

## CHAPTER 4 MITIGATION MONITORING REPORTING PROGRAM

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Impact #	Impact Statement	Mitigation Measures	Responsible Agency	Timing	Initials
<b>Land Use and Agriculture</b>					
N/A	N/A	Although the conversion of farmland is considered a less-than-significant impact, MCAG shall mitigate for the loss of agricultural lands in conformance with any countywide program adopted by Merced County prior to the commencement of construction. In the event no such program is in place prior to commencement of construction, the farmland impacts of the AME project should be mitigated by purchasing conservation easements at a 1:1 ratio for impacted farmlands. Under the 1:1 ratio, for every acre of farmland converted by the AME project and equivalent amount of farmland within the County would be placed under conservation easement(s). These conservation easements would ensure that the farmland would be protected in perpetuity for future development.	MCAG	Prior to grading	
<b>Visual Resources</b>					
VIS-1	<b>Impact VIS-1:</b> The construction, realignment, and expansion of roadways within the project area could create new sources of daytime and nighttime lighting that could adversely affect day or nighttime views in the area.	<p><b>Mitigation Measure VIS-1a:</b> Lighting at construction sites shall be shielded and shall face downwards at lot lines so as to not be directly visible from any adjoining sensitive uses, such as residential areas, unless required to maintain safe levels of lighting for work and security, and as necessary to meet Occupational Safety and Health Administration (OSHA) standards.</p> <p><b>Mitigation Measure VIS-1b:</b> Street lighting shall incorporate directional shielding so as not to shine directly on residential areas adjacent to the project site.</p>	MCAG and contractor  MCAG and contractor	On going through construction  Detailed design phase	

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VIS-2	<p><b>Impact VIS-2:</b> The removal of existing vegetation within Caltrans facilities could adversely affect existing visual features in these areas.</p>	<p><b>Mitigation Measure VIS-2:</b> Any vegetation removal from within the state right-of-way as a result of the proposed construction activities shall be identified prior to removal and shall be replaced within project limits at a ratio approved by Caltrans. Funds shall be set aside by the project sponsor for replacement highway planting. Replacement highway planting must be installed within two years of damage or removal of the existing planting. A minimum 3-year plant establishment period will be included to assure the success of the replacement highway planting.</p> <p>For any new plantings or plantings within project limits and Caltrans jurisdiction, barriers shall be installed, where possible without compromising motorist safety, in front of vegetation to avoid loss of tree and shrubs from vehicle collisions. During the construction of the project, ESA fencing shall be used to protect existing trees and shrubs will be required.</p>	<p>Contractor in coordination with Caltrans and City/County planning</p>	<p>Detailed design phase, construction and within 2 years of plant removal</p>	
VIS-3	<p><b>Impact VIS-3:</b> The construction and modification of project features within state facilities could be inconsistent with the visual character being implemented along SR 99.</p>	<p><b>Mitigation Measure VIS- 3:</b> Project facilities and features along SR 99 shall be constructed with aesthetic treatments consistent with the design guidelines provided in the Route 99 Corridor Enhancement Master Plan. These design guidelines shall apply to bridges, median plantings and soundwalls on SR 99 within project limits. The aesthetic design shall be approved by Caltrans prior to modification of any state facilities. These aesthetic treatments should be coordinated through the Caltrans Landscape Architecture unit and the Bridge Aesthetics unit at Caltrans Headquarters. This coordination with Caltrans and the incorporation of design features consistent with the Route 99 Corridor Enhancement Master Plan would reduce any impacts related to inconsistent visual features to a less-than-significant level.</p> <p>Required design features are likely to include aesthetics treatments such as:</p> <ul style="list-style-type: none"> <li>• Extended Gore Paving</li> <li>• Color or architectural concrete barrier used on bridge structures</li> </ul>	<p>Contractor in coordination with City planning and Caltrans</p>	<p>Detailed design phase</p>	

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		<ul style="list-style-type: none"> <li>• Color or texture on slope paving under a bridge abutment</li> <li>• Color or arch work on the bridge fence</li> <li>• Use of aesthetic treatments on new soundwalls along SR 99</li> </ul>			
<b>Traffic and Transportation</b>					
TRAF-1	<b>Impact TRAF-1:</b> During construction, the project may result in inadequate emergency access.	<b>Mitigation Measure TRAF-1:</b> During construction of the AME, the project sponsor shall be required to provide a minimum number of through lanes and turning lanes open on all existing roadways to accommodate vehicular traffic. Emergency service providers in the City of Atwater, the City of Merced, and Merced County shall be notified throughout the construction phase as to any road closures or detours as lane reductions in existing roadways would impede emergency access.	MCAG in coordination with city/county planning, engineering, and emergency service providers	Ongoing through construction	
<b>Noise</b>					
N-1	<b>Impact N-1:</b> Project construction would cause a substantial temporary or periodic increase in ambient noise levels, groundborne vibration, and groundborne noise levels in the project vicinity above existing levels.	<b>Mitigation Measure N-1:</b> Project Sponsor shall enforce the following actions during construction of the AME: <ul style="list-style-type: none"> <li>• Noise-generating activities at the construction site or in areas adjacent to the construction site associated with the project in any way shall be restricted to the hours of 7:00 a.m. to 7:00 p.m., Monday through Friday. Should it become necessary to work on weekends, holidays, or after 7:00 p.m., residents shall be notified and noise levels for the needed work shall be subject to a special provision that would limit noise levels from construction activities to not exceed 82 dBA at 50 feet.</li> <li>• All internal combustion engine driven equipment shall be outfitted with appropriate intake and exhaust mufflers in good condition.</li> <li>• “Unnecessary” idling of internal combustion engines shall be strictly prohibited.</li> <li>• Staging of construction equipment shall be avoided within 200 feet of residences and all stationary noise-generating construction equipment, such as air compressors and portable power generators, shall be</li> </ul>	MCAG and contractor	Ongoing through construction	

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		<p>placed as far as practical from existing noise sensitive receivers. Temporary barriers to screen stationary noise generating equipment shall be utilized when located in areas adjoining noise sensitive land uses.</p> <ul style="list-style-type: none"> <li>• "Quiet" air compressors and other stationary noise sources shall be utilized where technology allows such uses.</li> <li>• All construction traffic to and from the project site shall be routed via designated truck routes. Construction related heavy truck traffic shall be prohibited in residential areas where feasible. Construction truck traffic shall be prohibited in the project vicinity during non-allowed hours.</li> <li>• All adjacent residents to the project site shall be notified of the construction schedule in writing.</li> <li>• A "noise disturbance coordinator" responsible for responding to any local complaints about construction noise shall be designated. The disturbance coordinator will determine the cause of the noise complaint (e.g., starting too early, bad muffler, etc.) and will require that reasonable measures warranted to correct the problem be implemented. A telephone number for the disturbance coordinator at the construction site shall be conspicuously posted and included in the notice sent to neighbors regarding the construction schedule. The project sponsor shall be responsible for designating a noise disturbance coordinator and the contractor shall be responsible for posting the phone number and providing construction schedule notices.</li> <li>• If the Avenue One school site is open prior to or during construction of the AME project, grading operations within 500 feet of the schools site shall be coordinated with the school schedule such that major grading activities do not occur at times when school is in session. The grading plans shall indicate which areas are to be avoided to prevent disruption of school activities.</li> </ul>			
N-2	<b>Impact N-2:</b> Implementation of the AME project would cause a	<b>Mitigation Measure N-2:</b> The project sponsor shall use all available techniques,	MCAG and contractor	Detailed design phase	

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	<p>substantial permanent increase in ambient noise levels in the project vicinity and expose persons to noise levels in excess of standards established in the City of Atwater or Merced County General Plans.</p>	<p>including the construction of sound walls or earthen berms, and/or the use of quiet paving materials, to reduce exterior noise levels at impacted noise receivers to meet Merced County noise standards.</p> <p>Because of the rural nature of the project study area, it was recommended by Caltrans that a feasibility and reasonable cost allowance study be conducted to evaluate the costs associated with construction of soundwalls compared to the benefit they would provide. This analysis is provided in the noise study (Appendix D). The reasonableness allowance considers the absolute future noise level, the noise level increase caused by the project, the achievable reduction provided by a sound wall, and the age of the dwelling unit. A base reasonable cost allowance of \$52,000 per benefited residence (or residential equivalent) was applied. The majority of the sound walls are considered feasible to construct, however, none of the sound walls evaluated would be considered reasonable under FHWA/Caltrans guidelines.</p> <p>CEQA requires that significant impacts be mitigated to the extent possible and in most locations the use of a final coat of open graded asphalt concrete (OGAC) over the Portland Cement Concrete (PCC) roadway surface would reduce impacts to a less than significant level. The FHWA noise model indicates that there is a difference in noise generation of about 3-dBA between OGAC and PCC pavement types. Given a substantial traffic volume, recent research indicates differences of up to 10 dBA immediately adjacent to roadways. The use of OGAC is far more economical than the construction of sound walls. Therefore, where feasible and where its use would reduce noise levels below county standards, OGAC shall be used as the top layer of paving surface on the AME.</p> <p>Some jurisdictions, including the FHWA, do not recognize the placement of OGAC alone as sufficient mitigation to reduce noise levels. Therefore, under existing guidelines, the paving on state (Caltrans) facilities with OGAC would not be considered adequate mitigation. In these cases,</p>			

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		soundwalls shall be constructed to reduce noise levels at receiver locations below County standards.			
<b>Air Quality</b>					
AQ-1	<p><b>Impact AQ-1:</b> The AME project would result in temporary increases in PM10 emissions requiring compliance with SJVAPCD's Regulation VIII.</p>	<p><b>Mitigation Measure AQ-1:</b> To control the generation of construction-related PM10 emissions, MCAG shall comply with SJVAPCD Regulation VIII, as summarized below:</p> <ul style="list-style-type: none"> <li>• All disturbed areas, including storage piles, which are not being actively utilized for construction purposes, shall be effectively established of dust emissions using water, chemical stabilizer/suppressant, or covered with a tarp or other suitable cover or vegetative ground cover.</li> <li>• All on-site unpaved roads and offsite-unpaved access roads shall be effectively stabilized of dust emissions using water or chemical stabilizer/suppressant.</li> <li>• All land clearing, grubbing, scraping, excavation, land leveling, grading, cut and fill, and demolition activities shall be effectively controlled of fugitive dust emissions utilizing application of water or by presoaking.</li> <li>• When materials are transported on or off site, all material shall be covered, or effectively wetted to limit visible dust emissions, and at least 6 inches of freeboard space from the top of the container shall be maintained.</li> <li>• All operations shall limit or expeditiously remove the accumulation of mud or dirt from adjacent public streets at the end of each workday. (The use of dry rotary brushes is expressly prohibited except where preceded or accompanied by sufficient wetting to limit the visible dust emissions. Use of blower devices is expressly forbidden).</li> <li>• Following the addition of materials to, or the removal of materials from, the surface of outdoor storage piles, said piles shall be effectively stabilized of fugitive dust emissions utilizing sufficient water or chemical stabilizer/suppressant.</li> <li>• Within urban areas, trackout shall be immediately removed when it extends 50 or more feet from the site</li> </ul>	MCAG and contractor	On going through construction	

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		<p>and at the end of each workday.</p> <ul style="list-style-type: none"> <li>• Any site with 150 or more vehicle trips per day shall prevent carryout and trackout.</li> <li>• Limit traffic speeds on unpaved roads to 15 mph; and</li> <li>• Install sandbags or other erosion control measures to prevent silt runoff to public roadways from sites with a slope greater than one percent.</li> </ul> <p>Conformity with the best management practices established in SJVAPCD's Regulation VIII would limit the generation and release of particulate matter resulting from construction activities. Therefore, any impacts would be less than significant.</p>			
AQ-2	<p><b>Impact AQ-2:</b> The AME project would result in temporary impacts arising from elevated concentrations of PM10 and CO, as well as increased emissions of ROG's and NO2 due to project construction.</p>	<p><b>Mitigation Measure AQ-2:</b>                      The AME project shall comply with San Joaquin Valley Air Pollution Control District recommended measures as listed below:</p> <ul style="list-style-type: none"> <li>• Use of alternative fueled or catalyst diesel construction equipment</li> <li>• Minimize idling time (e.g., 10 minute maximum)</li> <li>• Limit the hours of operation of heavy duty equipment and/or the amount of time in use</li> <li>• When feasible replace fossil-fueled equipment with electrically driven equivalent (provided they are not run via a portable generator set)</li> <li>• Curtail construction during periods of high ambient pollutant concentrations; this may include ceasing of construction activity during the peak-hour of vehicular traffic on adjacent roadways</li> <li>• Implement activity management (e.g., rescheduling activities to reduce short term impacts)</li> <li>• Comply with Rule 4641 of the SJVAPCD – Cutback, Slow Cure, and Emulsified Asphalt, Paving and Maintenance Operations</li> </ul>	MCAG and contractor	On going through construction	

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		<p>Conformity with the above measures will reduce emissions of PM10 and CO, as well as emissions of ROG's and NO2. Properly managing the amount of time emissions producing equipment is utilized and substituting electrical equipment for fossil fueled equipment whenever feasible, will reduce overall emissions, reducing this impact to a less-than-significant level.</p>			
AQ-3	<p><b>Impact AQ-3:</b> Construction of the AME project would result in generation of more than two tons of NO2 in non-conformance with SJVAPCD Rule 9510.</p>	<p><b>Mitigation Measure AQ-3:</b> The AME project shall comply with San Joaquin Valley Air Pollution Control District Rule 9510 by achieving:</p> <ul style="list-style-type: none"> <li>• A 20 percent NO2 and 45 percent PM10 reduction in exhaust emissions compared to the statewide fleet average. This can be met by implementing one or more of the following:</li> <li>• Retrofitting existing equipment with control devices,</li> <li>• Using cleaner fuels,</li> <li>• Operating newer than average equipment,</li> <li>• Payment of a mitigation fee to District to obtain reductions through grant and incentive programs.</li> </ul> <p>Compliance with the above requirements will reduce emissions of NO2 through the utilization of fuels that produce less of this pollutant and maximizing efficient use of fuel through use of newer than average equipment utilizing appropriate control devices. Furthermore, in the event that emissions targets are not met on-site through implementation of the other measures, payment of a mitigation fee to the SJVAPCD would help reduce emissions of NO2 in other areas of the Air Basin by helping to fund more effective air quality measures elsewhere. Implementation of the above mitigation measures would reduce this impact to a less-than-significant level.</p>	MCAG and contractor	During construction	
<b>Geology, Seismicity, and Soils</b>					
GEO-1	<p><b>Impact GEO-1:</b> During project operation, seismic related-liquefaction and lateral spreading could occur, causing</p>	<p><b>Mitigation Measure GEO-1:</b> Further investigation of liquefaction potential (looking at subsurface soil conditions and groundwater conditions) by a qualified geologist, certified by the State of California, shall</p>	MCAG in coordination with a qualified geotechnical	Detailed design phase	

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	destabilization of roadways, overhead structures and approaches. This could result in damage to the project and create a hazard to people on the roadway structures.	be performed during the final engineering and design phases of the project, once a final alignment is selected. This investigation shall include a vertical pile capacity analysis which shall consider post-liquefaction settlement. Recommendations given in this investigation shall be consistent with the Caltrans Highway Design Manual. Recommendations of this investigation shall be incorporated into the final project designs and approved by MCAG and Caltrans for work within the State's ROW prior to issuance of permits to construct.	engineer and Caltrans		
GEO-2	<b>Impact GEO-2:</b> Seismic ground shaking could damage the project and cause bridge collapse which could harm people in the vicinity, including motorists.	<b>Mitigation Measure GEO-2:</b> Once a final alignment is selected for the project, a detailed geotechnical evaluation shall be performed by a qualified geologist, certified by the State of California. This evaluation shall identify specific areas of concern for seismic ground shaking and provide mitigation measures consistent with the Caltrans Highway Design Manual. Recommended mitigation measures from this evaluation shall be incorporated into the project design and the seismic design of the project shall be approved by MCAG and Caltrans for improvements within the State's ROW prior to issuance of permits to construct.	MCAG in coordination with a qualified geotechnical engineer and Caltrans	Detailed design phase	

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GEO-3	<p><b>Impact GEO-3:</b> Unstable soils pose a threat to the structural integrity of the project's bridge structures.</p>	<p><b>Mitigation Measure GEO-3:</b> Recommendations on foundation design shall be made in the final geotechnical evaluation, which is to be performed by a qualified geologist, certified by the State of California, during the PS&amp;E phase. Foundation recommendations in the geotechnical evaluation shall be based on further investigation of subsurface conditions and structural design requirements. It is anticipated that recommendations could include design features that would exceed the structural integrity of Standard Class piles. These recommendations shall be approved by Caltrans and MCAG and incorporated into the project.</p>	<p>MCAG in coordination with a qualified geotechnical engineer and Caltrans</p>	<p>Detailed design phase</p>	
GEO-4	<p><b>Impact GEO-4:</b> In areas where the use of fill material is required, post construction settlement could occur at project embankments since their construction would require fill to be placed on top of existing very stiff silt/sandy silt and very loose to very dense sand silty/sand. Settlement could damage the project structures, which could create hazards to motorists on the expressway.</p>	<p><b>Mitigation Measure GEO-4a:</b> Once a final alignment is selected for the project, a detailed geotechnical evaluation shall be performed by a qualified geologist certified by the State of California. This study shall address potential post construction settlement at project embankments and shall recommend appropriate mitigation measures consistent with Caltrans design guidelines. Caltrans standard embankment settlement period may be required from 60 days to 90 days depending upon site-specific condition as determined by the geotechnical evaluation.</p> <p><b>Mitigation Measure GEO-4b:</b> Embankment fill shall be placed in accordance with the Caltrans Highway Design Manual guidelines, which requires structure approach embankment material to be compacted to a 95 percent relative compaction.</p> <p><b>Mitigation Measure GEO-4c:</b> Retaining walls needed to retain approach embankments at Route 99 and Santa Fe Drive, and grade separations at the Burlington Northern Railroad and Union Pacific Railroad tracks shall be constructed of either mechanically stabilized earth [MSE] walls (the preferred option) or Caltrans standard cantilever walls. Proper backfill compaction; drainage; adequate bearing capacity; and retaining and grade separation wall type shall be determined by a qualified geologist, certified by the State of California, in the geotechnical evaluation that will be prepared for the project.</p>	<p>MCAG in coordination with a qualified geotechnical engineer and Caltrans</p>	<p>Detailed design phase and construction phase as appropriate</p>	



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		<ul style="list-style-type: none"> <li>• <i>Non-Storm Water Management</i> - The plan will include provisions to reduce and control discharges other than stormwater.</li> <li>• <i>Post-Construction Storm Water Management</i> - The SWPPP requires the development of stormwater control measures to provide ongoing protection of water resources. The plan will include permanent treatment, pollution prevention, and maintenance BMPs.</li> <li>• <i>Waste Management and Disposal</i> - All wastes (including equipment maintenance waste: used oil, batteries) must be disposed of as required by state and federal law.</li> <li>• <i>Maintenance, Inspection, and Repair</i> - The plan requires an ongoing program to insure that all controls are in place and operating as designed.</li> <li>• <i>Monitoring</i> - This provision requires documented inspections of the control measures.</li> <li>• <i>Reports</i> – MCAG will prepare an annual report on the construction project and submit this report to the RWQCB. The report must certify compliance with the SWPPP.</li> <li>• <i>Training</i> - Inspections, maintenance and repair must be done by trained personnel.</li> </ul> <p><b>Mitigation Measure HWQ-1d:</b> Erosion control measures shall be applied to all exposed areas during construction. Erosion control measures may include the trapping of sediments within the construction area by placing barriers, such as straw bales, at the perimeter of downstream drainage points or by construction of temporary detention basins. Other methods of minimizing erosion impacts may include hydromulching and limiting the amount and length of exposure of graded soil. The temporary erosion control and water quality measures shall be defined in detail in the SWDR and SWPPP.</p> <p><b>Mitigation Measure HWQ-1e:</b> In areas where the proposed roadway alignment would cross creeks and canals, a structure (such as a box culvert)</p>	Contractor	Ongoing during construction	

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		<p>shall be added to convey the flow of water under the roadway. Figure 4.9-3 shows the location of these structures. Alternative 1A will require one structure across Canal Creek and one structure across Black Rascal Creek. Modified Alternative 1B will require four structures across Canal Creek, one structure across Livingston Canal, and one structure across Black Rascal Creek. The proposed interchange improvements at SR 99 (common to both alternatives) cross Canal Creek four times, two of which require new conveyance structures to be built. Design and flow rates for the conveyance structures will be determined by a final hydraulic report as approved by Merced County. Included in Table 4.9-1 are the temporary control measures that will likely be part of the project.</p> <p>Construction BMPs (as listed in Table 4.9-1) are temporary BMPs that contractors are required to implement to meet BCT/BATEA requirement for construction. The selected temporary BMPs are consistent with the practices required under State of California NPDES General Permit for storm water discharges associated with construction activities. Expressway construction that impacts MID rights-of-way for canals, irrigation laterals, and creeks will require a "construction agreement" and a "joint use agreement" between MID and Merced County. Compliance with the Caltrans statewide NPDES and individual local permits and/or agreements should reduce or avoid potentially substantial construction-related water quality impacts. Implementation details of these mitigation measures shall be developed and incorporated into the project design and operations prior to project construction. With proper implementation of these mitigation measures, short-term or temporary construction-related water quality impacts will be minimized.</p>	MCAG and contractor	Detailed design phase	
HWQ-2	<b>Impact HWQ-2:</b> Spills and leaks of lubricants and other fluids associated with vehicles and equipment used during construction activities would increase the potential for pollution transported by	<b>Mitigation Measure HWQ-2:</b> Mitigation Measures HWQ-1A through HWQ-1C would reduce construction vehicle and equipment related water pollution to a less than significant level.	MCAG and contractor	Prior to construction, on going during construction, and detailed design phase	

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	stormwater runoff into nearby creeks and storm drains.				
HWQ-3	<p><b>Impact HWQ-3:</b> Pollutants associated with vehicles would be deposited on the roadway during project operation and would be transported by stormwater runoff into nearby creeks and storm drains adversely affecting water quality.</p>	<p><b>Mitigation Measure HWQ-3a:</b>                      The applicant shall prepare a SWPPP and apply for inclusion in the Caltrans NPDES permit as required under Mitigation Measure HWQ-1A. As required under the NPDES permit, the project will include both Design Pollution Prevention and Treatment BMPs to treat stormwater pollution during project operation.</p> <p><b>Mitigation Measure HWQ-3b:</b>                      When establishing Design Pollution Prevention BMPs for the project, MCAG shall consider all of the following affects:</p> <ul style="list-style-type: none"> <li>• Downstream Effects Related to Potentially Increased Flow – The project will discharge to unlined channels. As a result, erosion control shall be applied to the ditches. There is the potential for increased sediment loads to be transported to downstream waterways; therefore permanent erosion control measures shall be applied to all new or exposed slopes. The project will cross several waterways, and there may be the potential for creating unstable channel conditions. BMPs will address the stability of channels crossed by the project</li> <li>• Preservation of Existing Vegetation – At all locations, preserving existing vegetation is beneficial.</li> <li>• Concentrated Flow Conveyance Systems – The project will: A) have the potential to cause gulying, B) create or modify existing slopes, C) be subject to roadway flooding, D) require the concentration of surface runoff, and E) require cross drains. Each of these conditions will require the proper design of the following drainage facilities to handle concentrated flows.                         <ul style="list-style-type: none"> <li>o Ditches, berms, dikes and swales</li> <li>o Overside drains</li> <li>o Flared end sections</li> <li>o Outlet protection/velocity dissipation devices</li> </ul> </li> <li>• Slope/Surface Protection Systems – The project will</li> </ul>	<p>MCAG in coordination with Caltrans</p> <p>MCAG</p>	<p>Prior to construction</p> <p>Prior to construction</p>	

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		<p>create or modify existing slopes requiring the application of one or more of the following control measures.</p> <ul style="list-style-type: none"> <li>o Vegetated surfaces</li> <li>o Hard surfaces</li> </ul> <p><b>Mitigation Measure HWQ-3c:</b> Detention and infiltration devices shall be implemented as approved Treatment BMPs. Soil erosion shall be primarily handled with the proper design of landscaping and the application of final ground treatment BMPs, such as planting and fiber rolls. Detention basins shall also be used to reduce the sediment and particulate matter in stormwater runoff.</p> <p>A detention basin is a permanent treatment BMP designed to reduce the sediment and particulate matter in stormwater runoff. The basin allows a large volume of water to enter, slowly (to prevent erosion), and limits the outflow by having small orifices (or openings) at the lowest point in the structure. Water stops flowing once it reaches a detention basin and over time particulate matter (including various pollutants) falls out of the water to the bottom of the basin. Water leaves the basin through a water quality outlet structure that is designed with these orifices. Water is stored in the basin, temporarily, for enough time for pollutants and other floating sediments to settle, but not enough time for vector control issues (i.e. growth of potential disease-carrying mosquito populations) to develop. The water then is discharged to a discharge point (Canal Creek) through an outflow pipe. The rate at which the water leaves the basin is dependant on the design of the orifices. Generally, water is contained in detention basins for approximately 24 to 72 hours.</p>	MCAG and contractor	During construction	
HWQ-4	<b>Impact HWQ-4:</b> Development of the AME project would increase pollution in groundwater since pollutants washed off the roadway may percolate into and contaminate groundwater.	<b>Mitigation Measure HWQ-4a:</b> The applicant shall prepare a SWPPP and apply for inclusion in the Caltrans NPDES permit as required under Mitigation Measure HWQ-1A, 1B, and 1C. As required under the NPDES permit and discussed under Mitigation Measures HWQ-3B and 3C, the project will include both Design Pollution Prevention and Treatment BMPs required	MCAG in coordination with Caltrans	Prior to construction	

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		<p>to treat stormwater pollution.</p> <p><b>Mitigation Measure HWQ-4b:</b>                      If Modified Alternative 1B is selected, groundwater quality testing shall be performed, specifically in the area of the depressed section between Green Sands Avenue and Canal Creek, to verify the presence of groundwater contaminants. If contaminants are present in the groundwater, groundwater treatment shall be required.</p>			
HWQ-5	<p><b>Impact HWQ-5:</b> The AME project would convert pervious surface area into impervious surface area which would increase the amount of stormwater runoff in the project study area to a level that would exceed the capacity of existing or planned stormwater drainage systems.</p>	<p><b>Mitigation Measure HWQ-5a:</b>                      New drainage facilities shall be constructed where needed. New roadside ditches and detention basins will be constructed to accommodate increased stormwater flows. Existing drainage systems may need to be extended or replaced if undersized. The specifications of roadside ditches will be finalized during the final phase of the project, although the ditches must be built with a minimum 4:1 side slope. The use of detention and infiltration basins and BMPs as discussed in Mitigation Measure HWQ-3C will be implemented so that untreated runoff does not adversely affect roadside ditches.</p> <p>Detention basins are proposed at each of the water body crossings either along the main roadway or in the loop areas. Fourteen detention basins would be required for Alternative 1A and thirteen detention basins required for Modified Alternative 1B.</p> <p>The construction of drainage facilities is complicated by the flat terrain and that the elevations of the receiving waters would be higher than the roadside ditches. In order to overcome the drainage challenge presented by minimal difference in elevation, installation of pumps may be required at the end of these ditches in order to drain runoff from the roadside ditches to the existing canals.</p> <p>The design of roadside ditches shall be based on flow data calculations by the design engineer. Final design of roadside ditches shall be approved by the Merced County Department of Public Works and the Merced Irrigation District prior to issuance of the permit to construct. Final</p>	<p>MCAG and contractor in coordination with the Merced County Department of Public Works and the Merced Irrigation District</p>	<p>During construction</p>	

Impact #	Impact Statement	Mitigation Measures	Responsible Agency	Timing	Initials
		<p>Design shall be based on procedures presented in the Caltrans Highway Design Manual, Fifth Edition and the Federal Highway Administration HEC-22 publication for highway pavement drainage.</p> <p><b>Mitigation Measure HWQ-5b:</b> Detention basins shall be constructed to accommodate runoff resulting from a 25-year, 24-hour storm and to collect any additional flood spill flows from nearby water bodies during major precipitation events. Additional right-of-way would be required at all the proposed outfall locations ranging from approximately 100 to 150 feet of additional right-of-way width from the edge of the pavement. Pumps shall be installed after each detention basin to lift the detained stormwater and to meter the flow that reaches each water body. Final design shall be based on procedures presented in the Caltrans Highway Design Manual, Fifth Edition and the Federal Highway Administration HEC-22 publication for highway pavement drainage and approved by the Merced County Department of Public Works and the Merced Irrigation District prior to issuance of the permit to construct.</p>	<p>MCAG and contractor in coordination with the Merced County Department of Public Works and the Merced Irrigation District</p>	<p>Prior to construction</p>	
HWQ-6	<p><b>Impact HWQ-6:</b> Development of the depressed section of Modified Alternative 1B between Green Sands Avenue and Canal Creek would impact existing groundwater table due to its potentially high elevation at this location.</p>	<p><b>Mitigation Measure HWQ-6:</b> Depending on the depth of intrusion into the groundwater table, the depressed section of Modified Alternative 1B between Green Sands Avenue and Canal Creek shall be designed to avoid any intrusion of groundwater into the roadway. To avoid any cross contamination or interference of groundwater movements, an underground impermeable cutoff wall shall be constructed around and below the depressed section. In addition, a reinforced concrete section for the depressed section shall also be designed to resist uplifting due to groundwater. These elements for the depressed section of Modified Alternative 1B would be evaluated during the design phase of the AME project and a feasible solution would be developed in coordination with the applicable governing agencies.</p>	<p>MCAG and contractor</p>	<p>Detailed Design Phase</p>	
HWQ-7	<p><b>Impact HWQ-7:</b> If Modified Alternative 1B is selected, motorists traveling on the depressed section of</p>	<p><b>Mitigation Measure HWQ-7:</b> For major precipitation events larger than the 10-year storm event, an alert system shall be installed to warn motorists traveling on the AME of potential hazards to floods within</p>	<p>MCAG</p>	<p>During construction</p>	

Impact #	Impact Statement	Mitigation Measures	Responsible Agency	Timing	Initials
	Alternative 1B between Green Sands Avenue and Canal Creek would be exposed to significant hazards to floods during major precipitation events.	the depressed section of Modified Alternative 1B. Road signage alerting motorists of potential flooding hazards shall be installed south of Green Sands Avenue for northbound motorists and north of Avenue Two for southbound motorists. Flashing lights shall be installed on the roadway signage that would be used if the depressed section of Modified Alternative 1B were to become flooded. In the event that flooding occurs at the depressed section of Modified Alternative 1B, the depressed section of the AME shall be closed to motorists. Traffic shall be diverted onto Green Sands Avenue and Avenue Two and then to local roads between these two points to avoid exposure to hazards to floods in the depressed section of Modified Alternative 1B.			
<b>Hazards and Hazardous Materials</b>					
HAZ-1	<b>Impact HAZ-1:</b> Construction of the project would require demolition of structures that may contain hazardous substances such as lead and asbestos. These substances would potentially threaten workers if not properly handled.	<p><b>Mitigation Measure HAZ-1a:</b> Once a final project alignment is selected, and well before permits to construct are issued, a Phase II testing report shall be completed. The Phase II shall be completed by a qualified hazards specialist as approved by the MCAG. The Phase II shall include, but not be limited to, surveys for asbestos and lead in buildings to be demolished, a work plan for demolition, and soil sampling to determine the amount and type of herbicides and pesticides in the soil from past agricultural uses in the project study area. Phase II study shall include soil sampling around abandoned vehicles and farm equipment storage areas within the project right-of-way and the location and contents of USTs in the project study area to the extent feasible. Soils along the railroad right of way shall be tested for heavy metals, TPH, and PAHs. Tests to be included in the Phase II study are described in Mitigation Measures HAZ-2 to HAZ-6.</p> <p><b>Mitigation Measure HAZ-1b:</b> As part of the Phase II study, buildings and structures to be demolished shall be surveyed by a certified asbestos surveyor and tested for lead by an AHERA Accredited Building Inspector. A work plan for demolition will be developed and included in the Phase II report.</p> <p>The recommendations of the Phase II study shall be</p>	<p>MCAG in coordination with a qualified hazards specialist</p> <p>MCAG in coordination with a qualified environmental professional</p>	<p>Detailed Design Phase</p> <p>Prior to demolition and during detailed design phase as appropriate</p>	

Impact #	Impact Statement	Mitigation Measures	Responsible Agency	Timing	Initials
		<p>incorporated into final project plans. Asbestos shall be removed and stored off-site prior to building/structure demolition by experts qualified to identify and remove asbestos. Similarly, Lead based paint will be appropriately contained off-site during the demolition process. Demolition shall comply with the California Department of Occupational Safety and Health (CAL/ OSHA) requirements regarding asbestos and lead paint removal. Asbestos is to be removed from the site and properly disposed of prior to, and as a condition of, the issuing a permit for site demolition.</p>			
HAZ-2	<p><b>Impact HAZ-2:</b> Grading and earthmoving activities could expose the public or construction workers to heavy metals in the soil from nearby railroad operations.</p>	<p><b>Mitigation Measure HAZ-2:</b> In the event the construction involves installation of footings within the railroad right of way, soils along the railroad right of way shall be tested as part of the Phase II study mentioned in Mitigation Measure HAZ-1 for heavy metals, TPH, and PAHs. This study will be performed once an alignment is selected for the project and prior to the issuance of permits to construct any portion of the project near the railroad lines. The number of borings and test methods shall be documented in a work plan for the Phase II study.</p> <p>Remediation for these substances shall depend on the contaminant nature, level, and estimated volume of soil contamination. Impacted soils may be capped under the road, treated onsite biologically or via stabilization, or sent offsite to an approved landfill. Remediation measures shall be approved by the MCAG prior to issuance of the permit to construct.</p>	<p>MCAG in coordination with a qualified environmental professional</p>	<p>After an alignment is selected, prior to beginning construction in the vicinity of any railroad.</p>	
HAZ-3	<p><b>Impact HAZ-3:</b> Grading and earthmoving activities may disturb soils that are potentially contaminated by known or unknown leaking USTs associated with farms in the project study area. Furthermore, if USTs under the project were to be abandoned, they could leak hazardous substances and create risks to</p>	<p><b>Mitigation Measure HAZ-3:</b> Underground storage tanks in the project study area shall be identified during the Phase II study and removed or otherwise mitigated. USTs shall be identified by a trained environmental professional through visual observation during a site visit, in interviews with the property owners, and during review of records at the City of Atwater and or Merced County Health Department.</p> <p>The project engineer shall retain an environmental consultant experienced with UST removal to prepare a plan</p>	<p>MCAG in coordination with a qualified environmental professional</p>	<p>Detailed design phase</p>	

Impact #	Impact Statement	Mitigation Measures	Responsible Agency	Timing	Initials
	human health and the environment over time.	that addresses proper removal and remediation of USTs and any adjacent contaminated soils that are identified within the proposed right-of-way. The remediation plan shall also provide a strategy for addressing any USTs presently unlisted or otherwise not identified during the Phase II, but that are found during project construction phases. This plan shall be approved by the Merced County or City of Atwater Health Departments, as applicable, prior to issuance of a grading permit. In all cases, any USTs found within the proposed right-of-way shall be safely removed and properly disposed of prior to final grading for the construction of the roadway.			
HAZ-4	<p><b>Impact HAZ-4:</b> Abandoned automobiles and farm equipment may have deposited substances such as TPH, BTEX, MTBE, oil, grease, associated PAHs, and lead into the soil. Abandoned farm equipment may have also leaked pesticides (including arsenic) and herbicides into the soil. Soil contaminants from abandoned automobiles and farm equipment may be present at high enough levels such that during grading and earthmoving activities disruption of the soil would pose a health risk to construction workers and the public.</p>	<p><b>Mitigation Measure HAZ-4:</b> The Phase II study shall conduct soil sampling around abandoned vehicles and farm equipment storage areas within the project right-of-way and remediate any concentrations of hazardous materials appropriately. During the Phase II study the selected alternative shall be superimposed (with the limits of the selected right of way) on the property map to identify and expand upon areas of potential concern. A sampling plan shall be prepared and shall be approved by the Merced County or City of Atwater Health Departments, as applicable. The sampling plan shall include soil sampling around abandoned cars and farm equipment and in agricultural areas to determine the types and levels of contaminants present (if any). Once the sampling plan is approved, soil investigation will be conducted to determine specific impacts to the soil and groundwater, and mitigation measures. Results shall be included in the Phase II study. Recommendations of this study shall be implemented prior to issuance of the permit to construct. State oversight and regulatory approval of cleanup shall occur as necessary.</p> <p>Recommendations based on soil sampling shall be developed and incorporated into future plans. Measures may include the removal and offsite disposal of farm equipment, excavation and offsite disposal of impacted soil, and/or onsite capping of contaminated soil underneath the selected route.</p>	MCAG in coordination with a qualified environmental professional	Detailed design phase	

Impact #	Impact Statement	Mitigation Measures	Responsible Agency	Timing	Initials
HAZ-5	<b>Impact HAZ-5:</b> Grading and earthmoving activities could expose the public or construction workers to hazardous substances in the soil deposited during agricultural processes.	<b>Mitigation Measure HAZ-5:</b> See Mitigation Measure HAZ-4 and HAZ-1A. The sampling plan shall also address the level of pesticides and herbicides in the soil from previous agricultural applications.	MCAG in coordination with a qualified environmental professional	Detailed design phase	
HAZ-6	<b>Impact HAZ-6:</b> Lighting associated with the project and the storage of hazardous materials during construction could create a safety hazard to the flight school operating at the former Castle Air Force Base since a portion of the project is within several airport compatibility zones.	<p><b>Mitigation Measure HAZ-6a:</b> The developer shall prepare a lighting plan to minimize construction and operational lighting such that it does not interfere with aircraft using the runway at the former Castle Air Force Base. Prior to issuance of a permit to construct the lighting plan shall be approved by MCAG and the CAED and determined to be consistent with Merced County Airport Land Use Compatibility Plan Policy 4.3.5, which does not allow lighting that would distract aircraft from the runway and create landing hazards.</p> <p><b>Mitigation Measure HAZ-6b:</b> As required by the Merced County Airport Land Use Compatibility Plan Policy 4.3.2, structures within Compatibility Zone B1 above 35 feet tall require Airport Land Use Commission review.</p> <p><b>Mitigation Measure HAZ-6c:</b> As required by the Merced County Airport Land Use Compatibility Plan Policy 4.2.4, except for aviation fuel, other aviation-related flammable materials and up to 2,000 gallons of nonaviation flammable materials, the aboveground storage of fuel or hazardous materials shall not occur in airport compatibility zones B1 and B2.</p>	<p>Contractor and MCAG</p> <p>MCAG</p> <p>MCAG</p>	<p>Detailed design phase</p> <p>Detailed design phase</p> <p>Detailed design phase</p>	
<b>Biological Resources and Wetlands</b>					
BIO-1A	<b>Impact BIO-1a:</b> Giant Garter Snake	<b>Mitigation Measure BIO-1a:</b> Although there are no modern records for giant garter snakes in Black Rascal Creek or Canal Creek, these creeks provide suitable habitat conditions for this snake. Thus, to ensure that there would be no impacts to this snake during any dewatering activities related to creek realignment and/or construction of road crossings, avoidance measures shall be	MCAG and contractor in coordination with a qualified biologist	On going through construction	

Impact #	Impact Statement	Mitigation Measures	Responsible Agency	Timing	Initials
		<p>implemented when construction would be within 200 feet of Black Rascal Creek or Canal Creek. The avoidance and minimization measures are detailed in the Guidelines for Procedures and Timing of Activities Related to the Modification or Relocation of Giant Garter Snake Canal or Stream Habitat and the USFWS Standard Avoidance and Minimization Measures During Construction Activities in Giant Garter Snake Habitat (USFWS 1999). In addition, if a giant garter snake is found in the work area, the USFWS shall be notified and the snake will be relocated within the same waterbody, outside of the area of effect.</p>			
BIO-1B	<b>Impact BIO-1b:</b> Vernal Pool Fairy Shrimp	<p><b>Mitigation Measure BIO-1b:</b> Mitigation for impacts to vernal pool fairy shrimp (or vernal pool tadpole shrimp) habitat is not be required for this project.</p>	N/A	N/A	
BIO-1C	<b>Impact BIO-1c:</b> Hardhead	<p><b>Mitigation Measure BIO-1c:</b> If partial or total dewatering of Black Rascal Creek or Canal Creek is required, a dewatering plan would be reviewed and monitored by a qualified biologist. The dewatering plan will be designed to reduce impacts to hardhead to the greatest extent practicable. Appropriate measures, including the use of mesh screens, seine and dip-nets, will be implemented to salvage and otherwise reduce mortality to this species during active dewatering. Additionally, turbidity barriers will be installed in the work areas within the channels to prevent impacts to water quality downstream. Finally, a biological monitor will be present during all dewatering activities. The biological monitor will capture all native fish species including hardhead and relocate to undisturbed habitat within the same watercourse. This activity will be conducted in consultation and as approved by CDFG.</p>	MCAG in coordination with a qualified biologist	Detailed design phase	
BIO-1D	<b>Impact BIO-1d:</b> California Tiger Salamander	<p><b>Mitigation Measure BIO-1d:</b> In order to offset the project's impact to potential California tiger salamander breeding habitats, the project sponsor shall purchase mitigation credits at the Great Valley Conservation Bank at Flynn Ranch in Merced (or other USFWS-approved mitigation banks that may be available for use at the time of project construction). It is likely that the USFWS will require the applicant to purchase at least three preservation credits for every acre (or portion thereof) of potential breeding</p>	MCAG	Prior to construction	

Impact #	Impact Statement	Mitigation Measures	Responsible Agency	Timing	Initials
		<p>habitat impacted by the project (3:1 mitigation ratio). The total credits purchased by the project sponsor shall ultimately be consistent with USFWS requirements for this project. Prior to project implementation, the project sponsor shall purchase mitigation credits for any impacts.</p> <p>In addition, the USFWS has approved use of the Great Valley Conservation Bank at Flynn Ranch in Merced to jointly mitigate for impacts to California tiger salamander upland estivation/over-summering habitat and San Joaquin kit fox habitat. It is likely that the USFWS will require a 3:1 mitigation ratio for permanent impacts to "suitable" CTS upland estivation/over-summering habitats, and a 1.1: 1 mitigation ratio for temporary impacts to "suitable" CTS upland estivation/over-summering habitats. Once the final alignment is determined, the project sponsor shall purchase the appropriate number of mitigation credits for any impacts. The total credits purchased by the project sponsor shall ultimately be consistent with USFWS requirements for this project. This mitigation is not in addition to mitigation requirements for San Joaquin kit fox, rather can be combined with any requirement for these species, the greater acreage requirement for any single species being the dominant requirement.</p> <p>Prior to impacting potential California tiger salamander habitats, an "incidental take" permit (Section 7 consultation) would be required from USFWS. The US Army Corps of Engineers would be the Section 7 federal nexus agency for this project.</p>			
BIO-1E	<b>Impact BIO-1e:</b> Western Spadefoot Toad	<p><b>Mitigation Measure BIO-1e:</b>                      Western spadefoot toads are known to occur at both the Vieira-Sandy Mush Conservation Bank located in Merced and the Great Valley Conservation Bank at Flynn Ranch in Merced. Consequently, it is likely that mitigation credits purchased at either of these mitigation banks to compensate for impacts to potential California tiger salamander breeding habitat would also mitigate the proposed project's impact on potential breeding habitat for the western spadefoot toad. Mitigation credits that are purchased shall be based upon a minimum of a 1:1 compensation to impacts ratio for impacts</p>	MCAG in coordination with CDFG	Prior to construction	

Impact #	Impact Statement	Mitigation Measures	Responsible Agency	Timing	Initials
		<p>to 0.69-acre of potential breeding habitat for western spadefoot toad. As this mitigation is not in addition to mitigation requirements for California tiger salamander, provided that a minimum of 0.69 acre of compensation credits are purchased in total for the proposed project, impacts to western spadefoot toad would be regarded as less than significant. Impacts to potential breeding habitat for the western spadefoot toad will be conducted in consultation and as approved by CDFG.</p>			
BIO-1F	<p><b>Impact BIO-1f:</b> Pacific Pond Turtle</p>	<p><b>Mitigation Measure BIO-1f:</b> Turbidity barriers that will be installed around the construction areas in Black Rascal Creek or Canal Creek will reduce impacts to pond turtles that may occur downstream. All Pacific pond turtles encountered during dewatering or other activities in the creeks would be salvaged, per CDFG approval, and relocated to preserved off-site habitats.</p> <p>The resource agencies (CDFG and USFWS) do not have specific mitigation guidelines that must be followed to offset a project's impact to the Pacific pond turtle. Mitigation for this special-status species is determined on a project by project basis. Potentially occupied aquatic habitat and upland nesting habitat within the final project alignment could be impacted by the proposed project. Since avoidance of all potentially occupied habitat is not possible, mitigation would include conducting preconstruction surveys for Pacific pond turtle and avoidance of nest sites. Preconstruction surveys for turtles and their nests shall be conducted 30 days prior to any construction in or surrounding any large primary irrigation canals, creeks, Black Rascal Creek or Canal Creek. If nest sites are located adjacent to a proposed work area, the nest site plus a 50-foot buffer around the nest site shall be fenced to avoid impacts to the eggs or hatchlings which over-winter at the nest site. In addition, if nest(s) are located during surveys, moth balls (naphthalene) should be sprinkled around the vicinity of the nest (no closer than 10 feet) to mask human scent and discourage predators.</p> <p>Construction at the nest site and within the 50-foot buffer</p>	<p>MCAG in coordination with CDFG and contractor</p>	<p>Prior to and on going through construction</p>	

Impact #	Impact Statement	Mitigation Measures	Responsible Agency	Timing	Initials
		<p>area shall be delayed until the young leave the nest (this could be a period of many months) or as otherwise advised and directed by CDFG, the agency responsible for overseeing the protection of the pond turtle. If CDFG allows translocation of any nestling pond turtles this shall be completed by a qualified biologist under the direction of CDFG. While the measures prescribed above would reduce the impacts to Pacific pond turtles to a level regarded as less than significant pursuant to the CEQA, CDFG may also require mitigation for any impacts to the turtle's habitat following completion of nesting. Any CDFG requirements would become conditions of the project that shall be implemented by the project sponsor. This mitigation is typically at a 1:1 mitigation ratio, or as otherwise determined by CDFG. Mitigation credits shall be purchased from a qualified mitigation bank if required by CDFG. This mitigation measure would reduce impacts to a level regarded as less than significant.</p>			
BIO-1G	<p><b>Impact BIO-1g:</b> Nesting Raptors</p>	<p><b>Mitigation Measure BIO-1g:</b>                      Nesting surveys shall be conducted in the spring of the year prior to construction of the project and, if construction would commence between March 1 and September 1, again 30 days prior to construction of the project. The raptor nesting surveys shall include examination of all trees and shrubs within the project area and trees and shrubs within sphere of influence of the proposed project.</p> <p>If nesting raptors are identified during the surveys, the dripline of the nest tree or shrub must be fenced with orange construction fencing. In addition, a 300-foot radius buffer must be fenced with orange construction fencing where this buffer intersects the expressway alignment work areas. This 300-foot buffer may be reduced if a qualified raptor biologist determines that the nesting raptors are acclimated to people and disturbance, and otherwise would not be adversely affected by construction activities. At a minimum, however, the non-disturbance buffer shall be a radius of 100 feet around the nest tree or shrub. If the nest site is on an adjacent property, the portion of the buffer that occurs on the project site shall be fenced with orange construction fencing.</p>	<p>MCAG in coordination with a qualified biologist and contractor</p>	<p>Prior to construction</p>	

Impact #	Impact Statement	Mitigation Measures	Responsible Agency	Timing	Initials
		<p>When construction buffers are reduced from the 300 foot radius, a qualified raptor biologist shall monitor distress levels of the nesting birds for one week after project disturbance occurs. If at any time the nesting raptors show levels of distress that could cause nest failure or abandonment, the raptor biologist shall have the right to re-implement the full 300-foot buffer. Instances when the buffer could be reduced in size would be if the raptors were well acclimated to disturbance and/or if there were physical barriers between the nest site and the construction project that would reduce disturbance to the nesting raptors. No construction or earth-moving activity should occur within the non-disturbance buffer until it is determined by a qualified raptor biologist that the young have fledged (that is, left the nest) and have attained sufficient flight skills to avoid project construction zones. This typically occurs by July 1. Regardless, the resource agencies consider September 1 the end of the nesting period unless otherwise determined by a qualified raptor biologist. Once the raptors have completed the nesting cycle, that is the young have reached independence of the nest, no further regard for the nest site shall be required. No other compensatory mitigation is required.</p>			
BIO-1H	<p><b>Impact BIO-1h:</b> Swainson's Hawk</p>	<p><b>Mitigation Measure BIO-1h:</b> CDFG has prepared guidelines for conducting surveys for Swainson's hawk entitled: Recommended Timing and Methodology for Swainson's Hawk Nesting Surveys in California's Central Valley (CDFG 2000). These survey recommendations were developed by the Swainson's Hawk Technical Advisory Committee (TAC) to maximize the potential for locating nesting Swainson's hawks, and thus reduce the potential for nest failures as a result of project activities and/or disturbances. To meet the CDFG's recommendations for mitigation and protection of Swainson's hawks in this guideline, surveys should be conducted for a half-mile radius around all project activities and should be completed for at least the two survey periods immediately prior to a project's initiation. The guidelines provide specific recommendations regarding the number of surveys based on when the project is scheduled to begin</p>	<p>MCAG in coordination with CDFG</p>	<p>Prior to construction</p>	

Impact #	Impact Statement	Mitigation Measures	Responsible Agency	Timing	Initials
		<p>and the time of year the surveys are conducted.</p> <p>If Swainson's hawks are found to be nesting on or in the immediate vicinity of the project area in the future when the proposed project is implemented, consultation with CDFG and mitigation compensation shall be required. At that time, the necessity of acquiring a Fish and Game Section 2081 management authorization should be determined. CDFG has prepared a Staff Report Regarding Mitigation for Impacts to Swainson's Hawks in the Central Valley of California (CDFG 1994) (hereinafter the Mitigation Guidelines) that prescribes avoidance and mitigation guidelines for impacts to Swainson's hawk nesting and foraging habitats. The Mitigation Guidelines require project sponsors to replace any impacted Swainson's hawk nesting and/or foraging habitat with other suitable Swainson's hawk nesting/foraging habitat. If Swainson's hawks are found to be nesting on or within the area of influence of the project (within 1,000 feet of the project alignment), impacts to nesting Swainson's hawks would be regarded as significant and adverse, and mitigation compensation would be required.</p> <p>The CDFG Mitigation Guidelines states that acceptable mitigation to offset impacts to Swainson's hawk foraging habitat can be met by Fee Title acquisition of Swainson's hawk habitat, or by acquisition of the right to record a conservation easement over lands that can be managed for this hawk species (hereinafter Habitat Management Lands). Any land acquired through Fee Title would have to be donated to a suitable conservation organization for management. In addition to providing Habitat Management Lands, the project sponsor would be assessed a management fee for the long-term management of the Habitat Management Lands by a suitable conservation organization. In lieu of these mitigation measures, as approved by CDFG, the project sponsor may purchase mitigation credits commensurate with the acreage of impacts to foraging and/or nesting habitat at a CDFG approved Swainson's hawk mitigation bank.</p>			
BIO-11	<b>Impact BIO-1i:</b> Western Burrowing Owl	<b>Mitigation Measure BIO-1i-1:</b> A nesting survey shall be conducted for ground nesting	MCAG in coordination with a	Prior to construction	

Impact #	Impact Statement	Mitigation Measures	Responsible Agency	Timing	Initials
		<p>raptors, such as western burrowing owl and northern harrier. The burrowing owl survey should be conducted in accordance with the survey requirements detailed in the CDFG's October 17, 1995 Staff Report on Burrowing Owl Mitigation. Surveys shall be conducted in both the breeding season (April 15-July 15) and non-breeding season (December-January) to assess use of the project area by this species. If burrowing owls are present on the project area during the breeding season (peak of the breeding season is April 15 through July 15), and appear to be engaged in nesting behavior, a fenced 75 meter (276-foot) buffer would be required between the nest site(s) (i.e., the active burrow(s)) and any earth-moving activity or other disturbance within the project area. This 276-foot buffer could be removed once it is determined by a qualified raptor biologist that the young have fledged (that is, left the nest). Typically, the young fledge by August 31. This date may be earlier than August 31, or later, and would have to be determined by a qualified raptor biologist. If northern harriers are identified nesting within the project area, mitigation measures detailed above for nesting raptors should be implemented.</p> <p>Additionally, if burrowing owls are identified nesting onsite and would be affected by the proposed project, an upland mitigation area for burrowing owls shall be established either on- or offsite. The mitigation site must be determined to be suitable by a qualified biologist. The size of the required mitigation site will be based on the number of burrowing owls that would be affected by the proposed project, with a minimum of 6.5 acres preserved per pair of owls or single owl that would be affected by the proposed project. The number of owls for which mitigation is required shall be based on the combined results of the protocol-level survey and the preconstruction surveys (i.e., if two pairs of owls are found to be within the project area, the mitigation requirement shall be <math>2 \times 6.5 = 13</math> acres provided that no more than two pairs of owls are observed during the preconstruction survey; if three pairs of owls are observed during the preconstruction survey, then the mitigation requirement shall be <math>3 \times 6.5 = 19.5</math> acres). A detailed</p>	<p>qualified biologist and CDFG</p>		

Impact #	Impact Statement	Mitigation Measures	Responsible Agency	Timing	Initials
		<p>mitigation and monitoring plan shall be developed for the burrowing owl mitigation area. This plan must be prepared in coordination with CDFG, and approved by this agency. In lieu of this mitigation measure, as approved by CDFG, credit commensurate with the mitigation acreage requirements set forth above shall be purchased from a qualified burrowing owl mitigation bank.</p> <p><b>Mitigation Measure BIO-1i-2:</b> Preconstruction surveys of the project area shall be conducted no more than 30 days prior to ground disturbing activities. If more than 30 days lapse between the time of the preconstruction survey and the start of ground-disturbing activities, another preconstruction survey must be completed. This process should be repeated until the habitat is converted to non-habitat (e.g., graded and developed).</p> <p><b>Mitigation Measure BIO-1i-3:</b> If western burrowing owls must be passively relocated from the project area to remove them from harms way, these activities shall be approved by CDFG in advance. Passive relocation shall not commence before September 30th and shall be completed prior to February 1st.</p> <p><b>Mitigation Measure BIO-1i-4:</b> If an upland mitigation site is designated for burrowing owls, it shall be approved as a suitable burrowing owl mitigation property by CDFG. The preserved area shall be preserved in perpetuity as wildlife habitat via recordation of a conservation easement that designates the California Department of Fish and Game (CDFG), or any other qualified conservation organization as approved by CDFG as the Grantee of the easement.</p> <p><b>Mitigation Measure 1i-5:</b> If a conservation easement is established over burrowing owl habitat, an endowment to cover the management of the mitigation area and implementation of the mitigation and monitoring plan shall be provided by the project sponsor to the Grantee of the Conservation Easement prior to issuance of the grading permit.</p>	<p>MCAG in coordination with a qualified biologist</p> <p>MCAG in coordination with a qualified biologist and CDFG</p> <p>MCAG with a qualified biologist and CDFG</p> <p>MCAG</p>	<p>No more than 30 days prior to construction</p> <p>Prior to and during construction</p> <p>Prior to construction</p> <p>Prior to issuance of the grading permit</p>	
BIO-1J	<b>Impact BIO-1j:</b> Common and Special-Status Nesting	<b>Mitigation Measure BIO-1j:</b> A nesting survey shall be conducted 15 days prior to	MCAG in coordination with a	15 days prior to construction as	

Impact #	Impact Statement	Mitigation Measures	Responsible Agency	Timing	Initials
	Passerine Birds	<p>commencing construction work if this work would commence between March 1 and September 1. If special-status birds, such as loggerhead shrike or tricolored blackbirds, are identified nesting within or near the project area, a 200-foot radius around the nest must be staked with bright orange construction fencing. No construction or earth-moving activity shall occur within this 200-foot staked buffer until it is determined by a qualified biologist that the young have fledged (that is, left the nest) and have attained sufficient flight skills to avoid project construction zones. This typically occurs by August 1. This date may be earlier than August 1, or later, and would have to be determined by a qualified ornithologist.</p> <p>If common (that is, not special-status) passerine birds (that is, perching birds such as American robins, scrub jays, and northern mockingbird) are identified nesting within the project area, grading activities in the immediate area shall be postponed until it is determined by a qualified ornithologist that the young have fledged and have attained sufficient flight skills to leave the area. Typically, most passerine birds can be expected to complete nesting by July 1, with young attaining sufficient flight skills by early July.</p>	qualified biologist	necessary	
BIO-1K	<b>Impact BIO-1k:</b> San Joaquin Kit Fox	<p><b>Mitigation Measure BIO-1k:</b> In order to offset the project's impact to high and medium quality potential San Joaquin kit fox habitats, the project sponsor shall purchase mitigation credits at the Great Valley Conservation Bank at Flynn Ranch in Merced (or other USFWS-approved mitigation bank available for use at the time the project is constructed). The USFWS has approved use of this bank to jointly mitigate for impacts to California tiger salamander upland estivation/over-summering habitat and San Joaquin kit fox habitat. Mitigation credits that are purchased to compensate for permanent impacts and for temporary impacts to high and medium quality suitable kit fox habitats. The total credits purchased by the project sponsor shall ultimately be consistent with USFWS requirements for this project. It is likely that the USFWS will require a 2:1 mitigation ratio for permanent impacts to potential SJKF habitat (for medium and high quality habitat areas only), and a 0.5:1 mitigation ratio for temporary</p>	MCAG in coordination with a qualified biologist and contractor	Prior to construction	

Impact #	Impact Statement	Mitigation Measures	Responsible Agency	Timing	Initials
		<p>impacts to potential SJKF habitat. Once the final alignment is determined, the project sponsor shall purchase the appropriate number of mitigation credits for any impacts.</p> <p>Finally, avoidance and minimization measures will be implemented by the proposed project to further reduce potential impacts to the San Joaquin kit fox. An employee training program will be conducted before groundbreaking to explain the Federal Endangered Species Act and any endangered species concerns to contractors working in the area. Qualified biologists would then conduct preconstruction den surveys no more than 14 days prior to groundbreaking to ensure that potential kit fox dens are not disrupted during construction of the expressway project. If "potential dens" are located, infrared camera stations will be set up and maintained for 3 consecutive nights at den openings prior to initiation of groundbreaking activities to determine the status of the potential dens. If no kit fox is found to be using the den, groundbreaking activities would proceed unhindered. However, if a kit fox is found using a den site within an area of influence of the expressway project (i.e., within 300 feet of the proposed road alignment), the USFWS will be notified at once. Because timing is an issue, notification would be via a telephone call (and as necessary voice-mail message) to the Chief of Endangered Species in Sacramento, and the Supervisor of Environmental Services at the appropriate CDFG Regional office. If the den is a refuge site only, the project sponsor will seek permission from the USFWS (and CDFG) to passively relocate the fox(es) from the den site prior to the initiation of the groundbreaking activities. As approved, passive relocation will occur over a three day period. Should a den be found that is a natal or pupping den, and it is within an area of influence near the expressway project, the groundbreaking activities would be delayed until such time that biologists can confirm that all kit foxes have left the den site. Once the den has been vacated, an infra red triggered camera would be set at the den opening. The camera would then be checked over a 2-day period to confirm that kit foxes no longer use the den. Once this is verified, grading equipment could be moved into the area and the</p>			

Impact #	Impact Statement	Mitigation Measures	Responsible Agency	Timing	Initials
		<p>groundbreaking activities completed.</p> <p>Prior to initiating groundbreaking activities, the vehicle and equipment access routes and work area will be delineated using construction fencing. This will minimize the project-related disturbance to potential San Joaquin kit fox habitat to the maximum extent possible. During the groundbreaking activities, all project-related vehicle traffic will be restricted to established roads or access routes, and will observe a 20-mile an hour speed limit within the work areas, except on County roads and highways. A biological monitor will be present during all activities that could result in injury to San Joaquin kit fox. The biologist will have the authority to halt work, if necessary, to protect the kit fox.</p> <p>To prevent harm to San Joaquin kit fox, any steep-walled holes and/or trenches excavated for the project will be completely covered at the end of each workday, or escape ramps will be provided to allow any entrapped animals to escape unharmed. All pipe sections stored at the project site overnight that are four inches in diameter or greater will be inspected for San Joaquin kit fox before the pipes are moved or buried. If San Joaquin kit fox are identified in the work area at any time, the USFWS and/or CDFG will be notified and consulted before work activities resume. All trash items will be removed from the project site to reduce the potential for attracting predators of San Joaquin kit fox. Contractors will be prohibited from bringing firearms and pets to the job site.</p> <p>Prior to impacting San Joaquin kit fox habitat, an "incidental take" permit (Section 7 consultation) would be required from USFWS, and an "incidental take" permit (Section 2081 permit) would be required from CDFG. In lieu of such a permit, CDFG may process a "consistency determination" pursuant to Fish and Game Code §2080.1. Such a determination would indicate that the State's interests in protecting State listed species are met by the federal biological opinion (i.e., the incidental take permit) issued by USFWS and thus no Section 2081 permit is required.</p>			
BIO-1L	<b>Impact BIO-1I:</b> California	<b>Mitigation Measure BIO-1I:</b>	MCAG in	Prior to	

Impact #	Impact Statement	Mitigation Measures	Responsible Agency	Timing	Initials
	Horned Lizard	<p>The resource agencies (CDFG and USFWS) do not have specific mitigation guidelines that must be followed to offset a project's impact to the California horned lizards. Mitigation for this special-status species is determined on a project by project basis. Potentially occupied California horned lizard habitat within the project area could be impacted by the proposed project. Avoidance of potentially occupied upland burrow sites is not possible. The project sponsor will be purchasing mitigation credits at the Great Valley Conservation Bank at Flynn Ranch in Merced (or other USFWS-approved mitigation bank) to mitigate for impacts to San Joaquin kit fox habitat. Since both the San Joaquin kit fox and the California horned lizard require friable soils, it shall be assumed that mitigation land set aside for San Joaquin kit fox could also serve to provide mitigation lands for the California horned lizard.</p> <p>Additional mitigation measures shall include conducting preconstruction surveys for the California horned lizard prior to any site grading. All California horned lizards encountered during site grading would be salvaged, per CDFG approval, and relocated to preserved off-site habitats. Impacts to potential California horned lizard habitat would be conducted in consultation and as approved by CDFG. This mitigation measure would reduce impacts to a level regarded as less than significant.</p>	coordination with CDFG	construction	
BIO-2	<b>Impact BIO-2:</b> Impacts to Jurisdictional Wetlands, Including Waters of the United States and the State of California	<p><b>Mitigation Measure BIO-2:</b> Impacts to waters of the United States and/or State will be reduced to a less-than-significant level through various means, including avoidance, minimization of impacts, and mitigation compensation. Impacts will be minimized by the use of Best Management Practices to protect avoided wetland and "other waters" in the project area, and ensure water quality in the avoided wetlands and other waters within the watershed. These practices can include installing orange construction fencing, hay waddles, and other protective measures around wetlands and other waters. During project-related grading, a biological monitor will be on-site to monitor the integrity of avoided wetlands and other waters.</p>	MCAG in coordination RWQCB, Army Corps of Engineers, contractor and a qualified biologist	Detailed design phase on going through construction	

Impact #	Impact Statement	Mitigation Measures	Responsible Agency	Timing	Initials
		<p>For those wetland areas and other waters that cannot be avoided, a Mitigation and Monitoring Plan will be prepared that will provide a mitigation program to fully compensate for impacts to waters of the United States/State. To compensate for impacts to wetlands and other waters, wetlands and other waters shall be created in areas that are now upland at a 2:1 (mitigation to impacts) ratio and be consistent with requirements set forth by the Corps and the RWQCB. The new wetlands and other waters will resemble those wetlands and other waters affected by the project (known as in-kind replacement).</p> <p>In pool environments that will be impacted by the project, wetland plant/animal populations will be relocated by transferring topsoil from the impacted pools to the re-created pools. These topsoils would contain a seed bank of the impacted pool plant species which would germinate with fall/winter hydration in the re-created pools.</p> <p>The proposed wetland mitigation plan would have to meet normal requirements for mitigating impacts to wetlands and other waters, which include:</p> <ul style="list-style-type: none"> <li>• Replacement of impacted wetlands and other waters at a 2:1 ratio. For permanent wetland and other waters impacts, wetlands and other waters shall be replaced at a minimum ratio of two acres created for each acre, or fraction thereof that is permanently impacted.</li> <li>• Dedication of the permanently protected areas. The Corps and other regulatory agencies generally require that any new wetlands and other waters created to mitigate project impacts be set aside in a preserve in perpetuity, either through deed restrictions or conservation easements.</li> <li>• Establishment of a five-year monitoring program to monitor the progress of the wetland and other waters mitigation toward an established goal. Success criteria, maintenance and monitoring requirements, contingency measures and a schedule for implementation shall be specified. At the end of each monitoring year, an annual report will be submitted to the Corps, RWQCB and other</li> </ul>			

Impact #	Impact Statement	Mitigation Measures	Responsible Agency	Timing	Initials
		<p>resource agencies that permitted the project. This report will document the hydrological and vegetative condition of the mitigation wetlands and other waters, and will recommend remedial measures as necessary to correct deficiencies.</p> <p>In lieu of creating compensation wetlands and other waters, as approved by the Corps and RWQCB, the project sponsor may purchase mitigation credits from an approved mitigation bank at a 2:1 ratio or as otherwise specified by the Corps and RWQCB.</p> <p>Aside from the minimum replacement ratio and in perpetuity protection, various regulatory agencies may provide additional conditions and stipulations for permits. No water of the U.S. and/or State would be impacted until such time that appropriate permits are acquired for the project from the CDFG, RWQCB, and/or Corps. As proposed, impacts to wetlands and other waters within the project area will require a Section 404 permit from the Corps, authorization from the RWQCB pursuant to Section 401 of the Clean Water Act, an NOI with the SWRCB, and an SBAA from the CDFG. Conditions in permits authorized for the project by these agencies shall become conditions of the project.</p> <p>Implementation of the measures described above would reduce significant impacts to waters of the United States/State to a level considered less than significant pursuant to the CEQA. Any other conditions that are stipulated for wetland impacts by the CDFG, Corps and/or RWQCB shall also become conditions of project approval.</p>			
<b>Paleontological and Cultural Resources</b>					
PALEO-1	<b>Impact PALEO-1:</b> Project-related ground disturbance could have adverse impacts on unknown or unrecorded significant paleontological resources, including animal and plant fossil remains.	<b>Mitigation Measure PALEO-1a:</b> In the event that paleontological resources are discovered during ground clearing operations, a qualified paleontologist shall establish a monitoring and mitigation program, including preconstruction coordination; construction monitoring; emergency discovery procedures; sampling and data recovery, if needed; preparation, identification, and analysis of the significance of fossil specimens salvaged, if any; museum storage of any specimens and data recovered; and reporting.	MCAG in coordination with a qualified paleontologist	During construction as necessary	

Impact #	Impact Statement	Mitigation Measures	Responsible Agency	Timing	Initials
		<p><b>Mitigation Measure PALEO-1b:</b> Prior to construction, construction personnel involved with earth-moving activity shall be informed of the possibility of excavating paleontological resources and that such resources are protected under certain laws and regulations regarding proper notification procedures. This training should be performed by a qualified paleontologist.</p>	<p>MCAG in coordination with contractor</p>	<p>Prior to construction</p>	
<p>CULT-1</p>	<p><b>Impact CULT-1:</b> Project construction would involve subsurface excavation and grading which could result in damage to or destruction of unrecorded archaeological resources, including Native American artifacts and/or human remains.</p>	<p><b>Mitigation Measure CULT-1a:</b> If cultural resources are discovered during earthmoving or soil-disturbing activities, a monitoring program will be implemented to observe, assess, record and recover any important prehistoric features or human remains uncovered.</p> <p><b>Mitigation Measure CULT-1b:</b> Provide a qualified, professional archaeological monitor and a qualified Native American observer in accordance with CEQA Guidelines, § 15064.5 (d) in the event that cultural resources are found during removal of the existing built environment during all initial exposure of native soil and during deep utility trenching.</p> <p><b>Mitigation Measure CULT-1c:</b> In accordance with CEQA Guidelines, § 15064.5 (e)(1)(A)(B), in the event of the discovery or recognition of any human remains on the project site during development, there shall be no further excavation or disturbance of the site or any area reasonably suspected to overlie adjacent human remains until the coroner of the county in which the remains are discovered is to be contacted to determine that no investigation of the cause of death is required.</p> <p><b>Mitigation Measure CULT-1d:</b> If the coroner determines the remains to be Native American:</p> <ul style="list-style-type: none"> <li>• the coroner shall contact the Native American Heritage Commission within 24 hours;</li> <li>• the Native American Heritage Commission shall identify the person or persons it believes to be most likely descended from the deceased Native American; and</li> <li>• the most likely descendent may make recommendations</li> </ul>	<p>MCAG</p> <p>MCAG</p> <p>MCAG in coordination with a qualified cultural resource specialist and the County</p> <p>MCAG in consultation with the Native American Heritage Commission</p>	<p>During construction as necessary</p> <p>During construction as necessary</p> <p>During construction as necessary</p> <p>During construction as necessary</p>	

Impact #	Impact Statement	Mitigation Measures	Responsible Agency	Timing	Initials
		to the landowner or the person responsible for the excavation work, for means of treating or disposing of, with appropriate dignity, the human remains and any associated grave goods as provided in Public Resources Code § 5097.98.			
CULT-2	<b>Impact CULT-2:</b> Construction of the Buhach Road overpass over SR 99 would occur in close proximity to the Buhach Catholic Church, an identified historic resource, potentially resulting in damage to, or destabilization of, the structure.	<b>Mitigation Measure CULT-2:</b> Construction work, including construction staging near the Buhach Church shall not take place within the legal parcel boundary (Assessor Parcel 025-170-001) of the church. Widening of the Buhach Road overpass would necessitate re-grading of the Church driveway but would not impair access to the main entrance of the building. Furthermore, the Church structure itself, which is the historic resource in question, would be unaffected by widening of the Buhach Road overcrossing.	Contractor	Construction phase	
CULT-3	<b>Impact CULT-3:</b> If construction of the Buhach Road overpass would require construction activities to occur on the Buhach Catholic Church property, damage to, or destabilization of the Buhach Catholic Church, an identified historic resource, could occur.	<b>Mitigation Measure CULT-3:</b> <ul style="list-style-type: none"> <li>The project proponent would develop and implement measures to protect the character-defining features of the Buhach Catholic Church from damage. Such measures would be prepared in accordance with the Secretary of the Interior's Standards for the Treatment of Historic Properties (1995) and the California Historical Building Code.</li> <li>Inadvertent damages to the character-defining features of the Buhach Catholic Church would be repaired in accordance with the Secretary of the Interior's Standards for the Treatment of Historic Properties (1995) and the California Historical Building Code. The building and grounds would be photographed prior to construction establishing a baseline condition for assessing inadvertent damage, as described below.</li> </ul>	MCAG	During construction as necessary	
<b>Utilities and Service Systems</b>					
UTIL-1	<b>Impact UTIL-1:</b> Project construction would require the demolition of several structures, including the Buhach Road overcrossing and several residential units, as	<b>Mitigation Measure UTIL-1:</b> Prior to construction, MCAG shall prepare a Solid Waste Management Plan for the project that demonstrates that at least 50 percent of project-generated solid waste is being recycled, reused or diverted from landfills. Elements of the Solid Waste Management Plan could include, but are not	MCAG in coordination with City/County Public Works	Prior to construction	

Impact #	Impact Statement	Mitigation Measures	Responsible Agency	Timing	Initials
	<p>well as the removal of vegetation and soil. This debris and other construction material could affect the capacity and lifespan of local landfills, and affect the ability of Merced County and the City of Atwater to meet its AB 939 reduction targets.</p>	<p>limited to, the following:</p> <ul style="list-style-type: none"> <li>• Recycling of metals and other recyclable materials generated during construction.</li> <li>• Regrinding and reuse of the concrete debris generated by demolition of the existing Buhach Road overpass.</li> <li>• Balancing excavated soils by reusing them in other areas, such as for fill around the foundations of elevated project features.</li> <li>• Removed vegetation reused, such as through mulching, or composted at a composting facility.</li> </ul> <p>The City of Atwater and Merced County Public Works departments shall approve the Solid Waste Management Plan prior to the issuance of any building permits. Given that the types of solid waste that would be generated are highly recyclable or green waste, such as soil and vegetation, it is anticipated a source reduction rate of 50 percent or higher is easily attainable.</p>			
<b>Public Services</b>					
PS-1	<p><b>Impact PS-1:</b> Emergency responders from the Merced County Fire Department Station 82 on Gurr Road could be delayed or at risk from the signalized intersections proposed for the project, particularly the intersection of North Gurr Road with SR 140 and the AME.</p>	<p><b>Mitigation Measure PS-1:</b> The project sponsor shall be responsible for installation of specialized traffic signal lights at all signalized intersections along the project alignment. These traffic signals shall be controllable by the Fire Department to ensure that fire apparatus may safely cross signalized intersections on a green light and that other traffic at the intersection is stopped by red lights. In addition to the specialized traffic signals, the roadway alignment shall be moved to a further distance from the existing fire station, as shown in Figure 4.14-2. A paved break in the roadway median shall also be provided to ensure adequate fire station access and response times.</p>	MCAG in coordination with City/County emergency service providers	Construction phase	
PS-2	<p><b>Impact PS-2:</b> The project would result in changes in access to local roadways that could affect emergency service providers by altering the routes that are currently used to respond to service calls. This</p>	<p><b>Mitigation Measure PS-2:</b> The project sponsor shall provide all emergency service providers in Merced County, and the Cities of Atwater and Merced with detailed information about changes in local roadways. This information can be used by the emergency service providers to update their response plans and to chart new routes to respond to service calls.</p>	MCAG in coordination with City/County emergency service providers	Detailed design phase and during construction	

Impact #	Impact Statement	Mitigation Measures	Responsible Agency	Timing	Initials
	could adversely affect emergency response times.	<ul style="list-style-type: none"> <li>• Prior to any demolition or construction, this information shall be submitted prior to any changes in access.</li> <li>• During construction, this information shall be updated every time a new access connection is completed to inform the service providers that an alternate connection is available. It is assumed that, once constructed, the AME would provide new routes for many of these calls.</li> </ul>			
PS-3	<b>Impact PS-3:</b> Project construction may require detours and lane closures on existing roadways in the project area which may adversely affect EMS, as well as Sheriff, Police, and Fire Department response times.	<p><b>Mitigation Measure PS-3:</b> The project sponsor shall prepare a Traffic Management Plan that ensures coordination between construction contractor(s) and public safety providers to minimize or eliminate interference with provision of police, fire and emergency medical services. Prior to construction, the plan shall be provided to all emergency service providers within the area. Additionally, emergency service providers shall receive advance notice of all necessary lane closures and detours as a result of project construction. This plan shall be approved by the Merced County and City of Atwater Department of Public Works prior to the issuance of permits to construct the project.</p>	MCAG in coordination with City/County Planning, Engineering, and emergency service providers	Detailed design phase	
PS-4	<b>Impact PS-4:</b> The AME would be built in close proximity to the proposed Avenue One school site, which could result in unsafe conditions for students traveling by foot or bicycle who would have to get across the AME.	<p><b>Mitigation Measure PS-4a:</b> Under either alternative, the section of the AME project between SR 99 and Santa Fe Drive, including the proposed intersection of Avenue Two with the AME, shall be constructed in accordance with the FHWA's Safe Route to School guidelines</p> <p>It is anticipated that these guidelines may include requirements for:</p> <ul style="list-style-type: none"> <li>• Designated crosswalks crossing the AME</li> <li>• Traffic-signals equipped with walk/don't walk signals</li> <li>• Bicycle lanes on Avenue One and Avenue Two</li> <li>• School Crossing signage</li> </ul> <p>Modified Alternative 1B would cross under Avenue One which would allow vehicles, pedestrians, and bicyclists on Avenue One to safely travel over the AME to access the</p>	MCAG in consultation with the Atwater Elementary School District	Prior to beginning construction of Alternative 1B	

Impact #	Impact Statement	Mitigation Measures	Responsible Agency	Timing	Initials
		<p>Avenue One school site.</p> <p>Under Alternative 1A, Avenue One would terminate on either side of the AME, ending in cul de sac on the east and west sides of the AME. Individuals traveling to and from the Avenue One school site would be required to travel south to Green Sands Avenue or north to Avenue Two to cross the AME. This would restrict the ability for some students or other individuals to travel to school using alternative transportation, such as walking or bicycling. This would create a conflict with the FHWA's Safe Routes to School guidelines, which are designed to enable and encourage children, including those with disabilities, to walk and bicycle to school and to make bicycling and walking to school a safer and more appealing transportation alternative.</p> <p><b>Mitigation Measure PS-4b:</b>                      To provide safe pedestrian and bicycle crossing of Alternative 1A, a pedestrian overpass shall be constructed between the two cul de sacs on Avenue One on the east and west sides of Alternative 1A. Built in accordance with the Safe Route to Schools guidelines, the pedestrian overpass would allow for students to safely cross above the expressway and access the Avenue One school site.</p> <p>The design and configuration of these intersections and the overpass shall be developed in consultation with the AESD and approved by the Merced County Department of Public Works prior to the issuance of permits to construct this portion of Alternative 1A.</p>			