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Public Circulation Draft

**BUCKEYE ROAD BRIDGE (40C0036) OVER MARIPOSA CREEK
REPLACEMENT PROJECT**

Initial Study / Mitigated Negative Declaration



February 2019

dh drake haglan
AND ASSOCIATES

Administrative Draft

**BUCKEYE ROAD BRIDGE (40C0036) OVER MARIPOSA CREEK REPLACEMENT
PROJECT**

Initial Study / Mitigated Negative Declaration

Mariposa County, California

Submitted to:

Mariposa County Department of Public Works
4639 Ben Hur Road
Mariposa, CA 95338
209.966.5356

Prepared by:

Drake Haglan and Associates, Inc.
11060 White Rock Road, Suite 200
Rancho Cordova, CA 95670
916.363.4210

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EXECUTIVE SUMMARY

Through the Buckeye Road Bridge over Mariposa Creek Replacement Project (Project), Mariposa County (County) proposes to demolish the existing structurally deficient Buckeye Road Bridge over Mariposa Creek and construct a new bridge within the same general alignment that is designed to current structural and geometric standards while minimizing adverse impacts to Mariposa Creek and the surrounding riparian area. The existing bridge is 44-feet-long and 20.3-feet-wide, with two travel lanes less than 10-feet-wide and no shoulder on either side. The replacement bridge would have a clear width of 24 feet to accommodate two 10-foot-wide lanes and two 2-foot-wide shoulders.

This Draft Initial Study/Mitigated Negative Declaration (IS/MND) was submitted to the State Clearinghouse on February 28, 2019, for a 30 day public review period that will end on March 29, 2019. During the public review period, the Draft IS/MND is available for review at the County Department of Public Works during business hours.

The Draft IS/MND prepared for the Project to assess the potential impacts on the environment and the significance of those impacts. Based on the results of the Draft IS/MND, the Project would not have any significant impacts on the environment once mitigation measures are implemented. This conclusion is supported by the following findings:

- The Project would not impact recreation.
- The Project would have a less-than-significant impact on aesthetics, agriculture, and forest resources; air quality; geology and seismicity; greenhouse gas emissions; mineral resources; population and housing; tribal cultural resources; and utilities.
- The Project would have a less-than-significant impact, once mitigation measures are implemented, on biological resources, cultural resources, hazardous materials, hydrology and water quality, land use and land use planning, noise, public services, and transportation and traffic.
- No substantial evidence exists that the Project would have a significant negative or adverse effect on the environment.

The Project incorporates standard construction measures, as described in the Draft IS/MND, and all applicable mitigation measures, as listed below and described in the Draft IS/MND.

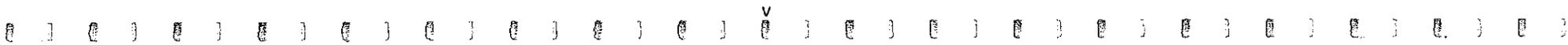
In addition to standard construction measures required by Caltrans Standard Specifications and other applicable laws, regulations, and policies, the following mitigation measures will be implemented as part of the Project to avoid or minimize potential environmental impacts. Implementation of these mitigation measures would reduce potentially-significant environmental impacts of the Project to less-than-significant levels.

Potential Impact	Mitigation Measures	Timing	Responsible Party	Level of Significance after Mitigation
Biological Resources				
Project implementation has the potential to impact special status species.	Mitigation Measure BIO-1. <i>Preconstruction Surveys.</i> A qualified biologist shall conduct a preconstruction survey for special-status plant species within 30 days prior to construction. If special-status plant species are not found, then no further measures are necessary. If special-status plant species are found in the Project site, U.S. Fish and Wildlife Service (USFWS) (in the case of Sanford's arrowhead) and California Department of Fish and Wildlife (CDFW) will be notified at least ten days prior to dewatering or construction impacts in the vicinity of any special-status plant species in accordance with the California Native Plant Protection Act of 1977 (California Department of Fish and Game (CDFG) Section 1900-1913) to allow sufficient time to transplant the individuals to a suitable location.	Prior to construction activities	Mariposa County	Less than significant
	Mitigation Measure BIO-2. <i>Foothill Yellow-Legged Frog (FYLF) and California Red-Legged Frog (CRLF).</i> The following avoidance and minimization efforts shall be implemented in order to reduce potential Project effects to FYLF and CRLF: <ul style="list-style-type: none"> • Before the Project activities begin, all construction personnel shall attend a Worker Environmental Awareness Training session conducted by a USFWS-approved biologist. The session shall describe special status species and associated habitat, address proper implementation of avoidance measures, and clarify the boundaries within which the Project may be accomplished. • Prior to commencing site disturbance, including vegetation and/ or ground disturbance, a USFWS-approved biologist(s) will be identified to monitor implementation of biological mitigation measures. The USFWS-approved biologist will be present for all initial ground disturbing activities. • High visibility environmentally sensitive area (ESA) fencing will be established to confine access routes and construction areas to the minimum area necessary to complete construction, and minimize the impact to FYLF and CRLF habitat; this goal includes locating access routes and construction areas outside of wetlands and riparian areas to the maximum extent practicable. Animal exclusion fencing will be installed along the riparian corridor to prevent potential dispersing FYLF and CRLF from entering the terrestrial work areas. • All temporarily-disturbed areas shall be returned to pre-Project conditions upon completion of construction, including habitat contours. These areas will be properly protected from washout and erosion using appropriate erosion control devices including coir netting, hydroseeding, and revegetation. • In order to avoid potential indirect impacts to water quality and direct impacts to species 	Prior to and during construction activities	Mariposa County	Less than significant

Potential Impact	Mitigation Measures	Timing	Responsible Party	Level of Significance after Mitigation
	<p>that could disperse through Mariposa Creek (e.g., CRLF), the County will schedule in-Creek work activities between June 15 and October 31, when the Creek is expected to have low or no flow and frogs are much less likely to be present.</p> <ul style="list-style-type: none"> To prevent inadvertent entrapment of FYLF and/or CRLF during construction, all excavated, steep-walled holes or trenches more than 1-foot-deep will be covered at the end of each working day with plywood or similar material. At the beginning of each working day and before such holes or trenches are filled, they will be thoroughly inspected for trapped animals. If at any time a trapped listed animal is discovered, the USFWS-approved biologist, or an on-site designee identified by the USFWS-approved biologist, will immediately place escape ramps or other appropriate structures to allow the animal to escape, and the USFWS will be contacted within 24 hours for further guidance and to reinstate consultation. If any FYLF and/or CRLF are observed in the Project work limits during construction, work will immediately stop, the frog will be allowed to move out of harm's way on its own accord, and the USFWS will be contacted. 			
	<p>Mitigation Measure BIO-3. Western Pond Turtle. The following measures shall be implemented in order to reduce potential Project effects to western pond turtle:</p> <ul style="list-style-type: none"> If dewatering is necessary, the construction area shall be dewatered prior to construction activities. CDFW shall be notified prior to dewatering activities. No more than two weeks prior to the commencement of ground-disturbing activities, the County shall retain a qualified biologist to perform surveys for western pond turtle within suitable aquatic and upland habitat within the Project site. Surveys will include western pond turtle nests as well as individuals. The biologist (with the appropriate agency permits) will temporarily move any identified western pond turtles upstream of the construction area, and temporary barriers will be placed around the construction area to prevent ingress. Construction will not proceed until the work area is determined to be free of turtles. The results of these surveys will be documented in a technical memorandum that will be submitted to CDFW (if turtles are documented). 	Prior to and during construction activities	Mariposa County	Less than significant
	<p>Mitigation Measure BIO-4. Bat Species. The following provides methods and seasonal constraints to prevent direct mortality to bats roosting underneath or within the existing bridge or within the trees within the Project site:</p> <p>Bridge</p> <p>Prior to bridge demolition, humane exclusion and eviction of bats from expansion joints, behind the utility channels, and all weep holes will be needed to prevent direct mortality of bats. Humane exclusion and eviction of bats must occur only during seasonal periods of bat activity when no non-volant young or overwinter bats are present so that no bats are trapped inside the roost features.</p>	Prior to and during construction activities	Mariposa County	Less than significant

Potential Impact	Mitigation Measures	Timing	Responsible Party	Level of Significance after Mitigation
	<p>In this region, the first annual appropriate season to conduct humane eviction are between approximately March 1 (or after evening temperatures rise above 45 degrees Fahrenheit, and less than 0.5 inches rainfall in 24 hours occurs) and April 15 (after which time females begin giving birth to pups). The next annual season is after maternity season and prior to winter torpor or hibernation; September 1 through about October 15 (or before evening temperatures fall below 45 degrees Fahrenheit, and prior to greater than 0.5 inches rainfall within 24 hours).</p> <ul style="list-style-type: none"> • Under guidance of a qualified bat biologist experienced with humane bat eviction procedures on bridges, humane bat exclusion and eviction will be conducted by an experienced bat exclusion contractor or by the bridge contractor or subcontractor. Humane exclusion and eviction consists of daytime installation of blockage materials and one-way exits attached to the concrete that will permit bats to exit during nightly feeding activities, but not allow reentry into the roost feature. These one-way exits must be made and attached so that they can remain in place until bridge demolition occurs; however, if demolition is delayed, regular monitoring of exclusion blockage materials and one-way exit eviction materials will be required, and repairs made as needed. <ul style="list-style-type: none"> ○ Blockage materials for the expansion joints will consist of foam pipe insulation, cut to fit tightly into the expansion joint opening at the bottom and sides of soffits, with sufficient numbers of one-way exits installed to permit evacuation of the entire expansion joint by all bats. One-way exits will consist of 14-inch-wide aluminum roll flashing formed into 8- to- 10-inch-long rectangles, with bent top flanges for attachment to the concrete surface of the bridge using Sikaflex brand polyurethane construction adhesive and Gorilla brand adhesive tape. The bottom portion of the aluminum flashing rectangles will be fitted with fiberglass window screen mesh using Gorilla brand adhesive tape to form an extension chute that will prevent reentry by bats through the open bottom of the flashing rectangular one-way exit. The number of one-way exits installed at each roost location will be sufficient to allow complete evacuation of all bats. • Because bats may roost in abandoned cliff swallow (<i>Petrochelidon pyrrhonota</i>) nests (many of which were present on the bridge during the survey) after those birds have fledged and dispersed, removal will be conducted only after bird nesting season and bat maternity season, and will be conducted by or under supervision of the qualified bat biologist. If demolition is planned to occur earlier in the year when birds would normally be nesting and bats would be raising young, then bats will be humanely evicted first, followed by installation of bird exclusion netting and/or bird deterrence methods to prevent nesting swallows and roosting bats prior to bridge demolition. <p><i>Trees</i></p>			

Potential Impact	Mitigation Measures	Timing	Responsible Party	Level of Significance after Mitigation
	<ul style="list-style-type: none"> • Potential bat habitat trees, as identified by a qualified bat biologist during a tree habitat assessment conducted prior to tree removal, shall be removed only between approximately March 1, or when evening temperatures are above 45 inch Fahrenheit and rainfall less than 0.5 inches in 24 hours occurs, and April 15, prior to parturition of pups. The next acceptable period is after pups become self-sufficiently volant, September 1 through about October 15, or prior to evening temperatures dropping below 45 degrees Fahrenheit and onset of rainfall greater than 0.5 inches in 24 hours. • Bat habitat trees shall be removed only during seasonal periods of bat activity as described above, and only after: <ul style="list-style-type: none"> ○ Negative results from a night emergence survey conducted no more than one to two nights prior to tree removal by a qualified bat biologist, using night vision and/or infrared-sensitive camera equipment and bioacoustic recording equipment; or ○ All other vegetation other than trees within the limit of work is removed prior to bat habitat tree removal, during seasonal periods of activity, and preferably, within four days of commencing two-step removal of habitat trees; then either ○ Two-step tree removal over two consecutive days (e.g., Tuesday and Wednesday or Thursday and Friday). With this method, small branches and small limbs containing no cavity, crevice, or exfoliating bark habitat on habitat trees, as identified by a qualified bat biologist are removed first on Day 1, using chainsaws only (no dozers, backhoes, etc.). The following day (Day 2), the remainder of the tree is to be removed. The disturbance caused by chainsaw noise and vibration, coupled with the physical alteration of the tree, has the effect of causing colonial bat species to abandon the roost tree after nightly emergence for foraging. Removing the trees the next day prevents re-habituation and reoccupation of the altered tree. ○ Trees containing suitable potential habitat must be trimmed with chainsaws on Day 1 under initial field supervision by a qualified bat expert to ensure that the tree cutters fully understand the process, and avoid incorrectly cutting potential habitat features or trees. After tree cutters have received sufficient instruction, the qualified bat expert does not need to remain on the site. • If non-habitat trees or other vegetation must be removed outside those dates, a 100-foot buffer around each habitat tree shall be observed to reduce potential of disturbance of non-volant young during maternity season, or torpid bats during winter months. • In-kind replacement habitat (e.g., crevice habitat) consistent with the amount of habitat 			



Potential Impact	Mitigation Measures	Timing	Responsible Party	Level of Significance after Mitigation
	<p>or nesting behavior of the bird. No Project-related construction activity will commence within the no-work buffer area until a qualified biologist and CDFW confirm that the nest is no longer active.</p> <p>Mitigation Measure BIO-5b. Bridge-Nesting Migratory Birds. The following measures shall be incorporated for bridge-nesting birds if bridge demolition or construction of the new bridge occurs during the nesting season (February 1 to August 31).</p> <ul style="list-style-type: none"> • Exclusionary netting shall be installed around the undersides of the existing bridge before February 1 of the construction year to prevent new nests from being formed and/or prevent the reoccupation of existing nests. Exclusionary netting may also be required during construction of the new bridge if it is completed during the breeding season. The construction contractor will do the following: <ul style="list-style-type: none"> ○ Remove all existing unoccupied nests on the bridge during the non-nesting season (September 1 through January 31). ○ Keep the bridge free of nests, using exclusionary netting or other approved methods, until completion of construction activities. ○ Inspect all listed structures for nesting activity a minimum of three days per week; no two days of inspection will be consecutive. A weekly log would be submitted to the Project biologist. The contractor will continue inspections until bridge removal and completion of construction on the new bridge. If an exclusion device were found to be ineffective or defective, the contractor will complete repairs to the device within 24 hours. If birds were found trapped in an exclusion device, the contractor will immediately remove the birds in accordance with USFWS guidelines. ○ Submit for approval working drawings or written proposals of any exclusion devices, procedures, or methods to the Project biologist before installing them. • The method of installing exclusion devices will not damage permanent features of the new bridge structure. Approval by the Project biologist of the working drawings or inspection performed by the authorized Project biologist will in no way relieve the contractor of full responsibility for deterring nesting. 			
Project implementation has the potential to conflict with tree protection policies or impact riparian habitat.	<p>Mitigation Measure BIO-6: The following measures will be implemented prior to and during construction to avoid and minimize potential impacts on riparian habitat.</p> <ul style="list-style-type: none"> • Prior to removal of any trees, an International Society of Arboriculture-certified arborist shall conduct a tree survey in areas that may be impacted by construction activities. This survey shall document tree resources that may be adversely impacted by implementation of the Project. The survey will follow standard professional practices. 	Prior to and during construction activities	Mariposa County	Less than significant

Potential Impact	Mitigation Measures	Timing	Responsible Party	Level of Significance after Mitigation
	<p>with evidence of use by bat colonies shall be provided on the new bridge in consultation with an experienced bat biologist possessing a Memorandum of Understanding with CDFW and experience designing bat habitat.</p> <ul style="list-style-type: none"> Demolition of the old bridge shall not occur until after the new bridge is completed and replacement bat habitat has been installed. 			
	<p>Mitigation Measure BIO-5a. Tree and Structure-Nesting Migratory Birds. The following measures shall be used when work occurs on or in the vicinity of structures that may be subject to nesting by migratory birds.</p> <ul style="list-style-type: none"> Avoid Active Nesting Season. To avoid and minimize impacts to tree and shrub nesting species, the following measures would be implemented. <ul style="list-style-type: none"> If feasible, conduct all tree and shrub removal and grading activities during the non-breeding season (generally September 1 through January 31). If grading and tree removal activities are scheduled to occur during the breeding and nesting season (February 1 through August 31), preconstruction surveys would be performed prior to the start of Project activities. Conduct Preconstruction Nesting Bird Surveys. If construction, grading, or other Project-related activities are scheduled during the nesting season (February 1 to August 31), preconstruction surveys for other migratory bird species will take place no less than 14 days and no more than 30 days prior to the beginning of construction within 250 feet of suitable nesting habitat. <ul style="list-style-type: none"> If the preconstruction surveys do not identify any nesting migratory bird species within areas potentially affected by construction activities, no further mitigation will be required. If the preconstruction surveys do identify nesting bird species within areas that may be affected by site construction, the following measures will be implemented. Avoid Active Bird Nest Sites. Should active nest sites be discovered within areas that may be affected by construction activities, additional measures will be implemented as described below. <ul style="list-style-type: none"> If active nests are found, Project-related construction impacts will be avoided by establishment of appropriate no-work buffers to limit Project-related construction activities near the nest site. The size of the no-work buffer zone will be determined in consultation with the CDFW, although a 500-foot buffer will be used when possible. The no work buffer zone will be delineated by highly visible temporary construction fencing. In consultation with CDFW, monitoring of nest activity by a qualified biologist may be required if the Project-related construction activity has potential to adversely affect the nest 	Prior to and during construction activities	Mariposa County	Less than significant

Potential Impact	Mitigation Measures	Timing	Responsible Party	Level of Significance after Mitigation
	<ul style="list-style-type: none"> • Current riparian vegetation, oaks, and other native tree species will be retained to extent feasible. A tree protection zone (TPZ) shall be established around any tree or group of trees to be retained. The TPZ will be delineated by an International Society of Arboriculture-certified arborist. The TPZ shall be defined by the radius of the dripline of the tree(s) plus 1 foot. The TPZ of any protected trees shall be demarcated using fencing that will remain in place for the duration of construction activities. • Construction-related activities shall be limited within the TPZ to those activities that can be done by hand. No heavy equipment or machinery shall be operated within the TPZ. Grading shall be prohibited within the TPZ. No construction materials, equipment, or heavy machinery shall be stored within the TPZ. • A planting plan will be implemented as detailed in a Restoration Plan approved by the CDFW. The Restoration Plan will include performance standards for revegetation that will ensure successful restoration of the onsite riparian areas. • Protective fencing shall be installed along the edge of construction areas including temporary and permanent access roads where construction will occur within 200 feet of the edge of riparian woodland habitat (as determined by a qualified biologist). The location of fencing shall be marked in the field with stakes and flagging and shown on the construction drawings. The construction specifications shall contain clear language that prohibits construction-related activities, vehicle operation, material and equipment storage, trenching, grading, or other surface-disturbing activities outside of the designated construction area. Signs shall be erected along the protective fencing at a maximum spacing of one sign per 50 feet of fencing. The signs shall state: "This area is environmentally sensitive; no construction or other operations may occur beyond this fencing. Violators may be subject to prosecution, fines, and imprisonment." The signs shall be clearly readable at a distance of 20 feet and shall be maintained for the duration of construction activities in the area. • Where riparian vegetation occurs along the edge of the construction easement, the County shall minimize the potential for long-term loss of riparian vegetation by trimming vegetation rather than removing the entire plant. Trimming will be conducted per the direction of a biologist and/or certified arborist. 			

Cultural Resources				
Project implementation has to potential to encounter unanticipated cultural resources during ground-disturbing construction activities.	<p>Mitigation Measure CUL-1: <i>Unanticipated Discovery of Cultural Resources.</i> If cultural resources are discovered during ground-disturbing activities, all activity in the vicinity shall cease until the discovery is evaluated by an archaeologist or paleontologist working under the direction of a Principal Investigator who meets the requirements of the Secretary of the Interior's Qualification Standards. If the archaeologist/paleontologist determines that the resources may be significant, no further work in the vicinity of the resources shall take place until appropriate treatment is determined and implemented.</p> <p>The need for archaeological and Native American monitoring during the remainder of the Project will be reevaluated by the archaeologist as part of the treatment determination. The archaeologist shall consult with appropriate Native American representatives in determining appropriate treatment for unearthed cultural resources if the resources are prehistoric or Native American in nature.</p> <p>In considering any suggested mitigation proposed by the archaeologist in order to mitigate impacts to cultural resources, the Project proponent will determine whether avoidance is necessary and feasible in light of factors such as the nature of the find, Project design, costs, and other considerations. If avoidance is infeasible, other appropriate measures (e.g., data recovery) will be instituted.</p>	During construction activities	Mariposa County	Less than significant
Project implementation has to potential to encounter unanticipated human remains during ground-disturbing construction activities.	<p>Mitigation Measure CUL-2: <i>Unanticipated Discovery of Human Remains.</i> If human skeletal remains are uncovered during Project construction, work must immediately halt and the County Coroner must be contacted to evaluate the remains; the procedures and protocols set forth in Section 15064.5 (e)(1) of the California Environmental Quality Act (CEQA) Guidelines must be followed. If the County Coroner determines that the remains are Native American, the Project proponent will contact the Native American Heritage Commission (NAHC), in accordance with Health and Safety Code Section 7050.5, subdivision (c), and Public Resources Code 5097.98 (as amended by Assembly Bill (AB) 2641). Per Public Resources Code 5097.98, the landowner shall ensure that the immediate vicinity, according to generally accepted cultural or archaeological standards or practices, where the Native American human remains are located, is not damaged or disturbed by further development activity until the landowner has discussed and conferred, as prescribed in this section (PRC 5097.98), with the most likely descendants regarding their recommendations, if applicable, taking into account the possibility of multiple human remains.</p>	During construction activities	Mariposa County	Less than significant
Hazards and Hazardous Materials				
Project implementation construction activities involve reasonably foreseeable upset and accident conditions that may subject the public and environment to the release of hazardous	<p>Mitigation Measure HAZ-1: <i>Development of a Health and Safety Plan (HASP).</i> A HASP shall be developed for the Project. The HASP shall describe appropriate procedures to follow in the event that any contaminated soil or groundwater is encountered during construction activities. Any unknown substances shall be tested, handled and disposed of in accordance with appropriate federal, state, and local regulations.</p>	Prior to construction activities	Mariposa County	Less than significant

materials.	<p>Mitigation Measure HAZ-2: Asbestos and Lead Containing Materials. A California-licensed abatement contractor will conduct a survey for lead containing materials prior to demolition (including concrete elements) and contractor would submit a National Emission Standard for Hazardous Air Pollutants (NESHAP) notification. Per Section 14-9.02 of the asbestos NESHAP regulation, all "demolition activity" requires written notification even if there is no asbestos present. This notification will be typewritten and postmarked or delivered no later than ten days prior to the beginning of the asbestos demolition or removal activity.</p> <p>If lead containing materials are found, the following would be required:</p> <ul style="list-style-type: none"> • Building materials associated with paint on structures and paint on utilities will be abated by a California-licensed abatement contractor and disposed of as a hazardous waste in compliance with Standard Special Provision (SSP) 14-11.13 and other federal and state regulations for hazardous waste. • A Lead Compliance Plan will be prepared by the contractor for the disposal of lead-based paint. The grindings (which consist of the roadway material and the yellow and white color traffic stripes) shall be removed and disposed of in accordance with SSP 36-4 (Residue Containing High Lead Concentration Paints). In addition, the Lead Compliance Plan will also contain the following provision to address aerially-deposited lead: SSP 7-1.02K (6)(j)(iii) – Earth Material Containing Lead. • A California-licensed lead contractor will be required to perform all work that will disturb any lead-based paint as a result of planned or unplanned renovations in the Project site, including the presence of yellow traffic striping and pavement markings that may contain lead-based paint. All such material must be removed and disposed of as a hazardous material in compliance with SSP 14-11.12. 	Prior to and during construction activities	Mariposa County	Less than significant
Noise				
Project implementation may temporarily elevate ambient noise levels during construction activities and thereby may temporarily expose persons to noise levels and/or groundborne noise levels in excess of established standards.	<p>Mitigation Measure NO-1: Elevated Noise Levels during Construction. Construction operations shall adhere to County standards and be limited to Monday through Friday, 7:00 AM to 7:00 PM. The following control measures shall be implemented to minimize noise and vibration disturbances at sensitive receptors during periods of construction:</p> <ul style="list-style-type: none"> • Use newer equipment with improved muffling and ensure that all equipment items have the manufacturers' recommended noise abatement measures, such as mufflers, engine enclosures, and engine vibration isolators, intact and operational. Newer equipment would generally be quieter in operation than older equipment. All construction equipment should be inspected at periodic intervals to ensure proper maintenance and presence of noise control devices (e.g., mufflers and shrouding, etc.). • Utilize construction methods or equipment that will provide the lowest level of noise and ground vibration impact such as alternative low noise pile installation methods. • Turn off idling equipment. 	During construction activities	Mariposa County	Less than significant

	<ul style="list-style-type: none"> Use and relocate temporary noise barriers, as needed, to protect sensitive receptors against excessive noise from construction activities. Noise barriers can be made of heavy plywood or moveable insulated sound blankets. <p>The following administrative measures shall be implemented to minimize noise and vibration disturbances at sensitive receptors during periods of construction:</p> <ul style="list-style-type: none"> Implement a construction noise and vibration-monitoring program to limit the impacts. Plan noisier operations during times (Monday through Friday, 7:00 AM to 5:00 PM) of least sensitivity to receptors. Keep noise levels relatively uniform and avoid impulsive noises. Maintain good public relations with the community to minimize objections to the unavoidable construction impacts. Provide frequent activity update of all construction activities. 			
Public Services				
Project implementation has the potential to result in inadequate emergency access.	Mitigation Measure PUB-1: Construction Period Emergency Access Plan. Prior to the start of construction, the contractor shall coordinate with the County Sheriff and Fire departments and local public and private ambulance and paramedic providers in the area to prepare a Construction Period Emergency Access Plan. The Construction Period Emergency Access Plan shall identify phases of the Project and construction scheduling and shall identify appropriate alternative emergency access routes.	Prior to construction activities	Mariposa County	Less than significant
Transportation and Traffic				
Project implementation has the potential to result in inadequate traffic access.	Mitigation Measure TRAF-1: Standard Traffic Management Plan. The construction contractor for the Project shall implement a standard traffic management plan to minimize traffic disruption and ensure adequate access is maintained to surrounding properties.	Prior to construction activities	Mariposa County	Less than significant
Tribal Cultural Resources				
Project implementation has the potential to result in impacts to tribal cultural resources.	Mitigation Measure TCR-1: Avoid or replant identified significant native plants. Four (4) significant and important native plants are in the Project area requiring avoidance, or replanting within the replanting areas specified in the Mitigation Monitoring and Reporting Program (MMRP), for the Project. The native plants include: Western Redbud (<i>Cereis occidentalis</i>); Deer Grass (<i>Muhlenbergia rigens</i>); Sedge Root (<i>Carex spp.</i>); California Wild Grape (<i>Vitis californica</i>), and buttonwillow (<i>Cephalanthus occidentalis</i>). Buttonwillow is to be replanted if any willow (<i>Salix spp.</i>) is removed from the Project area.	During construction activities	Mariposa County	Less than significant

ACRONYMS AND ABBREVIATIONS

The following is a list of abbreviations used within this document. Each term is defined in full once within the document before the abbreviation is used.

µg/M ³	microgram per meter cubed
AASHTO	American Association of State Highway and Transportation Officials
AB	Assembly Bill
ACM	(presumed) asbestos-containing material
ACOE	Army Corps of Engineers
ADL	aerially deposited lead
ADT	average daily traffic
APN	Accessor Parcel Number
BA	Biological Assessment
BMP	best management practices
CAAQS	California Ambient Air Quality Standards
Caltrans	California Department of Transportation
CDC	California Department of Conservation
CDFG	California Department of Fish and Game
CDFW	California Department of Fish and Wildlife
CE	categorical exclusion
CEQA	California Environmental Quality Act
CESA	California Endangered Species Act
CFGC	California Fish and Game Code
CHRIS	California Historical Resources Information System
CNEL	community-equivalent noise level
CO	carbon monoxide
County	Mariposa County
CRHR	California Register of Historic Places
CRLF	California Red-Legged Frog
dB	decibel
dBA	A-weighted decibel
DHA	Drake Haglan and Associates

EIR	Environmental Impact Report
ESA	environmentally sensitive area
Far Western	Far Western Anthropological Research Group
FEMA	Federal Emergency Management Agency
FHWA	Federal Highway Administration
FYLF	Foothill Yellow-Legged Frog
General Plan	Mariposa County General Plan
Gpm	gallons per minute
H ₂ S	hydrogen sulfide
HASP	Health and Safety Plan
HBP	Highway Bridge Program
HCP	habitat conservation plan
IS/MND	Initial Study/Mitigation Negative Declaration
ISA	Initial Site Assessment
LBP	lead-based paint
MBTA	Migratory Bird Treaty Act
MCAPCD	Mariposa County Air Pollution Control District
MMRP	Mitigation, Monitoring, and Reporting Program
MND	Mitigated Negative Declaration
MRZ	mineral resources zone
NAAQS	National Ambient Air Quality Standards
NAHC	Native American Heritage Commission
NEPA	National Environmental Policy Act
NES	National Environment Study
NESHAP	National Emissions Standard for Hazardous Pollutants
NHPA	National Historic Preservation Act
NO ₂	nitrogen dioxide
NOA	naturally occurring asbestos
NPDES	National Pollution Discharge Elimination System
NRHP	National Register of Historic Places
O ₂	ozone
OSHA	Occupational Safety and Health Administration
Pb	lead

PM	particulate matter
PM ₁₀	particulate matter less than 10 microns in diameter
PM _{2.5}	particulate matter less than 2.5 microns in diameter
Ppb	parts per billion
ppm	parts per million
PRC	Public Resources Code
Project	Buckeye Road Bridge (40C0036) over Mariposa Creek Replacement Project
REC	recognized environmental conditions
RWQCB	Regional Water Quality Control Board
SMARA	California Surface Mining and Reclamation Act
SO ₂	sulfur dioxide
SSP	Standard Special Provision
SWPPP	Stormwater Pollution Prevention Plan
SWRCB	State Water Resources Control Board
TCR	tribal cultural resource
TPA	Town Planning Area
TPZ	tree protection zone
U.S. EPA	U.S. Environmental Protection Agency
UCMP	University of California Museum of Paleontology
USDA	U.S. Department of Agriculture
USFWS	U.S. Fish and Wildlife Service
USGS	U.S. Geological Survey
VdB	root mean square vibration velocity level in decibels
Zoning Code	Mariposa County Zoning Code (Title 17)

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INITIAL STUDY

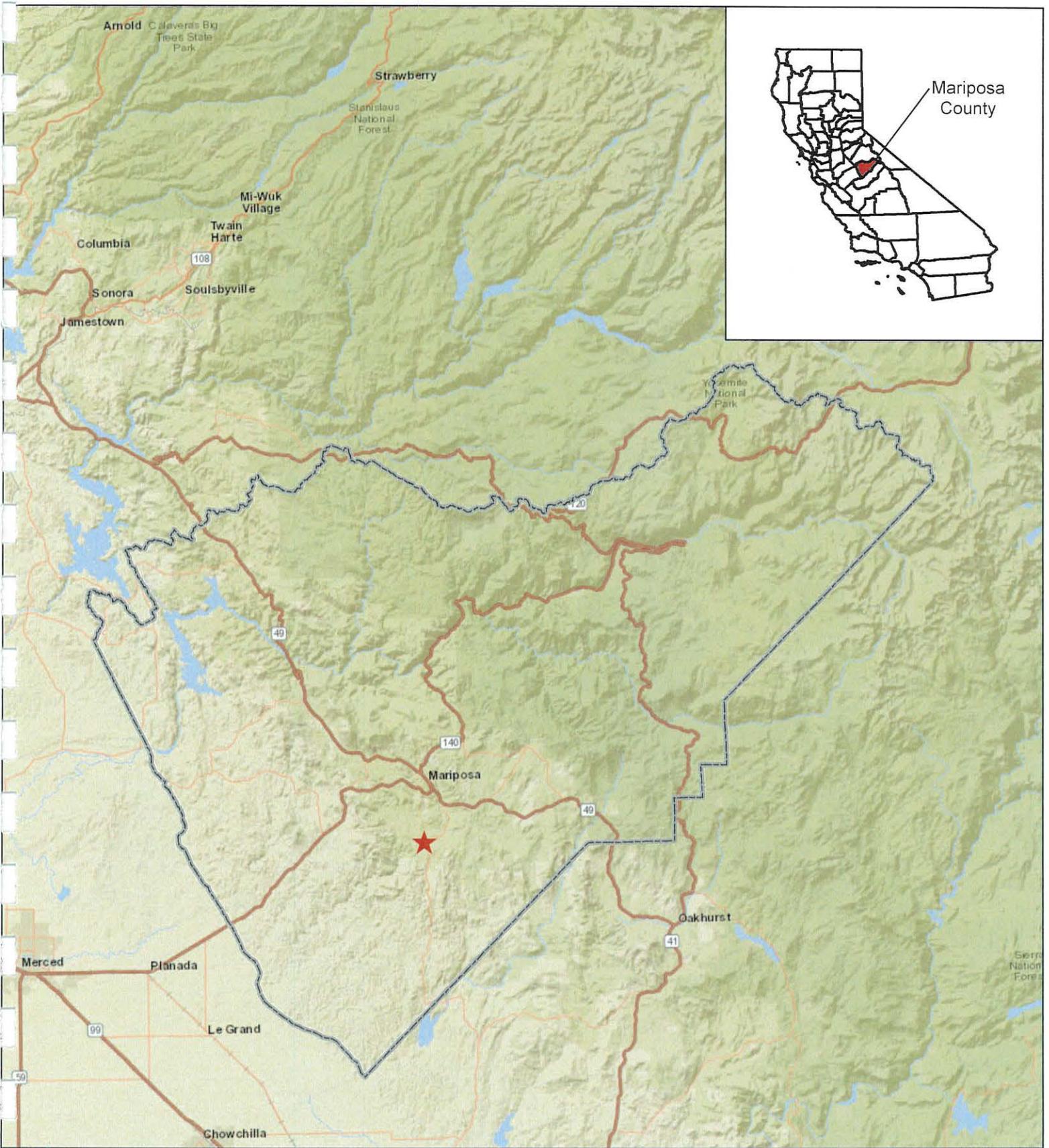
- | | |
|---|--|
| 1. Project Title: | Buckeye Road Bridge (40C0036) over Mariposa Creek Replacement Project |
| 2. Lead Agency Name and Address: | Mariposa County Department of Public Works
4639 Ben Hur Road, CA 95338 |
| 3. Contact Person and Phone Number: | Gary Brown, Project Engineer
(2009) 966-5356 |
| 4. Project Location: | Mariposa County on Buckeye Road over Mariposa Creek, approximately 4.5 miles south of the Town of Mariposa |
| 5. Project Sponsor's Name and Address: | Mariposa County Department of Public Works
4639 Ben Hur Road, CA 95338 |
| 6. General Plan Designation(s): | Residential |
| 7. Zoning Designation(s): | Mountain Home Zone |
-

1 INTRODUCTION

Mariposa County (County) Department of Public Works has prepared this Draft Initial Study/Mitigated Negative Declaration (IS/MND) in compliance with the California Environmental Quality Act (CEQA) to address the environmental consequences of the Buckeye Road over Mariposa Creek (Bridge No. 40C-0036) Replacement Project (Project). The County proposes to replace the existing bridge on Buckeye Road. The Project is located within the Sierra Nevada Foothills approximately 4.5 miles south of the town of Mariposa in southwest Mariposa County (**Figure 1** and **Figure 2**). The general setting is rural and forested woodlands. The bridge carries vehicular traffic over Mariposa Creek.

The Project is funded primarily by the federal-aid Highway Bridge Program (HBP) administered by the Federal Highway Administration (FHWA) through the California Department of Transportation (Caltrans) Local Assistance. Since this Project is being funded by the HBP, the County is serving as the Lead Agency under CEQA. This Draft IS/MND will address all the potential impacts of the Project and identify any feasible mitigation measures. Caltrans is the National Environmental Policy Act (NEPA) lead agency for the Project under the NEPA delegation agreement with the FHWA. Compliance with NEPA will be conducted by Caltrans under a separate process.

After completion of the required public review of this document, the County intends to approve the Project and adopt the Mitigated Negative Declaration (MND) and the mitigation monitoring and reporting program (MMRP).



-  Project Location
-  Mariposa County



Source: ESRI Online Basemap, Aerial Imagery and Open Street Map, Mariposa County Coordinate System NAD 83 State Plane California III FIPS 0402 Feet
 Notes: This map was created for informational and display purposes only

Buckeye Road Bridge (40C-0036) over Mariposa Creek Bridge Replacement Project
 Mariposa County, CA

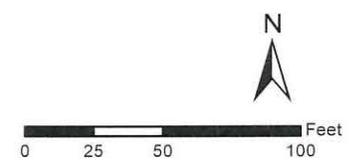
Regional Map

Figure 1





-  Project Location
-  Buckeye Road Bridge
-  Mariposa Creek



Source: ESRI Online Basemap, Aerial Imagery and Open Street Map, Mariposa County Coordinate System NAD 83 State Plane California III FIPS 0402 Feet
 Notes: This map was created for informational and display purposes only

Buckeye Road Bridge (40C-0036) over Mariposa Creek Bridge Replacement Project Mariposa County, CA

Project Location Map

Figure 2



1.1 Purpose of the Initial Study

This document is an IS/MND prepared in accordance with CEQA, which is codified in the Public Resources Code (PRC) Section 21000 et seq and the CEQA Guidelines Title 14, Section 15000 et seq. of the California Code of Regulations (CCR). The purpose of this IS/MND is to: (1) determine whether Project implementation would result in potentially significant or significant effects on the environment, and (2) incorporate mitigation measures into the Project design, as necessary, to eliminate the Project's potentially significant or significant Project effects or reduce them to a less than-significant level. A Draft IS/MND presents the environmental analysis and substantial evidence supporting its conclusions regarding the significance of environmental impacts. Substantial evidence may include expert opinion based on facts, technical studies, or reasonable assumptions based on facts.

CEQA requires that all state and local government agencies consider the environmental consequences of projects they propose to carry out, or over which they have discretionary authority, before implementing or approving those projects. As specified in Section 15367 of the CEQA Guidelines, the Lead Agency is the public agency that has the primary responsibility for carrying out or approving a project for CEQA compliance.

This Draft IS/MND identifies the potential environmental impacts of the proposed Project to determine whether the Project may have a significant effect on the environment and identifies mitigation measures, where applicable, to reduce or avoid significant effects. This Draft IS/MND has been prepared pursuant to the CEQA and the CEQA Guidelines (14 California Code of Regulations 1500 et seq.), which require that all state and local government agencies consider the environmental consequences of projects over which they have discretionary authority before acting on those projects. Mariposa County Department of Public Works is a public agency with discretionary authority over the Project and is the Lead Agency under CEQA.

2 PROJECT DESCRIPTION

2.1 Project Purpose and Need

The Caltrans October 6, 2013, Bridge Inspection Report lists the existing Buckeye Road Bridge as being structural deficient, with a sufficiency rating of 60.8 out of a possible score of 100. In addition, the curb-to-curb width of the bridge is 19.7 feet with two travel lanes less than 10-feet-wide, meaning the existing structure does not meet current applicable County, American Association of State Highway and Transportation Officials (AASHTO), and Caltrans design criteria and standards. The bridge barriers consist of a non-crash tested metal beam guard rail system.

The purpose of this Project is to remove the existing structurally deficient structure and replace it with a new single-span, two-lane concrete bridge designed to meet current structural and geometric standards, while minimizing adverse impacts to Mariposa Creek and the surrounding forests.

2.2 Project Description

2.2.1 Existing Conditions

Constructed in 1947, the existing Buckeye Road Bridge is a single-span steel girder bridge with a concrete cast-in-place deck. The bridge is 44-feet-long, 20.3-feet-wide, and within the existing public right-of-way easement. The curb-to-curb width is 19.7-feet, with two travel lanes less than 10-feet-wide and no shoulder on either side. The bridge barriers consist of a non-crash tested metal beam guard rail system.

2.2.2 Proposed Conditions

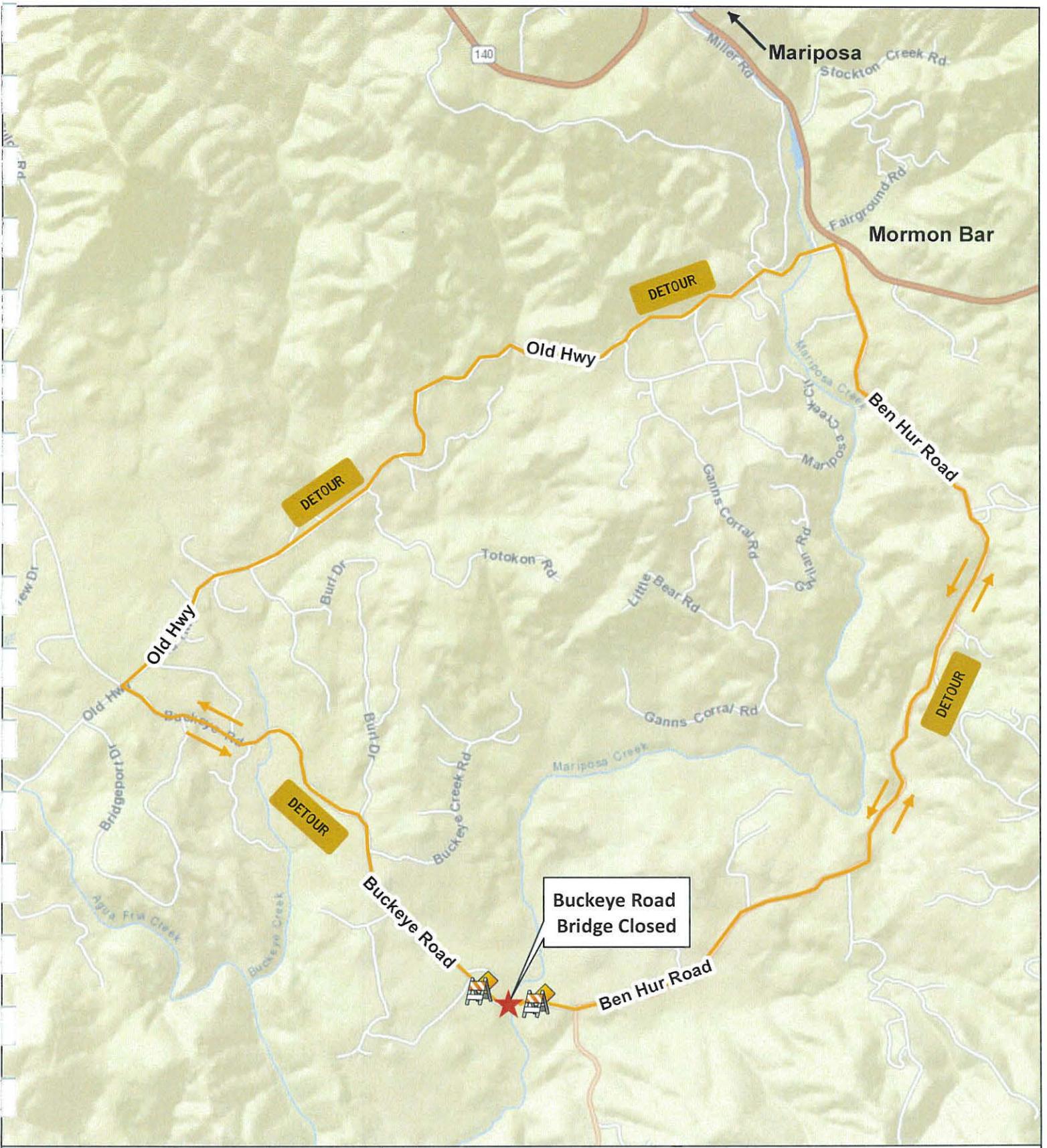
The replacement bridge would have a clear width of 24-feet to accommodate two 10-foot lanes and two 2-foot-wide shoulders per Tables 5-5 and 5-6 of the AASHTO "A Policy on Geometric Design of Highways and Streets" for a projected 2029 vehicular average daily traffic (ADT) count of 400 vehicular trips per day and a design speed of 40 miles per hour.

2.2.3 Right-of-Way

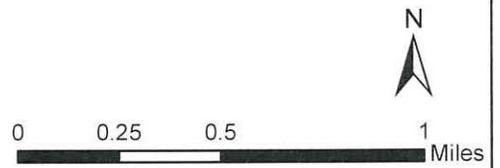
The proposed new bridge would be designed to avoid additional right-of-way acquisition; however, temporary construction easements and/or permits to enter and construct may be necessary for possible construction staging or contractor access routes. APN #017-030-023, located at 3998 Buckeye Road, Mariposa, has been identified for as a potential staging area.

2.2.4 Detour

Buckeye Road Bridge would be closed during construction and a local street detour would be put in place to route local traffic around the Project site. A detour approximately 10-miles-long would be established using Old Highway, Morman Bar Crossing, and Ben Hur Road (**Figure 3**). The low ADT makes this tolerable for the short six-month window needed to construct the bridge replacement.



-  Project Location
-  Detour Route





2.2.5 Creek Diversion and Dewatering

A creek diversion system would be used to divert flow through the construction zone and dewater the area around the abutments during construction. The creek diversion system would consist of placing coffer dams upstream and downstream of the construction site and conveying the water from Mariposa Creek through temporary culverts. Any temporary fill associated with the dewatering system would be removed at the end of construction, returning the Creek to its original condition. The temporary cofferdams and culverts would be completely removed after the removal of the existing bridge and completion of the replacement bridge.

The creek diversion system and subsequent site dewatering would be designed in conformance with County specifications and regulations as required by the Regional Water Quality Control Board (RWQCB), California Department of Fish and Wildlife (CDFW), and the U.S. Fish and Wildlife Service (USFWS). The operational timeline for the creek diversion would likely be June 15 to October 31, depending on the regulatory permit mitigation measures. Because the proposed bridge is relatively short, falsework beams would be able to span from one abutment to the other without the need for falsework bents or other temporary supports in the creek channel.

2.2.6 Demolition and Construction Staging

Demolition of the existing bridge would be performed in accordance with the Caltrans Standard Specifications, modified to meet environmental permit requirements. All concrete and other debris resulting from bridge demolition would be removed from the Project site and disposed of by the contractor. The construction contractor would prepare a bridge demolition plan.

The Project staging area would be located north of Buckeye Road and east of the existing bridge in an area dominated by annual grassland. Tree removal is not expected in this area; however, trees may need to be trimmed to accommodate the larger pieces of equipment.

2.2.7 Construction Activities

Construction would consist of the following activities in this general order:

- Tree removal, grubbing, and clearing to accommodate Project construction;
- Removal of the existing bridge;
- Excavating and drilling (if required) for the new bridge foundations;
- Construction of the new bridge and approaches, including excavation and placement of asphalt concrete on each approach; and
- Grading and excavation work in the Mariposa Creek that is needed for construction of the replacement bridge abutment walls and the installation of rock slope protection.

Table 2 provides a description of the type of equipment likely to be used during the construction of the Project.

Table 2. Construction Equipment

Equipment	Construction Purpose
Hydraulic hammer	Demolition
Hoe ram	Demolition
Jack hammer	Demolition
Water truck	Earthwork construction, dust control
Bulldozer loader	Earthwork construction, clearing and grubbing
Haul truck	Earthwork construction, clearing and grubbing
Front-end loader	Dirt or gravel manipulation
Grader	Ground grading and leveling
Dump truck	Fill material delivery
Bobcat	Fill distribution
Excavator	Soil manipulation and placement of rock slope protection
Compaction equipment	Earthwork
Roller/compactor	Earthwork and asphalt concrete construction
Backhoe	Soil manipulation, drainage work
Drill rig	Construction of drilled or driven pile foundations
Holding tanks	Slurry storage for pile installation
Crane	Placement of false work beams
Concrete truck and pump	Placing concrete
Paver	Asphalt concrete construction
Truck with seed sprayer	Erosion control landscaping
Generators	Power hand tools

2.2.8 Construction Schedule and Timing

Construction is currently scheduled to start in the spring of 2019 and is anticipated to take six months to complete. All work within Mariposa Creek would be conducted during the dry season, from June 15 to October 31.

2.3 Permits and Approvals Needed

The following permits, reviews, and approvals are required for Project construction:

Table 3. Project Permits and Approvals

Agency	Permit/Approval	Status
Caltrans/FHWA	Approval of Categorical Exclusion (CE)	Follows approval of technical studies.
Army Corps of Engineers (ACOE)	Section 404 Nationwide Permit	Application to follow release of IS/MND.
Central Valley RWQCB	Section 401 Water Quality Certification	Application to follow release of IS/MND.
CDFW	Section 1602 Streambed Alteration Agreement	Application to follow release of IS/MND.
USFWS	Section 7 Consultation for Threatened and Endangered Species	Follows approval of Biological Assessment (BA). Natural Environment Study (NES) Report and BA were prepared as a basis for informal consultation.
State Water Resource Control Board (SWRCB)	General construction activity stormwater discharge permit	Notice of Intent filed upon contract award.

3 ENVIRONMENTAL FACTORS POTENTIALLY AFFECTED

The Project could potentially affect the environmental factor(s) checked below. The following pages present a more detailed checklist and discussion of each environmental factor.

- | | | |
|--|---|---|
| <input type="checkbox"/> Aesthetics | <input type="checkbox"/> Agriculture and Forestry Resources | <input type="checkbox"/> Air Quality |
| <input checked="" type="checkbox"/> Biological Resources | <input checked="" type="checkbox"/> Cultural Resources | <input type="checkbox"/> Geology, Soils and Seismicity |
| <input type="checkbox"/> Greenhouse Gas Emissions | <input checked="" type="checkbox"/> Hazards and Hazardous Materials | <input checked="" type="checkbox"/> Hydrology and Water Quality |
| <input checked="" type="checkbox"/> Land Use and Land Use Planning | <input type="checkbox"/> Mineral Resources | <input checked="" type="checkbox"/> Noise |
| <input type="checkbox"/> Population and Housing | <input checked="" type="checkbox"/> Public Services | <input type="checkbox"/> Recreation |
| <input checked="" type="checkbox"/> Transportation and Traffic | <input type="checkbox"/> Tribal Resources | <input type="checkbox"/> Utilities/Service Systems |
| <input checked="" type="checkbox"/> Mandatory Findings of Significance | | |

3.1 Determination: (To be completed by Lead Agency)

On the basis of this initial study:

- I find that the proposed project COULD NOT have a significant effect on the environment, and a NEGATIVE DECLARATION will be prepared.
- I find that although the proposed project could have a significant effect on the environment, there will not be a significant effect in this case because revisions in the project have been made by or agreed to by the project proponent. A MITIGATED NEGATIVE DECLARATION will be prepared.
- I find that the proposed project MAY have a significant effect on the environment, and an ENVIRONMENTAL IMPACT REPORT is required.
- I find that the proposed project MAY have a "potentially significant impact" or "potentially significant unless mitigated" impact on the environment, but at least one effect 1) has been adequately analyzed in an earlier document pursuant to applicable legal standards, and 2) has been addressed by mitigation measures based on the earlier analysis as described on attached sheets. An ENVIRONMENTAL IMPACT REPORT is required, but it must analyze only the effects that remain to be addressed.
- I find that although the proposed project could have a significant effect on the environment, because all potentially significant effects (a) have been analyzed adequately in an earlier EIR or NEGATIVE DECLARATION pursuant to applicable standards, and (b) have been avoided or mitigated pursuant to that earlier EIR or NEGATIVE DECLARATION, including revisions or mitigation measures that are imposed upon the proposed project, no further environmental documentation is required.



Signature

2/20/2019

Date

GARY BROWN

Printed Name

For

4 ENVIRONMENTAL CHECKLIST

4.1 Aesthetics

<i>Issues (and Supporting Information Sources)</i>	<i>Potentially Significant Impact</i>	<i>Less Than Significant with Mitigation Incorporated</i>	<i>Less Than Significant Impact</i>	<i>No Impact</i>
Aesthetics – Would the project:				
a) Have a substantial adverse effect on a scenic vista?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b) Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) Substantially degrade the existing visual character or quality of the site and its surroundings?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
d) Create a new source of substantial light or glare which would adversely affect daytime or nighttime views in the area?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

4.1.1 Setting

Visual character is a description (not evaluation) of a site, and includes attributes such as form, line, color, and texture. Visual quality is the intrinsic appeal of a landscape or scene due to the combination of natural and built features in the landscape, and this analysis rates visual quality as high, moderate, or low. Visual sensitivity is the level of interest or concern that the public has for maintaining the visual quality of a particular aesthetic resource; is a measure of how noticeable proposed changes might be in a particular scene; and is based on the overall clarity, distance, and relative dominance of the proposed changes in the view, as well as the duration that a particular view could be seen.

Mariposa County’s rolling hills, wide elevation range, and diverse environments contribute to its scenic quality. One officially-designated scenic highway segment, two eligible scenic highway segments, and a national scenic byway have been classified as scenic highways in the General Plan, but none are located in the Project site or within the Project vicinity. Mariposa Creek and the adjacent riparian vegetation are prominent visual features in the Project site, and the surrounding open space along Buckeye Road contributes to the rural character of the area. Scattered rural residences exist throughout the area. Distant views of rolling hills and mountains are available from the Project site. Existing sources of light in the Project site are associated with the few residences along Buckman Road. Seasonal water in the Creek provides a natural source of glare during the daylight hours.

4.1.2 Discussion

- a) **Less-than-Significant Impacts.** A scenic vista is generally considered a view of an area that has remarkable scenery or a natural or cultural resource that is indigenous to the area. Views in the area do not include remarkable landscape elements that create scenic vistas. The Project is a bridge replacement project and would not add new elements to the Project site that would block or would visually conflict with Mariposa Creek, the distant views of the rolling hills and

mountains, or the general rural character of the Project site. The replacement bridge would be built in a similar alignment and with similar aesthetics elements as the existing bridge.

- b) **No Impacts.** Within Mariposa County, State Route 140 is an officially-designated state scenic highway, State Route 49 is an eligible state scenic highway (without an official designation), and U.S. Route 120 is a National Scenic Byway. Neither State Route 140, State Route 49, or U.S. Route 120, nor any other designated or eligible a state scenic highways or national byways, are located in the Project vicinity. No designated or eligible state scenic highways or national byways would be indirectly affected by the Project.
- c) **Less than Significant.** The replacement of the new bridge and approaches would be similar in scale and design as the current bridge and road. Viewer groups are limited to roadway users along Buckeye Road, since vegetation and topography obscures views of the Project site from nearby residences. Viewer sensitivity to the proposed roadway changes would be considered low because the bridge would have low visual dominance, and views of the bridge are shielded by existing trees and vegetation. These improvements would not substantially alter the existing visual character of the Project site, and the Project would not introduce new visual elements into the landscape.

Construction of the Project would result in temporary changes in local visual conditions, such as clearing and grading at the Project site. Any new cuts and fills would be contoured to smoothly transition into existing grades and to mimic adjacent landforms. Also, any area disturbed during construction would be revegetated with native and appropriate vegetation to minimize erosion and visual contrast with existing vegetation.

Since the Project is a replacement of an existing bridge, there would be no permanent changes to existing views. The new bridge would be slightly wider to meet current design standards. No other new structures would be added as part of the Project and the Project would include a similar bridge structure. These changes in views would not substantially degrade the existing visual character or quality of the site and its surroundings.

- d) **No Impact.** The Project site is located within a rural setting where street lighting is not present. Roadway traffic is considered a source of nighttime light, but the purpose of the Project is not to increase roadway capacity, so greater numbers of vehicles would not be introduced in this area as a result of the Project. The Project would not result in any changes that introduce new sources of light and glare (i.e., billboards, street lamps, security lighting, etc.) to the vicinity of the Project site nor would it alter flows within Mariposa Creek that could increase existing glare.

4.2 Agricultural and Forest Resources

<i>Issues (and Supporting Information Sources)</i>	<i>Potentially Significant Impact</i>	<i>Less Than Significant with Mitigation Incorporated</i>	<i>Less Than Significant Impact</i>	<i>No Impact</i>
<p>Agricultural and Forest Resources – In determining whether impacts to agricultural resources are significant environmental effects, lead agencies may refer to the California Agricultural Land Evaluation and Site Assessment Model (1997) prepared by the California Department of Conservation (CDC) as an optional model to use in assessing impacts on agriculture and farmland. In determining whether impacts to forest resources, including timberland, are significant environmental effects, lead agencies may refer to information compiled by the California Department of Forestry and Fire Protection regarding the state’s inventory of forest land, including the Forest and Range Assessment Project and the Forest Legacy Assessment project; and forest carbon measurement methodology provided in Forest Protocols adopted by the California Air Resources Board.</p>				
<p>Would the project:</p>				
a) Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Conflict with existing zoning for agricultural use or a Williamson Act contract?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c) Conflict with existing zoning for, or cause rezoning of, forest land (as defined in PRC Section 12220(g)), timberland (as defined by PRC Section 4526), or timberland zoned Timberland Production (as defined by Government Code section 51104(g))?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
d) Result in the loss of forest land or conversion of forest land to non-forest use?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
e) Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland to non-agricultural use or conversion of forest land to non-forest use?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

4.2.1 Setting

Mariposa County has a total of 406,639 acres of land designated for agricultural use, 215 acres of important farmland, 49 acres are prime farmland, 129 acres are designated as unique, and 37 acres are of statewide importance. The Project site is designated as grazing land by the CDC and is zoned for residential use within the County General Plan (General Plan). All land within the Project vicinity is designated as grazing land or other land. No timber or forestland are found in the Project vicinity. The Project site contains land classified as Williamson Act-Mixed Enrollment Agricultural Land. The Williamson Act (also known as the California Land Conservation Act of 1965) is a locally-administered program that offers property tax benefits to participating landowners.

4.2.2 Discussion

- a) **No Impact.** There is no land designated as prime farmland, unique farmland, or farmland of statewide importance within the Project vicinity. The Project would not result in any impact or acquisitions of prime farmland, unique farmland, or farmland of statewide importance.

- b) **Less-than-Significant Impact.** The Project site contains land covered under the Williamson Act. However, no permanent right-of-way acquisition of property covered under the Williamson Act would take place as part of the Project. A temporary construction easement would be needed from Accessor Parcel Number (APN) #017-030-023, but the temporary construction easement would be acquired with collaboration from the property owner and would not adversely impact agricultural activity nor result in inconsistency with the Williamson Act.
- c) **No Impact.** There is no forestland or timberland within the Project vicinity. The Project would not result in the rezoning of forestland or timberland to non-forestland or non-timberland uses.
- d) **No Impact.** There is no forestland or timberland within the Project vicinity. The Project would not result in the rezoning of forestland or timberland to non-forestland or non-timberland uses.
- e) **Less-than-Significant Impact.** The Project does not propose any new land uses, propose the permanent conversion of existing agricultural lands, or result in any other actions that would impact the adjacent agricultural lands.

4.3 Air Quality

<i>Issues (and Supporting Information Sources)</i>	<i>Potentially Significant Impact</i>	<i>Less Than Significant with Mitigation Incorporated</i>	<i>Less Than Significant Impact</i>	<i>No Impact</i>
Air Quality – Where available, the significance criteria established by the applicable air quality management or air pollution control district may be relied upon to make the following determinations.				
Would the project:				
a) Conflict with or obstruct implementation of the applicable air quality plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b) Violate any air quality standard or contribute substantially to an existing or projected air quality violation?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c) Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard (including releasing emissions which exceed quantitative thresholds for ozone precursors)?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
d) Expose sensitive receptors to substantial pollutant concentrations?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
e) Create objectionable odors affecting a substantial number of people?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

4.3.1 Setting

The Project site is located in an unincorporated area of Mariposa County within the Mountain Counties Air Basin, and is under the jurisdiction of the Mariposa County Air Pollution Control District (MCAPCD). The MCAPCD is one of 35 regional air quality districts in California and has jurisdiction over all of the County. Air quality districts are public health agencies whose mission is to improve the health and quality of life for all residents through effective air quality management strategies.

The Clean Air Act requires the U.S. Environmental Protection Agency (U.S. EPA) to set National Ambient Air Quality Standards (NAAQS) for major pollutants that could be detrimental to the environment and human health. The California Ambient Air Quality Standards (CAAQS) are the California state equivalent of the NAAQS. An air basin is in “attainment” (compliance) when the levels of the pollutant in that air basin are below NAAQS and CAAQS thresholds. **Table 4** provides information on the NAAQS and **Table 5** provides information on the CAAQS.

Table 4. NAAQS

Pollutant	Standard Type	Averaging Time	Concentration Threshold	Form
Carbon monoxide (CO)	Primary	8 hours	9 parts per million (ppm)	Not to be exceeded more than once per year
		1 hour	35 ppm	
Lead (Pb)	Primary and secondary	Rolling 3 month average	0.15 microgram per meter cubed ($\mu\text{g}/\text{m}^3$)	Not to be exceeded
Nitrogen dioxide (NO ₂)	Primary	1 hour	100 ppb	98th percentile of 1-hour daily maximum concentrations, averaged over 3 years

Pollutant		Standard Type	Averaging Time	Concentration Threshold	Form
		Primary and secondary	1 year	53 parts per billion (ppb)	Annual mean
Ozone (O ₂)		Primary and secondary	8 hours	0.070 ppm	Annual fourth-highest daily maximum 8 hour concentration, averaged over 3 years
Particulate matter (PM)	PM _{2.5}	Primary	1 year	12.0 µg/m ³	Annual mean, averaged over 3 years
		Secondary	1 year	15.0 µg/m ³	Annual mean, averaged over 3 years
		Primary and secondary	24 hours	35 µg/m ³	98th percentile, averaged over 3 years
	PM ₁₀	Primary and secondary	24 hours	150 µg/m ³	Not to be exceeded more than once per year on average over 3 years
Sulfur dioxide (SO ₂)		Primary	1 hour	75 ppb	99th percentile of 1 hour daily maximum concentrations, averaged over 3 years
		Secondary	3 hours	0.5 ppm	Not to be exceeded more than once per year

Source: U.S. EPA, 2017

The topography and meteorology of the Mountain Counties Air Basin combine such that local conditions predominate in determining the effect of emissions in the basin. Regional airflows are affected by the mountains and hills, which direct surface air flows, cause shallow vertical mixing, and create areas of high pollutant concentrations by hindering dispersion.

The Project site is located in an area that is currently in state and federal non-attainment for ozone (moderate).

Table 5. CAAQS

Pollutant		Averaging Time	Concentration Threshold
CO		8 hours	0.09 ppm
		1 hour	0.070 ppm
Pb		1.5	0.15 µg/m ³
NO ₂		1 hour	0.18 ppm
		Annual arithmetic mean	0.030 ppm
O ₂		8 hours	0.09 ppm
		1 hour	0.070 ppm
PM	PM _{2.5}	Annual arithmetic mean	12.0 µg/m ³
	PM ₁₀	24 hours	50 µg/m ³
		Annual arithmetic mean	20 µg/m ³
SO ₂		1 hour	0.25 ppm
		24 hours	0.04 ppm
Visibility reducing particles		9 hours	Extinction of 0.23 per kilometer
Sulfates		24 hours	25 µg/m ³
Hydrogen sulfide (H ₂ S)		1 hour	0.03 ppm
Vinyl chloride		24 hours	0.01 ppm

Source: ARB, 2016

4.3.2 Discussion

- a) **Less-than-Significant Impact.** The purpose of the Project is to replace the existing Buckeye Road Bridge, to provide safe access for vehicles and meet current design standards. The Project would not increase roadway capacity or service capabilities that would induce unplanned growth or remove an existing obstacle to growth. The Project would not increase long-term traffic levels and there would be no operational impacts to air quality. Therefore, the Project would not conflict with the region's air quality management plans.
- b) **Less-than-Significant Impact.** Since the Project would not add lanes or increase capacity, it would only affect local air pollutants during construction (approximately six months as a conservative estimate). The Project would not affect long-term air pollutant emissions in the area or stationary air pollutant sources.

Construction

The primary concern to the MCAPCD during construction would be PM₁₀ and PM_{2.5} emissions from dust-generating activities. According to MCAPCD, the County is designated as unclassified attainment for the PM₁₀ and PM_{2.5} NAAQS.

The MCAPCD has adopted the following rule that relates to the Project, which is summarized below:

Rule 401. Any person building, altering, or replacing any source of air contaminants shall first obtain an authority to construct from the air pollution control officer. An authority to construct shall remain in effect until the permit to operate for that source for which the application was filed is either granted or denied or until termination pursuant to other provisions of this regulation.

Implementation of the required Rule 401 would ensure that Project impacts to air quality would remain less than significant.

Operation

The Project would not result in increased capacity or additional vehicle trips. The Project would not increase long-term traffic levels. There would be no impact to air quality under full operation of the Project and no mitigation measures are required.

- c) **Less-than-Significant Impact.** As discussed above under Item (b), the Project would result in minimal air pollutant emissions during the short-term duration of construction. In addition, the Project would not result in any operational activities or emissions. Therefore, the Project would not result in a cumulatively considerable net increase of any criteria pollutant for which the Project region is in non-attainment under an applicable federal or state ambient air quality standard.
- d) **Less-than-Significant Impact.** As noted above under Item (b), the Project would not generate substantial pollutant concentrations with implementation of the required Rule 401 and therefore would not expose sensitive receptors to substantial pollutant concentrations.
- e) **Less-than-Significant Impact.** Generally, the types of Projects or activities that pose potential odor problems include refineries, chemical plants, wastewater treatment plants, landfills,

composting facilities, and transfer stations. The Project is a bridge replacement project that is located within a rural area and would not create objectionable odors affecting a substantial number of people.

4.4 Biological Resources

<i>Issues (and Supporting Information Sources)</i>	<i>Potentially Significant Impact</i>	<i>Less Than Significant with Mitigation Incorporated</i>	<i>Less Than Significant Impact</i>	<i>No Impact</i>
Biological Resources – Would the project:				
a) Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b) Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c) Have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
d) Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
f) Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

4.4.1 Setting

The Project is located in southwest Mariposa County along Buckeye Road where it crosses Mariposa Creek, approximately 4.5 miles south of the Town of Mariposa. The Project is on the Mariposa CA United States Geological Survey (USGS) 7.5' Quadrangle within Township 6 South, Range 18 East, Section 11.

The Project site lies in the Lower Granitic Foothills ecological subsection, an area on moderately steep to steep mountains and hills at the western or southwestern foot of the Sierra Nevada. There is little faulting, compared to the Lower Foothill Metamorphic Belt ecological subsection, and northwest to north-northwest aligned ridges are much less common and less distinct. Ridges are more commonly aligned toward the southwest, parallel to major rivers that flow off the western slope of the Sierra Nevada. Alluvial fans, floodplains, and terraces are not extensive. The subsection elevation range is about 400 to 4,000 feet. Mass wasting and fluvial erosion are the main geomorphic processes. The predominant natural plant community is blue oak series. Also, there are some needlegrass grasslands,

chamise series on shallow and rocky soils, and valley oak series in valleys. The annual average precipitation at the National Climatic Data Center Mariposa RS, California weather station (045352) is 29.78 inches (WRCC, 2017). More than 97 percent of the area's rainfall occurs between October and May (WRCC, 2017). Elevation of the study area ranges between 1,400 to 1,430 feet above mean sea level.

4.4.2 Data Sources/Methodology

The Buckeye Road over Mariposa Creek Bridge Replacement NES and BA were prepared for the Project and are available for review at the County (Caltrans, 2017a; Caltrans, 2017b). An evaluation of biological resources was conducted to determine whether any special-status plant or wildlife species or associated sensitive habitat occurs within the Project site. Data on special-status species and habitats known in the area was obtained from state and federal agencies. Maps and aerial photographs of the Project site and surrounding areas were reviewed. Field surveys were conducted to determine the habitats present.

4.4.3 Habitats of Concern

The Project site is located in the Sierra Nevada Foothills, an area with rolling hills with broad and narrow valleys transitioning into canyons and broad ridges at middle elevations. The topography in the Project site and surrounding areas is characterized by rolling hills. The Project site is at an elevation of approximately 2,440 feet above sea level. Terrestrial habitat types in the Project site include annual grassland, barren (rock outcroppings), montane hardwood, montane riparian, and urban (developed). Aquatic habitat types in the Project site include Mariposa Creek, which is classified as upper perennial riverine habitat.

Riparian habitats are sensitive natural communities because they are regulated by the CDFW under Section 1602 of the California Fish and Game Code (CFGC) for the purpose of protecting fish and wildlife resources. Additionally, Mariposa Creek is considered to be waters of the U.S which are also considered sensitive by both federal and state agencies.

4.4.4 Special Status Plant Species

The Project site provides suitable habitat for the federally listed (threatened) Mariposa pussypaws (*Calyptridium pulchellum*). Mariposa pussypaws were not observed during the botanical survey conducted in August 2016, during the end of the blooming period of this plant. The montane hardwood habitat is relatively undisturbed and contains barren patches with gravelly soils which provides potentially suitable habitat for Mariposa pussypaws. In addition, the cracks within the granite rock outcroppings contained gravelly sands which also provide suitable habitat for Mariposa pussypaws. Lastly, there are two recorded occurrences in less than one mile from the Project site. These occurrences have similar habitat features that were documented within the Project site.

In addition, the Project site provides suitable habitat for the following non-listed special status plant species: big-scale balsamroot (*Balsamorhiza macrolepis*), beaked clarkia (*Clarkia rostrata*), Koch's cord moss (*Entosthodon kochii*), Parry's horkelia (*Horkelia parryi*), Madera leptosiphon (*Leptosiphon serrulatus*), Mariposa lupine (*Lupinus citrinus* var. *deflexus*). No special-status plant species were observed during the botanical survey conducted in August 2016. The annual grassland, barren, montane hardwood, and montane riparian habitat within the Project site could provide suitable habitat for these species.

4.4.5 Special Status Aquatic and Semi-Aquatic Species

Foothill Yellow-legged Frog (FYLF) (*Rana boylei*). FYLF is designated as a state candidate for listing as threatened, as well as a species of special concern by CDFW. Mariposa Creek provides suitable aquatic habitat for this species. Mariposa Creek consists of areas with a rocky cobble substrate with emergent vegetation growing along the edges of the channel. In addition, there is the potential for FYLF to use the Biological Study Area for foraging and dispersal. During the site visit on August 8, 2016, no FYLF were observed within the Project site.

California Red-legged Frog (CRLF) (*Rana draytonii*). CRLF is federally listed as threatened under the Endangered Species Act and is designated as a species of special concern by CDFW. Mariposa Creek may provide suitable breeding habitat for CRLF as there are patches of emergent vegetation growing along the channel edges, suitable for egg attachment, and water is present throughout the year. Although soils are too rocky to support burrows, and there was no indication of burrowing mammals, the dense willow thickets on the northern side of Buckeye Road could provide suitable aestivation habitat under the leaf litter. In addition, CRLF may utilize Mariposa Creek and the surrounding annual grassland and riparian habitat for foraging and as a dispersal corridor traveling to and from suitable breeding habitats. No CRLF were detected within the Project site during the survey conducted in August 2016.

Western Pond Turtle (*Emys marmorata*). Western pond turtle is a California species of special concern. Mariposa Creek does provide suitable habitat for this species as it is a perennial water course and the gentle slope of the eastern banks provide suitable basking structure. In addition, large boulders within the stream channel also provide suitable basking structures. The presence of aquatic vegetation and small amphibians (i.e. tree frogs) provide suitable forage for this species. This species was not observed during the surveys conducted in August 2016.

4.4.6 Special Status Aquatic and Semi-Aquatic Species

Bat Species. Pallid bat (*Antrozous pallidus*) and Townsend's big-eared bat (*Corynorhinus townsendii*) are both California species of special concern. Buckeye Road Bridge, the larger rock crevices on either side of Mariposa Creek, and the larger oak trees and snags could provide suitable roosting habitat for pallid bat, Townsend's big-eared bat, and other common bat species. No bats were observed during the surveys conducted in August 2016.

Nesting Songbirds and Raptors. Riparian habitat associated with Mariposa Creek, as well as the blue oak-foothill pine and montane hardwood habitat, may provide suitable nesting habitat for common raptors such as red-shouldered hawk (*Buteo lineatus*) and red-tailed hawk (*Buteo jamaicensis*) and birds such as tree swallows (*Tachycineta bicolor*) and sparrows. They commonly nest in large trees that overhang or are in close proximity (within 0.25 miles) to aquatic habitats such as rivers, streams, and lakes, as well as in close proximity to annual grasslands and agricultural fields. The large trees within the Project site provide suitable nesting habitat due to their proximity to nest building material as well as optimal foraging habitat.

4.4.7 Discussion

- a) **Less-than-Significant Impact with Mitigation**. Impacts to plant species could include loss of the plant species through trampling or excavation, if present within the construction zone, or damage to sensitive root systems through compaction could occur outside of the construction zone. Implementation of **Mitigation Measure BIO-1** would reduce potential impacts to special-status plants to a less-than-significant level.

Dewatering (if necessary) and other construction activities could potentially impact FYLF, CRLF, and western pond turtle, if they are present in this segment of Mariposa Creek during Project construction. Potential impacts include direct harm to these species that could potentially come into contact with construction personnel and/or equipment, as well as exposure of FYLF, CRLF, and western pond turtle, to increased chance of predation or physical harm if they were to become trapped in the dewatered area or were trying to escape the dewatered area. Additionally, the removal of riparian vegetation could also negatively contribute to loss of stream channel shading (i.e., increased ambient water temperature) or increased erosion.

Mortality or injury of FYLF, CRLF, and western pond turtle in aquatic and upland habitats could occur by crushing by construction equipment or if frogs or turtles are displaced from cover, exposing them to predators and desiccation. Trenches left open during the night could trap frogs and/or turtles moving through the construction area. Moreover, construction activities could temporarily impede the movement of juvenile and adult FYLF and CRLF, dispersing between breeding areas and summer refugia sites. Lastly, the movement of equipment within uplands and construction of bridge structures could crush pond turtles or nests containing eggs or young.

Noise associated with construction activities involving heavy equipment operation that occurs during the breeding season (generally between February 1 and August 31) could disturb nesting raptors and songbirds if an active nest is located near these activities. Potential impacts could include abandonment of nest sites and the mortality of young. Any disturbance that causes nest abandonment and subsequent loss of eggs or developing young at active nests located near the Project site would violate the California Endangered Species Act (CESA) (CFGC Sections 2800, 3503, and 3503.5) and the Migratory Bird Treaty Act (MBTA).

In addition, the removal of trees within these habitats could potentially impact nesting raptors and songbirds if they begin nesting prior to construction. Construction-related activities could directly affect active nest sites through tree removal or cause indirect impacts such as nest abandonment.

Demolition of the existing structure and tree removal would remove potentially suitable bat roosting habitat. If bats are roosting under the bridge at the time of demolition or in trees during grubbing and clearing activities, there is the potential to result in mortality to individual bats. In addition, if bats are roosting under the existing bridge they would have to relocate to another suitable roost site potentially exposing them to increased stress and chance of predation.

With the implementation of **Mitigation Measure BIO-2** and **Mitigation Measure BIO-3**, impacts to special-status aquatic and semi-aquatic wildlife species would be less than significant.

With the implementation of **Mitigation Measure BIO-4**, **Mitigation Measure BIO-5a**, and **Mitigation Measure BIO-5b**, impacts to special-status terrestrial wildlife species would be less than significant.

- b) **Less-than-Significant Impact with Mitigation.** A narrow band of montane riparian habitat occurs along Mariposa Creek within the BSA, primarily on the northern side of Buckeye Road. There is

also a small patch along the western bank on the southern side of Buckeye Road. Montane riparian habitat intergrades with montane hardwood habitat. Characteristic species that comprise the upper story of riparian habitat within the Project site include black willow (*Salix gooddingii*) thickets. The understory consists of dense shrubs and herbaceous species, including mugwort (*Artemisia douglasiana*), wild parsnip (*Pastinaca sativa*), and stinging nettle (*Urtica dioica*). Tall flatsedge (*Cyperus eragrostis*), rough cocklebur, rabbitsfoot grass (*Polypogon monspeliensis*), buttonwillow (*Cephalanthus occidentalis*), California grape (*Vitis californica*) and sandbar willow (*Salix exigua*) occur in riparian habitat at the transition zone between riparian and riverine habitat.

The construction of the new bridge and approaches would result in permanent direct impacts to montane riparian habitat, as well as understory herbaceous species. The loss of riparian vegetation, including willow thickets, can have adverse effects on aquatic habitat in Mariposa Creek. Riparian habitat reduces sedimentation and erosion along stream banks as well as providing an important movement corridor for wildlife, overhanging canopies provide shade, and riparian vegetation offers habitat for invertebrates that are a source of food for aquatic and terrestrial life. With the implementation of **Mitigation Measure BIO-6**, impacts to riparian habitat, a sensitive natural community, would be less than significant.

- c) **Less-than-Significant Impact with Mitigation.** Mariposa Creek is considered to be waters of the U.S and therefore falls under the jurisdiction of the U.S Army Corps of Engineers per Section 404 of the Clean Water Act. During the field study, observations regarding vegetation, soils, and hydrology were noted. Approximately 0.04 acres of jurisdictional waters of the US were identified within the Project site and include Mariposa Creek. Although Project construction would implement the requirements of the General Construction National Pollution Discharge Elimination System (NPDES) permit from the Central Valley RWQCB, the Project could result in other direct and indirect impacts to waters of the U.S. Implementation of **Mitigation Measure BIO-7** would reduce potential impacts to less than significant.
- d) **Less-than-Significant Impact.** The Project would not substantially interfere with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites. The Project site is not located within an established native resident or migratory wildlife corridor or wildlife nursery site. However, as discussed above, Mariposa Creek may provide a movement corridor for wildlife to disperse. Construction noise could temporarily alter foraging patterns of resident wildlife species and temporarily disrupt wildlife movement within the Project site. However, the disturbance would only occur during Project construction and the disruption of wildlife movement would be temporary in nature.
- e) **Less-than-Significant Impact with Mitigation.** There is currently no tree preservation policy established for Mariposa County. While a formal tree survey has not been conducted for the Project, native oak and other riparian tree species were observed during the field visit along the banks of Mariposa Creek and in the upland areas. Trees that need to be removed during Project construction, in order to accommodate new roadway approaches, would be replaced at a ratio consistent with Caltrans policy. Construction activities may occur within the dripline of native oak trees or other riparian trees. Work within the dripline of trees may cause permanent damage to the root system and the subsequent loss of the tree. The Project proposes to revegetate areas of temporary disturbance within the Project footprint with native riparian

vegetation to minimize impacts to the montane riparian forest. Tree avoidance and implementation of **Mitigation Measure BIO-6** would reduce or avoid impacts to oaks and other riparian trees to a less-than-significant level.

- f) **No Impact.** The Project is currently not located within the boundaries of any adopted Natural Community Conservation Plan or Habitat Conservation Plan (HCP).

4.4.8 Mitigation Measures

Mitigation Measure BIO-1. *Preconstruction Surveys.* A qualified biologist shall conduct a preconstruction survey for special-status plant species within 30 days prior to construction. If special-status plant species are not found, then no further measures are necessary. If special-status plant species are found in the Project site, USFWS (in the case of Sanford's arrowhead), and CDFW will be notified at least ten days prior to dewatering or construction impacts in the vicinity of any special-status plant species in accordance with the California Native Plant Protection Act of 1977 (CFGCA Section 1900-1913) to allow sufficient time to transplant the individuals to a suitable location.

Mitigation Measure BIO-2. *Foothill Yellow-Legged Frog and California Red-Legged Frog.* The following avoidance and minimization efforts shall be implemented in order to reduce potential Project effects to FYLF and CRLF:

- Before the Project activities begin, all construction personnel shall attend a Worker Environmental Awareness Training session conducted by a USFWS-approved biologist. The session shall describe special status species and associated habitat, address proper implementation of avoidance measures, and clarify the boundaries within which the Project may be accomplished.
- Prior to commencing site disturbance, including vegetation and/ or ground disturbance, a USFWS-approved biologist(s) will be identified to monitor implementation of biological mitigation measures. The USFWS-approved biologist will be present for all initial ground disturbing activities.
- High visibility ESA fencing will be established to confine access routes and construction areas to the minimum area necessary to complete construction, and minimize the impact to FYLF, and CRLF habitat; this goal includes locating access routes and construction areas outside of wetlands and riparian areas to the maximum extent practicable. Animal exclusion fencing will be installed along the riparian corridor to prevent potential dispersing FYLF and CRLF from entering the terrestrial work areas.
- All temporarily disturbed areas shall be returned to pre-Project conditions upon completion of construction, including habitat contours. These areas will be properly protected from washout and erosion using appropriate erosion control devices including coir netting, hydroseeding, and revegetation.
- In order to avoid potential indirect impacts to water quality and direct impacts to species that could disperse through Mariposa Creek (e.g., CRLF), the County will schedule in Creek work activities between June 15 and October 31, when the Creek is expected to have low or no flow and frogs are much less likely to be present.
- To prevent inadvertent entrapment of FYLF and/or CRLF during construction, all excavated, steep-walled holes or trenches more than 6 foot deep will be covered at the end of each working day with plywood or similar material. At the beginning of each working day and before such holes or trenches are filled, they will be thoroughly inspected for trapped animals. If at any

time a trapped listed animal is discovered, the USFWS-approved biologist, or an on-site designee identified by the USFWS-approved biologist, will immediately place escape ramps or other appropriate structures to allow the animal to escape, and the USFWS will be contacted within 24 hours for further guidance and to reinitiate consultation.

- If any FYLF and/or CRLF are observed in the Project work limits during construction, work will immediately stop, the frog will be allowed to move out of harm's way on its own accord, and the USFWS will be contacted.

Mitigation Measure BIO-3. *Western Pond Turtle.* The following measures shall be implemented in order to reduce potential Project effects to western pond turtle:

- If dewatering is necessary, the construction area shall be dewatered prior to construction activities. CDFW shall be notified prior to dewatering activities.
- No more than two weeks prior to the commencement of ground-disturbing activities, the County shall retain a qualified biologist to perform surveys for western pond turtle within suitable aquatic and upland habitat within the Project site. Surveys will include western pond turtle nests as well as individuals. The biologist (with the appropriate agency permits) will temporarily move any identified western pond turtles upstream of the construction area, and temporary barriers will be placed around the construction area to prevent ingress. Construction will not proceed until the work area is determined to be free of turtles. The results of these surveys will be documented in a technical memorandum that will be submitted to CDFW (if turtles are documented).

Mitigation Measure BIO-4. *Bat Species.* The following provides methods and seasonal constraints to prevent direct mortality to bats roosting underneath or within the existing bridge or within the trees within the Project site:

Bridge

Prior to bridge demolition, humane exclusion and eviction of bats from expansion joints, behind the utility channels, and all weep holes will be needed to prevent direct mortality of bats. Humane exclusion and eviction of bats must occur only during seasonal periods of bat activity when no non-volant young or overwinter bats are present so that no bats are trapped inside the roost features. In this region, the first annual appropriate season to conduct humane eviction are between approximately March 1 (or after evening temperatures rise above 45 degree Fahrenheit, and less than 0.5 inches rainfall in 24 hours occurs) and April 15 (after which time females begin giving birth to pups). The next annual season is after maternity season and prior to winter torpor or hibernation; September 1 through about October 15 (or before evening temperatures fall below 45 degrees Fahrenheit, and prior to greater than 0.5 inches rainfall within 24 hours).

- Under guidance of a qualified bat biologist experienced with humane bat eviction procedures on bridges, humane bat exclusion and eviction will be conducted by an experienced bat exclusion contractor or by the bridge contractor or subcontractor. Humane exclusion and eviction consists of daytime installation of blockage materials and one-way exits attached to the concrete that will permit bats to exit during nightly feeding activities, but not allow reentry into the roost feature. These one-way exits must be made and attached so that they can remain in place until bridge demolition occurs; however, if demolition is delayed, regular monitoring of exclusion blockage materials and one-way exit eviction materials will be required, and repairs made as needed.

- Blockage materials for the expansion joints will consist of foam pipe insulation, cut to fit tightly into the expansion joint opening at the bottom and sides of soffits, with sufficient numbers of one-way exits installed to permit evacuation of the entire expansion joint by all bats. One-way exits will consist of 14-inch-wide aluminum roll flashing formed into eight-to-ten-inch-long rectangles, with bent top flanges for attachment to the concrete surface of the bridge using Sikaflex brand polyurethane construction adhesive and Gorilla brand adhesive tape. The bottom portion of the aluminum flashing rectangles will be fitted with fiberglass window screen mesh using Gorilla brand adhesive tape to form an extension chute that will prevent reentry by bats through the open bottom of the flashing rectangular one-way exit. The number of one-way exits installed at each roost location will be sufficient to allow complete evacuation of all bats.
- Because bats may roost in abandoned cliff swallow (*Petrochelidon pyrrhonota*) nests (many of which were present on the bridge during the survey) after those birds have fledged and dispersed, removal will be conducted only after bird nesting season and bat maternity season, and will be conducted by or under supervision of the qualified bat biologist. If demolition is planned to occur earlier in the year when birds would normally be nesting and bats would be raising young, then bats will be humanely evicted first, followed by installation of bird exclusion netting and/or bird deterrence methods to prevent nesting swallows and roosting bats prior to bridge demolition.

Trees

- Potential bat habitat trees, as identified by a qualified bat biologist during a tree habitat assessment conducted prior to tree removal, shall be removed only between approximately March 1, or when evening temperatures are above 45 degrees Fahrenheit and rainfall less than 0.5 inches in 24 hours occurs, and April 15, prior to parturition of pups. The next acceptable period is after pups become self-sufficiently volant, September 1 through about October 15, or prior to evening temperatures dropping below 45 degrees Fahrenheit and onset of rainfall greater than 0.5 inches in 24 hours.
- Bat habitat trees shall be removed only during seasonal periods of bat activity as described above, and only after:
 - Negative results from a night emergence survey conducted no more than one to two nights prior to tree removal by a qualified bat biologist, using night vision and/or infrared-sensitive camera equipment and bioacoustic recording equipment; or
 - All other vegetation other than trees within the limit of work is removed prior to bat habitat tree removal, during seasonal periods of activity, and preferably, within four days of commencing two-step removal of habitat trees; then either
 - Two-step tree removal over two consecutive days (e.g., Tuesday and Wednesday or Thursday and Friday). With this method, small branches and small limbs containing no cavity, crevice, or exfoliating bark habitat on habitat trees, as identified by a qualified bat biologist, are removed first on Day 1 using chainsaws only (no dozers, backhoes, etc.). The following day (Day 2), the remainder of the tree is to be removed. The disturbance caused by chainsaw noise and vibration, coupled with the physical alteration of the tree, has the effect of causing colonial bat species to abandon the roost tree after nightly emergence for foraging. Removing the trees the next day prevents re-habituation and reoccupation of the altered tree.
 - Trees containing suitable potential habitat must be trimmed with chainsaws on Day 1 under initial field supervision by a qualified bat expert to ensure that the tree cutters fully understand the process and avoid incorrectly cutting potential habitat features or

trees. After tree cutters have received sufficient instruction, the qualified bat expert does not need to remain on the site.

- If non-habitat trees or other vegetation must be removed outside those dates, a 100-foot buffer around each habitat tree shall be observed to reduce potential of disturbance of non-volant young during maternity season or torpid bats during winter months.
- In-kind replacement habitat (e.g., crevice habitat) consistent with the amount of habitat with evidence of use by bat colonies shall be provided on the new bridge in consultation with an experienced bat biologist possessing a Memorandum of Understanding with CDFW and experience designing bat habitat.
- Demolition of the old bridge shall not occur until after the new bridge is completed and replacement bat habitat has been installed.

Mitigation Measure BIO-5a. *Tree and Structure-Nesting Migratory Birds.* The following measures shall be used when work occurs on or in the vicinity of structures that may be subject to nesting by migratory birds.

- **Avoid Active Nesting Season.** To avoid and minimize impacts to tree and shrub nesting species, the following measures would be implemented.
 - If feasible, conduct all tree and shrub removal and grading activities during the non-breeding season (generally September 1 through January 31).
 - If grading and tree removal activities are scheduled to occur during the breeding and nesting season (February 1 through August 31), preconstruction surveys would be performed prior to the start of Project activities.
- **Conduct Preconstruction Nesting Bird Surveys.** If construction, grading or other Project-related activities are schedule during the nesting season (February 1 to August 31), preconstruction surveys for other migratory bird species will take place no less than 14 days and no more than 30 days prior to the beginning of construction within 250 feet of suitable nesting habitat.
 - If the preconstruction surveys do not identify any nesting migratory bird species within areas potentially affected by construction activities, no further mitigation will be required. If the preconstruction surveys do identify nesting bird species within areas that may be affected by site construction, the following measures will be implemented.
- **Avoid Active Bird Nest Sites.** Should active nest sites be discovered within areas that may be affected by construction activities, additional measures will be implemented as described below.
 - If active nests are found, Project-related construction impacts will be avoided by establishment of appropriate no-work buffers to limit Project-related construction activities near the nest site. The size of the no-work buffer zone will be determined in consultation with the CDFW, although a 500-foot buffer will be used when possible. The no work buffer zone will be delineated by highly visible temporary construction fencing. In consultation with CDFW, monitoring of nest activity by a qualified biologist may be required if the Project-related construction activity has potential to adversely affect the nest or nesting behavior of the bird. No Project-related construction activity will commence within the no-work buffer area until a qualified biologist and CDFW confirms that the nest is no longer active.

Mitigation Measure BIO-5b. *Bridge-Nesting Migratory Birds.* The following measures shall be incorporated for bridge-nesting birds if bridge demolition or construction of the new bridge occurs during the nesting season (February 1 to August 31).

- Exclusionary netting shall be installed around the undersides of the existing bridge before February 1 of the construction year to prevent new nests from being formed and/or prevent the reoccupation of existing nests. Exclusionary netting may also be required during construction of the new bridge if it is completed during the breeding season. The construction contractor will do the following:
 - Remove all existing unoccupied nests on the bridge during the non-nesting season (September 1 through January 31).
 - Keep the bridge free of nests, using exclusionary netting or other approved methods, until completion of construction activities.
 - Inspect all listed structures for nesting activity a minimum of three days per week; no two days of inspection will be consecutive. A weekly log would be submitted to the Project biologist. The contractor will continue inspections until bridge removal and completion of construction on new bridge. If an exclusion device were found to be ineffective or defective, the contractor will complete repairs to the device within 24 hours. If birds were found trapped in an exclusion device, the contractor will immediately remove the birds in accordance with USFWS guidelines.
 - Submit for approval working drawings or written proposals of any exclusion devices, procedures, or methods to the Project biologist before installing them.
- The method of installing exclusion devices will not damage permanent features of the new bridge structure. Approval by the Project biologist of the working drawings or inspection performed by the authorized Project biologist will in no way relieve the contractor of full responsibility for deterring nesting.

Mitigation Measure BIO-6: The following measures will be implemented prior to and during construction to avoid and minimize potential impacts on riparian habitat.

- Prior to removal of any trees, an International Society of Arboriculture-certified arborist shall conduct a tree survey in areas that may be impacted by construction activities. This survey shall document tree resources that may be adversely impacted by implementation of the Project. The survey will follow standard professional practices.
- Current riparian vegetation, oaks, and other native tree species will be retained to extent feasible. A Tree Protection Zone (TPZ) shall be established around any tree or group of trees to be retained. The TPZ will be delineated by an International Society of Arboriculture-certified arborist. The TPZ shall be defined by the radius of the dripline of the tree(s) plus one foot. The TPZ of any protected trees shall be demarcated using fencing that will remain in place for the duration of construction activities.
- Construction-related activities shall be limited within the TPZ to those activities that can be done by hand. No heavy equipment or machinery shall be operated within the TPZ. Grading shall be prohibited within the TPZ. No construction materials, equipment, or heavy machinery shall be stored within the TPZ.
- A planting plan will be implemented as detailed in a Restoration Plan approved by the CDFW. The Restoration Plan will include performance standards for revegetation that will ensure successful restoration of the onsite riparian areas.
- Protective fencing shall be installed along the edge of construction areas including temporary and permanent access roads where construction will occur within 200-feet of the edge of riparian woodland habitat (as determined by a qualified biologist). The location of fencing shall be marked in the field with stakes and flagging and shown on the construction drawings. The construction specifications shall contain clear language that prohibits construction-related

activities, vehicle operation, material and equipment storage, trenching, grading, or other surface-disturbing activities outside of the designated construction area. Signs shall be erected along the protective fencing at a maximum spacing of one sign per 50-feet of fencing. The signs shall state: "This area is environmentally sensitive; no construction or other operations may occur beyond this fencing. Violators may be subject to prosecution, fines, and imprisonment." The signs shall be clearly readable at a distance of 20-feet, and shall be maintained for the duration of construction activities in the area.

- Where riparian vegetation occurs along the edge of the construction easement, the County shall minimize the potential for long-term loss of riparian vegetation by trimming vegetation rather than removing the entire plant. Trimming will be conducted per the direction of a biologist and/or certified arborist.

Mitigation Measure-BIO 7. Section 404 Permit. If the verified jurisdictional delineation of waters of the U.S determines that Project construction would result in the loss of waters of the U.S, the Project applicant shall obtain a Section 404 (Clean Water Act) permit for impacts to jurisdictional wetlands from the Corps, and a Section 401 permit from the RWQCB and shall comply with all conditions of permits received. Terms of these permits would incorporate additional provisions to mitigate for the loss of waters of the U.S., including compensatory mitigation, and would ensure the "no net loss" of wetlands.

4.5 Cultural Resources

<i>Issues (and Supporting Information Sources)</i>	<i>Potentially Significant Impact</i>	<i>Less Than Significant with Mitigation Incorporated</i>	<i>Less Than Significant Impact</i>	<i>No Impact</i>
Cultural Resources – Would the project:				
a) Cause a substantial adverse change in the significance of a historical resource as defined in §15064.5?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b) Cause a substantial adverse change in the significance of an archaeological resource pursuant to §15064.5?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
d) Disturb any human remains, including those interred outside of formal cemeteries?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

4.5.1 Setting

Cultural resource is a broad term that includes prehistoric, historic, and traditional cultural properties that reflect the physical evidence of past human activity across the landscape. Cultural resources, along with prehistoric and historic human remains and associated grave goods, must be considered under various federal, state, and local regulations including CEQA, and the National Historic Preservation Act of 1966 (NHPA). Cultural resources that are listed on or eligible for inclusion in the National Register of Historic Places (NRHP) are also considered eligible for listing in the California Register of Historical Resources (CRHR). Cultural resources that are listed in or eligible for inclusion in the CRHR are referred to as historical resources. To be considered a historical resource, or “historically significant,” the resource must meet the following criteria for listing in the CRHR:

- Is associated with the events that have made a significant contribution to the broad patterns of California’s history and cultural heritage;
- Is associated with the lives of persons important to our past;
- Embodies the distinctive characteristics of a type, period, region, or method of construction, or represents the work of an important creative individual, or possesses high artistic value; or
- Has yielded, or may likely to yield, important information in prehistory or history.

A cultural resources investigation was conducted by Far Western Anthropological Research Group, Inc. (Far Western) in 2017 for the Project that included a records search at the California Historical Resources Information System (CHRIS), archival research, Native American consultation, and pedestrian survey. Results of the investigation show no known archaeological or historical resources in the Project site.

The existing bridge was built in 1947 and was previously evaluated by Caltrans and determined to be ineligible for inclusion in the NRHP. The Project is also located in a low-sensitivity area for buried deposits, as determined by the buried site sensitivity study.

Paleontological resources are the fossilized evidence of organisms preserved in the geologic (rock) record. Fossils are considered nonrenewable resources that are protected by federal, state, and local environmental laws and regulations. Sedimentary rocks, and some volcanic and metamorphic rocks, have potential to yield significant fossiliferous deposits. The potential paleontological importance of the Project site can be assessed by identifying if the rock units are Pleistocene or older (older than 11,000 years) sedimentary deposits within the underlying landform. An individual vertebrate fossil specimen may be considered unique or significant if it is identifiable, well preserved, and meets at least one of the following criteria:

- A type specimen (i.e., the individual from which a species or subspecies has been described);
- A member of a rare species;
- A species that is part of a diverse assemblage;
- A skeletal element different from, or a specimen more complete than, those now available for its species;
- A complete specimen; or
- At least 11,000 years or older.

4.5.2 Discussion

- a) Less-than-Significant Impact.** As discussed above, the existing bridge was built in 1947 and was previously evaluated by Caltrans and determined to be ineligible for inclusion in the NRHP. No historical resource was identified during record search or field survey of the Project site. Given that the Project would be replacing the existing bridge in the same location, an accidental discovery of historical resources is unlikely to occur. Nonetheless, there is a chance that construction activities associated with the Project could result in accidentally discovering historical resources.
- b) Less-than-Significant Impact with Mitigation.** According to the record search and intensive pedestrian survey, no archaeological resources were identified within the Project site; and the Project site is designated as being a low-sensitivity area for buried archaeological deposit. Therefore, it is unlikely that construction activities associated with the Project would result in accidental discovery of archaeological resources. With implementation of **Mitigation Measure CUL-1** and **Mitigation Measure CUL-2** listed below, the Project would result in a less-than-significant impact on archeological resources.
- c) Less-than-Significant Impact.** A search of the University of California Berkeley Museum of Paleontology (UCMP) collections database identified five paleontological specimens in the County: three Quaternary vertebrate fossils and one plant fossil near the town of Hornitos, approximately 16 miles north of the Project, and one Jurassic vertebrate near McClure Reservoir, approximately 18 miles northwest (UCMP, 2018). The entire Project site is mapped within grandiorite, tonalite, quartz, monzonite, and granite dating to the Mesozoic era (65.5 to 245 million years ago) (Krauskopf, 1985). Given that the Project would be replacing the existing bridge in the same location, construction activities are not likely to destroy, either directly or indirectly, a unique paleontological resource or site or geological feature.
- d) Less-than-Significant Impact with Mitigation.** Based upon a records search, no human remains are known to exist within the Project site. In the unlikely event that human remains are discovered, work within the area would be stopped and the County Coroner would be notified immediately. Work would only resume after the investigation and in accordance with

any requirements and procedures imposed by the County Coroner. In the event that the bone most likely represents a Native American interment, the Native American Heritage Commission (NAHC) would be notified so that the most likely descendants can be identified and appropriate treatment can be implemented. Therefore, with the Incorporated of this measure, the Project would not result in any significant impacts with respect to disturbing any human remains, including those interred outside of formal cemeteries. To ensure a less-than-significant impact in the event of an accidental discovery, **Mitigation Measure CUL-2** shall be implemented.

4.5.3 Mitigation Measures

Mitigation Measure CUL-1: *Unanticipated Discovery of Cultural Resources.* If cultural resources are discovered during ground-disturbing activities, all activity in the vicinity shall cease until the discovery is evaluated by an archaeologist or paleontologist working under the direction of a Principal Investigator who meets the requirements of the Secretary of the Interior's Qualification Standards. If the archaeologist/paleontologist determines that the resources may be significant, no further work in the vicinity of the resources shall take place until appropriate treatment is determined and implemented.

The need for archaeological and Native American monitoring during the remainder of the Project will be reevaluated by the archaeologist as part of the treatment determination. The archaeologist shall consult with appropriate Native American representatives in determining appropriate treatment for unearthed cultural resources if the resources are prehistoric or Native American in nature.

In considering any suggested mitigation proposed by the archaeologist in order to mitigate impacts to cultural resources, the Project proponent will determine whether avoidance is necessary and feasible in light of factors such as the nature of the find, Project design, costs, and other considerations. If avoidance is infeasible, other appropriate measures (e.g., data recovery) will be instituted.

Mitigation Measure CUL-2: *Unanticipated Discovery of Human Remains.* If human skeletal remains are uncovered during Project construction, work must immediately halt and the County Coroner must be contacted to evaluate the remains; the procedures and protocols set forth in Section 15064.5 (e)(1) of the CEQA Guidelines must be followed. If the County Coroner determines that the remains are Native American, the Project proponent will contact the NAHC, in accordance with Health and Safety Code Section 7050.5, subdivision (c), and PRC 5097.98 (as amended by AB 2641). Per PRC 5097.98, the landowner shall ensure that the immediate vicinity, according to generally accepted cultural or archaeological standards or practices, where the Native American human remains are located is not damaged or disturbed by further development activity until the landowner has discussed and conferred, as prescribed in this section (PRC 5097.98), with the most likely descendants regarding their recommendations, if applicable, taking into account the possibility of multiple human remains.

4.6 Geology, Soils, and Seismicity

<i>Issues (and Supporting Information Sources)</i>	<i>Potentially Significant Impact</i>	<i>Less Than Significant with Mitigation Incorporated</i>	<i>Less Than Significant Impact</i>	<i>No Impact</i>
Geology, Soils and Seismicity –Would the project:				
a) Expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving:	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
i) Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? (Refer to Division of Mines and Geology Special Publication 42.)				
ii) Strong seismic ground shaking?				
iii) Seismic-related ground failure, including liquefaction?				
iv) Landslides?				
b) Result in substantial soil erosion or the loss of topsoil?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c) Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction, or collapse?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
d) Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial risks to life or property?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
e) Have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems where sewers are not available for the disposal of wastewater?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

4.6.1 Setting

The project site lies within the Sierra Nevada geomorphic province of California, which is a tilted fault block nearly 400 miles long. Its east face is a high, rugged, multiple scarp, contrasting with the gentle western slope that disappears under sediments of the Great Valley. Deep river canyons are cut into the western slope. The metamorphic bedrock contains gold-bearing veins in the northwest trending Mother Lode. The northern Sierra boundary is marked where bedrock disappears under the Cenozoic volcanic cover of the Cascade Range (CDC, 2002).

The Project site is not located within or within the vicinity of any faults. The nearest faults to the Project site are a set of unnamed Pre-Quaternary (over 16,000 years ago) faults north of the Project site within and around the Town of Mariposa.

The U.S. Department of Agriculture National Resource Conservation Service Web Soil Survey found one dominant soil type within the Project site and four more within the Project vicinity. These soil types are detailed below.

Ahwahnee sandy loam, 2 to 75 percent slopes. This soil is a moderately deep, well-drained soil formed in material weathered from granite rocks. This soil has a low corrosion potential and is not considered to be hydric. Two subcategories of this soil are found within the Project vicinity, but only one subcategory is found within the Project site.

Rock land. This land is unweathered bedrock found within the Project vicinity but not within the Project site. It is considered to have very slow infiltration rate and to not be considered to be hydric.

Auberry sandy loam, 5 to 75 percent slopes. This soil is a deep, well-drained soil formed in material weathered from intrusive, acid igneous rocks. This soil has a moderate corrosion potential and is not considered to be hydric. This soil is found within the Project vicinity but not within the Project site.

Inland Water Areas sandy loam. These soils are deep and moderately deep, moderately well to well-drained soils with moderately coarse textures. These soils are all considered to be hydric. These soils are found within the Project vicinity but not within the Project site.

4.6.2 Discussion

- a) **Less-than-Significant Impact.** According to the USGS Earthquake Hazards Program (2014), there are no active faults in the vicinity of the Project site. According to the Department of Conservation, the Project site is not located within or within the vicinity of a delineated Alquist-Priolo Earthquake Fault Zone. The nearest earthquake fault zones to the Project are the Mammoth Mountain zone to the northeast and the San Luis Dam zone to the southwest (CDC, 2015).

Liquefaction of granular soils can be caused by strong vibratory motion due to earthquakes. Soils that are highly susceptible to liquefaction are medium to fine-grained, loose, granular and saturated at depths of less than 50 feet below the ground surface. Liquefaction of soils causes surface distress, loss of capacity, and settlement of structures that are founded on the soils. The Project is located on Ahwahnee, Auberry, and Rock land, which have sandy loam, sandy loam, and unweathered bedrock textures, respectively. The probability of soil liquefaction actually taking place on the Project site is considered to be low to moderate.

The seismic hazard most likely to impact the Project site is ground shaking and landslide. The Project site includes the gently sloping banks of Mariposa Creek. Strong seismic ground shaking could contribute to the potential landslide activities within the Project site, but this is unlikely because there are no known active faults within the vicinity. According to the CDC, the Project site is not located within or within the vicinity of a delineated liquefaction and landslide zone. The nearest delineated liquefaction and landslide zone to the Project site is the Woodward Island zone to the northwest. The Project is a bridge replacement and would not expose additional people or structures to substantial adverse effects. The new bridge would comply with the 2016 California Building Code, which would minimize the potential effects of ground shaking. This impact is considered less than significant.

- b) **Less-than-Significant Impact.** The Project involves removing the existing bridge and constructing a new bridge. Construction activities would involve earth moving activities. Construction of abutment areas is anticipated to occur when the water level in the Creek is at its lowest. However, if water is present during construction, the work area would be dewatered through a Creek diversion, which would help minimize transport of sediments during

construction. The Project site covers a relatively small area and would not result in substantial loss of topsoil. Project operations would not result in a significant increase in the potential for soil erosion over existing conditions. With adherence to the California Building Code and County Grading Ordinance (Ordinance 1025, Amended, 02/21/2006), potential erosion impacts from construction activities would be less than significant.

- c) **Less-than-Significant Impact.** The entire Project site is mapped within grandiorite, tonalite, quartz, monzonite, and granite dating to the Mesozoic-era (65.5 to 245 million years ago). The Project site does not have loose sandy soil or a shallow water table, nor does it contain soils that would be susceptible to lateral spreading, liquefaction, or collapse. The banks of Mariposa Creek are gently sloping and contain vegetation. The potential for landslides along the banks of Mariposa Creek within the Project site is low. With adherence to all applicable codes and regulations, including the 2016 California Building Code, the Project's impacts associated with on-or off-site landslide would be minimized. The impact is considered to be less than significant.
- d) **Less-than-Significant Impact.** Expansive soils are those possessing clay particles that react to moisture changes by shrinking (when dry) or swelling (when wet). The extent of shrinking and swelling is influenced by the environment, including the extent of wet or dry cycles, and by the amount of clay in the soil. This physical change in the soils can react unfavorably with building foundations, concrete walkways, swimming pools, roadways, and masonry walls. The Project site consists of sandy loam soils which do not have a high shrink-swell potential. The Project would replace the existing Buckeye Road Bridge, and would not expose life or properties to adverse effects associated with expansive soil.
- e) **No Impact.** The Project does not involve the connection to sewer systems or septic tanks as part of the Project.

4.7 Greenhouse Gas Emissions

<i>Issues (and Supporting Information Sources)</i>	<i>Potentially Significant Impact</i>	<i>Less Than Significant with Mitigation Incorporated</i>	<i>Less Than Significant Impact</i>	<i>No Impact</i>
Greenhouse Gas Emissions –Would the project:				
a) Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b) Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

4.7.1 Setting

California’s primary legislation for reducing greenhouse gas emission is the California Global Warming Solutions Act (Assembly Bill (AB) 32). The County has not adopted a Climate Action Plan at the publish date of this environmental document.

4.7.2 Discussion

a,b) **Less-than-Significant Impact.** The purpose of the Project is to replace the existing structurally deficient Buckeye Road Bridge over Mariposa Creek to provide safe access for vehicles and meet current design standards. Consequently, the proposed construction Project is considered small, short-term in nature, and would not generate substantial air quality (including greenhouse gas emission) pollutant concentrations as discussed under the Air Quality section. As the Project would not include additional through lanes, the Project would not increase roadway facilities or service capabilities that would induce unplanned growth or remove an existing obstacle to growth. The Project would not increase long-term traffic levels and there would be no operational impacts associated with greenhouse gas emissions.

4.8 Hazards and Hazardous Materials

<i>Issues (and Supporting Information Sources)</i>	<i>Potentially Significant Impact</i>	<i>Less Than Significant with Mitigation Incorporated</i>	<i>Less Than Significant Impact</i>	<i>No Impact</i>
Hazards and Hazardous Materials –Would the project:				
a) Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b) Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c) Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d) Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard for people residing or working in the project area?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
f) For a project within the vicinity of a private airstrip, would the project result in a safety hazard for people residing or working in the project area?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
g) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
h) Expose people or structures to a significant risk of loss, injury or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

4.8.1 Setting

An Initial Site Assessment (ISA) was prepared on behalf of Mariposa County. The ISA was performed in general conformance with the scope and limitations of ASTM Practice E 1527-05. The ISA identifies recognized environmental conditions (RECs) for the Project site that may adversely affect roadway and/or bridge construction or right-of-way acquisition. RECs are defined by the ASTM Practice E 1527-05 as: "the presence or likely presence of any hazardous substances or petroleum products in, on, or at a property: (1) due to any release to the environment; (2) under conditions indicative of a release to the environment; or (3) under conditions that pose a material threat of a future release to the environment. A database report was obtained from Environmental Database Resources, Inc. consisting of information

compiled from various government records, such as Geotracker, National Priorities List, and EnviroStor, for information regarding the Project site. Based on the results of the records review, no potential RECs have been found in the Project site.

An ISA does not test for asbestos or lead-based paint within the Project site. The Occupational Safety & Health Administration (OSHA) requires that all thermal systems insulation, surfacing materials, and resilient flooring materials installed prior to 1981 be considered presumed asbestos containing materials (ACM) and treated accordingly. Potential ACMs were not observed on the Project site. Bridges built prior to 1981 sometimes have ACMs within their rail shim sheet packing, bearing pads, support piers, and/or expansion joint materials. Structures constructed prior to 1978 are presumed to contain lead-based paint (LBP) unless proven otherwise, although structures constructed after 1978 may also contain LBP. Analysis and mitigation measures regarding ACMs and LBP are discussed in more detail below.

4.8.2 Discussion

- a) **Less-than-Significant Impact.** Construction of the Project would potentially require the use of various types and quantities of hazardous materials. Hazardous materials that are typically used during construction include, but are not limited to, hydraulic oil, diesel fuel, grease, lubricants, solvents, and adhesives. Although equipment used during construction activities could contain various hazardous materials, these materials would be used in accordance with the manufacturers' specifications and all applicable regulations. Operation of the Project would not involve the routine storage or use of hazardous materials.
- b) **Less-than-Significant Impact with Mitigation.** As stated above, the Project has the potential to use a variety of hazardous materials. Avoidance, minimization, and/or mitigation measures are proposed as part of the Project for potential asbestos, LBP, and aerially-deposited lead (ADL) that may be present at the Project site.

Asbestos: New uses of ACM were banned by the EPA in 1989, so new ACMs would not be used in construction of the replacement bridge. Standard mitigation measures regarding what to do if ACMs are encountered are detailed below. The Caltrans Historic Bridge Inventory indicates that the Buckeye Road Bridge at Mariposa Creek was built in 1947.

Naturally Occurring Asbestos (NOA): Earthen material containing NOA equal to or greater than 1 percent is considered a hazardous waste (ARB, 2006). During construction, any existing hazardous soils that may be encountered would pose a hazard for construction workers and the environment. According to the General Location Guide for Ultramafic Rocks, areas that have the potential to contain NOA are not within the vicinity of the Project site.

LBP: During construction, building materials associated with the bridge, thermoplastic, or pavement striping yellow paint would be abated by a California-licensed abatement contractor and disposed of as a hazardous waste.

ADL: Lead was used as a gasoline additive prior to 1987. Therefore, ADL is commonly present adjacent to heavily traveled roadways in service prior to 1987.

During construction, any existing hazardous materials that may be encountered would pose a hazard for construction workers and the environment. Construction workers typically are at the greatest risk for exposure to contaminated soil. Accidents or spills during transport of hazardous

materials or wastes could have the potential to expose the public and the environment to these substances.

Implementation of **Mitigation Measure HAZ-1** and **Mitigation Measure HAZ-2** would be required to ensure there would not be a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment and reduce the impact to a less-than-significant level.

- c) **No Impact.** The Project site is not located within 0.25 miles of a school. The Project site is located approximately 4.5 miles south of Mariposa County High School and Mariposa County Elementary School, the nearest schools to the Project site.
- d) **Less-than-Significant Impact with Mitigation.** An ISA prepared for the Project included an extensive database records search for the Project site and properties within a one-mile radius of the Project site. The ISA concluded that the Project site was not identified in any of the databases searched. No site within the search radius was identified to have any recognized environmental conditions that may result in a significant hazard to the public or the environment. However, as discussed in (b), avoidance, minimization, and/or mitigation measures are proposed as part of the Project for potential ACMs and NOA that may be present at the Project site.

Implementation of **Mitigation Measure HAZ-1** and **Mitigation Measure HAZ-2** would ensure there would not be a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment and reduce the impact to a less-than-significant level.

- e) **No Impact.** The nearest airport to the Project site is the Mariposa-Yosemite Airport located approximately 7.5 miles northwest of the Project site. Mariposa-Yosemite Airport is a County-owned public-use facility located northwest of the Town of Mariposa. The Project site is not located within an adopted airport land use plan.
- f) **No Impact.** The nearest private airstrip to the Project site is the Grupe Ranch Airport located approximately 8.2 miles southeast of the Project site. Grupe Ranch Airport is a private use airport located approximately 7.5 miles west of Ahwahnee, California.
- g) **Less-than-Significant Impact with Mitigation.** The Project would require removal of the existing bridge and construction of a new bridge. Buckeye Road would be closed during construction of the Project. Traffic would be detoured to surrounding streets including Old Highway, Morman Bar Crossing, and Ben Hur Road. During construction, the Project could temporarily interfere with emergency access or response in the vicinity of the Project site. With implementation of **Mitigation Measure PUB-1**, discussed later in the document in the Public Services section, this impact would be less than significant.
- h) **Less-than-Significant Impact.** The area surrounding the Project site contains private residential and commercial buildings that are susceptible to fire damage. The Project is a bridge replacement that would not expose additional people or structures to the threat of fire.

4.8.3 Mitigation Measures

Mitigation Measure HAZ-1: *Development of a Health and Safety Plan (HASP).* A HASP shall be developed for the Project. The HASP shall describe appropriate procedures to follow in the event that any contaminated soil or groundwater is encountered during construction activities. Any unknown substances shall be tested, handled, and disposed of in accordance with appropriate federal, state, and local regulations.

Mitigation Measure HAZ-2: *Asbestos and Lead Containing Materials.* A California-licensed abatement contractor will conduct a survey for lead containing materials prior to demolition (including concrete elements) and contractor would submit a National Emission Standard for Hazardous Air Pollutants (NESHAP) notification. Per Section 14-9.02 of the asbestos NESHAP regulation, all “demolition activity” requires written notification even if there is no asbestos present. This notification will be typewritten and postmarked or delivered no later than ten days prior to the beginning of the asbestos demolition or removal activity.

If lead containing materials are found, the following would be required:

- Building materials associated with paint on structures and paint on utilities will be abated by a California-licensed abatement contractor and disposed of as a hazardous waste in compliance with Standard Special Provision (SSP) 14-11.13 and other federal and state regulations for hazardous waste.
- A Lead Compliance Plan will be prepared by the contractor for the disposal of LBP. The grindings (which consist of the roadway material and the yellow and white color traffic stripes) shall be removed and disposed of in accordance with SSP 36-4 (Residue Containing High Lead Concentration Paints). In addition, the Lead Compliance Plan will also contain the following provision to address ADL: SSP 7-1.02K (6)(j)(iii) – Earth Material Containing Lead.
- A California-licensed lead contractor will be required to perform all work that will disturb any LBP as a result of planned or unplanned renovations in the Project site, including the presence of yellow traffic striping and pavement markings that may contain LBP. All such material must be removed and disposed of as a hazardous material in compliance with SSP 14-11.12.

Mitigation Measure PUB-1: *Construction Period Emergency Management Plan.* Please see the Public Services section of this document for more information on this mitigation measure.

4.9 Hydrology and Water Quality

<i>Issues (and Supporting Information Sources)</i>	<i>Potentially Significant Impact</i>	<i>Less Than Significant with Mitigation Incorporated</i>	<i>Less Than Significant Impact</i>	<i>No Impact</i>
Hydrology and Water Quality – Would the project:				
a) Violate any water quality standards or waste discharge requirements?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b) Substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level (e.g., the production rate of pre-existing nearby wells would drop to a level which would not support existing land uses or planned uses for which permits have been granted)?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c) Substantially alter the existing drainage pattern of a site or area through the alteration of the course of a stream or river, or by other means, in a manner that would result in substantial erosion or siltation on- or off-site?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
d) Substantially alter the existing drainage pattern of a site or area through the alteration of the course of a stream or river, or by other means, substantially increase the rate or amount of surface runoff in a manner that would result in flooding on- or off-site?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
e) Create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
f) Otherwise substantially degrade water quality?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
g) Place housing within a 100-year flood hazard area as mapped on a federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood hazard delineation map?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
h) Place within a 100-year flood hazard area structures that would impede or redirect flood flows?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
i) Expose people or structures to a significant risk of loss, injury or death involving flooding, including flooding as a result of the failure of a levee or dam?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
j) Expose people or structures to a significant risk of loss, injury or death involving inundation by seiche, tsunami, or mudflow?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

4.9.1 Setting

Mariposa Creek belongs to the Middle San Joaquin-Lower Chowchilla watershed (Hydrologic Unit Code 18040001) within the San Joaquin River Basin. The San Joaquin River Basin covers 15,880 square miles

and includes the entire area drained by the San Joaquin River. It includes all watersheds tributary to the San Joaquin River and the Delta south of the Sacramento River and south of the American River watershed. The Middle San Joaquin-Lower Chowchilla watershed covers approximately 3,525 square miles (2,256,100 acres or 9,130 square kilometers) and includes Stanislaus, Fresno, Madera, Mariposa, Merced, and San Benito Counties.

The principal streams in the basin are the San Joaquin River and its larger tributaries: the Cosumnes, Mokelumne, Calaveras, Stanislaus, Tuolumne, Merced, Chowchilla, and Fresno rivers. Major reservoirs and lakes include Pardee, New Hogan, Millerton, McClure, Don Pedro, and New Melones.

Mariposa Creek is a perennial stream which flows in a south to southwest direction, beginning approximately 11 miles north of the Project site, before draining into the sloughs and wetlands of the San Joaquin River, south of the City of Merced. It is approximately 70 miles long and drains an area of approximately 139 square miles (361 square kilometers). Based on a review of historical aerial photographs on Google Earth, it appears the Creek carries water year-round. In addition, it is mapped as an upper perennial stream on the National Wetlands Inventory Mapper and as a perennial channel on Mariposa CA USGS 7.5-minute Quadrangle.

Mariposa Creek is located within the Yosemite Valley groundwater basin. The majority of the County's groundwater supplies originate from hard rock wells in the plutonic granites of the Sierra Nevada. The County's groundwater flow is governed by the granitic terrain of the overall landscape. The overlying soil mantle thereby acts as a filtration and containment system, facilitating percolation and subsequent recharge in the fissure crack system, and serving as a temporary water reservoir. Specific granitic groundwater basins in the Region, however, have not been studied in depth.

Observations recorded from well drilling and hydrogeologists provide valuable insights into the average characteristics of Sierra hard rock wells found in the Region as follows.

- Wells have a mean depth of 115-feet, with an average pump depth between 50- to 100-feet.
- The average estimated yield is 3 to 5 gallons per minute (gpm) and most wells serve between two to three people. However, domestic well drilling is usually stopped when 5 to 10 gpm are obtained. It is possible that larger yields, greater than 50 gpm, could be obtained in some locations.
- Geologic observations indicate a rapid decrease in rock permeability and therefore water production with depth. As a result, domestic wells are preferably less than 150- to 250-feet deep; however, the optimum depth of water wells in crystalline rocks is largely determined by economic factors.
- In the absence of geological and geophysical guidance, drilling in crystalline rocks can encounter highly variable amounts of water. In unweathered rock, 5 to 15 percent of wells are failures and roughly 10 percent would have yields of 50 gpm or more.

Metamorphic formations found in the region can also contain useable groundwater resources and show high hydrologic versatility. Highly fractured zones in the Sierra foothills are known to carry large amounts of water. The permeability of these rocks is a result of its joints, faults, and bedding plane partings. Highest well yields tend to occur in or near broad ravines as a result of associated joint systems and fault zones.

Groundwater is used in the Yosemite Valley, Wawona, and El Portal areas for domestic water supplies and for park visitors within the National Park. Existing uses indicate that the groundwater resources of the County's mountainous areas have the potential to provide high quality drinking water for residential customers. There are some areas within the region that contain some water quality challenges. Groundwater resources, for example, in some parts of the Catheys Valley planning area have been found to contain elevated levels of nitrates in the upper 50- to 100-feet of the water bearing unit, which has been attributed to historic turkey ranches.

The County will ensure that the Project contractor complies with the requirements of a NPDES permit from the RWQCB, Central Valley Region. As part of the permit, the contractor would be required to prepare and implement a Stormwater Pollution Prevention Plan (SWPPP) into their construction plans, prior to initiating construction activities, identifying best management practices (BMPs) to be used to avoid or minimize any adverse effects before, during, and after construction to surface waters. The following BMPs will be incorporated into the Project as part of the construction specifications:

- Implement appropriate measures to prevent debris, soil, rock, or other material from entering the water. Use a water truck or other appropriate measures to control dust on applicable access roads, construction areas, and stockpiles.
- Properly dispose of oil or other liquids.
- Fuel and maintain vehicles in a specified area that is designed to capture spills. All fueling and maintenance of vehicles and other equipment (including staging areas), will be located at least 66 feet (20 meters) from Mariposa Creek and any other drainages on site.
- Do not store fuels and hazardous materials on site.
- Inspect and maintain vehicles and equipment to prevent the dripping of oil or other fluids.
- Schedule construction to avoid the rainy season as much as possible. Ground disturbance activities are expected to begin in the spring/summer of 2019. If rains are forecasted during construction, additional erosion and sedimentation control measures would be implemented.
- Maintain sediment and erosion control measures during construction. Inspect the control measures before, during, and after a rain event.
- Train construction workers in stormwater pollution prevention practices.
- Revegetate disturbed areas in a timely manner to control erosion.

4.9.2 Discussion

- a, f) **Less-than-Significant with Mitigation.** Construction of the entire Project is anticipated to take approximately six months, with stream diversion work scheduled during the dry season between June 15 and October 31 when water temperatures are warmer and water levels are lower. The Project is subject to Construction General Permit (Order No. 2009-0009-DWQ [as amended by Order No. 2010-0014-DWQ and 2012-006-DWQ]) requirements, which requires preparation and implementation of a SWPPP. The Project would comply with the NPDES Construction General Permit including preparing and implementing a SWPPP that identifies Project specific BMPs to protect water quality during Project construction. Through implementation of these measures, impacts to water quality would be reduced to less than significant.
- b) **Less-than-Significant Impact.** The Project site is not actively used for groundwater recharge. The Project is similar in size and scale as the existing bridge and roadway approaches. The Project would not construct a significant amount of new impervious surfaces that would

impede surface water drainage into the soil. No wells would be constructed; and construction activities would not intercept or alter groundwater recharge, discharge, or flow conditions.

- c-e) **Less-than-Significant Impact.** The Project would not alter the course of Mariposa Creek nor would it alter the existing drainage pattern of the site. The Project is designed to replace the existing bridge structure with one that is similar in size and along a similar alignment. In addition, the bridge would be designed to divert the flow of stormwater off the bridge and onto the surrounding area rather than directly into Mariposa Creek. The drainage of the site is not expected to result in substantial on- or off-site siltation or erosion.

The Project would not substantially increase the amount or rate of surface runoff such that on- or off-site flooding would occur nor would it create any additional features or change the surrounding land uses in such a way that would exceed the existing or planned storm water drainage systems or provide substantial additional sources of polluted runoff.

- g-j) **Less-than-Significant Impact.** Although Mariposa Creek is mapped by the Federal Emergency Management Agency (FEMA) as a 100-year flood hazard zone, the Project would not construct housing or other structures that would result in the exposure of people or structures to 100-year flood hazards nor would it place any structures that would redirect or impede flood flows.

The Project is not located within a dam or levee failure inundation zone; therefore, the Project would not expose people or structures to a significant risk of loss, injury, or death involving flooding, including flooding as a result of the failure of a levee or dam.

The Project site is not located near any tidally influenced water bodies nor is it near any large bodies of water that could be affected by a tsunami or seiche. Additionally, the Project site is a bridge replacement and would not require any modification to nearby slopes limiting the possibility of a mudflow hazard to the Project site.

4.10 Land Use and Land Use Planning

<i>Issues (and Supporting Information Sources)</i>	<i>Potentially Significant Impact</i>	<i>Less Than Significant with Mitigation Incorporated</i>	<i>Less Than Significant Impact</i>	<i>No Impact</i>
Land Use and Land Use Planning – Would the project:				
a) Physically divide an established community?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b) Conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project (including, but not limited to the general plan, specific plan, local coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c) Conflict with any applicable habitat conservation plan or natural community conservation plan?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

4.10.1 Setting

The Project is within the boundary of the General Plan. The land within and adjacent to the Project site is zoned as mountain home by the Mariposa County Zoning Code (Zoning Code). The land within and adjacent to the Project site is designated as (rural) residential by the General Plan. The Project is outside of the boundary of the Mariposa Town Planning Area (TPA) Specific Plan jurisdiction and the jurisdiction of any other specific or master plan. There are no existing land uses other than residential ownership within or immediately adjacent to the Project site.

4.10.2 Discussion

- a) **Less-than-Significant Impact.** The Project would consist of the replacement of an existing bridge structure. The Project would not divide an established community.
- b) **Less-than-Significant Impact.** The new bridge would not interfere with the activity associated with the surrounding (rural) residential land uses. The Project does not propose any new land uses for the Project site and would result in operational activities similar to existing conditions. Additionally, the Project would not result in any land use conflicts. The Project would not conflict with any applicable land use plan, policy, or regulations.
- c) **Less-than-Significant Impact with Mitigation.** The Project would occur within the Solano Multi-species HCP area and the Project has a potential to impact HCP-covered species. The Project would result in 0.02 acres of permanent impacts to potential CRLF habitats. The Project would occur over an elevation of 500-feet and would therefore would not be potential Valley Elderberry Longhorn Beetle habitat. For CRLF and Swainson’s hawk, the draft HCP was reviewed for consistency with the avoidance and minimization measures proposed for the Project. With implementation of **Mitigation Measure BIO-3, Mitigation Measure BIO-5a, and Mitigation Measure BIO-5b** impacts would be less than significant.

4.10.3 Mitigation Measures

Mitigation Measure BIO-3: Foothill Yellow-Legged Frog and California Red-Legged Frog. Please see the Biological Resources section of this document for information about this mitigation measure.

Mitigation Measure BIO-5a. *Tree and Structure-Nesting Migratory Birds.* Please see the Biological Resources section of this document for information about this mitigation measure.

Mitigation Measure BIO-5b. *Bridge-Nesting Migratory Birds.* Please see the Biological Resources section of this document for information about this mitigation measure.

4.11 Mineral Resources

<i>Issues (and Supporting Information Sources)</i>	<i>Potentially Significant Impact</i>	<i>Less Than Significant with Mitigation Incorporated</i>	<i>Less Than Significant Impact</i>	<i>No Impact</i>
Mineral Resources – Would the project:				
a) Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b) Result in the loss of availability of a locally important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

4.11.1 Setting

The California Surface Mining and Reclamation Act (SMARA) was enacted by the California legislature to regulate activities related to mineral resource extraction. The act requires the prevention of adverse environmental effects caused by mining, the reclamation of mined lands for alternative land uses, and the elimination of public health and safety hazards from the effects of mining activities. The California Geological Survey (formerly California Division of Mines and Geology) classifies the regional significance of mineral resources in accordance with SMARA. Mineral Resource Zones (MRZs) have been designated to indicate the significance of mineral deposits. A classification of MRZ-1 signifies an area where adequate information indicates that no significant mineral deposits are present, or where it is judged that little likelihood exists for their presence; MRZ-2 signifies an area where adequate information indicates that significant mineral deposits are present, or where it is judged that a high likelihood for their presence exists; and MRZ-3 signifies an area where the significance of mineral deposits cannot be evaluated from existing data. These designations are intended to preserve known mineral resources for future mining, and to prevent encroachment of urban development that would compromise the resource's value.

There are no mines or quarries within the Project vicinity. The nearest mine or quarry to the Project site is the Mariposa-Yosemite Flagstone Company located at 5027 Agua Fria Road, Mariposa, located west of the Town of Mariposa and 5 miles northwest of the site.

4.11.2 Discussion

- a) **No Impact.** The Project is a bridge replacement Project that would remove the existing bridge and construct a new bridge at existing location. Construction activities would be temporary and operation of the Project would not conflict with or limit access to mineral resources.
- b) **No Impact.** The proposed area is located in a rural area and surrounded by rural residential developments and forested woodland. The Project is not located near a mineral resource recovery site delineated on any local general plan, specific plan, or other land use plan and is outside of the vicinity of any active mines or quarries.

4.12 Noise

<i>Issues (and Supporting Information Sources)</i>	<i>Potentially Significant Impact</i>	<i>Less Than Significant with Mitigation Incorporated</i>	<i>Less Than Significant Impact</i>	<i>No Impact</i>
Noise – Would the project:				
a) Result in exposure of persons to, or generation of, noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b) Result in exposure of persons to, or generation of, excessive groundborne vibration or groundborne noise levels?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c) Result in a substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d) Result in a substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
e) For a project located within an airport land use plan area, or, where such a plan has not been adopted, in an area within two miles of a public airport or public use airport, would the project expose people residing or working in the area to excessive noise levels?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
f) For a project located in the vicinity of a private airstrip, would the project expose people residing or working in the project area to excessive noise levels?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

4.12.1 Setting

Noise is defined as unwanted sound, and thus is a subjective reaction to characteristics of a physical phenomenon. A frequency weighting measure that simulates human perception is commonly used to describe noise environments and to assess impacts on noise-sensitive areas. It has been found that A-weighting of sound levels best reflects the human ear's reduced sensitivity to low frequencies and correlates well with human perceptions of the annoying aspects of noise. The A-weighted decibel (dBA) scale is cited in most noise criteria. The decibel (dB) notation used for sound levels describes a logarithmic relationship of acoustical energy; for example, a doubling of acoustical energy results in an increase of three dB, which is considered barely perceptible. A ten-fold increase in acoustical energy equals a ten dB change, which is subjectively like a doubling of loudness. **Table 6**, Typical Noise Levels, identifies decibel levels for common sounds heard in the environment.

Table 6. Typical Noise Levels

Common Outdoor Activity	Noise Level (dBA)	Common Indoor Activity
Jet flyover at 1,000 feet	110	Rock band
Gas lawnmower at three feet	100	

Diesel truck at 50 feet at 50 mph	90	Food blender at three feet
Noisy urban area, daytime	80	Garbage disposal at three feet
Gas lawnmower, 100 feet Commercial area	70	Vacuum cleaner at ten feet Normal speech at three feet
Heavy traffic at 300 feet	60	Large business office
Quiet urban daytime	50	Dishwasher next room
Quiet urban nighttime Quiet suburban nighttime	40	Theater, large conference room (background)
Quiet rural nighttime	30	Library Bedroom at night, concert hall (background)
	20	Broadcast/recording studio
	10	
Lowest threshold of human hearing	0	Lowest threshold of human hearing

Source: Caltrans, 2013

Several time-averaged scales represent noise environments and consequences of human activities. The most commonly used noise descriptors are equivalent A-weighted sound level over a given time period (Leq); average day-night 24 hour average sound level with a nighttime increase of ten dBA to account for sensitivity to noise during the nighttime; and community noise equivalent level (CNEL), also a 24-hour average that includes both an evening and a nighttime weighting. Noise levels are generally considered low when ambient levels are below 45 dBA, moderate in the 45 to 60 dBA range, and high above 60 dBA. Although people often accept the higher levels associated with very noisy urban residential and residential-commercial zones, they nevertheless are considered to be adverse levels of noise with respect to public health because of sleep interference.

Land use within and adjacent to the Project corridor consists of (rural) residential developments and forested woodland. During construction of the Project, noise from construction activities may intermittently dominate the noise environment in the immediate area of construction. Noise from construction activities generally attenuates at a rate of 6 dBA per doubling distance.

Sensitive receptors that could be affected by noise from the Project would be residences located on the eastern side of the bridge, approximately 550-feet from the Project site, and on the west side of the bridge, located approximately 650-feet from the Project site.

4.12.2 Discussion

- a) **Less-than-Significant Impact with Mitigation.** Construction activity noise levels at and near the Project construction areas would fluctuate depending on the particular type, number, and duration of uses of various pieces of construction equipment. Construction-related material haul trips would raise ambient noise levels along haul routes, depending on the number of haul trips made and types of vehicles used. Table 3 shows typical noise levels during different construction stages. Table 4 shows typical noise levels produced by various types of construction equipment. Noise at the construction site would be intermittent and its intensity would vary. The degree of construction noise impacts may vary for different areas of the Project study area and also vary depending on the construction activities.

Roadway and/or bridge construction is accomplished in several different phases. General construction phases for typical roadway/highway projects and their estimated overall noise levels are summarized in **Table 7**.

Table 7. Typical Construction Phases and Noise Levels

Construction Phase	Noise Level (dBA, Leq)
Ground clearing	84
Excavation	88/78
Foundations	88
Erection	79/78
Finishing	84

Source: U.S. EPA, 1971.

During construction of the Project, noise from construction activities may intermittently dominate the noise environment in the immediate area of construction and some of the sensitive receptors surrounding the Project study area may be temporarily affected.

Table 7 summarizes noise levels produced by construction equipment that is commonly used on bridge replacement projects and is representative of the equipment necessary for Project construction. Construction equipment is expected to generate noise levels ranging from 80 to 90 dB at a distance of 50-feet and noise produced by construction equipment would be reduced over distance at a rate of about 6 dB per doubling of distance.

Table 8. Typical Construction Equipment Noise Levels

Construction Equipment	Noise Level (dBA, Leq at 50 feet)
Scrapers	85
Bulldozers	85
Heavy trucks	85
Pneumatic tools	85
Concrete pump	82
Backhoe	80

Source: HMM&H, 2013

During construction of the Project, noise from construction activities may intermittently dominate the noise environment in the immediate area of construction. There are residences located on either side of the bridge, which may be considered more sensitive to Project-related construction noise. The nearest residence on the western side of the bridge is located approximately 650-feet from the Project site, and the residence on the eastern side of the bridge is located approximately 550-feet from the Project site. Noise generated by demolition, grading, and finishing activities associated with short-term construction of the Project would not result in a significant increase in noise at these properties due to their distance from the Project site. The nearest property along the eastern side of the bridge would experience a maximum noise level of less than 65 dBA and be in accordance with applicable noise standards.

Implementation of **Mitigation Measure NO-1** would ensure that impacts remain less than significant.

- b) **Less-than-Significant Impact within Mitigation.** Equipment associated with high vibration levels (pile drivers) would not be used for the Project. There are several different methods that are used to quantify vibration. The threshold of perception for humans is around 65 VdB, and human response to vibration is not usually significant unless the vibration exceeds 70 VdB. Rapid transit or light rail systems typically generate vibration levels of 70 VdB or more near their tracks. On the other hand, buses and trucks rarely create vibration that exceeds 70 VdB unless there are bumps in the road.

Construction of the Project would use bulldozers and other heavy tracked construction equipment, which may generate a groundborne vibration level of 93 VdB at 50-feet from source. The majority of construction noise would be from clearing of the Project work site along with the placement of the new bridge abutments and structure. Project equipment would not be closely located to the residential property on the either side of the bridge and therefore would not significantly impact the residences with groundborne vibration.

Implementation of **Mitigation Measure NO-1** would ensure that impacts remain less than significant.

- c) **No Impact.** The Project would have no long-term effects on noise levels. Noise levels would return to levels similar to the existing noise environment upon completion of the Project.
- d) **Less-than-Significant Impact with Mitigation.** During construction, the Project would temporarily increase ambient noise levels in the Project vicinity. See the discussion regarding construction noise under (a) and (b) above. This impact would be less than significant with implementation of **Mitigation Measure NO-1**.
- e) **No Impact.** There are no airports within two miles of the Project. The nearest airport to the Project site is the Mariposa-Yosemite Airport located approximately 7.5 miles northwest of the Project site. There would be no impact from airports upon people residing or working in the vicinity of the Project.
- f) **No Impact.** There are no private airstrips within two miles of the Project. The nearest private airstrip to the Project site is the Grupe Ranch Airport located approximately 8.2 miles southeast of the Project site. There would be no impact from airstrips upon people residing or working in the vicinity of the Project.

4.12.3 Mitigation Measures

Mitigation Measure NO-1: *Elevated Noise Levels during Construction.* Construction operations shall adhere to County standards and be limited to Monday through Friday, 7:00 AM to 7:00 PM. The following control measures shall be implemented in order to minimize noise and vibration disturbances at sensitive receptors during periods of construction:

- Use newer equipment with improved muffling and ensure that all equipment items have the manufacturers' recommended noise abatement measures, such as mufflers, engine enclosures,

and engine vibration isolators, intact and operational. Newer equipment would generally be quieter in operation than older equipment. All construction equipment should be inspected at periodic intervals to ensure proper maintenance and presence of noise control devices (e.g., mufflers and shrouding, etc.).

- Utilize construction methods or equipment that will provide the lowest level of noise and ground vibration impact such as alternative low noise pile installation methods.
- Turn off idling equipment.
- Use and relocate temporary noise barriers, as needed, to protect sensitive receptors against excessive noise from construction activities. Noise barriers can be made of heavy plywood or moveable insulated sound blankets.

The following administrative measures shall be implemented in order to minimize noise and vibration disturbances at sensitive receptors during periods of construction:

- Implement a construction noise and vibration-monitoring program to limit the impacts.
- Plan noisier operations during times (Monday through Friday, 7:00 AM to 5:00 PM) of least sensitivity to receptors.
- Keep noise levels relatively uniform and avoid impulsive noises.
- Maintain good public relations with the community to minimize objections to the unavoidable construction impacts. Provide frequent activity update of all construction activities.

4.13 Population and Housing

<i>Issues (and Supporting Information Sources)</i>	<i>Potentially Significant Impact</i>	<i>Less Than Significant with Mitigation Incorporated</i>	<i>Less Than Significant Impact</i>	<i>No Impact</i>
Population and Housing – Would the project:				
a) Induce substantial population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b) Displace substantial numbers of existing housing units, necessitating the construction of replacement housing elsewhere?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) Displace substantial numbers of people, necessitating the construction of replacement housing elsewhere?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

4.13.1 Setting

According to the 2010 Census and the 2010 American Community Survey, Mariposa County has a population of 18,251 individuals and a total of 10,188 housing units. The Project site is located within census tract 1.02, which has a population of 2,719 individuals and a total of 1,356 housing units.

4.13.2 Discussion

- a) **Less-than-Significant Impact.** The Project would provide temporary employment for several people for construction and demolition activities. The Project would not result in the permanent creation of new jobs that would induce substantial population growth. Additionally, the road would remain a two-lane road and would not increase capacity or encourage population growth within the surrounding communities adjacent to the Project site.
- b) **No Impact.** The Project would be constructed in place of an existing bridge and would not displace any housing. Consequently, replacement housing would not be required.
- c) **No Impact.** The Project would be constructed in place of an existing bridge and would not displace any people. Consequently, replacement housing would not be required.

4.14 Public Services

<i>Issues (and Supporting Information Sources)</i>	<i>Potentially Significant Impact</i>	<i>Less Than Significant with Mitigation Incorporated</i>	<i>Less Than Significant Impact</i>	<i>No Impact</i>
Public Services – Would the project:				
a) Result in substantial adverse physical impacts associated with the provision of, or the need for, new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times, or other performance objectives for any of the following public services:				
i) Fire protection?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
ii) Police protection?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
iii) Schools?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
iv) Parks?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
v) Other public facilities?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

4.14.1 Setting

The Project site and vicinity is served by the County Fire Department for fire, medical, and hazardous materials emergency services and is located within a state response area. The Project is located within the service area of Mormon Bar Company #27 of the County Fire Department. The Project site and vicinity is served by the County Sheriff Department for law enforcement services. The Mariposa County Unified School District serves the Project site and vicinity. There are no parks located adjacent to the Project site or within the Project vicinity.

4.14.2 Discussion

- a) **Less-than-Significant Impact with Mitigation.** Fire service in the County is provided by the County Fire Department. The County Fire Department provides response to fire, medical, and hazardous material emergencies in the Project site. Company 27 in Mormon Bar of the County Fire Department is located on 4621 Hwy 49 South, 4.3 miles from the Project site.

Construction of the Project could result in accident or emergency incidents that would require emergency response, such as fire services; however, construction activities would be short-term and minimal. The Project is a bridge improvement project that would not create additional demands on the local fire district during operations. Rather, one of the purposes of the Project is to maintain safe fire access for forest fires.

Emergency access to the vicinity of the Project site may be temporarily inhibited during construction of the Project. Implementation of **Mitigation Measure PUB-1** would ensure that impacts to fire and medical emergency services are minimized to a less-than-significant level.

- b) **Less-than-Significant Impact with Mitigation.** The County Sheriff Department provides law enforcement services to the County. The County Sheriff Department is located on 5099 Old Hwy North, approximately 6.6 miles from the Project site.

Construction of the Project may result in accident or emergency incidents that would require police services; however, construction activities would be short-term and minimal. The Project is a bridge improvement project that would not create additional demands on the local police district during operations.

Emergency access to the vicinity of the Project site may be temporarily inhibited during construction of the Project. Implementation of **Mitigation Measure PUB-1** would ensure that impacts to law enforcement services are minimized to a less-than-significant level.

- c) **Less-than-Significant Impact.** The Project is located approximately 4.5 miles south of the Mariposa Elementary School and 4.6 miles south of the Mariposa County High School. The Project is a bridge and roadway improvement Project and would not generate any additional demand for schools. Construction of the Project would require closure of the Buckeye Road bridge for approximately six months. During construction, traffic can use nearby local streets to bypass the Project site. Local school bus routes do not currently utilize the Buckeye Road bridge and would not be impacted by the closure. After construction, vehicular, bicycle, and pedestrian access and safety of the Buckeye Road bridge would be improved.
- d) **No Impact.** The nearest park to the Project site is Mariposa Park at 4998 County Park Road, in the Town of Mariposa. This park is located approximately 3.5 miles north of the Project site and would not be impacted by either construction or operation of the new bridge.
- e) **No Impact.** The Project would have no impact on any other public services, such as the County administrative services.

4.14.3 Mitigation Measures

Mitigation Measure PUB-1: Construction Period Emergency Access Plan. Prior to the start of construction, the contractor shall coordinate with the County Sheriff and Fire departments and local public and private ambulance and paramedic providers in the area to prepare a Construction Period Emergency Access Plan. The Construction Period Emergency Access Plan shall identify phases of the Project and construction scheduling and shall identify appropriate alternative emergency access routes.

4.15 Recreation

<i>Issues (and Supporting Information Sources)</i>	<i>Potentially Significant Impact</i>	<i>Less Than Significant with Mitigation Incorporated</i>	<i>Less Than Significant Impact</i>	<i>No Impact</i>
Recreation – Would the project:				
a) Increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facilities would occur or be accelerated?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Include recreational facilities or require the construction or expansion of recreational facilities that might have an adverse physical effect on the environment?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

4.15.1 Setting

There are no parks or recreation areas located within the Project vicinity. The nearest park is the Mariposa Park at 4998 County Park Road, in the Town of Mariposa.

4.15.2 Discussion

- a) **No Impact.** The Project is a bridge replacement project; it would not contribute to an increase in the local population nor would it increase demand on existing neighborhoods. No additional regional parks would be created.
- b) **No Impact.** The proposed bridge and roadway improvements would not result in long-term physical impacts to parks. There are no parks in the vicinity of the Project site, and the nearest park is the Mariposa Park at 4998 County Park Road, in the Town of Mariposa. This park is located approximately 3.5 miles north of the Project site and would not be impacted by either construction or operation of the new bridge.

4.16 Transportation and Traffic

<i>Issues (and Supporting Information Sources)</i>	<i>Potentially Significant Impact</i>	<i>Less Than Significant with Mitigation Incorporated</i>	<i>Less Than Significant Impact</i>	<i>No Impact</i>
Transportation and Traffic – Would the project:				
a) Conflict with an applicable plan, ordinance or policy establishing measures of effectiveness for the performance of the circulation system, taking into account all modes of transportation including mass transit and non-motorized travel and relevant components of the circulation system, including but not limited to intersections, streets, highways and freeways, pedestrian and bicycle paths, and mass transit?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b) Conflict with an applicable congestion management program, including, but not limited to, level of service standards and travel demand measures, or other standards established by the City congestion management agency for designated roads or highways?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c) Result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety risks?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d) Substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
e) Result in inadequate emergency access?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
f) Conflict with adopted policies, plans, or programs regarding public transit, bicycle, or pedestrian facilities, or otherwise decrease the performance or safety of such facilities?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

4.16.1 Setting

The average daily traffic volume on Buckeye Road at the Project site is approximately 200 vehicles per day, thereby classifying it as a minor collector roadway per the County standards. Ben Hur Road, adjacent to the Project site, is classified as a major collector within the General Plan. The highest ADT recorded on Ben Hur Road is 1,383 vehicular trips per day.

4.16.2 Discussion

- a,b) **Less-than-Significant Impact with Mitigation.** The purpose of the Project is to provide adequate and safe vehicle access and provide a structure that would meet current design standards for the traffic utilizing this bridge.

Buckeye Road at the Project site would be closed during Project construction. Traffic would be detoured to surrounding streets including Old Highway, Morman Bar Crossing, and Ben Hur

Road. The construction contractor for the Project shall implement a standard traffic management plan to minimize traffic disruption and ensure adequate access is maintained to surrounding residences. However, the closure of the bridge is not expected to cause significant impacts to traffic in the area since many of the residents currently use Old Highway instead of Buckeye Road to access the nearest town of Mariposa. Thus closing Buckeye Road Bridge would not alter the current preferred route of many of the nearby residents. Traffic would be rerouted to the new structure upon Project completion.

The Project would not conflict with any plan or policy established for measuring the performance of the circulation system. Additionally, the low ADT of the existing bridge and short six month window needed to construct the bridge replacement would result in a less than significant impact to the level of service along Buckeye Road, with the implementation of **Mitigation Measure TRAF-1**.

- c) **No Impact.** The Project does not include structures or uses that would affect air traffic patterns nor is an airport located in proximity to the Project site.
- d) **Less-than-Significant Impact.** One of the primary purposes of the Project is to improve safe access to the bridge for vehicles and pedestrians. Traffic hazards would not be increased as a result of the Project.
- e) **Less-than-Significant Impact with Mitigation.** Traffic congestion and delays can occur during construction and can result in an adverse effect; however, these adverse effects can be avoided through standard construction period traffic management planning that includes timely notification of any road closures and detours to police and fire departments and other emergency service providers. Implementation of **Mitigation Measure PUB-1** would ensure that impacts to fire, medical, and law enforcement services are minimized to a less-than-significant level.
- f) **Less-than-Significant Impact.** The Project site is located in a rural area. The Project would not conflict with adopted policies, plans, or programs supporting alternative transportation.

4.16.3 Mitigation Measures

Mitigation Measure TRAF-1: *Standard Traffic Management Plan.* The construction contractor for the Project shall implement a standard traffic management plan to minimize traffic disruption and ensure adequate access is maintained to surrounding properties.

Mitigation Measure PUB-1: *Construction Period Emergency Access Plan.* See the Public Services section of this document for information about this mitigation measure.

4.17 Tribal Cultural Resources

<i>Issues (and Supporting Information Sources)</i>	<i>Potentially Significant Impact</i>	<i>Less Than Significant with Mitigation Incorporated</i>	<i>Less Than Significant Impact</i>	<i>No Impact</i>
Tribal Cultural Resources – Would the project:				
Would the project cause a substantial adverse change in the significance of a tribal cultural resource, defined in Public Resource Code section 21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe, and that is:				
a) Listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in Public Resources Code section 5020.1(k), or	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b) A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision C, of Public Resources Code Section 5024.1, the lead agency shall consider the significance of the resources to a California Native American tribe.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

4.17.1 Setting

A tribal cultural resource (TCR) is defined as a site, feature, place, cultural landscape, or sacred place or object that has cultural value to California Native American tribes. In order to be considered a TCR, the resource must be included in or determined eligible for inclusion in the CRHR or is included in a local register of historical resources. To be considered a historical resource, for the purposes of a TCR, the resource must meet the following criteria for listing in the CRHR:

- a) Is associated with the events that have made a significant contribution to the broad patterns of California’s history and cultural heritage;
- b) Is associated with the lives of persons important to our past;
- c) Embodies the distinctive characteristics of a type, period, region, or method of construction, or represents the work of an important creative individual, or possesses high artistic value; or
- d) Has yielded, or may likely to yield, important information in prehistory or history.

AB 52 went into effect on July 1, 2015, and establishes a consultation process with all California Native American Tribes on the NAHC List for federal and non-federal tribes (13.5 PRC §§ 21073, 21074, 21080.3, 21084). Once the tribe is notified of the Project, the tribe has 30 days to request consultation. The consultation process ends when either the parties agree to mitigation measures or avoid a significant effect on tribal cultural resources or a party, acting in good faith and after reasonable effect, concludes that mutual agreement cannot be reached. The County has taken the lead on AB 52 notification and consultation for the Project. As part of the effort to identify any TCRs that may be within the Project site, a Sacred Lands File search was conducted by the Native American Heritage Commission (NAHC) in June 2017 and found no known TCRs in or near the Project site. Pursuant to PRC §21080.3, formal notification and invitation to consult letters were sent on behalf of the County to the following tribes or individuals listed in Table 9 below:

Table 9. AB52 Contact List Provided by the Native American Heritage Commission

Name	Title	Affiliation
Ron Goode	Chairperson	North Fork Mono Tribe
Gary Walker	Chairperson	North Fork Rancheria of Mono
Claudia Gonzalez	Chairperson	Picayune Rancheria of Chukchansi
Lois Martin	Chairperson	Southern Sierra Miwuk Nation

4.17.2 Discussion

- a) **Less-than-Significant Impact.** A search of the NAHC’s Sacred Land File and consultation with Native American tribes did not identify any TRC or historical resources in the Project site. There is no evidence to indicate the presence of Native American TCRs in the immediate area that are listed on, or eligible for listing on, the California Register of Historical Resources or a local register of historical resources. Therefore, the Project would result in less-than-significant impact on TCRs, as defined in PRC Section 5020.1(k).

- b) **Less-than-Significant Impact with Mitigation.** Chairman Ron Goode of the North Fork Mono Tribe identified four (4) significant and important native plants in the Project area that may be impacted during construction: Western Redbud (*Cereis occidentals*); Deer Grass (*Muhlenbergia rigens*); Sedge Root (*Carex spp.*); California Wild Grape (*Vitis californica*). If willow (*Salix spp.*) is removed during construction, he requested a specific replacement of buttonwillow (*Cephalanthus occidentalis*). Implementation of **Mitigation Measure TCR 1** would reduce the impact to lead agency recognized tribal cultural resources to a less-than-significant level with mitigation.

4.17.3 Mitigation Measure

Mitigation Measure TCR-1: *Avoid or replant identified significant native plants.* Four (4) significant and important native plants are in the Project area requiring avoidance, or replanting within the replanting areas specified in the Mitigation Monitoring and Reporting Program (MMRP), for the Project. The native plants include: Western Redbud (*Cereis occidentals*); Deer Grass (*Muhlenbergia rigens*); Sedge Root (*Carex spp.*); California Wild Grape (*Vitis californica*), and buttonwillow (*Cephalanthus occidentalis*). Buttonwillow is to be replanted if any willow (*Salix spp.*) is removed from the Project area.

4.18 Utilities and Service Systems

<i>Issues (and Supporting Information Sources)</i>	<i>Potentially Significant Impact</i>	<i>Less Than Significant with Mitigation Incorporated</i>	<i>Less Than Significant Impact</i>	<i>No Impact</i>
Utilities and Service Systems – Would the project:				
a) Conflict with wastewater treatment requirements of the applicable Regional Water Quality Control Board?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Require or result in the construction of new water or wastewater treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) Require or result in the construction of new storm water drainage facilities, or expansion of existing facilities, the construction of which could cause significant environmental effects?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d) Have sufficient water supplies available to serve the project from existing entitlements and resources, or are new or expanded entitlements needed?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
e) Result in a determination by the wastewater treatment provider that would serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
f) Be served by a landfill with sufficient permitted capacity to accommodate the project's solid waste disposal needs?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
g) Comply with federal, state, and local statutes and regulations related to solid waste?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

4.18.1 Setting

Wastewater collection and potable water within most of the County is provided mainly by on-site means or small, private communal systems. The Project is not within the boundaries of the Mariposa Public Utilities District or the Lake Don Pedro Community Services District. Solid waste within the County and within the Project vicinity is serviced by the County Department of Public Works. Electrical and telecommunications services are limited throughout most of the County.

4.18.2 Discussion

- a) **No Impact.** The project would not generate wastewater.
- b) **No Impact.** The project would not require the construction of additional wastewater or water treatment facilities.

- c) **No Impact.** The Project would not require construction of new stormwater drainage facilities or expansion of existing facilities.
- d) **Less-than-Significant Impact.** The Project would consist of the demolition of an existing bridge and would not require water supply. The Project would require some non-potable water during construction for dust control.
- e) **No Impact.** The Project would not require wastewater services.
- f) **Less-than-Significant Impact.** The Project would generate waste from temporary construction activities and demolition of the Buckeye Road Bridge. Solid waste associated with construction activities would be handled by the Mariposa Landfill, Composting, and Recycling Center located at 5593 Highway 49 North, Mariposa. The Mariposa Landfill, Composting, and Recycling Center has the capacity to accept waste generated by the Project. The Project would not result in long-term demands for solid waste disposal services.
- g) **Less-than-Significant Impact.** The Project would comply with all federal, state, and local statutes and regulations related to solid waste.

4.19 Mandatory Findings of Significance

<i>Issues (and Supporting Information Sources)</i>	<i>Potentially Significant Impact</i>	<i>Less Than Significant with Mitigation Incorporated</i>	<i>Less Than Significant Impact</i>	<i>No Impact</i>
Mandatory Findings of Significance – Would the project:				
a) Have the potential to degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, reduce the number or restrict the range of a rare or endangered plant or animal, or eliminate important examples of the major periods of California history or prehistory?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b) Have impacts that are individually limited, but cumulatively considerable? (“Cumulatively considerable” means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects)?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c) Have environmental effects that would cause substantial adverse effects on human beings, either directly or indirectly?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

4.19.1 Setting

Per CEQA regulations and guidelines, the Lead Agency must summarize the finding of significance from earlier sections and must consider potential cumulatively considerable effects for environmental impact reports (EIRs) and in the discussion section below. Even though this environmental document is an IS/MND and not an EIR, the potential for cumulatively considerable effects are analyzed below.

4.19.2 Discussion

- a) **Less-than-Significant Impact with Mitigation.** Per the impact discussions in the Biological Resources section, the potential of the Project to substantially degrade the environment is less than significant with incorporated mitigation measures.
- b) **Less-than-Significant Impact.** The Project site is located within Mariposa County. The purpose of the Project is to provide safe vehicle access and meet current design standards for the Buckeye Road Bridge. The impacts of the Project are mitigated to a less-than-significant level, limited to the construction phase of the Project, and generally site specific. No other projects are proposed that would overlap or interact with the Project.
- c) **Less-than-Significant Impact with Mitigation.** The Project would not cause substantial adverse effects on human beings. Effects related to cultural resources, hazardous materials, hydrology and water quality, land use and land use planning, noise, public services, and transportation and traffic are discussed above, and would not result in any significant and unavoidable impacts with the mitigation measures listed in the Executive Summary section and detailed elsewhere within this document.

5 LIST OF PREPARERS AND REVIEWERS

This Draft IS/MND was prepared by Drake Haglan and Associates (DHA) in cooperation with the other members of the environmental study team. DHA was responsible for project management and Draft IS/MND preparation. The Draft IS/MND technical team and other environmental study team members provided technical expertise, as presented below.

CEQA Lead Agency: Mariposa County Department of Public Works

Project ManagerGary Brown

Drake Haglan and Associates

Principal in ChargeDennis Haglan

Project ManagerMichael Pugh

Environmental Project Manager.....Jennifer Hildebrandt

Environmental Project Manager.....Leslie Haglan

Environmental Planner/Biologist.....Lindsay Tisch

Environmental Planner/Archaeologist.....Anna Starkey

Environmental PlannerZachary Cornejo

Environmental PlannerAmanda Dworkin

Far Western Anthropological Research Group

Cultural resources investigation and record search.

6 REFERENCES

- Bolt, Beranek, and Newman, 1971. Noise from Construction Equipment and Operations, Building Equipment, and Home Appliances.
- California Air Resources Board (ARB), 2017. Area Designation Maps / State and National. April 5, 2018. Available at: <https://www.arb.ca.gov/desig/adm/adm.htm>. Accessed: April 5, 2018.
- California Department of Conservation (CDC), 2015a. CGS Information Warehouse: Regulatory Maps. Available at: <http://maps.conservation.ca.gov/cgs/informationwarehouse/index.html?map=regulatorymaps>. Accessed October 10, 2017.
- California Department of Conservation (CDC), 2015b. Fault Activity Map of California (2010). Available at: <http://maps.conservation.ca.gov/cgs/fam/>. Accessed October 10, 2017.
- California Department of Conservation (CDC), 2017. California Important Farmland Finder. Available at: <https://maps.conservation.ca.gov/DLRP/CIFF/>. Accessed April 5, 2018.
- California Department of Transportation (Caltrans), 2011. California Scenic Highway Mapping System: Mariposa County. Updated September 7, 2011. Available at: http://www.dot.ca.gov/hq/LandArch/16_livability/scenic_highways/. Accessed April 5, 2018.
- California Department of Transportation (Caltrans), 2013. Technical Noise Supplement to the Traffic Noise Analysis Protocol. Caltrans. Sacramento, California.
- California Department of Transportation (Caltrans), 2017a. Buckeye Road Bridge Replacement Project Biological Assessment; November 2017.
- California Department of Transportation (Caltrans), 2017b. Buckeye Road Bridge Replacement Project Natural Environment Survey; November 2017.
- California Department of Transportation (Caltrans) 2017c. Buckeye Road Bridge Replacement Project Water Quality Memo; September 2017.
- California Department of Water Resources, 2017. Flood Management: Mariposa County. Available at: http://www.water.ca.gov/floodmgmt/lra/mo/fmb/fes/awareness_floodplain_maps/mariposa/. Accessed December 7, 2017.
- Cunniff, Patrick F., 1977. *Environmental Noise Pollution*.
- Harris Miller & Hanson (HMM&H); 2006. Transit noise and vibration impact assessment (FTA-VA-90-1003-06). Prepared for the Federal Transit Administration.

- Huss, Karen and Grant, John, 2017. Road Construction Emissions Model, Version 8.1.0. Prepared for the Sacramento Metropolitan Air Quality Management District (SMAQMD).
- Jennings, C.W., Strand, R.G., and Rogers, T.H., 1977, Geologic map of California: California Division of Mines and Geology, scale 1:750,000.
- Krauskopf, K.B., 1985, 1985, Geologic map of the Mariposa quadrangle, Mariposa and Madera Counties, California. U.S. Geological Survey.
- Mariposa County, Mariposa County Planning Department, 2006. Mariposa County General Plan. December 18, 2006.
- Ontario Ministry of Agriculture, Food, and Rural Affairs. Universal Soil Loss Equation (USLE) Factsheet. Available at: <http://www.omafra.gov.on.ca/english/engineer/facts/12-051.htm#t3a>. Accessed April 5, 2017.
- Sacramento Area Council of Governments (SACOG), 2017a. Air quality objectives. Available at: <https://www.sacog.org/air-quality>. Accessed on February 7, 2018.
- University of California Museum of Paleontology (UCMP), 2017. Collections. Available at: <http://www.ucmp.berkeley.edu/science/collections.php>. Accessed April 5, 2017.
- U.S. Census Bureau, 2010a. 2006-2010 American Community Survey.
- U.S. Census Bureau, 2010b. 2010 Census.
- U.S. Department of Agriculture, Natural Resources Conservation Service, 1998. Ahwahnee Series. Available at: https://soilseries.sc.egov.usda.gov/OSD_Docs/A/AHWAHNEE.html. Accessed April 5, 2018.
- U.S. Department of Agriculture, Natural Resources Conservation Service, 1998. Auberry Series. Available at: https://soilseries.sc.egov.usda.gov/OSD_Docs/A/AUBERRY.html. Accessed April 5, 2018.
- U.S. Department of Agriculture, Natural Resources Conservation Service, 2013. Web Soil Survey. Available at: <https://websoilsurvey.sc.egov.usda.gov>. Accessed April 5, 2017.
- U.S. Environmental Protection Agency (U.S. EPA), 1971. Noise from construction equipment, operations, building equipment, and home appliances. National Service Center for Environmental Publications (NSCEP). Washington, D.C.
- U.S. Environmental Protection Agency (U.S. EPA), 2017. Rainfall Erosivity Factor Calculator. April 5, 2018. Available at: <https://www.epa.gov/waterdata/rainfall-erosivity-factor-calculator>. Accessed April 5, 2017.
- U.S. Environmental Protection Agency (U.S. EPA), 2018. Current Nonattainment Counties for All Criteria Pollutants. April 5, 2017. Available at: <https://www3.epa.gov/airquality/greenbook/ancl.html>. Accessed April 5, 2017.
- U.S. Department of Transportation, Federal Highway Administration (FHWA), 2017. America's Byways. Available at: <https://www.fhwa.dot.gov/byways/states/CA>. Accessed April 5, 2017.