to minimize damage to the substrate and vegetation.</p> <ul style="list-style-type: none"> ● Exposed slopes and streambanks will be stabilized immediately following completion of construction activities. Other waters of the United States will be restored in a manner that encourages vegetation to reestablish to its pre-project condition and reduces the effects of erosion on the drainage system. ● In highly erodible stream systems, banks will be stabilized using a nonvegetative material that will bind the soil initially and break down within a few years. If STA or the appropriate local agency determines that more aggressive erosion control treatments are needed, the contractor will be directed to use geotextile mats, excelsior blankets, or other soil stabilization products. ● During construction, trees, shrubs, debris, or soils that are inadvertently deposited below the ordinary high-water mark (OHWM) of any streams will be removed in a manner that minimizes disturbance of the creek bed and bank. ● All activities will be completed promptly to minimize their duration and resultant impacts. ● Construction inspectors will routinely inspect protected areas to ensure that protective measures are in place and effective. ● All protective measures will remain in place until all construction activities near the resource have been completed and will be removed immediately following construction and reclamation activities. 						
<p><i>Mitigation Measure BR-7: Design Roadway to Maintain Natural Hydrology and Reduce Habitat Fragmentation.</i> To maintain as much of the natural hydrology within the Walters Road Extension segment of the Alternative B alignment as possible and to minimize placement of fill in waters of the United States and nonjurisdictional wetlands, the road design will include one or more of the following design options:</p> <ul style="list-style-type: none"> ● To mitigate for impacts on the drainage south of Cement Hill Road, a 	STA or its representative	Design/ Construction				

Task and Brief Description+	Responsible Agency	Timing / Phase	Action Taken to Comply with Task	Task Completed	Remarks	Environmental Compliance
<p>new drainage will be constructed south of the widened road to carry the flow currently in the drainage. Alternatively, the drainage will be placed in a pipe with outlet structures that would continue to provide flow to the wetlands south of the road.</p> <ul style="list-style-type: none"> • The road between Cement Hill Road and the UPRR tracks will be designed as an elevated structure on piers to maintain existing hydrology between the west and east sides of the road. Pier foundations will be placed to avoid wetlands and the areas within the OHWMs of drainages to the greatest extent feasible. • A bridge will be constructed over the pond and the freshwater marsh. • Install barriers along ground-level portions of the Walters Road Extension that will discourage wildlife from crossing the road, and encourage movement towards spanned portions of the alignment along McCoy Creek and detention basin. 						
<p><i>Mitigation Measure BR-8: Compensate for the Permanent and Temporary Filling of Seasonal Wetland, Freshwater Marsh, and Pond.</i> As described in Table 3.15-3, all alternatives, except the No Project alternative, will result in the fill of wetlands, or “other waters” of the U.S. As discussed in the regulatory setting above, pursuant to Section 404 of the Clean Water Act, fill of wetlands or other waters of the U.S. is prohibited without first acquiring a Section 404 Wetlands Fill Permit from the Corps, and a Section 401 Water Quality Certification from the RWQCB. As part of compliance with the CWA Section 404 permit, STA or the appropriate local agency will be required to compensate for filling waters of the United States (direct impacts) and to ensure no net loss of habitat functions and values. Waters of the United States in the study area include seasonal wetlands, freshwater marshes, and drainages. Any wetlands that do not fall under the jurisdiction of the Corps pursuant to Section 404 of the Clean Water Act (i.e., wetlands isolated from jurisdictional waters) are regulated as Waters of the State pursuant to the Porter Cologne Act Water Quality Control Act. Fill of waters protected under the Porter Cologne Water Quality Control Act is prohibited</p>	STA or its representative	Preconstruction/ Construction				

Date: April 2008
 Environmental Coordinator:
 Solano Transportation Authority
 Phone: (707) 424-6075

MITIGATION MONITORING and REPORTING RECORD
 (MMRR)
 Page 30 of 48

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 0.0
 RPSTPL 6249 (004)

Task and Brief Description+	Responsible Agency	Timing / Phase	Action Taken to Comply with Task	Task Completed	Remarks	Environmental Compliance
<p>without the prior acquisition of Waste Discharge Permit. STA or the appropriate local agency will also compensate for filling seasonal wetlands, freshwater marshes, and ponds that are not adjacent to waters of the United States and therefore not regulated under CWA Section 404. Compensation for seasonal wetlands, freshwater marshes, and ponds will be provided at a minimum ratio of 2:1 (2 acres of mitigation for every 1 acre of waters of the United States filled), or 9:1 in areas of Critical Habitat where Contra Costa goldfields are present (9 acres of mitigation for every 1 acre of waters of the United States filled) and may be a combination of mitigation credits, offsite preservation, and onsite restoration/creation. Mitigation ratios for wetland habitats supporting threatened or endangered species will be higher, and are described in detail in section 3.15.5 below. Compensation for the pond habitat will be out-of-kind and will consist of freshwater marsh habitat, which provides higher-value wildlife habitat than the pond that would be affected by the project. Impacts on seasonal wetlands that support Contra Costa goldfields, vernal pool fairy shrimp, or vernal pool tadpole shrimp will likely require higher compensation ratios. Actual compensation ratios will be determined by State and federal agencies during the permitting process for the proposed action.</p> <p>STA or the appropriate local agency will implement one or more of the following options to compensate for potential impacts associated with filling waters of the United States and nonjurisdictional wetlands:</p> <ul style="list-style-type: none"> ● Mitigation bank credits will be purchased at a locally approved bank. One mitigation bank option is Wildlands North Suisun Mitigation Bank. This bank is currently available, and provides vernal pool credits that can apply to seasonal wetland compensation. Wildlands also offers Custom Mitigation Solutions where they can work with local jurisdictions to streamline the mitigation approval process as they did for Caltrans on the Aitken Ranch Preserve Project in Placer County. STA or the appropriate local agency will provide written evidence to the resource agencies that compensation has been established through the purchase of mitigation 						

Date: April 2008
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 Phone: (707) 424-6075

MITIGATION MONITORING and REPORTING RECORD
 (MMRR)
 Page 31 of 48

0
 0.0
 RPSTPL 6249 (004)

Task and Brief Description+	Responsible Agency	Timing / Phase	Action Taken to Comply with Task	Task Completed	Remarks	Environmental Compliance
<p>credits. The amount to be paid will be the fee that is in effect at the time the fee is paid.</p> <ul style="list-style-type: none"> ● Funds, equal to the amount needed to purchase mitigation bank credits, will be contributed to the preservation of vernal pool complexes within the McCoy Creek watershed, a High Conservation Value Area identified in the Draft MSHCP. The Draft MSHCP directs that conservation lands will be held in fee ownership or as conservation easements, and will have resource management plans and funding sources for management in perpetuity. This area is also identified in the Draft MSHCP as one of five core Contra Costa goldfields populations, and is near a substantial goldfields population on public land at Travis AFB. To implement this option, STA or the appropriate local agency will coordinate with appropriate individuals to determine whether there is a potential to purchase and preserve wetlands in the McCoy Creek watershed. This option will be coordinated with mitigation for Contra Costa goldfields and listed invertebrates. ● A wetland restoration plan will be developed and implemented that involves creating or enhancing seasonal wetland and freshwater marsh either in the study area or in the project vicinity. Potential restoration sites will be evaluated by STA or the appropriate local agency to determine whether this is a feasible option. If STA or the appropriate local agency determines that onsite or offsite restoration is possible, a restoration plan will be developed that describes where and when restoration will occur and who will be responsible for developing, implementing, and monitoring the restoration plan. Potential mitigation sites in the vicinity of the Walters Road Extension portion of the Alternative B alignment could be used to preserve and create or enhance seasonal wetland and freshwater marsh. Use of this option for seasonal wetland compensation will be coordinated with mitigation for Contra Costa goldfields and for listed invertebrates. 						
<p><i>Mitigation Measure BR-9: Compensate for the Permanent and Temporary Filling of Other Waters of the United States.</i> STA or the appropriate local</p>	<p>STA or its representative</p>	<p>Preconstruction/ Construction</p>				

Task and Brief Description+	Responsible Agency	Timing / Phase	Action Taken to Comply with Task	Task Completed	Remarks	Environmental Compliance
<p>agency will compensate for filling other waters of the United States (a direct impact) in seasonal and perennial drainages. Compensation for loss of other waters of the United States in Old Alamo Creek, which supports a riparian community, will be provided at a minimum ratio of 2:1 (2 acres restored or created for every 1acre permanently affected). Compensation will include restoration or enhancement of riparian and in-stream habitats on Old Alamo Creek or other streams in the study area. This mitigation measure will follow the guidelines for riparian habitat compensation.</p> <p>Most drainages in the study area, including Union Creek and its tributaries, McCoy Creek and its tributaries, and unnamed drainages, do not support riparian habitat. Compensation for loss of other waters of the United States in these drainages will include restoration or enhancement of stream channel habitat at a minimum ratio of 1:1 (1 acre restored or enhanced for every 1 acre permanently affected). Restoration or enhancement will be implemented in the affected drainages or will be focused in McCoy Creek in the study area. The restoration or enhancement will include bank stabilization improvements to decrease erosion and improve water quality. A plan will be developed to make the bank slopes less vertical and to plant an appropriate grass seed mix to control bank erosion.</p> <p>STA or the appropriate local agency will retain a restoration ecologist to develop a mitigation plan that identifies erosion control, habitat replacement, and maintenance and enhancement of habitat as the primary mitigation goals. The habitat mitigation plan will include a list of recommended plant species, design specifications, an implementation plan, a maintenance program, and a monitoring program. STA or the appropriate local agency will implement the mitigation plan. At least 5 years of monitoring (more if required as a condition of permits) will be conducted by STA or the appropriate local agency to document whether success criteria are achieved (to be determined as part of the mitigation plan) and to identify remedial actions. Annual monitoring reports will be submitted to CDFG, the Corps, Caltrans, and other interested agencies.</p>						

Task and Brief Description+	Responsible Agency	Timing / Phase	Action Taken to Comply with Task	Task Completed	Remarks	Environmental Compliance
<p>Each report will summarize data collected during the monitoring period, describe how the habitats are progressing in terms of the success criteria, and discuss any remedial actions performed. Additional reporting requirements imposed by permit conditions will be incorporated into the mitigation plan and implemented as appropriate.</p> <p>Compensation for nonjurisdictional drainage impacts, which include irrigation and roadside ditches, will include maintenance or reconstruction of the irrigation drainages after road construction and replacement of the roadside drainages with a new system to convey stormwater.</p>						
<p><i>Mitigation Measure BR-10: Conduct a Biological Resources Education Program for Construction Crews and Enforce Construction Restrictions.</i> STA or the appropriate local agency will ensure that the contractor will conduct environmental awareness training for construction crews before project implementation. The education program will include a brief overview of the special-status species that are known to or could potentially occur in the study area: Contra Costa goldfields, and other special-status plants, but will also include VELB, vernal pool fairy shrimp, vernal pool tadpole shrimp, California tiger salamander, and special-status birds. The overview will cover the life history, habitat requirements, and legal status of each species and will include photographs of the species. The training will identify the portions of the study area in which these species may occur. Restrictions and guidelines that must be observed by construction personnel are listed below:</p> <ul style="list-style-type: none"> ● Project-related vehicles will be driven at or below the posted speed limit on hard-surfaced roads and at or below 15 mph on unpaved roads in the study area. ● Off-road travel using project-related vehicles and construction equipment will be restricted to the designated construction area. ● All food-related trash will be disposed of in closed containers and removed from the study area at least once per week during the construction period. Construction personnel will not feed or otherwise 	STA or its representative	Preconstruction. Construction				

Task and Brief Description+	Responsible Agency	Timing / Phase	Action Taken to Comply with Task	Task Completed	Remarks	Environmental Compliance
attract wildlife to the study area. <ul style="list-style-type: none"> ● No pets or firearms will be allowed in the study area. ● To prevent possible resource damage from hazardous materials such as motor oil or gasoline, construction personnel will not service vehicles or construction equipment outside designated staging areas. Any worker who encounters damaged vegetation or causes harm to a special-status plant species will immediately report the incident to the biological monitor. The monitor will immediately notify STA or the appropriate local agency, which will provide verbal notification to the USFWS Endangered Species Office in Sacramento, California, and to the local CDFG warden or biologist within 3 working days. STA or the appropriate local agency will follow up with written notification to USFWS and CDFG within 5 working days.						
<i>Mitigation Measure BR-11: Retain a Biologist to Monitor Construction Activities.</i> STA or the appropriate local agency will retain a biologist to make daily monitoring visits to all construction areas located in and adjacent to special-status plant populations. The biological monitor will assist the construction crew as needed to comply with all project implementation restrictions and guidelines. Also, the biological monitor will be responsible for ensuring that the contractor maintains the staked and flagged perimeters of the construction area and staging areas adjacent to sensitive biological resources.	STA or its representative	Preconstruction/ Construction				
<i>Mitigation Measure BR-12: Install Construction Barrier Fencing around the Construction Area.</i> STA or the appropriate local agency will ensure that the contractor installs orange construction barrier fencing to identify environmentally sensitive areas in the construction area, including Old Alamo Creek, Union Creek, McCoy Creek, unnamed drainages, wetlands, elderberry shrubs, special-status plant populations, oak trees, and any trees that support nests of special-status bird species. Before construction, a qualified biologist will identify sensitive biological habitat onsite before the final design plans are prepared so that the areas to be	STA or its representative	Preconstruction/ Construction				

Task and Brief Description+	Responsible Agency	Timing / Phase	Action Taken to Comply with Task	Task Completed	Remarks	Environmental Compliance
<p>fenced can be included in the plans. The contractor will work with the project engineer and a resource specialist to identify the locations for the barrier fencing and will place stakes around the sensitive resource sites to indicate these locations. The protected areas will be designated as environmentally sensitive areas and clearly identified on the construction plans. The fencing will be installed before construction activities are initiated and will be maintained throughout the construction period. The following paragraph will be included in the construction specifications:</p> <p>The contractor’s attention is directed to the areas designated as “environmentally sensitive areas.” These areas are protected, and no entry by the contractor for any purpose will be allowed unless specifically authorized in writing. The contractor will take measures to ensure that contractor’s forces do not enter or disturb these areas, including giving written notice to employees and subcontractors.</p> <p>Temporary fences around the environmentally sensitive areas will be installed as one of the first orders of work. Temporary fences will be furnished, constructed, maintained, and removed as shown on the plans, as specified in the special provisions, and as directed by the project engineer. The fencing will be commercial-quality woven polypropylene, orange in color, and at least 4 feet high (Tensor Polygrid or equivalent). The fencing will be tightly strung on posts set at maximum intervals of 10 feet.</p>						
<p><i>Mitigation Measure BR-13: Minimize Potential Impacts on Special-Status Plant Species during Construction.</i> STA or the appropriate local agency will ensure that the contractor will minimize potential construction-related impacts on special-status plant species by implementing the following measures to the extent possible:</p> <ul style="list-style-type: none"> ● In areas that contain special-status plants, construction activities will be conducted during the period when special-status plants are not flowering or fruiting (i.e., generally between August and January). ● As described in the Draft MSHCP, the topsoil from the area within the study area that contains the potentially affected special status plant 	STA or its representative	Construction				

Task and Brief Description+	Responsible Agency	Timing / Phase	Action Taken to Comply with Task	Task Completed	Remarks	Environmental Compliance
<p>populations will be excavated. The topsoil will be excavated with the roots, rhizomes, and seed bank in place; depth of excavation will be determined after further research on the species and site conditions. This excavation will occur after the plants have flowered and set seed, generally in November/December, when the soils are elastic and easy to move. The excavation will be done by hand or with a truck-mounted tree spade. The equipment will be chosen depending on the depth and diameter of excavation required. The topsoil will be placed on a transplant site immediately after excavation. This activity will be conducted or monitored by a botanist to ensure that the appropriate amount of topsoil is removed and placed in the appropriate location. Special project specifications will be developed for removing and relocating soils containing special-status plants. Because all identified special-status plants to be affected are wetland species, the transplant location will be located within the same wetland complex as the impact location.</p>						
<p><i>Mitigation Measure BR-14: Compensate for Loss of Pappose Spikeweed.</i> STA or the appropriate local agency will compensate for the permanent loss of occupied pappose spikeweed habitat. Compensation will include preservation at a ratio of 3:1 (3 acres preserved for each 1 acre of occupied habitat removed during construction). The area to be preserved will include either private property or City of Fairfield property located adjacent to the Walters Road Extension area, which is part of the McCoy Creek watershed High Value Conservation area identified in Draft MSHCP.</p>	STA or its representative	Preconstruction/ Construction				
<p><i>Mitigation Measure BR-15: Construct the Walters Road Extension on an Elevated Structure.</i> STA or the appropriate local agency will design and construct portions of the Walters Road Extension on an elevated structure (causeway) between Cement Hill Road and the UPRR tracks to maintain existing hydrological conditions.</p>	STA or its representative	Design/ Construction				
<p><i>Mitigation Measure BR-16: Conduct Preconstruction Surveys for Western Pond Turtle.</i> STA or the appropriate local agency will ensure that a</p>	STA or its	Preconstruction/				

Task and Brief Description+	Responsible Agency	Timing / Phase	Action Taken to Comply with Task	Task Completed	Remarks	Environmental Compliance
clearance survey for western pond turtles is conducted by a qualified biologist in all areas of aquatic habitat that cannot be avoided, within 24 hours prior to construction. If any western pond turtles are found, they should be moved, or encouraged to move to a safe location outside the construction zone.	representative	Construction				
<p><i>Mitigation Measure BR-17: Conduct Preconstruction Surveys for Active Burrowing Owl Burrows and Implement the CDFG Guidelines for Burrowing Owl Mitigation, if Necessary.</i> The Staff Report on Burrowing Owl Mitigation (CDFG 1994a) recommends that preconstruction surveys be conducted to locate active burrowing owl burrows in the study area and in a 250-foot-wide buffer zone around the study area. STA or the appropriate local agency will retain a qualified biologist to conduct preconstruction surveys for active burrows according to CDFG guidelines. The surveys will include a nesting season survey and wintering season survey. If no burrowing owls are detected, no further mitigation will be required. If active burrowing owls are detected in the survey area, STA or the appropriate local agency will implement the following measures:</p> <ul style="list-style-type: none"> ● Occupied burrows will not be disturbed during the nesting season (February 1 to August 31). ● When destruction of occupied burrows is unavoidable during the non-nesting season (September 1 to January 31), unsuitable burrows will be enhanced (enlarged or cleared of debris) or new burrows created (installing artificial burrows) at a ratio of 2:1 on protected lands approved by CDFG. Newly created burrows will be installed following guidelines established by CDFG. ● If owls must be moved away from the study area, passive relocation techniques (e.g., installing one-way doors at burrow entrances) will be used instead of trapping. At least 1 week will be allowed to accomplish passive relocation and allow owls acclimate to alternate burrows. ● If active burrowing owl burrows are found and the owls must be relocated, STA or the appropriate local agency will offset the loss of 	STA or its representative	Preconstruction/ Construction				

Task and Brief Description+	Responsible Agency	Timing / Phase	Action Taken to Comply with Task	Task Completed	Remarks	Environmental Compliance
<p>foraging and burrow habitat in the study area by acquiring and permanently protecting a minimum of 6.5 acres of foraging habitat per occupied burrow identified in the study area. The protected lands should be located adjacent to the occupied burrowing owl habitat in the study area or at another occupied site near the study area. The location of the protected lands will be determined in coordination with CDFG. STA or the appropriate local agency will also prepare and implement a monitoring plan and provide long-term management and monitoring of the protected lands. The monitoring plan will specify success criteria, identify remedial measures, and require an annual report to be submitted CDFG.</p> <ul style="list-style-type: none"> ● If avoidance is the preferred method of dealing with potential impacts, no disturbance should occur within 160 feet of occupied burrows during the nonbreeding season (September 1 to January 31) or within 250 feet during the breeding season. Avoidance also requires that at least 6.5 acres of foraging habitat (calculated based on an approximately 300-foot foraging radius around an occupied burrow) contiguous with occupied burrow sites be permanently preserved for each pair of breeding burrowing owls or single unpaired resident bird. The configuration of the protected site will be submitted to CDFG for approval. 						
<p><i>Mitigation Measure BR-18: Implement the CDFG Guidelines for Swainson's Hawk Foraging Habitat Mitigation and Conduct Preconstruction Surveys for Nesting Swainson's Hawks.</i> The Staff Report Regarding Mitigation for Impacts to Swainson's Hawk (<i>Buteo swainsoni</i>) in the Central Valley of California (CDFG 1994b) recommends mitigation of the removal of suitable Swainson's hawk foraging habitat at a ratio determined by the distance to the nearest active nest. Because the nearest known nest is 1 mile from the study area, the required compensation ratio would be 1:1 (1 acre replaced for every 1 acre removed) which is also consistent with the Draft MSHCP. Total range of compensation would be from 32 acres for Alternative E to 58 acres for Alternative B. STA or the appropriate local agency will accomplish this</p>	<p>STA or its representative</p>	<p>Preconstruction/ Construction</p>				

Task and Brief Description+	Responsible Agency	Timing / Phase	Action Taken to Comply with Task	Task Completed	Remarks	Environmental Compliance
<p>mitigation either by developing and implementing a project-specific mitigation agreement that would be submitted to CDFG for approval or by purchasing Swainson's hawk mitigation credits at a CDFG/Draft MSHCP-approved mitigation bank. It may also be feasible to combine this mitigation requirement with wetland or vernal pool upland mitigation discussed Wetlands, or Threatened and Endangered Species because mitigation lands for vernal pools and seasonal wetland swales include grasslands that are also suitable Swainson's hawk foraging habitat.</p> <p>If construction is scheduled to occur during the Swainson's hawk breeding season (generally March 1 through August 15), STA or the appropriate local agency will retain a qualified wildlife biologist to conduct preconstruction surveys for nesting Swainson's hawks in suitable habitat within a 0.25-mile radius of the construction site. If no Swainson's hawks are found nesting within the areas surveyed, then no further mitigation will be required. If Swainson's hawks are found nesting within a 0.25-mile radius of the construction site, CDFG will be consulted to determine whether a no-disturbance buffer would be required until after the young have fledged (as determined by a qualified wildlife biologist). Impact avoidance measures will be conducted pursuant to CDFG mitigation guidelines.</p>						
<p><i>Mitigation Measure BR-19: Avoid Disturbance of Nesting Special-Status and Non-Special-Status Migratory Birds and Raptors.</i> To avoid impacts on potentially nesting Cooper's hawk, white-tailed kite, northern harrier, and non-special-status migratory birds and raptors, STA or the appropriate local agency will implement the following avoidance and minimization measures:</p> <ul style="list-style-type: none"> ● To the extent possible, vegetation removal activities associated with the proposed action will be conducted outside the breeding season (generally between March 1 and August 15) for migratory birds and raptors. ● If vegetation removal activities are to take place during the breeding season for these species (generally between March 1 and August 15), a qualified wildlife biologist will be retained to conduct focused nesting 	<p>STA or its representative</p>	<p>Preconstruction/ Construction</p>				

Task and Brief Description+	Responsible Agency	Timing / Phase	Action Taken to Comply with Task	Task Completed	Remarks	Environmental Compliance
<p>surveys for Cooper’s hawk, white-tailed kite, northern harrier, and non-special-status migratory birds and raptors.</p> <ul style="list-style-type: none"> ● If active Cooper’s hawk, white-tailed kite, northern harrier, or non-special-status migratory bird or raptor nests are found in the study area, and if construction activities must occur during the breeding season, STA or the appropriate local agency will consult CDFG to determine and implement appropriate “no-disturbance” buffers around the nest sites until the young have fledged (as determined by a qualified biologist). ● If other active non-special-status migratory bird nests are found in the study area, and if construction activities must occur during the breeding season, STA or the appropriate local agency will consult USFWS to develop and implement an MOU to promote the conservation of migratory bird populations. ● If surveys indicate that no special-status or non-special-status birds are nesting in or adjacent to the study area, no further mitigation will be required. 						
<p><i>Mitigation Measure BR-20: Revise Project Plans to Avoid Contra Costa Goldfields.</i> To avoid impacts on Contra Costa goldfields habit, widening proposed for existing Walters Road under all of the build alternatives shall be designed to minimize right-of-way acquisition east of the existing roadway. This shall be achieved by shifting the alignment to the west and minimizing shoulder, lane, and median widths in areas adjacent to Contra Costa goldfield habitat.</p> <p>To avoid and minimize impacts to Contra Costa goldfields along the Walters Road Extension under Alternative B, the road design will include one or more of the following design options as describe in Mitigation Measure BR-7:</p> <ul style="list-style-type: none"> ● To mitigate for impacts on the drainage south of Cement Hill Road, a new drainage will be constructed south of the widened road to carry the flow currently in the drainage. Alternatively, the drainage will be placed in a pipe with outlet structures that would continue to provide flow to the 	STA or its representative	Design				

Task and Brief Description+	Responsible Agency	Timing / Phase	Action Taken to Comply with Task	Task Completed	Remarks	Environmental Compliance
<p>wetlands south of the road.</p> <ul style="list-style-type: none"> ● The road between Cement Hill Road and the UPRR tracks will be designed as an elevated structure on piers to maintain existing hydrology between the west and east sides of the road. Pier foundations will be placed to avoid wetlands and the areas within the OHWMs of drainages to the greatest extent feasible. ● A bridge will be constructed over the pond and the freshwater marsh. ● Culverts will be placed beneath the Walters Road Extension at a minimum of every 500 feet to maintain hydrologic connectivity throughout the study area. 						
<p><i>Mitigation Measure BR-21: Compensate for the Permanent Loss of Contra Costa Goldfields.</i> Concurrently with implementation of Mitigation Measure BR-4, STA or the appropriate local agency will develop and implement a plan to compensate for the permanent loss of Contra Costa goldfields. The Contra Costa goldfields compensation plan will include mitigation for impacts on seasonal wetlands because the species is associated with seasonal wetlands. Compensation for permanent loss (areas directly affected in the study area) of Contra Costa goldfields will consist of the following:</p> <ul style="list-style-type: none"> ● As described in the Draft MSHCP, occupied Contra Costa goldfields habitat will be preserved in perpetuity at a 9:1 ratio (9 acres of credits purchased at an approved mitigation bank or 9 acres of occupied habitat preserved for each 1 acre of occupied habitat removed during construction). ● As described in the Draft MSHCP, Contra Costa goldfields habitat will be created/restored at a 1:1 ratio (1 acre of Contra Costa goldfields habitat restored for each 1 acre of occupied habitat removed). ● As described in the Draft MSHCP, Vernal pool upland habitats (up to a 500-foot radius) will be preserved at a 3:1 ratio. (3 acres of Contra Costa goldfields habitat restored for each 1 acre of occupied habitat removed). 	STA or its representative	Preconstruction				

Task and Brief Description+	Responsible Agency	Timing / Phase	Action Taken to Comply with Task	Task Completed	Remarks	Environmental Compliance
<p>Compensation for temporary loss (areas indirectly affected in the study area) of Contra Costa goldfields will consist of the following:</p> <ul style="list-style-type: none"> ● As described in the Draft MSHCP, occupied Contra Costa goldfields habitat will be preserved in perpetuity at a 3:1 ratio (3 acres of occupied habitat preserved for each 1 acre of occupied habitat indirectly affected during construction). ● As described in the Draft MSHCP, Vernal pool upland habitats (up to a 500-foot radius) will be preserved at a 1:1 ratio (1 acre of Contra Costa goldfields habitat restored for each 1 acre of occupied habitat removed). <p>Final compensation requirements, the feasibility of creating a preservation area (including protection and management options), and the methods for restoration will be determined in future coordination with the resource agencies and in compliance with the USFWS Biological Opinion (BO) for the project.</p>						
<p><i>Mitigation Measure BR-22: Minimize Potential Impacts on Listed Vernal Pool Branchiopods and Delta Green Ground Beetle.</i> STA or the appropriate local agency will ensure that the contractor will minimize potential impacts within 250 feet of listed vernal pool fairy shrimp and vernal pool tadpole shrimp habitat identified through implementation of Mitigation Measure BR-12, by conducting construction activities in the dry season, which is generally between May 1 and October 15 or before the first fall soaking rains (rainfall more than 1 inch).</p>	STA or its representative	Construction				
<p><i>Mitigation Measure BR-23: Compensate for Permanent Losses of Vernal Pool Fairy Shrimp and Vernal Pool Tadpole Shrimp Habitat and Delta Green Ground Beetle.</i> To compensate for impacts on habitat for federally listed vernal pool fairy shrimp and vernal pool tadpole shrimp, STA or the appropriate local agency will preserve and create additional habitat for these species using compensation ratios approved by USFWS and described below:</p> <ul style="list-style-type: none"> ● As described in the MSHCP, in areas considered to be occupied Contra Costa Goldfields habitat, compensation for loss of vernal pool 	STA or its representative	Preconstruction/ Construction				

Task and Brief Description+	Responsible Agency	Timing / Phase	Action Taken to Comply with Task	Task Completed	Remarks	Environmental Compliance
<p>crustacean and delta green ground beetle habitat will be accomplished concurrently with compensation for Contra Costa goldfields.</p> <ul style="list-style-type: none"> As described in the MSHCP, suitable vernal pool crustacean and delta green ground beetle habitat not occupied Contra Costa goldfields will be preserved at a 2:1 ratio (2 acres preserved for every 1 acre of habitat directly or indirectly affected). Preservation lands will be established at a USFWS-approved conservation area, or preservation credits will be purchased from a USFWS-approved mitigation bank. As described in the MSHCP, suitable vernal pool crustacean and delta green ground beetle habitat not occupied by Contra Costa goldfields will be created at a 1:1 ratio (1 acre created for every 1 acre of habitat directly affected). Vernal pools will be created at a USFWS-approved conservation area, or creation credits will be purchased from a USFWS-approved mitigation bank. <p>Final compensation requirements, the feasibility of creating a preservation area (including protection and management options), and the methods for restoration will be determined in future coordination with the resource agencies and in compliance with the USFWS Biological Opinion (BO) for the project.</p>						
<p><i>Mitigation Measure BR-24: Compensate for Impacts on Valley Elderberry Longhorn Beetle.</i> Consistent with the Draft MSHCP STA or the appropriate local agency will ensure that the contractor will minimize potential construction-related impacts on VELB by maintaining a distance from elderberry shrubs of at least 20 feet). If this setback is not possible at all locations, STA or the appropriate local agency will implement the following measures, consistent with the requirements of the BO.</p> <ul style="list-style-type: none"> All elderberry shrubs with one or more stems measuring 1 inch or more in diameter that will be directly affected by construction activities will be transplanted to a conservation area in accordance with USFWS's Conservation Guidelines for Valley Elderberry Longhorn Beetle. Each elderberry stem measuring 1 inch or more in diameter at ground 	STA or its representative	Preconstruction/ Construction				

Task and Brief Description+	Responsible Agency	Timing / Phase	Action Taken to Comply with Task	Task Completed	Remarks	Environmental Compliance
<p>level that is within 100 feet of construction activities will be replaced in a conservation area with elderberry seedlings or cuttings at a ratio between 1:1 and 8:1. The ratio used for each affected plant will depend on the diameter of the stem at ground level, whether the shrub is located in riparian habitat, and whether the shrub has evidence of exit holes.</p> <ul style="list-style-type: none"> ● A mix of native tree and plant species representative of those associated with the elderberry shrubs in the study area will be planted in the conservation area. The trees and plants will be planted at ratios of 1:1 (the ratio represents native trees and plants to each elderberry seedling or cutting) for replacement of elderberry shrubs without exit holes. A mixture of native grasses and forbs also will be planted in the conservation area. ● Each transplanted elderberry shrub will have at least 1,800 ft² of area. As many as five additional elderberry seedling or cuttings and up to five associated native plants may also be planted in the 1,800 ft². ● Maintenance, remedial measures, and reporting will be conducted, following the requirements of the USFWS guidelines (1999). 						
<p><i>Mitigation Measure BR-25: Minimize Potential Impacts on California Tiger Salamanders.</i> Consistent with the Draft MSHCP STA or the appropriate local agency will ensure that the contractor will minimize potential impacts on California tiger salamanders and their aquatic and terrestrial habitats during construction by implementing the following measures, consistent with the requirements of the BO:</p> <ul style="list-style-type: none"> ● To minimize disturbance of breeding and dispersing California tiger salamanders, all construction activity within California tiger salamander upland habitat (defined as all habitat within 0.7 miles of aquatic habitat) will be conducted during the dry season between May 1 and October 15 or before the onset of the rainy season, whichever occurs first. If construction activities are necessary in California tiger salamander upland habitat between October 16 and April 30, STA or the appropriate local agency will contact the USFWS Sacramento Field Office for approval to 	STA or its representative	Preconstruction/ Construction				

Task and Brief Description+	Responsible Agency	Timing / Phase	Action Taken to Comply with Task	Task Completed	Remarks	Environmental Compliance
<p>extend the work period.</p> <ul style="list-style-type: none"> ● To minimize disturbance and mortality of adult and juvenile California tiger salamanders in aquatic habitat, STA or the appropriate local agency will minimize the extent of ground-disturbing activities within aquatic habitats by limiting the work area to the minimum necessary for construction. In addition, STA or the appropriate local agency will ensure that the contractor will install temporary exclusion fence between the wetland site and construction area. ● To minimize disturbance and mortality of adult and juvenile California tiger salamanders within underground burrows, STA or the appropriate local agency will minimize the extent of ground-disturbing activities within upland habitat (grasslands within 0.7 miles of aquatic habitat) by requiring the contractor to limit the work area to the minimum necessary for construction. In addition, STA or the appropriate local agency will ensure that the contractor will install temporary exclusion fence between the construction work area and potential aquatic habitat for all construction within grasslands that occur within 0.7 miles of aquatic habitat. ● Consistent with Mitigation Measure BR-11, STA or the appropriate local agency will ensure that a qualified wildlife biologist monitors all construction activities within California tiger salamander upland habitat. The biologist will look for California tiger salamanders during grading, excavation, and vegetation-removal activities. If a California tiger salamander is discovered, construction activities will cease until the salamander has been removed from the construction area and released near a suitable burrow at least 300 feet away from the construction area. 						
<p><i>Mitigation Measure BR-26: Compensate for Removal and Disturbance of California Tiger Salamander Habitat.</i> Consistent with the Draft MSHCP STA or the appropriate local agency will compensate for the removal or disturbance of potential upland habitat suitable aquatic habitat for California tiger salamanders, consistent with the requirements of the BO. STA or the appropriate local agency will preserve additional upland</p>	STA or its representative	Preconstruction/ Construction				

Task and Brief Description+	Responsible Agency	Timing / Phase	Action Taken to Comply with Task	Task Completed	Remarks	Environmental Compliance
<p>habitat within a USFWS-approved conservation area at a minimum 1:1 ratio (1 acre created or preserved for each 1 acre removed) and aquatic habitat at a minimum 3:1 ratio. STA or the appropriate local agency will coordinate or consult with USFWS to determine the appropriate compensation ratio and location of the conservation area.</p>						
<p><i>Mitigation Measure BR-27: Educate Construction Crews on Invasive Species Control and Prevention, and Monitor Compliance.</i> Consistent with the Draft MSHCP, STA or the appropriate local agency will avoid introducing or spreading invasive weeds into previously uninfested areas by ensuring that the biological resources education program for construction crews includes education on weed identification and the importance of controlling and preventing the spread of invasive weeds. Small, isolated infestations will be treated with CDFG-approved eradication methods at an appropriate time to prevent or destroy viable plant parts or seeds. All equipment will be washed before entering the study area. Equipment will be washed offsite at a paved facility, located away from environmentally sensitive areas. The resource monitors will routinely inspect construction activities to verify that construction equipment is being washed. STA or the appropriate local agency will ensure that the contractor will implement measures set forth in the SWPPP to revegetate and restore disturbed areas immediately after construction is complete.</p>	<p>STA or its representative</p>	<p>Preconstruction/ Construction</p>				
<p><i>Mitigation Measure BR-28: Implement Revegetation and Restoration Measures Required in the Storm Water Pollution Prevention Plan.</i> Once construction is complete, STA or the appropriate local agency will require the contractor to implement the measure set forth in the SWPPP to revegetate and restore disturbed areas immediately after construction. The revegetation portion of the SWPPP will require the use of certified weed-free native and non-native mixes. The SWPPP will also specify that all disturbed areas will be weeded and reseeded in subsequent years if determined necessary.</p>	<p>STA or its representative</p>	<p>Construction/ Postconstruction</p>				