DRAFT

ENVIRONMENTAL IMPACT REPORT

KILBURN ROAD OVER ORESTIMBA CREEK BRIDGE (38C0168) REPLACEMENT PROJECT

STANISLAUS COUNTY, CALIFORNIA

LSA

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STANISLAUS COUNTY, CALIFORNIA

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LIST OF ABBREVIATIONS AND ACRONYMS

AASHTO	American Association of State Highway and Transportation Officials
BMP	best management practice
Caltrans	California Department of Transportation
CCR	California Code of Regulations
CDFW	California Department of Fish and Wildlife
CEQA	California Environmental Quality Act
CFR	Code of Federal Regulations
County	Stanislaus County
CRHR	California Register of Historical Resources
EIR	Environmental Impact Report
ESA	Environmentally Sensitive Area
GHG	greenhouse gases
HAER	Historic American Engineering Record
LTS	less than significant impact
mi	miles
MLD	Most Likely Descendent
NAHC	Native American Heritage Commission
NHPA	National Historic Preservation Act
NOP	Notice of Preparation
NPDES	National Pollutant Discharge Elimination System
NPS	National Park Service
NRHP	National Register of Historic Places
PRC	Public Resource Code
Project	Kilburn Road over Orestimba Creek Bridge Replacement Project
RWQCB	Regional Water Quality Control Board
S	significant impact
SHPO	State Historic Preservation Officer

SPCP	Spill Prevention and Countermeasures Plan
SR	State Route
SU	significant and unavoidable impact
SWPPP	Storm Water Pollution Prevention Plan
VELB	Valley Elderberry Longhorn Beetle
WDR	Waste Discharge Requirements

1.0 INTRODUCTION

1.1 PURPOSE OF THIS EIR

In compliance with the California Environmental Quality Act (CEQA), this Environmental Impact Report (EIR) analyzes potential physical environmental effects associated with implementation of the proposed Kilburn Road over Orestimba Creek Bridge Replacement Project (Project). The Project would replace the existing Kilburn Road Bridge (Br. No. 38C0168) at Orestimba Creek, approximately 0.3 mile (mi) southeast from the intersection of Crows Landing and Kilburn Roads, near Crows Landing, Stanislaus County, California. The Project would replace the existing narrow two-lane, single-span bridge with a new widened two-lane, three-span bridge on the same general alignment as the existing bridge. Chapter 3.0 of this Draft EIR provides a detailed description of the Project.

An Initial Study was prepared for the Project (see Appendix A). The Initial Study determined the Project could have potentially significant impacts in the area of cultural resources. The County, therefore, determined that an EIR would be required for the Project. This EIR is a "focused EIR" that concentrates on the potentially significant impacts of the project on one environmental issue area: cultural resources. All other impact areas were determined to either have no impact or less than significant impact (with or without mitigation). This EIR also examines alternatives to the Project and identifies mitigation measures to reduce or avoid potentially significant physical impacts. This EIR, together with the Initial Study, has been prepared to inform Stanislaus County (County) decision-makers, responsible agencies, and the general public of the Project and the potential physical environmental consequences of project implementation.

1.2 ENVIRONMENTAL REVIEW

The County, serving as Lead Agency responsible for administering the environmental review for the Project, prepared an Initial Study and determined that preparation of an EIR was required for the Project.

CEQA requires that, before a decision can be made to approve a project that could result in adverse physical effects, an EIR must be prepared that fully describes the environmental effects of the project. The EIR is a public information document for use by governmental agencies and the public to identify and evaluate potential environmental impacts of a project, to recommend mitigation measures to lessen or eliminate significant adverse impacts, and to examine feasible alternatives to the project. The information contained in the EIR must be reviewed and considered by the County's Board of Supervisors and other approving bodies prior to a decision to approve, disapprove, or modify the project.

CEQA requires that agencies shall neither approve nor implement a project unless the project's significant environmental effects have been reduced to a less than significant level, essentially "eliminating, avoiding, or substantially lessening" the potentially significant impacts, except when certain findings are made. If an agency approves a project that will result in the occurrence of significant adverse impacts that cannot be mitigated to less than significant levels, the agency must state the reasons for its action in writing, demonstrate that its action is based on the EIR or other information in the record, and adopt a Statement of Overriding Considerations.

1.3 INTENDED USES OF THIS DRAFT EIR

As noted above and described in the CEQA Guidelines, public agencies are charged with the duty to avoid or substantially lessen significant environmental effects, where feasible. In undertaking this duty, a public agency has an obligation to balance a project's significant effects on the environment with its benefits, including economic, social, technological, legal, and other non-environmental characteristics.

This EIR is intended as an informational document to: evaluate the proposed project and the potential for significant impacts on the environment; examine methods of reducing adverse environmental impacts; identify any significant and unavoidable adverse impacts that cannot be mitigated; and identify reasonable and feasible alternatives to the proposed project that would eliminate any significant adverse environmental effects or reduce the impacts to a less than significant level. The Lead Agency is required to consider the information in the EIR, along with any other relevant information, in making decisions on the proposed Project. This analysis, in and of itself, does not determine whether a project will be approved, but aids the planning and decision-making process by disclosing the potential for significant and adverse impacts.

In conformance with CEQA and the CEQA Guidelines, this EIR provides objective information addressing the environmental consequences of the Project and identifies possible means of reducing or avoiding significant impacts, either through mitigation measures or feasible Project alternatives. Stanislaus County must certify the Final EIR prior to Project approval and implementation. Under CEQA Guidelines Section 15161, this is a project-level EIR. This type of EIR examines the environmental impacts of a project and focuses primarily on changes in the environment that would result from project development. This type of EIR examines all phases of a project including planning, construction, and operation.

The CEQA Guidelines help define the role and standards of this EIR, as follows:

- **Information Document:** An EIR is an informational document which will inform public agency decision-makers and the public generally of the significant environmental effect(s) of a project, identify possible ways to minimize significant effects, and describe reasonable alternatives to the project. The public agency shall consider the information in the EIR along with other information which may be presented to the agency (CEQA Guidelines Section 15121[a]).

- **Degree of Specificity:** The degree of specificity required in an EIR will correspond to the degree of specificity involved in the underlying activity which is described in the EIR. An EIR on a development project will necessarily be more detailed in its discussion of specific effects of the project than will be an EIR on the adoption of a local general plan or comprehensive zoning ordinance because the effects of the construction can be predicted with greater accuracy (CEQA Guidelines Section 15146[a]).

- **Standards for Adequacy of an EIR:** An EIR should be prepared with a sufficient degree of analysis to provide decision-makers with information, which enables them to make a decision that intelligently takes account of environmental consequences. An evaluation of the environmental effects of a proposed project need not be exhaustive, but the sufficiency of an

EIR is to be reviewed in light of what is reasonably feasible. Disagreement among experts does not make an EIR inadequate, but the EIR should summarize the main points of disagreement among the experts. The courts have looked not for perfection but for adequacy, completeness, and a good faith effort at full disclosure (CEQA Guidelines Section 15151).

Section 15382 of the CEQA Guidelines defines a significant effect on the environment as "a substantial, or potentially substantial, adverse change in any of the physical conditions within the area affected by the project…" Therefore, in identifying the significant impacts of the Project, this EIR focuses on the substantial physical effects and mitigation measures to avoid, reduce, or otherwise alleviate those effects.

1.4 PROPOSED PROJECT

The Project consists of replacement of the Kilburn Road Bridge over Orestimba Creek which is structurally deficient and eligible for bridge replacement, per Federal Highway Administration guidance. The Project site is located in unincorporated Stanislaus County, on Kilburn Road 0.3 mile southeast from the intersection of Crows Landing Road and Kilburn Road, near Crows Landing, Stanislaus County. The Project would replace the existing two-lane, single-span bridge with a new two-lane, three-span bridge on the same general alignment as the existing bridge. The Kilburn Road Bridge is eligible for listing in the California Register of Historical Resources (CRHR) and National Register of Historic Places (NRHP), and is considered a historic bridge due to its age and unique construction that combines reinforced concrete and steel truss technologies. The Project would remove the existing bridge and provide a replacement bridge with safer standard shoulder and lane widths, a structural capacity to carry modern day truckloads, and a clearance over 50-year water surface elevation. The design and construction of the approach roadway and replacement bridge would be in compliance with County and California Department of Transportation (Caltrans) design standards, as well as American Association of State Highway and Transportation Officials (AASHTO) guidelines. The proposed roadway alignment may require some existing overhead utility poles and an underground communication line to be relocated. The relocated overhead utilities would be placed on new utility poles and the overhead services be routed onto the new utility poles. The Project would acquire right-of-way or temporary easements from several adjacent parcels. Right-of-way may be acquired along Kilburn Road within portions of two parcels. Additionally, easements would be granted to allow for the realignment of driveways along Kilburn Road on four parcels.

1.5 EIR SCOPE

On August 28, 2020, the County sent a Notice of Preparation (NOP) of an EIR to governmental agencies and organizations and persons interested in the Project. The scoping period ended on September 28, 2020.

The NOP requested agencies and other interested parties to comment on environmental issues that should be addressed in the EIR. As described in Section 1.1, an Initial Study was prepared to evaluate potential impacts resulting from the Project. It was determined that removal of the historic bridge would have a significant impact under CEQA, and this EIR has been prepared to address this impact. All other topics that were evaluated in the Initial Study were determined to be less than significant, and mitigation measures were included as required to reduce potentially significant impacts. These

topics will not be addressed in detail in this document but can be found in Appendix A: Initial Study. The NOP and comment letters received are included in Appendix B.

1.6 REPORT ORGANIZATION

This EIR is organized into the following chapters:

- **Chapter 1.0 Introduction:** Discusses the overall EIR purpose, provides a summary of the Project, describes the EIR scope, and summarizes the organization of the EIR.

- **Chapter 2.0 Summary:** Provides a summary of the impacts that would result from implementation of the Project, describes mitigation measures recommended to reduce or avoid significant impacts, and describes the alternatives to the Project.

- **Chapter 3.0 Project Description:** Provides a description of the Project site, the Project objectives, the Project, and uses of this EIR.

- **Chapter 4.0 Setting, Impacts, and Mitigation Measures:** Describes the following for Cultural Resources: existing conditions (setting), potential environmental impacts and their level of significance, and mitigation measures recommended to mitigate identified impacts. Potential adverse impacts are identified by levels of significance, as follows: less than significant impact (LTS), significant impact (S), and significant and unavoidable impact (SU). The significance of each impact is categorized before and after implementation of any recommended mitigation measures(s).

- **Chapter 5.0 CEQA-Required Conclusions:** Provides an analysis of effects found not to be significant, growth-inducing impacts, unavoidable significant environmental impacts, significant irreversible changes, and cumulative impacts.

- **Chapter 6.0 Alternatives:** Provides an evaluation of alternatives to the Project, including the No Project Alternative, the Replacement "Replica Bridge" Alternative, Rehabilitation Alternative, Leave-in-Place Alternative, and the Relocation Alternative.

- **Chapter 7.0 Report Preparation:** Identifies preparers of the EIR, primary contacts, references used, and the persons and organizations contacted.

- **Appendices:** The appendices contain the Initial Study, Notice of Preparation, and other documentation prepared in conjunction with this EIR.

1.7 PUBLIC PARTICIPATION

The CEQA Guidelines encourage public participation in the planning and environmental review processes. The County will provide opportunities for the public to present comments and concerns regarding the CEQA document and planning processes. These opportunities will occur during the Draft EIR public review and comment period.

The Draft EIR and Notice of Availability are posted electronically on the County's website http://www.stancounty.com/publicworks/projects.shtm and printed copies are available for public review by request at 1716 Morgan Street, Modesto, California. Written public comments may be submitted to the Department of Public Works during the specified public review and comment period (indicated on the cover of this EIR), and oral comments may be presented by calling (209) 525-4130. Written comments should be sent by mail to 1716 Morgan Street, Modesto, California 95358 or by email to seaberge@stancounty.com.

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2.0 EXECUTIVE SUMMARY

This chapter describes the Project that is evaluated in this EIR and includes a summary of the environmental review that has occurred for the Project area, issues raised during the NOP scoping period, unavoidable significant impacts identified as a result of the analysis contained in Chapter 4.0, and the alternatives to the proposed project that are evaluated in Chapter 5.0 of this EIR. A summary of the impacts and mitigation measures contained in Chapter 4.0 of this EIR and Chapter 3.0 of the Initial Study is included in Table 2.A at the end of this chapter.

2.1 PROJECT UNDER REVIEW

The Project consists of replacement of the Kilburn Road Bridge over Orestimba Creek which is structurally deficient and eligible for bridge replacement, per Federal Highway Administration guidance. The Project site is located in unincorporated Stanislaus County, on Kilburn Road 0.3 mile southeast from the intersection of Crows Landing Road and Kilburn Road, near Crows Landing, Stanislaus County. The objective of this Project is to improve overall safety and accessibility by replacing the existing structurally deficient historic bridge; comply with County, Caltrans, and AASHTO design standards and guidelines for design and construction of the approach roadway and replacement bridge, including clearance over 50-year water surface elevation; and accommodate regional and occasional interregional transportation needs including permit loads. The proposed project is described in more detail in Chapter 3.0.

2.2 SUMMARY OF SIGNIFICANT UNAVOIDABLE ADVERSE IMPACTS

The removal of the historic bridge constitutes a significant unavoidable impact to a cultural resource. Although impacts to the historical resource are partially mitigated with implementation of Mitigation Measure CUL-3 (described in Section 4.5 of this EIR), impacts to cultural resources remain significant and unavoidable. In light of the adverse impact identified pertaining to cultural resources, a Statement of Overriding Considerations would be required prior to project approval by the County Board of Supervisors. All other impacts resulting from the proposed project could be mitigated to a less than significant level (see Table 2.A and the Initial Study, Appendix A).

2.3 SUMMARY OF GROWTH INDUCING IMPACTS

The proposed project would not induce significant growth. The Project would replace a structurally deficient bridge. The existing bridge carries one lane of traffic, and the new bridge would carry two lanes, increasing capacity of the bridge. However, the Project would not increase capacity along Kilburn Road. Project construction would result in a temporary increase in construction jobs. However, it is anticipated that these jobs would be filled by workers in Stanislaus County who would commute daily to the Project site. Operation of the Project would not result in any changes in employment related to maintenance, repair, and inspection of the roads and bridge because these activities would occur as a part of the County's and State's regular maintenance activities. Therefore, the Project would result in no increased short-term or long-term demands for housing or public services. The Project would not introduce any new employment or housing and would not induce any growth in the Project area.

2.4 SUMMARY OF CUMULATIVE IMPACTS

The proposed project would result in significant and unavoidable impacts to historical resources at the project site, both individually and when considered together with potential impacts to historical resources from other projects in the area. Mitigation Measure CUL-3, contained in this EIR, would reduce impacts, but not to a less than significant level. Therefore, project impacts to cultural resources are cumulatively considerable.

2.5 EFFECTS FOUND NOT TO BE SIGNIFICANT

The Initial Study for the proposed project is included in Appendix A to this EIR. The Initial Study (Appendix A) identified: 1) no impacts; 2) less-than-significant impacts; or 3) less-than-significant impacts with implementation of mitigation measures related to the following environmental topics:

- Aesthetics
- Agricultural and Forestry Resources
- Air Quality
- Biological Resources
- Cultural Resources (archaeological resources and human remains)
- Energy
- Geology, Soils, and Seismicity
- Greenhouse Gas Emissions
- Hazards and Hazardous Materials
- Hydrology and Water Quality
- Land Use and Planning
- Mineral Resources
- Noise
- Population and Housing
- Public Services
- Recreation
- Transportation and Traffic
- Tribal Cultural Resources
- Utilities and Service Systems
- Wildfire

2.6 SUMMARY OF ALTERNATIVES ANALYSIS

The following alternatives to the proposed Project are considered in this EIR:

- The **No Project Alternative** assumes that the Project would not be developed within the short-term.

Additionally, the following alternatives were considered but rejected for analysis for various reasons, such as the inability to meet some or all of the Project objectives:

- The **Replacement "Replica Bridge" Alternative** would result in the demolition of the existing bridge and construction of a new replacement bridge with similar details and appearance of the existing bridge.

- The **Rehabilitation Alternative** would rehabilitate the existing bridge, strengthen its structural system to carry modern day trucks, replace cracked and spalled concrete, and widen and extensively modify the structure to accommodate two lanes with shoulders.

- The **Leave-in-Place Alternative** would construct a new bridge on an adjacent alignment and leave the existing bridge in place alongside the new bridge.

- The **Relocation Alternative** would relocate the existing bridge to avoid demolition.

The proposed Project was determined to be the environmentally superior alternative. All of the alternatives identified in this EIR were determined to result in adverse impacts to the historic bridge and were rejected for analysis for various reasons, such as the inability to meet some or all of the Project objectives. As described in Chapter 6.0, the rejected alternatives are not considered feasible. The withdrawn alternatives were, however, explored as a part of the County's effort to provide all possible planning to minimize harm to the historic property. Please refer to Chapter 5.0, Alternatives Analysis, for more discussion of these alternatives and other alternatives considered during preparation of this EIR.

2.7 POTENTIAL AREAS OF CONTROVERSY AND ISSUES TO BE RESOLVED

The potential areas of controversy and issues to be resolved are associated with cultural resources, which are addressed in Chapter 4.0.

2.8 SUMMARY OF IMPACTS AND MITIGATION MEASURES

The Initial Study identifies potentially significant impacts to the following environmental topics; however, these potential impacts could be mitigated to a less than significant level with the mitigation measures included in the Initial Study:

- Agricultural and Forestry Resources
- Air Quality
- Biological Resources
- Geology, Soils, and Seismicity
- Hazards and Hazardous Materials
- Hydrology and Water Quality
- Public Services
- Transportation and Traffic
- Tribal Cultural Resources
- Utilities and Service Systems

Table 2.A: Summary of Impacts and Mitigation Measures, includes the mitigation measures from the Initial Study as they relate to each environmental topic, as well as the mitigation measures included in Section 4.1, Cultural Resources, of the EIR. For a complete description of the potential impacts, refer to the Initial Study in Appendix A or Chapter 4.0 of this EIR.

Table 2.A: Summary of Impacts and Mitigation Measures

Environmental Impacts	Level of Significance without Mitigation	Mitigation Measures	Level of Significance with Mitigation
AESTHETICS			
There are no significant aesthetics impacts.			
AGRICULTURAL RESOURCES			
Implementation of the Project would require the acquisition of 0.37 acre of land from four parcels (APNs 049-007-028, 049-008-013, 049-011-009, and 049-012-001) that are currently under Williamson Act Contracts and zoned as General Agricultural District 40 Acre (A-2 40). The acquisition and use of 0.37 acre of this land for a bridge replacement project is not a consistent use with Williamson Act Contracts nor the General Agricultural District 40 Acre (A-2 40) zoning designation.	S	**Mitigation Measure AG-1:** The Stanislaus County Public Works Department shall notify the California DOC of its intention to acquire 0.37 acre of land (or amount of land based on final design, whichever is larger) under Williamson Act Contracts in order to convert the land to County owned right-of-way. The County shall follow the noticing procedures outlined in the Public Acquisition Notification Procedures: A Step-by-Step Guide (California DOC 2020). Completion of the notification process (confirmation by the California DOC and recordation of the revised Williamson Act Contracts by the County Clerk Recorders Office) shall occur prior to commencement of any construction activities associated with the Project.	LTS
AIR QUALITY			
The San Joaquin Valley Air Pollution Control District (SJVAPCD) has implemented Regulation VIII measures for dust control during construction. These control measures are intended to reduce the amount of PM10 emissions during the construction period. The Project would be required to comply with Regulation VIII.	S	**Mitigation Measure AIR-1:** Consistent with SJVAPCD Regulation VIII (Fugitive PM10 Prohibitions), the following controls are required to be included as specifications for the Project and implemented at the construction site: ● All disturbed areas, including storage piles, which are not being actively utilized for construction purposes, shall be effectively stabilized of dust emissions using water, chemical stabilizer/suppressant, covered with a tarp or other suitable cover or vegetative ground cover. ● All on-site unpaved roads and off-site unpaved access roads shall be effectively stabilized of dust emissions using water or chemical stabilizer/suppressant. ● All land clearing, grubbing, scraping, excavation, land leveling, grading, cut and fill, and demolition activities shall be effectively controlled of fugitive dust emissions utilizing application of water or by presoaking. ● When materials are transported off-site, all material shall be covered, or effectively wetted to limit visible dust emissions, and at	LTS

Table 2.A: Summary of Impacts and Mitigation Measures

Environmental Impacts	Level of Significance without Mitigation	Mitigation Measures	Level of Significance with Mitigation
		least six inches of freeboard space from the top of the container shall be maintained. ● All operations shall limit or expeditiously remove the accumulation of mud or dirt from adjacent public streets at the end of each workday. (The use of dry rotary brushes is expressly prohibited except where preceded or accompanied by sufficient wetting to limit the visible dust emissions. Use of blower devices is expressly forbidden.) ● Following the addition of materials to, or the removal of materials from, the surface of out-door storage piles, said piles shall be effectively stabilized of fugitive dust emission utilizing sufficient water or chemical stabilizer/suppressant.	
BIOLOGICAL RESOURCES			
If steelhead or western pond turtles are present during construction, and construction activities release hazardous substances or excessive silt and sediment to enter Orestimba Creek, these species could be negatively impacted.	S	**Mitigation Measure BIO-1a:** The following measures shall be implemented to reduce potential impacts to steelhead, which are under the jurisdiction of the NMFS. ● All in-water work associated with the Project shall be conducted between June 15 and September 30, which is within the seasonal work window recommended by NMFS to minimize effects to steelhead. ● Installation of the water diversion mentioned in Mitigation Measure BIO-2 shall be supervised by a qualified biologist certified by NMFS. A NMFS certified biologist has stop work capabilities. If steelhead become trapped from dewatering, biologist shall stop work and notify NMFS for consultation re-initiation. ● All construction shall be conducted during daylight hours to allow for an extended period of inactivity (i.e., nighttime) for salmonids, if present, to migrate undisturbed through the work area. **Mitigation Measure BIO-1b:** The following measures shall be implemented to reduce potential impacts to western pond turtles. Western pond turtle are under the jurisdiction of California Department of Fish and Wildlife (CDFW). ● Worker environmental awareness training shall be conducted by a qualified biologist for all construction personnel. The training shall	LTS

Table 2.A: Summary of Impacts and Mitigation Measures

Environmental Impacts	Level of Significance without Mitigation	Mitigation Measures	Level of Significance with Mitigation
		instruct workers about the purpose of Environmentally Sensitive Area (ESA) fencing and the resources being protected. ● Prior to the start of dewatering activities, if necessary, in Orestimba Creek, the Project site shall be surveyed by a qualified biologist for the presence of pond turtles. If turtles are observed in the Project site, they shall be relocated outside of the work area by a qualified biologist. ● Any emergent or submergent aquatic vegetation shall be retained as practical within the constraints of the Project. Where vegetation removal is necessary, rapidly sprouting plants, such as willows, shall be cut off at the ground line and the root systems left intact.	
The Project will result in permanent impacts to 0.11 acre of riparian habitat and 0.11 acre of orchard that provide potential foraging habitat to bats. An additional 0.06 acre of riparian habitat and 0.24 acre of orchard would be temporarily impacted during construction. Removal of the existing bridge prior to construction of the new bridge will also result in a temporary loss of potential night roosting habitat. Permanent and temporary impacts to black walnut – valley oak riparian habitat will also impact suitable nesting habitat for Swainson's hawks.	S	**Mitigation Measure BIO-2a:** The following measures shall be implemented to reduce potential impacts to bats using the bridge as night roost habitat. ● Work activities shall be limited to daylight hours to minimize potential effects to foraging bats. ● The design of the new bridge shall provide equivalent night roost habitat to that on the existing bridge (e.g., approximate 90-degree angles at the junction of bridge abutments and bridge deck). Any habitat that is incorporated into the new structure must allow for the safe, biennial, hands-on visual inspection of the bridge as required by 23 Code of Federal Regulations Part 650, Subpart C—National Bridge Inspection Standards and any referenced materials. ● The following measures shall be implemented to reduce potential impacts to bats using trees in the impact area as day roost habitat. ● Potential bat habitat trees, identified by a qualified bat biologist during a tree habitat assessment conducted several months prior to tree removal, shall be removed only between approximately March 1 and April 15, prior to parturition of pups, and when evening temperatures remain above 45°F and rainfall does not exceed 0.5 inch in 24 hours. The next acceptable period is after pups become self-sufficiently volant between September 1 and about October 15, or prior to evening temperatures dropping below 45°F and onset of rainfall greater than 0.5 inch in 24 hours.	LTS

Table 2.A: Summary of Impacts and Mitigation Measures

Environmental Impacts	Level of Significance without Mitigation	Mitigation Measures	Level of Significance with Mitigation
		● Bat habitat trees should 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 1-2 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 limits of work is removed prior to bat habitat tree removal, during seasonal periods of activity, and preferably, within 4 days of commencing two-step removal of habitat trees, in accordance with the following measures: ▪ 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 tree, the next day prevents re-habituation and re-occupation 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 biologist 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 biologist does not need to remain on the site. ○ If non-habitat trees or other vegetation must be removed outside the seasonal periods outlined above, a 100-foot buffer around each habitat tree should be observed to reduce potential of	

Table 2.A: Summary of Impacts and Mitigation Measures

Environmental Impacts	Level of Significance without Mitigation	Mitigation Measures	Level of Significance with Mitigation
		disturbance of non-volant young during maternity season, or torpid bats during winter months. **Mitigation Measure BIO-2b:** The following measures in addition to Mitigation Measure BIO-3b shall be implemented to reduce potential impacts to Swainson's hawks and other nesting birds. ● If work begins between February 1 and August 31, an early season preconstruction survey for nesting Swainson's hawks shall be conducted between January and March in the BSA and immediate vicinity (an approximately 0.25-mile radius) by a qualified biologist when tree foliage is relatively sparse, and nests are easy to identify. A second preconstruction survey for nesting Swainson's hawks shall be conducted in the BSA and immediate vicinity (an approximately 0.25-mile radius) by a qualified biologist no more than 14 days prior to initiation of earthmoving activities. ● If nesting Swainson's hawks are found within the survey area, a qualified biologist shall evaluate the potential for the Project to disturb nesting activities. CDFW shall be contacted to review the evaluation and determine if the Project can proceed without adversely affecting nesting activities. CDFW shall also be consulted to establish protection measures such as buffers. Disturbance of active nests shall be avoided until it is determined by a qualified biologist that nesting is complete, and the young have fledged, or that the nest has failed. If work is allowed to proceed, at a minimum, a qualified biologist shall be on-site during the start of construction activities during the nesting season to monitor nesting activity. The monitor shall have the authority to stop work if it is determined the Project is adversely affecting nesting activities.	
A total of 18 elderberry shrubs were identified within the Project site, of which 2 shrubs will be permanently impacted due to placement of rock slope protection and will need to be removed. Elderberry shrubs within 20 feet of disturbance may be indirectly affected by Project activities.	S	**Mitigation Measure BIO-3:** The following measures shall be implemented to reduce potential impacts to VELB and are consistent with the provisions of the VELB "Framework for Assessing Impacts to the Valley Elderberry Longhorn Beetle" dated May 2017. ● To prevent fugitive dust from drifting into adjacent habitat, all clearing, grubbing, scraping, excavation, land leveling, grading, cut and fill, demolition activities, or other dust generating activities will	LTS

Table 2.A: Summary of Impacts and Mitigation Measures

Environmental Impacts	Level of Significance without Mitigation	Mitigation Measures	Level of Significance with Mitigation
		be effectively controlled for fugitive dust emissions utilizing application of water or by presoaking. ● ESA fencing will be established along the limits of construction to exclude construction activities from avoided habitat. Activities that may damage or kill an elderberry shrub (e.g., trenching, paving, etc.) may need an avoidance area of at least 20 feet from the drip-line, depending on the type of activity. Trucks and other vehicles shall not be allowed to park in, not shall equipment be stored in, an ESA. No storage or dumping of oil, gasoline, or other substances shall be permitted within an ESA. All ESAs shall be clearly delimited with yellow caution tape or temporary fencing prior to commencement of construction activities. The approximate location of ESA fencing is shown in Figure 9 of the NES. ● Signs shall be installed along the edge of the ESA and shall state the following: "This area is habitat of the beetle, a threatened species, and must not be disturbed. This species is protected by the Endangered Species Act of 1973, as amended. Violators are subject to prosecution, fines, and imprisonment." The signs should be clearly readable from a distance of 20 feet and must be maintained for the duration of construction. ● Prior to the start of construction, a qualified biologist shall survey for elderberry shrubs within 165 feet of the disturbance area. If the survey documents any shrubs with stem diameter greater than 1 inch that were not identified during the November 2017 survey (LSA 2020a), Caltrans shall contact the USFWS. The USFWS and Caltrans shall work to determine a way to proceed and may be required to re-initiate consultation. ● All construction personnel shall attend environmental awareness training. During the environmental awareness training, construction personnel shall be briefed on the status of the beetle, the need to avoid damage to the elderberry host plant, and the possible penalties for not complying with these requirements. ● Herbicides shall not be used within the drip-line of the shrub. Insecticides shall not be used within 98 feet of an elderberry shrub.	

Table 2.A: Summary of Impacts and Mitigation Measures

Environmental Impacts	Level of Significance without Mitigation	Mitigation Measures	Level of Significance with Mitigation
		All chemicals shall be applied using a backpack sprayer or a similar direct application method. ● A qualified biologist shall monitor the work area at Project appropriate intervals to assure that all avoidance and minimization measures are implemented.	
The trimming and/or removal of riparian vegetation would have a potentially significant impact on black walnut – valley oak riparian habitat which would need to be mitigated through the purchase of credits at an approved mitigation bank at a minimum 1:1 ratio, contingent upon approval by the CDFW, Corps, and/or Regional Water Quality Control Board (RWQCB). Impacts to riparian vegetation would also likely require a Lake or Streambed Alteration Agreement from CDFW and a permit from the RWQCB.	S	**Mitigation Measure BIO-4:** The County shall require the construction contractor to implement the following measures in conjunction with Mitigation Measure BIO-5 below to reduce potential impacts to black walnut – valley oak riparian habitat. ● Work in the black walnut – valley oak riparian vegetation and in the live channel of Orestimba Creek shall be minimized to the extent possible. ● Environmentally Sensitive Area (ESA) fencing shall be installed prior to construction at the limits of work within the black walnut – valley oak riparian vegetation, upstream and downstream of the work area, to protect these areas during construction as shown in Figure 9 of the NES. ● ESA limits shall be marked prior to construction using orange construction fencing or equivalent, and shall be maintained until construction is complete. ● Staging areas, access routes, and construction areas shall be located outside of wetland and riparian areas to the maximum extent practicable. ● Measures consistent with the current Caltrans' Construction Site Best Management Practice (BMP) Manual (including the Storm Water Pollution Prevention Plan [SWPPP] and Water Pollution Control Plan Manuals) shall be implemented to minimize effects to the black walnut – valley oak riparian woodland resulting from erosion, siltation, etc. during construction. ● A SWPPP shall be prepared by the contractor prior to construction in accordance with typical provisions associated with a Regional General Permit for Construction Activities (on file with the Central Valley RWQCB). The SWPPP shall contain a Spill Response Plan with instructions and procedures for reporting spills, the use and location	LTS

Table 2.A: Summary of Impacts and Mitigation Measures

Environmental Impacts	Level of Significance without Mitigation	Mitigation Measures	Level of Significance with Mitigation
		of spill containment equipment, and the use and location of spill collection materials. ● All areas temporarily impacted during Project construction shall be restored to preconstruction contours (if necessary) and revegetated with native species as specified in Table 5. Invasive exotic plants shall be controlled to the maximum extent practicable.	
Development of the Project would result in impacts to Orestimba Creek, a water of the United States/State, and its associated wetlands.	S	**Mitigation Measure BIO-5:** The following measures shall be implemented in conjunction with Mitigation Measure BIO-4 to reduce potential impacts to riverine and fringe wetland habitats associated with Orestimba Creek. These BMPs are intended to prevent erosion and sedimentation into Orestimba Creek outside of work areas, prevent impacts to upland areas outside of designated work zones, control dust, and prevent accidental fuel or oil spills in or near Orestimba Creek and riparian habitat. ● Brightly colored ESA fencing shall be placed along the limits of work to prevent unnecessary encroachment into Orestimba Creek. Fencing shall be maintained in good condition for the duration of construction activities. ● Prior to any work in the live channel, a water diversion shall be installed in Orestimba Creek in order to enclose the construction area and reduce sedimentation during work in the channel. The water diversion shall consist of corrugated metal pipe culverts, sheet pile cofferdam, K-rail with Visquine, or an equivalent method. Dewatering the work area will minimize the potential water quality impacts (e.g., siltation) and ensure that no work will be conducted in flowing water. ● During removal of any part of the existing bridge, a debris collection device (e.g., heavy tarps, chain link mats) shall be used below the bridge to prevent debris from falling into Orestimba Creek and left in place until removal is complete. ● Any emergent or submergent aquatic vegetation shall be retained as practical within the constraints of the Project. Where vegetation removal is necessary, rapidly sprouting plants, such as willows, shall be cut off at the ground line and the root systems left intact.	LTS

Table 2.A: Summary of Impacts and Mitigation Measures

Environmental Impacts	Level of Significance without Mitigation	Mitigation Measures	Level of Significance with Mitigation
		● Designate vehicle and equipment staging areas that are located at least 100 feet from Orestimba Creek; all Project vehicles and equipment shall be stored in these areas overnight or when not in use; any vehicle fueling, or other maintenance shall only occur within designated staging areas. ● Stake the boundaries of designated work areas within Orestimba Creek and ensure all vehicles and equipment stay within the designated boundaries. ● Clean up accumulated garbage and construction debris on a daily basis. ● All personnel involved in the construction activities shall be briefed on water quality and special-status species concerns associated with the Project. ● All heavy equipment shall be maintained to prevent fluid leaks. ● Fueling and maintenance of vehicles shall take place at least 100 feet away from Orestimba Creek where potential leaks could travel into the creek.	
CULTURAL RESOURCES			
Although archival research and field survey did not identify the presence of historic archaeological resources within the APE, it is possible that during ground-disturbing activities historic or prehistoric resources may be discovered.	S	**Mitigation Measure CUL-1:** During construction, if any archaeological deposits are encountered, all work within 25 feet of the discovery shall be redirected and a qualified archaeologist contacted (if one is not present) to assess the situation, consult with agencies as appropriate, and make recommendations for the treatment of the discovery. Stanislaus County shall also be notified. Project personnel shall not collect or move any archaeological materials. Any adverse impacts to the finds shall be avoided by project activities. If avoidance is not feasible, the archaeological deposits shall be evaluated to determine if they qualify as a historical resource or unique archaeological resource, or as historic property. If the deposits do not qualify, avoidance is not necessary. If the deposits do qualify, adverse impacts on the deposits shall be avoided, or such impacts shall be mitigated. Mitigation may consist of, but is not limited to, recovery and analysis of the archaeological deposit; recording the resource;	LTS

Table 2.A: Summary of Impacts and Mitigation Measures

Environmental Impacts	Level of Significance without Mitigation	Mitigation Measures	Level of Significance with Mitigation
		preparing a report of findings; and accessioning recovered archaeological materials at an appropriate curation facility. Educational public outreach may also be appropriate. Upon completion of the assessment, the archaeologist shall prepare a report documenting the methods and results, and shall provide recommendations for the treatment of the archaeological deposits discovered. The report shall be submitted to Stanislaus County. The County shall notify the Native American contacts on the contacts list provided by the Native American Heritage Commission in 2012 and 2020 in advance of earthwork for Project construction and provide the Tribe the opportunity to periodically observe the Project excavation.	
Section 7050.5 of the California Health and Safety Code states that in the event of discovery or recognition of any human remains in any location other than a dedicated cemetery, there shall be no further excavation or disturbance of the site, or any nearby area reasonably suspected to overlie adjacent remains until the County Coroner has determined whether or not the remains are subject to the coroner's authority.	S	**Mitigation Measure CUL-2:** Human remains encountered during Project ground-disturbing activities shall be treated in accordance with California Health and Safety Code Section 7050.5 and California Code of Regulations Section 15064.5(d). The County shall inform the construction contractor of the potential for human remains in the Project site prior to the commencement of construction. If human remains are uncovered during construction, work within 25 feet of the discovery shall be redirected and the County Coroner notified immediately. At the same time, an archaeologist shall be contacted (if one is not already on site) to assess the situation and consult with agencies as appropriate. Project personnel shall not collect or move any human remains or associated materials. If the human remains are of Native American origin, the Coroner must notify the Native American Heritage Commission within 24 hours of this identification. The Native American Heritage Commission will identify a Most Likely Descendent (MLD) to inspect the site and provide recommendations for the proper treatment of the remains and associated grave goods. Work within 25 feet of the discovery can resume only after the MLD has inspected the site, provided recommendations, and the remains and associated grave goods removed from the site by a qualified archaeologist in consultation with the MLD.	LTS

Table 2.A: Summary of Impacts and Mitigation Measures

Environmental Impacts	Level of Significance without Mitigation	Mitigation Measures	Level of Significance with Mitigation
ENERGY			
There are no significant energy impacts.			
GEOLOGY, SOILS, AND SEISMICITY			
Moderate seismic ground shaking generated by seismic activity could potentially impact structures, such as the new bridge on Kilburn Road.	S	**Mitigation Measure GEO-1:** Prior to issuance of construction permits, the County (or consultant retained by the County) shall prepare and adopt a site-specific *Final Foundation Report*. The *Final Foundation Report* shall include final design recommendations for development of the new bridge crossing Orestimba Creek on Kilburn Road. The design recommendations of the *Final Foundation Report* will be based on final geotechnical investigations and load/design calculations to ensure that the new bridge will not fail due to geological or soil hazardous conditions. The County, through the Mitigation Monitoring and Reporting program, shall confirm that all of the recommended design measures presented by *Final Foundation Report* are implemented prior to opening of Kilburn Road and the new bridge crossing over Orestimba Creek to public travel.	LTS
During construction activities, soil would be exposed, and there would be an increased potential for soil erosion compared to existing conditions due to soil disturbance and the exposure of soil to weather conditions (e.g., wind and rain). During a storm event, soil erosion and loss of topsoil could occur at an accelerated rate.	S	**Mitigation Measure HYD-1** (see below) **Mitigation Measure HYD-2** (see below)	LTS
Implementation of the Project could have impacts related to moderately expansive soils.	S	**Mitigation Measure GEO-1** (see above)	LTS
Implementation of the Project could have impacts related to unknown buried paleontological resources that may exist on site.	S	**Mitigation Measure GEO-2:** Prior to the issuance of the grading permit, the County shall retain a qualified paleontologist (defined as a practicing paleontologist that is recognized in the paleontological community and proficient in vertebrate paleontology) who is listed on the County of Stanislaus list of certified paleontologists. The paleontologist shall prepare a PRIMP for this Project. The PRIMP shall include the methods that will be used to protect paleontological resources that may exist within the Project site, as well as procedures for monitoring, fossil preparation and identification, curation into a	LTS

Table 2.A: Summary of Impacts and Mitigation Measures

Environmental Impacts	Level of Significance without Mitigation	Mitigation Measures	Level of Significance with Mitigation
		repository, and preparation of a report at the conclusion of grading. The PRIMP shall be consistent with the guidelines of the Society of Vertebrate Paleontology. Any excavation and grading activities in deposits with high paleontological sensitivity shall be monitored by a paleontological monitor following a PRIMP. No monitoring is required for excavations in deposits with no or low paleontological sensitivity. If paleontological resources are encountered during the course of ground disturbance (i.e., installation of bridge piers), the paleontological monitor shall have the authority to temporarily redirect construction away from the area of the find in order to assess its significance. In the event that paleontological resources are encountered when a paleontological monitor is not present, work in the immediate area of the find shall be redirected and a paleontologist shall be contacted to assess the find for significance. Collected resources shall be prepared to the point of identification, identified to the lowest taxonomic level possible, cataloged, and curated into the permanent collections of a scientific institution. Prior to opening of the Project, a report of findings shall be prepared to document the results of the monitoring program.	
GREENHOUSE GAS EMISSIONS			
There are no significant greenhouse gas emissions impacts.			
HAZARDOUS MATERIALS AND WASTES			
Construction of the Project would temporarily increase the transport, use, and disposal of construction-related hazardous materials and petroleum products (e.g., diesel fuel, lubricants, paints and solvents, and cement products containing strong basic or acidic chemicals) in Stanislaus County.	S	**Mitigation Measure HAZ-1:** The contractor shall prepare a Spill Prevention and Countermeasures Plan (SPCP). The SPCP must be submitted to Stanislaus County for review and approval prior to the commencement of construction activities. The SPCP shall include information on the nature of all hazardous materials that would be used on site. The SPCP shall also include information regarding the proper handling of hazardous materials and cleanup procedures in the event of an accidental release. The phone number of the agency overseeing hazardous materials and toxic cleanup shall be provided in the SPCP.	LTS

Table 2.A: Summary of Impacts and Mitigation Measures

Environmental Impacts	Level of Significance without Mitigation	Mitigation Measures	Level of Significance with Mitigation
		Mitigation Measure HYD-2 (see below)	
Based on the age and concrete construction of the existing bridge, the bridge may contain asbestos containing materials. Paint material is also located on the bridge structure and, along with pavement striping, could contain lead based paint. Utility poles in the Project area consist of treated wood, which contains chemical preservatives, including arsenic, chromium, copper (metals), creosote and pentachlorophenol, and are known to be toxic or carcinogenic, and pole-mounted electrical transformers which may contain polychlorinated biphenyls. Removal of the bridge would include demolition and disposal of these materials, which could result in a significant hazard to the public or the environment. Additionally, historical agricultural practices (pesticides and metals) could have a potential impact on soil along the roadway in the project area. There is the potential for aerially-deposited lead in exposed soil along the roadways from historical vehicle emissions during the leaded gasoline era, and the potential for petroleum hydrocarbons from gasoline or diesel agricultural from machines and/or vehicles in the Project vicinity. If these materials are present in the Project area, ground disturbance during construction could also result in a significant hazard to the public or the environment.	S	**Mitigation Measure HAZ-2:** The County shall conduct a Preliminary Site Investigation prior to construction to determine the presence of hazardous materials on site. The Preliminary Site Investigation shall: ● Analyze soil samples for organophosphorus/organochlorine pesticides and metals ● Analyze soil samples for total lead/pH ● Analyze soil samples for pentachlorophenol s, polychlorinated biphenyls, and metals ● Sample traffic striping and painted surfaces of the bridge for lead based paint. ● Sample the concrete structure for asbestos containing materials Any recommendations made by the Preliminary Site Investigation shall be implemented prior to and during construction as appropriate. **Mitigation Measure HAZ-3:** The contractor shall prepare and implement a Lead Compliance Plan for removal and disposal of traffic stripes and industrial paint. The Lead Compliance Plan shall require the contractor to use trained personnel and comply with all Cal/OSHA regulations and requirements. Employee training should include guidelines that prevent or minimize worker exposure to lead-based paint and chromium-based paint. The training shall include (but not be limited to) protocols for environmental and personal monitoring, requirements for personal protective equipment, and other health and safety protocols and procedures for the demolition of existing structures.	LTS
HYDROLOGY AND WATER QUALITY			
Soil exposure, non-stormwater discharge, and hazardous material used during construction, as well as pollutants from vehicular use and landscape management during Project operation, could result in	S	**Mitigation Measure HYD-1:** Preparation and implementation of temporary construction site temporary BMPs in compliance with the provisions of the Caltrans Statewide National Pollutant Discharge Elimination System (NPDES) Permit and any subsequent permit as they	LTS

Table 2.A: Summary of Impacts and Mitigation Measures

Environmental Impacts	Level of Significance without Mitigation	Mitigation Measures	Level of Significance with Mitigation
the degradation of stormwater runoff quality from the Project site. During construction, the Project has the potential to cause temporary water quality impacts due to grading activities and removal of existing vegetation around and in the creek channel. Demolition, excavation, grading, and construction would require the removal of the existing bridge and roadway pavements, and vegetative cover within the Project site, which would result in the disturbance and exposure of shallow soils to runoff, potentially causing erosion and entrainment of sediment in the runoff, which could adversely affect receiving water quality. Additionally, chemicals such as fuels, oils, paints, and solvents would be used during construction of the Project. If released, these substances could be transported to nearby surface waterways and/or groundwater in stormwater runoff, wash water, and dust control water, potentially reducing the quality of the receiving waters. The improper management and discharge of dewatering effluent into the storm drainage system could adversely affect water quality in the receiving waters, as contaminants and sediment may be present in the dewatering effluent.		relate to construction activities are required for the Project. This shall include submission of a Notice of Construction (NOC) to the Central Valley Regional Water Quality Control Board (RWQCB) at least 30 days before the start of construction and submission of a Notice of Construction Completion (NCC) to the RWQCB upon completion of construction and stabilization of the Project site. The temporary BMP's shall be installed prior to any construction operations and shall be in place for the duration of the contract. The removal of these BMP's shall be the final operation, along with the Project site cleanup. **Mitigation Measure HYD-2:** The Project shall be required to follow Design Pollution Prevention and Treatment Control BMPs for the Project in accordance with the procedures outlined in the Stormwater Quality Handbooks, Project Planning and Design Guide. This shall include coordination with the RWQCB with respect to feasibility, maintenance, and monitoring of Treatment Control BMPs as set forth in Caltrans' Statewide Stormwater Management Plan (SWMP). A SWPPP shall be prepared and implemented to address all construction-related activities, equipment, and materials that have the potential to impact water quality. The SWPPP shall identify the sources of pollutants that may affect the quality of storm water and include BMPs to ensure that the potential for soil erosion, sedimentation, and spills is minimized and to control the discharge of pollutants in storm water runoff as a result of construction activities. **Mitigation Measure HYD-3:** All refueling, maintenance, and staging of equipment and vehicles shall occur at least 18.3 m (60 feet) from riparian habitat or water bodies and not in a location from where a spill would drain directly toward aquatic habitat. Regular monitoring will ensure contamination of habitat does not occur during such operations. Prior to the onset of work, the County shall provide Caltrans (on behalf of the Federal Highway Administration) with a plan for prompt and effective response to any accidental spills. All workers	

Table 2.A: Summary of Impacts and Mitigation Measures

Environmental Impacts	Level of Significance without Mitigation	Mitigation Measures	Level of Significance with Mitigation
		shall be informed of the importance of preventing spills and of the appropriate measures to take should a spill occur. **Mitigation Measure HYD-4:** The Project site shall be revegetated with an assemblage of native riparian, wetland, and upland vegetation suitable for the area. Locally collected plant materials shall be used to the extent practicable. Invasive exotic plants shall be controlled to the MPE. This measure shall be implemented in all areas disturbed by activities associated with the Project, unless the regulatory or resource agencies, or Caltrans, determine that it is not feasible or practical. (For example, an area disturbed by construction that would be used for future activities need not be revegetated.) **Mitigation Measure HYD-5:** To control sedimentation during and after Project implementation, Caltrans and County shall implement best management practices outlined in any authorizations or permits, issued under the authorities of the CWA that it receives for the Project. If best management practices are ineffective, Caltrans shall attempt to remedy the situation immediately, in consultation with the regulatory and resource agencies.	
Implementation of the Project could result in short-term impacts to groundwater management during construction.	S	**Mitigation Measure HYD-2** (see above)	LTS
LAND USE AND PLANNING			
There are no significant land use and planning impacts.			
MINERAL RESOURCES			
There are no significant mineral resources impacts.			
NOISE			
There are no significant noise impacts.			
POPULATION AND HOUSING			
There are no significant population and housing impacts.			
PUBLIC SERVICES			
During construction of the proposed project, travel lanes would be closed or reduced temporarily to	S	**Mitigation Measure TRANS-2** (see below)	LTS

Table 2.A: Summary of Impacts and Mitigation Measures

Environmental Impacts	Level of Significance without Mitigation	Mitigation Measures	Level of Significance with Mitigation
implement installation of the new bridge and removal of the deficient bridge, which could impact emergency response times.			
RECREATION			
There are no significant recreation impacts.			
TRANSPORTATION AND TRAFFIC			
During construction of the proposed project, travel lanes would be closed or reduced temporarily to implement installation of the new bridge and removal of the deficient bridge, which could disrupt traffic and impact access to adjacent properties.	S	**Mitigation Measure TRANS-1:** Prior to the start of construction, the construction contractor for the Project shall prepare and implement a standard Traffic Management Plan to minimize traffic disruption and ensure adequate access is maintained. Temporary disruptions shall be minimized by coordinating construction activities to provide alternative access points and/or by coordinating construction phasing to reduce disruptions. Notification of any temporary disruptions to roadway access shall be posted along local roadways.	LTS
During construction of the proposed project, travel lanes would be closed or reduced temporarily to implement installation of the new bridge and removal of the deficient bridge, which could impact emergency response times.	S	**Mitigation Measure TRANS-2:** Prior to the start of construction, the construction contractor shall coordinate with the Stanislaus County Sheriff's Department and local public and private ambulance and paramedic providers in the area to prepare a Construction Period Emergency Access Plan. The Emergency Access Plan shall identify phases of the Project and construction scheduling, as well as appropriate alternative emergency access routes.	LTS
TRIBAL CULTURAL RESOURCES			
If encountered during Project-related ground disturbing activities, the Project could result in the demolition, destruction, or alteration of unknown buried tribal cultural resources, which would result in a substantial adverse change in the significance of these resources.	S	**Mitigation Measure CUL-1** (see above)	LTS
During construction of the Project, ground disturbance could result in the discovery of human skeletal material or related funerary objects.		**Mitigation Measure CUL-3** (see above)	

Table 2.A: Summary of Impacts and Mitigation Measures

Environmental Impacts	Level of Significance without Mitigation	Mitigation Measures	Level of Significance with Mitigation
UTILITIES			
Electric power and telecommunication facilities would be relocated before the start of construction to allow access for construction equipment, but relocation would cause utility service interruptions.	S	**Mitigation Measure PUE-1:** Prior to construction, the contractor shall notify the public within the Project area and the affected service providers of any planned utility service outage through a combination of communication media (e.g., by phone, email, mail, newspaper notices, or other means). The notification shall specify the estimated duration of the planned outage and shall be published no less than 7 days prior to the outage.	LTS
WILDFIRE			
There are no significant wildfire impacts.			

Notes:
LTS: Less than Significant
S: Significant
SU: Significant and Unavoidable
CDFW: California Department of Fish and Wildlife
ESA: Environmentally Sensitive Area
MLD: Most Likely Descendent
NPDES: National Pollutant Discharge Elimination System
NPS: National Park Service
PRC: Public Resource Code
RWQCB: Regional Water Quality Control Board
SJVAPCD: San Joaquin Valley Air Pollution Control District
SPCP: Spill Prevention and Countermeasures Plan
SWPPP: Storm Water Pollution Prevention Plan
VELB: Valley Elderberry Longhorn Beetle

3.0 PROJECT DESCRIPTION

This chapter describes the Project evaluated in this EIR. A description of the Project location, context, and background is followed by a list of Project objectives, details of the Project, and a list of required approvals and entitlements.

The following Project description serves as the basis for the environmental analysis contained in this EIR. The County is both the Project proponent and the lead agency for evaluation of the Project pursuant to the CEQA.

3.1 PROJECT AREA

The following section describes the geographic context of the site, including its location and surrounding land uses and existing site characteristics.

3.1.1 Location and Surrounding Uses

The Project is located in Stanislaus County on Kilburn Road 0.3 mile southeast from the intersection of Crows Landing Road and Kilburn Road, near Crows Landing, Stanislaus County. The total length of the Project is approximately 2,300 feet. Within the limits of the Project, Kilburn Road is a two-lane local rural road, but the existing bridge, while striped for two lanes, only carries one lane of traffic. Stop signs on either side of the bridge control traffic over the bridge, allowing one vehicle to cross at a time. The existing bridge is structurally deficient and cannot carry legal and permitted truckloads, does not provide clearance for a 50-year floodwater surface elevation and only allows one-way traffic. The purpose of the Project is to comply with County, Caltrans, and AASHTO design standards and guidelines and to improve the overall safety and accessibility of the Orestimba Creek crossing on Kilburn Road.

The Project site (herein also referred to as the “Project area” or “Project corridor”), is defined as the existing Kilburn Road right-of-way (County right-of-way), and segments of adjacent private parcels that would need to be acquired to accommodate the Project. A Project location map and aerial photograph of the Project area are included in **Figure 3-1** and **Figure 3-2**, respectively.

The parcels within and surrounding the Project area are currently in agricultural use, and all are zoned Agricultural 40 Acre (A-2-40). According to the Stanislaus County General Plan, the leading industry in the County is agriculture. Land uses within the vicinity of the Project consist of residential housing, agricultural land, and the existing Kilburn Road and bridge. There is currently no plan to develop the area surrounding the Project site.

There are no separate bicycle or pedestrian facilities along Kilburn Road in the Project area.

The Project site lies in the central San Joaquin Valley, which is characterized by large, flat areas of agricultural farmland. The majority of the land in the area is privately owned and is similar to the Project site in use and vegetative characteristics.

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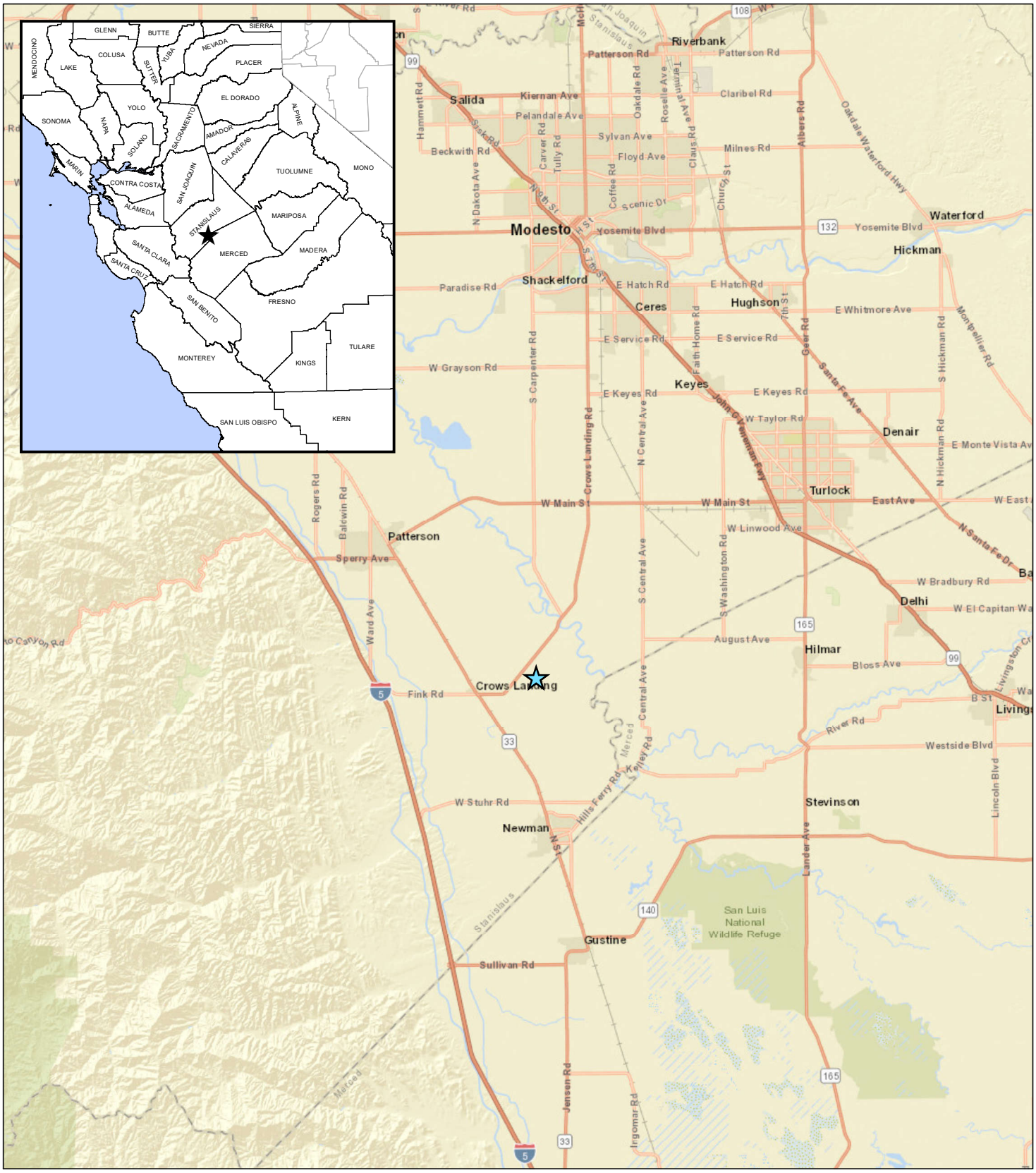

LEGEND

Project Location

FIGURE 3-1

Kilburn Road Bridge over Orestimba Creek (38C0168)
Replacement Project in Stanislaus County
Caltrans District 10; Federal Aid No. BRLO-5938(157)

Project Regional Location

0 2.5 5
Miles

SOURCE: ESRI World Street Map (05/2021)

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LEGEND

Project Area - (9.89 ac)

FIGURE 3-2

0 1000 2000

FEET

SOURCE: Maxar Aerial Imagery (05/2020)

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Kilburn Road Bridge over Orestimba Creek (38C0168)
Replacement Project in Stanislaus County
Caltrans District 10; Federal Aid No. BRLO-5938(157)

Project Vicinity

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Kilburn Road runs generally northwest to southeast through the Project site and consists of a two-lane asphalt roadway. The existing crossing over Orestimba Creek is a narrow two-lane single span bridge; as described above the crossing is too narrow for two-way traffic, and stop signs on either side of the bridge control traffic over the bridge, allowing one vehicle to cross at a time.

Orestimba Creek is a perennial stream that originates from the Coast Range Mountains to the southwest. Within the Project site, Orestimba Creek flows from southwest to northeast and supports an established riparian corridor. Downstream of Kilburn Road, Orestimba Creek meanders through farmlands before draining into the San Joaquin River approximately 3 miles to the north.

The terrain in the Project area is flat and at an elevation of approximately 80 to 90 feet. The surrounding terrain in the vicinity of the Project is similar, generally consisting of rural agricultural lands. The dominant vegetation communities in the Project area generally consist of disturbed communities including orchards, row crops, and ruderal/disturbed areas. However, an established riparian corridor associated with Orestimba Creek is also present. Developed areas within the Project site, totaling 1.93 acres, consist of Kilburn Road and driveways to private residences. Primary land uses in the immediate vicinity are rural residences, agricultural fields, and orchards.

3.2 PROJECT BACKGROUND

The existing bridge, constructed in 1906, is a steel Warren Pony Truss bridge with steel truss members that were encased in reinforced concrete in 1918. The Kilburn Road Bridge has been found eligible for listing in the CRHR and NRHP and is considered a historic bridge due to its age and unique construction that combines reinforced concrete and steel truss technologies.

The Kilburn Road Bridge has the following existing deficiencies, which are projected to persist if no improvements are made:

- The bridge is single span, approximately 62 feet long by 19.7 feet wide, and is severely substandard for two-way traffic. Therefore, while striped for two lanes, the bridge is so narrow that it only carries one lane of traffic. Stop signs on either side of the bridge help alternate the travel direction.

- The reinforced concrete that encases the steel truss members is cracked and spalled at numerous locations and vehicle weight restrictions have been posted on the bridge.

- The bridge does not clear the 50-year water surface elevation.

- The bridge is structurally deficient with a sufficiency rating of 23.4. Sufficiency ratings are determined by the Federal Highway Administration Recording and Coding Guide for the Structure Inventory and Appraisal of the Nation's Bridges. Sufficiency ratings range from a low of 0 to a high of 100, and a sufficiency rating of less than 50 qualifies a bridge for replacement.

3.3 PROJECT OBJECTIVES

The purpose of the Project is to:

- Improve overall safety and accessibility by replacing the existing structurally deficient bridge.
- Comply with County, Caltrans, and AASHTO design standards and guidelines for design and construction of the approach roadway and replacement bridge, including clearance over 50-year water surface elevation.
- Accommodate regional and occasional interregional transportation needs including permit loads.

3.4 PROPOSED PROJECT

The Project would replace the existing two-lane, single-span bridge with a new two-lane, three-span bridge on the same general alignment as the existing bridge. The Project would provide a replacement bridge with safer standard shoulder widths and lane widths, the structural integrity to carry modern day truckloads, and a clearance over 50-year water surface elevation. The design and construction of the approach roadway and replacement bridge would be in compliance with County and Caltrans design standards, as well as AASHTO guidelines.

3.4.1 Bridge Type

Based on the information in the Structure Type Selection Report (David Evans and Associates 2013), the County selected the three-span reinforced concrete slab bridge for design of the Project. Development of the three-span bridge would result in a smaller superstructure depth (when compared to each proposed alternative) in order to minimize the height of proposed roadway profile. The bridge over Orestimba Creek would be widened from 19.7 feet to 34.8 feet, and would be raised approximately 2 feet in order to clear the 50-year flood water elevation. The replacement three-span bridge would be approximately 95 feet long, accommodating an 11-foot lane and 2-foot shoulder in each direction. Construction of the bridge would involve building piers within the creek channel located approximately 28.5 feet from the abutments and approximately 38 feet apart. Each pier would have four pile/pile extensions consisting of 24-inch diameter cast-in-drilled hole concrete pilings. Project design is shown in **Figure 3-3**.

Standard Caltrans Type 732 concrete barriers or suitable equivalent would be constructed on each side of the bridge.

The channel would be graded, and rock slope protection would be placed after the pilings for the new bridge have been installed. The rock slope protection would extend up to approximately 25 feet upstream and 25 feet downstream, within the limits of the County Rights-of-Way.

Additionally, the bridge approaches would be tapered from the existing roadway and raised approximately 2 feet, providing clearance at the new bridge for a 50-year flood. The embankment side slopes would be constructed at a 4:1 ratio. Soils to build the approach embankments would be imported from an offsite location.

LEGEND

- Project Area - (9.89 ac)
- Project Design
- Cut and Fill
- Temporary Construction Easement (TCE)
- Right of Way (ROW)

0 75 150
FEET

SOURCE: Basemap - Maxar Aerial Imagery (05/2020)

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FIGURE 3-3

Kilburn Road Bridge over Orestimba Creek (38C0168)
Replacement Project in Stanislaus County
Caltrans District 10; Federal Aid No. BRLO-5938(157)

Project Design

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3.4.2 Roadway Alignment

With implementation of the Project, Kilburn Road would retain its existing alignment, except for a slight change along the south side of the bridge to tie in the wider bridge to the existing road. The roadway approaches would be elevated to tie into the raised bridge, and the increase in elevation would begin approximately 250 feet on both sides of the new bridge. Improving the vertical alignment of the bridge and its connections to Kilburn Road are necessary to reduce risk of flooding and to improve road safety. Realignment of the roadway profile to meet the wider bridge would require a reconfiguration of the private driveways on both sides of the bridge. This roadway alignment design would provide a safer roadway for the traveling public.

3.4.3 Temporary Detour

The existing bridge would be removed and then the new bridge constructed while traffic is detoured away from the bridge site. The proposed bridge would be constructed on the same general alignment as the existing bridge; therefore, Kilburn Road would be closed to traffic until construction is complete. A detour along Crows Landing Road, Morris Road, and JT Crow Road would be provided to allow for the closure of Kilburn Road while the connection from new to existing roadway is made. Detour travel between the Crows Landing Road/Kilburn Road Intersection and the JT Crow Road/Kilburn Road Intersection would be approximately 1.7 mi for through travelers and just over 2 mi for the residences near the existing Kilburn Road Bridge.

3.4.4 Retaining Walls

A retaining wall may be constructed on the south side of the eastern roadway approach to the bridge to protect the existing privately-owned water pump system. A slope easement or retaining wall may be required on the north side of the western roadway approach to the bridge to protect existing privately-owned irrigation systems.

3.4.5 Utilities

The proposed roadway alignment may require some existing overhead utility poles and an underground communication line to be relocated. The relocated overhead utilities would be placed on new utility poles and the overhead services be routed onto the new utility poles. There may be a short time disruption to the existing utility services while the utilities are transferred from existing utility poles to new utility poles.

3.4.6 Dewatering

Surface dewatering would be required for construction of the new bridge. Dams would be placed upstream and downstream of the bridge and culverts would allow the flow to continue through the work area. In-water work would be conducted between June 15 and September 30.

3.4.7 Construction Schedule

Construction of the Project would start in 2023 and be completed within approximately 1 year. The County's proposed schedule has been tied to the availability of HBP funding and Toll Credit Program.

3.4.8 Right-of-Way or Temporary Easements

The Project would acquire right-of-way or temporary easements from several adjacent parcels. Right-of-way may be acquired along Kilburn Road within portions of Assessor's Parcel Numbers (APN) 049-007-028 and 049-012-001. Additionally, easements would be granted to allow for the realignment of driveways along Kilburn Road in APNs 049-012-001, 049-11-009, 049-07-028, and 049-08-013.

3.5 DISCRETIONARY ACTIONS AND USES OF THIS EIR

A number of permits and approvals, including discretionary actions, are listed in **Table 3.A: Required Permits and Approvals,** and would be required prior to implementation of the Project. As lead agency for the Project, Stanislaus County would be responsible for the majority of the approvals required for development, including, but not limited to use permits, and tree removal permits. Other agencies may also have some authority related to the Project and its approvals, as described in Table 3.A, below.

Table 3.A: Required Permits and Approvals

Agency	Permit/Approval
California Department of Fish and Wildlife (CDFW)	Section 1602 Streambed Alteration Agreement for impacts to riparian vegetation and the bank of Orestimba Creek[1]
Central Valley Regional Water Quality Control Board (RWQCB)	Compliance with State Water Resources Control Board's NPDES General Permit for Storm Water Discharges Associated with Construction and Land Disturbance Activities (Order No. 2009-0009-DWQ, as amended by 2010-0014-DWG and 2012-0006-DWQ, NPDES No. CAS000002) (Construction General Permit) (with requisite Storm Water Pollution Prevention Plan, Conceptual Storm Water Pollution Prevention Plan, and Permanent Control Measures)
RWQCB	Compliance with (NPDES) General Permit for Waste Discharge Requirements (WDRs) For Storm Water Discharges from Small Municipal Separate Storm Sewer Systems (MS4s) (WQ Order 2013-0001-DWQ NPDES No. CAS000004, as amended by Order WQ 2015-0133-Exec, Order WQ 2016-0069-EXEC, WQ Order 2017-XXXX-DWQ, Order WQ 2018-0001-EXEC, and Order WQ 2018-0007-EXEC) [2]
RWQCB	Section 401 Water Quality Certification for impacts to riparian vegetation and the bank of Orestimba Creek[2]
United States Army Corps of Engineers	Section 404 Nationwide Permit for impacts to Orestimba Creek
State Historic Preservation Officer	State Historic Preservation Officer concurrence with Findings of Adverse Effects and Memorandum of Agreement in compliance with Section 106

Source: Compiled by LSA Associates, Inc. (2021).
Notes:
NPDES: National Pollutant Discharge Elimination System
RWQCB: Regional Water Quality Control Board
WDR: Waste Discharge Requirements

[1] CDFW can require a streambed alteration agreement under the California Fish and Game Code to protect Orestimba Creek, its riparian habitat, and dependent fishery or wildlife resources.

[2] Central Valley RWQCB can impose WDRs under the Porter-Cologne Water Quality Control Act. The RWQCB must review a final CEQA document prior to taking an action on an application for water quality certification and/or WDRS.

4.0 SETTING, IMPACTS, AND MITIGATION MEASURES

This chapter contains an analysis of Cultural Resources, as this is the potentially significant environmental issue identified for the Project in the Initial Study. This section includes the following subsections: (1) how a determination of significance is made; (2) the environmental issues addressed in this chapter; (3) the context for evaluating cumulative effects; (4) the format of the environmental topical section; and (5) the environmental setting and analysis.

4.1 DETERMINATION OF SIGNIFICANCE

Under CEQA, a significant effect is defined as a substantial, or potentially substantial, adverse change in the environment. The CEQA Guidelines direct that this determination be based on scientific and factual data. The discussion of Cultural Resources in this chapter includes criteria of significance, which are the thresholds for determining whether an impact is significant. These criteria of significance have been developed using the CEQA Guidelines, applicable County policies and guidelines, and/or the standards of other regulatory agencies.

4.2 ENVIRONMENTAL TOPIC ADDRESSED IN THIS EIR

The following environmental issue is addressed in this chapter:

- Cultural Resources (historic resources)

The analysis in the Initial Study completed for this Project determined that the Project would not have a significant effect on aesthetics, energy, greenhouse gases, land use and planning, mineral resources, population and housing, public services, recreation, and wildfire. Impacts related to agricultural resources, air quality, biological resources, cultural resources (archaeological resources and human remains), geology and soils, hydrology and water quality, hazards and hazardous materials, noise, transportation and traffic, tribal cultural resources, and utilities and service systems have been mitigated to a less than significant level in the Initial Study. As a result, these topics are not further discussed in this chapter of the EIR, but are briefly addressed in Chapter 5.0, CEQA Required Assessment Conclusions, in subsection 5.4, Effects Found Not to Be Significant.

4.3 CUMULATIVE ANALYSIS CONTEXT

CEQA defines cumulative impacts as “two or more individual effects which, when considered together, are considerable, or which can compound to increase other environmental impacts.” Section 15130 of the CEQA Guidelines requires that an EIR evaluate potential environmental impacts when the project’s incremental effect is cumulatively considerable. “Cumulatively considerable” means that the incremental effects of an individual project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of “reasonably foreseeable probable future” projects, per CEQA Section 15355. Cumulative impacts can result from a combination of the Project together with other closely related projects that cause an adverse change in the environment. Cumulative impacts can result from individually minor but collectively significant projects taking place over time.

The methodology used for assessing cumulative impacts typically varies depending on the specific topic being analyzed. CEQA requires that cumulative impacts be discussed using either a list of past, present, and probable future projects producing related or cumulative impacts, or a summary of projections contained in an adopted local, regional, or Statewide plan, or related planning document, that describes or evaluates conditions contributing to the cumulative effect. This EIR uses the former approach to evaluate cumulative impacts. The cumulative project list and analysis is provided in Chapter 5.0, CEQA Required Assessment Conclusions, in subsection 5.1, Cumulative Impacts.

4.4 FORMAT OF ENVIRONMENTAL TOPICAL SECTIONS

Section 4.5, Cultural Resources comprises two primary parts: (1) Setting, and (2) Impacts and Mitigation Measures. An overview of the general organization and the information provided in the two parts is provided below:

- **Setting:** The Setting generally describes the applicable physical setting (e.g., existing built-environment historic resources) for the Project area and its surroundings that exist at the beginning of the environmental review process. An overview of applicable regulatory considerations is also provided.

- **Impacts and Mitigation Measures:** The Impacts and Mitigation Measures section discusses the impacts that could result from implementation of the Project. The section begins with the criteria of significance, which establish the thresholds to determine whether an impact is significant. The latter part of this section presents the impacts from the Project and mitigation measures, as appropriate. The impacts of the Project are organized into separate categories based on the significance conclusions: less than significant impacts (which do not require mitigation measures) and significant impacts (which do require mitigation measures).

Impacts are also categorized by type of impact as follows: Less Than Significant, Significant, and Significant and Unavoidable.

4.5 CULTURAL RESOURCES

Analysis in this section is based on the Historic Property Survey Report (LSA 2021b) and Archaeological Survey Report (LSA 2021a) prepared for this Project. This section identifies and describes the baseline conditions for cultural resources in the Project site and vicinity, the regulatory setting for cultural resources, identifies potentially significant impacts to cultural resources that may result from Project implementation, and prescribes mitigation measures to reduce the severity of potentially significant impacts.

As discussed in Section 3.5, Cultural Resources, of the Initial Study prepared for the proposed project (Appendix A), with implementation of Mitigation Measure CUL-1, the proposed project would result in less-than-significant archaeological resource impacts. With implementation of Mitigation Measure CUL-2, the Project would not impact human remains. Therefore, potential impacts related to archaeological resources and human remains are not further addressed in this section.

For the purposes of this section *cultural resources* consist of sites, buildings, structures, objects, and districts that may have traditional or cultural value for their historical significance. Cultural resources include a broad range of resources, examples of which include archaeological sites, historic roadways, landscapes, and buildings of architectural significance. For a cultural resource to be considered a historical resource (i.e., eligible for listing in the California Register of Historical Resources [CRHR]), it generally must be 50 years or older and: (1) be listed in, or determined eligible for listing in, the CRHR by the State Historical Resources Commission; (2) be included in a local register of historical resources, as defined in Section 5020.1(k), or identified as part of a survey meeting the requirements of Section 5024.1(g) of the Public Resources Code (PRC); or (3) be determined by the lead agency as historically significant.

4.5.1 Setting

This section briefly describes the history (LSA 2021a) of the Project site and vicinity based on the records searches and literature review conducted as part of previously conducted studies. This section also summarizes the findings from these studies.

4.5.1.1 Cultural Resources Overview

Unless cited, this section is adapted from the *Historic Property Survey Report for the Kilburn Road at Orestimba Creek Bridge Project, Stanislaus County, California* (Marvin and Davis-King, 1995).

History. The mouth of Orestimba Creek which drains into the San Joaquin River was once a part of a 26,666-acre Spanish land grant called Rancho Orestimba y las Garzas, "Meeting place of the herons." Granted in 1844 to Sebastian Nunez, the ranch house was built on the west side of Interstate 5 in Newman, 6.5 miles southwest of the Project site, as it stood "above the sycamore grove on Arroyo de Orestimba." The area within the vicinity of the Project site was more than likely utilized primarily for ranching until California entered the United States of America in 1850 and soon after, the village of Orestimba was established.

There is disagreement as to the historical location of the small village of Orestimba. Background research coupled with consultation with Newman Historical Society, President Ms. Barbara Powell has better defined the location. From this research it appears there was a bridge called Newsome's Bridge located on River Road at Orestimba Creek approximately 1.3 miles northeast of the Project site; additionally, there was a settlement west of Interstate 5 in Newman, 6.5 miles southwest of the Project site, this settlement also had a bridge called Newsome's Bridge. The historical town of Orestimba is believed to be within the grove of sycamore trees that still stands on the west side of Interstate 5 in Newman, 6.5 miles southwest of the Project site. It is this location, in the sycamores, that is described as follows.

Today, the only remnants of the small village of Orestimba (also known as "Newsome's Bridge;" "Orris Timbers;" "Lone Sycamore;" and "Aliso Solo") are the creek and school district which share its name. In 1854, the first public school and community meeting place in Stanislaus County was built at Orestimba. "The building was a rough-built shanty, made of pine or redwood boards, and in use in summer only. A friendly, neighboring [sycamore] tree had to make up for all the deficiencies of the roof." The first church services in the county were held in this building and "in 1888 the little group moved out of the sycamores down to the present Presbyterian Church in Newman." Orestimba also

hosted a post office from April 18 to June 21, 1870. "In addition to the school and post office, the settlement also included a store and some residences. … all evidence of the original settlement has long since disappeared."

Crows Landing. Crows Landing began as an early shipping point on the San Joaquin River. Located about two and one-half miles northeast of the Project area, the landing was named for John Bradford Crow, a prominent farmer and stock-raiser who settled in Stanislaus County in 1867, where he farmed 4,000 acres of land along the river, shipping his produce and grain to other points along its banks. The original settlement of Crows Landing was located at the intersection of the Stockton-Hills Ferry Road and the road that led to Russells Ferry over the San Joaquin River. Operated by a succession of ferrymen over the ensuing years, the ferry, which was last operated by Crow and James Holmes, was replaced by a bridge in 1886. About that same time the new settlement of Crows Landing was established on the railroad, the area became known as Byersville, for the bridge tender and store-keeper, John Byers.

Parcels of the Crow's landholdings in the Kilburn Road vicinity were apparently subdivided in the late 1800s, as a historic map of the area depicts several landholders with small ranches in the area. In 1891 property owners John B. Crow, Sr., John B. Crow, Jr., Guy Kilburn, M. L. Morris, the Williams Brothers, and others petitioned the Stanislaus County Board of Supervisors to establish a county road through their lands on the Orestimba Grant (Road Petition 40). A bridge over Orestimba Creek was not built for several years, evidently, when a petition for construction of a bridge was filed February 14, 1893, as several property owners wrote letters complaining that the road was incomplete without a bridge (Road Petition 40). The road was apparently named for the Kilburn family, early ranchers in the area who resided on the north side of the road about a half-mile southeast of Orestimba Creek.

The land in the Project area has been in the ownership of the Crow family from its settlement until the present (Mervyn Crow, Jr., personal communication 1995). According to a historic map of Stanislaus County, the lands in the Project area belonged to John B. Crow in the late 1890s, although he resided in a large three-story home on another parcel of his landholdings. The Kilburn Road home (21942 Kilburn Road) was apparently constructed as employee housing sometime in the 1890s, for one of the workers on John B. Crow's large ranch. During the early 1930s the home was the residence of Crow's partner in a dairy operation on the property. The White Crow School, attended by members of the Crow family, was located southeast across Orestimba Creek from the farm complex; only the well remains today (Mervyn Crow, Jr., personal communication 1995). The farm house is now [since 1995] a rental property, with the family maintaining the surrounding walnut orchards. The closest town to the Project site is Crows Landing, named for the Crow family.

4.5.1.2 Historical Resources

Previous technical studies and evaluations documented two built environment cultural resources within the Project site, the Kilburn Road Bridge (38C0168) and the Crow Ranch Employee House and Farm Complex. The Kilburn Road Bridge is a steel Warren Pony Truss bridge constructed in 1906, relocated to its current location and encased in reinforced concrete by 1918. The bridge was evaluated for its ability to qualify as a historical resource under CEQA in the 1980s and through the early 2000s. The bridge was originally found eligible for listing in the NRHP during the initial Caltrans

Historic Bridge inventory conducted in the 1980s. In 2004 the bridge was revaluated as part of the Caltrans Historic Bridges Inventory Update and found that it retained NRHP eligibility for its unique construction that combines reinforced concrete and steel truss technologies.

The Crow Ranch Employee House and Farm Complex is a late-1800s farm complex located northeast of and adjacent to the Project site at 21942 Kilburn Road (Assessor's Parcel Number 49-085-13). In 1995, architectural historian Judith Marvin and archaeologist Shelly Davis-King identified the complex and evaluated it for NRHP eligibly as part of an earlier project to replace the Kilburn Road Bridge. The study concurred with the earlier finding of NRHP-eligibility for the Kilburn Road Bridge and found the Crow Ranch Employee House and Farm Complex at 21942 Kilburn Road not eligible for NRHP due to a lack of integrity. The technical study was submitted to the California Historical Resources Information System and assigned a resource number of P-50-002028.

In accordance with California Code of Regulations (CCR) Section 15064.5(a)(2)-(3[C]) using the criteria outlined in California PRC Section 5024.1, the Kilburn Road Bridge (38C0168) is listed in the CRHR and is a historical resource for the purposes of CEQA, and the Crow Ranch Employee House and Farm Complex at 21942 Kilburn Road is not a historical resource for the purposes of CEQA.

4.5.1.3 Regulatory Context

The National Historic Preservation Act (NHPA) of 1966 (as amended), sections of the Code of Federal Regulations (CFR), CEQA, sections of the California Public Resources and Health and Safety codes, the County's General Plan comprise the regulatory framework for cultural resources on the Project site. Each portion of this preservation context is described below.

NHPA Requirements. Built environment resources (buildings and structures) are protected through the NHPA of 1966, as amended (54 United States Code 300101 et seq.) and its implementing regulations: Protection of Historic Properties (36 CFR Section 800).

Prior to implementing an undertaking (e.g., issuing a federal permit), federal agencies (e.g., United States Army Corps of Engineers) are required by Section 106 of the NHPA to consider the effects of the undertaking on historic properties and to afford the Advisory Council on Historic Preservation and the State Historic Preservation Officer (SHPO) a reasonable opportunity to comment on any undertaking that would adversely affect properties eligible for listing in the NRHP. NHPA Section 101(d)(6)(A) allows properties of traditional religious and cultural importance to a tribe to be determined eligible for inclusion in the NRHP. Under the NHPA, a find is significant if it meets the NRHP listing criteria under 36 CFR Part 60.4, as stated below.

The quality of significance in American history, architecture, archaeology, engineering, and culture is present in districts, sites, buildings, structures, and objects that possess integrity of location, design, setting, materials, workmanship, feeling, and association and:

a) that are associated with events that have made a significant contribution to the broad patterns of our history; or

b) that are associated with the lives of persons significant in our past; or

c) that embody the distinctive characteristics of a type, period, or method of construction, or that represent the work of a master, or that possess high artistic values, or that represent a significant and distinguishable entity whose components may lack individual distinction; or

d) that have yielded, or may be likely to yield, information important in prehistory or history.

Federal review of projects is normally referred to as the Section 106 process. The Section 106 process involves step-by-step procedures that are described in detail in the implementing regulations (36 CFR Section 800) and summarized here.

- Establish a federal undertaking.
- Delineate the Area of Potential Effects.
- Identify and evaluate historic properties in consultation with the SHPO and interested parties.
- Assess the effects of the undertaking on properties that are eligible for inclusion in the NRHP.
- Consult with the SHPO, other agencies, and interested parties to develop an agreement that assesses the treatment of historic properties and notify Advisory Council on Historic Preservation.
- Proceed with the project according to the conditions of the agreement.

The proposed bridge replacement Project has been funded by the Federal Highway Bridge Program, and recently the Federal Moving Ahead for Progress in the 21st Century Program (MAP-21). Caltrans is the lead agency under the National Environmental Policy Act (NEPA), and the County is the lead agency under CEQA. The Project would rely on federal funding and meets the definition of an "undertaking" according to 36 CFR Section 800.16(y).

Caltrans, acting as the NEPA lead agency under the assigned authority of the Federal Highway Administration, is providing oversight of this potential undertaking in accordance with the *First Amended Programmatic Agreement Among the Federal Highway Administration, the Advisory Council on Historic Preservation, the California State Historic Preservation Officer, and the California Department of Transportation Regarding Compliance with Section 106 of the National Historic Preservation Act, as it Pertains to the Administration of the Federal-Aid Highway Program in California* (January 1, 2014).

CEQA Requirements. The State of California implements the NHPA through its statewide comprehensive cultural resource preservation programs. The California Office of Historic Preservation, an office of the California Department of Parks and Recreation, implements the policies of the NHPA on a statewide level. The Office of Historic Preservation also maintains the California Historical Resources Inventory. The SHPO is an appointed official who implements historic preservation programs within the State's jurisdiction.

CEQA applies to all discretionary projects undertaken or subject to approval by public agencies. Under the provisions of CEQA, "a project with an effect that may cause a substantial adverse change in the significance of an historical resource is a project that may have a significant effect on the environment."

California Code of Regulations Section 15064.5(a) defines an "historical resource" as a resource that meets one or more of the following criteria:

- Listed in, or eligible for listing in, the California Register of Historical Resources;
- Listed in a local register of historical resources (as defined at PRC Section 5020.1[k]);
- Identified as significant in an historical resource survey meeting the requirements of PRC Section 5024.1(g); or
- Determined to be an historical resource by a project's lead agency (CCR Title 14[3] Section 15064.5[a]).

A historical resource consists of:

> "Any object, building, structure, site, area, place, record, or manuscript which a lead agency determines to be historically significant or significant in the architectural, engineering, scientific, economic, agricultural, educational, social, political, military, or cultural annals of California…. Generally, a resource shall be considered by the lead agency to be 'historically significant' if the resource meets the criteria for listing on the California Register of Historical Resources" CCR Section 15064.5(a)(3).

In accordance with CCR Section 15064.5(b), a substantial adverse change in the significance of a historical resource is a significant effect on the environment. A substantial adverse change in the significance of a historical resource means physical demolition, destruction, relocation, or alteration of the resource or its immediate surroundings such that the significance of a historical resource would be materially impaired.

Public Resources Code 5024.1: California Register of Historical Resources. Section 5024.1 of the PRC established the CRHR. Generally, a resource is considered by the lead agency to be "historically significant" if the resource meets the criteria for listing on the CRHR (CCR Title 14(3) Section 15064.5(a)(3)). For a cultural resource to qualify for CRHR listing, it must be significant under one or more of the following criteria:

Criterion 1: Associated with events that have made a significant contribution to the broad patterns of California's history and cultural heritage;

Criterion 2: Associated with the lives of persons important in our past;

Criterion 3: 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 values; or

Criterion 4: Has yielded, or may be likely to yield, information important in prehistory or history.

In addition to being significant under one or more of these criteria, a resource must retain enough of its historic character and appearance to be recognizable as a historical resource and be able to convey the reasons for its significance (CCR Title 14 Section 4852(c)). Generally, a cultural resource must be 50 years or older to be CRHR eligible.

Stanislaus County General Plan Policies. The following goals, policies, and implementation measures from the County's General Plan Conservation/Open Space Element (Stanislaus County 2015) are related to cultural resources and are applicable to the Project.

- **Goal Eight** - Preserve areas of national, state, regional and local historical importance.
    - **Policy Twenty-Four** - The County will support the preservation of Stanislaus County's cultural legacy of historical and archeological resources for future generations.
        - **Implementation Measure 3** - The County shall work with the County Historical Society, and other organizations and interested individuals to study, identify and inventory archeological resources and historical sites, structures, buildings and objects.
        - **Implementation Measure 4** - The County will cooperate with the State Historical Preservation Officer to identify and nominate historical structures, objects, buildings and sites for inclusion under the Historical Preservation Act.
        - **Implementation Measure 5** - The County shall utilize the CEQA process to protect archaeological or historic resources. Most discretionary projects require review for compliance with CEQA. As part of this review, potential impacts must be identified and mitigated.
        - **Implementation 6** - The County shall make referrals to the Office of Historic Preservation and the Central California Information Center as required to meet CEQA requirements.
    - **Policy Twenty-Five** – "Qualified Historical Buildings" as defined by the State Building Code shall be preserved.
        - **Implementation Measure 1** - Whenever possible, the County Building Inspection Division shall utilize the provisions of the State Building Code that allow historical buildings to be restored without damaging the historical character of the building.

4.5.2 Impacts and Mitigation Measures

The following section identifies potential impacts to cultural resources that could result from the implementation of the Project. This section first lists the criteria by which significance is determined, followed by a discussion of impacts and mitigation measures, as necessary.

4.5.2.1 Criteria of Significance

The Project would have a significant impact on cultural resources if it would:

- Cause a substantial adverse change in the significance of a historical resource pursuant to CCR Section 15064.5;
- Cause a substantial adverse change in the significance of an archaeological resource pursuant to CCR Section 15064.5; or
- Disturb any human remains, including those interred outside of formal cemeteries.

As discussed in Section 3.5, Cultural Resources, of the Initial Study prepared for the proposed project (Appendix A), with implementation of Mitigation Measure CUL-1, the proposed project would result in less-than-significant archaeological resource impacts. With implementation of Mitigation Measure CUL-2, the Project would not impact human remains. Therefore, potential impacts related to archaeological resources and human remains are not further addressed in this section.

Impacts to tribal cultural resources are discussed in Section 3.18, Tribal Cultural Resources, of the Initial Study.

4.5.2.2 Project Impacts

The following section describes the Project's potential impacts to cultural resources. As warranted, feasible mitigation measures are identified to avoid or reduce the severity of such impacts.

a. Cause a substantial adverse change in the significance of a historical resource pursuant to CCR Section 15064.5

Impact CUL-3: The proposed project would demolish the existing Kilburn Road Bridge, which would result in a substantial adverse change in the significance of a historical resource pursuant to CCR Section 15064.5.

Historical Built Environment Resources. The Kilburn Road Bridge (Caltrans Bridge #38C0168) was previously determined eligible for listing in the NRHP to which SHPO concurred and listed in the National Register on December 24, 1985, by the Keeper of the Register. The bridge's eligibility was reaffirmed in the Caltrans Historic Bridge Inventory updates in 2004. Based on its NRHP status, the structure is listed in the CRHR and is considered a historical resource for the purposes of the CEQA.

The Kilburn Road Bridge is eligible under NRHP Criterion C and CRHR Criterion 3 for its type, period, and method of construction, significant for its unique construction that combines reinforced

concrete and steel truss technologies in the early twentieth century. Built in 1906, the Kilburn Road Bridge was relocated to its current location in 1918 and encased in concrete.

Public Resource Codes (PRC) section 21084.1 states in part, "A project that may cause a substantial adverse change in the significance of an historical resource is a project that may have a significant effect on the environment. For purposes of this section, an historical resource is a resource listed in, or determined to be eligible for listing in, the California Register of Historical Resources…" California PRC Section 5020.1(q) defines a "substantial adverse change" to an historical resource as "Substantial adverse change includes demolition, destruction, relocation, or alteration such that the significance of an historical resource would be impaired (PRC Section 5020.1(q))." The Project would remove and replace the Kilburn Road Bridge which has been determined eligible for listing in the CRHR. Per PRC Section 21084.1 the Project would result in a "substantial adverse change in the significance of an historical resource" by removing the bridge, and therefore, the Project would have a significant effect on the environment.

Mitigation of significant impacts must lessen or eliminate the physical impact that the Project would have on the historical resource. This is often accomplished through redesign of a project to eliminate objectionable or damaging aspects of the Project. The County has committed to implementation of **Mitigation Measure CUL-3** to reduce this impact. The demolition of a historic structure cannot be mitigated to less than significant level. Even with the implementation of **Mitigation Measure CUL-3** this is a **significant unavoidable impact**.

Mitigation Measure CUL-3 Historic American Engineering Record Prior to the start of any work that could adversely affect any characteristics that qualify Kilburn Road Bridge as a historic property, the County shall ensure the following are completed:

- Prior to the commencement of the proposed Project, the County or its agent shall contact the regional Historic American Building Survey/Historic American Engineering Record (HAER)/Historic American Landscape Survey coordinator at the National Park Service Interior Regions 8, 9, 10, and 12 Regional Office (NPS) to request that NPS stipulate the level and procedures for completing the documentation. Within ten (10) days of receiving the NPS stipulation letter, the County shall send a copy of the letter to all consulting parties for their information.
- The County shall ensure that all recordation documentation activities are performed or directly supervised by architects, historians, photographers, and/or other professionals meeting the qualification standards in the Secretary of the Interior's Professional Qualification Standards (36 CFR 61).
    - The County shall ensure that the Kilburn Road Bridge is photographed following HAER standards per NPS guidance.

Large format photographs shall be taken of the bridge that display the bridge in context as well as its character-defining features. Photographs shall be processed for archival permanence standards in accordance with HAER photographic specifications.

- The County shall ensure completion of a written historical and descriptive report for the Kilburn Road Bridge, per NPS guidance. The report shall include a physical description of the bridge, discuss its construction and its significance under applicable National Register criteria, and address the historical context for its construction, purpose, and function.
- The County or its agent shall submit the documentation and any subsequent revisions to District 10 Professionally Qualified Staff for a 30-day review and comment period.
- The County or its agent shall revise the documentation in accordance with District 10's comments and submit the documentation for a final review, if required. Once approved by District 10, the documentation shall be submitted to NPS.

- Upon receipt of the NPS written acceptance letter, the County shall make any archival, digital and bound library-quality copies of the documentation and provide them to the Caltrans Library and History Center, the Library of Congress, SHPO, Newman Historical Society and the McHenry Museum and Historical Society. The County shall submit an electronic copy to the Office of Historic Preservation's Central California Information Center at California State University, Stanislaus.
- Caltrans shall notify the SHPO that the documentation is complete, and all copies distributed as outlined in Section A. Caltrans shall include the completion of the documentation in the Annual Report. All documentation shall be completed prior to the commencement of the Project.

As previously discussed, demolition of the existing bridge to allow for construction of a new replacement bridge would result in a substantial adverse change under CEQA. Mitigation Measure CUL-3 would minimize this significant impact to the extent feasible while meeting the basic project objectives; however, as noted in Section 15126.4(b)(2) of the CEQA Guidelines "In some circumstances, documentation of a an historical resource, by way of historic narrative, photographs or architectural drawings, as mitigation for the effects of demolition of the resource will not mitigate the effects to a point where clearly no significant effect on the environment will occur." Therefore, this impact would remain significant and unavoidable even after mitigation is implemented.

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5.0 CEQA-REQUIRED CONCLUSIONS

As required by CEQA, this chapter discusses the following types of impacts that could result from implementation of the Project: cumulative impacts; growth-inducing impacts; significant irreversible changes; effects found not to be significant; and significant unavoidable effects.

5.1 CUMULATIVE IMPACTS

CEQA defines cumulative impacts as "two or more individual effects, which, when considered together, are considerable, or which can compound or increase other environmental impacts." Section 15130 of the CEQA Guidelines requires that an EIR evaluate potential environmental impacts that are individually limited but cumulatively considerable. These impacts can result from the proposed project alone, or together with other projects. The CEQA Guidelines state:

> The cumulative impact from several projects is the change in the environment which results from the incremental impact of the project when added to other closely related past, present and reasonably foreseeable probable future projects. Cumulative impacts can result from individually minor but collectively significant projects taking place over a period of time.

Therefore, cumulative impact analysis is a two-step process. First, it must be determined that the combined impact of the project and other projects is significant, and second, it must be determined that the project's incremental effect is cumulatively considerable (CEQA Guidelines, CCR Section 15130[a][2]).

The Project would have no adverse effects on aesthetics, air quality, energy, geology, soils, and seismicity, land use, mineral resources, noise, population and housing, recreation, and wildfire; therefore, it could not contribute to an overall cumulative effect on any of these environmental topics. If the Project is not expected to contribute to a cumulative effect on a resource, then that resource is not included in the sections below.

5.1.1 Methodology

When evaluating cumulative impacts, CEQA requires the use of either a list of past, present, and probable future projects, including projects outside the control of the lead agency, or a summary of projections in an adopted planning document, or some reasonable combination of the two approaches. This analysis is based on a list of active transportation projects in Stanislaus County. The proximity of projects under consideration for cumulative impacts varies depending on the environmental resource. For example, greenhouse gas emissions from a proposed project and potentially considered projects would not be contained within the project area or even the applicable regional air quality district. Therefore, the geographic area considered for greenhouse gas (GHG) resources would be global, in accordance with possible impacts. Other resources, like noise, visual, and recreation resources, would have much more restricted potential impacts. **Table 5.A: Geographic Scope of Cumulative Impacts**, below, describes the geographic areas considered for the resources under discussion:

Table 5.A: Geographic Scope of Cumulative Impacts

Resource Area	Geographic Area
Agricultural Resources	Stanislaus County
Biological Resources	Stanislaus County and surrounding region corresponding with affected species and habitat
Cultural Resources	Individual ground disturbance sites, with regional implications
Hazardous Materials and Wastes	Project site and surrounding areas
Hydrology and Water Quality	Project site and surrounding areas downstream from project site
Public Services	West Stanislaus Fire Protection District, Stanislaus County Sheriff's Department
Transportation	Roadways affected by project traffic, including Kilburn Road, Crows Landing Road, JT Crow Road, and Morris Road
Tribal Cultural Resources	Individual ground disturbance sites, with regional implications
Utilities	Turlock Irrigation District Water and Power, Central California Irrigation District, Charter Communications, and AT&T

Source: Data compiled by LSA (2021)

Stanislaus County and Caltrans Projects within Project Vicinity. Table 5.B lists the cumulative Stanislaus County and Caltrans projects within the vicinity of the project site. Projects identified from Stanislaus County Department of Public Work's project list include River Road Over San Joaquin River Bridge Replacement (Hills Ferry Road Bridge Replacement), Crows Landing Industrial Business Park, and Crows Landing Road Bridge over San Joaquin River. Projects identified from the Caltrans Projects include the State Route (SR) 108/North County Corridor and SR-99 Stanislaus River Bridge Rehabilitation Projects.

Table 5.B: Cumulative Project List

Cumulative Project No	Current Construction Projects/Projects in Design Phase	Distance from Proposed Project	Possible or Expected Environmental Impacts
Stanislaus County Public Works Projects			
1	*Crows Landing Road (Whitmore Avenue to Hatch Road)*	13.7 miles	VELB
2	*Crows Landing Road Bridge over San Joaquin River*	2.4 miles	Traffic, noise, bats, fish,
3	*Gilbert Road Bridge over T.I.D. Ceres Main Canal*	15.8 miles	Agricultural conversion
4	*Hickman Road Bridge Replacement*	22.2 miles	Bats
5	*Keyes Road at T.I.D. Ceres Main Canal Bridge Replacement*	11.7 miles	TBD
6	*Ladd Road & Saint John Road Intersection Safety Improvements*	23.1 miles	Agricultural conversion

Table 5.B: Cumulative Project List

Cumulative Project No	Current Construction Projects/Projects in Design Phase	Distance from Proposed Project	Possible or Expected Environmental Impacts
7	*Santa Fe Bridge Replacement*	17.1 miles	TBD
8	7th Street Bridge Replacement	15.8 miles	Historic bridge removal
9	9th Street Between Tuolumne River Bridge and Pecos Avenue	15.3 miles	TBD
10	Bret Harte Elementary Safe Crossing and Active Transportation Connectivity Project	14.1 miles	TBD
11	Bridge Preventive Maintenance Plan	Various	Bats, birds, fish
12	Cooperstown Road Over Gallup Creek Bridge Replacement Project	36.1 miles	Biological resources, agricultural conversion
13	Cooperstown Road Over Rydberg Creek Bridge Replacement Project	35.7 miles	Biological resources, agricultural conversion
14	Corporate Yard Phase II Project	14.4 miles	Bats
15	Crabtree Road over Dry Creek Bridge Replacement Project	31.6 miles	Agricultural conversion (Williamson Act), biological resources , paleontological resources, hazardous materials and wastes
16	Crows Landing Industrial Business Park	3.9 miles	Agricultural conversion, transportation, noise
17	Crows Landing Road Between State Route 99 and 7th Street Bridge	16.2 miles	TBD
18	Downtown Denair Active Transportation Connectivity and Safety Project	15 miles	TBD
19	East Las Palmas Avenue over San Joaquin River Bridge Maintenance Project	7 miles	Biological resources
20	Faith Home Road Bridge over the Tuolumne River	15.5 miles	VELB, Ag – 6 acre Williamson Act, 22 acre Prime
21	Golden State Boulevard/Golf Road/Berkeley Avenue Intersection	12.3 miles	TBD
22	Intersections of Paradise Road at Vernon Avenue and 9th Street at Stella Avenue	15miles/ 12.5 miles	TBD
23	McHenry Avenue Widening	17 miles	TBD
24	Milton Road Over Hood Creek Bridge Replacement Project	37.5 miles	Agricultural conversion, TBD
25	Milton Road Over Rock Creek Tributary Bridge	42.3 miles	Agricultural conversion, TBD

Table 5.B: Cumulative Project List

Cumulative Project No	Current Construction Projects/Projects in Design Phase	Distance from Proposed Project	Possible or Expected Environmental Impacts
26	Montpelier Road over TID Main Canal Bridge Replacement	21.4 miles	Agricultural conversion, TBD
27	North County Corridor	21.5 miles	Conversion of 200-550 Williamson act, 400-575 farmland; VELB
28	N Gates and N Dakota Pavement Rehabilitation	16.5 miles	TBD
29	Oakdale-Waterford Over Claribel Lateral Bridge Replacement	24.6 miles	Agricultural conversion
30	Pavement Rehabilitation – Phase M, Albers Road and Hickman Road	18.2 miles	TBD
31	Pioneer Avenue Over Lone Tree Creek Bridge Replacement	29.7 miles	Agricultural conversion
32	Pleasant Valley Road over South San Joaquin Irrigation District Bridge Replacement Project	28.7	Tree removals, birds
33	Quincy Road over Turlock Irrigation District Ceres Main Canal Bridge Replacement	15 miles	TBD
34	River Road Over San Joaquin River Bridge Replacement (Hills Ferry Road Bridge Replacement)	4.6 miles	VELB, fish
35	Robertson Road Elementary Safe Crossing and Active Transportation Connectivity Project	14.8 miles	TBD
36	Schell Road Bridge Over SSJID Canal	35.5 miles	Biological resources
37	Sisk Road, Kiernan Court Pavement Rehabilitation	20.8 miles	TBD
38	Sonora Road Over Martells Creek – Scour Mitigation	35 miles	Biological resources
39	St. Francis Road over MID Main Canal Bridge Replacement	22.3 miles	TBD
40	State Route 132 Gates Road to Dakota Avenue	16.6 miles	TBD
41	Tim Bell Road over Dry Creek Bridge Replacement	27.8 miles	Removal of Historic Bridge, agricultural conversion
42	Turlock Area Measure L Sidewalk Project	11 miles	TBD
43	Urban Pavement Preservation and ADA Curb Ramps – Phase D	22.4 miles	TBD
44	West Modesto Sanitary Sewer Improvements – Beverly/Waverly Project (Area 21)	15.2 miles	TBD

Table 5.B: Cumulative Project List

Cumulative Project No	Current Construction Projects/Projects in Design Phase	Distance from Proposed Project	Possible or Expected Environmental Impacts
45	West Modesto Sanitary Sewer Improvements – Rouse/Colorado Project (Area 9)	14.8 miles	TBD
46	West Modesto Sanitary Sewer Improvements – Spencer/Marshall Project (Area 7)	16 miles	TBD
Caltrans District 10 Stanislaus Projects			
47	SR-99 Stanislaus River Bridge Rehabilitation Project	16.5 miles	TBD
48	SR-108/49 and Mackey Ranch Road Intersection Improvements	47.7 miles	TBD
49	SR-108/North County Corridor	21.5 miles	Agricultural conversion, TBD
50	SR-108, 120, and 49 Guardrail Updates	16.5 miles	TBD
51	SR-132 Dakota Ave to Gates Road	16.5 miles	Agricultural conversion, TBD
52	SR-132 West	16.5 miles	TBD

Source: Compiled by LSA (2021)
Notes:
TBD: To be determined
VELB: Valley Elderberry Longhorn Beetle

5.1.2 Cumulative Effects of the Proposed Project

Agricultural Resources. Related projects, including River Road Over San Joaquin River Bridge Replacement (Hills Ferry Road Bridge Replacement) and Crows Landing Road Bridge over San Joaquin River, both within approximately five miles of the Project site, would require the conversion of small slivers of Important Farmland to non-agricultural land and cancellation of small slivers of Williamson Act Contract land. The nearby Crows Landing Industrial Business Park project would convert 1,178 acres of Prime Farmland to non-agricultural land; however, this project would not require the cancellation of Williamson Act Contracts. According to the California Department of Conservation between 2016 and 2018, Stanislaus County had a net increase of Important Farmland totaling 3,072 acres, which included a net increase of 456 acres of Prime Farmland. In 2018, Stanislaus County conducted an inventory of Important Farmland, and identified approximately 428,450 acres of Important Farmland, including 250,420 acres of Prime Farmland. Stanislaus County and the Stanislaus Local Agency Formation Commission have enacted agricultural preservation programs, policies, and goals to reduce potential impacts associated with agricultural conversion to urban land uses (i.e., residential, commercial, industrial). These programs would help reduce potential impacts; however, the conversion of Important Farmland in the County would still occur.

The Project would convert 0.37 acre of Prime Farmland and would require the cancellation of 0.37 acre of land under Williamson Act Contracts. Given that the inventory of Prime Farmland is increasing in Stanislaus County, the loss of 0.37 acre of Prime Farmland would not contribute

appreciably to the loss of Important Farmland in Stanislaus County and would not affect the continuation of farming within the cumulative study area. Therefore, the Project's conversion of 0.37 acre of Prime Farmland to non-agricultural use would not be considered cumulatively significant and the proposed project would not result in cumulatively considerable agricultural impacts.

Biological Resources. The Project would result in permanent and temporary impacts to: steelhead and/or western pond turtle; roosting bats, Swainson's hawks, and other nesting birds; Valley Elderberry Longhorn Beetle (VELB); black walnut-valley oak riparian habitat; and Orestimba Creek, a water of the United States/State, and its associated wetlands.

Other past, present, and reasonably foreseeable projects, including River Road Over San Joaquin River Bridge Replacement (Hills Ferry Road Bridge Replacement), Crows Landing Industrial Business Park, and Crows Landing Road Bridge over San Joaquin River, all within approximately five miles of the Project site, would similarly have impacts to steelhead, roosting bats, Swainson's hawks and other nesting birds, VELB, riparian habitat, and wetlands. Alongside these and other projects with similar impacts, the Project would contribute to cumulative impacts to steelhead, roosting bats, Swainson's hawks and other nesting birds, VELB, riparian habitat, and wetlands.

Mitigation measures would be implemented to prevent and reduce potential impacts that would occur as a result of Project construction activities. With implementation of these mitigation measures the Project would not result in significant impacts to sensitive riparian habitat or potential waters of the United States or significant wildlife movement corridors.

In general, the impacts to biological resources that would result from the Project would be confined to the Project site; and other projects in the vicinity that could result in impacts to biological resources would be subject to similar mitigation requirements. Therefore, while the Project, in combination with other past, present, and reasonably probable future projects, would contribute to cumulative impacts to biological resources, the contributions are not expected to be considerable.

Cultural Resources. The study area for cumulative cultural resources impacts encompasses the project site and adjacent areas that may contain resources relevant to the history and pre-history of California and Stanislaus County. The proposed project could result in a significant and unavoidable impact to existing historic resources on the project site, both individually and when considered together with potential impacts to cultural resources from other projects in the area. **Mitigation Measure CUL-3**, contained in this EIR, would reduce impacts to historic resources, but not to a less than significant level. Therefore, project impacts to historic cultural resources are **cumulatively considerable**.

If Project construction occurs at the same time as construction for other planned development in the project area, it could result in cumulative impacts to undiscovered cultural resources, paleontological resources, and human remains. However, as included in the Initial Study and Table 3.A of this EIR, the proposed project would adhere to mitigation measures to prevent impacts to undiscovered cultural resources, paleontological resources, and human remains, as would other projects in the area. Therefore, the proposed project would not result in cumulative impacts to undiscovered cultural resources.

Hazardous Materials and Wastes. The study area for hazardous materials and wastes is the Project site and surrounding areas. While there is the potential for multiple actions to contribute to spills of hazardous substances into Orestimba Creek, these potential spills would be addressed by implementation of **Mitigation Measure HAZ-1**, which would require a Spill Prevention and Countermeasures Plan. Likewise, ground disturbance as well as demolition and disposal of bridge materials could release hazardous materials such as aerially-deposited lead, lead based paint, and asbestos into the environment; however, **Mitigation Measures HAZ-2** and **HAZ-3** would ensure that materials are evaluated, handled, and disposed of properly. Implementation of these mitigation measures would prevent the spread of hazardous substances outside of the construction area, and other projects in the vicinity that could result in impacts related to hazardous materials and wastes would be subject to similar mitigation requirements. Therefore, the Project would not contribute to an overall cumulative effect to hazardous wastes and materials.

Hydrology and Water Quality. The Project would not violate any water quality standards or waste discharge requirements, substantially alter the existing drainage pattern of the site, decrease groundwater supplies, risk release of pollutants in flood hazard, tsunami, or seiche zones, or conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan. Implementation of **Mitigation Measures HYD-1** through **HYD-5** would reduce impacts related to hydrology and water quality.

Other past, present, and reasonably foreseeable projects, including River Road Over San Joaquin River Bridge Replacement (Hills Ferry Road Bridge Replacement) and Crows Landing Road Bridge over San Joaquin River, all within approximately five miles of the Project site, would similarly have impacts related to erosion, discharge, drainage, pollutants, and compliance with water quality control plans and groundwater management plans.

With implementation of the mitigation measures identified above, the Project would not make a significant contribution to cumulative impacts related to hydrology and water quality. In general, the impacts related to hydrology and water quality that would result from the Project would be confined to the Project site and receiving waters; and other projects in the vicinity that could result in impacts related to hydrology and water quality would be subject to similar mitigation requirements and compliance with Stanislaus County or Caltrans NPDES permits and Best Management Practices (BMPs). Therefore, the Project, in combination with other past, present, and reasonably probable future projects, would not result in significant cumulative effects on hydrology and water quality.

Public Services. With implementation of the proposed Project, there would be construction-period impacts to emergency service access in the Project area. Other past, present, and reasonably foreseeable projects, including River Road Over San Joaquin River Bridge Replacement (Hills Ferry Road Bridge Replacement) and Crows Landing Road Bridge over San Joaquin River, both within approximately five miles of the Project site, would similarly have impacts due to construction-period detours and potential road closures.

With implementation of the mitigation measures identified in the Initial Study, the Project would not make a significant contribution to cumulative impacts related to public services. In general, the impacts related to emergency service access that would result from the Project would be confined

to Kilburn Road. Other projects in the vicinity that could result in impacts related to public services would be subject to similar mitigation requirements. Therefore, the Project, in combination with other past, present, and reasonably probable future projects, would not result in significant cumulative effects on public services.

Transportation. There would be construction-period impacts to transportation in the project area, with traffic caused by construction machinery and workers, as well as rerouted vehicle traffic potentially impacting surrounding areas. Other past, present, and reasonably foreseeable projects, including River Road Over San Joaquin River Bridge Replacement (Hills Ferry Road Bridge Replacement) and Crows Landing Road Bridge over San Joaquin River, both within approximately five miles of the Project site, would similarly have impacts due to construction-period detours and potential road closures.

With implementation of the mitigation measures identified in the Initial Study, the Project would not make a significant contribution to cumulative impacts related to transportation. In general, the impacts related to transportation that would result from the Project would be confined to Kilburn Road, with a small increase in traffic along Crows Landing Road, JT Crow Road, and Morris Road in the vicinity of the Project. Other projects in the vicinity that could result in impacts related to transportation would be subject to similar mitigation requirements. Therefore, the Project, in combination with other past, present, and reasonably probable future projects, would not result in significant cumulative effects on transportation.

Tribal Cultural Resources. The Project could have impacts to previously undiscovered tribal cultural resources. Other past, present, and reasonably foreseeable projects, including River Road Over San Joaquin River Bridge Replacement (Hills Ferry Road Bridge Replacement) and Crows Landing Road Bridge over San Joaquin River, both within approximately five miles of the Project site, would similarly have the potential to impact tribal cultural resources.

With implementation of the mitigation measures identified in the Initial Study, the Project would not make a significant contribution to cumulative impacts related to tribal cultural resources. In general, the impacts related tribal cultural resources that would result from the Project would be confined to the Project site; and other projects in the vicinity that could result in impacts related to tribal cultural resources would be subject to similar mitigation requirements. Therefore, the Project, in combination with other past, present, and reasonably probable future projects, would not result in significant cumulative effect on tribal cultural resources.

Utilities. The Project would relocate some overhead utility lines, but would not generate excessive waste water or solid waste and would comply with all management and reduction statutes and regulations.

Construction of other past, present, and reasonably foreseeable projects, including River Road Over San Joaquin River Bridge Replacement (Hills Ferry Road Bridge Replacement), Crows Landing Road Bridge over San Joaquin River, and Crows Landing Industrial Business Park, all within approximately five miles of the Project site, would similarly create waste water and solid waste. Only the Crows Landing Industrial Business Park would increase demand for groundwater supplies and wastewater collection and conveyance facilities, and would require new electrical, natural gas, and

telecommunications infrastructure. Likewise, Crows Landing Industrial Business Park would result in an increase of wastewater flows that would exceed current capacity.

With implementation of the mitigation measures identified in the Initial Study, the Project would not make a significant contribution to the cumulative impacts related to utilities resulting from other past, present, and reasonably foreseeable projects. In general, the impacts related to utilities that would result from the Project would be confined to the Project site; other projects in the vicinity that could result in impacts related to utilities would be subject to mitigation requirements. Therefore, the Project, in combination with other past, present, and reasonably probable future projects, would not result in significant cumulative effects on utilities.

5.2 GROWTH INDUCEMENT

This section summarizes the Project's potential growth-inducing impacts on the surrounding community. A project is considered growth-inducing if it would directly or indirectly foster substantial economic or population growth or the construction of additional housing, either directly or indirectly, in the surrounding environment. Examples of projects likely to have significant growth-inducing impacts include extensions or expansions of infrastructure systems beyond what is needed to serve project-specific demand, and development of new residential subdivisions or industrial parks in areas that are only sparsely developed or are underdeveloped. Typically, development projects on sites that are designated for development and surrounded by existing suburban uses are not considered adversely growth-inducing because growth in areas that already have development and infrastructure available to serve new development are generally considered environmentally beneficial.

The proposed Project would replace a structurally deficient bridge along Kilburn Road which currently experiences low volumes of traffic. The existing bridge carries one lane of traffic, and the new bridge would carry two lanes, increasing capacity of the bridge. However, the Project would not increase capacity along Kilburn Road and future volumes are expected to remain as low as existing volumes for the foreseeable future. Project construction would result in a temporary increase in construction jobs. However, it is anticipated that these jobs would be filled by workers in Stanislaus County who would commute daily to the Project site. Operation of the Project would not result in any changes in employment related to maintenance, repair, and inspection of the roads and bridge because these activities would occur as a part of the County's and State's regular maintenance activities. Therefore, the Project would result in no increased short-term or long-term demands for housing or public services. The Project would not introduce any new employment or housing and would not induce any growth in the Project area.

5.3 SIGNIFICANT IRREVERSIBLE CHANGES

CEQA requires that an EIR assess whether the Project would result in significant irreversible changes to the physical environment. The CEQA Guidelines discuss three categories of significant irreversible changes that should be considered. Each is addressed below.

5.3.1 Changes in Land Use Which Commit Future Generations

The parcels within and surrounding the Project area are designated for agricultural use, and all are zoned Agricultural 40 Acre (A-2-40), according to Stanislaus County. The Project is the replacement of an existing structurally deficient bridge and would continue to be compatible with the surrounding agricultural uses and zoning once in operation. Implementation of the Project would result in the permanent conversion of 0.37 acres of parcel APNs 049-012-001 and 049-007-028. The total size of these two parcels is 89.89 acres; therefore, 0.42 percent of the land within these parcels located immediately adjacent to an existing roadway would become non-farmable and change land use from agriculture to transportation due to implementation of the Project, and approximately 99.58 percent of the land within these two parcels would remain farmable. Therefore, the Project would not commit future generations to a significant change in land use.

5.3.2 Irreversible Damage from Environmental Accidents

No significant environmental damage, such as accidental spills or explosion of a hazardous material, is anticipated to occur with development of the Project. Implementation of **Mitigation Measures HAZ-1**, **HAZ-2**, and **HAZ-3**, as identified in Section 3.9, Hazards and Hazardous Materials, of the Initial Study, would ensure that the potential for accidental release of hazardous materials into the environment are reduced to a less than significant level. No irreversible changes – such as those which might result from construction of a large-scale mining project, a hydroelectric dam project, or other institutional project – would result from development of the Project.

5.3.3 Consumption of Non-Renewable Resources

Consumption of nonrenewable resources includes an increase in energy consumption, conversion of agricultural lands, and lost access to mining reserves. As discussed in Section 3.2, Agriculture and Forestry Resources, of the Initial Study, the Project site is largely made up of transportation use (Kilburn Road and the bridge over Orestimba Creek) and Prime Farmland. Small portions of agricultural lands (0.37 acre of Prime Farmland) would be converted to non-agricultural uses. In addition, the Project site does not contain known mineral resources and does not serve as a mining reserve; thus, development of the Project would not result in the loss of access to mining reserves. Please refer to Sections 3.2 and 3.12 of the Initial Study for a discussion of impacts related to agricultural and mining resources.

Construction of the Project would require the use of energy, including energy produced from non-renewable resources. Operation of the Project is expected to result in a similar or reduced energy use compared to No Project conditions. As discussed in Section 3.6, Energy, of the Initial Study, the Project would not result in any significant impacts associated with the wasteful, inefficient or unnecessary consumption of energy resources. Energy usage in the Project area during construction would be relatively small in comparison to the State's available energy sources and energy impacts would be negligible at the regional level. The Project would not conflict with California's energy conservation plans as described in the CEC's 2019 Integrated Energy Policy Report. Additionally, the Project would not require the construction of major new lines to deliver energy or natural gas as these services are already provided in the area. Therefore, the Project would not have a significant impact associated with the consumption of nonrenewable resources.

5.4 EFFECTS FOUND NOT TO BE SIGNIFICANT

An Initial Study was prepared for the proposed Project and is included in Appendix A. Based on information from County staff, visits to the project site, and background research and analysis completed for the Initial Study, the Project is not expected to result in significant impacts related to the following topics with the implementation of the mitigation measures contained in the Initial Study and Table 2.A of this Draft EIR.

5.4.1 Aesthetics

As discussed in the Initial Study, the Project would have less than significant impacts on existing visual character or the quality of public views of the site and surroundings, and a less than significant impact regarding creation of a new source of substantial light or glare. There are no designated scenic view corridors or State or County scenic highways within the immediate vicinity of the project site and no impact would result. While the proposed project would modify the current appearance of the site, the resulting visual character would be similar in kind to that which currently exists in the immediate area. The Project would use lighting during construction but would not add any lighting to the Project area.

5.4.2 Agricultural and Forestry Resources

As discussed in the Initial Study, the Project would have less than significant impacts regarding conversion of Prime Farmland, and would have potentially significant impacts regarding Williamson Act contracts. All other impacts related to agricultural and forestry resources would have no impact. All land within the Project area is designated as Prime Farmland by the Farmland Mapping and Monitoring Program (FMMP). The conversion of 0.37 acre of Prime Farmland due to Project implementation would not be considered an impact for the following reasons: 1) The amount converted would be a small fraction compared to the existing Prime Farmland inventory in Stanislaus County; 2) The land that would be converted is currently not under agricultural production; 3) The 0.37 acre of Prime Farmland that would be converted is a small sliver of land along an existing roadway and would not impact the existing agricultural use of the site or surrounding area; and, 4) The land has not been used for irrigated agricultural production at any time during the four years prior to the mapping date (2018) of the FMMP. Even though there would be a conversion of Prime Farmland to non-agricultural use, based on the four reasons above, such a conversion would not be considered a significant impact. As part of **Mitigation Measure AG-1**, the County would implement the process for public acquisition of Williamson Act contracted land as described in the Initial Study, to notify the California DOC of the intention to acquire a total of 0.37 acre of Williamson Act contracted land from four parcels. The remaining portions of the four parcels would remain under Williamson Act Contracts; however, the contracts would be revised to indicate the smaller acreages due to land acquisition by the County for the Project. The project site is not zoned for forestry use and no forestry land uses are located in proximity to the project site. Therefore, the Projects impacts to agricultural and forestry resources would be mitigated to less than significant.

5.4.3 Air Quality

The Project would have potential construction impacts on air quality in the Project area. In addition to the construction period thresholds of significance, the San Joaquin Valley Air Pollution Control District (SJVAPCD) has implemented Regulation VIII measures for dust control during construction. These control measures are intended to reduce the amount of Particulate Matter below 10 micrometers (PM_{10}) emissions during the construction period. Implementation of **Mitigation Measure AIR-1** would ensure that implementation of the Project complies with Regulation VIII and further reduces the short-term construction period air quality impacts. All other impacts would be less than significant.

5.4.4 Biological Resources

As discussed in the Initial Study, the Project would result in permanent and temporary impacts to: steelhead and/or western pond turtle; to roosting bats, Swainson's hawks, and other nesting birds; to VELB; to black walnut-valley oak riparian habitat; and to Orestimba Creek, a water of the United States/State, and its associated wetlands. With implementation **of Mitigation Measures BIO-1a** and **BIO-1b** potential impacts to steelhead and western pond turtles would be reduced to a less than significant level; implementation of **Mitigation Measures BIO-2a** and **BIO-2b** would reduce potential impacts to nesting birds and roosting bats as well as impacts to wildlife movement or nursery sites to less than significant; with implementation of **Mitigation Measures BIO-3** and **BIO-4** potential impacts to VELB would be reduced to less than significant; implementation of **Mitigation Measure BIO-5** would reduce potential impacts to waters of the United States/State, and associated wetlands to less than significant. There would be no impact related to a conflict with local policies, ordinances, or any Habitat Conservation Plan, Natural Community Conservation Plan, or any other habitat plan.

5.4.5 Cultural Resources (other than historical)

As discussed in the Initial Study, the Project is located in an area that his highly sensitive for the occurrence of buried prehistoric archaeological deposits. However, urban development and agricultural practices within the Project site have likely destroyed any intact surface archaeological deposits, if such deposits were ever present. With implementation of **Mitigation Measure CUL-1** potential impacts to archaeological deposits would be reduced to a less than significant level. **Mitigation Measure CUL-2** would reduce impacts to potential impacts to human remains, should they be present in the Project area.

5.4.6 Energy

As discussed in the Initial Study, construction of the Project would only account for approximately 0.08 percent of diesel fuel usage and less than 0.01 percent of gasoline fuel usage in Stanislaus County. As such, Project construction would have a negligible effect on local and regional energy supplies. Furthermore, impacts related to energy use during construction would be temporary and relatively small in comparison to Stanislaus County's overall use of the State's available energy sources. As the Project would replace an existing bridge, it is not expected that the Project would result in a substantial net increase in vehicular trips through the Project area. Therefore, the Project would not increase gasoline and diesel fuel usage. In addition, operation of the Project would not

require the consumption of electricity or natural gas. Therefore, operational energy consumption would not result in a potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, and impacts would be less than significant.

5.4.7 Geology, Soils, and Seismicity

The Project is not located along a known fault, nor is it within an area delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map. Faults are not known to cross the Project site and the only active fault in Stanislaus County, the Ortigalita Fault, is located approximately 17.5 miles southwest of the site. The Stanislaus County General Plan indicates that based on the location of the Project site, ground shaking would be moderate The Project would be designed to comply with current seismic design standards and would also implement the recommendations provided in the site-specific geotechnical report prepared for the Project as **Mitigation Measure GEO-1** to reduce impacts related to seismic shaking to less than significant. During construction activities, soil would be exposed, and there would be an increased potential for soil erosion compared to existing conditions due to soil disturbance and the exposure of soil to weather conditions (e.g., wind and rain). During a storm event, soil erosion and loss of topsoil could occur at an accelerated rate. With implementation of Erosion Control and Sediment Control BMPs, as required by **Mitigation Measure HYD-1** and **Mitigation Measure HYD-2**, construction impacts related to erosion, or the loss of topsoil would be less than significant. **Mitigation Measure GEO-1** would reduce direct or indirect effects to life or property from expansive soils to less than significant. Implementation of **Mitigation Measure GEO-2** would ensure that any paleontological resources unintentionally discovered during Project construction are properly recorded, collected and curated as applicable. Impacts would be less than significant. There would be no other impacts related to geology, soils, and seismicity.

5.4.8 Greenhouse Gas Emissions

As the Project would replace an existing bridge, it is not expected that the Project would result in an increase in vehicular trips through the Project area. In addition, the Project would not be a source of stationary source emissions once operational. Therefore, GHG emissions generated by the Project would be less than significant. The Project would not generate substantial GHG emissions that would have a significant effect on the environment and would be consistent with the State GHG reduction goals. Therefore, the Project would not conflict with plans, policies, or regulations adopted for the purpose of reducing GHG emissions. This impact would be less than significant.

5.4.9 Hazards and Hazardous Materials

The Project would not introduce or increase any handling, transport, use, or disposal of hazardous materials and would, therefore, have a less than significant impact.

Hazardous materials (e.g., fuel, lubricant, concrete curing materials) may be used by construction equipment and for Project improvements during construction. These materials would be used in accordance with all applicable laws and regulations. All refueling and maintenance of construction vehicles and equipment would occur within the designated staging area for the Project. The use of hazardous materials for construction equipment would be temporary and the Project would not include a permanent use or source of hazardous materials. **Mitigation Measure HAZ-1**, in which the contractor shall prepare a Spill Prevention and Countermeasure Plan, would reduce potential

impacts to a less than significant level. Ground disturbance as well as demolition and disposal of bridge materials could release hazardous materials such as aerially-deposited lead, lead based paint, and asbestos into the environment, but **Mitigation Measures HAZ-2** and **HAZ-3** would ensure that materials are evaluated, handled, and disposed of properly, and would reduce impacts to less than significant.

There are no schools within 0.25 mile of the Project. The Project site is not included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5. The Project is not located within an airport land use plan or within two miles of a public airport, private airstrip, or near any wildlands. Therefore, no impacts would occur.

5.4.10 Hydrology and Water Quality

Soil exposure, non-stormwater discharge, and hazardous material used during construction, as well as pollutants from vehicular use and landscape management during Project operation, could result in the degradation of stormwater runoff quality from the Project site. During construction, the Project has the potential to cause temporary water quality impacts due to grading activities and removal of existing vegetation around and in the creek channel. Demolition, excavation, grading, and construction would require the removal of the existing bridge and roadway pavements, and vegetative cover within the Project site, which would result in the disturbance and exposure of shallow soils to runoff, potentially causing erosion and entrainment of sediment in the runoff, which could adversely affect receiving water quality.

Additionally, chemicals such as fuels, oils, paints, and solvents would be used during construction of the Project. If released, these substances could be transported to nearby surface waterways and/or groundwater in stormwater runoff, wash water, and dust control water, potentially reducing the quality of the receiving waters. The improper management and discharge of dewatering effluent into the storm drainage system could adversely affect water quality in the receiving waters, as contaminants and sediment may be present in the dewatering effluent.

During the operational phase of the Project, the potential for adverse long-term impacts to water quality decreased beyond what is occurring under existing conditions (stormwater currently drains directly into the creek). The Project will design railing that will have curbing that will direct stormwater off the new bridge and onto adjacent soils where the stormwater will percolate naturally into the ground. Long term water quality impacts are usually due to substantial changes in stormwater drainage. However, as the Project will only result in a negligible increase of impervious surfaces and minor stormwater conveyance modifications, a significant permanent increase in runoff and pollutant loading is not expected. Implementation of **Mitigation Measures HYD-1 through HYD-5** would reduce potential construction phase and operational phase impacts on water quality. Project impacts associated with water quality standards or waste discharge requirements or any potential to otherwise substantially degrade surface or groundwater quality would be reduced to less than significant.

5.4.11 Land Use and Planning

As discussed in the Initial Study, the Project would be consistent with existing land uses and would not divide an established community. Project construction would occur mainly within existing right-

of-way. The Project would require approximately 0.36 acre of parcel acquisition (0.17 acre from APN 049-012-001, 0.14 acre from 049-007-028, less than 0.01 acre from 049-011-009, and 0.05 acre from APN 049-008-013) and 0.41 ac of temporary easements on adjacent parcels. The Project would not conflict with any land use plans, policies, and regulations; as such, impacts would be less than significant.

5.4.12 Mineral Resources

As discussed in the Initial Study, no impacts to mineral resources would occur. The Project area is zoned per the California Division of Mines and Geology as areas containing aggregate deposits, the significance of which cannot be evaluated from available data (MRZ-3a); the Project area has a low potential to contain economically valuable mineral deposits. The Project area is zoned Agriculture 40 Acres (A-2-40). Aggregate mining activities would not be consistent with the current zoning. No aggregate mining activities exist or are planned in the Project area. Thus, the Project site and the locations where off-site infrastructure improvements would be constructed do not contain a locally important mineral resource recovery site delineated on a local general plan.

5.4.13 Noise

As discussed in the Initial Study, all impacts related to noise would be less than significant. Noise BMPs would be implemented to help minimize construction noise as much as possible at the nearby sensitive receptors, and the range of vibration levels during construction would not exceed the threshold for the potential damage to fragile buildings. There would be no permanent increase in ambient noise levels or vibration levels. The Project would have no impacts on airport land use plans or residents nearby private airstrips.

5.4.14 Population and Housing

As discussed in the Initial Study, no impacts to population and housing would occur. Housing development is not associated with the Project; therefore, the project area would not induce population growth in the area. The Project would not increase capacity along Kilburn Road None of these activities would require displacement of existing housing and/or residents.

5.4.15 Public Services

As described in the Population and Housing section above, the proposed project would not result in substantial growth in the area that would require additional public services. To ensure the area would continue to be adequately served by public services, **Mitigation Measure TRAN-1** would provide a traffic plan to avoid slow-down or detours during construction for emergency service respondents, reducing impacts to fire protection and police protection to less than significant. Implementation of the Project would not create increased use of area public services, because no housing developments are proposed. As discussed in the Initial Study, no impacts to public services would occur.

5.4.16 Recreation

No new parks or expansion of any existing recreation facilities are proposed as part of the proposed project. The Project would not involve any residential development or employment-generating land

uses and would therefore, not result in increased population, nor an associated need for additional recreational facilities. There would be no impact to recreation associated with the Project.

5.4.17 Transportation and Traffic

The Project would not conflict with any plans, ordinances, or policies establishing measures of effectiveness for the performance of the circulation system. The Project would not result in a change of air traffic patterns that would result in substantial aviation risks. The Project would improve road safety with a safe two-lane crossing of Orestimba Creek. Any temporary inadequate emergency access is mitigated to a less than significant level by the creation of a Traffic Plan/Emergency Services Plan (**Mitigation Measure TRAN-1**). In summary, the Project would have less than significant impacts on transportation.

5.4.18 Tribal Cultural Resources

As described in Section 3.5, Cultural Resources, no built tribal cultural historical resources as defined in Section 15064.5 of the *State CEQA Guidelines* or PRC 5020.1(k) are located within the Project site.

Native American consultation was conducted in compliance with AB 52. Katherine Erolinda Perez, of the North Valley Yokuts Tribe, replied to consultation efforts stating that the area is in a sensitive location and recommended tribal monitoring during construction.

Mitigation Measure CUL-1 requires archaeological monitoring of those portions of the Project corridor identified as sensitive for the occurrence of archaeological deposits and notification to the North Valley Yokuts Tribe in advance of earthwork for Project construction. **Mitigation Measure CUL-1** further requires that all archaeological and tribal cultural resources encountered during construction activities be evaluated by the archaeological monitor in consultation with the North Valley Yokuts Tribe and County staff.

Mitigation Measure CUL-3 requires diversion of construction work in the event any human skeletal material or related funerary objects are encountered during ground disturbance and notification of the County Coroner. If the remains are determined to be Native American, the County Coroner will notify the NAHC, which will determine and notify a Most Likely Descendant (MLD). **Mitigation Measure CUL-3** details steps for the treatment of previously unknown Native American burials. Implementation of **Mitigation Measures CUL-1** and **CUL-3** would reduce potential impacts related to unknown buried tribal cultural resources to less than significant

5.4.19 Utilities and Service Systems

The Project would not result in any new residences or businesses, and would therefore not impact wastewater treatment requirements, delivery, or facilities, and no new on-site sewage systems would be required. Any amount of wastewater generated by construction workers would be hauled and treated off-site. No impacts would occur to wastewater treatment requirements, nor would new water, wastewater facilities, or sewage systems need to be constructed nor expanded. Construction waste generated by the Project would be less than 0.0001 percent of the remaining Class III disposal area capacity and solid waste generated during construction of the Project would not exceed landfill capacity. Electric power and telecommunication facilities would be relocated

before the start of construction to allow access for construction equipment, but relocation would cause utility service interruptions. Implementation of **Mitigation Measure PUE-1** would reduce impacts from utility service interruptions.

5.4.20 Wildfire

According to CalFire, the Project site is not located within or near a State Responsibility Area (SRA) Very High Fire Hazard Severity Zone (VHFHSZ). The nearest SRA VHFHSZ is approximately 15 miles to the west of the Project in the Diablo Range.

The Project does not include any design features that would substantially impair an adopted emergency response plan or emergency evacuation plan. The construction equipment that would be used would include spark arrestors (as applicable to the type of equipment) that would prevent sparks that could start a fire in the Project area. Once construction is complete, the Project would not include any design features or topographical features (e.g., slopes, hills) that could exacerbate the commencement or spread of a wildfire. Due to slope, prevailing winds, location, and other factors, the Project would not exacerbate wildfire risks. Therefore, the Project would not require the installation or maintenance of associated infrastructure (e.g., roads, fuel breaks, emergency water sources, power lines, or other utilities) that would exacerbate fire risk or result in temporary or ongoing impacts to the environment. There would be no impact to Project construction workers or nearby residents related to post-wildfire landslide risks. In the unlikely event that a wildfire should spread to the Project site, it is not expected that the Project would contribute any additional runoff or sedimentation to Orestimba Creek or other downstream drainages. This is due to the lack of steep slopes that are prone to landslide or erosion on the Project site and the fact that the Project's drainage improvements would remain intact after a major wildfire, allowing them to continue to reduce the potential for flooding conditions in downstream facilities. Therefore, downslope or downstream flooding as a result of runoff, post-fire slope instability, or drainage changes are unlikely to expose construction workers or structures to significant risks.

5.5 SIGNIFICANT UNAVOIDABLE ENVIRONMENTAL IMPACTS

Implementation of the Project would result in the removal of a historic bridge, resulting in a project- and cumulative-level significant and unavoidable impact.

The removal of the historic bridge constitutes an unavoidable significant impact to a historical resource. Although impacts to the site are partially mitigated with implementation of Mitigation Measure CUL-3, impacts to historical resources remain significant and unavoidable. In light of the adverse impact identified pertaining to cultural resources, a Statement of Overriding Considerations would be required prior to project approval by the County. All other impacts resulting from the proposed project could be mitigated to a less than significant level (see Table 3.A, and the Initial Study, Appendix A).

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6.0 ALTERNATIVES

6.1 ALTERNATIVES OVERVIEW

CEQA requires that an EIR include a reasonable range of feasible alternatives to the Project that meet most or all Project objectives while reducing or avoiding one or more significant impacts of the Project. According to State CEQA Guidelines Section 15126.6(f), the range of alternatives required in an EIR is governed by a "rule of reason" that requires an EIR to set forth only those alternatives necessary to allow a reasoned choice. An EIR need not consider every conceivable alternative to a project. Instead, the discussion of alternatives must "focus on alternatives to the project or its location which are capable of avoiding or substantially lessening any significant effects of the project." Where a potential alternative is examined but not chosen as one of alternatives, the State CEQA Guidelines require that an EIR briefly discuss the reasons the alternative was dismissed. An EIR is not required to consider alternatives which are infeasible. In addition to a range of alternatives, an EIR must discuss the "No-Project Alternative," which describes the reasonably foreseeable probable future conditions if the project is not approved (State CEQA Guidelines Section 15126.6).

The lead agency must consider the alternatives discussed in an EIR before acting on a project. The agency is not required to adopt an alternative that may have environmental advantages over the project if specific economic, social, or other conditions make the alternative infeasible (PRC Section 21002).

This chapter describes the alternatives to the Kilburn Road Bridge over Orestimba Creek Replacement Project and compares the anticipated environmental impacts of the alternatives to those of the Project, analyzed in Chapter 4.0, Setting, Impacts, and Mitigation Measures of this EIR and in Chapter 3.0, Sections 3.1 through 3.20 of the Initial Study.

6.2 ALTERNATIVES DEVELOPMENT

Based on the evaluation below, the County evaluated alternatives that would fulfill the CEQA requirements of meeting many of the Project objectives, would be fairly feasible, and would avoid or substantially lessen significant impacts, to the extent feasible. In addition, a No-Project Alternative must be considered in an EIR. Therefore, the No-Project Alternative is evaluated in comparison with the Project described in Chapter 3.0 and evaluated in Chapter 4.0. Four alternatives were initially considered but rejected for further consideration for various reasons, such as the inability to meet the basic Project objectives. These alternatives are discussed in Section 6.3.3.

6.3 ALTERNATIVES ANALYSIS

The No-Project Alternative is further described and analyzed in the sections below. The impacts are qualitatively compared to the impacts of the Project in terms of impact type and severity.

6.3.1 No Project Alternative

Section 15126.6(e)(2) of the State CEQA Guidelines requires an EIR to include an analysis of the No-Project Alternative. Evaluation of the No-Project Alternative allows decision makers to compare the

impacts of approving the Project with the impacts of not approving the Project. The No-Project Alternative assumes that the Project would not be implemented but does not necessarily preclude future changes to the Project site. Rather, the No-Project Alternative evaluated in this Draft EIR considers "what would be reasonably expected to occur in the foreseeable future if the Project were not approved, based on current plans and consistent with available infrastructure and community services" (State CEQA Guidelines Section 15126.6 [e][2]).

For this EIR, the No-Project Alternative assumes that the existing bridge would remain and continue to be maintained, requiring more frequent repairs as the structure continues to degrade. As discussed in Chapter 3.0, Project Description, Section 3.2, the bridge has a sufficiency rating of 23.4 due to several deficiencies including: structural deficiencies, load capacity, width, and hydraulics. Under the No Project Alternative, the bridge would continue to deteriorate leading to a possible catastrophic structure collapse during a high-water event and the eventual closure of the bridge to the public, which would result in the removal of a means of access and render certain portions of Kilburn Road inaccessible to through traffic.

6.3.1.1 Impact Analysis

Aesthetics

The No-Project Alternative would result in no impacts on aesthetics because use of the existing bridge would not change. There would be no construction-related removal of the existing bridge structure or vegetation or change in views from the roadway, or residential uses. No new roadway approaches or bridge structure would be introduced to the visual setting. The No-Project Alternative, like the Project, does not include new light sources and would not result in impacts on scenic vistas or resources because there are no designated scenic highways or other resources in the Project area.

Agriculture and Forestry Resources

The No-Project Alternative would result in no impacts on agricultural and forestry resources because use of the existing bridge would not change. No land under Williamson Act contract would need to be acquired, unlike the Project, which would convert 0.37 acre of land under Williamson Act contract. No Prime Farmland, Unique Farmland, or Farmland of Statewide Importance would be converted. No timber resources occur in the Project area. Impacts would be less than the Project.

Air Quality

The No-Project Alternative would not result in impacts on air quality. Construction related short-term construction emissions would not be generated and there would be no potential to exceed SJVAPCD's thresholds or expose sensitive receptors to substantial pollutant concentrations. No change in traffic volume or circulation would occur and as a result, no change in operational emissions would occur. Since the existing bridge would not be demolished, there would be no potential for nuisance odors. Impacts would be less than the Project.

Biological Resources

Under the No-Project Alternative, annual maintenance activities could potentially result in temporary disturbances to nesting migratory birds and minor vegetation management. However, no ground disturbance or loss of habitat for special-status species or wetlands would occur. Impacts would be less than the Project.

Cultural Resources

In accordance with Section 15064.5(a)(2)-(3) of the CEQA Guidelines, using the criteria outlined in Section 5024.1 of the California Public Resources Code, Kilburn Road Bridge is eligible for listing in the NRHP and CRHR and is a historical resource for the purposes of CEQA. The No-Project Alternative would not result in immediate impacts to the Kilburn Road Bridge. This alternative would not require the intentional demolition of the existing Kilburn Road Bridge, but an adverse effect *would* occur under 36 CFR 800.5(a)(2)(ii) due to a diminishment of the bridge's integrity of design, materials, and workmanship, which would result from further degradation of the existing concrete during structural modification required for maintenance efforts. The potential to disturb or destroy buried archaeological resources or previously unknown human remains would remain unchanged. Operation and maintenance of the existing bridge and roads would adversely affect previously identified historical resources, because the existing bridge would continue to deteriorate and required maintenance to keep the bridge usable would diminish or damage the historic structure and integrity of the bridge. In addition, the bridge could be subject to catastrophic failure due to degradation of the structure, resulting in the unintentional loss of the historic structure, without the benefit of the resource documentation requirements outlined in Mitigation Measure CUL-3. Impacts would be similar to the Project.

Energy

Under the No-Project Alternative energy use would remain the same as current condition. Impacts would be less than the Project.

Geology, Soils, and Seismicity

Because there would be no ground-disturbing construction activities, the No-Project Alternative would not impact paleontological resources. Under the No-Project Alternative, there would be no immediate impacts related to geologic hazards, such as those associated with fault rupture, strong ground shaking, and soil erosion, because the Project would not be constructed.

Impacts under the No-Project Alternative slightly less than the Project.

Greenhouse Gases

The No-Project Alternative would not result in impacts to GHG emissions. Short-term construction emissions would not be generated and there would be no potential to exceed regional significance thresholds for carbon dioxide. There would likewise be no change in traffic conditions and as a result, no impact on operational GHG emissions. Impacts would be less than the Project.

Hazardous Materials and Wastes

Under the No-Project Alternative there would be no construction activity, which would preclude construction related use and potential accidental release of hazardous materials (including soils impacted with pesticides and herbicides). The No-Project Alternative would not introduce new fire hazards or risk to people and structures in the Project area. Future maintenance of the existing bridge could include the use of potential hazardous materials (e.g., paint, treated lumber). Use of hazardous materials in accordance with applicable standards ensures that any exposure of the public to hazard materials would have a less than significant impact. Impacts under the No Project Alternative would be less than the Project.

Hydrology and Water Quality

Under the No-Project Alternative no impacts to hydrology and water quality would occur. No grading or other ground disturbance would occur and there would be no potential for temporary increases in sediment loads and pollutants to Orestimba Creek or degradation of water quality. There would be no increase in the use of chemicals or pollutants associated with construction activities and as a result, no increase in hazardous materials in stormwater and no change in flow rates and drainage patterns of stormwater runoff. Impacts would be less than the Project.

Land Use

The No-Project Alternative would not result changes to land use in the study area and would not divide an established community. No temporary or permanent easements of private lands for transportation uses would be needed. Impacts would be similar to the Project.

Mineral Resources

The No-Project Alternative would not result changes the availability of a known mineral resource. Impacts would be similar to the Project.

Noise

The No-Project Alternative would result in no new noise or vibration related impacts. Short-term construction noise would not be generated and there would be no potential to exceed the County construction noise thresholds. Impacts would be less than the Project.

Population and Housing

The purpose of the Project is to correct the existing deficiencies of the Kilburn Road Bridge by replacing it with a new structure that meets the current Stanislaus County standards and the AASHTO guidelines. Neither the No-Project Alternative nor the Project would induce population growth or displace people or housing. Impacts would be similar to the Project.

Public Services

Public services would not be affected under the No Project Alternative. The Project includes the replacement of the existing bridge (governmental facilities). No other new or physically altered governmental facilities would be needed. Impacts would be less than the Project.

Recreation

No parks or other recreational facilities occur in the Project area or within 2 miles. The Project would not affect the use or operation of parks or recreational facilities. The Project is not growth inducing and does not include the construction of or expansion of recreational facilities. Impacts would be similar to the Project.

Transportation

The No-Project Alternative would not result in any construction-related traffic or circulation impacts in the Project area. Under this alternative the current deficiencies would continue. The Project would replace the existing deficient bridge with one that meets the current Stanislaus County standards and the AASHTO guidelines. Like the Project the No-Project Alternative would not increase the capacity of Kilburn Road, as described in the Initial Study. The Project would have greater temporary traffic impacts that the No-Project Alternative. Under the Project Kilburn Road in the Project area would be closed to through traffic during construction. The No-Project Alternative would not require closure or reduction of travel lanes, detours, or the preparation of a Construction Period Emergency Access Plan. The No-Project Alternative would have fewer temporary impacts than the Project. The No-Project Alternative would have greater overall impacts because it would retain the existing bridge and the current deficiencies would continue, including possible complete deterioration of the existing bridge.

Tribal Cultural Resources

The No-Project Alternative would not impact tribal cultural resources since no excavation would occur. Impacts would be less than the Project.

Utilities

Utilities would not be affected under the No Project Alternative. No utility or communications infrastructure relocations or associated activities including vegetation trimming or removal would occur. The existing bridge would remain in place and the current deficiencies would continue. Like the Project the No Project Alternative is not a land development project and no new or expanded water or wastewater treatment facilities or storm water drainage facilities would be needed. No construction-related increase in fuel consumption would occur. As with to the Project, there would be no change in demand for electric power or other energy sources and no inefficient or wasteful use of energy resources would occur. Impacts would be less than the Project.

Wildfire

The Project location is not in a 'Fire Hazard Severity Zone in the State Responsibility AREA (SRA)' per the 2007 CAL FIRE, Fire Hazard Severity Zones in SRA maps. The Project area is identified as a 'Local Responsibility Area (LRA) – Unzoned' per the 2007 CAL FIRE, Fire Hazard Severity Zones in SRA map for Stanislaus County. The Project location is in an 'Unzoned' area and is not classified as a very high fire hazard severity zone. Impacts would be similar to the Project.

6.3.2 Environmentally Superior Alternative

Although it would avoid impacts to the existing bridge and would not involve rehabilitation, reconstruction, or replacement, the No-Project Alternative does not meet the basic objectives defined for the Project. For the following reasons, this alternative is not feasible and prudent.

- **Maintenance.** The existing bridge is structurally deficient and continues to deteriorate under existing conditions; implementation of the No-Project Alternative would not alleviate or improve this condition. These existing deficiencies can eventually lead to collapse and potential injury, loss of life, and sudden unplanned disruption of local traffic circulation resulting in an unplanned impact to the local community. Normal maintenance is not considered adequate to improve the overall structural condition of the bridge. Necessary improvements, such as removal and patching of concrete, injection of large cracks, and protection of exposed steel would be extensive. These extensive maintenance efforts would all be complicated by the brittle and deteriorated nature of the encasing concrete. Additionally, the steel truss is untestable making repair or maintenance infeasible. It is expected that the cost would become a long-term liability with no offsetting public benefit, which would render it economically infeasible.

- **Adverse Effect to Historic Bridge**. The No-Project Alternative would not require the intentional demolition of the existing Kilburn Road Bridge, but an adverse effect *would* occur under 36 CFR 800.5(a)(2)(ii) due to a diminishment of the bridge's integrity of design, materials, and workmanship, which would result from further degradation of the existing concrete during necessary maintenance, as the reinforced concrete that encases the steel truss members is cracked and spalled at numerous locations.

- **Safety.** The No-Project Alternative does not correct the situation that causes the bridge to be considered deficient. Because of the deficiencies summarized below, the Kilburn Road Bridge places intolerable restrictions on transport and travel.

  The existing bridge, constructed in 1906, is a steel Warren Pony Truss bridge with steel truss members that were encased in reinforced concrete in 1918. The bridge is single span, approximately 62 feet long by 19.7 feet wide, and carries one lane of traffic in each direction. The bridge is currently structurally deficient. The reinforced concrete that encases the steel truss members is cracked and spalled at numerous locations. Furthermore, the concrete encasing the steel truss prevents inspection, rendering the condition of the steel truss unknown and presenting a greater risk to vehicles traveling over the bridge along Kilburn Road. Vehicle weight restrictions have been posted on the bridge due to the cracking and spalling of the

bridge and structural members that have limited structural capacity. In addition, the existing bridge width of 19.7 feet is severely substandard for two-way traffic.

6.3.3 Alternatives Considered but Eliminated from Further Analysis

Four alternatives were initially considered but rejected from detailed analysis for various reasons, such as the inability to meet the basic Project objectives. As described below, the rejected alternatives are not considered to be viable or feasible alternatives to the proposed Project. The withdrawn alternatives were, however, explored as a part of the County's effort to provide all possible planning to minimize harm to the historic property. These alternatives include 1) Replacement "Replica Bridge" Alternative; 2) Rehabilitation Alternative; 3) Leave in Place Alternative; and 4) Relocation Alternative. These alternatives are further discussed below.

6.3.3.1 Replacement "Replica Bridge" Alternative

This alternative would build a new replacement bridge with similar details and appearance of the existing bridge, in attempt to maintain the visual and historic quality and characteristics of the historic bridge structure. This alternative would require the demolition of the existing Kilburn Road Bridge; this alternative would still result in an adverse effect under the Criteria of Adverse Effect at 36 CFR 800.5(a)(2)(i). This alternative does not avoid or reduce harm to the historic property. Additionally, a replica bridge would not meet modern design and maintenance requirements; thus, it would not be technically feasible from a structural perspective. Any such design may be able recreate the aesthetic features of the truss itself, however, this alternative present challenges with the structural connection to the rest of the bridge. Although this alternative may satisfy some of the Project's basic objectives, it would not avoid any of the significant impacts of the proposed Project, it would be technically infeasible, and it is expected that the cost would far exceed the cost of constructing a more conventional modern-day concrete bridge, which would render it economically infeasible.

6.3.3.2 Rehabilitation Alternative

This alternative would rehabilitate the existing bridge, strengthen its structural system to carry modern day trucks, replace cracked and spalled concrete, and widen and extensively modify the structure to accommodate two lanes with shoulders. This alternative would also require the creek channel to be lined with concrete and the existing bridge deck raised to facilitate anticipated creek flows.

This alternative would require extensive modifications to the bridge that would be required to meet the Project objectives. Any movement or adjustment of the existing bridge (i.e., raising the bridge) would result in substantial additional degradation of the existing concrete because it is brittle and deteriorated. For the same reasons, the bridge cannot be disassembled for modification in a way that would preserve the encasing concrete. Widening a facility like the existing bridge on Kilburn Road is not feasible for the following reasons:

- Existing concrete encasement would have to be removed to allow an assessment of the structure steel members.

- The structural of the properties of the steel are unknown.
- The additional dead and live loads presented by a new bridge deck is expected to exceed the estimated capacity of the existing structural steel; and,
- Bracing of the top chord of the truss can be expected, thus changing the visual character of the bridge.

Although this alternative may satisfy the Project's basic objectives, it is not feasible due to the damage to the bridge that would result, and would diminish the structure's integrity of design, materials, and workmanship. These aspects of the bridge's integrity are critical to its ability to convey its significance and justify its NRHP eligibility; they would be irrevocably diminished by the Rehabilitation Alternative due to the unavoidable structural failures that would occur during any movement of the bridge deck. This alternative would require extensive alterations to the existing Kilburn Road Bridge in a manner that would not be in conformity with the Secretary of the Interior's Standards for the Treatment of Historic Properties, which would result in an adverse effect under the Criteria of Adverse Effect at 36 CFR 800.5(a)(2)(ii). Bridge modifications and potential damage associated with modifications would substantially diminish the bridge's integrity of design, resulting in further adverse effect under the Criteria of Adverse Effect at 36 CFR 800.5(a)(2)(i).

Although this alternative may satisfy the Project's objectives, it would not avoid or reduce harm to the historic property. In addition, it is expected that the cost of rehabilitation would far exceed the cost of a new replacement bridge, which would render it economically infeasible.

6.3.3.3 Leave-in-Place Alternative

This alternative would construct a new bridge on an adjacent alignment and leave the existing bridge in place alongside the new bridge. Like the Rehabilitation Alternative, this alternative would require the creek channel to be lined with concrete and the existing bridge deck raised to facilitate anticipated flows. As discussed, any movement of the existing bridge (i.e., raising the deck) would result in substantial additional degradation of the existing concrete because it is brittle. Although this alternative may satisfy the Project's objectives, it would diminish the structure's integrity of design, materials, and workmanship in a manner similar to the Rehabilitation Alternative discussed previously. These aspects of the bridge's integrity are critical to its ability to convey its significance and justify its NRHP eligibility; they would be irrevocably diminished by the Leave-in-Place Alternative due to the unavoidable structural failures that would occur during any movement of the bridge deck. Furthermore, the alternative may introduce visual, atmospheric or audible elements that diminish the integrity of the property's significant historic features, which would result in an adverse effect under the Criteria of Adverse Effect at 36 CFR 800.5(a)(2)(v). The new bridge and the creek channel lining would introduce structural changes that were not present during the bridge's period of significance, thereby altering the setting of the bridge as an isolated rural structure in a relatively unmodified environment. The existing bridge would also continue to require ongoing maintenance by the County to prevent its deterioration.

Additionally, realignment and construction of the new bridge would potentially impact riparian habitat and additional agricultural lands, increasing overall impacts from the Project.

Although this alternative may satisfy the Project's objectives, it would not avoid or substantially reduce harm to the historic property. In addition, it is expected that the cost associated with raising the fragile, deteriorated bridge and the long-term maintenance liability with no offsetting public benefit would render it economically infeasible.

6.3.3.4 Relocation Alternative

This alternative would relocate the existing bridge to avoid demolition. However, no viable alternate location has been identified, and as discussed above, any movement of the existing bridge would result in substantial degradation of the existing concrete because it is brittle and deteriorated. Furthermore, due to the limited structural capacity of the steel truss members; attempting to relocate the bridge would most likely result in a complete, unintentional demolition of the bridge due to the resulting spalling and fracturing that would culminate in an extensive loss of concrete. The bridge cannot be disassembled in a way that would preserve the encasing concrete, the loss of which would render the steel truss members susceptible to failure.

Although this alternative may satisfy the Project objectives, attempting to relocate the bridge would diminish the structure's integrity of location, design, materials, workmanship, and possibly setting in a manner similar to the Rehabilitation and Leave-in-Place alternatives discussed previously. This alternative would ultimately result in the unintentional demolition of the existing Kilburn Road Bridge and remove it from its original location, which would result in an adverse effect under the Criteria of Adverse Effect at 36 CFR 800.5(a)(2)(i) and (iii). Although this alternative may satisfy the Project objectives, it would not avoid or substantially reduce harm to the historic property. Attempting to relocate the bridge would substantially diminish the historical integrity of the bridge. In the event the County could determine how to relocate the bridge without diminishing its historical integrity, the cost of relocation would be prohibitive, and no viable alternate location has been identified. These factors render this alternative infeasible.

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APPENDIX A

INITIAL STUDY

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INITIAL STUDY

KILBURN ROAD OVER ORESTIMBA CREEK BRIDGE (38C0168) REPLACEMENT PROJECT

STANISLAUS COUNTY, CALIFORNIA

LSA

October 2021

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INITIAL STUDY

KILBURN ROAD OVER ORESTIMBA CREEK BRIDGE (38C0168) REPLACEMENT PROJECT

STANISLAUS COUNTY, CALIFORNIA

Submitted to:

Stanislaus County
Department of Public Works
1716 Morgan Street
Modesto, California 95358

Prepared by:

LSA
1504 Eureka Road, Suite 310
Roseville, California 95661
916.772.7450

Project No. DEA1901

LSA

October 2021

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LIST OF ABBREVIATIONS AND ACRONYMS

°C	degrees Celsius
°F	degrees Fahrenheit
AASHTO	American Association of State Highway and Transportation Officials
AB	Assembly Bill
APN	Assessor's Parcel Number
BMP	best management practices
BPS	Best Performance Standards
California DOC	California Department of Conservation
Caltrans	California Department of Transportation
CARB	California Air Resources Board
CCR	California Code of Regulations
CDFW	California Department of Fish and Wildlife
CEC	California Energy Commission
CEQA	California Environmental Quality Act
CIWMP	Countywide Integrated Waste Management Plan
CO	carbon monoxide
CRHR	California Register of Historical Resources
db	decibels
dBA	A-weighted decibels
EFH	Essential Fish Habitat
EMFAC2021	EMission FACtor Model
FEMA	Federal Emergency Management Agency
FMMP	Farmland Mapping and Monitoring Program
ft	foot/feet
GHG	greenhouse gases
HAER	Historic American Engineering Record
I-5	Interstate 5
L_{eq}	equivalent continuous noise level over a specified period of time (acoustical energy of a given measurement)
L_{max}	maximum instantaneous sound level

MLD	Most Likely Descendant
NAHC	Native American Heritage Commission
NMFS	National Marine Fisheries Service
NO_x	nitrogen oxide
NPS	National Park Service
NRHP	National Register of Historic Places
PM_{10}	particulate matter less than 10 microns in diameter
$PM_{2.5}$	particulate matter less than 2.5 microns in diameter
PPV	peak particle velocity
PQS	Professionally Qualified Staff
PRC	Public Resources Code
PRIMP	Paleontological Resources Impact Mitigation Program
Project	Kilburn Road over Orestimba Creek Bridge Replacement Project
ROG	reactive organic gases
RSP	rock slop protection
RWQCB	Regional Water Quality Control Board
SB	Senate Bill
SJVAPCD	San Joaquin Valley Air Pollution Control District
SLF	Sacred Lands File
SO_x	sulfur oxide
SPCP	Spill Prevention and Countermeasure Plan
SR	State Route
SWPPP	Storm Water Pollution Prevention Plan
U.S.	United States
USACE	United States Army Corps of Engineers
USFWS	United States Fish and Wildlife Service
VELB	Valley Elderberry Longhorn Beetle
VMT	vehicle miles traveled
$\mu g/m^3$	micrograms per cubic meter of air

1.0 PROJECT INFORMATION

1. **Project Title:**

   Kilburn Road over Orestimba Creek Bridge Replacement Project (Project)

2. **Lead Agency Name and Address:**

   Stanislaus County Department of Public Works, 1716 Morgan Street, Modesto, California 95358

3. **Contact Person and Phone Number:**

   Earl Seaberg, (209) 525-4138

4. **Project Location:**

   The Project site is located in unincorporated Stanislaus County, on Kilburn Road 0.3 mile southeast from the intersection of Crows Landing Road and Kilburn Road, near Crows Landing, Stanislaus County. See **Figure 1: Project Vicinity** and **Figure 2: Project Location**.

5. **Project Sponsor's Name and Address:**

   Stanislaus County Public Works
   1716 Morgan Road
   Modesto, California 95358

6. **General Plan Designation:**

   Kilburn Road is a County-owned right-of-way, and therefore has no land use designation. Surrounding Assessor's Parcel Numbers (APNs) 049-007-028, 049-007-022, 049-008-008, 049-008-013, 049-0011-009, and 049-012-001 are designated Agriculture.

7. **Zoning:**

   Kilburn Road is a County-owned right-of-way, and therefore does not have a zoning classification. Surrounding APNs 049-007-028, 049-007-022, 049-008-008, 049-008-013, 049-0011-009, and 049-012-001 are zoned Agriculture 40 Acres (A-2-40) in Stanislaus County.

8. **Description of Project:**

   PROJECT BACKGROUND

   The existing bridge, constructed in 1906, is a steel Warren Pony Truss bridge with steel truss members that were encased in reinforced concrete in 1918. The Kilburn Road Bridge is eligible for listing in the California Register of Historical Resources (CRHR) and National Register of Historic Places (NRHP), and is considered a historic bridge due to its age and unique construction, which combines reinforced concrete and steel truss technologies.

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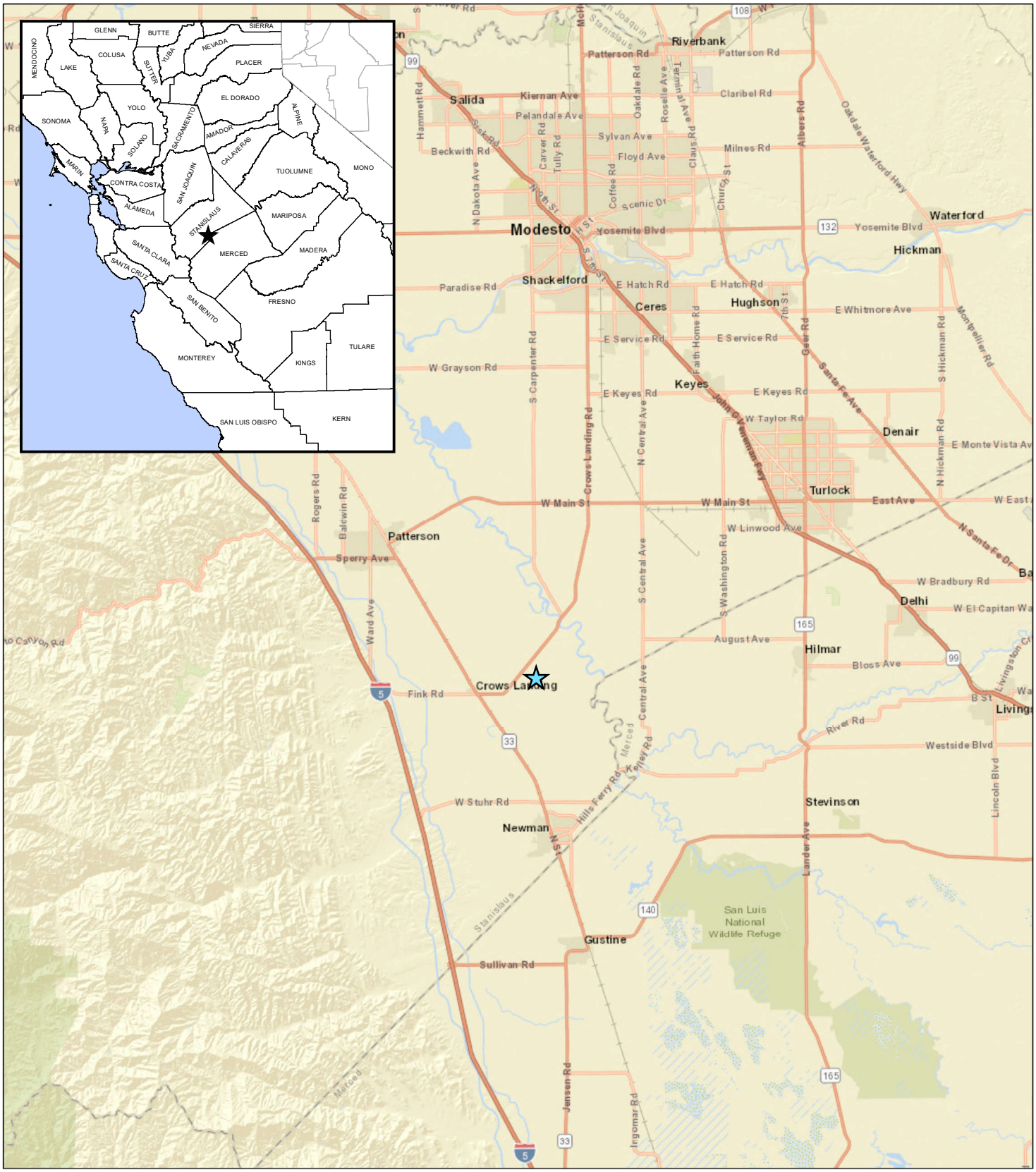

LEGEND

☆ Project Location

FIGURE 1

Kilburn Road Bridge over Orestimba Creek (38C0168)
Replacement Project in Stanislaus County
Caltrans District 10; Federal Aid No. BRLO-5938(157)

Project Regional Location

0 2.5 5
Miles

SOURCE: ESRI World Street Map (05/2021)

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LEGEND

Project Area - (9.89 ac)

FIGURE 2

N

0 1000 2000

FEET

SOURCE: Maxar Aerial Imagery (05/2020)

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Kilburn Road Bridge over Orestimba Creek (38C0168)
Replacement Project in Stanislaus County
Caltrans District 10; Federal Aid No. BRLO-5938(157)

Project Vicinity

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The Kilburn Road Bridge has the following existing deficiencies, which are projected to persist if no improvements are made:

- The bridge is single span, approximately 62 feet long by 19.7 feet wide, and is severely substandard for two-way traffic. Therefore, while striped for two lanes, the bridge is so narrow that it only carries one lane of traffic. Stop signs on either side of the bridge help alternate the travel direction.
- The reinforced concrete that encases the steel truss members is cracked and spalled at numerous locations and vehicle weight restrictions have been posted on the bridge.
- The bridge does not clear the 50-year water surface elevation.
- The bridge is structurally deficient with a sufficiency rating of 23.4. Sufficiency ratings are determined by the Federal Highway Administration Recording and Coding Guide for the Structure Inventory and Appraisal of the Nation's Bridges. Sufficiency ratings range from a low of 0 to a high of 100, and a sufficiency rating of less than 50 qualifies a bridge for replacement.

PROJECT OBJECTIVES

The purpose of the Project is to:

- The existing bridge is structurally deficient and cannot carry legal and permitted truckloads, does not provide clearance for a 50-year floodwater surface elevation and only allows one-way traffic.
- Comply with County, California Department of Transportation (Caltrans), and American Association of State Highway and Transportation Officials (AASHTO) design standards and guidelines for design and construction of the approach roadway and replacement bridge.
- Accommodate regional and occasional interregional transportation needs including permit loads.

PROPOSED PROJECT

The Project would replace the existing two-lane, single-span bridge with a new two-lane, three-span bridge on the same general alignment as the existing bridge. The Project would provide a replacement bridge with safer standard shoulder widths and lane widths, the structural integrity to carry modern day truckloads, and a clearance over 50-year water surface elevation. The design and construction of the approach roadway and replacement bridge would be in compliance with County and Caltrans design standards, as well as AASHTO guidelines.

Bridge Type

Based on the information in the Structure Type Selection Report (David Evans and Associates 2013), the County selected the three-span reinforced concrete slab bridge for design of the Project. Development of the three-span bridge would result in a smaller superstructure depth

(when compared to each proposed alternative) in order to minimize the height of proposed roadway profile. The replacement three-span bridge would be approximately 95 feet long and 34.8 feet wide, accommodating an 11-foot lane and 2-foot shoulder in each direction. Construction of the bridge would involve building piers within the creek channel located approximately 28.5 feet from the abutments and approximately 38 feet apart. Each pier would have four pile/pile extensions consisting of 24-inch diameter cast-in-drilled hole concrete pilings. The proposed Project design is shown in **Figure 3**.

Bridge rails would be constructed on each side of the bridge.

The channel would be graded, and rock slope protection (RSP) would be placed once the pilings for the new bridge have been installed. The RSP would extend up to approximately 25 feet upstream and 25 feet downstream within the County Rights-of-Way.

Additionally, the bridge approaches would be raised approximately 2 feet, providing clearance at the new bridge for a 50-year flood. The embankment side slopes would be constructed at a 4:1 ratio. Fills to build the approach embankments would be imported from an offsite location.

Roadway Alignment

The bridge over Orestimba Creek would be widened from 19.7 feet to 34.8 feet, and would be raised approximately 2 feet in order to clear the 50-year flood water elevation. With implementation of the Project, Kilburn Road would retain its existing alignment, except for a slight change along the south side of the bridge to tie in the wider bridge to the existing road. The roadway approaches would be elevated to tie into the raised bridge, and the increase in elevation would begin approximately 250 feet on both sides of the new bridge. Improving the vertical alignment of the bridge and its connections to Kilburn Road is necessary to reduce risk of flooding and to improve road safety. Realignment of the roadway profile to meet the wider bridge would require a reconfiguration of the private driveways on both sides of the bridge. This roadway alignment design would provide a safer roadway for the traveling public.

Temporary Detour

The existing bridge would be removed and then the new bridge constructed while traffic is detoured away from the bridge site. The proposed bridge would be constructed on the same general alignment as the existing bridge; therefore, Kilburn Road would be closed to traffic until construction is complete. A detour along Crows Landing Road, Morris Road, and JT Crow Road would be provided to allow for the closure of Kilburn Road while the connection from new to existing roadway is made. Detour travel between the Crows Landing Road/Kilburn Road Intersection and the JT Crow Road/Kilburn Road Intersection would be approximately 1.7 miles for through travelers and just over 2 miles for the residences near the existing Kilburn Road Bridge.

LEGEND

- Project Area - (9.89 ac)
- Project Design
- Cut and Fill
- Temporary Construction Easement (TCE)
- Right of Way (ROW)

0 75 150
FEET

SOURCE: Basemap - Maxar Aerial Imagery (05/2020)

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FIGURE 3

Kilburn Road Bridge over Orestimba Creek (38C0168)
Replacement Project in Stanislaus County
Caltrans District 10; Federal Aid No. BRLO-5938(157)

Project Design

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Retaining Walls

A retaining wall may be constructed on the south side of the eastern roadway approach to the bridge to protect the existing privately-owned water pump system. A slope easement or retaining wall may be required on the north side of the western roadway approach to the bridge to protect existing privately-owned irrigation systems.

Utilities

The proposed roadway alignment may require some existing overhead utility poles and an underground communication line to be relocated. The relocated overhead utilities would be placed on new utility poles and the overhead services be routed onto the new utility poles. There may be a short time disruption to the existing utility services while the utilities are transferred from existing utility poles to new utility poles.

Dewatering

Surface dewatering would be required for construction of the new bridge. Dams would be placed upstream and downstream of the bridge and culverts would allow the flow to continue through the work area. In-water work would be conducted between June 15 and September 30.

Construction Schedule

Construction of the Project would start in 2023 and be completed within approximately 1 year. The County's proposed schedule has been tied to the availability of HBP funding, the Toll Credit Program, and MAP-21 funding.

Right-of-Way or Temporary Easements

The Project may acquire right-of-way or temporary easements from several adjacent parcels. Right-of-way may be acquired along Kilburn Road within portions of APN 049-007-028 and 049-012-001. Additionally, easements may be granted to allow for the realignment of driveways along Kilburn Road in APNs 049-012-001, 049-11-009, 049-07-028, and 049-08-013.

9. Surrounding Land Uses and Setting:

Land uses within the vicinity of the Project site consist of residential housing, agricultural land, and the existing Kilburn Road and bridge. There is currently no plan to develop the area surrounding the Project site.

There are no separate bicycle or pedestrian facilities along Kilburn Road in the Project area.

The Project site lies in the central San Joaquin Valley, which is characterized by large, flat areas of agricultural farmland. The majority of the land in the area is privately owned and is similar to the Project site in use and vegetative characteristics.

Within the limits of the Project site, Kilburn Road is a two-lane local rural road, but the existing bridge, while striped for two lanes, only carries one lane of traffic. Stop signs on either side of the bridge control traffic over the bridge, allowing one vehicle to cross at a time, and weight limits are posted on either side of the bridge. The existing bridge is structurally deficient for allowing two-way traffic, carrying modern truckloads, and providing clearance for a 50-year flood water surface elevation.

Orestimba Creek is a perennial stream that originates from the Coast Range Mountains to the southwest. Within the Project site, Orestimba Creek flows from southwest to northeast and supports an established riparian corridor. Downstream of Kilburn Road, Orestimba Creek meanders through farmlands before draining into the San Joaquin River approximately 3 miles to the north.

The terrain in the Project area is flat and at an elevation of approximately 80 to 90 feet (ft). The surrounding terrain in the vicinity of the Project is similar, generally consisting of rural agricultural lands. The dominant vegetation communities in the Project area generally consist of disturbed communities including orchards, row crops, and ruderal/disturbed areas. However, an established riparian corridor associated with Orestimba Creek is also present. Developed areas within the Project site, totaling 1.93 acres, consist of Kilburn Road and driveways to private residences. Primary land uses in the immediate vicinity are rural residences, agricultural fields, and orchards.

10. Other Public Agencies Whose Approval is Required (i.e., permits, financial approval, or participation agreements):

- Stanislaus County California Environmental Quality Act (CEQA) Approval
- Caltrans District 10
- United States Army Corps of Engineers (USACE)
- State Water Resources Control Board
- California Department of Fish and Wildlife
- National Marine Fisheries Service
- State Historic Preservation Officer

11. Have California Native American tribes traditionally and culturally affiliated with the project area requested consultation pursuant to Public Resource Code section 21080.3.1? If so, has consultation begun?

The Native American Heritage Commission (NAHC) was contacted on October 12, 2012, to conduct a Sacred Lands File (SLF) search and provide a Native American Contact List for the Project. The NAHC responded on October 12, 2012, stating that an SLF search was completed for the Project site with negative results. The NAHC also recommended that nine Native American individuals be contacted for information regarding cultural resources that could be affected by the Project. These nine individuals were contacted via a letter sent on October 16, 2012, pursuant to Section 106 describing the project with maps depicting the project study area. Two individuals, Silvia Burley of the California Valley Miwok Tribe and Anthony Brochini of the Southern Sierra Miwuk Nation, responded to follow up phone calls stating that they did not

have any concerns related to the Project, and requested to be contacted if Miwok or Native American artifacts or human remains are observed during construction.

On May 4, 2020, an updated request was sent to the NAHC to conduct a SLF search. The NAHC responded on May 7, 2020, stating that an SLF search was completed for the Project site with negative results. The NAHC also recommended that two Native American individuals be contacted for information regarding cultural resources that could be affected by the Project. These two individuals were contacted via letter on July 29, 2020, pursuant to Public Resources Code 21080.3.1 (Assembly Bill [AB] 52) and Section 106 describing the project with maps depicting the project study area. One individual, Katherine Erolinda Perez of the North Valley Yokuts Tribe, replied and stated that the area is in a sensitive location and recommended tribal monitoring during construction. Ms. Perez was informed that her recommendations would be included in the environmental document.

Consultation with tribes did not result in the identification of any tribal cultural resources.

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2.0 ENVIRONMENTAL FACTORS POTENTIALLY AFFECTED

The environmental factors checked below would be potentially affected by this project, involving at least one impact that is a "Potentially Significant Impact" as indicated by the checklist in Chapter 3.0. An Environmental Impact Report (EIR) will be prepared to address the topic of Cultural (historic architectural) Resources.

☐ Aesthetics	☐ Agriculture and Forestry Resources	☐ Air Quality
☐ Biological Resources	☒ Cultural Resources	☐ Geology/Soils
☐ Greenhouse Gas Emissions	☐ Hazards & Hazardous Materials	☐ Hydrology/Water Quality
☐ Land Use/Planning	☐ Mineral Resources	☐ Noise
☐ Population/Housing	☐ Public Services	☐ Recreation
☐ Transportation/Traffic	☐ Tribal Cultural Resources	☐ Utilities/Service Systems
☐ Mandatory Findings of Significance		

2.1 DETERMINATION

On the basis of this initial evaluation:

☐ 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 ENVIRONMENTAL IMPACT REPORT or NEGATIVE DECLARATION pursuant to applicable standards, and (b) have been avoided or mitigated pursuant to that earlier ENVIRONMENTAL IMPACT REPORT or NEGATIVE DECLARATION, including revisions or mitigation measures that are imposed upon the proposed project, nothing further is required.

Earl R Seaberg Jr
Signature

October 12, 2021
Date

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3.0 CEQA ENVIRONMENTAL CHECKLIST

3.1 AESTHETICS

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
Would the project:				
a. Have a substantial adverse effect on a scenic vista?	☐	☐	☐	☒
b. Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a State scenic highway?	☐	☐	☐	☒
c. In non-urbanized areas, substantially degrade the existing visual character or quality of public views of the site and its surroundings? (Public views are those that area experienced from publicly accessible vantage point.) If the project is in an urbanized area, would the project conflict with applicable zoning and other regulations governing scenic quality?	☐	☐	☒	☐
d. Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?	☐	☐	☒	☐

3.1.1 Impact Analysis

a. Would the project have a substantial effect on a scenic vista?

The Project is located on the segment of Kilburn Road which crosses over Orestimba Creek. The area where the Project is located is generally level and consists of agricultural uses, and is not within an area designated as a scenic vista by Stanislaus County. Additionally, there are no scenic vistas in the vicinity of the Project, therefore any changes to the Project area resulting from the Project would not impact a scenic vista. There would be **no impact** to a scenic vista resulting from implementation of the Project, and no mitigation is required.

b. Would the project substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a State scenic highway?

Interstate 5 (I-5), within Stanislaus County from the San Joaquin to Merced County lines, has been officially designated by legislation as a State scenic highway (California Department of Transportation 2019). I-5 does not run through the Project area, and is located more than five miles from the Project site. Therefore, there would be **no impact** to scenic resources within a State scenic highway resulting from implementation of the Project, and no mitigation is required.

c. In non-urbanized areas, substantially degrade the existing visual character or quality of public views of the site and its surroundings? (Public views are those that area experienced from publicly accessible vantage point.) If the project is in an urbanized area, would the project conflict with applicable zoning and other regulations governing scenic quality?

The Project is located in unincorporated, non-urbanized Stanislaus County, in northern California. The landscape is characterized by flat, open and/or farmed fields. Along the length of Orestimba Creek, the tree canopy is well developed, consisting of large mature trees, with a relatively sparse understory.

The land use within the Project corridor is primarily agricultural with scattered rural residences. The Project corridor is defined as the area of land that is visible from, adjacent to, and outside the roadway right-of-way, and is determined by topography, vegetation, and viewing distance.

Kilburn Road Bridge is a steel Warren Pony Truss bridge constructed in 1906, relocated to its current location and encased in reinforced concrete in 1918. The bridge was evaluated for its ability to qualify as a historical resource under CEQA in the 1980s and was originally found eligible for listing in the NRHP during the initial Caltrans Historic Bridge inventory conducted in the 1980s. In 2004 the bridge was revaluated as part of the Caltrans Historic Bridges Inventory Update and found to retain NRHP eligibility for its unique construction that combines reinforced concrete and steel truss technologies. The existing bridge is now severely deficient for modern truckloads, two-way traffic, and 50-year flood elevations. The Project would remove the existing bridge and replace it with a modern bridge. The new bridge would be wider and 2 feet higher than the existing bridge.

Temporary Construction Impacts

During construction, up to eleven trees and other vegetation would be removed during construction of the Project, either to provide construction access or to accommodate the wider bridge alignment. Of those eleven trees, three are 5 to 18 inches diameter-at-breast-height, and two are 18 to 24 inches diameter-at-breast-height, and six are 24 or more inches diameter-at-breast-height. The trees and vegetation that would be removed to accommodate the Project represent a small proportion of the total canopy in the Project area. Additionally, trees and vegetation identified for removal are currently growing close to and over the bridge on either side, obscuring current views to the historic bridge during spring and summer months. Removal of trees and vegetation would increase safety for roadway users, and implementation of **Mitigation Measure BIO-4**, identified in Section 3.4, Biological Resources, would require all areas temporarily impacted during Project construction to be restored to preconstruction contours (if necessary) and revegetated with native species.

During construction, the road would be closed except for residential access, and construction equipment would be staged in the road. This would be a noticeable but temporary change from existing conditions. The road would be re-opened, and equipment removed following the conclusion of construction.

Operational Impacts

After construction is complete, the most noticeable change would be the removal of the cracking and deteriorating historic bridge and its replacement with a new wider, higher, modern concrete bridge. The new bridge would be designed to current County, Caltrans, and AASHTO standards. While no architectural enhancements are proposed by the Project, all concrete surfaces would be standard, flat finished grey surfaces, and would be consistent with other local bridges and roadways. Additionally, the height of the bridge would increase by only 2 feet at the highest point, compared to existing conditions, which would not be a perceptible change in the overall bridge height when viewed from surrounding areas. As discussed above, vegetation would be removed during construction, allowing the new bridge to be more visible along the road as compared to the existing bridge during spring and summer months. Vegetation removal would be minimal and would not substantially affect the natural character of the creek corridor or riparian canopy except within the immediate vicinity of the bridge improvements.

As further discussed in Response 3.5.a, removal of the existing bridge would result in a potentially significant impact on historic resources. This topic will be further addressed in the EIR. Removal of the existing historic structure would alter the visual character of the existing Project area; however, the new bridge would consist of modern construction, would be designed in compliance with current standards similar to other local bridges, and would therefore not degrade the visual character or quality of public views of the site and its surroundings.

Only one residence currently has a view of the existing bridge, which is obstructed by trees and vegetation. Other local residents have views of the roadway and a portion of the approaches but do not have a direct view of the bridge. For roadway users, the bridge would be along the existing roadway alignment, it would be higher, wider, and less heavily overshadowed by vegetation. The Project would increase roadway visibility for drivers, and the bridge itself would also be more visible during spring and summer months. This would increase roadway safety for drivers and residents. As described above, vegetation removal would be minimal would not substantially affect views of the natural character of the creek corridor or riparian canopy.

Given the above, the Project would not substantially degrade the existing visual character or quality of public views of the site and its surroundings during construction or operation. Impacts would be **less than significant**, and no mitigation is required.

d. Would the project create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?

Existing sources of light within the Project area include vehicle headlights and taillights and light spill from residential and agricultural structures on adjacent properties. The Project would increase the vertical profile of the bridge by 2 ft compared to existing conditions; however, the increased elevation would not significantly alter the trajectory of the light spill from headlights/taillights onto adjacent properties. The Project does not incorporate lighting elements into the design and therefore would not create a new source of light or glare. Because the Project is not capacity-increasing, the new bridge and improvements to the roadway approaches would not generate additional light or glare from additional vehicle traffic headlights/taillights. The Project would not

create a new source of substantial light or glare that would adversely affect day or nighttime views in the area. This impact would be **less than significant**, and no mitigation is required.

3.2 AGRICULTURE AND FORESTRY 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 (California DOC) 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 the forest carbon measurement methodology provided in Forest Protocols adopted by the California Air Resources Board.

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
Would the project:				
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?	☐	☐	☒	☐
b. Conflict with existing zoning for agricultural use, or a Williamson Act contract?	☐	☒	☐	☐
c. Conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code Section 12220(g)), timberland (as defined by Public Resources Code Section 4526), or timberland zoned Timberland Production (as defined by Government Code Section 51104(g))?	☐	☐	☐	☒
d. Result in the loss of forest land or conversion of forest land to non-forest use?	☐	☐	☐	☒
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?	☐	☐	☐	☒

Information in this section is based on the farmland conversion evaluation conducted for the Project, as required by Caltrans, using the United States Department of Agriculture Natural Resource Conservation Service Form AD-1006 (LSA 2020b), which can be found in Appendix A. Because the amount of Important Farmland that would be impacted by the Project is minimal, the Land Evaluation and Site Assessment Model (LESA Model) was not used in the analysis.

3.2.1 Impact Analysis

a. Would the project 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?

Farmland Mapping and Monitoring Program (FMMP). The FMMP is a non-regulatory program of the California DOC that inventories the State's important farmlands and tracks the conversion of farmland to other land uses. The FMMP publishes reports of mapped farmland and conversions every 2 years; the most recent report as of this writing was 2016. The FMMP categorizes farmland according to its soil quality, availability of irrigation water, current use, slope, and other criteria. The categories of farmland identified in the FMMP are listed below. The FMMP considers all of these categories, except Grazing Land, to be Important Farmland.

- **Prime Farmland:** Farmland with the best combination of physical and chemical features and able to sustain long-term agricultural production. This land has the soil quality, growing season, and moisture supply needed to produce sustained high yields. Land must have been used for irrigated agricultural production at some time during the 4 years prior to the mapping date.

- **Unique Farmland:** Farmland with lesser quality soils but still useful for the production of the State's leading agricultural crops. This land is usually irrigated but may include the non-irrigated orchards or vineyards found in some climatic zones of California. Land must have been cropped at some time during the 4 years prior to the mapping date.

- **Farmland of Statewide Importance:** Farmland similar to Prime Farmland but with minor shortcomings, such as greater slopes or less ability to store soil moisture. Land must have been used for irrigated agricultural production at some time during the 4 years prior to the mapping date.

- **Farmland of Local Importance:** Farmland similar to Prime Farmland but with minor shortcomings, such as greater slopes or less ability to store soil moisture. Land must have been used for irrigated agricultural production at some time during the 4 years prior to the mapping date.

FMMP data can be useful when analyzing whether agricultural conversion is occurring within the county, how that conversion is occurring, and at what rate.

Agricultural Resource Setting

Stanislaus County's economic base is predominately agricultural, and agricultural land constitutes approximately 85 percent of land within the county. **Table 1: Stanislaus County Important Farmland Inventory (2016)** presents the acreage of Prime Farmland, Unique Farmland, Farmland of Statewide Importance, and Farmland of Local Importance inventoried in 2016 (this is the most current data available for Stanislaus County from the California DOC FMMP).

Table 1: Stanislaus County Important Farmland Inventory (2016)

Important Farmland Category	2016 Acreage
Prime Farmland	249,967
Unique Farmland	116,210
Farmland of Statewide Importance	33,172
Farmland of Local Importance	26,029
Important Farmland Total	**404,405**

Source: California Department of Conservation, *2014-2016 California Farmland Conversion* Report, Appendix B Table B-3 Important Farmland Acreage Summary 2016.

The County, as of 2016, has 249,967 acres of Prime Farmland, 116,210 acres of Unique Farmland, 33,172 acres of Farmland of Statewide Importance, and 26,029 acres of Farmland of Local Importance for a total Important Farmland inventory of 404,405 acres.

The Project site is located approximately 2.4 miles to the east of Crows Landing. The Project site is approximately 9.89 acres in size and according to the California DOC FMMP 2016 data the Project site is designated as Prime Farmland. It should be noted that the majority of the Project site consists of County owned right-of-way which has already been converted to non-agricultural uses. Because of this, the analysis presented in this section is based on the potential loss/conversion of approximately 0.37 acre of Prime Farmland to non-agricultural land. Parcels surrounding the Project site are currently under agricultural production with row crops and citrus orchards.

The land within the Project boundary is designated as Prime Farmland according to the California DOC FMMP. The majority of the Prime Farmland within the Project boundary is not under agricultural production; rather, these areas are part of existing County owned right-of-way and natural cover (i.e., natural vegetation, compacted dirt areas). Based on the most current Project design, the Project would permanently convert approximately 0.37 acre of Prime Farmland to non-agricultural use. This loss of Prime Farmland would equate to 0.00015 percent (0.37 acre/250,420 acres *100) of the Prime Farmland currently (2016) inventoried in Stanislaus County; thus, representing a small fraction of the Prime Farmland in Stanislaus County.

The conversion of 0.37 acre of Prime Farmland due to Project implementation would not be considered an impact for the following reasons: 1) The amount converted would be a small fraction compared to the existing Prime Farmland inventory in Stanislaus County; 2) The land that would be converted is currently not under agricultural production; 3) The 0.37 acre of Prime Farmland that would be converted is a small sliver of land along an existing roadway and would not impact the existing agricultural use of the site or surrounding area; and, 4) The land has not been used for irrigated agricultural production at any time during the four years prior to the mapping date (2016) of the FMMP. Even though there would be a conversion of Prime Farmland to non-agricultural use, for the four reasons above, such a conversion would not be a significant impact. As such, impacts would be **less than significant,** and no mitigation measures would be required.

b. Would the project conflict with existing zoning for agricultural use, or a Williamson Act contract?

Right-of-way would be acquired from several adjacent parcels to allow development of the proposed Project, including APNs: 049-007-028, 049-008-013, 049-011-009, and 049-012-001. All of these parcels are currently under Williamson Act Contracts as further described below in **Table 2: Williamson Act Contracted Parcels**.

Table 2: Williamson Act Contracted Parcels

Parcel Number	Parcel Acreage	Williamson Act Contract Number	Amount of Land to be Acquired (acres)
049-007-028	42.6	Enrolled Contract Number: 1973-1262	0.14
049-008-013	64.9	Enrolled Contract Number: 1973-1384	0.05
049-011-009	114.9	Enrolled Contract Number: 1976-2297	0.01
049-012-001	48.1	Enrolled Contract Number: 1976-2301	0.17
		Total	**0.37**

Source: Data Basin, Stanislaus County Williamson Act Parcels and Non-Renewals (8/2015), Website: https://databasin.org/datasets/30858ef6142d4cb38c2a3e4b228a7bdb/ (accessed June 10,2021).

A Williamson Contract can be canceled on land or portion of land in the event of public acquisition of said land. A public acquisition of land under a Williamson Act Contract is the acquisition of land by a public agency, or person acting on behalf of a public agency, for a public improvement.

According to the California Land Conservation Act of 1965 (Williamson Act), acquisition of land by a public agency for a public improvement project under a Williamson Act Contract (and designated as Prime Farmland) is prohibited if there is other land within or outside of the Williamson Act contracted land which is reasonably feasible to locate the public improvement. The Project would be located on Kilburn Road and would replace an existing deficient bridge. Kilburn Road is an existing established roadway; as such, designing the Project to cross Orestimba Creek at a different location (downstream or upstream from the existing bridge) would require acquisition of more land compared to the existing design. Implementation of the Project on a different alignment crossing over Orestimba Creek would be an infeasible option given the current roadway alignment. Implementation of the Project would therefore be permitted pursuant to the California Land Conservation Act of 1965.

Public Acquisition notice is required whenever it appears that land within an agricultural preserve may be required by a public agency, or by a person acting on behalf of a public agency, for a public use. The public agency or person shall advise the Director of the DOC and the local governing body (city/county) responsible for the administration of the agricultural preserve of its intention to consider the location of a public improvement with an agricultural preserve, or on property restricted by a Land Conservation Act contract. The requirement to notice occurs four times in the Land Conservation Act of 1965 statute and includes the following:

1. Notice is required before making a decision to acquire property located in an agricultural preserve (Government Code Section 51290(b));

2. Notice is required within 10 days of acquisition of the property (Government Code Section 5129 (c));

3. Notice is required if the public entity proposes any significant changes to the acquisition; and

4. Notice is required after acquisition if the acquiring public agency decides not to acquire the property for the intended purpose (Government Code Section 51291(d)).

The following provides the procedures for each of the four notices listed above:

- **First Notice:** The first notice must occur *before the public agency makes a decision* to acquire a property located in an agricultural preserve. The first notice needs to include the following information:

    1. The public agency's explanation of its preliminary considerations of the findings of Government Code Section51292 (a) and (b):

        a. "The location is not based primarily on a consideration of the lower cost of acquiring land in an agricultural preserve (Section51292(a))."

        b. "There is no other land within or outside of the preserve on which it is reasonably feasible to locate the public improvement (Section51292(b))."

            1) A description of the agricultural preserve land it intends to acquire;

            2) A copy of the Land Conservation Act contract on property that pertains to any land subject to the restrictions of such a contract between the local governing body, city or county, responsible for the administration of the agricultural preserve where the property to be acquired is located.

- **Second Notice:** A second notice is required *within 10 working days after acquisition* (escrow has closed). The second notice shall include the following, if not previously provided due to an exemption in Government Code Sections 51290 to 51295 (the applicable exemption must be stated in the second notice):

    1. The notice shall include a general explanation of the decision and the findings made pursuant to Government Code Section 51292.

    2. A general description, in text or by diagram, of the agricultural preserve land acquired (a vicinity map is sufficient); and,

    3. A copy of the applicable Land Conservation Act contract(s).

If the information and documents, noted above, were provided to the DOC in the first notice then the second notice need only list the documents as having been previously provided.

- **Third Notice:** A third notice is required if there is a significant change in the public improvement that the public agency intends to locate on land that is acquired in an agricultural preserve for such a purpose. The public agency must provide notice to the DOC and the local jurisdiction (city/county) regarding increases or decreases in the amount of land acquired; or

- **Third/Fourth Notice:** A third/fourth notice is required if the public agency does not acquire the land, it notifies the DOC it intends to acquire in the first notice and/or the public agency determines not to use the property it acquired for the purpose identified in the first notice. The land must be reenrolled under a contract that is as restrictive as the one it was under before the acquisition occurred.

Implementation of the Project would require the acquisition of 0.37 acre of land from four parcels (APNs 049-007-028, 049-008-013, 049-011-009, and 049-012-001) that are currently under Williamson Act Contracts and zoned as General Agricultural District 40 Acre (A-2 40). The acquisition and use of 0.37 acre of this land for a bridge replacement project is not a consistent use with Williamson Act Contracts nor the General Agricultural District 40 Acre (A-2 40) zoning designation.

The County would implement the process for public acquisition of Williamson Act contracted land as described above, to notify the California DOC of the intention to acquire 0.37 acre of Williamson Act contracted land. In order to ensure that the notification process occurs, implementation of **Mitigation Measure AG-1** would be required.

Mitigation Measure AG-1 The Stanislaus County Public Works Department shall notify the California DOC of its intention to acquire 0.37 acre of land (or amount of land based on final design, whichever is larger) under Williamson Act Contracts in order to convert the land to County owned right-of-way. The County shall follow the noticing procedures outlined in the *Public Acquisition Notification Procedures: A Step-by-Step Guide* (California DOC 2020). Completion of the notification process (confirmation by the California DOC and recordation of the revised Williamson Act Contracts by the County Clerk Recorders Office) shall occur prior to commencement of any construction activities associated with the Project.

Implementation of **Mitigation Measure AG-1** would allow cancellation of the Williamson Act contracts on the 0.37 acre of land (or amount of land based on final design, whichever is larger) within the four parcels that will be acquired by the County. The remaining portions of the four parcels would remain under Williamson Act Contracts; however, the contracts would be revised to indicate the smaller acreages due to land acquisition by the County for the Project. As such, with implementation of **Mitigation Measure AG-1**, impacts would be **less than significant with mitigation incorporated**.

c. Would the project conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code Section 12220(g)), timberland (as defined by Public Resources Code Section 4526), or timberland zoned Timberland Production (as defined by Government Code Section 51104(g))?

The Project site is zoned as General Agricultural District 40 Acre (A-2 40). The land associated with the proposed project is not designated as a forest resources land use and is not zoned as forest land or timberland. As such, implementation of the Project would not conflict with existing zoning for, or cause rezoning of, of forest land, timberland, or timberland zoned Timberland Production. **No impact** would occur, and no mitigation measures are required.

d. Would the project result in the loss of forest land or conversion of forestland to non-forest use?

The California Forests and Rangelands 2017 Assessment (California Department of Forestry and Fire Protection 2017) defines forest/forests as "a biological community of plants and animals that is dominated by tree and other wood plants; by definition in the Assessment, all lands with greater than 10 percent tree canopy cover including all California Wildlife Habitat Relationship types in the Conifer Forest, Conifer Woodland, Hardwood Forest and Hardwood Woodland land cover classes." The California Public Resources Code defines forest land as "land that can support 10-percent native tree cover of any species, including hardwoods, under natural conditions, and that allows for management of one or more forest resources, including timber, aesthetics, fish and wildlife, biodiversity, water quality, recreation, and other public benefits."

The Project site is located in the Central Valley of California and is not located within a State or federal forest. The Project site is occupied by trees, the majority of which have been planted in orchards on the surrounding parcels. The 9.89-acre Project site is occupied by 0.89 acre of Black Walnut-Valley Oak Riparian habitat within Orestimba Creek (LSA 2020a). Since approximately 8.7 percent of the Project site is occupied by Black Walnut-Valley Oak Riparian habitat, this type of habitat does not qualify as a forest resource pursuant to California Forests and Rangelands 2017 Assessment and Public Resources Code (PRC) Section 1220[g]. Project implementation would require the removal of 0.11 acre of Black Walnut-Valley Oak Riparian habitat (including the removal of five Valley oak, three Black walnut, two Fremont's cottonwood, and one willow); however, the Project site is not occupied by at least 10 percent tree canopy cover and therefore the Project would not impact forest resources pursuant to the California Forests and Rangelands 2017 Assessment and PRC Section 1220[g]. **No impact** would occur and no mitigation measures are required.

e. Would the project 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?

The Project would occur on Kilburn Road in a rural portion of Stanislaus County. The impacts to agricultural and forest resources, as described above, would be limited to the 9.89-acre Project site. No other actions associated with the Project would directly or indirectly convert agricultural land or forest land to non-agricultural land or non-forest land. **No impact** would occur, and mitigation measures would not be required.

3.3 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.

	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
Would the project:				
a. Conflict with or obstruct implementation of the applicable air quality plan?	☐	☐	☒	☐
b. 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?	☐	☐	☒	☐
c. Expose sensitive receptors to substantial pollutant concentrations?	☐	☒	☐	☐
d. Result in other emissions (such as those leading to odors) adversely affecting a substantial number of people?	☐	☐	☒	☐

3.3.1 Project Impact Analysis

a. Would the project conflict with or obstruct implementation of the applicable air quality plan?

The Project site is located in Stanislaus County, within the San Joaquin Valley Air Pollution Control District (SJVAPCD). The SJVAPCD is made up of eight counties in California's Central Valley: San Joaquin, Stanislaus, Merced, Madera, Fresno, Kings, Tulare and the San Joaquin Valley Air Basin portion of Kern. The SJVAPCD is a public health agency whose mission is to improve the health and quality of life for all Central Valley residents through efficient, effective and entrepreneurial air quality management strategies. The Stanislaus Council of Governments is responsible for regional transportation planning and preparing the Air Quality Conformity Analysis for Stanislaus County. This document is used to bring regional emissions into federal and State air quality standards as required by the Clean Air Act.

Air quality is measured against both National Ambient Air Quality Standards and California Ambient Air Quality Standards to protect public health and the climate. "Attainment" status for a pollutant means that the Air District meets the standard set by the U.S. Environmental Protection Agency (federal) or California Environmental Protection Agency (State). The project is located in an area that is currently non-attainment for State ozone and particulate matter ($PM_{2.5}$ [particulate matter less than 2.5 microns in diameter] and PM_{10} [particulate matter less than 10 microns in diameter]) standards and non-attainment for federal 8-hour ozone and $PM_{2.5}$ standards.

To bring the San Joaquin Valley into attainment, the SJVAPCD developed the 2013 Plan for the Revoked 1-Hour Ozone Standard (Ozone Plan), adopted on September 19, 2013. The SJVAPCD also adopted the 2016 Plan for the 2008 8-Hour Ozone Standard in June 2016 to satisfy Clean Air Act requirements and ensure attainment of the 75 parts per billion 8-hour ozone standard.

To assure the San Joaquin Valley Air Basin's continued attainment of the U.S. Environmental Protection Agency PM_{10} standard, the SJVAPCD adopted the 2007 PM_{10} Maintenance Plan in September 2007. SJVAPCD Regulation VIII (Fugitive PM_{10} Prohibitions) is designed to reduce PM_{10} emissions generated by human activity. The SJVAPCD adopted the 2018 Plan for the 1997, 2006, and 2012 $PM_{2.5}$ Standards in November 2018 to address the U.S. Environmental Protection Agency 1997 annual $PM_{2.5}$ standard of 15 µg/m^3 and 24-hour $PM_{2.5}$ standard of 65 µg/m^3, the 2006 24-hour $PM_{2.5}$ standard of 35 µg/m^3, and the 2012 annual $PM_{2.5}$ standard of 12 µg/m^3.

For a project to be consistent with SJVAPCD air quality plans, the pollutants emitted from a project should not exceed the SJVAPCD emission thresholds or cause a significant impact on air quality. In addition, emission reductions achieved through implementation of offset requirements are a major component of the SJVAPCD air quality plans.

Construction of the Project would not result in the generation of criteria air pollutants that would exceed SJVAPCD thresholds of significance, as shown in **Table 3: Construction Emissions Estimates**, below. Implementation of SJVAPCD Regulation VIII would further reduce construction dust impacts. 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 increase in operational air quality emissions. Operational emissions associated with the Project would not exceed SJVAPCD established significance thresholds for reactive organic gases (ROG), nitrogen oxide (NO_x), carbon monoxide (CO), sulfur oxide (SO_x), PM_{10}, or $PM_{2.5}$ emissions. Therefore, the Project would not conflict with or obstruct implementation of SJVAPCD air quality plans and impacts would be **less than significant**, and no mitigation is required.

b. Result in a cumulatively considerable net increase of any criteria pollutant for which the project is nonattainment under an applicable federal or State ambient air quality standard?

Construction Emissions

During construction, short-term degradation of air quality may occur due to the release of particulate matter emissions (i.e., fugitive dust) generated by excavation, grading, hauling, and other activities. Emissions from construction equipment are also anticipated and would include CO, NO_x, ROG, directly-emitted particulate matter ($PM_{2.5}$ and PM_{10}), and toxic air contaminants such as diesel exhaust particulate matter.

Project construction emissions were estimated for the Project using the Sacramento Metropolitan Air Quality Management District's Road Construction Emissions Model, Version 9.0.0 (RoadMod) as recommended by the SJVAPCD for roadway projects. As described in Chapter 1.0, Project Information, Project construction is anticipated to start in 2023 and last approximately 1 year. In addition, the Project would require the off-haul of approximately 500 cubic yards of material from the Project site, which was included in RoadMod. Construction-related emissions are presented in Table 3. Detailed calculations are provided in Appendix B.

Table 3: Construction Emissions Estimates

Source	Pollutant Emissions (Tons/Year)					
	ROG	**NO_x**	**CO**	**SO_x**	**PM_{10}**	**$PM_{2.5}$**
Grubbing/Land Clearing	<0.1	0.1	0.1	<0.1	0.3	0.1
Grading/Excavation	0.5	5.2	3.9	<0.1	1.5	0.5
Drainage/Utilities/Sub-Grade	0.2	2.4	1.9	<0.1	0.9	0.3
Paving	0.0	0.2	0.3	<0.1	<0.1	<0.1
Total	**0.8**	**7.9**	**6.2**	**<0.1**	**1.5**	**0.5**
SJVAPCD Thresholds	10.0	10.0	100.0	27.0	15.0	15.0
Exceed Threshold?	**No**	**No**	**No**	**No**	**No**	**No**

Source: LSA (June 2021).
CO = carbon monoxide
NO_x = nitrogen oxides
$PM_{2.5}$ = particulate matter less than 2.5 microns in size
PM_{10} = particulate matter less than 10 microns in size
SJVAPCD = San Joaquin Valley Air Pollution Control District
SO_x = sulfur oxides
ROG = reactive organic gases

As shown in Table 3, construction emissions associated with the Project would not exceed the SJVAPCD's thresholds for ROG, NO_x, CO, SO_x, PM_{10}, or $PM_{2.5}$. In addition to the construction period thresholds of significance, the SJVAPCD has implemented Regulation VIII measures for dust control during construction. These control measures are intended to reduce the amount of PM_{10} emissions during the construction period. Implementation of **Mitigation Measure AIR-1** would ensure that implementation of the Project complies with Regulation VIII and further reduces the short-term construction period air quality impacts.

Mitigation Measure AIR-1 Consistent with SJVAPCD Regulation VIII (Fugitive PM_{10} Prohibitions), the following controls are required to be included as specifications for the Project and implemented at the construction site:

- All disturbed areas, including storage piles, which are not being actively utilized for construction purposes, shall be effectively stabilized of dust emissions using water, chemical stabilizer/ suppressant, covered with a tarp or other suitable cover or vegetative ground cover.
- All on-site unpaved roads and off-site unpaved access roads shall be effectively stabilized of dust emissions using water or chemical stabilizer/suppressant.
- All land clearing, grubbing, scraping, excavation, land leveling, grading, cut and fill, and demolition activities shall be effectively controlled of fugitive dust emissions utilizing application of water or by presoaking.

- When materials are transported off-site, all material shall be covered, or effectively wetted to limit visible dust emissions, and at least six inches of freeboard space from the top of the container shall be maintained.

- All operations shall limit or expeditiously remove the accumulation of mud or dirt from adjacent public streets at the end of each workday. (The use of dry rotary brushes is expressly prohibited except where preceded or accompanied by sufficient wetting to limit the visible dust emissions. Use of blower devices is expressly forbidden.)

- Following the addition of materials to, or the removal of materials from, the surface of out-door storage piles, said piles shall be effectively stabilized of fugitive dust emission utilizing sufficient water or chemical stabilizer/suppressant.

With implementation of **Mitigation Measure AIR-1**, construction emissions associated with the Project would be less than significant. Therefore, construction of the Project would not 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 and impacts would be **less than significant with mitigation incorporated**.

Operational Emissions

As the Project would replace an existing deficient bridge to better serve existing use, it is not expected that the Project would result in an increase in vehicular trips through the Project area. In addition, the Project would not be a source of stationary source emissions. Therefore, operation of the Project would not 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 standards. Impacts would be **less than significant**.

c. Expose sensitive receptors to substantial pollutant concentrations.

Sensitive receptors are defined as people that have an increased sensitivity to air pollution or environmental contaminants. Sensitive receptor locations include schools, parks and playgrounds, day care centers, nursing homes, hospitals, and residential dwelling units. The closest sensitive receptors to the Project site include two single family residential units along Kilburn Road, located approximately 46 feet and 87 feet from the Project perimeter, respectively.

Construction of the Project may expose these surrounding sensitive receptors to a temporary increase in airborne particulates, as well as a small quantity of construction equipment pollutants (i.e., usually diesel-fueled vehicles and equipment). However, construction contractors would be required to implement **Mitigation Measure AIR-1** described above. With implementation of this mitigation measure, Project construction pollutant emissions would be below the SJVAPCD significance thresholds. Additionally, due to the linear nature of the Project, construction activities

at any one receptor location would occur for a limited duration. Once the Project is constructed, the Project would not be a source of substantial pollutant emissions. Therefore, sensitive receptors are not expected to be exposed to substantial pollutant concentrations during Project construction and operation. Impacts would be **less than significant**.

d. Would the project result in other emissions (such as those leading to odors) adversely affecting a substantial number of people.

During construction, the various diesel-powered vehicles and equipment in use on-site would create localized odors. These odors would be temporary and are not likely to be noticeable for extended periods of time beyond the Project site. The potential for diesel odor impacts is therefore considered less than significant.

Odor impacts could result from siting a new odor source near existing sensitive receptors or siting a new sensitive receptor near an existing odor source. Examples of land uses that have the potential to generate considerable odors include wastewater treatment plants, landfills, confined animal facilities, composting stations, food manufacturing plants, refineries, and chemical plants.

Implementation of the Project would not change the use of the site and is not expected to produce any offensive odors that would result in frequent odor complaints. Therefore, the Project would not result in other emissions (such as those leading to odors) adversely affecting a substantial number of people and would have a **less than significant** impact in terms of odors, and no mitigation would be required.

3.4 BIOLOGICAL RESOURCES

	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
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?	☐	☒	☐	☐
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?	☐	☒	☐	☐
c. Have a substantial adverse effect on federally protected wetlands (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?	☐	☒	☐	☐
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?	☐	☒	☐	☐
e. Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?	☐	☐	☐	☒
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?	☐	☐	☐	☒

This section relies upon information and analysis presented in the Natural Environment Study (NES) (LSA 2020a), found in Appendix C of this Initial Study, to describe existing biological resources in the Project area, including potentially occurring special-status species, sensitive natural communities, and jurisdictional features; identify potential impacts to biological resources associated with implementation of the Project; and recommend mitigation measures, where required, to reduce potential impacts to a less-than-significant level.

To assess the presence of special-status plant and wildlife species potentially occurring within the project site and the vicinity, the California Natural Diversity Database, California Native Plant Society Inventory of Rare and Endangered Plants of California (California Department of Fish and Wildlife [CDFW] 2021), the U.S. Fish and Wildlife Service (USFWS) Information for Planning and Consultation (IPaC) online database (USFWS 2021), and the National Marine Fisheries Service (NMFS) Google Earth species lists (NMFS 2021) were reviewed.

3.4.1 Impact Analysis

Construction of the Project would result in permanent and temporary impacts to sensitive natural communities including black walnut – valley oak riparian, riverine, and fringe wetland habitats, as well as Essential Fish Habitat (EFH). The Project would include the removal of 9 surveyed trees and 2 elderberry shrubs. Potential impacts to roosting and foraging habitat for bats, nesting habitat for Swainson's hawk, and aquatic habitat for western pond turtle may also occur, as further discussed below.

a. Would the project 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?

Implementation of the Project could adversely affect special-status wildlife species due to construction of bridge abutments and piers, placement of RSP, tree removal, and vegetation clearing adjacent to Orestimba Creek.

Impacts to Steelhead and/or Western Pond Turtle During Construction

Steelhead and western pond turtles, which are designated federally threatened and California Species of Special Concern (special-status species), respectively, could occur within or along Orestimba Creek due to the presence of suitable habitat and may be impacted if present. While newly emerged steelhead fry move to the shallow margins of creeks after spawning, and would utilize the wetland habitat and shaded aquatic portions of the black walnut - valley oak riparian habitat within the Project site, the soft sand and mud substrate of the creek bed and the higher than optimal water temperatures render Orestimba Creek unsuitable spawning habitat for steelhead. Therefore, if they are to occur within the Project site, steelhead are most likely to occur in passing during their migration, and in the riverine habitat only. If steelhead or western pond turtles are present during construction, and construction activities release hazardous substances or excessive silt and sediment to enter Orestimba Creek, these species could be negatively impacted. With implementation of **Mitigation Measures BIO-1a** and **BIO-1b** potential impacts to steelhead and western pond turtles would be reduced to **less than significant**.

Mitigation Measure BIO-1a The following measures shall be implemented to reduce potential impacts to steelhead, which are under the jurisdiction of the NMFS.

- All in-water work associated with the Project shall be conducted between June 15 and September 30, which is within the seasonal work window recommended by NMFS to minimize effects to steelhead.
- Installation of the water diversion mentioned in Mitigation Measure BIO-1b shall be supervised by a qualified biologist certified by NMFS. A NMFS certified biologist has stop work capabilities. If steelhead become trapped from dewatering,

biologist shall stop work and notify NMFS for consultation re-initiation.

- All construction shall be conducted during daylight hours to allow for an extended period of inactivity (i.e., nighttime) for salmonids, if present, to migrate undisturbed through the work area.

Mitigation Measure BIO-1b The following measures shall be implemented to reduce potential impacts to western pond turtles. Western pond turtle are under the jurisdiction of CDFW.

- Worker environmental awareness training shall be conducted by a qualified biologist for all construction personnel. The training shall instruct workers about the purpose of Environmentally Sensitive Area (ESA) fencing and the resources being protected.

- Prior to the start of dewatering activities, if necessary, in Orestimba Creek, the Project site shall be surveyed by a qualified biologist for the presence of pond turtles. If turtles are observed in the Project site, they shall be relocated outside of the work area by a qualified biologist.

- Any emergent or submergent aquatic vegetation shall be retained as practical within the constraints of the Project. Where vegetation removal is necessary, rapidly sprouting plants, such as willows, shall be cut off at the ground line and the root systems left intact.

Impacts to Roosting Bats, Swainson's Hawks, and Other Nesting Birds

Proposed construction activities along and adjacent to Kilburn Road would result in the removal of trees and other vegetation that could be used by roosting bats or nesting birds, including special-status species of concern such as pallid bat, western red bat, Townsend's big-eared bat, hoary bat, and Yuma myotis Additionally, these activities could affect Swainson's hawk (State threatened) and common bird species, whose active nests are protected under the Migratory Bird Treaty Act and/or California Fish and Game Code. If conducted during the nesting season (February 1 to August 31), such activities could directly impact nesting birds. Construction-related disturbance (e.g., noise, vehicle traffic, personnel working adjacent to occupied nesting habitat) could also indirectly impact nesting birds by causing adults to abandon nests in nearby trees or other vegetation, resulting in nest failure and reduced reproductive potential.

The Project would result in permanent impacts to 0.11 acre of riparian habitat and 0.11 acre of orchard that provide potential foraging habitat to bats. An additional 0.06 acre of riparian habitat and 0.24 acre of orchard would be temporarily impacted during construction. Removal of the

existing bridge prior to construction of the new bridge would also result in a temporary loss of potential night roosting habitat. Permanent and temporary impacts to black walnut – valley oak riparian habitat would also impact suitable nesting habitat for Swainson's hawks.

Implementation of **Mitigation Measures BIO-2a** and **BIO-2b** would reduce potential impacts to nesting birds and roosting bats to **less than significant** by ensuring the Project would not have a substantial adverse effect on these protected birds and bats.

Mitigation Measure BIO-2a The following measures shall be implemented to reduce potential impacts to bats using the bridge as night roost habitat.

- Work activities shall be limited to daylight hours to minimize potential effects to foraging bats.
- The design of the new bridge shall provide equivalent night roost habitat to that on the existing bridge (e.g., approximate 90-degree angles at the junction of bridge abutments and bridge deck). Any habitat that is incorporated into the new structure must allow for the safe, biennial, hands-on visual inspection of the bridge as required by 23 Code of Federal Regulations Part 650, Subpart C—National Bridge Inspection Standards and any referenced materials.

The following measures shall be implemented to reduce potential impacts to bats using trees in the impact area as day roost habitat.

- Potential bat habitat trees, identified by a qualified bat biologist during a tree habitat assessment conducted several months prior to tree removal, shall be removed only between approximately March 1 and April 15, prior to parturition of pups, and when evening temperatures remain above 45°F and rainfall does not exceed 0.5 inch in 24 hours. The next acceptable period is after pups become self-sufficiently volant between September 1 and about October 15, or prior to evening temperatures dropping below 45°F and onset of rainfall greater than 0.5 inch in 24 hours.
- Bat habitat trees should 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 1-2 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 limits of work is removed prior to bat habitat tree removal, during seasonal periods of activity, and preferably, within 4 days of commencing two-step removal of habitat trees, in accordance with the following measures:
  - 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 tree, the next day prevents re-habituation and re-occupation 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 biologist 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 biologist does not need to remain on the site.
- If non-habitat trees or other vegetation must be removed outside the seasonal periods outlined above, a 100-foot buffer around each habitat tree should be observed to reduce potential of disturbance of non-volant young during maternity season, or torpid bats during winter months.

Mitigation Measure BIO-2b The following measures in addition to Mitigation Measure BIO-4 shall be implemented to reduce potential impacts to Swainson's hawks and other nesting birds.

- If work begins between February 1 and August 31, an early season preconstruction survey for nesting Swainson's hawks shall be conducted between January and March in the biological study area and immediate vicinity (an approximately 0.25-mile radius) by a qualified biologist when tree foliage is relatively sparse, and nests are easy to identify. A second preconstruction

survey for nesting Swainson's hawks shall be conducted in the biological study area and immediate vicinity (an approximately 0.25-mile radius) by a qualified biologist no more than 14 days prior to initiation of earthmoving activities.

- If nesting Swainson's hawks are found within the survey area, a qualified biologist shall evaluate the potential for the Project to disturb nesting activities. CDFW shall be contacted to review the evaluation and determine if the Project can proceed without adversely affecting nesting activities. CDFW shall also be consulted to establish protection measures such as buffers. Disturbance of active nests shall be avoided until it is determined by a qualified biologist that nesting is complete, and the young have fledged, or that the nest has failed. If work is allowed to proceed, at a minimum, a qualified biologist shall be on-site during the start of construction activities during the nesting season to monitor nesting activity. The monitor shall have the authority to stop work if it is determined the Project is adversely affecting nesting activities.

Impacts to Valley Elderberry Longhorn Beetle

Elderberry shrubs provide habitat for the Valley Elderberry Longhorn Beetle (VELB), a federally threatened species. A total of 18 elderberry shrubs were identified within the Project site, of which 2 shrubs would be permanently impacted due to placement of RSP and would need to be removed. Elderberry shrubs within 20 feet of disturbance may be indirectly affected by Project activities. Indirect impacts to elderberry shrubs outside the construction footprint shall be avoided with implementation of **Mitigation Measure BIO-1**. With implementation of **Mitigation Measures BIO-3** and **BIO-4** potential impacts to VELB would be reduced to **less than significant with mitigation incorporated**.

Mitigation Measure BIO-3 The following measures shall be implemented to reduce potential impacts to VELB and are consistent with the provisions of the VELB "Framework for Assessing Impacts to the Valley Elderberry Longhorn Beetle" dated May 2017.

- To prevent fugitive dust from drifting into adjacent habitat, all clearing, grubbing, scraping, excavation, land leveling, grading, cut and fill, demolition activities, or other dust generating activities will be effectively controlled for fugitive dust emissions utilizing application of water or by presoaking.

- ESA fencing will be established along the limits of construction to exclude construction activities from avoided habitat. Activities that may damage or kill an elderberry shrub (e.g., trenching, paving, etc.) may need an avoidance area of at least

20 feet from the drip-line, depending on the type of activity. Trucks and other vehicles shall not be allowed to park in, nor shall equipment be stored in, an ESA. No storage or dumping of oil, gasoline, or other substances shall be permitted within an ESA. All ESAs shall be clearly delimited with yellow caution tape or temporary fencing prior to commencement of construction activities. The approximate location of ESA fencing is shown in Figure 9 of the NES (Appendix C of the Initial Study).

- Signs shall be installed along the edge of the ESA and shall state the following: "This area is habitat of the beetle, a threatened species, and must not be disturbed. This species is protected by the Endangered Species Act of 1973, as amended. Violators are subject to prosecution, fines, and imprisonment." The signs should be clearly readable from a distance of 20 feet and must be maintained for the duration of construction.

- Prior to the start of construction, a qualified biologist shall survey for elderberry shrubs within 165 feet of the disturbance area. If the survey documents any shrubs with stem diameter greater than 1 inch that were not identified during the November 2017 survey (LSA 2020a), Caltrans shall contact the USFWS. The USFWS and Caltrans shall work to determine a way to proceed and may be required to re-initiate consultation.

- All construction personnel shall attend environmental awareness training. During the environmental awareness training, construction personnel shall be briefed on the status of the beetle, the need to avoid damage to the elderberry host plant, and the possible penalties for not complying with these requirements.

- Herbicides shall not be used within the drip-line of the shrub. Insecticides shall not be used within 98 feet of an elderberry shrub. All chemicals shall be applied using a backpack sprayer or a similar direct application method.

- A qualified biologist shall monitor the work area at Project appropriate intervals to assure that all avoidance and minimization measures are implemented.

b. Would the project 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?

The only formally designated special-status natural community on the Project site is the black walnut – valley oak riparian habitat along Orestimba Creek. The Project would permanently impact 0.11 acre of black walnut–valley oak riparian due to construction of the new bridge abutments, piers, and placement of RSP. The Project would also result in temporary impacts to 0.06 acre of black walnut – valley oak riparian as a result of construction access and vegetation clearing activities. Specific tree removal within the black walnut – valley oak riparian community is summarized in **Table 4: Summary of Impacted Trees** below.

Table 4: Summary of Impacted Trees

Common Name	Scientific Name	Number of Trees to be Removed			
		6-18" DBH (inches)	18-24" DBH (inches)	24+" DBH (inches)	Total
Valley oak	*Quercus lobata*	1	2	2	5
Black walnut	*Juglans hindsii*	2	--	1	3
Fremont's cottonwood	*Populus fremontii*	--	––	2	2
Willow	*Salix sp.*	--	––	1	1
TOTAL		3	2	6	11

dbh = diameter at breast height
DEA 2021 and Natural Environment Study (LSA 2020a)

The trimming and/or removal of riparian vegetation would have a potentially significant impact on black walnut – valley oak riparian habitat which would need to be mitigated through the purchase of credits at an approved mitigation bank at a minimum 1:1 ratio, contingent upon approval by the CDFW, USACE, and/or Regional Water Quality Control Board (RWQCB). Impacts to riparian vegetation would also likely require a Lake or Streambed Alteration Agreement from CDFW and a permit from the RWQCB. Implementation of **Mitigation Measure BIO-4** would reduce potential impacts to black walnut – valley oak riparian habitat and sensitive natural communities to **less than significant with mitigation incorporated** by ensuring the Project would not have a substantial adverse effect on this sensitive natural community.

Mitigation Measure BIO-4 The County shall require the construction contractor to implement the following measures in conjunction with Mitigation Measure BIO-5 below to reduce potential impacts to black walnut – valley oak riparian habitat.

- Work in the black walnut – valley oak riparian vegetation and in the live channel of Orestimba Creek shall be minimized to the extent possible.
- ESA fencing shall be installed prior to construction at the limits of work within the black walnut – valley oak riparian vegetation, upstream and downstream of the work area, to protect these

areas during construction as shown in Figure 9 of the NES (Appendix C of the Initial Study).

- ESA limits shall be marked prior to construction using orange construction fencing or equivalent, and shall be maintained until construction is complete.

- Staging areas, access routes, and construction areas shall be located outside of wetland and riparian areas to the maximum extent practicable.

- Measures consistent with the current Caltrans' Construction Site Best Management Practices (BMP) Manual (including the Storm Water Pollution Prevention Plan [SWPPP] and Water Pollution Control Plan Manuals) shall be implemented to minimize effects to the black walnut – valley oak riparian woodland resulting from erosion, siltation, etc. during construction.

- A SWPPP shall be prepared by the contractor prior to construction in accordance with typical provisions associated with a Regional General Permit for Construction Activities (on file with the Central Valley RWQCB). The SWPPP shall contain a Spill Response Plan with instructions and procedures for reporting spills, the use and location of spill containment equipment, and the use and location of spill collection materials.

- All areas temporarily impacted during Project construction shall be restored to preconstruction contours (if necessary) and revegetated with native species as specified in **Table 5: Native Species Mix**. Invasive exotic plants shall be controlled to the maximum extent practicable.

Table 5: Native Species Mix

Scientific Name	Common Name	Rate (pounds per acre)	Minimum Percent Germination
Artemisia douglasiana	California mugwort	2.0	50
Bromus carinatus	California brome	5.0	85
Elymus trachycaulus	Slender wheatgrass	2.0	60
Eschscholzia californica	California poppy	2.0	70
Festuca microstachys	Small fescue	10.0	80
Hordeum brachyantherum	California barley	2.0	80
Lupinus bicolor	Bicolored lupine	4.0	80

Natural Environment Study (LSA 2020a)

- Prior to issuance of a grading permit or other authorization to proceed with Project construction, the Project proponent shall obtain any regulatory permits that are required from the USACE, RWQCB, and/or CDFW.

c. Would the project have a substantial adverse effect on federally protected wetlands (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?

The Project would impact the riverine and fringe wetland communities associated with Orestimba Creek, which are considered jurisdictional wetlands and non-wetland waters by the USACE. The Project would permanently impact 0.01 acre of riverine and 0.03 acre of fringe wetlands due to construction of the new bridge abutments, piers, and placement of RSP. The Project would also result in temporary impacts to 0.02 acre of riverine and 0.01 acre of fringe wetlands as a result of construction access and vegetation clearing activities. Impacts to Orestimba Creek would likely require a Nationwide Permit from the USACE, a Lake or Streambed Alteration Agreement from CDFW, and a Water Quality Certification from the RWQCB.

Development of the Project would result in impacts to Orestimba Creek, a water of the United States/State, and its associated wetlands. No impacts to other wetlands and other jurisdictional waters would occur as a result of Project implementation. No bridge improvements or additional bridges are proposed as part of the Project. Implementation of **Mitigation Measure BIO-5** would reduce potential impacts to waters of the United States/State, and associated wetlands to **less than significant** by ensuring the Project would not adversely affect Orestimba Creek.

Mitigation Measure BIO-5 The following measures shall be implemented in conjunction with Mitigation Measure BIO-4 to reduce potential impacts to riverine and fringe wetland habitats associated with Orestimba Creek. These BMPs are intended to prevent erosion and sedimentation into Orestimba Creek outside of work areas, prevent impacts to upland areas outside of designated work zones, control dust, and prevent accidental fuel or oil spills in or near Orestimba Creek and riparian habitat.

- Brightly colored ESA fencing shall be placed along the limits of work to prevent unnecessary encroachment into Orestimba Creek. Fencing shall be maintained in good condition for the duration of construction activities.

- Prior to any work in the live channel, a water diversion shall be installed in Orestimba Creek in order to enclose the construction area and reduce sedimentation during work in the channel. The water diversion shall consist of corrugated metal pipe culverts, sheet pile cofferdam, K-rail with Visquine, or an equivalent method. Dewatering the work area will minimize the

potential water quality impacts (e.g., siltation) and ensure that no work will be conducted in flowing water.

- During removal of any part of the existing bridge, a debris collection device (e.g., heavy tarps, chain link mats) shall be used below the bridge to prevent debris from falling into Orestimba Creek and left in place until removal is complete.
- Any emergent or submergent aquatic vegetation shall be retained as practical within the constraints of the Project. Where vegetation removal is necessary, rapidly sprouting plants, such as willows, shall be cut off at the ground line and the root systems left intact.
- Designate vehicle and equipment staging areas that are located at least 100 feet from Orestimba Creek; all Project vehicles and equipment shall be stored in these areas overnight or when not in use; any vehicle fueling, or other maintenance shall only occur within designated staging areas.
- Stake the boundaries of designated work areas within Orestimba Creek and ensure all vehicles and equipment stay within the designated boundaries.
- Clean up accumulated garbage and construction debris on a daily basis.
- All personnel involved in the construction activities shall be briefed on water quality and special-status species concerns associated with the Project.
- All heavy equipment shall be maintained to prevent fluid leaks.
- Fueling and maintenance of vehicles shall take place at least 100 feet away from Orestimba Creek where potential leaks could travel into the creek.

Orestimba Creek within the Project site is designated as EFH for chinook salmon. Although the Project would result in permanent impacts to riverine habitat designated as EFH, the Project site only contains one habitat area of particular concern: complex channels and floodplains. With implementation of **Mitigation Measures BIO-4** and **BIO-5** the Project would not reduce the quality of quantity of EFH, and impacts would be **less than significant with mitigation incorporated**.

d. Would the project 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?

Although the Project has the potential to impact bird nests and bat roosts as described in Response 3.4.a, implementation of **Mitigation Measures BIO-2a and BIO-2b** would protect active bird nests and bat roosts.

The Project would not introduce any new barriers to movement across site. The Project would result in the widening of the existing roadway, but would not introduce a potential barrier where none previously existed. The new bridge would not reduce movement along Orestimba Creek and its associated riparian corridor.

Therefore, the Project would not interfere substantially with the movement of wildlife, and impacts to wildlife movement or nursery sites would be **less than significant with mitigation incorporated**.

e. Would the project conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?

The Project is located in a rural agricultural setting and is not currently subject to any applicable local biological resource policies or ordinances. Therefore, the Project would not conflict with local biological resource policies or ordinances and there would be **no impact** and no mitigation is required.

f. Would the project conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or State habitat conservation plan?

The Project corridor is located in a rural agricultural setting and is not currently subject to any adopted habitat conservation plans or natural community conservation plans. Therefore, the Project would not conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or State habitat conservation plans. There would be **no impact** and no mitigation is required.

3.5 CULTURAL RESOURCES

	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
Would the project:				
a. Cause a substantial adverse change in the significance of a historical resource pursuant to CCR Section 15064.5?	☒	☐	☐	☐
b. Cause a substantial adverse change in the significance of an archaeological resource pursuant to CCR Section 15064.5?	☐	☒	☐	☐
c. Disturb any human remains, including those interred outside of formal cemeteries?	☐	☒	☐	☐

3.5.1 Impact Analysis

a. Would the project cause a substantial adverse change in the significance of a historical resource pursuant to CCR Section 15064.5?

Historical Archaeological Resources

Unless otherwise cited, this section is adapted from the Archaeological Survey Report (LSA 2021a).

A records search was conducted for the Project site and a 0.25-mile radius on October 16, 2012, which did not identify any recorded archaeological cultural resources in, or within a 0.25-mile of, the Project site. A field survey was conducted on November 9, 2012. The field survey did not identify any cultural resources within the Project site.

Rosenthal and Meyer (2004) identify the Project site as highly sensitive for the occurrence of buried prehistoric archaeological deposits. Soils in the Project site are of the Inceptisols orders (California Soil Resource Lab 2012), which are weakly developed (Plummer et. al., 2010; Rapp and Hill 2006) and extend to a depth of at least 80 feet below surface (Beltran 2012). Urban development and agricultural practices within the Project site have likely destroyed any intact surface archaeological deposits, if such deposits were ever present. LSA's field survey did not identify any prehistoric artifacts or cultural deposits, including within plowed fields, which most likely would have exposed subsurface material from depths of two feet below surface. The Project site is therefore considered sensitive for prehistoric archaeological deposits.

The Project site is situated in an area that was utilized for ranching and agriculture during the historic period. No former building footprints appear within the Project site. Additionally, LSA's field survey did not identify any historic-period artifacts or cultural deposits. The Project site is therefore considered not sensitive for historic-period archaeological deposits.

Although archival research and field survey did not identify the presence of historic-period archaeological resources, it is possible that historic-period archaeological resources may be discovered during ground-disturbing activities. As previously stated, the Project site is sensitive for prehistoric archaeological resources, and such resources may be discovered during ground-disturbing activities. If a prehistoric or historic-period archaeological deposit is identified during Project construction and is also determined to be a historical resource per CEQA, the demolition,

destruction, or alteration of such a resource would be a substantial adverse change in its significance (CCR Section 15064.5[b]), and would result in a significant impact.

Implementation of **Mitigation Measure CUL-1**, which requires archaeological monitoring by a qualified archaeologist during all ground-disturbing activities, would reduce impacts to previously undiscovered resources to **less than significant with mitigation incorporated**.

Mitigation Measure CUL-1

During construction, if any archaeological deposits are encountered, all work within 25 ft of the discovery shall be redirected and a qualified archaeologist contacted (if one is not present) to assess the situation, consult with agencies as appropriate, and make recommendations for the treatment of the discovery. Stanislaus County shall also be notified. Project personnel shall not collect or move any archaeological materials.

Any adverse impacts to the finds shall be avoided by project activities. If avoidance is not feasible, the archaeological deposits shall be evaluated to determine if they qualify as a historical resource or unique archaeological resource, or as historic property. If the deposits do not qualify, avoidance is not necessary. If the deposits do qualify, adverse impacts on the deposits shall be avoided, or such impacts shall be mitigated. Mitigation may consist of, but is not limited to, recovery and analysis of the archaeological deposit; recording the resource; preparing a report of findings; and accessioning recovered archaeological materials at an appropriate curation facility. Educational public outreach may also be appropriate.

Upon completion of the assessment, the archaeologist shall prepare a report documenting the methods and results, and shall provide recommendations for the treatment of the archaeological deposits discovered. The report shall be submitted to Stanislaus County. The County shall notify the Native American contacts on the contacts list provided by the Native American Heritage Commission in 2012 and 2020 in advance of earthwork for Project construction and provide the Tribe the opportunity to periodically observe the Project excavation.

Implementation of **Mitigation Measure CUL-1** would reduce the level of the potential impact through the identification of archaeological deposits during construction; the evaluation of unanticipated discoveries; and the recovery of significant archaeological data from those resources that warrant such investigation (i.e., historical or unique archaeological resources). This process would recover scientifically consequential information from at-risk resources, in consultation with tribal representatives, to offset their potential loss. Therefore, impacts to historic archaeological resources would be reduced to **less than significant with mitigation incorporated**.

Historical Built Environment Resources

Unless cited, this section is adapted from the *Historic Property Survey Report for the Kilburn Road Bridge over Orestimba Creek Replacement Project, Stanislaus County, California* (LSA 2021b).

Previous technical studies and evaluations documented two built environment cultural resources within the Project site, the Kilburn Road Bridge (38C0168) and the Crow Ranch Employee House and Farm Complex. The Kilburn Road Bridge is a steel Warren Pony Truss bridge constructed in 1906, relocated to its current location and encased in reinforced concrete in 1918. The bridge was evaluated for its ability to qualify as a historical resource under the CEQA in the 1980s and through the early 2000s. The bridge was originally found eligible for listing in the NRHP during the initial Caltrans Historic Bridge inventory conducted in the 1980s. In 2004 the bridge was revaluated as part of the Caltrans Historic Bridges Inventory Update and found that it retained NRHP eligibility for its unique construction that combines reinforced concrete and steel truss technologies. Based on its NRHP status, the structure is listed in the CRHR and is considered a historical resource for the purposes of the CEQA.

The Kilburn Road Bridge is eligible under NRHP Criterion C and CRHR Criterion 3 for its type, period, and method of construction, significant for its unique construction that combines reinforced concrete and steel truss technologies in the early twentieth century. Built in 1906, the Kilburn Road Bridge was relocated to its current location in 1918 and encased in concrete.

The Crow Ranch Employee House and Farm Complex is a late-1800s farm complex located northeast of and adjacent to the Project site at 21942 Kilburn Road (Assessor's Parcel Number 49-085-13). In 1995, architectural historian Judith Marvin and archaeologist Shelly Davis-King identified the complex and evaluated it for NRHP eligibly as part of an earlier project to replace the Kilburn Road Bridge. The study concurred with the earlier finding of NRHP-eligibility for the Kilburn Road Bridge and found the Crow Ranch Employee House and Farm Complex at 21942 Kilburn Road not eligible for NRHP due to a lack of integrity. The technical study was submitted to the California Historical Resources Information System and assigned a resource number of P-50-002028 (Marvin, Judith and Shelly Davis-King 1995).

In accordance with CCR Section 15064.5(a)(2)-(3[C]), using the criteria outlined in California PRC Section 5024.1, the Kilburn Road Bridge (38C0168) is listed in the CRHR and is a historical resource for the purposes of CEQA, and the Crow Ranch Employee House and Farm Complex at 21942 Kilburn Road is not a historical resource for the purposes of CEQA.

The Project would remove and replace the Kilburn Road Bridge which has been determined eligible for listing in the CRHR. Per PRC Section 21084.1 the Project would result in a 'substantial adverse change in the significance of an historical resource' by removing the bridge and therefore the Project would have a significant effect on the environment. This topic will be further addressed in an Environmental Impact Report (EIR).

b. Would the project cause a substantial adverse change in the significance of an archaeological resource pursuant to CCR Section 15064.5?

According to the CCR, "When a project will impact an archaeological site, a lead agency shall first determine whether the site is an historical resource" (CCR Section 15064.5[c][1]). Those archaeological sites that do not qualify as historical resources shall be assessed to determine if these qualify as "unique archaeological resources" (PRC Section 21083.2). As described above, the Project area contains areas of known archaeological deposits and is sensitive for the occurrence of additional, undiscovered deposits, which could qualify as unique archaeological resources.

Should archaeological deposits be encountered during Project ground disturbance, a substantial adverse change in the significance of an archaeological resource could occur from its demolition, destruction, relocation, or alteration such that the significance of the resource would be materially impaired (CCR Section 15064.5[b][1]).

As described above, implementation of **Mitigation Measure CUL-1** would reduce the level of the potential impact through the identification of archaeological deposits during construction; the evaluation of unanticipated discoveries; and the recovery of significant archaeological data from those resources that warrant such investigation (i.e., historical or unique archaeological resources). Therefore, this impact would be reduced to **less than significant with mitigation incorporated**.

c. Would the project disturb any humans remains, including those interred outside of formal cemeteries?

No human remains are known to exist within the Project site. Section 7050.5 of the California Health and Safety Code states that in the event of discovery or recognition of any human remains in any location other than a dedicated cemetery, there shall be no further excavation or disturbance of the site, or any nearby area reasonably suspected to overlie adjacent remains until the County Coroner has determined whether or not the remains are subject to the coroner's authority. There is no indication that human remains are present within the Project site. Implementation of **Mitigation Measure CUL-2**, below, would reduce the potential for impacts to unknown buried human remains, should they be encountered, to **less than significant with mitigation incorporated**.

Mitigation Measure CUL-2 Human remains encountered during Project ground-disturbing activities shall be treated in accordance with California Health and Safety Code Section 7050.5 and CCR Section 15064.5(d). The County shall inform the construction contractor of the potential for human remains in the Project site prior to the commencement of construction.

If human remains are uncovered during construction, work within 25 feet of the discovery shall be redirected and the County Coroner notified immediately. At the same time, an archaeologist shall be contacted (if one is not already on site) to assess the situation and consult with agencies as appropriate. Project personnel shall not collect or move any human remains or associated materials. If the

human remains are of Native American origin, the Coroner must notify the NAHC within 24 hours of this identification. The NAHC will identify a Most Likely Descendant (MLD) to inspect the site and provide recommendations for the proper treatment of the remains and associated grave goods. Work within 25 feet of the discovery can resume only after the MLD has inspected the site, provided recommendations, and the remains and associated grave goods removed from the site by a qualified archaeologist in consultation with the MLD.

3.6 ENERGY

	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
Would the project:				
a. Result in a potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation?	☐	☐	☒	☐
b. Conflict with or obstruct a State or local plan for renewable energy or energy efficiency?	☐	☐	☒	☐

3.6.1 Impact Analysis

a. Would the project result in a potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation?

This analysis evaluates energy consumption for both construction and operation of the Project, including diesel fuel use for construction off-road equipment and truck trips and gasoline fuel use for construction worker vehicle trips.

Construction. Construction of the Project is anticipated to start in 2023 and last approximately 1 year, and would require energy for the following activities: grubbing and land clearing; grading and excavation; drainage, utilities, and sub-grade activities; and paving.

Transportation energy represents the largest energy use during construction and would occur from the transport and use of construction equipment, delivery vehicles and haul trucks, and construction worker vehicles that would use petroleum fuels (e.g., diesel fuel and/or gasoline). Construction of the Project would not involve the consumption of electricity or natural gas. Therefore, the analysis of energy use during construction focuses on fuel consumption. Construction trucks hauling materials to and from the Project site would be anticipated to use diesel fuel, whereas construction workers traveling to and from the Project site would be anticipated to use gasoline-powered vehicles. Fuel consumption from transportation uses depends on the type and number of trips, vehicle miles traveled (VMT), the fuel efficiency of the vehicles, and travel mode.

Construction emissions were estimated for the Project using Roadmod as shown in the modeling output in Appendix B. The Project would require the off-haul of approximately 500 cubic yards of material from the Project site, which was included in RoadMod.

Estimates of fuel consumption (diesel fuel and gasoline) from construction equipment, construction trucks, and construction worker vehicles were based on default construction equipment assumptions and trip estimates from the model and fuel efficiencies from the California Air Resources Board (CARB) EMission FACtor Model (EMFAC2021) model. Fuel consumption estimates are presented in **Table 6: Proposed Project Energy Consumption Estimates**. Detailed calculations are included in Appendix B.

Table 6: Proposed Project Energy Consumption Estimates

Energy Type	Energy Consumption	Annual Countywide Fuel Usage	Percentage of Countywide Fuel Usage
Diesel Fuel (total gallons)	51,563	62,866,213	0.08
Gasoline (total gallons)	2,974	206,527,175	<0.01

Source: Compiled by LSA Associates, Inc. (June 2021).

As shown in Table 6, the Project would require the consumption of approximately 51,563 gallons of diesel fuel and approximately 2,974 gallons of gasoline during construction. Based on fuel consumption obtained from EMFAC2021, approximately 62.9 million gallons of diesel and 206.5 million gallons of gasoline will be consumed from vehicle trips in Stanislaus County in 2021. Therefore, construction of the Project only account for approximately 0.08 percent of diesel fuel usage and less than 0.01 percent of gasoline fuel usage in Stanislaus County. As such, Project construction would have a negligible effect on local and regional energy supplies. Furthermore, impacts related to energy use during construction would be temporary and relatively small in comparison to Stanislaus County's overall use of the State's available energy sources. No unusual project characteristics would necessitate the use of construction equipment that would be less energy efficient than at comparable construction sites in the region or the State.

For these reasons, fuel consumption during construction would not result in a potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, and impacts would be less than significant.

Operation. Typically, energy consumption is associated with fuel used for vehicle trips and electricity and natural gas use. The Project would replace the existing two-lane, single-span bridge with a new two-lane, three-span bridge on the same general alignment as the existing bridge. The Project would provide a replacement bridge with safer standard shoulder widths and lane widths, a structural capacity to carry modern day truckloads, and a clearance over 50-year water surface elevation. The design and construction of the approach roadway and replacement bridge would be in compliance with County and Caltrans design standards, as well as AASHTO guidelines.

As the Project would replace an existing bridge, it is not expected that the Project would result in a substantial net increase in vehicular trips through the Project area. Therefore, the Project would not

increase gasoline and diesel fuel usage. In addition, operation of the Project would not require the consumption of electricity or natural gas. Therefore, operational energy consumption would not result in a potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, and impacts would be **less than significant**, and no mitigation is required.

b. Would the project conflict with or obstruct a State or local plan for renewable energy or energy efficiency?

In 2002, the Legislature passed Senate Bill (SB) 1389, which required the California Energy Commission (CEC) to develop an integrated energy plan every two years for electricity, natural gas, and transportation fuels, for the California Energy Policy Report. The plan calls for the State to assist in the transformation of the transportation system to improve air quality, reduce congestion, and increase the efficient use of fuel supplies with the least environmental and energy costs. To further this policy, the plan identifies a number of strategies, including assistance to public agencies and fleet operators in implementing incentive programs for zero emission vehicles and their infrastructure needs, and encouragement of urban designs that reduce VMT and accommodate pedestrian and bicycle access.

As discussed above in compliance with the requirements of SB 1389, the CEC adopts an *Integrated Energy Policy Report* every 2 years and an update every other year. The most recently adopted reports include the *2019 Integrated Energy Policy Report* (CEC 2020) and the *2020 Integrated Energy Policy Report Update* (CEC 2021). The *2019 Integrated Energy Policy Report* covers a broad range of topics, including decarbonizing buildings, integrating renewables, energy efficiency, energy equity, integrating renewable energy, updates on electricity reliability, climate adaptation activities for the energy sector, natural gas assessment, transportation energy demand forecast, and the California Energy Demand Forecast. The *2020 Integrated Energy Policy Report* provides the results of the CEC's assessments of a variety of energy issues facing California. Many of these issues will require action if the State is to meet its climate, energy, air quality, and other environmental goals while maintaining energy reliability and controlling costs. The CEC approved the *2020 Integrated Energy Policy Report* in March 2021 (CEC 2020).

As indicated above, energy usage in the Project area during construction would be relatively small in comparison to the State's available energy sources and energy impacts would be negligible at the regional level. Because California's energy conservation planning actions are conducted at a regional level, and because the Project's total impact to regional energy supplies would be minor, the Project would not conflict with California's energy conservation plans as described in the CEC's 2020 Integrated Energy Policy Report. Thus, as demonstrated above, the Project would avoid or reduce the inefficient, wasteful, and unnecessary consumption of energy and not result in any irreversible or irretrievable commitments of energy. Impacts would be **less than significant**, and no mitigation is required.

3.7 GEOLOGY AND SOILS

	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
Would the project:				
a. Directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving:				
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?	☐	☒	☐	☐
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?	☐	☐	☐	☒
d. Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial direct or indirect risks to life or property?	☐	☒	☐	☐
e. Have soils incapable of adequately supporting the use of septic tanks or alternative waste water disposal systems where sewers are not available for the disposal of waste water?	☐	☐	☐	☒
f. Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?	☐	☒	☐	☐

3.7.1 Impact Analysis

a. Would the project directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving:

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.

The Project is located in Stanislaus County and according to the Preliminary Foundation Report (Kleinfelder 2012), the Project site is not located on or near an Alquist-Priolo Earthquake Fault Zone. The Ortigalita Fault Zone, approximately 17.5 miles southwest of the Project site (in the Diablo Range), is the nearest Alquist-Priolo Earthquake Fault Zone. Due to the distance of this geologic feature from the Project, direct or indirect substantial adverse effects, including the risk of loss, injury, or death involving rupture of a known earthquake fault as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist, would not occur. **No impact** would occur, and no mitigation measures are required.

ii. Strong seismic ground shaking?

Like the majority of locations in California, the Project site is located in an area that could be exposed to moderate seismic ground shaking if an earthquake were to occur in the area. Faults are not known to cross the Project site and the only active fault in Stanislaus County, the Ortigalita Fault, is located approximately 17.5 miles southwest of the site. The Stanislaus County General Plan indicates that based on the location of the Project site, ground shaking could be moderate, and could approach peak ground acceleration of 0.44g, where g equals the acceleration speed of gravity. This acceleration is consistent with other areas in western Stanislaus County that are underlain by similar geologic materials and indicates that moderate seismic ground shaking generated by seismic activity could potentially impact structures, such as the new bridge on Kilburn Road.

The Project would be designed to comply with current seismic design standards and would also implement the recommendations provided in the site-specific geotechnical report prepared for the Project. It would also replace a structurally deficient bridge, increasing safety. To ensure that the recommendations are implemented, **Mitigation Measure GEO-1** shall be implemented.

Mitigation Measure GEO-1 Prior to issuance of construction permits, the County (or consultant retained by the County) shall prepare and adopt a site-specific Final Foundation Report. The Final Foundation Report shall include final design recommendations for development of the new bridge crossing Orestimba Creek on Kilburn Road. The design recommendations of the Final Foundation Report will be based on final geotechnical investigations and load/design calculations to ensure that the new bridge will not fail due to geological or soil hazardous conditions. The County, through the Mitigation Monitoring and Reporting program, shall confirm that all of the recommended design measures presented by Final Foundation Report are implemented prior to opening of Kilburn Road and the new bridge crossing over Orestimba Creek to public travel.

With the recommendations of the *Final Foundation Report* required by implementation of **Mitigation Measure GEO-1** direct or indirect substantial adverse effects, including the risk of loss, injury, or death involving strong seismic ground shaking would be reduced. As such, impacts would be **less than significant with mitigation incorporated.**

iii. Seismic-related ground failure, including liquefaction?

Liquefaction occurs when saturated, cohesionless soils temporarily lose shear strength (liquefy) due to increased pore water pressures induced by strong ground motion during an earthquake. Structures on or above potentially liquefiable soils may experience bearing capacity failures due to the temporary loss of foundation support, vertical settlements, and/or lateral spreading. Factors known to influence the potential for liquefaction include soil type, relative density, grain size, confining pressure, depth to groundwater, and the intensity and duration of the seismic ground shaking. Assessment of liquefaction potential for a particular site requires knowledge of a number of regional and site-specific parameters, including the estimated design earthquake magnitude, the

distance to the assumed causative fault, and the associated probable peak horizontal ground acceleration at the site, subsurface stratigraphy, and soil characteristics. Parameters such as distance to causative faults and estimated probable peak horizontal ground acceleration were determined using published references and online computer programs by the United States Geological Survey. Stratigraphy and soil characteristics were determined by means of a site-specific subsurface investigation combined with appropriate laboratory analysis of representative samples of on-site soils conducted as part of the *Preliminary Foundation Report*.

The Project is located along Kilburn Road and the new bridge would be installed over Orestimba Creek. The *Preliminary Foundation Report* indicates that soils underlying the Project are sufficiently plastic to preclude liquefaction at depths of the bridge abutments. The *Preliminary Foundation Report* does indicate that liquefaction could occur at depths between 62.5 to 68 feet at bridge Abutment 1 and from a depth of 57.5 to 62 feet at bridge Abutment 2. However, the bridge abutments would not be designed to intrude that deep below the ground surface. For this reason, implementation of the Project would not directly or indirectly result in substantial adverse effects, including the risk of loss, injury, or death involving seismic-related ground failure, including liquefaction. **No impact** would occur, and no mitigation measures are required.

iv. Landslides?

The Project is in a portion of Stanislaus County that is topographically flat; as such, the Project site would not be prone to seismically induced landslides. The Diablo Range, approximately 15 miles west of the Project site, is the closest location where landslides and/or seismically induced landslides could occur. The Project would include work in the channel of Orestimba Creek consisting of grading and installing RSP extending 45 feet upstream and 60 feet downstream once the pilings for the new bridge have been installed. A retaining wall would be constructed on the south side of the eastern roadway approach to the new bridge to protect the existing privately-owned water pump system. A slope easement or retaining would be installed on the north side of the western roadway approach to the bridge. The RSP and retaining walls design features of the Project would shore any slopes developed on the site as part of the Project. For this reason, implementation of the Project would not directly or indirectly result in substantial adverse effects, including the risk of loss, injury, or death involving seismically induced landslides. **No impact** would occur, and no mitigation measures are required.

b. Would the project result in substantial soil erosion or the loss of topsoil?

As discussed in Section 3.10, Hydrology and Water Quality, during construction activities, soil would be exposed, and there would be an increased potential for soil erosion compared to existing conditions due to soil disturbance and the exposure of soil to weather conditions (e.g., wind and rain). During a storm event, soil erosion and loss of topsoil could occur at an accelerated rate.

As specified in **Mitigation Measure HYD-1** in Section 3.10, Hydrology and Water Quality, the Project would comply with the requirements of the Construction General Permit. Under the Construction General Permit, the Project would be required to prepare an SWPPP and implement the construction BMPs detailed in the SWPPP during construction. In addition, as specified in **Mitigation Measure HYD-2** in Section 3.10, Hydrology and Water Quality, an erosion and sediment control plan

would be prepared and submitted to the Director of the Stanislaus County Public Works Department, or designee, prior to issuance of a grading or building permit. The SWPPP and erosion and sediment control plans would detail the BMPs to be implemented during construction. Construction BMPs would include, but not be limited to, Erosion Control and Sediment Control BMPs designed to minimize erosion and retain sediment on site. With implementation of Erosion Control and Sediment Control BMPs, as required by **Mitigation Measure HYD-1** and **Mitigation Measure HYD-2**, construction impacts related to erosion, or the loss of topsoil would be **less than significant with mitigation incorporated**.

Once completed, the Project would have the same amount of impervious surface area as former existing conditions. As such, the Project would not be prone to on-site erosion or siltation because no soil would be included in areas of impervious surfaces.

c. Would the project 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?

Landslide. As previously discussed, the Project is located in the Central Valley of California within Stanislaus County. The topography surrounding and within the Project site is flat and the nearest elevated topography are the foothills of the Diablo Range, approximately 15 miles west of the site. Implementation of the Project would include work within the channel of Orestimba Creek where RSP would be installed along the banks of the creek, extending 25 feet upstream and 25 feet downstream once the pilings for the new bridge have been installed. The RSP would act as a buffer to decrease potential bank erosion as well as decrease the likelihood of small landslides occurring within the channel of Orestimba Creek. The approach work on Kilburn Road would also include the installation of slopes in order to allow the vertical alignment of the new bridge crossing over Orestimba Creek. A retaining wall would be constructed on the south side of the eastern roadway approach to the new bridge to protect the existing privately-owned water pump system. A slope easement or retaining wall be installed on the north side of the western roadway approach to the bridge. Overall, the Project would not be on a geologic unit or soil that is unstable or that would become unstable as a result of on- or off-site landslides. **No impact** would occur, and no mitigation measures are required.

Lateral Spreading. Lateral spreading often occurs on very gentle slopes or flat terrain. The dominant mode of movement is lateral extension accompanied by shear or tensile fracture. This failure is caused by liquefaction and is usually triggered by rapid ground motion, such as that experienced during an earthquake, but can also be artificially induced. When coherent material, either bedrock or soil, rests on materials that liquefy, the upper units may undergo fracturing and extension and may then subside, translate, rotate, disintegrate, or liquefy and flow. The *Preliminary Foundation Report* indicates the occurrence of lateral spreading at the Project site is unlikely based on field investigations that were conducted. Overall, the Project would not be on a geologic unit or soil that is unstable or that would become unstable as a result of lateral spreading. **No impact** would occur, and no mitigation measures are required.

Subsidence. Subsidence refers to broad-scale changes in the elevation of land. Common causes of land subsidence are pumping water, oil, and gas from underground reservoirs; dissolution of

limestone aquifers (sinkholes); collapse of underground mines; drainage of organic soils; and initial wetting of dry soils (hydrocompaction). Subsidence is also caused by heavy loads generated by large earthmoving equipment. The Project site is not located within an area of known subsidence that may be associated with groundwater, peat loss, or oil extraction. Therefore, the Project would not be subject to potential geotechnical hazards related to subsidence; there would be **no impact** and no mitigation is required.

Liquefaction. The Project is located along Kilburn Road and the new bridge would be installed over Orestimba Creek. The *Preliminary Foundation Report* indicates that soils underlying the Project are sufficiently plastic to preclude liquefaction at depths of the bridge abutments. The *Preliminary Foundation Report* does indicate that liquefaction could occur at depths between 62.5 to 68 feet at bridge Abutment 1 and from a depth of 57.5 to 62 feet at bridge Abutment 2. However, the bridge abutments would not be designed to intrude that deep below the ground surface. For this reason, the Project would not be on a geologic unit or soil that is unstable or that would become unstable as a result of liquefaction. **No impact** would occur, and no mitigation measures are required.

d. Would the project 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?

Expansive soils (shrink-swell) are characterized by their ability to undergo substantial volume changes (shrink or swell) due to variations in moisture content as a result of precipitation, landscape irrigation, utility leakage, roof drainage, perched groundwater, drought, or other factors. Liquefaction may result in unacceptable settlement or heave of structures or concrete slabs supported on grade. Soil on the Project site includes 8.9 acres of Elsalado loam, 0 to 2 percent slopes (Soil 274) and 0.99 acres of Vernalis clay loam, 0 to 2 percent slopes (Soil 125). Vernalis clay loam, 0 to 2 percent slopes on the Project site have moderate shrink-swell potential and the Elsalado loam, 0 to 2 percent slopes soil on the Project site have low shrink-swell potential.

The *Preliminary Foundation Report* provides design features for the new bridge and roadway approaches that would be incorporated to reduce potential impacts associated with moderately expansive soils. Incorporated of **Mitigation Measure GEO-1** would ensure that the measures from the *Final Foundation Report* are implemented to reduce direct or indirect effects to life or property from expansive soils. Impacts would therefore be **less than significant with mitigation incorporated**.

e. Would the project have soils incapable of adequately supporting the use of septic tanks or alternative waste water disposal systems where sewers are not available for the disposal of waste water?

The Project includes the removal of a deficient bridge on Kilburn Road, installation of a new modern bridge in its place over Orestimba Creek, roadway approach work, and improvements to Orestimba Creek channel. The Project would not include the installation of a septic tank or alternative wastewater disposal system. **No impact** would occur and not mitigation measures are required.

f. Would the project directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?

The Stanislaus County General Plan Environmental Impact Report (Stanislaus County 2016) indicates that most of the geologic units found within the County are designated as highly sensitive for paleontological resources. The Project site is underlain by Quaternary alluvium and marine deposits and more than likely has high sensitivity for paleontological resources. Field investigations conducted as part of the cultural resources documentation for the Project did not find any surface paleontological resources within the Project boundary. Additionally, the Project site, where the existing Kilburn Road and bridge exist, has already been disturbed (at least since the early 1900s) with no indication that paleontological resources have been found. Nevertheless, it is possible that ground-disturbing construction activities could impact significant previously undiscovered paleontological resources.

To mitigate adverse impacts to unknown buried paleontological resources that may exist on site, **Mitigation Measure GEO-2** requires that a Stanislaus County Certified Paleontologist be retained to develop a Paleontological Resources Impact Mitigation Program (PRIMP), that paleontological monitoring occur during ground-disturbing activities in paleontologically sensitive deposits, and that a final paleontological monitoring report be prepared describing the results of the monitoring effort. The PRIMP should follow guidelines developed by the Society of Vertebrate Paleontology and should include, but not be limited to, the methods that will be used to protect paleontological resources that may exist within the Project site, as well as procedures for monitoring, fossil preparation and identification, curation into a repository, and preparation of a report at the conclusion of grading.

Mitigation Measure GEO-2 Prior to the issuance of the grading permit, the County shall retain a qualified paleontologist (defined as a practicing paleontologist that is recognized in the paleontological community and proficient in vertebrate paleontology) who is listed on the Stanislaus County list of certified paleontologists. The paleontologist shall prepare a PRIMP for this Project. The PRIMP shall include the methods that will be used to protect paleontological resources that may exist within the Project site, as well as procedures for monitoring, fossil preparation and identification, curation into a repository, and preparation of a report at the conclusion of grading. The PRIMP shall be consistent with the guidelines of the Society of Vertebrate Paleontology.

Any excavation and grading activities in deposits with high paleontological sensitivity shall be monitored by a paleontological monitor following a PRIMP. No monitoring is required for excavations in deposits with no or low paleontological sensitivity.

If paleontological resources are encountered during the course of ground disturbance (i.e., installation of bridge piers), the paleontological monitor shall have the authority to temporarily redirect construction away from the area of the find in order to

assess its significance. In the event that paleontological resources are encountered when a paleontological monitor is not present, work in the immediate area of the find shall be redirected and a paleontologist shall be contacted to assess the find for significance. Collected resources shall be prepared to the point of identification, identified to the lowest taxonomic level possible, cataloged, and curated into the permanent collections of a scientific institution. Prior to opening of the Project, a report of findings shall be prepared to document the results of the monitoring program.

Implementation of **Mitigation Measure GEO-2** would ensure that any paleontological resources unintentionally discovered during Project construction are properly recorded, collected and curated as applicable. Impacts would be **less than significant with mitigation incorporated**.

3.8 GREENHOUSE GAS EMISSIONS

	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
Would the project:				
a. Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?	☐	☐	☒	☐
b. Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases?	☐	☐	☒	☐

3.8.1 Impact Analysis

a. Would the project generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?

Construction Emissions. Construction activities, such as site preparation, site grading, on-site heavy-duty construction vehicles, utility trenching, equipment hauling materials to and from the site, and motor vehicles transporting the construction crew would produce combustion emissions from various sources. During construction of the Project, greenhouse gases (GHGs) would be emitted through the operation of construction equipment and from worker and builder supply vendor vehicles, each of which typically use fossil-based fuels to operate. The combustion of fossil-based fuels creates GHGs such as carbon dioxide, methane, and nitrous oxide. Furthermore, methane is emitted during the fueling of heavy equipment. Exhaust emissions from on-site construction activities would vary daily as construction activity levels change.

The SJVAPCD does not have an adopted threshold of significance for construction-related GHG emissions. However, lead agencies are encouraged to quantify and disclose GHG emissions that would occur during construction. Using the Sacramento Metropolitan Air Quality Management District's Road Construction Emissions Model, Version 9.0.0 (Roadmod), it is estimated that the

Project would generate approximately 1,420.8 metric tons of carbon dioxide equivalent during construction of the Project.

Operational Emissions. Long-term GHG emissions are typically generated from mobile and area sources as well as indirect emissions from sources associated with energy consumption. Mobile-source GHG emissions include project-generated vehicle trips to and from a project. Area-source emissions would be associated with activities such as landscaping and maintenance on the project site. Energy source emissions are typically generated at off-site utility providers as a result of increased electricity demand generated by a project. Waste source emissions generated by the Project include energy generated by land filling and other methods of disposal related to transporting and managing Project generated waste. In addition, water source emissions associated with the Project are generated by water supply and conveyance, water treatment, water distribution, and wastewater treatment.

The Project would replace the existing two-lane, single-span bridge with a new two-lane, three-span bridge on the same general alignment as the existing bridge. The Project would provide a replacement bridge with safer standard shoulder widths and lane widths, a structural capacity to carry modern day truckloads, and a clearance over 50-year water surface elevation. The design and construction of the approach roadway and replacement bridge would be in compliance with County and Caltrans design standards, as well as AASHTO guidelines.

As the Project would replace an existing bridge, it is not expected that the Project would result in an increase in vehicular trips through the Project area. In addition, the Project would not be a source of stationary source emissions once operational. Therefore, GHG emissions generated by the Project would be **less than significant**, and no mitigation is required.

b. Would the project conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases?

The SJVAPCD has adopted a Climate Change Action Plan (CCAP), which includes suggested Best Performance Standards (BPS) for proposed projects. However, the SVJAPCD's CCAP was adopted in 2009 and was prepared based on the State's 2020 GHG targets, which are now superseded by State policies (i.e., the 2019 California Green Building Code) and the 2030 GHG targets, established in SB 32. In addition, the Project would replace the existing two-lane, single-span bridge with a new two-lane, three-span bridge on the same general alignment as the existing bridge. Many of the SJVAPCD's BPS measures are intended for commercial, residential, and mixed-use projects and would not be applicable to the Project. As such, absent any other local or regional Climate Action Plan, the Project was analyzed for consistency with the goals of AB 32 and the AB 32 Scoping Plan. The following discussion evaluates the Project according to the goals of AB 32, the AB 32 Scoping Plan, Executive Order B-30-15, SB 32, and AB 197.

AB 32 is aimed at reducing GHG emissions to 1990 levels by 2020. AB 32 requires the CARB to prepare a Scoping Plan that outlines the main State strategies for meeting the 2020 deadline and to reduce GHGs that contribute to global climate change. The AB 32 Scoping Plan has a range of GHG reduction actions, which include direct regulations, alternative compliance mechanisms, monetary

and non-monetary incentives, voluntary actions, market-based mechanisms such as a cap-and-trade system, and an AB 32 implementation fee to fund the program.

Executive Order Executive Order B-30-15 added the immediate target of reducing GHG emissions to 40 percent below 1990 levels by 2030. CARB released a second update to the Scoping Plan, the 2017 Scoping Plan (CARB 2017), to reflect the 2030 target set by Executive Order B-30-15 and codified by SB 32. SB 32 affirms the importance of addressing climate change by codifying into statute the GHG emissions reductions target of at least 40 percent below 1990 levels by 2030 contained in Executive Order B-30-15. SB 32 builds on AB 32 and keeps us on the path toward achieving the State's 2050 objective of reducing emissions to 80 percent below 1990 levels. The companion bill to SB 32, AB 197, provides additional direction to the CARB related to the adoption of strategies to reduce GHG emissions. Additional direction in AB 197 intended to provide easier public access to air emissions data that are collected by CARB was posted in December 2016.

As identified above, the AB 32 Scoping Plan contains GHG reduction measures that work towards reducing GHG emissions, consistent with the targets set by AB 32, Executive Order B-30-15 and codified by SB 32 and AB 197. The measures applicable to the Project include energy efficiency measures, water conservation and efficiency measures, and transportation and motor vehicle measures, as discussed below.

Energy efficient measures are intended to maximize energy efficiency building and appliance standards, pursue additional efficiency efforts including new technologies and new policy and implementation mechanisms, and pursue comparable investment in energy efficiency from all retail providers of electricity in California. In addition, these measures are designed to expand the use of green building practices to reduce the carbon footprint of California's new and existing inventory of buildings. Operation of the Project would not require the consumption of energy. Therefore, the Project would not conflict with energy efficient measures.

Water conservation and efficiency measures are intended to continue efficiency programs and use cleaner energy sources to move and treat water. Increasing the efficiency of water transport and reducing water use would reduce GHG emissions. Operation of the Project would not require the consumption of water. Therefore, the Project would not conflict with the water conservation and efficiency measures.

The goal of transportation and motor vehicle measures is to develop regional GHG emissions reduction targets for passenger vehicles. The second phase of Pavley standards will reduce GHG emissions from new cars by 34 percent from 2016 levels by 2025, resulting in a 3 percent decrease in average vehicle emissions for all vehicles by 2020. Specific regional emission targets for transportation emissions would not directly apply to the Project. However, vehicles traveling on the proposed bridge would comply with the Pavley II (LEV III) Advanced Clean Cars Program. Therefore, the Project would not conflict with the transportation and motor vehicle measures.

Furthermore, construction emissions, as discussed above, would be minimal and would cease once the Project is completed. Additionally, as discussed above, the Project would not generate long-term GHG emissions. Therefore, the Project would not generate substantial GHG emissions that would have a significant effect on the environment and would be consistent with the State GHG reduction

goals. Therefore, the Project would not conflict with plans, policies, or regulations adopted for the purpose of reducing GHG emissions. This impact would be **less than significant**, and no mitigation is required.

3.9 HAZARDS AND HAZARDOUS MATERIALS

	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
Would the project:				
a. Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?	☐	☒	☐	☐
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?	☐	☒	☐	☐
c. Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?	☐	☐	☐	☒
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?	☐	☐	☒	☐
e. For a project located within an airport land use plan or, where such a plan has not been adopted, within 2 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?	☐	☐	☐	☒
f. Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?	☐	☐	☒	☐
g. Expose people or structures, either directly or indirectly, to a significant risk of loss, injury, or death involving wildland fires?	☐	☐	☒	☐

3.9.1 Impact Analysis

a. Would the project create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?

Construction of the Project would temporarily increase the transport, use, and disposal of construction-related hazardous materials and petroleum products (e.g., diesel fuel, lubricants, paints and solvents, and cement products containing strong basic or acidic chemicals) in Stanislaus County. These materials are commonly used at bridge replacement construction sites, and the construction activities would be required to comply with applicable State and federal regulations for proper transport, use, storage, and disposal of excess hazardous materials and hazardous construction waste. In addition, implementation of **Mitigation Measure HAZ-1** would require the preparation of a Spill Prevention and Countermeasure Plan (SPCP), and **Mitigation Measure HYD-2** (identified in Section 3.10, Hydrology and Water Quality) would include the preparation of a SWPPP to minimize potential contamination to downstream waterways. With implementation of **Mitigation**

Measure HAZ-1 and **Mitigation Measure HYD-2**, the proposed project would result in **less than significant impacts with mitigation incorporated.**

Mitigation Measure HAZ-1 The contractor shall prepare a SPCP. The SPCP must be submitted to Stanislaus County for review and approval prior to the commencement of construction activities. The SPCP shall include information on the nature of all hazardous materials that would be used on site. The SPCP shall also include information regarding the proper handling of hazardous materials and cleanup procedures in the event of an accidental release. The phone number of the agency overseeing hazardous materials and toxic cleanup shall be provided in the SPCP.

Once the Project is complete, there would be no features associated with its operation that would include the routine transport, use or disposal of hazardous materials, as it is a bridge replacement project. Similar to pre-construction conditions, trucks carrying hazardous materials may use Kilburn Road crossing over Orestimba Creek on the new bridge. Such vehicles and their cargo would be regulated by State and federal regulations to ensure that the routine transport of hazardous materials is conducted in a safe manner.

b. Would the project 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?

The incidental transport and use of oils, lubricants, fuels, and other common hazardous materials during construction may present a temporary potential hazard to the public and the environment. In addition, the Preliminary Site Assessment (WRECO, 2021) identified potential hazardous materials within the project vicinity, including contain asbestos containing material, lead-based paint, treated wood, and contaminated soils.

The Environmental Protection Agency, National Emission Standards for Hazardous Air Pollutants, 40 DVR Part 61 – Nov. 20, 1990, requires an owner or operator of a demolition or renovation project to thoroughly inspect the affected facility or part of the facility where the demolition or renovation operation would occur for the presence of asbestos-containing material prior to the commencement of that project. Based on the age and concrete construction of the existing bridge, the bridge may contain asbestos containing material. Paint material is also located on the bridge structure and, along with pavement striping, could contain lead-based paint. Utility poles in the Project area consist of treated wood, which contains chemical preservatives, including arsenic, chromium, copper (metals), creosote and pentachlorophenol, and are known to be toxic or carcinogenic, and pole-mounted electrical transformers which may contain polychlorinated biphenyls. Removal of the bridge would include demolition and disposal of these materials, which could result in a significant hazard to the public or the environment.

Additionally, historical agricultural practices (pesticides and metals) could have a potential impact on soil along the roadway in the project area. There is the potential for aerially-deposited lead in exposed soil along the roadways from historical vehicle emissions during the leaded gasoline era,

and the potential for petroleum hydrocarbons from gasoline or diesel agricultural from machines and/or vehicles in the Project vicinity. If these materials are present in the Project area, ground disturbance during construction could also result in a significant hazard to the public or the environment.

Implementation of **Mitigation Measure HAZ-2** would require the completion of a Preliminary Site Investigation to sample bridge materials and soils to determine the presence of hazardous materials. Implementation of **Mitigation Measure HAZ-3** would require worker training for the transport, use, and disposal of hazardous material and would reduce the risk of a significant hazard.

Mitigation Measure HAZ-2 The County shall conduct a Preliminary Site Investigation prior to construction to determine the presence of hazardous materials on site. The Preliminary Site Investigation shall:

- Analyze soil samples for organophosphorus/organochlorine pesticides and metals;
- Analyze soil samples for total lead/pH;
- Analyze soil samples for creosote and pentachlorophenols, polychlorinated biphenyls, and metals;
- Sample traffic striping and painted surfaces of the bridge for lead-based paint; and
- Sample the concrete structure for asbestos containing material.

Any recommendations made by the Preliminary Site Investigation shall be implemented prior to and during construction as appropriate.

Mitigation Measure HAZ-3 The contractor shall prepare and implement a Lead Compliance Plan for removal and disposal of traffic stripes and industrial paint. The Lead Compliance Plan shall require the contractor to use trained personnel and comply with all Cal/OSHA regulations and requirements. Employee training should include guidelines that prevent or minimize worker exposure to lead-based paint and chromium-based paint. The training shall include (but not be limited to) protocols for environmental and personal monitoring, requirements for personal protective equipment, and other health and safety protocols and procedures for the demolition of existing structures.

Once operational, potentially hazardous materials, such as fuels and solvents, may be used during routine maintenance activities. However, maintenance activities would be similar to those currently being conducted for the existing bridge and would be conducted in compliance with existing

government regulations. Operation of the proposed project would not produce hazardous emissions or require handling, transport, or disposal of acutely hazardous materials, substances, or waste.

The proposed project would result in **less than significant impacts with mitigation incorporated** associated with creating a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials.

c. Would the project emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?

The Project is located in a rural portion of Stanislaus County approximately 1.75 miles east of the community of Crows Landing. No existing schools or proposed schools are located within 0.25 mile of the Project site. The closest school, Bonita Elementary School, is located at 425 Fink Road, Crows Landing, approximately 2.5 miles west of the project construction area. As such, implementation of the Project would not emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school. **No impact** would occur, and no mitigation measures are required.

d. Would the project 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?

An Initial Site Assessment (WRECO 2021) was prepared for the proposed project that included an extensive database records search for the project site and properties within a 1-mile radius of the project site. WRECO reviewed the database records search for sites at or adjacent to the acquisition parcels or considered close enough to the project site to potentially impact the project. The records search did not indicate the presence of known and/or potential recognized environmental conditions within the project limits; however, five sites were identified with potentially hazardous material conditions adjacent to the project site. These include: a Historical Underground Storage Tank with no leaks reported; an owner-reported business filed with the EPA with no reports provided; an abandoned illegal drug lab; a monitored fuel tank on a neighboring farm with no reported leaks; and a communication equipment repair and maintenance shop. Because the proposed project site is not included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5, this impact is **less than significant,** and no mitigation is required.

e. Would the project be located within an airport land use plan or, where such a plan has not been adopted, within 2 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?

The Project site is located in a rural portion of Stanislaus County approximately 1.75 miles to the east of the community of Crows Landing. There are no public airport or public use airports within two miles of the Project site. The Crows Landing Naval Auxiliary Landing Field is located 3.8 miles to the northwest of the Project site; however, this facility has not been open or operational since 1999. Implementation of the Project would not result in a safety hazard or excessive noise for construction workers in the Project area as the Project site is not located within two miles of an airport nor is the

Project site located within the noise contours of an airport. **No impact** would occur, and no mitigation measures are required.

f. Would the project impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?

The Project includes the removal of the existing bridge crossing over Orestimba Creek along Kilburn Road, installation of a new modern bridge in its place, approach roadwork along Kilburn Road, and work within the channel of Orestimba Creek. Kilburn Road would be closed to through traffic during the yearlong construction; however, local traffic would still be able to access residential units adjacent to the bridge crossing over Orestimba Creek. Local traffic would be able to access and depart from the area (in the event of an emergency) from the northwest side of the Project site using Kilburn Road to Crows Landing Road, where State Route (SR) 33 or I-5 can be accessed to provide an exit from the Project area. Local traffic would be able to access and depart from the southeast side of the Project using Kilburn Road, to JT Crow Road, where SR-33 can be accessed to provide an exit from the Project area. Local emergency responders (e.g., fire fighters) and the Office of Emergency Services would be notified by the County of the construction dates of the Project and the Kilburn Road closure at the bridge area crossing over Orestimba Creek to ensure that impacts to emergency response plans or emergency evacuation plans/routes are not impacted.

Once the Project is complete and operational, Kilburn Road and the new bridge crossing over Orestimba Creek would be accessible by through traffic and emergency responders, like existing conditions. The new bridge that would be installed would be modern and would require less maintenance than the original bridge, thus decreasing the possibility that Kilburn Road at the new bridge would need to be closed for maintenance activities.

Overall, implementation of the Project would not impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan. Impacts would be **less than significant,** and no mitigation measures are required.

g. Would the project expose people or structures, either directly or indirectly, to a significant risk of loss, injury, or death involving wildland fires?

Please refer to Section 3.20 Wildfire of this Initial Study where a detailed analysis pertaining to wildfire impacts is discussed. Impacts would be **less than significant,** and no mitigation measures are required.

3.10 HYDROLOGY AND WATER QUALITY

	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
Would the project:				
a. Violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or groundwater quality?	☐	☒	☐	☐
b. Substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin?	☐	☐	☒	☐
c. Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river through the addition of impervious surfaces, in a manner which would:				
i. Result in substantial erosion or siltation on- or off-site?	☐	☐	☒	☐
ii. Substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or offsite?	☐	☐	☒	☐
iii. 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?	☐	☐	☒	☐
iv. Impede or redirect flood flows?	☐	☐	☒	☐
d. In flood hazard, tsunami, or seiche zones, risk release of pollutants due to project inundation?	☐	☐	☐	☒
e. Conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan?	☐	☒	☐	☐

Runoff and Drainage

The Project site primarily consists of Kilburn Road right-of-way, and the additional parcels or segments of land that would need to be acquired to accommodate the proposed bridge and road approaches. Surface runoff water accumulates in the west and flows easterly. The contributing drainage basin to the Project site is approximately 180 square miles. However, the railroad crossing over Orestimba Creek and the adjacent crossing of SR 33 cause significant constriction to downstream conveyance. This point of constriction is located approximately 2 miles upstream of the proposed bridge replacement site. Due to this impedance of flow, this portion of the watershed which impacts the Project site is hydrologically isolated from the contributing drainage basin.

Flooding

According to the Location Hydraulic Study (WRECO 2012) as well the Federal Emergency Management Agency (FEMA) profile, the 100-year water surface elevation is below the deck of the existing bridge. The minimum soffit elevations of the proposed bridge designs are more than one foot above the 100-year water surface elevation. The proposed bridge designs would not be overtopped during the 100-year flood event. According to the FEMA Map the Project is located in

Zone AE, defined as the area subject to flooding by the 1 percent annual chance (base) flood, and Base Flood Elevations are determined.

Water Quality

Water quality data sources for both surface and groundwater resources in Stanislaus County are widely dispersed. Data is available for rivers, some reservoirs, and streams near proposed major county or commercial development. Groundwater data from domestic or monitoring wells is also available mainly from these same sources. The U.S. Forest Service also has qualitative and some quantitative data on surface and groundwater quality for the 11 percent of the county that lies within the Stanislaus National Forest. The U.S. Geological Survey, in coordination with numerous state and federal agencies, is currently conducting an extensive investigation of groundwater quality in the local area through the Groundwater Ambient Monitoring and Assessment Program.

Surface water quality is generally satisfactory, improving in quality (relative to drinking standards) at higher elevations. Available data indicate that the major rivers and reservoirs are significantly higher in quality than the small streams. However, this may partially be the due to the fact that the available stream data is from the southwestern area of the county that contains soil and rock formations high in mineral content.

Groundwater quality is generally within most drinking water standards, although some areas of the lower foothills have very high iron content as well as certain other minerals in specific locations. This is due to the slow movement of groundwater through mineralized rock formations as expected in a mineral-rich region such as Stanislaus County.

3.10.1 Impact Analysis

a. Would the project violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or groundwater quality?

The State Water Resources Control Board requires dischargers whose projects disturb one or more acres of soil to obtain coverage under the State Water Resources Control Board's NPDES General Permit for Storm Water Discharges Associated with Construction and Land Disturbance Activities (Order No. 2009-0009-DWQ, as amended by 2010-0014-DWG and 2012-0006-DWQ, NPDES No. CAS000002) (Construction General Permit). Construction activity subject to this permit includes clearing, grading, and disturbances to the ground, such as stockpiling or excavation.

Soil exposure, non-stormwater discharge, and hazardous material used during construction, as well as pollutants from vehicular use and landscape management during Project operation, could result in the degradation of stormwater runoff quality from the Project site.

During construction, the Project has the potential to cause temporary water quality impacts due to grading activities and removal of existing vegetation around and in the creek channel. Demolition, excavation, grading, and construction would require the removal of the existing bridge and roadway pavements, and vegetative cover within the Project site, which would result in the disturbance and

exposure of shallow soils to runoff, potentially causing erosion and entrainment of sediment in the runoff, which could adversely affect receiving water quality.

Additionally, chemicals such as fuels, oils, paints, and solvents would be used during construction of the Project. If released, these substances could be transported to nearby surface waterways and/or groundwater in stormwater runoff, wash water, and dust control water, potentially reducing the quality of the receiving waters.

The improper management and discharge of dewatering effluent into the storm drainage system could adversely affect water quality in the receiving waters, as contaminants and sediment may be present in the dewatering effluent.

During the operational phase of the Project, the potential for adverse long-term impacts to water quality would be eliminated. Long term water quality impacts are usually due to changes in stormwater drainage. However, as the Project would only result in a negligible increase of impervious surfaces, a significant permanent increase in runoff and pollutant loading is not expected. To ensure that runoff and pollutant loading do not affect the quality of receiving waters, the project would include the following mitigation measures.

Mitigation Measure HYD-1 Preparation and implementation of temporary construction site BMPs in compliance with the provisions of the Caltrans Statewide NPDES Permit and any subsequent permit as they relate to construction activities are required for the Project. This shall include submission of a Notice of Construction to the Central Valley RWQCB at least 30 days before the start of construction and submission of a Notice of Construction Completion to the RWQCB upon completion of construction and stabilization of the Project site. The temporary BMP's shall be installed prior to any construction operations and shall be in place for the duration of the contract. The removal of these BMP's shall be the final operation, along with the Project site cleanup.

Mitigation Measure HYD-2 The Project shall be required to follow Design Pollution Prevention and Treatment Control BMPs for the Project in accordance with the procedures outlined in the Stormwater Quality Handbooks, Project Planning and Design Guide. This shall include coordination with the RWQCB with respect to feasibility, maintenance, and monitoring of Treatment Control BMPs as set forth in Caltrans' Statewide Stormwater Management Plan. A SWPPP shall be prepared and implemented to address all construction-related activities, equipment, and materials that have the potential to impact water quality. The SWPPP shall identify the sources of pollutants that may affect the quality of storm water and include BMPs to ensure that the potential for soil erosion, sedimentation, and spills is minimized and to control the discharge of pollutants in storm water runoff as a result of construction activities.

Mitigation Measure HYD-3 All refueling, maintenance, and staging of equipment and vehicles shall occur at least 18.3 meters (60 ft) from riparian habitat or water bodies and not in a location from where a spill would drain directly toward aquatic habitat. Regular monitoring shall ensure contamination of habitat does not occur during such operations. Prior to the onset of work, the County shall provide Caltrans (on behalf of the Federal Highway Administration) with a plan for prompt and effective response to any accidental spills. All workers shall be informed of the importance of preventing spills and of the appropriate measures to take should a spill occur.

Mitigation Measure HYD-4 The Project site shall be revegetated with an assemblage of native riparian, wetland, and upland vegetation suitable for the area. Locally collected plant materials shall be used to the extent practicable. Invasive exotic plants shall be controlled to the maximum practical extent. This measure shall be implemented in all areas disturbed by activities associated with the Project, unless the regulatory or resource agencies, or Caltrans, determine that it is not feasible or practical. (For example, an area disturbed by construction that would be used for future activities need not be revegetated.)

Mitigation Measure HYD-5 To control sedimentation during and after Project implementation, Caltrans and the County shall implement best management practices outlined in any authorizations or permits, issued under the authorities of the Clean Water Act that it receives for the Project. If best management practices are ineffective, Caltrans shall remedy the situation immediately, in consultation with the regulatory and resource agencies.

Implementation of **Mitigation Measures HYD-1 through HYD-5** would reduce potential construction phase and operational phase impacts on water quality. Project impacts associated with water quality standards or waste discharge requirements or any potential to otherwise substantially degrade surface or groundwater quality would be **less than significant with mitigation incorporated**.

b. Would the project substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin?

Construction of the Project would not involve groundwater dewatering. Dewatering could deplete groundwater supplies and interfere with groundwater recharge. If dewatering is necessary in areas where groundwater is encountered within the planned depth of excavation, depending on surface and groundwater levels at the time of construction, a permit for discharge of the extracted groundwater would be obtained from the RWQCB. This discharge would be required to be

consistent with RWQCB requirements and as such would not result in a violation of water quality standards or waste discharge requirements.

The Project would not use local groundwater supplies. Any dewatering would be temporary and affect only the surface water of Orestimba Creek. Therefore, the potential of the Project to substantially deplete groundwater supplies during construction is less than significant. Overall, development of the Project would not alter the stream channels and therefore would not interfere with infiltration.

Project impacts associated with water quality standards or waste discharge requirements or any potential to otherwise substantially degrade surface or groundwater quality would be **less than significant**.

c. Would the project substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river through the addition of impervious surfaces, in a manner which would:

i. Result in substantial erosion or siltation on- or off-site?

Replacement of the Kilburn Road Bridge would result in a negligible increase in impervious surfaces. During construction, any soil removed would be stored and controlled to reduce any potential erosion or siltation. In addition, compliance with the Construction General Permit, preparation of a Stormwater Pollution Prevention Plan, and compliance with the County's Standards and Specifications (2014) would reduce erosion of exposed or disturbed soil areas during construction, including during storm events. Design of the Project and implementation of construction site best management practices would ensure any increase in impervious surfaces would not substantially alter existing drainage patterns or result in substantial erosion or siltation on- or off-site. The Project would result in **less than significant impacts** related to drainage patterns and erosion or siltation.

ii. Substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or offsite?

Replacement of the existing bridge would result in increased negligible impervious surfaces and would not result in an increase in the rate and volume of stormwater runoff. Project design would ensure that drainage patterns are maintained, and implementation of construction site best management practices would reduce the increase in the amount or rate of surface runoff. The Project is not located within a flood hazard zone and any drainage improvements would be appropriately sized to manage any increase in runoff. The change in the rate and volume of stormwater runoff would not be substantial and would not result in flooding. The Project would not result in flooding on or off site and would have a **less than significant** impact related to surface runoff. No mitigation measures would be required.

iii. 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?

Replacement of the existing bridge would result in a negligible increase in impervious surfaces. This increase in impervious surfaces is anticipated to have a minimal effect on stormwater runoff. The Project would not create any substantial increase in stormwater, and the capacity of existing stormwater drainage within the Project area would be adequate. Impacts would be **less than significant,** and no mitigation measures would be required.

iv. Impede or redirect flood flows?

The Project is located in flood hazard Zone AE, defined as the area subject to flooding by the 1 percent annual chance (base) flood. The alignment of the Project would not result in a longitudinal encroachment to the existing floodplain. The potential short-term adverse effects during the removal and replacement of the bridge to the natural and beneficial floodplain values include: 1) loss of vegetation during construction activity; and 2) temporary disturbance of wildlife habitat. Long-term adverse effects to the natural beneficial floodplain values are not anticipated from the Project. All proposed bridge designs maintain sufficient capacity to convey the 50-year and 100-year storms with adequate freeboard. Therefore, there is a low potential for the Project to contribute to adverse flood control functions. This impact would be **less than significant,** and no mitigation measures are required.

d. Would the project in Flood Hazard, Tsunami, or Seiche Zones, Risk Release of Pollutants Due to Project Inundation?

The Project is located in flood hazard Zone AE, defined as the area subject to flooding by the 1 percent annual chance (base) flood. The alignment of the Project would not result in a longitudinal encroachment to the existing floodplain. The potential short-term adverse effects during the removal and replacement of the bridge to the natural and beneficial floodplain values include: 1) loss of vegetation during construction activity; and 2) temporary disturbance of wildlife habitat. Long-term adverse effects to the natural beneficial floodplain values are not anticipated from the Project. All proposed bridge designs maintain sufficient capacity to convey the 50-year and 100-year storms with adequate freeboard. However, as demonstrated by HEC-RAS hydraulic modeling in the Location Hydraulic Study Report (WRECO 2012), the proposed bridge would result in a decrease in the water surface elevation just upstream of the bridge up to 0.4 ft for the 100-year design flow. The Project would not result in an increased risk of flood hazard. The Project site is not located near an enclosed body of water or the ocean. As such, the Project would not be susceptible to inundation by a seiche or tsunami. The Project would not risk release of pollutants due to Project inundation and **no impact** would occur. No mitigation measures would be required.

e. Would the project conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan?

The Sacramento River/San Joaquin River Basin Plan provides groundwater quality objectives and beneficial uses for the entirety of its jurisdictional boundary. Unless otherwise designated by the RWQCB, all ground waters in the Sacramento/San Joaquin River Basin Plan's jurisdictional boundary

are considered suitable or potentially suitable, at a minimum, for municipal and domestic water supply; agricultural resources; and industrial service supply. The Sacramento River/San Joaquin River Basin Plan identifies objectives for bacteria, chemical constituents, radioactivity, taste and odors, and toxicity in groundwater.

Due to its small size, surface water in Orestimba Creek has no designated beneficial uses. The closest water body with beneficial uses is the San Joaquin River. Orestimba Creek flows into the San Joaquin River approximately 2.2 miles northeast of the Project site. The potential existing uses for the San Joaquin River are municipal and domestic supply, agricultural, power generation, contact recreation, canoeing and rafting and other non-contact recreation, and wildlife habitat. Due to the distance from this water resource, the Project would not impact beneficial uses of the San Joaquin River.

In compliance with the Construction General Permit, the County would be required to prepare a SWPPP (**Mitigation Measure HYD-2**) and implement Construction BMPs aimed at reducing pollutants of concern in stormwater runoff. Therefore, the potential for short-term impacts to groundwater management during construction is considered to be very low. The Project would result in a **less than significant impact with mitigation incorporated**.

3.11 LAND USE AND PLANNING

	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
Would the project:				
a. Physically divide an established community?	☐	☐	☐	☒
b. Cause a significant environmental impact due to a conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect?	☐	☐	☒	☐

3.11.1 Impact Analysis

a. Would the project physically divide an established community?

The new bridge would be constructed on the same alignment as the existing bridge and would provide continued connectivity for residents and visitors along Kilburn Road. The Project would consist of the replacement of the existing bridge along Kilburn Road over Orestimba Creek. The Project would be consistent with existing land uses and would not divide an established community. **No impacts** would occur, and no mitigation measures would be required.

b. Would the project cause a significant environmental impact due to a conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect?

Project construction would occur mainly within existing right-of-way. The Project would require approximately 0.36 acre of parcel acquisition (0.17 acre from APN 049-012-001, 0.14 acre from 049-007-028, less than 0.01 acre from 049-011-009, and 0.05 acre from APN 049-008-013) and 0.41 acre of temporary easements on adjacent parcels. The Project would not conflict with any land use plans,

policies, and regulations; as such, impacts would be **less than significant,** and no mitigation measures would be required.

3.12 MINERAL RESOURCES

	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
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?	☐	☐	☐	☒
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?	☐	☐	☐	☒

3.12.1 Impact Analysis

a. Would the project 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?

The predominant mineral resources in Stanislaus County are sand and gravel. The entire Project site has been classified by CGS as MRZ-3a—areas containing aggregate deposits, the significance of which cannot be evaluated from available data (Dupras 1993). The Stanislaus County General Plan Draft Environmental Impact Report (Stanislaus County 2016) states that there were 12 mines in operation within the county as of 2016. Mining activities occur primarily within fluvial deposits along river and stream drainages. The Project area is zoned Agriculture 40 Acres (A-2-40) in Stanislaus County; therefore, aggregate mining activities would not be consistent with the current zoning. No aggregate mining activities exist or are planned in the Project area (Division of Mine Reclamation 2021). Therefore, the Project would have **no impact** on the availability of known mineral resources and no mitigation measures are required.

b. Would the project 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?

The Project site is located in an agricultural area. The Stanislaus County General Plan protects areas containing "…significant deposits of extractive mineral resources (e.g., sand and gravel)"; these generally correspond to the areas classified by CGS as MRZ-2 (Stanislaus County 2016). The Project site and the locations where off-site infrastructure improvements would be constructed have been classified as MRZ-3a and have a low potential to contain economically valuable mineral deposits. Thus, the Project site and the locations where off-site infrastructure improvements would be constructed do not contain a locally important mineral resource recovery site delineated on a local general plan. Therefore, the Project would have **no impact** on the loss of availability of a locally important mineral resource recovery site and no mitigation measures are required.

3.13 NOISE

	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
Would the project result in:				
a. Generation of a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?	☐	☐	☒	☐
b. Generation of excessive groundborne vibration or groundborne noise levels?	☐	☐	☒	☐
c. For a project located within the vicinity of a private airstrip or 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 expose people residing or working in the project area to excessive noise levels?	☐	☐	☐	☒

3.13.1 Impact Analysis

a. Would the project result in generation of a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?

Noise is usually defined as unwanted sound. Noise consists of any sound that may produce physiological damage and/or interfere with communication, work, rest, recreation, or sleep. Several noise measurement scales exist that are used to describe noise in a particular location. A decibel (dB) is a unit of measurement that indicates the relative intensity of a sound. The 0 measurement on the dB scale is based on the lowest sound levels that the healthy, unimpaired human ear can detect. Noise level changes of 3 dB or less are only perceptible in laboratory environments.

Sound levels in dB are calculated on a logarithmic basis. An increase of 10 dB represents a tenfold increase in acoustic energy, while 20 dB is 100 times more intense, and 30 dB is 1,000 times more intense. Each 10 dB increase in sound levels is perceived as approximately a doubling of loudness. Sound intensity is normally measured through the A-weighted sound level (dBA). This scale gives greater weight to the frequencies of sound to which the human ear is most sensitive. The day-night average noise level is the energy average of the A-weighted sound levels occurring during a 24-hour period, with 10 dBA added to the A-weighted sound levels occurring between 10:00 PM and 7:00 AM (defined as sleeping hours).

It should be noted that the Project would not generate an increase in vehicle volume on Kilburn Road; therefore, the Project would not result in any future impacts associated with traffic noise increases. Additionally, none of the design features of the Project would include stationary noise sources. The Project would only generate short-term construction noise and vibration both of which could impact sensitive receptors in the Project area.

For off-site non-transportation-related stationary source impacts related to construction, impacts would occur if construction operation occurring during the hours of 7:00 p.m. to 6:59 a.m. and

exceed 75 dBA L_{max} at the surrounding receptors. Construction noise levels generated from 7:00 a.m. to 6:59 p.m. are exempt from Stanislaus County noise standards.

Construction. Two types of short-term noise impacts would occur during Project construction: (1) equipment delivery and construction worker commutes and (2) Project construction operations.

The first type of short-term construction noise would result from transport of construction equipment and materials to the Project site and construction worker commutes. These transportation activities would incrementally raise noise levels on access roads leading to the site. It is expected that larger trucks used in equipment delivery would generate higher noise impacts than trucks associated with worker commutes. The single-event noise from equipment trucks passing at a distance of 50 feet from a sensitive noise receptor would reach a maximum level of 84 dBA L_{max}. However, the pieces of heavy equipment for demolition and construction activities would be moved on site just one time and would remain on site for the duration construction activities. This one-time trip, when heavy construction equipment is moved on and off site, would not add to the daily traffic noise in the Project vicinity. The total number of daily vehicle trips would be minimal when compared to existing traffic volumes on the affected roads, and the long-term noise level changes associated with these trips would not be perceptible. Therefore, equipment transport noise and construction-related worker commute impacts would be short term and would not result in a **less than significant** off-site noise impact.

The second type of short-term noise impact is related to noise generated during demolition and construction activities on the Project site. Construction is undertaken in discrete steps, each of which has its own mix of equipment and, consequently, its own noise characteristics. These various sequential phases would change the character of the noise generated on the Project site. Therefore, the noise levels vary as construction progresses. Despite the variety in the type and size of construction equipment, similarities in the dominant noise sources and patterns of operation allow construction-related noise ranges to be categorized by work phase. **Table 7: Typical Construction Equipment Noise Levels** lists the maximum noise levels recommended for noise impact assessments for typical construction equipment based on a distance of 50 feet between the construction equipment and a noise receptor. Typical operating cycles for these types of construction equipment may involve 1 to 2 minutes of full power operation followed by 3 to 4 minutes at lower power settings.

In addition to the reference maximum noise level, the usage factor provided in Table 7 is used to calculate the hourly noise level impact for each piece of equipment based on the following equation:

$$L_{eq}(equip) = E.L. + 10\log(U.F.) - 20\log\left(\frac{D}{50}\right)$$

where: $L_{eq}(equip)$ = L_{eq} at a receiver resulting from the operation of a single piece of equipment over a specified time period

E.L. = Noise emission level of the particular piece of equipment at a reference distance of 50 ft

U.F. = Usage factor that accounts for the fraction of time that the equipment is in use over the specified period of time

D = Distance from the receiver to the piece of equipment

Table 7: Typical Construction Equipment Noise Levels

Equipment Description	Acoustical Usage Factor (percent)	Maximum Noise Level (L_{max}) at 50 ft
Backhoe	**40**	**80**
Chain Saw	**20**	**85**
Compressor	100	81
Concrete Mixer Truck	**40**	**85**
Concrete Pump Truck	**20**	**82**
Concrete Saw	**20**	**90**
Crane	**16**	**85**
Dozer	40	80
Dump truck	**40**	**84**
Excavator	**40**	**85**
Forklift	20	75
Front [End] Loader	**40**	**80**
Generator	100	78
Grader	8	85
Pile Driver (Impact)	10	95
Roller	**20**	**85**
Scraper	40	88
Welder	40	74

Sources: *Noise from Construction Equipment and Operations, Building Equipment, and Home Appliances* (EPA 1971), Roadway Construction Noise Model (FHWA 2006).
Bold = Construction equipment to be used for Project.
ft = foot/feet
L_{max} = maximum instantaneous sound level

Each piece of construction equipment operates as an individual point source. Using the following equation, a composite noise level can be calculated when multiple sources of noise operate simultaneously:

$$Leq\ (composite) = 10 * \log_{10}\left(\sum_{1}^{n} 10^{\frac{Ln}{10}}\right)$$

Table 8: Construction Noise Levels by Phase shows the composite noise levels of the pieces of equipment for each construction phase at a distance of 50 feet from the construction area. Once composite noise levels are calculated, reference noise levels can then be adjusted for distance using the following equation:

$$Leq\ (at\ distance\ X) = Leq\ (at\ 50\ feet) - 20 * \log_{10}\left(\frac{X}{50}\right)$$

In general, this equation shows that doubling the distance would decrease noise levels by 6 dBA while halving the distance would increase noise levels by 6 dBA.

Table 8: Construction Noise Levels by Phase

Phase	Duration (months)	Equipment	Composite Noise Level at 50 ft (dBA L_{eq})	Distance to Sensitive Receptor (ft)[1]	Noise Level at Receptor (dBA L_{eq})
Site Preparation and Demolition	2	Concrete saw, chain saw, backhoes, crane, dump truck	86	202	74
Excavation and Construction	5	Excavator, backhoe, concrete truck, concrete pump truck.	84	202	72
Roadway Approach Work	3	Dump truck, loader, backhoe, vibratory roller	83	202	71

Source: Compiled by LSA (2021).
[1] Distances are from the average location of construction activity for each phase, center of Project site. The nearest sensitive receptor is located approximately 202 feet from the center of the Project where construction activity would occur.
dBA L_{eq} = average A-weighted hourly noise level
ft = foot/feet

As presented above, Table 8 shows the construction phases, the expected duration of each phase, the equipment expected to be used during each phase, the composite noise levels of the equipment at 50 feet, the distance of the nearest residential building from the average location of construction activities (a distance of 202 feet), and noise levels expected during each phase of construction. These noise level projections do not take into account intervening topography or barriers.

It is expected that average noise levels during construction at the nearest residences, which are to the northeast, would approach 74 dBA L_{eq} during the site preparation and demolition phase, which would take place for a duration of approximately 2 months. Average noise levels during other construction phases would range from 71 dBA L_{eq} to 72 dBA L_{eq}. While construction operations have the potential to generate audible noise at surrounding uses, construction noise levels generated during the permitted hours (7:01 a.m. to 6:59 p.m. every day) are exempt from compliance with County noise standards pursuant to Chapter 10.46, Section 10.46.080(j) of the Noise Ordinance. The Noise Ordinance does limit construction noise to 75 dBA at any receiving property line between the hours of 7:00 p.m. and 7:00 a.m. every day; however, the Project would not include construction activities during overnight hours. Although construction activities are exempt by the County, in order to minimize construction noise as much as possible at the nearby sensitive receptors, the following BMPs would be implemented:

- Equip all construction equipment, fixed or mobile, with properly operating and maintained mufflers consistent with manufacturers' standards.
- Place all stationary construction equipment so that emitted noise is directed away from sensitive receptors nearest the active construction area.
- Locate equipment staging in areas that would create the greatest possible distance between construction-related noise sources and noise-sensitive receptors nearest the active Project site during all Project construction.

- Ensure that all general construction related activities are restricted to 7:01 a.m. and 6:59 p.m. every day. No construction activities generating noise levels of 75 dBA or greater shall occur from 7:00 p.m. to 7:00 a.m. every day.

- Designate a "disturbance coordinator" at the County who would be responsible for responding to any local complaints about construction noise. The disturbance coordinator would determine the cause of the noise complaint (e.g., starting too early, bad muffler) and would determine and implement reasonable measures warranted to correct the problem.

With implementation of the above identified BMPs and compliance with the County Noise Ordinance impacts would be **less than significant.** No mitigation is required. Furthermore, the elevated noise levels would be temporary and cease once Project construction is completed.

b. Would the project result in generation of excessive groundborne vibration or groundborne noise levels?

Ground-borne noise and vibration from construction activity would be minimal. **Table 9: Vibration Source Amplitudes for Construction Equipment** provides reference peak particle velocity (PPV) values from construction vibration sources as measured at 25 feet. The following construction equipment is expected to be used during the phases of construction activity: backhoe, chain saw, concrete mixer truck, concrete pump truck, concrete saw, crane, dump truck, excavator, front end loader, and a roller. The closest structure to the Project site is the single-family residential unit located approximately 46 feet from the limits of construction activities. Given that this structure is more than 25 feet from the Project construction area limits, the estimated vibration impacts are propagated for distance based on the following equation.

$$PPV_{equip} = PPV_{ref} \times (25/D)^{1.1}$$

Table 9: Vibration Source Amplitudes for Construction Equipment

Equipment[1]	Reference PPV/L_V at 25 ft
	PPV (in/sec)
Backhoe[2]	0.089
Concrete mixer truck[3]	0.076
Concrete pump truck[3]	0.076
Dump truck[3]	0.076
Excavator[2]	0.089
Front End Loader[2]	0.089
Roller	0.210

Source: *Transit Noise and Vibration Impact Assessment Manual* (FTA 2018).

[1] Chain saw, crane, concrete saw, was not included as they do not generate vibration during operation.

[2] The Large Bulldozer data from Table 7 Vibration Source Levels for Construction Equipment was used for the backhoe, excavator, and front-end loader.

[3] The loaded truck data from Table 7 Vibration Source Levels for Construction Equipment was used for the concrete mixer truck, concrete pump truck, and dump truck.

µin/sec = micro-inches per second
ft = foot/feet
FTA = Federal Transit Administration
in/sec = inches per second
PPV = peak particle velocity
L_v = velocity in decibels

Using the reference data from Table 9 and the equation above, the operation of construction equipment would generate ground-borne vibration levels ranging from 0.039 to 0.107 PPV (in/sec) at the nearest sensitive receptor. This range of vibration levels would therefore not exceed the 0.2 PPV (in/sec) threshold for the potential damage to fragile buildings. Impacts would be **less than significant** and no mitigation is required.

c. For a project located within the vicinity of a private airstrip or 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 expose people residing or working in the project area to excessive noise levels?

The Project is located approximately 3.8 miles to the east of the NASA Crows Landing Airport and 5.6 miles to the west of the privately owned Ahlem Farms airport. The NASA Crows Landing Airport was decommissioned in the late 1990s and the County of Stanislaus currently owns the former airport. The County envisions optimizing the site for economic development while maintaining an aviation use in the form of a public-use general aviation airport. The Project is located within Review Are 2 of the Crows Landing Airport Influence Area (Stanislaus County Planning and Community Development Department 2016); however, the Project is not located within the noise contours of Crows Landing Airport (Stanislaus County Planning and Community Development Department 2016b). The Ahlem Farms airport is a private airport mostly used for agricultural purposes (i.e., aerial application of pesticides or fertilizers) and does not have an airport land use or noise contours established.

The Project, during construction activities, could expose construction workers to noise generated by airplane flyovers; however, these instances would be temporary and would not exceed noise limits that would be considered an excessive noise level. **No impact** would occur, and no mitigation measures are required.

3.14 POPULATION AND HOUSING

	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
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)?	☐	☐	☐	☒
b. Displace substantial numbers of existing housing or people, necessitating the construction of replacement housing elsewhere?	☐	☐	☐	☒

3.14.1 Impact Analysis

a. Would the project 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)?

The Project would replace a structurally deficient bridge. The existing two-lane bridge carries one lane of traffic at a time, and the new bridge would carry two lanes, increasing the capacity of the

bridge. However, the Project would not increase capacity along Kilburn Road. Project construction would result in a temporary increase in construction jobs. However, it is anticipated that these jobs would be filled by workers in Stanislaus County who would commute daily to the Project site. Operation of the Project would not result in any changes in employment related to maintenance, repair, and inspection of the roads and bridge because these activities would occur as a part of the County's and State's regular maintenance activities. Therefore, the Project would not result in increased short-term or long-term demands for housing or public services. The Project would not introduce any new employment or housing and would not induce any growth in the Project area. **No impact** would occur, and no mitigation measures would be required.

b. Would the project displace substantial numbers of existing housing or people, necessitating the construction of replacement housing elsewhere?

The Project would require the acquisition of several small slivers of existing adjacent parcels. The parcel areas that would be acquired are not occupied by housing. Remaining areas of Project construction would be conducted within existing road right-of-way where no houses exist. As such, implementation of the Project would not result in the displacement of existing housing or people. **No impact** would occur, and no mitigation measures would be required.

3.15 PUBLIC SERVICES

	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
Would the project:				
a. Result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, 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 public services:				
i. Fire protection?	☐	☒	☐	☐
ii. Police protection?	☐	☒	☐	☐
iii. Schools?	☐	☐	☐	☒
iv. Parks?	☐	☐	☐	☒
v. Other public facilities?	☐	☐	☐	☒

3.15.1 Impact Analysis

a. Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, 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 public services:

i. Fire protection?
ii. Police protection?

The project area is within the jurisdiction of the West Stanislaus Fire Protection District (Stanislaus LAFCO 2012), and the nearest fire station is Fire Station 56, located in Crows Landing, approximately 2.2 miles away from the project site. The proposed project site is under the jurisdiction of the Stanislaus County Sheriff's Department. During construction of the proposed project, travel lanes would be closed or reduced temporarily to implement installation of the new bridge and removal of the deficient bridge, which could impact emergency response times.

County staff would work with emergency service providers to inform them of potential closures and detours during project construction activities through the preparation of a Construction Period Emergency Access Plan, as required by **Mitigation Measure TRANS-2**, listed in Section 3.17, Transportation. Once the proposed project is operational, emergency response times would be comparable to existing response times. Therefore, impacts would be **less than significant with mitigation incorporated**.

iii. Schools?
iv. Parks?
v. Other public facilities?

Bonita Elementary School is located at 425 Fink Road, Crows Landing, approximately 2.5 miles west of the project construction area. There are no parks within or adjacent to the proposed project. The proposed project would not physically alter existing schools, parks, or other public facilities and would not require additional facilities or services in order to meet performance objectives for any of the public services. **No impact** would occur, and no mitigation would be required.

3.16 RECREATION

	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
a. Would the project increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?	☐	☐	☐	☒
b. Does the project include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment?	☐	☐	☐	☒

3.16.1 Impact Analysis

a. Would the project increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?

Bonita Elementary School, which provides public recreational facilities during non-school hours, is located at 425 Fink Road, Crows Landing, approximately 2.5 miles west of the Project construction

area. There are no parks within or adjacent to the Project. There is no established recreation on Orestimba Creek in the Project vicinity. The Project includes the removal of an existing deficient bridge on Kilburn Road at its crossing of Orestimba Creek, replacement with a new bridge, and roadway approach work on Kilburn Road. No change in population would occur, and no increase in the use of existing parks or other recreational facilities would occur. As such, **no impact** would occur, and no mitigation measures would be required.

b. Does the project include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment?

The Project includes the removal of an existing deficient bridge on Kilburn Road at its crossing of Orestimba Creek, replacement with a new bridge, and roadway approach work on Kilburn Road. The Project does not include development of a park or recreational facility as part of its design, and implementation of the Project would not require the removal of such a facility from Stanislaus County's inventory. As such, **no impact** would occur, and no mitigation measures would be required.

3.17 TRANSPORTATION/TRAFFIC

	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
Would the project:				
a. Conflict with a program, plan, ordinance, or policy addressing the circulation system, including transit, roadway, bicycle, and pedestrian facilities?	☐	☒	☐	☐
b. Conflict with or be inconsistent with CEQA Guidelines Section 15064.3, subdivision (b)?	☐	☐	☒	☐
c. Substantially increase traffic hazards due to a geometric design feature (e.g. sharp curves or dangerous intersections) or incompatible uses (e.g. farm equipment)?	☐	☐	☐	☒
d. Result in inadequate emergency access?	☐	☒	☐	☐

3.17.1 Impact Analysis

a. Would the project conflict with a program, plan, ordinance, or policy addressing the circulation system, including transit, roadway, bicycle, and pedestrian facilities?

The Project would provide adequate and safe vehicle access and provide a structure that would meet current design standards for the traffic utilizing the bridge. The Project would not create additional lanes; therefore, the average daily traffic volume is expected to be consistent with current volumes on the existing bridge. The Project would not create any long-term impacts to traffic circulation in the area, as the Project would not increase roadway capacity or change traffic patterns. The Project would not conflict with any plan or policy established for measuring the performance of the circulation system. Additionally, the Project would not result in any changes to level of service along Kilburn Road. Implementation of **Mitigation Measure TRANS-1**, which would require the construction contractor to prepare and implement a standard Traffic Management Plan to minimize traffic disruption would ensure adequate access is maintained to adjacent properties. Therefore, this impact would be **less than significant with mitigation incorporated**.

Mitigation Measure TRANS-1 Prior to the start of construction, the construction contractor for the Project shall prepare and implement a standard Traffic Management Plan to minimize traffic disruption and ensure adequate access is maintained. Temporary disruptions shall be minimized by coordinating construction activities to provide alternative access points and/or by coordinating construction phasing to reduce disruptions. Notification of any temporary disruptions to roadway access shall be posted along local roadways.

b. Would the project conflict with or be inconsistent with CEQA Guidelines Section 15064.3, subdivision (b)?

As discussed in CEQA Guidelines §15064.3(b)(2), transportation projects that have no impact on VMT should be presumed to cause a less than significant transportation impact. The Project includes the removal of an existing deficient bridge on Kilburn Road at its crossing of Orestimba Creek, replacement with a new bridge, and roadway approach work on either side of the new bridge on Kilburn Road. The Project would not increase capacity nor would the Project, once operational, increase VMT beyond existing conditions. This impact would be **less than significant**.

c. Would the project substantially increase traffic hazards due to a geometric design feature (e.g. sharp curves or dangerous intersections) or incompatible uses (e.g. farm equipment)?

Replacement of the structurally deficient Kilburn Road bridge over Orestimba Creek would follow the same road layout as the existing road and bridge. The replacement bridge will include safer standard shoulder widths and lane widths. Additionally, the design and construction of the approach roadway and replacement bridge would be in compliance with County and Caltrans design standards, as well as AASHTO guidelines. The Project is compatible with surrounding land uses and does not include any hazards, such as sharp curves or dangerous intersections. As such, **no impacts** would occur, and no mitigation measures would be required.

d. Would the project result in inadequate emergency access?

The proposed bridge would be constructed on the same general alignment as the existing bridge; therefore, Kilburn Road would be closed to traffic until construction is complete. A detour along Crows Landing Road, Morris Road, and JT Crow Road would be available to allow for the closure of Kilburn Road while the connection from new to existing roadway is made. Detour travel between the Crows Landing Road/Kilburn Road Intersection and the JT Crow Road/Kilburn Road Intersection would be approximately 1.7 miles for through travelers and just over 2 miles for the residences near the existing Kilburn Road Bridge. The County would work with local emergency responders to provide advance notification of potential traffic disruptions. Once operational, improvements to the roadway and bridge would benefit emergency access and result in adequate access. Implementation of **Mitigation Measure TRANS-2** would reduce impacts to **less than significant with mitigation incorporated**.

Mitigation Measure TRANS-2 Prior to the start of construction, the construction contractor shall coordinate with the Stanislaus County Sheriff's Department and local public and private ambulance and paramedic providers in the area to prepare a Construction Period Emergency Access Plan. The Emergency Access Plan shall identify phases of the Project and construction scheduling, as well as appropriate alternative emergency access routes.

3.18 TRIBAL CULTURAL RESOURCES

	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
Would the project:				
a. Cause a substantial adverse change in the significance of a tribal cultural resource, defined in Public Resources 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:				
i. 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	☐	☒	☐	☐
ii. 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? In applying the criteria set forth in subdivision (c) of Public Resource Code Section 5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe.	☐	☒	☐	☐

3.18.1 Impact Analysis

a. Would the project cause a substantial adverse change in the significance of a tribal cultural resource, defined in Public Resources 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:

i. 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

ii. 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? In applying the criteria set forth in subdivision (c) of Public Resource Code Section 5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe.

The NAHC was contacted on October 12, 2012, to conduct a Sacred Lands File (SLF) search and provide a Native American Contact List for the Project. The NAHC responded on October 12, 2012, stating that an SLF search was completed for the Project site with negative results. The NAHC also recommended that nine Native American individuals be contacted for information regarding cultural resources that could be affected by the Project. These nine individuals were contacted via a letter sent on October 16, 2012. Two individuals, Silvia Burley of the California Valley Miwok Tribe and Anthony Brochini of the Southern Sierra Miwuk Nation, responded to follow up phone calls stating that they did not have any concerns related to the Project, and requesting to be contacted if Miwok or Native American artifacts or human remains are observed during construction.

On May 4, 2020, an updated request was sent to the NAHC to conduct a SLF search. The NAHC responded on May 7, 2020, stating that an SLF search was completed for the Project site with negative results. The NAHC also recommended that two Native American individuals be contacted for information regarding cultural resources that could be affected by the Project. These two individuals were contacted via letter on July 29, 2020. One individual, Katherine Erolinda Perez of the North Valley Yokuts Tribe, replied and stated that the area is in a sensitive location and recommended tribal monitoring during construction. Ms. Perez was informed that her recommendations would be included in the environmental document.

As described in Section 3.5, Cultural Resources, no built tribal cultural historical resources as defined in Section 15064.5 of the *State CEQA Guidelines* or PRC 5020.1(k) are located within the Project site.

Native American consultation was conducted in compliance with AB 52. As described above, one tribal contact from the North Valley Yokuts Tribe indicated that the Project area was sensitive for resources, but no specific sites were identified within the Project area. No information regarding specific known tribal cultural resources within the Project corridor was provided by the tribe.

Therefore, no tribal cultural resources listed or eligible for listing in the California Register or in a local register exist within the Project area, and there are no known tribal cultural resources on the Project site. The Project would not cause a substantial adverse change in the significance of a tribal cultural resource defined as 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 listed or eligible for listing in the California Register of or in a local register of historical resources as defined in PRC Section 5020.1(k), and no mitigation is required.

The banks of Orestimba Creek contain areas that are typically associated with an elevated level of geoarchaeological sensitivity and are sensitive for the occurrence of additional, undiscovered deposits. The Project site is therefore considered sensitive for prehistoric archaeological deposits. Previous research (archival review and fieldwork) confirms this sensitivity. If encountered during Project-related ground disturbing activities, the Project could result in the demolition, destruction, or alteration of unknown buried tribal cultural resources, which would result in a substantial adverse change in the significance of these resources.

Native American consultation was conducted in compliance with AB 52. Katherine Erolinda Perez, of the North Valley Yokuts Tribe, replied to consultation efforts stating that the area is in a sensitive location and recommended tribal monitoring during construction.

Mitigation Measure CUL-1 requires archaeological monitoring of those portions of the Project corridor identified as sensitive for the occurrence of archaeological deposits and notification to the North Valley Yokuts Tribe in advance of earthwork for Project construction. **Mitigation Measure CUL-1** further requires that all archaeological and tribal cultural resources encountered during construction activities be evaluated by the archaeological monitor in consultation with the North Valley Yokuts Tribe and County staff.

Mitigation Measure CUL-2 requires diversion of construction work in the event any human skeletal material or related funerary objects are encountered during ground disturbance and notification of the County Coroner. If the remains are determined to be Native American, the County Coroner is required to notify the NAHC, which will determine and notify an MLD. **Mitigation Measure CUL-2** details steps for the treatment of previously unknown Native American burials. Implementation of **Mitigation Measures CUL-1** and **CUL-2** would reduce potential impacts related to unknown buried tribal cultural resources to **less than significant with mitigation incorporated**.

3.19 UTILITIES AND SERVICE SYSTEMS

	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
Would the project:				
a. Require or result in the relocation or construction of new or expanded water, wastewater treatment or storm water drainage, electric power, natural gas, or telecommunications facilities, the construction or relocation of which could cause significant environmental effects?	☐	☒	☐	☐
b. Have sufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry and multiple dry years?	☐	☐	☐	☒
c. Result in a determination by the wastewater treatment provider which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?	☐	☐	☐	☒
d. Generate solid waste in excess of State or local standards, or in excess of the capacity of local infrastructure, or otherwise impair the attainment of solid waste reduction goals?	☐	☐	☒	☐
e. Comply with federal, State, and local management and reduction statutes and regulations related to solid waste?	☐	☐	☒	☐

3.19.1 Impact Analysis

a. Would the project require or result in the relocation or construction of new or expanded water, wastewater treatment or storm water drainage, electric power, natural gas, or telecommunications facilities, the construction or relocation of which could cause significant environmental effects?

The Project would replace the existing bridge along Kilburn Road over Orestimba Creek. Construction-related activities may result in temporary increases in water use (by water trucks), wastewater generation (from construction crews), and electrical power, though any construction-related uses would be temporary and are expected to be accommodated by service providers. Electric power and telecommunication facilities would be relocated before the start of construction to allow access for construction equipment, but relocation would cause utility service interruptions. Implementation of **Mitigation Measure PUE-1** would reduce impacts from utility service interruptions.

Mitigation Measure PUE-1 Prior to construction, the contractor shall notify the public within the Project area and the affected service providers of any planned utility service outage through a combination of communication media (e.g., by phone, email, mail, newspaper notices, or other means). The notification shall specify the estimated duration of the planned outage and be published no less than 7 days prior to the outage.

The bridge design would include sleeves to allow for electric and telecommunication lines to be run along the bridge instead of overhead. Any relocation of lines to these sleeves would be coordinated with utility operators. Operation of the new bridge would not generate an increase in water, wastewater, electric power, natural gas, or telecommunications. This impact would be **less than significant with mitigation incorporated**.

b. Would the project have sufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry and multiple dry years?

The Project involves the replacement of the existing bridge along Kilburn Road over Orestimba Creek. It is anticipated that water would be trucked in to be used for dust control during construction. Once operational, the Project would not require any water supplies. As such, the Project would have sufficient water supplies to serve the Project and reasonably foreseeable future development during normal, dry and multiple dry years and **no impact** to available water supplies would occur. No mitigation measures would be required.

c. Would the project result in a determination by the wastewater treatment provider which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?

As discussed above, any wastewater generated during construction of the Project would be hauled away and treated off site. Once operational, the Project would not result in the generation of any wastewater. The Project would not exceed wastewater treatment capacity. **No impact** would occur, and mitigation measures would not be required.

d. Would the project generate solid waste in excess of State or local standards, or in excess of the capacity of local infrastructure, or otherwise impair the attainment of solid waste reduction goals?

The Project would require the removal of an existing bridge and would generate construction and demolition debris. Construction-related solid waste would include wood, asphalt, concrete, and mixed municipal solid waste from construction waste. It is anticipated that approximately 100 cubic yards of solid waste would be generated during bridge demolition and replacement. Non-hazardous construction waste generated by the Project would be handled by the Fink Road Landfill. At a permitted maximum tonnage on 2,400 tons per day, the landfill is estimated to have an estimated remaining capacity of 7,184,701 tons (CalRecycle 2021). The estimated closure date of the landfill is 2050. As such, construction waste generated by the Project would be less than 0.0001 percent of the remaining Class III disposal area capacity and solid waste generated during construction of the Project would not exceed landfill capacity. In addition, no solid waste would be generated once the Project is operational. Therefore, the Project would not exceed the existing capacity of the landfill or impair solid waste reduction goals. This impact would be **less than significant**, and no mitigation measures would be required.

e. Would the project comply with federal, State, and local management and reduction statutes and regulations related to solid waste?

Stanislaus County and the cities of Ceres, Hughson, Modesto, Newman, Oakdale, Patterson, Riverbank, Turlock and Waterford developed a Countywide Integrated Waste Management Plan (CIWMP) that identified strategies for meeting the State's mandate to reduce the amount of material sent to landfill disposal by 50 percent (AB 939). The CIWMP consists of: Source Reduction and Recycling Elements, Household Hazardous Waste Elements, Non-Disposal Facility Elements for each individual jurisdiction, and a countywide Siting Element and Summary Plan. As discussed in the 2016 CIWMP Summary Report: "Industrial solid waste includes waste originating from…construction and demolition debris…. In many cases, waste generated from these types of sources tend to be fairly homogenous and, consequently, offer good opportunities for recycling." The CIWMP discusses strategies for recycling construction and demolition debris, such as monetary incentives to control waste entering the landfill.

The Project would result in approximately 100 cubic yards of construction and demolition waste. The Project would divert construction and demolition debris to the degree possible; therefore, the Project would be consistent with the 2016 CIWMP. Additionally, the Project would comply with all federal, State, and local management and reduction statutes and regulations related to solid waste. This impact would be **less than significant**, and mitigation measures would not be required.

3.20 WILDFIRE

	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
If located in or near State responsibility areas or lands classified as very high fire hazard severity zones, would the project:				
a. Substantially impair an adopted emergency response plan or emergency evacuation plan?	☐	☐	☐	☒
b. Due to slope, prevailing winds, and other factors, exacerbate wildfire risks, and thereby expose project occupants to, pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire?	☐	☐	☒	☐
c. Require the installation or maintenance of associated infrastructure (such as roads, fuel breaks, emergency water sources, power lines or other utilities) that may exacerbate fire risk or that may result in temporary or ongoing impacts to the environment?	☐	☐	☐	☒
d. Expose people or structures to significant risks, including downslope or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes?	☐	☐	☒	☐

3.20.1 Impact Analysis

a. Would the project substantially impair an adopted emergency response plan or emergency evacuation plan?

According to CalFire, the Project site is not located within or near a State Responsibility Area (SRA) Very High Fire Hazard Severity Zone (VHFHSZ). The nearest SRA VHFHSZ is approximately 15 miles to the west of the Project in the Diablo Range.

No impact would occur**,** and no mitigation measures are required.

b. Would the project due to slope, prevailing winds, and other factors, exacerbate wildfire risks, and thereby expose project occupants to, pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire?

Topography influences the movement of air, thereby directing a fire course. For example, if the percentage of uphill slope doubles, the rate of spread in wildland fire will likely double. Wind events magnify the risks of wildfire and have the potential to expose residents of Stanislaus County to elevated pollutant concentrations from a wildfire and the uncontrolled spreads of wildfire from open space areas in the Diablo Range to the west of the Project site. The Project site is located in the Central Valley of California and the topography within, adjacent to, and near the Project boundary is flat. As previously stated, the Project is not located within or near an SRA VHFHSZ.

The Project would include the removal of an existing deficient bridge crossing over Orestimba Creek along Kilburn Road and installation of a new modern bridge. Approach work along Kilburn Road would also be required. During Project construction, different types of construction equipment would be used to remove the existing bridge, install the new bridge, and conduct approach

improvements. The construction equipment that would be used would include spark arrestors (as applicable to the type of equipment) that would prevent sparks that could start a fire in the Project area. Once construction is complete, the Project would not include any design features or topographical features (e.g., slopes, hills) that could exacerbate the commencement or spread of a wildfire. Therefore, due to slope, prevailing winds, location, and other factors, the Project would not exacerbate wildfire risks. Impacts would be **less than significant**, and no mitigation measures are required.

c. Would the project require the installation or maintenance of associated infrastructure (such as roads, fuel breaks, emergency water sources, power lines or other utilities) that may exacerbate fire risk or that may result in temporary or ongoing impacts to the environment?

Implementation of the Project would require existing overhead utility lines/poles and an underground communication line to be relocated. The relocated overhead utilities would be placed on new utility poles and the overhead services would be routed onto the new utility poles. The County would coordinate with the utility provider to relocate the poles and overhead lines. Kilburn Road and the bridge crossing over Orestimba Creek have been in the same location since the early 1900s and the Project includes the replacement of the deficient bridge and roadway approach improvements on the same alignment.

The Project site is not located in or near an SRA VHFHSZ. As discussed above, the closest SRA VHFHSZ is located approximately 15 miles to the west of the site, in the Diablo Range. The relocation of utilities, removal of the old bridge and installation of the new bridge, and roadway approach work on Kilburn Road would not exacerbate fire risk as the Project is located outside of a designated fire hazard zone. Therefore, the Project would not require the installation or maintenance of associated infrastructure (e.g., roads, fuel breaks, emergency water sources, power lines, or other utilities) that would exacerbate fire risk or result in temporary or ongoing impacts to the environment. **No impact** would occur, and no mitigation measures are necessary.

d. Would the project expose people or structures to significant risks, including downslope or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes?

Landslides and other forms of mass wasting, including mud flows, debris flows, and soil slips, occur as soil moves downslope under the influence of gravity. Landslides are frequently triggered by intense rainfall or seismic shaking but can also occur as a result of erosion and downslope runoff caused by rain following a fire. The topography of the Project site and surrounding area is flat and is not conducive to landslide activity (California Department of Conservation 2021). The closest landslide prone areas are approximately 15 miles to the west of the Project, in the Diablo Range (California Department of Conservation 2021). According to CalFire, the Project site is not located within or near an SRA VHFHSZ. The nearest SRA VHFHSZ is approximately 15 miles to the west of the Project in the Diablo Range.

The Project includes the replacement of a deficient bridge with a new modern bridge along Kilburn Road crossing Orestimba Creek; therefore, the Project does not include the development of any structures where people would work or reside.

In the extremely unlikely event that a wildfire should spread to the Project site, it would not expose any on-site slopes to erosion and potential failure because, as discussed above, the Project site does not contain any steep slopes that are prone to landslide. The Project would not expose people or structures to significant risks, including downslope landslides, as a result of runoff, post-fire slope instability, or drainage changes. There would be **no impact** to Project construction workers or nearby residents related to post-wildfire landslide risks, and no mitigation would be required.

According to the FEMA Flood Hazard Map, The Project is located on FEMA Flood Insurance Rate Map 06099C0700E, in Flood Zone AE, defined as the area subject to flooding by the 1 percent annual chance (base) flood, and Base Flood Elevations are determined.

The replacement bridge design would be 95-ft long and would be a three-span structure. Raising the elevation of the approach roadways is necessary to allow a smooth transition to the proposed top of the deck for the new bridge. According to the Location Hydraulic Study (WRECO 2012) as well the FEMA profile, the 100-year water surface elevation is below the deck of the existing bridge. The minimum soffit elevations of the new bridge are more than one foot above the 100-year water surface elevation. As such, the proposed bridge will not be overtopped during the 100-year flood event. According to the FEMA Flood Insurance Study discharge table for Stanislaus County, the calculated discharge of 15,590 cubic feet per second is significantly greater than the conveyance capacity of the existing Kilburn Road bridge and adjacent channel of Orestimba Creek. Upstream flow obstructions and constrictions between I-5 and the Project site along Orestimba Creek divert surface water away from the Kilburn Road bridge. Specifically, bridges at SR-33 and the adjacent railroad over Orestimba Creek limit the 1 percent annual chance peak discharge reaching the Project site. Overall, long-term impacts to the natural floodplain are not anticipated to occur due to Project implementation.

A wildfire occurring in the Diablo Range, 15 miles west of the Project site, could trigger increased downstream sediment movement, which could raise the elevation of potential flooding in Orestimba Creek. In the unlikely event that a wildfire should spread to the Project site, it is not expected that the Project would contribute any additional runoff or sedimentation to Orestimba Creek or other downstream drainages. This is due to the lack of steep slopes that are prone to landslide or erosion on the Project site and the fact that the Project's drainage improvements would remain intact after a major wildfire, allowing them to continue to reduce the potential for flooding conditions in downstream facilities. Therefore, downslope or downstream flooding as a result of runoff, post-fire slope instability, or drainage changes are unlikely to expose construction workers or structures to significant risks. Impacts would be **less than significant,** and no mitigation measures are required.

3.21 MANDATORY FINDINGS OF SIGNIFICANCE

	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
a. Does the project 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, substantially 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?	☒	☐	☐	☐
b. Does the project 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.)	☒	☐	☐	☐
c. Does the project have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly?	☐	☒	☐	☐

3.21.1 Impact Analysis

a. Does the project 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, substantially 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?

The proposed project would include the replacement of an existing bridge on Kilburn Road over Orestimba Creek. As described in this Initial Study, implementation of the Project would have the potential to adversely impact Swainson's hawks, bats, nesting birds, western pond turtle, protected fish species, and Valley Elderberry Longhorn Beetle, previously undiscovered cultural resources and/or human remains, and a historic bridge originally found eligible for listing in the National Register of Historic Places and the California Register of Historical Resources. With implementation of **Mitigation Measures AG-1, AIR-1, BIO-1a, BIO-1b, BIO-2a, BIO-2b, BIO-3, BIO-4, BIO-5, CUL-1, CUL-2, GEO-1, GEO-2, HAZ-1, HAZ-2, HAZ-3, HYD-1, HYD-2, HYD-3, HYD-4, HYD-5, TRANS-1, TRANS-2, and PUE-1**, compliance with Stanislaus County requirements, and application of standard practices, development of the Project would not: (1) degrade the quality of the environment; (2) substantially reduce the habitat of fish or wildlife species; (3) cause a fish or wildlife population to drop below self-sustaining levels; (4) threaten to eliminate a plant or animal community; or (5) reduce the number or restrict the range of a rare or endangered plant or animal. Project impacts for items (1)-(5) would be **less than significant with the incorporation of previously described mitigation measures**. The Project would, however, (6) eliminate an important example of a major period of California history and this impact would be potentially significant. This topic will be further evaluated in the EIR.

b. Does the project 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)?

With the exception of cultural resource impacts, which will be further analyzed in the EIR, the impacts of the Project would be individually limited and would not be cumulatively considerable. All environmental impacts of the Project except cultural resource impacts would be reduced to a less than significant level with implementation of the mitigation measures recommended throughout this document. When viewed in conjunction with other closely related past, present, or reasonably foreseeable future projects, development of this Project would not cumulatively contribute to impacts with the exception of cultural resources. The Project would result in **significant impacts** to cultural resources, and taken into consideration with other past, present, and reasonably foreseeable projects in the region, could contribute to cumulatively considerable impacts.

c. Does the project have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly?

As described in this Initial Study, implementation of the Project could result in temporary impacts to agriculture, air quality, cultural resources, hazardous materials and wastes, hydrology and water quality, noise, transportation and traffic, and utilities and service systems during the construction period. Implementation of the mitigation measures recommended in this document, compliance with Stanislaus County regulations, and application of standard construction practices would ensure that the Project would not result in environmental impacts that would cause substantial direct or indirect adverse impacts on human beings. Impacts would be **less than significant with mitigation incorporated**.

4.0 LIST OF PREPARERS

4.1 REPORT PREPARERS

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APPENDIX A

FORM AD-1006

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U.S. Department of Agriculture

FARMLAND CONVERSION IMPACT RATING

PART I *(To be completed by Federal Agency)*	Date Of Land Evaluation Request 8/10/20
Name Of Project Kilburn Road Bridge Replacement Project	Federal Agency Involved Caltrans (delegated by FHWA)
Proposed Land Use Transportation - Bridge Replacement	County And State Stanislaus County, California
PART II *(To be completed by NRCS)*	Date Request Received By NRCS 8/10/20

Does the site contain prime, unique, statewide or local important farmland? *(If no, the FPPA does not apply -- do not complete additional parts of this form).*	Yes ☑	No ☐	Acres Irrigated 380,590	Average Farm Size 200
Major Crop(s) almonds, milk, chickens	Farmable Land In Govt. Jurisdiction Acres: 568,045 % 59		Amount Of Farmland As Defined in FPPA Acres: 406,921 % 41.9	
Name Of Land Evaluation System Used California Agricultural LESA	Name Of Local Site Assessment System Storie		Date Land Evaluation Returned By NRCS 8/12/20	

PART III *(To be completed by Federal Agency)*	Alternative Site Rating			
	Site A	Site B	Site C	Site D
A. Total Acres To Be Converted Directly	0.9			
B. Total Acres To Be Converted Indirectly	0.0			
C. Total Acres In Site	0.9	0.0	0.0	0.0
PART IV *(To be completed by NRCS)* Land Evaluation Information				
A. Total Acres Prime And Unique Farmland	0.9			
B. Total Acres Statewide And Local Important Farmland	0.0			
C. Percentage Of Farmland In County Or Local Govt. Unit To Be Converted	0.0001			
D. Percentage Of Farmland In Govt. Jurisdiction With Same Or Higher Relative Value	0.5			
PART V *(To be completed by NRCS)* Land Evaluation Criterion Relative Value Of Farmland To Be Converted *(Scale of 0 to 100 Points)*	100			

PART VI *(To be completed by Federal Agency)* Site Assessment Criteria *(These criteria are explained in 7 CFR 658.5(b)*	Maximum Points				
1. Area In Nonurban Use	15	15			
2. Perimeter In Nonurban Use	10	8			
3. Percent Of Site Being Farmed	20	10			
4. Protection Provided By State And Local Government	20	20			
5. Distance From Urban Builtup Area	15	15			
6. Distance To Urban Support Services	15	10			
7. Size Of Present Farm Unit Compared To Average	10	1			
8. Creation Of Nonfarmable Farmland	10	0			
9. Availability Of Farm Support Services	5	5			
10. On-Farm Investments	20	0			
11. Effects Of Conversion On Farm Support Services	10	0			
12. Compatibility With Existing Agricultural Use	10	0			
TOTAL SITE ASSESSMENT POINTS	160	84	0	0	0
PART VII *(To be completed by Federal Agency)*					
Relative Value Of Farmland *(From Part V)*	100	100			
Total Site Assessment *(From Part VI above or a local site assessment)*	160	84	0	0	0
TOTAL POINTS *(Total of above 2 lines)*	260	84	0	0	0

Site Selected: Kilburn Road Bridge	Date Of Selection	Was A Local Site Assessment Used? Yes ■ No ☐

Reason For Selection:

(See Instructions on reverse side) **Form AD-1006 (10-83)**

This form was electronically produced by National Production Services Staff

FORM AD-1006 SITE ASSESMENT SCORING ANALYSIS FOR KILBURN ROAD BRIDGE OVER ORESTIMBA CREEK (38C0168) REPLACEMENT PROJECT FEDERAL REPORT NO. BRLO-5938(157)

INTRODUCTION

The Site Assessment criteria used in the Farmland Protection Policy Act (FPPA) rule are designed to assess important factors, other than the agricultural value of the land, when determining which alternative sites should receive the highest level of protection from conversion to non-agricultural uses.

The proposed Project site is located in rural portion of Stanislaus County along Kilburn Road between Crows Landing Road and J.T. Crow Road. The site is located in an area that has parcels of land that are under agricultural production. Figure 1 shows the location of the proposed Project, the land parcels that are within the Project boundary, and the surrounding land parcels. The following information provides an analysis of how the total score of **84 points** for the Site Assessment portion of Form AD-1006 was determined for the proposed Project.

SITE ASSESSMENT SCORING ANALYSIS

1. How much land is in non-urban use within a radius of 1.0 mile from where the project is intended?

The proposed Project site is located in a rural portion of Stanislaus County. LSA Associates surveyed the surrounding areas of the proposed Project site within a 1-mile radius using imagery from September 2011. The majority of the land within a 1-mile radius of the proposed Project site included active and non-active agricultural land (fallow agricultural land), range land, farm storage, rural roads, open space and pasture or grazing land, and was designated as non-urban uses in the review. Few areas within the 1-mile radius boundary from the Project site were urbanized including residential uses, farm storage buildings, utilities/services, and equipment, supply stores. Figure 2 shows the amount of land that is currently under non-urban use surrounding the proposed Project site. There are approximately 2,524 acres within the 1-mile radius around the Project site and an estimated 2,347 acres of this land (93 percent of the land) is currently in non-urban use. Based on the threshold that 90 percent or greater of the land within a 1-mile radius is under non-urban use, a **15-point value** has been assigned to the proposed Project for this assessment question.

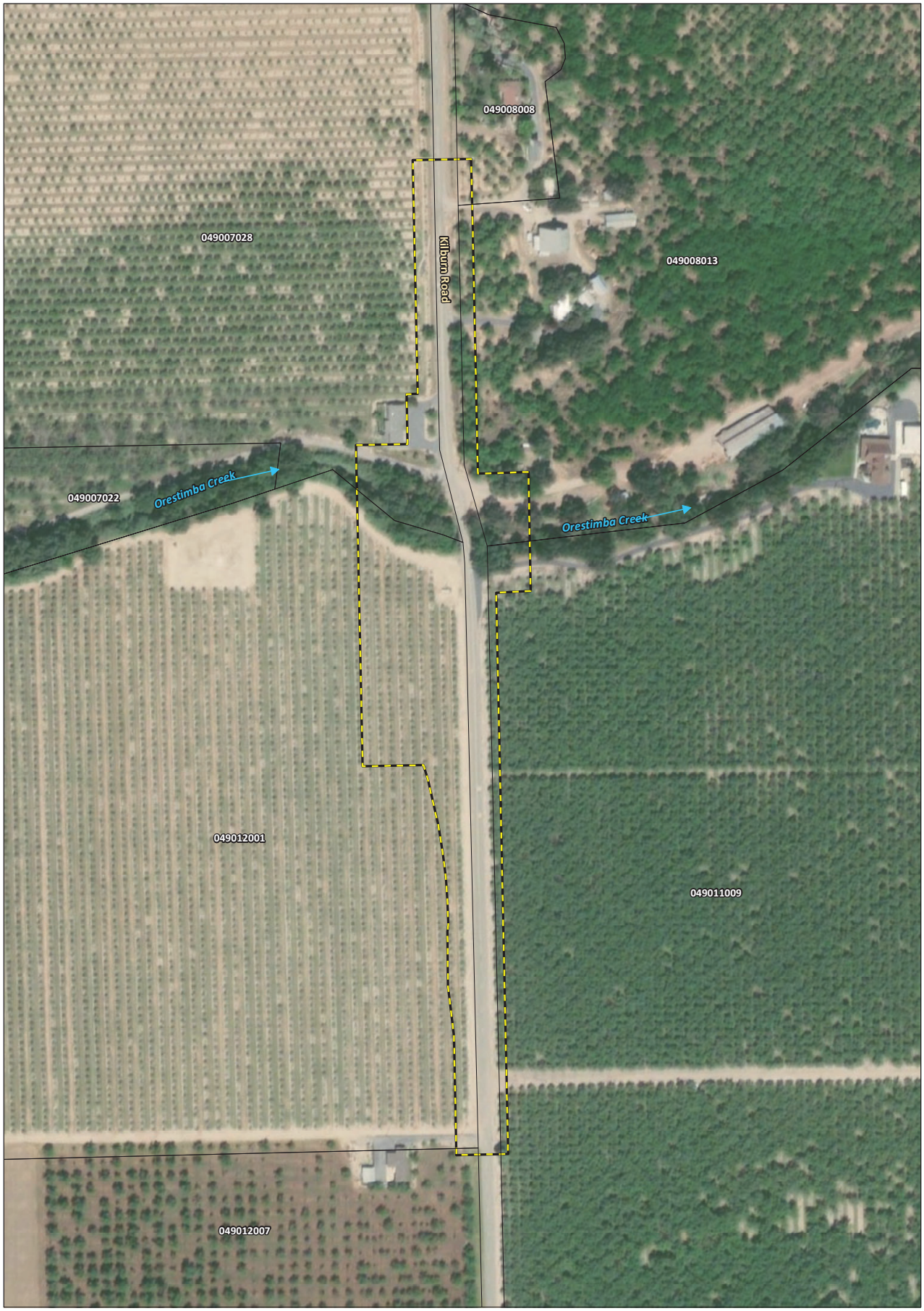


FIGURE A

LEGEND

Project Boundary - (9.89 ac)

Parcels

0 100 200
FEET

SOURCE: Vivid Maxnar Aerial Imagery (04/2019); Mapping -Stanslaus County (07/2020)

I:\DEA1901\GIS\Reports\Farmland\FigA Parcel ID Map.mxd (9/8/2020)

Kilburn Road Bridge over Orestimba Creek (38C0168)
Replacement Project in Stanislaus County
Caltrans District 10; Federal Aid No. BRLO-5938(157)

Parcel Identification Map

Caltrans

LEGEND

Project Boundary

1-Mile Radius

FIGURE B

N

0 1000 2000

FEET

Kilburn Road Bridge (38C 0168) Replacement
at Orestimba Creek
Federal Project No. BRLO-5938 (157)

Non-Urban Uses Witnin 1-Mile Radius

I:\Dea1101\GIS\1mile_radius.mxd (5/14/2013)

2. How much of the perimeter of the site borders on land in non-urban use?

The proposed Project site is located in an area where agricultural uses are abundant. Uses beyond the northern boundary of the proposed Project includes: active orchards, residential houses (farm houses supporting the orchards), and the watershed area of Orestimba Creek. Uses beyond the eastern boundary of the proposed Project include: Kilburn Road, citrus orchards, and row crops. Uses beyond the southern boundary of the proposed Project include: row crops and the watershed area of Orestimba Creek. Uses beyond the western boundary of the proposed Project include Kilburn Road and row crops. Table A – Parcels Surrounding the Project Site shows the parcels that are located around the proposed Project site and the size in acres for each parcel.

Table A: Parcels Surrounding the Project Site

Parcels Surrounding the Project Site	Parcel Size (acres)
049-008-013	64.88
049-011-009	114.9
049-012-001	48.05
049-008-008	1.97
049-007-022	40.62
049-007-028	41.84
Total	**312.26**

The total amount of land within these parcels surrounding the Project site equates to 312.26 acres. It was determined that 231 to 253 acres (74 to 81 percent) of the land adjacent to and surrounding the Project site is in non-urban use. An **8-point value** has been assigned to the proposed Project for this assessment question.

3. How much of the site has been farmed (managed for a scheduled harvest or timber activity) more than 5 of the last 10 years?

Active agricultural and orchard land is located in the northern, northeastern, southeastern, and southwestern portion of the Project site. It was determined that approximately 4.33 acres of active agricultural land is within the boundary of the proposed Project site. This equates to 50.9 percent of the 8.5 acre Project site as being farmed more than 5 of the last 10 years. A **10-point value** has been assigned to the proposed Project for this assessment question.

4. Is the site subject to state or unit of local government policies or programs to protect farmland or covered by private programs to protect farmland?

The proposed Project site is located in an area of Stanislaus County where Williamson Act contracted lands are prevalent. Table B – Parcels under Williamson Act Contracts- Acquired Land identifies parcels within the site that are under Williamson Act Contracts where land will be acquired for the Project.

Table B: Parcels under Williamson Act Contracts – Acquired Land

Parcel within Project Site Boundary (APN Number)	Parcel Size (acres)	Amount of Land Acquired for Project Improvement (acres)	Is the parcel under a Williamson Act Contract?	Williamson Act Contract Identification Number?
049-012-001	48.05	0.298	Yes	1976-2301
049-007-028	41.84	0.079	Yes	1972-1262
Total	**89.89**	**0.377**		

The Project would require a permanent take of 0.377 acres of land within APNs 049-012-001 and 049-007-028. Both of these parcels are under Williamson Act Contracts. Since portions of the site are under Williamson Act contracts, a **20- point value** has been assigned to the proposed Project for this assessment question.

5. How close is the site to an urban built-up area?

The proposed Project site is located in a rural portion of Stanislaus County. The closest urban area to the proposed Project site is Crows Landing with a 2010 population of 355 residents. Crows Landing is 10,964 feet to the west of the proposed Project site. The closest urban area with a population over 2,500 residents is the City of Newman with a 2010 population of 10,224 residents. Newman is located 30,321 feet south of the proposed Project site. Considering that the proposed Project site is located more than 10,560 feet from an urbanized area with a population greater than 2,500 residents, a **15-point value** has been assigned to the proposed Project for this assessment question.

6. How close is the site to water lines, sewer lines and/or other local facilities and services whose capacities and design would promote non-agricultural use?

The proposed Project site is located in a rural area of Stanislaus County; however, residential uses and farm buildings are located within a 1-mile radius. Due to the rural nature of the area these uses more than likely use groundwater pumps for potable and non-potable water uses and septic tanks for sewage disposal. Therefore it is estimated that water and sewer lines are not located in the area of the proposed Project and that the nearest services of this type are in Crow Landing, 2.08 miles west of the Project site. The proposed Project site is within the jurisdiction of PG&E for natural gas and electrical service. It is unknown at this time the exact location of natural gas lines near the proposed Project; however, two residential units are located on parcels 049-008-013 and 049-008-008 so it is assumed that these connect with PG&E natural gas extensions located in Kilburn Road (adjacent to the proposed Project site). PG&E electrical lines are located along the length of Kilburn Road and are located within the Project boundary. Kilburn Road bisects the proposed Project site and other circulation features (J.T. Crow Road, Crows Landing Road, and Moran Road) are located near the Project site. The nearest fire station to the proposed Project site is the Mountain View Fire Protection District Station in Crows Landing, approximately 2.08 miles west of the Project site. The nearest police station is the Newman Police Department located in the City of Newman, approximately 5.74 miles south of the proposed Project site. The nearest school is Bonita Elementary School (located in

the Newman-Crow Landing Unified School District's jurisdictions) in the town of Crow's Landing, approximately 2.08 miles west of the Project site. Some of the services are located between one and three miles from the proposed Project site (water lines, sewer lines, power lines, gas lines, circulation-roads, fire station, and a school); therefore, a **10-point value** has been assigned to the proposed Project for this assessment question.

7. Is the farm unit(s) containing the site (before the project) as large as the average-size farming unit in the County?

According to the USDA, National Agricultural Statistics Service – 2017 Census of Agriculture California (**Appendix A**), the average farm size in 2017 for Stanislaus County was 200 acres. As shown above in Table B, the active agricultural land that is within the proposed Project boundary includes parcels 049-012-001(48.05 acres) and 049-007-028 (41.84 acres). None of these parcels are as large as the average farm size in Stanislaus County. The two parcels are all 50 percent or below the county's average farm size. Therefore, a **1-point value** has been assigned to the proposed Project for this assessment question.

8. If this site is chosen for the project, how much of the remaining land on the farm would become non-farmable because of interference with land patterns?

Implementation of the proposed Project would result in the permanent conversion of 0.377 acres of parcel APNs 049-012-001 and 049-007-028. The total size of these two parcels is 89.89 acres; therefore 0.42 percent of the land within these parcels would become non-farmable due to implementation of the proposed Project, and approximately 99.58 percent of the land within these two parcels would remain farmable. A **0-point value** has been assigned to the proposed Project for this assessment question.

9. Does the site have available adequate supply of farm support services and markets, i.e., farm suppliers, equipment dealers, processing and storage facilities and farmer's markets?

The landowners adjacent to the proposed Project site does and would continue to have adequate supply of farm support services and markets once implementation of the proposed Project occurs. Stanislaus County, and specifically the area where the proposed Project site is located, is mainly under agricultural production. Adequate support facilities, activities and industry are available for the farms surrounding the proposed Project site. Therefore a **5-point value** has been assigned to the proposed Project for this assessment question.

10. Does the site have substantial and well-maintained on farm investments such as barns, other storage buildings, fruit trees and vines, field terraces, drainage, irrigation, waterways, or other soil and water conservation measures?

The proposed Project site includes portions of Kilburn Road, the bridge overcrossing Orestimba Creek, and parcels with APNs 049-012-001; 049-008-013; 049-011-009; and 049-007-028. The parcels associated with the proposed Project site are under agricultural production with citrus orchards and row crops; barns, storage buildings, and drainage/irrigation features also occur on these parcels. However it should be noted that only small portions of these parcels would be impacted with implementation of the proposed Project (specifically 049-012-001 and 049-007-028). The total amount of land associated with these two parcels is 89.89 acres of land. Implementation of the proposed Project would therefore remove 0.42 percent of the 89.89 acres of land within these two parcels. Even with removal of this land from these two properties, the farms would continue to have well-maintained on farm investments. A **0-point value** has been assigned to the proposed Project for this assessment question.

11. Would the project at this site, by converting farmland to nonagricultural use, reduce the support for farm support services so as to jeopardize the continued existence of these support services and thus, the viability of the farms remaining in the area?

The proposed Project includes replacement of the existing bridge over Orestimba Creek and roadway improvements to the approach of the bridge along Kilburn Road. Once completed, the proposed Project would allow for better circulation around the area and, therefore, would improve access for farm support organizations to provide services to the surrounding parcels that are under agricultural production. Implementation of the proposed Project would not jeopardize the continued existence of these support services nor would the Project decrease the viability of the farms surrounding the site. A **0-point value** has been assigned to the proposed Project for this assessment question.

12. Is the kind and intensity of the proposed use of the site sufficiently incompatible with agriculture that it is likely to contribute to the eventual conversion of the surrounding farmland to nonagricultural use?

The proposed Project includes the removal of the existing bridge over Orestimba Creek on Kilburn Road and development of a new bridge that would be up to current standards. Approach work on Kilburn Road would also occur as part of the proposed Project. The proposed Project is the replacement of an existing structurally deficient bridge and would continue to be compatible with the surrounding agricultural uses once in operation. Implementation of the proposed Project would not cause the conversion of neighboring farmland as a result of its incompatibility. A **0-point value** has been assigned to the proposed Project for this assessment question.

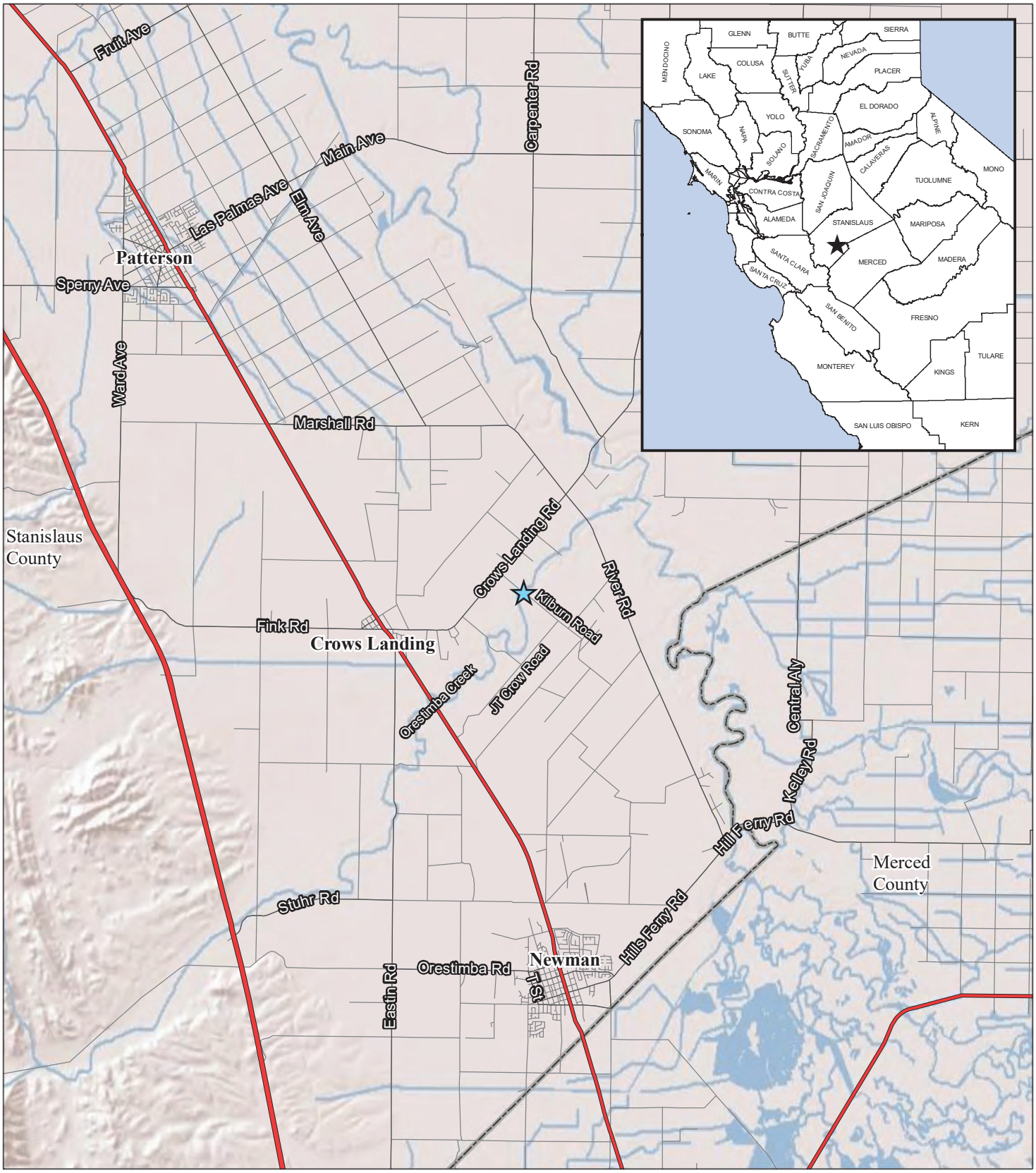


FIGURE 1

LEGEND

☆ Project Location

N

0 1 2

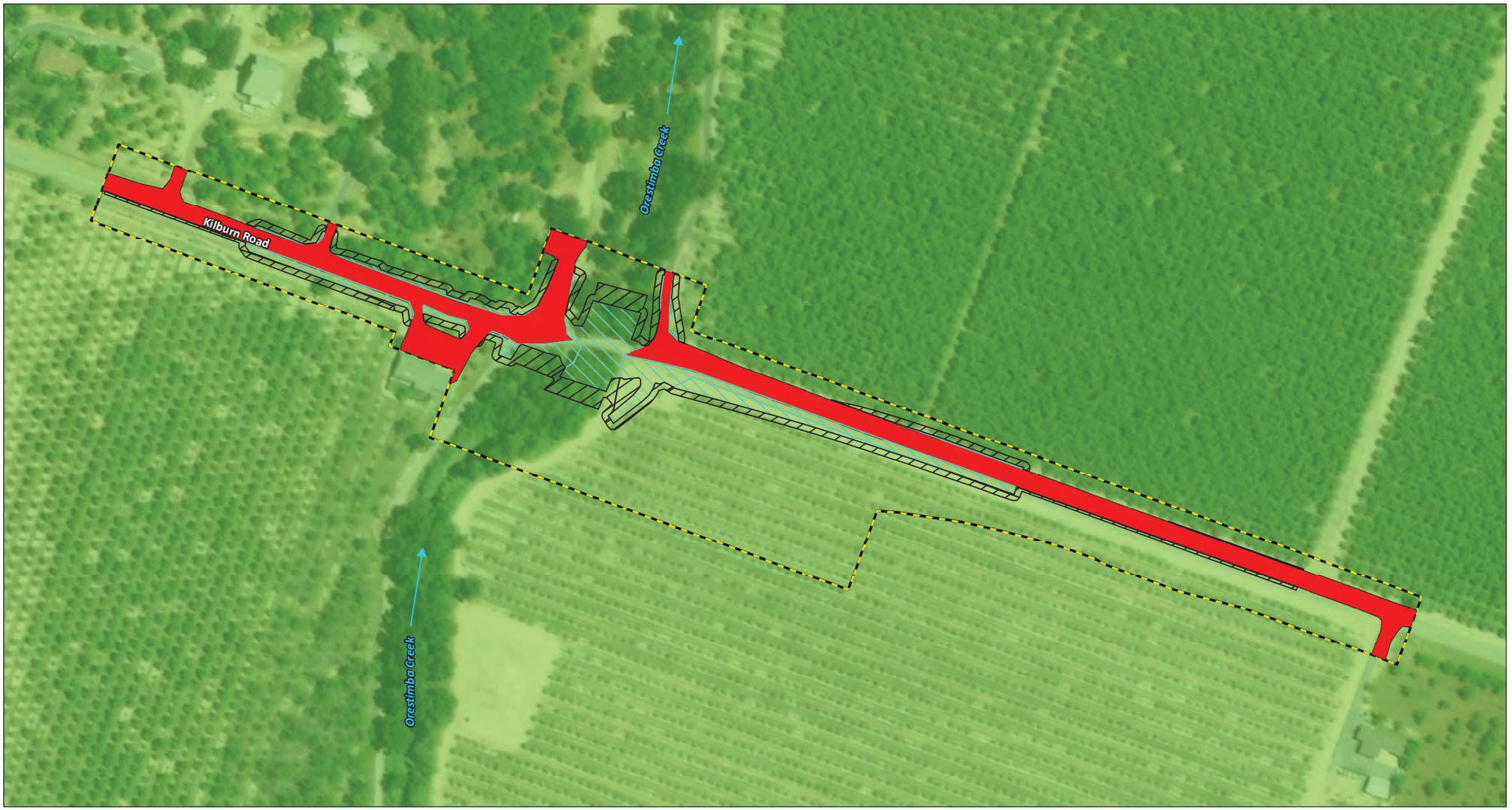
MILES

SOURCE: ESRI Imagery (4/2008)

P:\DEA1101\GRAPHICS\Figure 1.mxd (10/9/12)

Kilburn Road Bridge over Orestimba Creek
Replacement Project in Stanislaus County

ATTACHMENT A - Regional Location/Project Vicinity Map



Project Area - (9.89 ac)
Developed - (1.95 ac)
Prime Farmland - (7.96 ac)
Prime Farmland Permanent Impacts - (0.87 ac)
Prime Farmland Temporary Impacts - (0.88 ac)

0 75 150
FEET

SOURCE: Vivid Maxnar Aerial Imagery (04/2019); Mapping - LSA (07/2020)

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FIGURE 2

Kilburn Road Bridge over Orestimba Creek (38C0168)
Replacement Project in Stanislaus County
Caltrans District 10; Federal Aid No. BRLO-5938(157)

Affected Farmland 2020 Project

LEGEND

Project Footprint

2010 Farmand Designations "Take" - (4.3 ac)

Prime Farmland Permanent Impact - (1.8 ac)

Prime Farmland Temporary Impact - (2.5 ac)

0 75 150
FEET

SOURCE: Microsoft Bing Map - Aerial (2010); CA Dept. of Conservation Farmland and Mapping and Monitoring Program (2010)

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FIGURE 3

Kilburn Road Bridge over Orestimba Creek
Replacement Project in Stanislaus County

Affected Farmland of 2013 Project

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APPENDIX B

ROADMOD AND EMFAC2021

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Road Construction Emissions Model **Version 9.0.0**
Data Entry Worksheet

Note: Required data input sections have a yellow background.
Optional data input sections have a blue background. Only areas with a yellow or blue background can be modified. Program defaults have a white background.
The user is required to enter information in cells D10 through D24, E28 through G35, and D38 through D41 for all project types.
Please use "Clear Data Input & User Overrides" button first before changing the Project Type or begin a new project.

To begin a new project, click this button to clear data previously entered. This button will only work if you opted not to disable macros when loading this spreadsheet.

SACRAMENTO METROPOLITAN AIR QUALITY MANAGEMENT DISTRICT

Input Type

Project Name	Kilburn Road over Orestimba Creek Bridge	
Construction Start Year	2022	Enter a Year between 2014 and 2040 (inclusive)
Project Type	3	1) New Road Construction : Project to build a roadway from bare ground, which generally requires more site preparation than widening an existing roadway 2) Road Widening : Project to add a new lane to an existing roadway 3) Bridge/Overpass Construction : Project to build an elevated roadway, which generally requires some different equipment than a new roadway, such as a crane 4) Other Linear Project Type: Non-roadway project such as a pipeline, transmission line, or levee construction
Project Construction Time	12.00	months
Working Days per Month	22.00	days (assume 22 if unknown)
Predominant Soil/Site Type: Enter 1, 2, or 3 (for project within "Sacramento County", follow soil type selection instructions in cells E18 to E20 otherwise see instructions provided in cells J18 to J22)	2	1) Sand Gravel : Use for quaternary deposits (Delta/West County) 2) Weathered Rock-Earth : Use for Laguna formation (Jackson Highway area) or the lone formation (Scott Road, Rancho Murieta) 3) Blasted Rock : Use for Salt Springs Slate or Copper Hill Volcanics (Folsom South of Highway 50, Rancho Murieta)
Project Length	0.15	miles
Total Project Area	2.10	acres
Maximum Area Disturbed/Day	2.10	acres
Water Trucks Used?	1	1. Yes 2. No

Please note that the soil type instructions provided in cells E18 to E20 are specific to Sacramento County. Maps available from the California Geologic Survey (see weblink below) can be used to determine soil type outside Sacramento County.

http://www.conservation.ca.gov/cgs/information/geologic_mapping/Pages/googlemaps.aspx#regionalseries

Material Hauling Quantity Input

Material Type	Phase	Haul Truck Capacity (yd^3) (assume 20 if unknown)	Import Volume (yd^3/day)	Export Volume (yd^3/day)
Soil	Grubbing/Land Clearing	20.00		13.50
	Grading/Excavation			
	Drainage/Utilities/Sub-Grade			
	Paving			
Asphalt	Grubbing/Land Clearing			
	Grading/Excavation			
	Drainage/Utilities/Sub-Grade			
	Paving			

Mitigation Options

On-road Fleet Emissions Mitigation		Select "2010 and Newer On-road Vehicles Fleet" option when the on-road heavy-duty truck fleet for the project will be limited to vehicles of model year 2010 or newer
Off-road Equipment Emissions Mitigation		Select "20% NOx and 45% Exhaust PM reduction" option if the project will be required to use a lower emitting off-road construction fleet. The SMAQMD Construction Mitigation Calculator can be used to confirm compliance with this mitigation measure (http://www.airquality.org/Businesses/CEQA-Land-Use-Planning/Mitigation). Select "Tier 4 Equipment" option if some or all off-road equipment used for the project meets CARB Tier 4 Standard

The remaining sections of this sheet contain areas that can be modified by the user, although those modifications are optional.

Note: The program's estimates of construction period phase length can be overridden in cells D50 through D53, and F50 through F53.

Construction Periods	User Override of Construction Months	Program Calculated Months	User Override of Phase Starting Date	Program Default Phase Starting Date
Grubbing/Land Clearing		1.20		1/1/2022
Grading/Excavation		5.40		2/7/2022
Drainage/Utilities/Sub-Grade		3.60		7/22/2022
Paving		1.80		11/9/2022
Totals (Months)		12		

Note: Soil Hauling emission default values can be overridden in cells D61 through D64, and F61 through F64.

Soil Hauling Emissions User Input	User Override of Miles/Round Trip	Program Estimate of Miles/Round Trip	User Override of Truck Round Trips/Day	Default Values Round Trips/Day	Calculated Daily VMT
Miles/round trip: Grubbing/Land Clearing		30.00		1	30.00
Miles/round trip: Grading/Excavation		30.00		0	0.00
Miles/round trip: Drainage/Utilities/Sub-Grade		30.00		0	0.00
Miles/round trip: Paving		30.00		0	0.00

Emission Rates	ROG	CO	NOx	PM10	PM2.5	SOx	CO2	CH4	N2O	CO2e
Grubbing/Land Clearing (grams/mile)	0.04	0.42	3.08	0.11	0.05	0.02	1,748.57	0.00	0.27	1,830.52
Grading/Excavation (grams/mile)	0.04	0.42	3.08	0.11	0.05	0.02	1,748.57	0.00	0.27	1,830.52
Draining/Utilities/Sub-Grade (grams/mile)	0.04	0.42	3.08	0.11	0.05	0.02	1,748.57	0.00	0.27	1,830.52
Paving (grams/mile)	0.04	0.42	3.07	0.11	0.05	0.02	1,746.88	0.00	0.27	1,828.76
Grubbing/Land Clearing (grams/trip)	0.00	0.00	3.99	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Grading/Excavation (grams/trip)	0.00	0.00	3.99	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Draining/Utilities/Sub-Grade (grams/trip)	0.00	0.00	3.99	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Paving (grams/trip)	0.00	0.00	4.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hauling Emissions	**ROG**	**CO**	**NOx**	**PM10**	**PM2.5**	**SOx**	**CO2**	**CH4**	**N2O**	**CO2e**
Pounds per day - Grubbing/Land Clearing	0.00	0.03	0.21	0.01	0.00	0.00	115.65	0.00	0.02	121.07
Tons per const. Period - Grubbing/Land Clearing	0.00	0.00	0.00	0.00	0.00	0.00	1.53	0.00	0.00	1.60
Pounds per day - Grading/Excavation	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Tons per const. Period - Grading/Excavation	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Pounds per day - Drainage/Utilities/Sub-Grade	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Tons per const. Period - Drainage/Utilities/Sub-Grade	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Pounds per day - Paving	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Tons per const. Period - Paving	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total tons per construction project	0.00	0.00	0.00	0.00	0.00	0.00	1.53	0.00	0.00	1.60

Note: Asphalt Hauling emission default values can be overridden in cells D91 through D94, and F91 through F94.

Asphalt Hauling Emissions User Input	User Override of Miles/Round Trip	Program Estimate of Miles/Round Trip	User Override of Truck Round Trips/Day	Default Values Round Trips/Day	Calculated Daily VMT
Miles/round trip: Grubbing/Land Clearing		30.00		0	0.00
Miles/round trip: Grading/Excavation		30.00		0	0.00
Miles/round trip: Drainage/Utilities/Sub-Grade		30.00		0	0.00
Miles/round trip: Paving		30.00		0	0.00

Emission Rates	ROG	CO	NOx	PM10	PM2.5	SOx	CO2	CH4	N2O	CO2e
Grubbing/Land Clearing (grams/mile)	0.04	0.42	3.08	0.11	0.05	0.02	1,748.57	0.00	0.27	1,830.52
Grading/Excavation (grams/mile)	0.04	0.42	3.08	0.11	0.05	0.02	1,748.57	0.00	0.27	1,830.52
Draining/Utilities/Sub-Grade (grams/mile)	0.04	0.42	3.08	0.11	0.05	0.02	1,748.57	0.00	0.27	1,830.52
Paving (grams/mile)	0.04	0.42	3.07	0.11	0.05	0.02	1,746.88	0.00	0.27	1,828.76
Grubbing/Land Clearing (grams/trip)	0.00	0.00	3.99	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Grading/Excavation (grams/trip)	0.00	0.00	3.99	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Draining/Utilities/Sub-Grade (grams/trip)	0.00	0.00	3.99	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Paving (grams/trip)	0.00	0.00	4.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Emissions	**ROG**	**CO**	**NOx**	**PM10**	**PM2.5**	**SOx**	**CO2**	**CH4**	**N2O**	**CO2e**
Pounds per day - Grubbing/Land Clearing	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Tons per const. Period - Grubbing/Land Clearing	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Pounds per day - Grading/Excavation	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Tons per const. Period - Grading/Excavation	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Pounds per day - Drainage/Utilities/Sub-Grade	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Tons per const. Period - Drainage/Utilities/Sub-Grade	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Pounds per day - Paving	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Tons per const. Period - Paving	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total tons per construction project	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Note: Worker commute default values can be overridden in cells D121 through D126.

Worker Commute Emissions User Input	User Override of Worker Commute Default Values	Default Values		
Miles/ one-way trip		20		
One-way trips/day		2	Calculated Daily Trips	Calculated Daily VMT
No. of employees: Grubbing/Land Clearing		5	10	200.00
No. of employees: Grading/Excavation		28	56	1,120.00
No. of employees: Drainage/Utilities/Sub-Grade		18	36	720.00
No. of employees: Paving		8	16	320.00

Emission Rates	ROG	CO	NOx	PM10	PM2.5	SOx	CO2	CH4	N2O	CO2e
Grubbing/Land Clearing (grams/mile)	0.02	1.00	0.08	0.05	0.02	0.00	328.72	0.00	0.01	330.96
Grading/Excavation (grams/mile)	0.02	1.00	0.08	0.05	0.02	0.00	328.72	0.00	0.01	330.96
Draining/Utilities/Sub-Grade (grams/mile)	0.02	1.00	0.08	0.05	0.02	0.00	328.72	0.00	0.01	330.96
Paving (grams/mile)	0.02	1.00	0.08	0.05	0.02	0.00	328.17	0.00	0.01	330.39
Grubbing/Land Clearing (grams/trip)	1.11	2.85	0.32	0.00	0.00	0.00	70.54	0.08	0.03	82.43
Grading/Excavation (grams/trip)	1.11	2.85	0.32	0.00	0.00	0.00	70.54	0.08	0.03	82.43
Draining/Utilities/Sub-Grade (grams/trip)	1.11	2.85	0.32	0.00	0.00	0.00	70.54	0.08	0.03	82.43
Paving (grams/trip)	1.10	2.84	0.31	0.00	0.00	0.00	70.42	0.08	0.03	82.28

Emissions	ROG	CO	NOx	PM10	PM2.5	SOx	CO2	CH4	N2O	CO2e
Pounds per day - Grubbing/Land Clearing	0.03	0.50	0.04	0.02	0.01	0.00	146.50	0.00	0.00	147.74
Tons per const. Period - Grubbing/Land Clearing	0.00	0.01	0.00	0.00	0.00	0.00	1.93	0.00	0.00	1.95
Pounds per day - Grading/Excavation	0.18	2.82	0.25	0.11	0.05	0.01	820.38	0.02	0.02	827.37
Tons per const. Period - Grading/Excavation	0.01	0.17	0.01	0.01	0.00	0.00	48.73	0.00	0.00	49.15
Pounds per day - Drainage/Utilities/Sub-Grade	0.12	1.81	0.16	0.07	0.03	0.01	527.39	0.01	0.01	531.88
Tons per const. Period - Drainage/Utilities/Sub-Grade	0.00	0.07	0.01	0.00	0.00	0.00	20.88	0.00	0.00	21.06
Pounds per day - Paving	0.05	0.80	0.07	0.03	0.01	0.00	234.00	0.01	0.01	235.99
Tons per const. Period - Paving	0.00	0.02	0.00	0.00	0.00	0.00	4.63	0.00	0.00	4.67
Total tons per construction project	0.02	0.26	0.02	0.01	0.00	0.00	76.18	0.00	0.00	76.83

Note: Water Truck default values can be overridden in cells D153 through D156, I153 through I156, and F153 through F156.

Water Truck Emissions User Input	User Override of Default # Water Trucks	Program Estimate of Number of Water Trucks	User Override of Truck Round Trips/Vehicle/Day	Default Values Round Trips/Vehicle/Day	Calculated Trips/day	User Override of Miles/Round Trip	Default Values Miles/Round Trip	Calculated Daily VMT
Grubbing/Land Clearing - Exhaust		1		5	5		8.00	40.00
Grading/Excavation - Exhaust		1		5	5		8.00	40.00
Drainage/Utilities/Subgrade		1		5	5		8.00	40.00
Paving		1		5	5		8.00	40.00

Emission Rates	ROG	CO	NOx	PM10	PM2.5	SOx	CO2	CH4	N2O	CO2e
Grubbing/Land Clearing (grams/mile)	0.04	0.42	3.08	0.11	0.05	0.02	1,748.57	0.00	0.27	1,830.52
Grading/Excavation (grams/mile)	0.04	0.42	3.08	0.11	0.05	0.02	1,748.57	0.00	0.27	1,830.52
Draining/Utilities/Sub-Grade (grams/mile)	0.04	0.42	3.08	0.11	0.05	0.02	1,748.57	0.00	0.27	1,830.52
Paving (grams/mile)	0.04	0.42	3.07	0.11	0.05	0.02	1,746.88	0.00	0.27	1,828.76
Grubbing/Land Clearing (grams/trip)	0.00	0.00	3.99	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Grading/Excavation (grams/trip)	0.00	0.00	3.99	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Draining/Utilities/Sub-Grade (grams/trip)	0.00	0.00	3.99	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Paving (grams/trip)	0.00	0.00	4.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Emissions	**ROG**	**CO**	**NOx**	**PM10**	**PM2.5**	**SOx**	**CO2**	**CH4**	**N2O**	**CO2e**
Pounds per day - Grubbing/Land Clearing	0.00	0.04	0.32	0.01	0.00	0.00	154.20	0.00	0.02	161.42
Tons per const. Period - Grubbing/Land Clearing	0.00	0.00	0.00	0.00	0.00	0.00	2.04	0.00	0.00	2.13
Pounds per day - Grading/Excavation	0.00	0.04	0.32	0.01	0.00	0.00	154.20	0.00	0.02	161.42
Tons per const. Period - Grading/Excavation	0.00	0.00	0.02	0.00	0.00	0.00	9.16	0.00	0.00	9.59
Pounds per day - Drainage/Utilities/Sub-Grade	0.00	0.04	0.32	0.01	0.00	0.00	154.20	0.00	0.02	161.42
Tons per const. Period - Drainage/Utilities/Sub-Grade	0.00	0.00	0.01	0.00	0.00	0.00	6.11	0.00	0.00	6.39
Pounds per day - Paving	0.00	0.04	0.32	0.01	0.00	0.00	154.05	0.00	0.02	161.27
Tons per const. Period - Paving	0.00	0.00	0.01	0.00	0.00	0.00	3.05	0.00	0.00	3.19
Total tons per construction project	0.00	0.00	0.04	0.00	0.00	0.00	20.35	0.00	0.00	21.30

Note: Fugitive dust default values can be overridden in cells D183 through D185.

Fugitive Dust	User Override of Max Acreage Disturbed/Day	Default Maximum Acreage/Day	PM10 pounds/day	PM10 tons/per period	PM2.5 pounds/day	PM2.5 tons/per period
Fugitive Dust - Grubbing/Land Clearing		2.10	21.00	0.28	4.37	0.06
Fugitive Dust - Grading/Excavation		2.10	21.00	1.25	4.37	0.26
Fugitive Dust - Drainage/Utilities/Subgrade		2.10	21.00	0.83	4.37	0.17

Off-Road Equipment Emissions

Grubbing/Land Clearing Override of Default Number of Vehicles	Default Number of Vehicles *Program-estimate*	Mitigation Option Override of Default Equipment Tier (applicable only when "Tier 4 Mitigation" Option Selected)	Default Equipment Tier	Type	ROG pounds/day	CO pounds/day	NOx pounds/day	PM10 pounds/day	PM2.5 pounds/day	SOx pounds/day	CO2 pounds/day	CH4 pounds/day	N2O pounds/day	CO2e pounds/day
			Model Default Tier	Aerial Lifts	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Air Compressors	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Bore/Drill Rigs	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Cement and Mortar Mixers	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Concrete/Industrial Saws	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Cranes	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	1		Model Default Tier	Crawler Tractors	0.49	2.31	6.01	0.23	0.21	0.01	759.03	0.25	0.01	767.22
			Model Default Tier	Crushing/Proc. Equipment	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	2		Model Default Tier	Excavators	0.40	6.51	3.55	0.17	0.16	0.01	1,000.03	0.32	0.01	1,010.81
			Model Default Tier	Forklifts	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Generator Sets	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Graders	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Off-Highway Tractors	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Off-Highway Trucks	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Other Construction Equipment	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Other General Industrial Equipn	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Other Material Handling Equipm	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Pavers	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Paving Equipment	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Plate Compactors	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Pressure Washers	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Pumps	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Rollers	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Rough Terrain Forklifts	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Rubber Tired Dozers	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Rubber Tired Loaders	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Scrapers	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	1		Model Default Tier	Signal Boards	0.06	0.30	0.36	0.01	0.01	0.00	49.31	0.01	0.00	49.56
			Model Default Tier	Skid Steer Loaders	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Surfacing Equipment	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Sweepers/Scrubbers	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Tractors/Loaders/Backhoes	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Trenchers	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Welders	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

User-Defined Off-road Equipment — If non-default vehicles are used, please provide information in 'Non-default Off-road Equipment' tab

Number of Vehicles	Equipment Tier	Type	ROG pounds/day	CO pounds/day	NOx pounds/day	PM10 pounds/day	PM2.5 pounds/day	SOx pounds/day	CO2 pounds/day	CH4 pounds/day	N2O pounds/day	CO2e pounds/day
0.00	N/A	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	N/A	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	N/A	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	N/A	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	N/A	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	N/A	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	N/A	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

		ROG	CO	NOx	PM10	PM2.5	SOx	CO2	CH4	N2O	CO2e
Grubbing/Land Clearing	pounds per day	0.95	9.13	9.92	0.41	0.38	0.02	1,808.38	0.57	0.02	1,827.60
Grubbing/Land Clearing	tons per phase	0.01	0.12	0.13	0.01	0.01	0.00	23.87	0.01	0.00	24.12

Grading/Excavation Override of Default Number of Vehicles	Default Number of Vehicles *Program-estimate*	Mitigation Option Override of Default Equipment Tier (applicable only when "Tier 4 Mitigation" Option Selected)	Default Equipment Tier	Type	ROG pounds/day	CO pounds/day	NOx pounds/day	PM10 pounds/day	PM2.5 pounds/day	SOx pounds/day	CO2 pounds/day	CH4 pounds/day	N2O pounds/day	CO2e pounds/day
			Model Default Tier	Aerial Lifts	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Air Compressors	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Bore/Drill Rigs	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Cement and Mortar Mixers	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Concrete/Industrial Saws	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	1		Model Default Tier	Cranes	0.37	1.89	4.18	0.17	0.16	0.01	558.83	0.18	0.01	564.85
	2		Model Default Tier	Crawler Tractors	0.98	4.63	12.02	0.45	0.42	0.02	1,518.07	0.49	0.01	1,534.44
			Model Default Tier	Crushing/Proc. Equipment	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	4		Model Default Tier	Excavators	0.81	13.02	7.11	0.34	0.32	0.02	2,000.06	0.65	0.02	2,021.63
			Model Default Tier	Forklifts	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Generator Sets	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	2		Model Default Tier	Graders	0.83	3.44	10.52	0.33	0.31	0.01	1,282.56	0.41	0.01	1,296.37
			Model Default Tier	Off-Highway Tractors	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Off-Highway Trucks	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Other Construction Equipment	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Other General Industrial Equipn	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Other Material Handling Equipm	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Pavers	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Paving Equipment	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Plate Compactors	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Pressure Washers	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Pumps	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	3		Model Default Tier	Rollers	0.50	5.58	5.18	0.30	0.27	0.01	762.31	0.25	0.01	770.53
			Model Default Tier	Rough Terrain Forklifts	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Rubber Tired Dozers	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	3		Model Default Tier	Rubber Tired Loaders	0.87	4.59	9.07	0.30	0.28	0.02	1,816.99	0.59	0.02	1,836.61
	4		Model Default Tier	Scrapers	3.28	25.50	35.77	1.40	1.29	0.06	5,881.18	1.90	0.05	5,944.58
	1		Model Default Tier	Signal Boards	0.06	0.30	0.36	0.01	0.01	0.00	49.31	0.01	0.00	49.56
			Model Default Tier	Skid Steer Loaders	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Surfacing Equipment	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Sweepers/Scrubbers	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	2		Model Default Tier	Tractors/Loaders/Backhoes	0.33	4.48	3.35	0.18	0.17	0.01	602.48	0.19	0.01	608.96
			Model Default Tier	Trenchers	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Welders	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

User-Defined Off-road Equipment If non-default vehicles are used, please provide information in 'Non-default Off-road Equipment' tab

Number of Vehicles	Equipment Tier	Type		ROG pounds/day	CO pounds/day	NOx pounds/day	PM10 pounds/day	PM2.5 pounds/day	SOx pounds/day	CO2 pounds/day	CH4 pounds/day	N2O pounds/day	CO2e pounds/day
0.00	N/A		0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	N/A		0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	N/A		0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	N/A		0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	N/A		0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	N/A		0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	N/A		0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Grading/Excavation		pounds per day		8.03	63.44	87.56	3.50	3.22	0.15	14,471.80	4.67	0.13	14,627.53
Grading/Excavation		tons per phase		0.48	3.77	5.20	0.21	0.19	0.01	859.62	0.28	0.01	868.88

Drainage/Utilities/Subgrade Override of Default Number of Vehicles	Default Number of Vehicles *Program-estimate*	Mitigation Option Override of Default Equipment Tier (applicable only when "Tier 4 Mitigation" Option Selected)	Default Equipment Tier	Type	ROG pounds/day	CO pounds/day	NOx pounds/day	PM10 pounds/day	PM2.5 pounds/day	SOx pounds/day	CO2 pounds/day	CH4 pounds/day	N2O pounds/day	CO2e pounds/day
			Model Default Tier	Aerial Lifts	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	1		Model Default Tier	Air Compressors	0.27	2.42	1.88	0.11	0.11	0.00	375.26	0.02	0.00	376.72
			Model Default Tier	Bore/Drill Rigs	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Cement and Mortar Mixers	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Concrete/Industrial Saws	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Cranes	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Crawler Tractors	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Crushing/Proc. Equipment	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Excavators	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Forklifts	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	1		Model Default Tier	Generator Sets	0.33	3.68	2.93	0.15	0.15	0.01	623.04	0.03	0.00	625.17
	2		Model Default Tier	Graders	0.83	3.44	10.52	0.33	0.31	0.01	1,282.56	0.41	0.01	1,296.37
			Model Default Tier	Off-Highway Tractors	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Off-Highway Trucks	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Other Construction Equipment	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Other General Industrial Equipn	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Other Material Handling Equipm	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Pavers	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Paving Equipment	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	1		Model Default Tier	Plate Compactors	0.04	0.21	0.25	0.01	0.01	0.00	34.48	0.00	0.00	34.65
			Model Default Tier	Pressure Washers	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	1		Model Default Tier	Pumps	0.35	3.73	2.97	0.16	0.16	0.01	623.04	0.03	0.00	625.23
			Model Default Tier	Rollers	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	1		Model Default Tier	Rough Terrain Forklifts	0.11	2.29	1.48	0.05	0.05	0.00	333.75	0.11	0.00	337.35
			Model Default Tier	Rubber Tired Dozers	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Rubber Tired Loaders	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	4		Model Default Tier	Scrapers	3.28	25.50	35.77	1.40	1.29	0.06	5,881.18	1.90	0.05	5,944.58
	1		Model Default Tier	Signal Boards	0.06	0.30	0.36	0.01	0.01	0.00	49.31	0.01	0.00	49.56
			Model Default Tier	Skid Steer Loaders	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Surfacing Equipment	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Sweepers/Scrubbers	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	2		Model Default Tier	Tractors/Loaders/Backhoes	0.33	4.48	3.35	0.18	0.17	0.01	602.48	0.19	0.01	608.96
			Model Default Tier	Trenchers	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Welders	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

User-Defined Off-road Equipment If non-default vehicles are used, please provide information in 'Non-default Off-road Equipment' tab

Number of Vehicles	Equipment Tier	Type		ROG pounds/day	CO pounds/day	NOx pounds/day	PM10 pounds/day	PM2.5 pounds/day	SOx pounds/day	CO2 pounds/day	CH4 pounds/day	N2O pounds/day	CO2e pounds/day
0.00	N/A		0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	N/A		0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	N/A		0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	N/A		0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	N/A		0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	N/A		0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	N/A		0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Drainage/Utilities/Sub-Grade		pounds per day		5.60	46.05	59.51	2.40	2.24	0.10	9,805.10	2.71	0.09	9,898.60
Drainage/Utilities/Sub-Grade		tons per phase		0.22	1.82	2.36	0.09	0.09	0.00	388.28	0.11	0.00	391.98

Paving Override of Default Number of Vehicles	Default Number of Vehicles *Program-estimate*	Mitigation Option Override of Default Equipment Tier (applicable only when "Tier 4 Mitigation" Option Selected)	Default Equipment Tier	Type	ROG pounds/day	CO pounds/day	NOx pounds/day	PM10 pounds/day	PM2.5 pounds/day	SOx pounds/day	CO2 pounds/day	CH4 pounds/day	N2O pounds/day	CO2e pounds/day
			Model Default Tier	Aerial Lifts	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Air Compressors	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Bore/Drill Rigs	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Cement and Mortar Mixers	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Concrete/Industrial Saws	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Cranes	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Crawler Tractors	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Crushing/Proc. Equipment	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Excavators	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Forklifts	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Generator Sets	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Graders	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Off-Highway Tractors	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Off-Highway Trucks	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Other Construction Equipment	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Other General Industrial Equipn	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Other Material Handling Equipm	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	1		Model Default Tier	Pavers	0.21	2.88	2.09	0.10	0.09	0.00	455.26	0.15	0.00	460.16
	1		Model Default Tier	Paving Equipment	0.18	2.55	1.73	0.08	0.08	0.00	394.47	0.13	0.00	398.73
			Model Default Tier	Plate Compactors	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Pressure Washers	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Pumps	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	1		Model Default Tier	Rollers	0.17	1.86	1.72	0.10	0.09	0.00	254.10	0.08	0.00	256.84
			Model Default Tier	Rough Terrain Forklifts	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Rubber Tired Dozers	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Rubber Tired Loaders	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

			Model Default Tier	Scrapers		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	1		Model Default Tier	Signal Boards		0.06	0.30	0.36	0.01	0.01	0.00	49.31	0.01	0.00	49.56
			Model Default Tier	Skid Steer Loaders		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Surfacing Equipment		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Sweepers/Scrubbers		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	2		Model Default Tier	Tractors/Loaders/Backhoes		0.33	4.48	3.34	0.18	0.16	0.01	602.51	0.19	0.01	609.00
			Model Default Tier	Trenchers		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Welders		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
User-Defined Off-road Equipment	If non-default vehicles are used, please provide information in 'Non-default Off-road Equipment' tab					ROG	CO	NOx	PM10	PM2.5	SOx	CO2	CH4	N2O	CO2e
Number of Vehicles		Equipment Tier		Type		pounds/day	pounds/day	pounds/day	pounds/day	pounds/day	pounds/day	pounds/day	pounds/day	pounds/day	pounds/day
0.00		N/A			0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00		N/A			0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00		N/A			0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00		N/A			0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00		N/A			0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00		N/A			0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00		N/A			0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	Paving			pounds per day		0.94	12.07	9.24	0.48	0.44	0.02	1,755.66	0.56	0.02	1,774.29
	Paving			tons per phase		0.02	0.24	0.18	0.01	0.01	0.00	34.76	0.01	0.00	35.13
Total Emissions all Phases (tons per construction period) =>						0.73	5.95	7.87	0.32	0.29	0.01	1,306.54	0.40	0.01	1,320.12

Equipment default values for horsepower and hours/day can be overridden in cells D403 through D436 and F403 through F436.

Equipment	User Override of Horsepower	Default Values Horsepower	User Override of Hours/day	Default Values Hours/day
Aerial Lifts		63		8
Air Compressors		78		8
Bore/Drill Rigs		221		8
Cement and Mortar Mixers		9		8
Concrete/Industrial Saws		81		8
Cranes		231		8
Crawler Tractors		212		8
Crushing/Proc. Equipment		85		8
Excavators		158		8
Forklifts		89		8
Generator Sets		84		8
Graders		187		8
Off-Highway Tractors		124		8
Off-Highway Trucks		402		8
Other Construction Equipment		172		8
Other General Industrial Equipment		88		8
Other Material Handling Equipment		168		8
Pavers		130		8
Paving Equipment		132		8
Plate Compactors		8		8
Pressure Washers		13		8
Pumps		84		8
Rollers		80		8
Rough Terrain Forklifts		100		8
Rubber Tired Dozers		247		8
Rubber Tired Loaders		203		8
Scrapers		367		8
Signal Boards		6		8
Skid Steer Loaders		65		8
Surfacing Equipment		263		8
Sweepers/Scrubbers		64		8
Tractors/Loaders/Backhoes		97		8
Trenchers		78		8
Welders		46		8

END OF DATA ENTRY SHEET

Source: EMFAC2021 (v1.0.1) Emissions Inventory
Region Type: County
Region: Stanislaus
Calendar Year: 2021
Season: Annual
Vehicle Classification: EMFAC202x Categories
Units: miles/year for CVMT and EVMT, trips/year for Trips, kWh/year for Energy Consumption, tons/year for Emissions, 1000 gallons/year for Fuel Consumption

Region	Calendar Ye	Vehicle Cat	Model Yea	Speed	Fuel	Population	Total VMT	CVMT	EVMT	Trips	Fuel Consumption	
Stanislaus	2021	LDA	Aggregate	Aggregate	Gasoline	186212.213	2436430681	2436430681	0	298161624.5	84355.32	
Stanislaus	2021	LDT1	Aggregate	Aggregate	Gasoline	20130.2836	209634935.3	209634935.3	0	29925537.57	8756.751	
Stanislaus	2021	LDT2	Aggregate	Aggregate	Gasoline	76359.5708	960114061	960114061	0	122046579.9	42190.57	
Stanislaus	2021	LHD1	Aggregate	Aggregate	Gasoline	9807.67338	109907842.2	109907842.2	0	47781148.39	12276.57	
Stanislaus	2021	LHD2	Aggregate	Aggregate	Gasoline	1660.55398	20621153.59	20621153.59	0	8089908.097	2453.456	
Stanislaus	2021	MCY	Aggregate	Aggregate	Gasoline	10815.6697	20076756.49	20076756.49	0	7506074.758	486.0906	
Stanislaus	2021	MDV	Aggregate	Aggregate	Gasoline	84361.7818	976321534	976321534	0	132271603.2	52143.92	
Stanislaus	2021	MH	Aggregate	Aggregate	Gasoline	1540.24465	4197575.523	4197575.523	0	50386.14654	952.8434	
Stanislaus	2021	OBUS	Aggregate	Aggregate	Gasoline	160.336401	2274258.487	2274258.487	0	1049019.505	491.2157	
Stanislaus	2021	SBUS	Aggregate	Aggregate	Gasoline	200.030134	3164719.605	3164719.605	0	261639.4148	327.2471	
Stanislaus	2021	T6TS	Aggregate	Aggregate	Gasoline	626.191279	9055625.345	9055625.345	0	4096929.081	2011.535	
Stanislaus	2021	T7IS	Aggregate	Aggregate	Gasoline	7.20848766	41632.53101	41632.53101	0	47162.36669	14.17363	
Stanislaus	2021	UBUS	Aggregate	Aggregate	Gasoline	18.4287486	336225.3523	336225.3523	0	24104.80323	67.49198	
											206527.2	206,527,175.33

Source: EMFAC2021 (v1.0.1) Emissions Inventory
Region Type: County
Region: Stanislaus
Calendar Year: 2021
Season: Annual
Vehicle Classification: EMFAC202x Categories
Units: miles/year for CVMT and EVMT, trips/year for Trips, kWh/year for Energy Consumption, tons/year for Emissions, 1000 gallons/year for Fuel Consumption

Region	Calendar Y	Vehicle Cat	Model Year	Speed	Fuel	Population	Total VMT	CVMT	Fuel Consumption
Stanislaus	2021	All Other Bu	Aggregate	Aggregate	Diesel	109.4402	1712951	1712951	198.0715
Stanislaus	2021	LDA	Aggregate	Aggregate	Diesel	583.174	6357130	6357130	142.0867
Stanislaus	2021	LDT1	Aggregate	Aggregate	Diesel	16.1633	65226.93	65226.93	2.497161
Stanislaus	2021	LDT2	Aggregate	Aggregate	Diesel	188.0239	2644212	2644212	79.98704
Stanislaus	2021	LHD1	Aggregate	Aggregate	Diesel	9985.142	1.16E+08	1.16E+08	7329.686
Stanislaus	2021	LHD2	Aggregate	Aggregate	Diesel	3333.225	41096271	41096271	3191.621
Stanislaus	2021	MDV	Aggregate	Aggregate	Diesel	1216.843	16500223	16500223	663.1952
Stanislaus	2021	MH	Aggregate	Aggregate	Diesel	579.2516	1659183	1659183	176.1714
Stanislaus	2021	Motor Coac	Aggregate	Aggregate	Diesel	23.82526	996576.8	996576.8	180.9779
Stanislaus	2021	PTO	Aggregate	Aggregate	Diesel	0	3241448	3241448	694.6759
Stanislaus	2021	SBUS	Aggregate	Aggregate	Diesel	482.4476	3698217	3698217	458.1664
Stanislaus	2021	T6 CAIRP C	Aggregate	Aggregate	Diesel	7.30054	151672.7	151672.7	17.3126
Stanislaus	2021	T6 CAIRP C	Aggregate	Aggregate	Diesel	9.861805	208067.7	208067.7	23.64597
Stanislaus	2021	T6 CAIRP C	Aggregate	Aggregate	Diesel	28.49173	543687	543687	61.45131
Stanislaus	2021	T6 CAIRP C	Aggregate	Aggregate	Diesel	52.43729	3410279	3410279	358.2813
Stanislaus	2021	T6 Instate [	Aggregate	Aggregate	Diesel	127.0223	1319368	1319368	164.3833
Stanislaus	2021	T6 Instate [	Aggregate	Aggregate	Diesel	132.3042	1413735	1413735	175.43
Stanislaus	2021	T6 Instate [	Aggregate	Aggregate	Diesel	404.1583	4381085	4381085	542.5204
Stanislaus	2021	T6 Instate [	Aggregate	Aggregate	Diesel	141.8448	2410043	2410043	293.5264
Stanislaus	2021	T6 Instate (	Aggregate	Aggregate	Diesel	507.3593	6234468	6234468	740.3592
Stanislaus	2021	T6 Instate (	Aggregate	Aggregate	Diesel	958.9415	13329436	13329436	1578.115
Stanislaus	2021	T6 Instate (	Aggregate	Aggregate	Diesel	648.9958	8435742	8435742	993.2494
Stanislaus	2021	T6 Instate (	Aggregate	Aggregate	Diesel	470.2719	6597473	6597473	758.4365
Stanislaus	2021	T6 Instate]	Aggregate	Aggregate	Diesel	12.79225	209320.6	209320.6	22.93636
Stanislaus	2021	T6 Instate]	Aggregate	Aggregate	Diesel	524.3109	10136468	10136468	1125.947
Stanislaus	2021	T6 OOS Cla	Aggregate	Aggregate	Diesel	4.197779	86615.77	86615.77	9.883466
Stanislaus	2021	T6 OOS Cla	Aggregate	Aggregate	Diesel	5.650599	118821.3	118821.3	13.50294
Stanislaus	2021	T6 OOS Cla	Aggregate	Aggregate	Diesel	16.3663	310483.4	310483.4	35.0916
Stanislaus	2021	T6 OOS Cla	Aggregate	Aggregate	Diesel	29.10582	2257600	2257600	236.5422
Stanislaus	2021	T6 Public C	Aggregate	Aggregate	Diesel	43.67681	426328.4	426328.4	58.21031
Stanislaus	2021	T6 Public C	Aggregate	Aggregate	Diesel	110.4563	1247661	1247661	165.4607
Stanislaus	2021	T6 Public C	Aggregate	Aggregate	Diesel	108.1302	1129456	1129456	153.4678
Stanislaus	2021	T6 Public C	Aggregate	Aggregate	Diesel	168.0769	2194489	2194489	289.0885
Stanislaus	2021	T6 Utility C	Aggregate	Aggregate	Diesel	22.86365	291645.3	291645.3	33.77497
Stanislaus	2021	T6 Utility C	Aggregate	Aggregate	Diesel	4.387409	54983.62	54983.62	6.402138
Stanislaus	2021	T6 Utility C	Aggregate	Aggregate	Diesel	5.033212	76668.69	76668.69	8.822751
Stanislaus	2021	T7 CAIRP C	Aggregate	Aggregate	Diesel	998.5549	64591383	64591383	10897.95
Stanislaus	2021	T7 NNOOS	Aggregate	Aggregate	Diesel	907.615	76366928	76366928	12938.03
Stanislaus	2021	T7 NOOS C	Aggregate	Aggregate	Diesel	373.01	27742749	27742749	4709.572
Stanislaus	2021	T7 Other Po	Aggregate	Aggregate	Diesel	20.91197	1101861	1101861	190.1908
Stanislaus	2021	T7 POAK Cl	Aggregate	Aggregate	Diesel	91.95367	2782454	2782454	491.4141
Stanislaus	2021	T7 POLA Cl	Aggregate	Aggregate	Diesel	89.27882	3648529	3648529	641.3381
Stanislaus	2021	T7 Public C	Aggregate	Aggregate	Diesel	364.3856	4745060	4745060	939.6988
Stanislaus	2021	T7 Single C	Aggregate	Aggregate	Diesel	107.051	2248039	2248039	386.9593
Stanislaus	2021	T7 Single D	Aggregate	Aggregate	Diesel	177.9035	3181113	3181113	551.4006
Stanislaus	2021	T7 Single O	Aggregate	Aggregate	Diesel	579.4267	10341058	10341058	1776.869
Stanislaus	2021	T7 SWCV C	Aggregate	Aggregate	Diesel	114.3687	2312721	2312721	920.8614
Stanislaus	2021	T7 Tractor	Aggregate	Aggregate	Diesel	1608.34	42607912	42607912	7085.825
Stanislaus	2021	T7 Utility C	Aggregate	Aggregate	Diesel	15.32377	230881.4	230881.4	40.84251
Stanislaus	2021	UBUS	Aggregate	Aggregate	Diesel	75.23229	2594624	2594624	312.2798
								62866.21	62,866,212.80

Source: EMFAC2021 (v1.0.1) Emissions Inventory
Region Type: County
Region: Stanislaus
Calendar Year: 2022
Season: Annual
Vehicle Classification: EMFAC202x Categories
Units: miles/year for CVMT and EVMT, trips/year for Trips, kWh/year for Energy Consumption, tons/year for Emissions, 1000 gallons/year for Fuel Consumption

Region	Calendar Ye	Vehicle Category	Model Yea	Speed	Fuel	Population	Total VMT	CVMT	EVMT	Trips	Fuel Consumption		
Stanislaus	2022	All Other Buses	Aggregate	Aggregate	Diesel	109.4388	1722893.674	1722893.674	0	284409.5832	199.2319		
Stanislaus	2022	LDA	Aggregate	Aggregate	Diesel	557.2732	6069645.309	6069645.309	0	826933.1174	134.7679		
Stanislaus	2022	LDT1	Aggregate	Aggregate	Diesel	14.39675	57551.11529	57551.11529	0	14850.96389	2.204245		
Stanislaus	2022	LDT2	Aggregate	Aggregate	Diesel	204.2114	2921096.617	2921096.617	0	336802.5206	87.25667		
Stanislaus	2022	LHD1	Aggregate	Aggregate	Diesel	9683.605	112513543.9	112513543.9	0	39831074.68	7127.896		
Stanislaus	2022	LHD2	Aggregate	Aggregate	Diesel	3296.356	40668213.03	40668213.03	0	13558730.18	3148.584		
Stanislaus	2022	MDV	Aggregate	Aggregate	Diesel	1220.57	16446814.86	16446814.86	0	1985411.804	657.2136		
Stanislaus	2022	MH	Aggregate	Aggregate	Diesel	571.8906	1647580.106	1647580.106	0	18700.82379	174.9918		
Stanislaus	2022	Motor Coach	Aggregate	Aggregate	Diesel	23.97136	1001126.804	1001126.804	0	160851.6677	182.3858		
Stanislaus	2022	PTO	Aggregate	Aggregate	Diesel	0	3294566.879	3294566.879	0	0	697.4851		
Stanislaus	2022	SBUS	Aggregate	Aggregate	Diesel	483.8465	3681192.07	3681192.07	0	2290993.971	454.6274		
Stanislaus	2022	T6 CAIRP Class 4	Aggregate	Aggregate	Diesel	7.479659	154673.2824	154673.2824	0	53627.36108	17.5441	Fuel Consumption	VMT
Stanislaus	2022	T6 CAIRP Class 5	Aggregate	Aggregate	Diesel	10.07263	212183.9295	212183.9295	0	72218.36933	24.00112	7971.807	68133563.77
Stanislaus	2022	T6 CAIRP Class 6	Aggregate	Aggregate	Diesel	30.36628	554442.6785	554442.6785	0	217718.9485	62.11791		
Stanislaus	2022	T6 CAIRP Class 7	Aggregate	Aggregate	Diesel	53.89471	3477744.725	3477744.725	0	386412.1689	364.6578		
Stanislaus	2022	T6 Instate Delivery Class 4	Aggregate	Aggregate	Diesel	128.3482	1345469.128	1345469.128	0	571436.9476	166.9574		
Stanislaus	2022	T6 Instate Delivery Class 5	Aggregate	Aggregate	Diesel	134.5193	1441703.34	1441703.34	0	598912.2305	178.4033		
Stanislaus	2022	T6 Instate Delivery Class 6	Aggregate	Aggregate	Diesel	412.5478	4467756.156	4467756.156	0	1836761.599	551.2448		
Stanislaus	2022	T6 Instate Delivery Class 7	Aggregate	Aggregate	Diesel	143.5926	2449866.548	2449866.548	0	639308.8898	294.2661		
Stanislaus	2022	T6 Instate Other Class 4	Aggregate	Aggregate	Diesel	504.2404	6357804.423	6357804.423	0	1818653.854	753.8587		
Stanislaus	2022	T6 Instate Other Class 5	Aggregate	Aggregate	Diesel	977.3027	13593131.34	13593131.34	0	3524857.293	1607.542		
Stanislaus	2022	T6 Instate Other Class 6	Aggregate	Aggregate	Diesel	650.6293	8602626.06	8602626.06	0	2346637.739	1011.568		
Stanislaus	2022	T6 Instate Other Class 7	Aggregate	Aggregate	Diesel	476.0241	6714031.909	6714031.909	0	1716885.733	770.1757		
Stanislaus	2022	T6 Instate Tractor Class 6	Aggregate	Aggregate	Diesel	13.10708	213461.5632	213461.5632	0	47273.56134	23.44086		
Stanislaus	2022	T6 Instate Tractor Class 7	Aggregate	Aggregate	Diesel	530.7116	10293263.21	10293263.21	0	1914128.243	1137.134		
Stanislaus	2022	T6 OOS Class 4	Aggregate	Aggregate	Diesel	4.306979	88329.28841	88329.28841	0	30880.00385	10.01497		
Stanislaus	2022	T6 OOS Class 5	Aggregate	Aggregate	Diesel	5.777147	121171.9	121171.9	0	41420.75633	13.70492		
Stanislaus	2022	T6 OOS Class 6	Aggregate	Aggregate	Diesel	17.45565	316625.6415	316625.6415	0	125152.8463	35.47077		
Stanislaus	2022	T6 OOS Class 7	Aggregate	Aggregate	Diesel	29.55371	2302262.134	2302262.134	0	211893.0074	241.007		
Stanislaus	2022	T6 Public Class 4	Aggregate	Aggregate	Diesel	42.71115	425130.831	425130.831	0	68361.75627	57.29993		
Stanislaus	2022	T6 Public Class 5	Aggregate	Aggregate	Diesel	111.3308	1249981.216	1249981.216	0	178191.6032	164.6459		
Stanislaus	2022	T6 Public Class 6	Aggregate	Aggregate	Diesel	107.3906	1127709.24	1127709.24	0	171885.0217	151.4847		
Stanislaus	2022	T6 Public Class 7	Aggregate	Aggregate	Diesel	165.8463	2197584.903	2197584.903	0	265446.9364	286.1827		
Stanislaus	2022	T6 Utility Class 5	Aggregate	Aggregate	Diesel	23.12283	293915.6356	293915.6356	0	92343.31542	33.84394		
Stanislaus	2022	T6 Utility Class 6	Aggregate	Aggregate	Diesel	4.406127	55428.48868	55428.48868	0	17596.30706	6.40897		
Stanislaus	2022	T6 Utility Class 7	Aggregate	Aggregate	Diesel	5.036858	77266.20257	77266.20257	0	20115.1966	8.83126		
Stanislaus	2022	T7 CAIRP Class 8	Aggregate	Aggregate	Diesel	1031.01	65924618.37	65924618.37	0	7392093.833	11030.59	Fuel Consumption	VMT
Stanislaus	2022	T7 NNOOS Class 8	Aggregate	Aggregate	Diesel	924.2731	77943223.41	77943223.41	0	6626816.137	13043.14	42035.42	246759643.3
Stanislaus	2022	T7 NOOS Class 8	Aggregate	Aggregate	Diesel	385.3097	28315388.56	28315388.56	0	2762578.012	4767.343		
Stanislaus	2022	T7 Other Port Class 8	Aggregate	Aggregate	Diesel	21.31768	1147986.153	1147986.153	0	108812.276	196.2113		
Stanislaus	2022	T7 POAK Class 8	Aggregate	Aggregate	Diesel	93.13145	2854160.383	2854160.383	0	475372.699	498.8632		
Stanislaus	2022	T7 POLA Class 8	Aggregate	Aggregate	Diesel	93.62133	3814156.193	3814156.193	0	477873.241	666.9811		
Stanislaus	2022	T7 Public Class 8	Aggregate	Aggregate	Diesel	363.751	4760228.719	4760228.719	0	582205.2417	932.487		
Stanislaus	2022	T7 Single Concrete/Transit Mix Class 8	Aggregate	Aggregate	Diesel	103.514	2263300.207	2263300.207	0	304231.7379	388.3545		
Stanislaus	2022	T7 Single Dump Class 8	Aggregate	Aggregate	Diesel	177.3922	3201380.019	3201380.019	0	521362.8963	555.6348		
Stanislaus	2022	T7 Single Other Class 8	Aggregate	Aggregate	Diesel	594.9981	10550526.06	10550526.06	0	1748723.241	1809.06		
Stanislaus	2022	T7 SWCV Class 8	Aggregate	Aggregate	Diesel	112.4681	2274304.557	2274304.557	0	161414.2055	897.3651		
Stanislaus	2022	T7 Tractor Class 8	Aggregate	Aggregate	Diesel	1701.616	43477713.23	43477713.23	0	7714038.754	7208.495		
Stanislaus	2022	T7 Utility Class 8	Aggregate	Aggregate	Diesel	15.82366	232657.4833	232657.4833	0	63193.37033	40.89683		
Stanislaus	2022	UBUS	Aggregate	Aggregate	Diesel	74.61787	2555743.63	2555743.63	0	97600.17078	304.5506		

Source: EMFAC2021 (v1.0.1) Emissions Inventory
Region Type: County
Region: Stanislaus
Calendar Year: 2022
Season: Annual
Vehicle Classification: EMFAC202x Categories
Units: miles/year for CVMT and EVMT, trips/year for Trips, kWh/year for Energy Consumption, tons/year for Emissions, 1000 gallons/year for Fuel Consumption

Region	Calendar Ye	Vehicle Cat	Model Yeai	Speed	Fuel	Population	Total VMT	CVMT	EVMT	Trips	Fuel Consumption
Stanislaus	2022	LDA	Aggregate	Aggregate	Gasoline	185795.1	2486912040	2486912040	0	297306880.1	84803.62
Stanislaus	2022	LDT1	Aggregate	Aggregate	Gasoline	19345.26	206329835.4	206329835.4	0	28729053.33	8503.199
Stanislaus	2022	LDT2	Aggregate	Aggregate	Gasoline	77568.15	1001781971	1001781971	0	124034887.6	43085.23
Stanislaus	2022	LHD1	Aggregate	Aggregate	Gasoline	9492.143	108727923.1	108727923.1	0	46243943.93	11974.15
Stanislaus	2022	LHD2	Aggregate	Aggregate	Gasoline	1611.102	19938610.4	19938610.4	0	7848987.934	2358.515
Stanislaus	2022	MCY	Aggregate	Aggregate	Gasoline	10681.41	19975821.7	19975821.7	0	7412896.1	481.4199
Stanislaus	2022	MDV	Aggregate	Aggregate	Gasoline	82643.46	972234075.8	972234075.8	0	129236899.4	51170.38
Stanislaus	2022	MH	Aggregate	Aggregate	Gasoline	1436.727	3986014.412	3986014.412	0	46999.75673	904.4934
Stanislaus	2022	OBUS	Aggregate	Aggregate	Gasoline	154.0481	2177741.629	2177741.629	0	1007877.74	466.3935
Stanislaus	2022	SBUS	Aggregate	Aggregate	Gasoline	201.4635	3268223.886	3268223.886	0	263514.2949	336.9439
Stanislaus	2022	T6TS	Aggregate	Aggregate	Gasoline	594.4803	8941483.884	8941483.884	0	3889456.022	1963.507
Stanislaus	2022	T7IS	Aggregate	Aggregate	Gasoline	5.335409	33623.58101	33623.58101	0	34907.53477	11.15587
Stanislaus	2022	UBUS	Aggregate	Aggregate	Gasoline	18.57051	338811.7514	338811.7514	0	24290.22839	68.01031

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APPENDIX C

NATURAL ENVIRONMENT STUDY

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Natural Environment Study

Kilburn Road Bridge (No. 39C0168) Replacement at Orestimba Creek

Stanislaus County, California

10-ST-Kilburn Road Bridge-CR

Federal Project No. BRLO-5938 (157)

September 2020

Caltrans
CALIFORNIA DEPARTMENT OF TRANSPORTATION

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Natural Environment Study

STATE OF CALIFORNIA
Department of Transportation
Stanislaus County Department of Public Works,
UNITED STATES DEPARTMENT OF TRANSPORTATION
Federal Highway Administration

Prepared By: _____ Date: 9/21/2020

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Summary

Stanislaus County Public Works (County), in cooperation with the California Department of Transportation (Caltrans) District 10, proposes to replace the existing Kilburn Road Bridge (Br. No. 38C0168) at Orestimba Creek, approximately 0.3 mile southeast from the intersection of Crows Landing and Kilburn Roads, near Crows Landing, Stanislaus County, California (Figures 1 through 3). The project would replace the existing two-lane, single-span bridge with a new two-lane, three-span bridge on the same general alignment as the existing bridge. The proposed bridge replacement project has been funded by the Federal Highway Bridge Program (HBP) and the Toll Credit Program, and recently the Federal Moving Ahead for Progress in the 21st Century Program (MAP-21). Caltrans is the lead agency under the National Environmental Policy Act (NEPA). The County is the lead agency under the California Environmental Quality Act (CEQA).

The existing bridge, constructed between 1906 and 1910, is a steel Warren Pony Truss bridge with steel truss members that were encased in reinforced concrete in 1918. The existing bridge is single span, approximately 62 feet long by 19.7 feet wide, and carries one lane of traffic. Stop signs on either side of the bridge alternate the travel direction. The existing bridge is currently structurally deficient with a sufficiency rating of 23.4. The reinforced concrete that encases the steel truss members is cracked and spalled at numerous locations. In addition, the existing bridge width of 19.7 feet is substandard for two-way traffic. The Kilburn Road Bridge is classified as a historic bridge due to its age and unique construction that combines reinforced concrete and steel truss technologies.

The Biological Study Area (BSA), totaling approximately 9.89 acres (ac), is predominantly characterized by large, flat areas of agricultural lands with the exception of Orestimba Creek and its associated riparian corridor comprised of a black walnut-valley oak community. The majority of the land in the area is privately owned and appears to be similar to the BSA in use and vegetative characteristics.

Two invasive plant species, Giant reed (*Arundo donax*) and Himalayan blackberry (*Rubus armeniacus*) are present along the Orestimba Creek riparian corridor. Giant reed is classified by the California Invasive Plant Council as highly invasive, while Himalayan blackberry is classified as moderately invasive. Measures to avoid the spreading of invasive plant species within and outside of the project area are included in Section 5.6.

Special status wildlife species that may occur in the BSA include pallid bat (*Antrozous pallidus*), western red bat (*Lasiurus blossevillii*), hoary bat (*L. cinereus*), Yuma myotis (*Myotis yumanensis*), Swainson's hawk (*Buteo swainsoni*), northwestern pond turtle (*Actinemys marmorata*), valley elderberry longhorn beetle (*Desmocerus californicus dimorphus*) (VELB), and Central Valley steelhead (*Oncorhynchus mykiss irideus*) Distinct Population Segment (DPS). Nesting birds protected by the Migratory Bird Treaty

Act (MBTA) and California Fish and Game Code are also likely to be present on or under the bridge, or in vegetation within the BSA. No special status plants are expected to occur in the BSA. The project will not result in “take” of any State listed species. Consequently, an Incidental Take Permit pursuant to Section 2081 of the California Fish and Game Code will not be required.

The project may affect Central Valley steelhead DPS and VELB, both federally threatened species pursuant to Federal Endangered Species Act (FESA). The project may affect, but is not likely to adversely affect the Central Valley steelhead DPS and may affect, and is likely to adversely affect VELB. Caltrans, as the federal lead agency, would initiate informal consultation with National Marine Fisheries Service (NMFS) for Central Valley steelhead DPS and formal consultation with United States Fish and Wildlife Service (USFWS) for VELB, pursuant to Section 7 of the FESA. A Biological Assessment will be submitted to the USFWS and NMFS to facilitate consultation. It is anticipated that the NMFS will concur with the above determination and that USFWS would issue a Biological Opinion to authorize take of VELB and the project will not jeopardize the continued existence of the species. This project will have no effect on all other federally listed species or critical habitat from the USFWS IPaC and NMFS species lists generated for the project.

The project will permanently impact 0.04 ac and temporarily impact 0.02 ac of open water habitat that is appropriate for Central Valley steelhead. Potential impacts to Central Valley steelhead shall be minimized with implementation of avoidance and minimization efforts listed in Section 4.3.3.3. Therefore, no compensatory mitigation is proposed.

VELB rely on elderberry shrubs which will be impacted by the project. A total of 18 elderberry shrubs were detected in the Orestimba Creek riparian corridor, in or within 165 feet of the project footprint, which according to *Framework for Assessing Impacts to the Valley Elderberry Longhorn Beetle* (USFWS 2017), means the riparian corridor within the project area should be considered suitable habitat, likely occupied by VELB. Two elderberry shrubs are within the permanent impact footprint and will need to be removed. The other shrubs within 165 feet of the project footprint shall be protected from indirect impacts by avoidance and minimization measures listed in Section 4.3.4.3.

Compensation for project effects to likely occupied suitable habitat for VELB will occur through purchase of credits at a 3:1 ratio at an approved mitigation bank for all VELB habitat that will be permanently impacted. In addition, the shrubs to be removed shall be transplanted to an approved mitigation bank, if feasible (i.e., the shrub is a good candidate for transplanting).

Orestimba Creek within the BSA is designated as essential fish habitat (EFH) for Chinook salmon (*Oncorhynchus tshawytscha*). With the implementation of the avoidance

and minimization measures for Orestimba Creek and Central Valley steelhead in Sections 4.1.1.3 and 4.3.4.3, the proposed project will not adversely affect designated EFH for Chinook salmon.

The project will permanently impact 0.18 ac and temporarily impact 0.18 ac of black walnut-valley oak riparian. This community provides appropriate foraging habitat for the special status bat species listed above, as well as suitable nesting habitat for Swainson's hawk and northwestern pond turtle.

The project will result in 0.04 ac of permanent and 0.02 ac of temporary impacts to the riverine community associated with Orestimba Creek (i.e., non-wetland waters), and 0.05 ac of permanent and 0.02 ac of temporary impacts to wetlands. The project will also result in permanent impacts to 0.27 ac and temporary impacts to 0.22 ac of waters and riparian habitat within California Department of Fish and Wildlife (CDFW) jurisdiction. Therefore, the project is likely to require a Nationwide Permit (NWP) from the United States Army Corps of Engineers (USACE) (NWP 14 – Linear Transportation Projects), a Water Quality Certification from the Regional Water Quality Control Board (RWQCB), and a Lake or Streambed Alteration Agreement from the CDFW.

Mitigation for permanent impacts to the black walnut–valley oak riparian community, wetlands, and non-wetland waters shall be accomplished using the following method, contingent upon approval by CDFW, USACE, and RWQCB:

- Purchase of credits at an approved mitigation bank at a minimum 1:1 mitigation ratio.

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Table of Contents

Tables and Figures

List of Abbreviated Terms

AASHTO	American Association of State Highway and Transportation Officials
ac	acre(s)
APN	Assessor's Parcel Numbers
BMP	Best Management Practices
BSA	Biological Study Area
Caltrans	California Department of Transportation
CCID	Central California Irrigation District
CDFW	California Department of Fish and Wildlife
CEQA	California Environmental Quality Act
CESA	California Endangered Species Act
CNDDB	California Natural Diversity Database
CNPS	California Native Plant Society
County	Stanislaus County Public Works
CWA	Clean Water Act
DBH	diameter at breast height
DPS	Distinct Population Segment
EFH	essential fish habitat
EO	Executive Order
ESA	Environmentally Sensitive Area
FESA	Federal Endangered Species Act
ft	feet/foot
HBP	Federal Highway Bridge Program
MAP-21	Federal Moving Ahead for Progress in the 21st Century Program
MBTA	Migratory Bird Treaty Act
mi	mile(s)
MSA	Magnuson-Stevens Fishery Conservation and Management Act
NEPA	National Environmental Policy Act
NMFS	National Marine Fisheries Service
NWP	Nationwide Permit

OHWM	ordinary high water mark
PCWQCA	Porter-Cologne Water Quality Control Act
RSP	rock slope protection
RWQCB	Regional Water Quality Control Board
SWPPP	Stormwater Pollution Prevention Plan
U.S.	United States
USACE	United States Army Corps of Engineers
USFWS	United States Fish and Wildlife Service
USGS	United States Geological Survey
VELB	valley elderberry longhorn beetle
WPCP	Water Pollution Control Plan

Chapter 1 – Introduction

Stanislaus County Public Works (County), in cooperation with the California Department of Transportation District (Caltrans), proposes to replace the existing Kilburn Road Bridge (Br. No. 38C0168) at Orestimba Creek, approximately 0.3 mile (mi) southeast from the intersection of Crows Landing and Kilburn Roads, near Crows Landing, Stanislaus County, California (Figures 1 through 3). The project would replace the existing two-lane, single-span bridge with a new two-lane, three-span bridge on the same general alignment as the existing bridge. The project has been funded by the Federal Highway Bridge Program (HBP) and the Toll Credit Program, and recently the Federal Moving Ahead for Progress in the 21st Century Program (MAP-21). Caltrans is the lead agency under the National Environmental Policy Act (NEPA). The County is the lead agency under the California Environmental Quality Act (CEQA).

1.1. Project History

1.1.1. PURPOSE AND NEED

The existing bridge, constructed between 1906 and 1910, is a steel Warren Pony Truss bridge with steel truss members that were encased in reinforced concrete in 1918. The existing bridge is single span, approximately 62 feet long by 19.7 feet wide, and carries one lane of traffic. Stop signs on either side of the bridge alternate the travel direction. The existing bridge is currently structurally deficient with a sufficiency rating of 23.4. The reinforced concrete that encases the steel truss members is cracked and spalled at numerous locations. In addition, the existing bridge width of 19.7 feet is severely substandard for two-way traffic. The Kilburn Road Bridge is classified as a historic bridge due to its age and unique construction that combines reinforced concrete and steel truss technologies.

The project would provide a replacement bridge with safer standard shoulder widths and lane widths, a structural capacity to carry modern day truckloads, and a clearance over 50-year water surface elevation. The design and construction of the approach roadway and replacement bridge would be in compliance with County and Caltrans design standards, as well as American Association of State Highway and Transportation Officials (AASHTO) guidelines.

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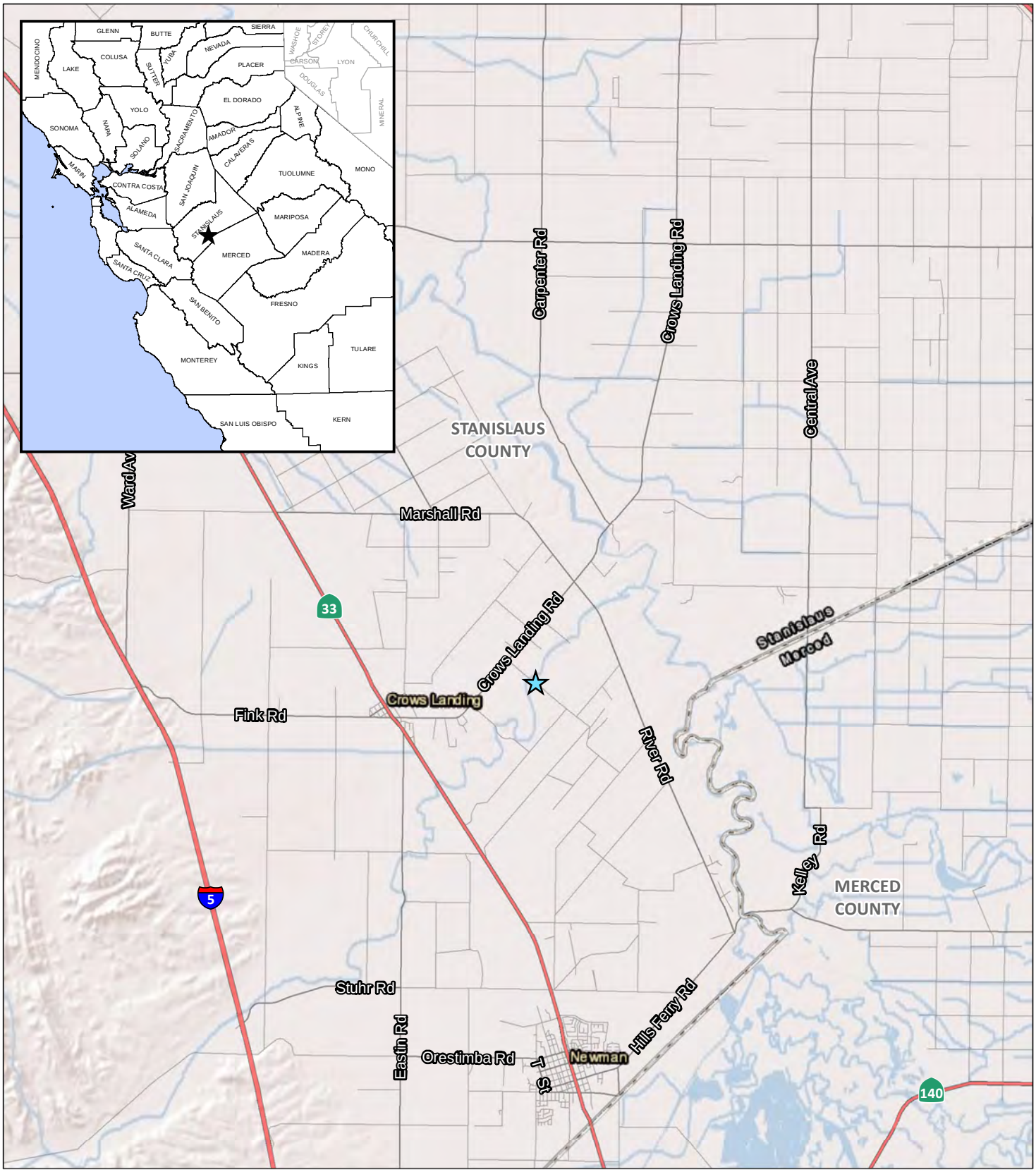

LEGEND

Project Location

FIGURE 1

Kilburn Road Bridge over Orestimba Creek (38C0168)
Replacement Project in Stanislaus County
Caltrans District 10; Federal Aid No. BRLO-5938(157)

Regional Location

0 1 2
MILES

SOURCE: ESRI Imagery (2014)

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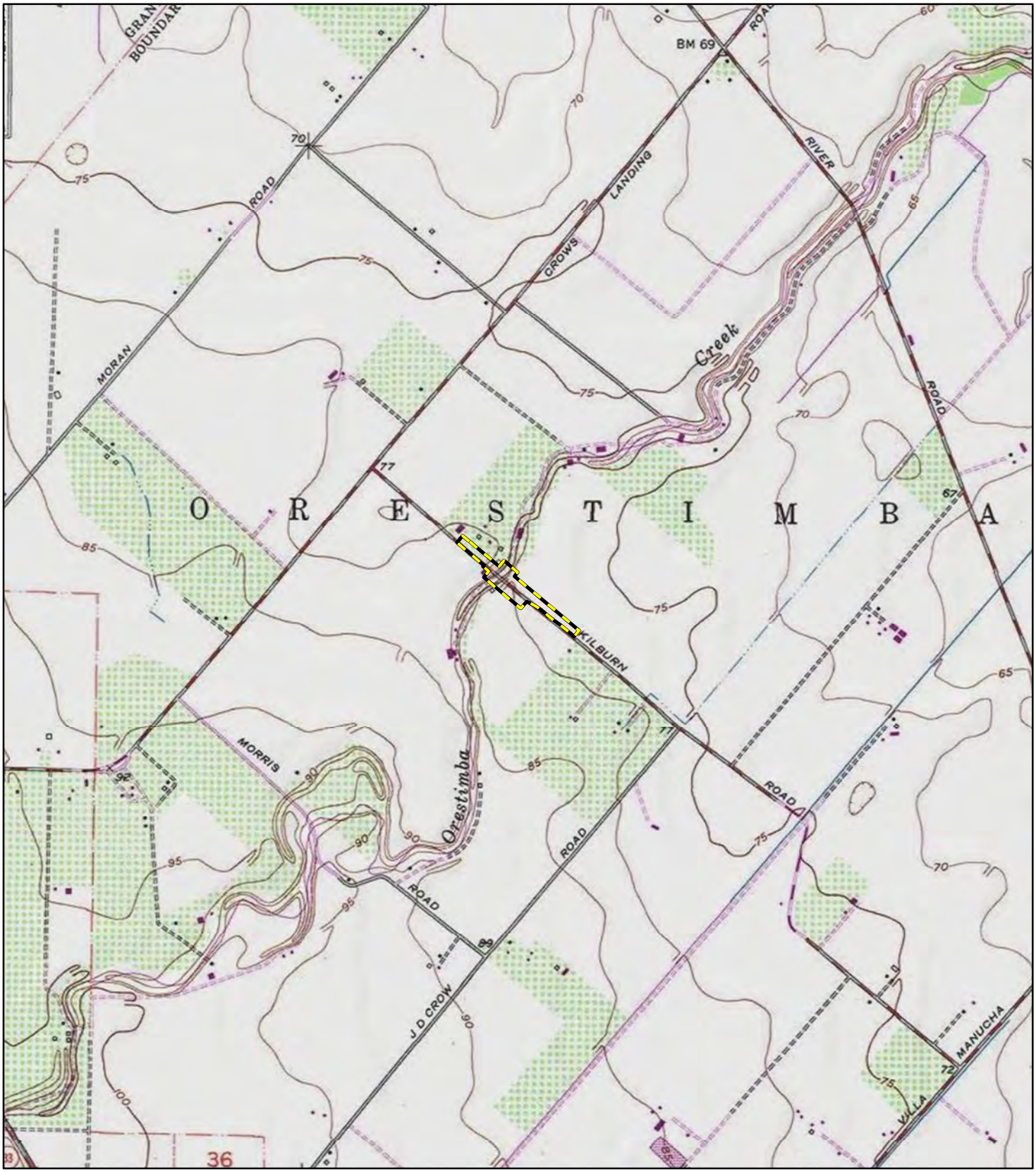

LEGEND

Biological Study Area - (9.89 ac)

FIGURE 2

0 1000 2000

FEET

Kilburn Road Bridge over Orestimba Creek (38C0168)
Replacement Project in Stanislaus County
Caltrans District 10; Federal Aid No. BRLO-5938(157)

Project Vicinity on Topographic Base

SOURCE: USGS 7.5-minute topographic quadrangle Crows Landing, California (1952, 1973 ed.)

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LEGEND

Biological Study Area - (9.89 ac)

FIGURE 3

0 1000 2000

FEET

SOURCE: Stanislaus County Aerial Imagery (04/2017)

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Kilburn Road Bridge over Orestimba Creek (38C0168)
Replacement Project in Stanislaus County
Caltrans District 10; Federal Aid No. BRLO-5938(157)

Project Vicinity on Aerial Base

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The purpose of the project is to:

- Improve overall safety and accessibility by replacing the existing structurally deficient bridge.
- Comply with County, Caltrans, and AASHTO design standards for design and construction of the approach roadway and replacement bridge.
- Accommodate regional and occasional interregional transportation needs including permit loads.

The project is needed because:

- The bridge is structurally deficient with a sufficiency rating of 23.4. (Sufficiency ratings are determined by the Federal Highway Administration Recording and Coding Guide for the Structure Inventory and Appraisal of the Nation's Bridges. Sufficiency ratings range from a low of 0 to a high of 100 and a sufficiency rating of less than 50 qualifies a bridge for replacement).
- The reinforced concrete that encases the steel truss members is cracked and spalled at numerous locations and vehicle weight restrictions have been posted on the bridge.
- The bridge is single span, approximately 62 feet long by 19.7 feet wide, and carries one lane of traffic. The width of the bridge is severely substandard for two-way traffic.

1.2. Project Description

Bridge Type

The official Structure Type Selection Report was submitted to the County on April 12, 2013 and the County selected the three-span reinforced concrete slab bridge for project design. Development of the three-span bridge would result in a smaller superstructure depth (when compared to each proposed alternative) in order to minimize the height of proposed roadway profile. The replacement three-span bridge would be approximately 95 feet long and 34.8 feet wide, accommodating an 11-foot lane and 2-foot shoulder in each direction. Construction of the bridge will involve building piers within the creek channel located approximately 28.5 feet from the abutments and approximately 38 feet apart. Each pier will have four pile/pile extensions consisting of 24-inch diameter cast-in-drilled hole concrete pilings. Project design is shown in Appendix A.

Standard Caltrans Type 732 concrete barriers will be constructed on each side of the bridge.

The channel will be graded, and rock slope protection (RSP) will be placed once the pilings for the new bridge have been installed. The RSP will extend up to approximately 45 feet upstream and 60 feet downstream.

Additionally, the bridge approaches will be raised approximately 2 feet, providing clearance at the new bridge for a 50-year flood. The embankment side slopes will be constructed at a 4:1 ratio. Soils to build the approach embankments will be imported from an offsite location.

Roadway Alignment

With the bridge replacement, Kilburn Road would horizontally be similar to existing while the vertical profile would be revised in order the bridge to clear the 50-year flood water elevation. The roadway approaches would be elevated approximately 3 feet, and the increased elevation would begin approximately 300 feet from the new bridge. Improving the alignment of the bridge and its connections to the tangent stretches of Kilburn Road are necessary to improve road safety. Therefore, the approach roadway alignment would be optimized and improved. The new roadway approaches and new bridge would be constructed on a continuation of the existing straight tangent alignment. Realignment of the roadway profile would require a reconfiguration of the private driveways on both sides of the bridge. This roadway alignment design would provide a safer roadway for the traveling public.

The existing bridge would be removed and then the new bridge constructed while traffic is detoured away from the bridge site.

Retaining Walls

A retaining wall may be constructed on the south side of the eastern roadway approach to the bridge to protect the existing privately-owned water pump system. A slope easement or retaining wall may be required on the north side of the western roadway approach to the bridge.

Utilities

The proposed roadway alignment may require some existing overhead utility poles and an underground communication line to be relocated. The relocated overhead utilities will be placed on new utility poles and the overhead services be routed onto the new utility poles. There may be a short time disruption to the existing utility services while the utilities are transferred from existing utility poles to new utility poles.

Detour

The proposed bridge would be constructed on the same general alignment as the existing bridge; therefore, Kilburn Road will be closed to traffic until construction is complete. A detour along Crows Landing Road, Morris Road, and JT Crow Road would be available to allow for the closure of Kilburn Road while the connection from new to existing roadway is made. Detour travel between the Crows Landing Road / Kilburn Road Intersection and the JT Crow Road/Kilburn Road Intersection would be approximately 1.7 mi for through travelers and just over 2 mi for the residences near the existing Kilburn Road Bridge.

Dewatering

Dewatering activities will be required for construction of the new bridge. Dams will be placed upstream and downstream of the bridge and culverts will allow the flow to continue through the work area. In-water work will be conducted between June 15 and September 30.

Construction

Construction of the project would start in 2021 and be completed within approximately 1 year. The County's proposed schedule has been tied to the availability of HBP funding and the Toll Credit Program, and currently to MAP-21 funding.

Right-of-Way or Temporary Easements

The project would acquire right-of-way or temporary easements from several adjacent parcels. Right-of-way would be acquired along Kilburn Road within portions of Assessor’s Parcel Numbers (APN) 049-007-027; 049-007-026; 049-008-013; 049-011-009; and, 049-012-001. Additionally, a temporary construction easement would be needed in APNs 049-012-001 (a portion of which would be used for construction staging), 049-07-026, 049-07-027, and 049-08-013.

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Chapter 2 – Study Methods

2.1. Regulatory Requirements

2.1.1. SPECIAL STATUS SPECIES

Special status species include plants and animals that are: 1) listed as rare, threatened, or endangered by the United States Fish and Wildlife Service (USFWS) or California Department of Fish and Wildlife (CDFW) under State or federal endangered species acts; 2) on formal lists as candidates for listing as threatened or endangered; 3) on formal lists as species of concern; or 4) otherwise recognized at the State, federal, or local level as sensitive.

2.1.1.1. Federal and California Endangered Species Acts

Under the Federal Endangered Species Act (FESA), it is unlawful to "take any species listed as threatened or endangered". "Take" is defined as to "harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or attempt to engage in any such conduct." An activity is defined as "take" even if it is unintentional or accidental. Take provisions under FESA apply only to listed fish and wildlife species under the jurisdiction of the USFWS and/or the National Oceanic & Atmospheric Administration, National Marine Fisheries Service (NMFS). Consultation with USFWS or NMFS is required if a project "may affect" a listed species.

When a species is listed, the USFWS and/or the NMFS, in most cases, must officially designate specific areas as critical habitat for the species. Consultation with USFWS and/or the NMFS is required for projects that include a federal action or federal funding if the project may affect designated critical habitat.

Under the California Endangered Species Act (CESA), it is unlawful to "take" any species listed as rare, threatened, or endangered. Under CESA, "take" means to "hunt, pursue, catch, capture, or kill, or attempt to hunt, pursue, catch, capture, or kill". CESA take provisions apply to fish, wildlife, and plant species. Take may result whenever activities occur in areas that support a listed species. Consultation with CDFW is required if a project will result in "take" of a listed species.

2.1.1.2. Magnuson-Stevens Fishery Conservation and Management Act

Under the Magnuson-Stevens Fishery Conservation and Management Act (MSA), essential fish habitat (EFH) must be designated in every fishery management plan. EFH includes "…those waters and substrate necessary to fish for spawning, breeding, feeding, or growth to maturity." The MSA requires consultation with NMFS for projects that include a federal action or federal funding and may adversely modify EFH.

2.1.2. WATERS OF THE UNITED STATES AND OTHER JURISDICTIONAL WATERS

2.1.2.1. Army Corps of Engineers

Under Section 404 of the Clean Water Act (CWA), the United States Army Corps of Engineers (USACE) regulates the discharge of dredged or fill material into waters of the United States (U.S.). Waters of the U.S. are those waters that have a connection to interstate commerce, either direct via a tributary system or indirect through a nexus identified in the USACE regulations. In non-tidal waters, the lateral limit of jurisdiction under Section 404 extends to the ordinary high water mark (OHWM) of a waterbody or, where adjacent wetlands are present, beyond the OHWM to the limit of the wetlands. The OHWM is defined as "that line on the shore established by the fluctuations of water and indicated by physical characteristics such as a clear natural line impressed on the bank, shelving, changes in the character of the soil, destruction of terrestrial vegetation, the presence of litter and debris, or other appropriate means that consider the characteristics of the surrounding area" (33 CFR 328.3). In tidal waters, the lateral limit of jurisdiction extends to the high tide line or, where adjacent wetlands are present, to the limit of the wetlands.

Wetlands

Wetlands are defined as "those areas that are inundated or saturated by surface or ground water at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for a life in saturated soil conditions".

Non-wetland Waters

Non-wetland waters essentially include any body of water, not otherwise exempted, that displays an OHWM.

2.1.2.2. Regional Water Quality Control Board

Under Section 401 of the CWA, the State Water Resources Control Board must certify all activities requiring a 404 permit. The Regional Water Quality Control Board (RWQCB) regulates these activities and issues water quality certifications for those activities requiring a 404 permit. In addition, the RWQCB has authority to regulate the discharge of "waste" into waters of the State pursuant to the Porter-Cologne Water Quality Control Act (PCWQCA).

2.1.2.3. California Department of Fish and Wildlife

CDFW, through provisions of Section 1602 of the California Fish and Game Code, is empowered to issue agreements for any alteration of a river, stream, or lake where fish or wildlife resources may be substantially adversely affected. Streams (and rivers) are defined by the presence of a channel bed and banks, and at least an ephemeral or intermittent flow of water. CDFW regulates wetland areas only to the extent that those wetlands are part of a river, stream, or lake as defined by CDFW.

CDFW generally includes, within the jurisdictional limits of streams and lakes, any riparian habitat present. Riparian habitat includes willows, cottonwoods, and other vegetation typically associated with the banks of a stream or lake shoreline. In most situations, wetlands associated with a stream or lake would fall within the limits of riparian habitat. Thus, defining the limits of CDFW jurisdiction based on riparian habitat will automatically include any wetland areas. Riparian communities may not fall under USACE jurisdiction unless they are below the OHWM or classified as wetlands.

2.1.2.4. Executive Order (EO) 11990: Protection of Wetlands

EO 11990 mandates leadership on the part of federal agencies to reduce loss and degradation of wetlands and to preserve and enhance the beneficial values and functions of wetlands. Each federal agency “shall avoid undertaking or providing assistance for new construction located in wetlands unless the head of the agency finds that (1) there is no practicable alternative to such construction, and (2) that the proposed action includes all practicable measures to minimize harm to wetlands which may result from such use.”

2.1.3. MIGRATORY BIRD TREATY ACT

The Migratory Bird Treaty Act (MBTA) prohibits affirmative and purposeful actions that will result in “take” of migratory birds, their eggs, feathers, or nests. “Take” is defined in the MBTA as any means or any manner to hunt, pursue, wound, kill, possess, or transport, any migratory bird, nest, egg, or part thereof.

Migratory birds are also protected, as defined in the MBTA, under Section 3513 of the California Fish and Game Code.

2.1.4. CALIFORNIA FISH AND GAME CODE (BREEDING BIRDS)

Section 3503 of the California Fish and Game Code prohibits the take, possession, or needless destruction of the nest or eggs of any bird, except as otherwise provided by the California Fish and Game Code or other regulation.

2.1.5. EXECUTIVE ORDER 13112: INVASIVE SPECIES

Under EO 13112, an invasive species is defined as “an alien species (a species not native to a particular ecosystem) whose introduction does or is likely to cause economic and environmental harm or harm to human health”. Invasive species are determined by the Invasive Species Council.

In addition to other mandates, EO 13112 mandates federal agencies whose actions may affect the status of invasive species to “not authorize, fund, or carry out actions that it believes are likely to cause or promote the introduction or spread of invasive species”.

2.2. Studies Required

Prior to conducting any field studies, the limits of the BSA were established, as shown in Figure 4. The BSA, totaling approximately 9.89 acres (ac), consists of the project footprint, existing roadways, and access and staging areas. The BSA also includes lands beyond the footprint that could potentially be affected by project construction and/or were determined necessary to inventory in order to perform an adequate analysis of project impacts.

The studies required to fully document the environmental conditions of the BSA included a literature review, a general biological survey, vegetation mapping, a valley elderberry longhorn beetle (VELB) habitat assessment, a jurisdictional waters delineation, and a tree inventory.

2.2.1. LITERATURE REVIEW

A list of sensitive wildlife and plant species, and habitats of concern, potentially occurring within the BSA and vicinity was compiled to evaluate potential impacts resulting from project construction. Sources used to compile the list include the California Natural Diversity Data Base (CNDDB 2020), the USFWS IPaC Trust Resources Report (USFWS 2020)[1], California Native Plant Society (CNPS) Online Inventory (2020), and the NMFS Google Earth Species list (2020). For the CNDDB, CNPS, and NMFS lists, records were reviewed for the following United States Geological Survey (USGS) 7.5-minute quadrangles: Crow’s Landing, Brush Lake, Ceres, Gustine, Hatch, Newman, and Westley. Two quadrangles, Patterson and Orestimba Peak, were eliminated from the typical nine-quadrangle search, as both quadrangles extend into Coast Range foothills habitat, which is not representative of the habitats within the BSA.

All lists are included in Appendix B.

[1] The USFWS list was generated using the BSA limits, as the IPaC website does not allow queries by quadrangle.

LEGEND

Biological Study Area - (9.89 ac)

Project Design

0 75 150

FEET

SOURCE: Stanislaus County Aerial Imagery (04/2017)

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FIGURE 4

Kilburn Road Bridge over Orestimba Creek (38C0168)
Replacement Project in Stanislaus County
Caltrans District 10; Federal Aid No. BRLO-5938(157)

Biological Study Area and Project Design

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The determination of whether a species could potentially occur within the BSA was based on the availability of suitable habitat within the species' known range, as well as known occurrences of the species in or adjacent to the BSA (per CNDDB records). Species requiring specific habitat not present in the vicinity of the project (e.g., vernal pools) were eliminated as potentially occurring and are not discussed further. Those species that could potentially occur in the BSA from a habitat suitability standpoint are discussed in Sections 4.2 and 4.3.

2.2.2. FIELD SURVEYS

2.2.2.1. General Biological Survey/Vegetation Mapping

A general biological survey of the BSA was conducted by LSA biologists Mike Trueblood and Laura Belt on July 24, 2012 and January 31, 2013 and by LSA biologist Anna Van Zuuk on November 17, 2017. Naturally occurring vegetation in the BSA was classified according to *A Manual of California Vegetation, Second Edition* (Sawyer, Keeler-Wolf, and Evans 2008), as appropriate. Managed or developed areas were classified according to their dominant plant species. The names of the plant species are consistent with *The Jepson Manual: Vascular Plants of California, Second Edition* (Baldwin, B. G., et. al., editors 2012) and the Jepson Online Interchange for California Floristics (Jepson eFlora 2018).

Wildlife species observed during the survey were identified and recorded. During this survey, the BSA was also surveyed for potential habitat to support special status plants.

2.2.2.2. VELB Habitat Assessment

LSA biologists Laura Belt and Mike Trueblood conducted inventory surveys for blue elderberry (*Sambucus nigra* ssp. *caerulea*) on July 24, 2012 and January 31, 2013 in accordance with the USFWS *Conservation Guidelines for the Valley Elderberry Longhorn Beetle*, dated July 1999. All lands within the BSA and a 100-foot (ft) radius of proposed ground disturbance were surveyed for presence of blue elderberry, the obligate host plant for the VELB.

Since this initial habitat assessment was conducted, the USFWS released new VELB guidelines entitled *Framework for Assessing Impacts to the Valley Elderberry Longhorn Beetle* (USFWS 2017). The new guidelines include surveying a 165 ft radius from proposed ground disturbance. The follow-up VELB habitat assessment conducted by LSA biologist Anna Van Zuuk on November 17, 2017 adhered to the guidelines set forth in this 2017 Framework.

2.2.2.3. Potential Jurisdictional Waters Determination and Delineation

Potential waters of the U.S. in the BSA were delineated in accordance with the 1987 USACE Wetland Delineation Manual, the September 2008 Regional Supplement - Arid West Region, and the USACE Regulatory Guidance Letter 08-02 regarding Preliminary Jurisdictional Delineations (June 2008).

LSA biologist Mike Trueblood conducted a preliminary jurisdictional delineation on July 24, 2012. A follow-up survey was conducted by LSA biologist Anna Van Zuuk on November 17, 2017 to confirm that conditions on site had not been significantly altered since the 2012 delineation. Both field investigations were conducted in accordance with the USACE Routine Approach for small areas (i.e., equal to or less than 5 ac), as described in the USACE Manual. Data was collected for soils, hydrology, and vegetation where necessary to determine the extent of potential waters of the U.S. The Preliminary Jurisdictional Delineation is included in Appendix C. The limits of CDFW jurisdiction were also delineated.

2.2.2.4. Tree Inventory

LSA biologists Laura Belt and Mike Trueblood conducted a tree inventory on July 24, 2012. A follow-up tree inventory was conducted by LSA biologist Anna Van Zuuk on November 17, 2017, during which new measurements were taken of all the trees which had been documented within the stream channel during the 2012 inventory. The updated tree inventory is included in Appendix D.

2.2.3. PERSONNEL AND SURVEY DATES

Table 1 provides the dates and personnel for the field surveys performed in the BSA.

Table 1: Survey Dates and Personnel

Date	Personnel	Task
July 24, 2012	L. Belt and M. Trueblood	General biological survey, vegetation mapping, VELB habitat assessment, jurisdictional waters delineation, and tree inventory.
January 31, 2013	L. Belt and M. Trueblood	VELB habitat assessment.
November 17, 2017	A. Van Zuuk	Updates to general biological survey, vegetation mapping, VELB follow-up survey, jurisdictional waters delineation, and follow-up tree inventory.

2.2.4. AGENCY COORDINATION AND PROFESSIONAL CONTACTS

A meeting was held on March 15, 2013 with Caltrans, the County, LSA, NMFS, and David Evans and Associates, Inc. to discuss potential impacts to Central Valley steelhead. NMFS determined that informal consultation would be sufficient due to the low probability that this species will be present during construction. Meeting minutes are included in Appendix E.

Current species lists were obtained for the project from USFWS and NMFS, as described in Section 2.2.1. The lists are included in Appendix B.

2.2.5. LIMITATIONS THAT MAY INFLUENCE RESULTS

Access to some of the elderberry plants was limited due to dense vegetation around and within the elderberry shrubs. Therefore, the biologists were unable to thoroughly search all the plants for VELB exit holes.

No additional problems or limitations were encountered during the research, fieldwork, or document preparation that influenced the results presented herein.

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Chapter 3 – Results: Environmental Setting

3.1. Description of the Existing Physical and Biological Conditions

3.1.1. BIOLOGICAL STUDY AREA

The BSA, totaling approximately 9.89 ac, is located in the central San Joaquin Valley in southwestern Stanislaus County, approximately 2 mi northeast of the town of Crow's Landing. The project is located in the 7.5-Minute USGS Crow's Landing quadrangle, Township 6 South, Ranges 8 and 9 East, in Sections 19 and 24.

3.1.2. PHYSICAL CONDITIONS

The BSA lies in the central San Joaquin Valley, which is characterized by large, flat areas of agricultural farmland. The majority of the land in the area is privately owned and appears to be similar to the BSA in use and vegetative characteristics.

Kilburn Road runs generally northwest to southeast through the BSA and consists of a two-lane asphalt roadway. The existing crossing over Orestimba Creek is a two-lane single span bridge.

Orestimba Creek is a perennial stream that originates from the Coast Range Mountains to the southwest. Within the BSA, Orestimba Creek flows from southwest to northeast and supports an established riparian corridor. Downstream of Kilburn Road, Orestimba Creek meanders through farmlands before draining into the San Joaquin River approximately 3 mi to the north.

The terrain in the BSA is flat and at an elevation of approximately 80-90 ft. The surrounding terrain in the vicinity of the BSA is similar, generally consisting of rural agricultural lands. The dominant vegetation communities in the BSA generally consist of disturbed communities including orchards, row crops, and ruderal/disturbed areas. However, an established riparian corridor associated with Orestimba Creek is also present. Developed areas within the BSA, totaling 1.93 ac, consist of Kilburn Road and driveways to private residences. Primary land uses in the immediate vicinity are rural residences, agricultural fields, and orchards.

Representative photos of the BSA are attached as Appendix F.

3.1.3. BIOLOGICAL CONDITIONS IN THE BIOLOGICAL STUDY AREA

3.1.3.1. Natural Communities

The majority of the BSA, totaling 9.89 ac, consists of orchards, ruderal areas or developed areas; however, three natural communities (Black Walnut – Valley Oak Riparian, Riverine, and Fringe Wetlands) are present in limited quantities. These natural communities are limited to the confines of the Orestimba Creek corridor, which extends through the center of the BSA. These three communities comprise approximately 1.14 ac of the BSA, as summarized in Table 2. Natural communities and other land uses in the BSA are shown in Figure 5.

Table 2: Natural Communities and Land Uses in the BSA (acres)

Community/Land Use	Acres
Natural Communities	
Black Walnut – Valley Oak Riparian	0.86
Riverine	0.11
Fringe Wetlands	0.17
Subtotal Natural Communities	***1.14***
Land Uses	
Orchards	5.77
Ruderal	1.05
Developed	1.93
Subtotal Land Uses	***8.75***
Total	**9.89**

LEGEND

- Biological Study Area - (9.89 ac)

Natural Communities / Land Uses - (9.89 ac)

- Riverine - (0.11 ac)
- Fringe Wetlands - (0.17 ac)
- Black Walnut and Valley Oak Riparian - (0.86 ac)
- Orchard - (5.77 ac)
- Ruderal - (1.05 ac)
- Developed - (1.93 ac)

0 75 150
FEET

SOURCE: Vivid Maxnar Aerial Imagery (04/2019); Mapping - LSA (2020)

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FIGURE 5

Kilburn Road Bridge over Orestimba Creek (38C0168)
Replacement Project in Stanislaus County
Caltrans District 10; Federal Aid No. BRLO-5938(157)

Natural Communities / Land Uses

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Black Walnut – Valley Oak Riparian

There is no single community classification in Sawyer, Keeler-Wolf, and Evans (2008) that describes co-dominant black walnut and valley oak riparian community. Therefore, the northern California black walnut grove and valley oak woodland communities have been combined into a single community (black walnut – valley oak riparian) to more accurately document the habitat observed in the BSA.

The black walnut – valley oak riparian habitat, totaling 0.86 ac, is associated with Orestimba Creek, which flows through the central portion of the BSA. This community is co-dominated by northern California black walnut (*Juglans hindsii*) and valley oak (*Quercus lobata*). Other representative species present within this community include Fremont cottonwood (*Populus fremontii* ssp. *fremontii*), red willow (*Salix laevigata*), arroyo willow (*S. lasiolepis*), blue elderberry, and California buckeye (*Aesculus californica*). The riparian understory in the BSA is relatively sparse with areas of Virginia creeper (*Parthenocissus quinquefolia*), giant reed, Himalayan blackberry, and California mugwort (*Artemisia douglasiana*), which are present in limited quantities.

Riverine

Riverine consists of largely unvegetated, open water areas. The riverine community in the BSA, totaling 0.11 ac, is limited to the Orestimba Creek channel. Aquatic resources are fully described in Section 3.1.3.5.

Fringe Wetlands

Fringe wetlands are limited to the banks of Orestimba Creek above the low-flow channel. The fringe wetlands community in the BSA totals 0.17 ac. Dominant wetland species include giant reed, rice cutgrass (*Leersia oryzoides*), knotweed (*Polygonum aviculare* ssp. *depressum*), and arroyo willow. Aquatic resources are fully described in Section 3.1.3.5.

3.1.3.2. Land Uses

Orchards

Orchards are agricultural lands that are intensely managed and are therefore not considered a natural community. Approximately 5.77 ac of orchards occur in the BSA and consist of almonds (*Prunus dulcis*) and English walnuts (*Juglans regia*). This community extends the length of the BSA on both sides of Kilburn Road.

Ruderal

Ruderal areas, totaling 1.05 ac, occur between the edge of a walnut orchard and the black walnut – valley oak riparian community south of the Kilburn Road Bridge. Ruderal areas are relatively unvegetated and consist of pockets of non-native species that colonize and quickly establish in poor soil and disturbed or waste areas. They generally have fast-growing roots, low nutritional needs, and produce massive amounts of seed. Ruderal species observed in the BSA include puncture vine (*Tribulus terrestris*), wild oat (*Avena fatua*), ripgut brome (*Bromus diandrus*), field bindweed (*Convolvulus arvensis*), milk thistle (*Silybum marianum*), prostrate knotweed (*Polygonum aviculare*), and spotted spurge (*Euphorbia maculata*).

Developed

In the BSA, developed land, totaling 1.93 ac, consists of Kilburn Road, private driveways, and a parking area in front of a residence west of the bridge.

3.1.3.3. Description of Common Animal Species

The sections below discuss animal species observed and/or likely to occur within the BSA.

Mammals

No mammal species were observed in the BSA during field surveys, however signs of bats (e.g., guano droppings and urine staining on the bridge) and tracks of gray fox (*Urocyon cinereoargenteus*), raccoon (*Procyon lotor*), and Virginia opossum (*Didelphis virginiana*) were observed in the BSA. Other common mammal species likely to occur in the BSA include: coyote (*Canis latrans*), striped skunk (*Mephitis mephitis*), and California ground squirrel (*Otospermophilus beecheyi*).

Birds

Birds observed in the BSA during field surveys include California scrub-jay (*Aphelocoma californica*), wrentit (*Chamaea fasciata*), northern flicker (*Colaptes auratus*), American crow (*Corvus brachyrhynchos*), bushtit (*Psaltriparus minimus*), Bewick's wren (*Thryomanes bewickii*), American robin (*Turdus migratorius*), and mourning dove (*Zenaida macroura*). Common bird species likely to occur in the BSA include: California quail (*Callipepla californica*), lesser goldfinch (*Spinus psaltria*), killdeer (*Charadrius vociferous*), rock pigeon (*Columba livia*), Brewer's blackbird (*Euphagus cyanocephalus*), barn swallow (*Hirundo rustica*), wild turkey (*Meleagris gallopavo*), northern mockingbird (*Mimus polyglottos*), house sparrow (*Passer domesticus*), cliff swallow (*Petrochelidon pyrrhonota*), California towhee (*Melozone crissalis*), spotted towhee (*Pipilo maculatus*),

black phoebe (*Sayornis nigricans*), white breasted nuthatch (*Sitta carolinensis*), and European starling (*Sturnus vulgaris*).

Amphibians and Reptiles

No amphibian species were observed in the BSA during field surveys. Common amphibian species likely to occur in the BSA include: American bullfrog (*Lithobates catesbeianus*), Pacific chorus frog (*Pseudacris sierra*), and California toad (*Anaxyrus boreas halophilus*).

No reptile species were observed in the BSA during field surveys. Common reptile species likely to occur in the BSA include: western fence lizard (*Sceloporus occidentalis*), California kingsnake (*Lampropeltis californiae*), Pacific gopher snake (*Pituophis catenifer catenifer*), and common garter snake (*Thamnophis sirtalis fitchi*).

3.1.3.4. Migration Corridors

Wildlife movement corridors are linear habitats that function to connect two or more areas of significant wildlife habitat. These corridors may function on a local level as links between small habitat patches (e.g., streams in urban settings) or may provide critical connections between regionally significant habitats (e.g., deer movement corridors). Wildlife corridors typically include vegetation and topography that facilitate the movements of wild animals from one area of suitable habitat to another in order to fulfill foraging, breeding, and territorial needs. These corridors often provide cover and protection from predators that may be lacking in surrounding habitats. Wildlife corridors generally include riparian zones and similar linear expanses of contiguous habitat.

No established migration corridors occur within the BSA. However, Orestimba Creek and the associated riparian corridor provide a potential east – west movement corridor for smaller species of wildlife in the local vicinity.

3.1.3.5. Aquatic Resources

Aquatic resources in the BSA consist of Orestimba Creek and its associated riparian corridor. Orestimba Creek is a perennial stream that originates in the Coast Range Mountains to the southwest. Downstream of the BSA, Orestimba Creek meanders through farmlands of the central San Joaquin Valley before draining into the San Joaquin River approximately 3 mi to the north.

The reach of Orestimba Creek within the BSA is a low-gradient stream with steep banks consisting of a series of riffles and glides, with occasional small pools approximately 12-24 in deep. The bed is composed of large cobbles and sand. The OHWM ranges from approximately 25-30 ft; the low-flow channel (in November 2017) was approximately 10 ft wide. Indicators used to determine the limits of the OHWM included

scour marks along the incised banks of channel, watermarks, vegetative drift deposits, and general topography of the area. The banks of the creek support a narrow but well-established riparian corridor.

Potential wetlands in the BSA are limited to the banks of Orestimba Creek above the low-flow channel. Dominant hydrophytic species present in the BSA include giant reed, rice cutgrass, knotweed, and arroyo willow. Other hydrophytic species present in limited quantities include nutsedge (*Cyperus eragrostis*), California mugwort, annual rabbitsfoot grass (*Polypogon monspeliensis*), and Himalayan blackberry. Therefore, these areas meet the USACE vegetation criterion for wetlands.

Soils in the potential wetland areas consisted of sandy loam with a Munsell Moist soil color of 10YR 3/1, 3/2 with fairly dense concentrations, approximately 20-30 percent, of redoxomorphic features in the matrix of 7.5YR 3/3, 3/4. These locations met the requirements of the Redox Dark Surface indicator for hydric soils, thus meeting the USACE hydric soils criterion for wetlands.

The soils were either inundated or saturated during the field surveys; both inundation and saturation are primary hydrology indicators. Based on the presence of these indicators, among others, it is reasonable to presume that these areas are typically inundated and/or saturated during the growing season, thus meeting the minimum USACE hydrology criterion for wetlands.

Areas within the OHWM that do not support wetlands (i.e., the unvegetated low-flow channel) were determined to be non-wetland waters.

As noted in Section 2.2.2, data collection occurred on July 24, 2012 and November 17, 2017; a preliminary delineation of potential waters of the U.S. is included in Appendix C. Figure 6 shows the potential jurisdictional waters in the BSA, which are also summarized below in Table 3.

Table 3: Potential Jurisdictional Waters in the BSA (acres)

Type	Area
Potential Waters of the U.S.	
Wetlands	**0.17**
Non-Wetland Waters	**0.11**
Total	**0.28**
CDFW 1602 Waters[1]	**1.14**

[1] CDFW 1602 Waters include Orestimba Creek and adjacent riparian areas.

LEGEND

- Biological Study Area - (9.89 ac)
- Data Point
- CDFW 1602 Waters - (1.14 ac)

Potential Jurisdictional Waters of the U.S. - (0.28 ac)

- Wetlands - (0.17 ac)
- Non-Wetland Waters - (0.11 ac)

0 75 150
FEET

SOURCE: Stanislaus County Aerial Imagery (04/2017); Mapping - LSA (11/2017)

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FIGURE 6

Kilburn Road Bridge over Orestimba Creek (38C0168)
Replacement Project in Stanislaus County
Caltrans District 10; Federal Aid No. BRLO-5938(157)

Potential Jurisdictional Waters of the U.S.

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The aquatic resources within the BSA described above are expected to be under the jurisdiction of USACE, RWQCB, and CDFW.

3.1.3.6. Invasive Species

Many non-native species have been part of the California landscape for the past 150 years. The California Invasive Plant Council ranks species based on their impacts to ecological processes, plant and animal communities, vegetation structure, and their ability to disperse and establish. Some of these introduced species are considered highly invasive, such as giant reed and Himalayan blackberry, while other species are moderately invasive, such as ripgut brome, tree of heaven (*Ailanthus altissima*), and wild oat. Giant reed ("High" invasive rating) was observed in both the upstream and downstream extents of Orestimba Creek, consisting of well-established dense stands. Himalayan blackberry ("Moderate" invasive rating) was also observed along the banks of the Orestimba Creek riparian corridor. Species considered highly invasive have severe ecological impacts on physical processes, plant and animal communities, and vegetation structure with moderate to high rates of dispersal and establishment. Some introduced species vary in their level of invasiveness, and within the BSA there was a variety of non-native invasive grasses, shrubs, and vines. These invasive species may have minor effects on the landscape but are not known to cause substantial impacts that would require eradication.

3.2. Regional Species and Habitats of Concern

Table 4 provides a list of special status species and habitats of concern that could potentially occur in the region, and therefore in the BSA; this list was compiled as described in Section 2.2.1.

The specific habitats required by each species listed in Table 4 was reviewed in conjunction with the specific habitats and habitat conditions present in the BSA. Based on this evaluation, the potential for the species listed in Table 4 to occur in the BSA was determined. Special status species and habitats of concern that were observed, or determined to potentially occur in the BSA based on availability of suitable habitat or other factors such as plucking posts, scat, nests, dens, etc., are discussed more fully in Sections 4.1 through 4.3 of this report. Species determined unlikely to occur in the BSA based on these same factors are documented accordingly in the table and not discussed further.

Absent from Table 4 are two invertebrate species that have no special status but appear on the lists: obscure bumble bee (*Bombus caligninosus*) and Crotch bumble bee (*B. crotchii*). Since these species have no special status and there is little to no information available about them, they are not included in the table.

Table 4: Special Status Species Potentially Occurring in the Kilburn Road Bridge Replacement at Orestimba Creek Biological Study Area

Scientific Name	Common Name	Status	Habitat Requirements	Habitat Present/ Absent	Rationale[1]
Natural Communities of Special Concern					
----	Cismontane Alkali Marsh	----	Dominant plant species typically includes bulrush (*Scirpus* sp.) or cattail (*Typha* sp.) in perennially flooded habitats on alkali soils.	A	This community is not present in the BSA.
----	Coastal and Valley Freshwater Marsh	----	Dominant plant species typically includes bulrush or cattail in perennially flooded habitats.	A	This community is not present in the BSA.
----	Great Valley Oak Riparian Forest	----	Dominant plant species is valley oak; often associated with box elder (*Acer negundo*), alder (*Alnus* sp.), black walnut, and Oregon ash (*Fraxinus latifolia*). Occurs adjacent to perennial or strongly intermittent natural drainage features.	P	This community is present in the BSA, associated with the California black walnut community. See discussion in Section 4.1.1.
----	Sycamore Alluvial Woodland	----	Dominant plant species is California sycamore (*Platanus racemosa*); often associated with alder, black walnut, and valley oak. Typically occurs near natural drainage features.	A	This community is not present in the BSA.
----	Valley Sacaton Grassland	----	Dominant plant species is alkali sacaton (*Sporobolus airoides*); often associated with beardless wild rye (*Elymus triticoides*), one-sided bluegrass (*Poa secunda*), and rabbitbrush (*Chrysothamnus* sp.).	A	This community is not present in the BSA.
----	Valley Sink Scrub	----	Dominant plant species are typically bush seepweed (*Suaeda nigra*) and iodine bush (*Allenrolfea occidentalis*); often associated with alkali sacaton, greasewood (*Sarcobatus vermiculatus*), and alkali heath (*Frankenia salina*).	A	This community is not present in the BSA.

Scientific Name	Common Name	Status	Habitat Requirements	Habitat Present/ Absent	Rationale[1]
Mammals					
Antrozous pallidus	pallid bat	CSC	Found in variety of habitats, including grassland, chaparral, woodland, and forest. Most common in open, dry habitats with rocky areas for roosting. Roosts in caves, crevices, mines, hollow trees, buildings.	HP	The BSA provides foraging habitat and may provide roosting habitat for bats. The nearest CNDDB occurrence of this species is from approximately 4.5 mi southeast of the BSA near the confluence of the Merced River and the San Joaquin River. See discussion in Section 4.3.1.
Corynorhinus townsendii	Townsend's big-eared bat	CSC	Occurs in a variety of habitats including valley oak savannah, riparian forest, and prairie. Roosts in caves, tunnels, buildings, mines, or other human-made structures, such as bridges. Requires roosting, maternity sites free from human disturbance.	HP	The BSA provides suitable foraging habitat and may provide roosting habitat for this species. The nearest CNDDB occurrence of this species is from approximately 17 mi northeast of the BSA along the Tuolumne River just east of Modesto. See discussion in Section 4.3.1.
Dipodomys nitratoides exilis	Fresno kangaroo rat	FE, SE	Found mainly in Merced, Madera, and Fresno Counties in grassland, chenopod scrub, and alkali sink communities.	A	No suitable habitat present for this species within the BSA. The BSA is also outside the range of this species.
Lasiurus blossevillii	western red bat	CSC	Roosts primarily in foliage of trees, 2 – 40 ft. above the ground. Feeds over a wide variety of habitats including grasslands, shrub land, open woodland, and croplands.	HP	The BSA provides foraging habitat and may provide roosting habitat for bats. The nearest CNDDB occurrence of this species is from approximately 4.5 mi southeast of the BSA near the confluence of the Merced River and the San Joaquin River. See discussion in Section 4.3.1.
Lasiurus cinereus	hoary bat	CA SA	Found in open habitats or habitat mosaics, with access to trees for cover and open areas or habitat edges for feeding. Roosts in dense foliage of medium to large trees.	HP	The BSA provides foraging habitat and may provide roosting habitat for bats. The nearest CNDDB occurrence of this species is from approximately 4.5 mi southeast of the BSA near the confluence of the Merced River and the San Joaquin River. See discussion in Section 4.3.1.

Scientific Name	Common Name	Status	Habitat Requirements	Habitat Present/ Absent	Rationale[1]
Myotis yumanensis	Yuma myotis	CA SA	Found in a variety of habitats, especially open forests and woodlands, near permanent sources of water. Roosts in bridges, buildings, cliff crevices, caves, mines, and trees.	HP	The BSA provides foraging habitat and may provide roosting habitat for bats. The nearest CNDDB occurrence of this species is from approximately 4.5 mi southeast of the BSA near the confluence of the Merced River and the San Joaquin River. See discussion in Section 4.3.1.
Perognathus inornatus	San Joaquin pocket mouse	CA SA	Typically found in dry open grasslands and scrub areas on fine textured, friable soils in the Central and Salinas Valleys.	A	No suitable habitat (grasslands) for this species occurs within the BSA.
Sylvilagus bachmani riparius	riparian brush rabbit	FE, SE	This species inhabits dense areas of Valley riparian forests with thickets of rose and blackberry. Grazing includes grasses and forbs, always near cover. The only remaining population occurs in the Caswell Memorial State Park along the Stanislaus River at the San Joaquin/Stanislaus Counties border.	A	No suitable habitat is present; the BSA is out of range for this species.
Taxidea taxus	American badger	CSC	Occurs throughout California and the United States. Primary habitat requirements seem to be sufficient food and friable soils in relatively open uncultivated ground in grasslands, woodlands, and desert.	A	No suitable habitat present. No signs of badger use or burrows of suitable size present.
Vulpes macrotis mutica	San Joaquin kit fox	FE, ST	Annual grasslands or grassy open stages with scattered vegetation; need loose-textured soils for burrowing and a suitable prey base.	A	No suitable habitat present within the BSA. There are no open grassy areas in or in the vicinity of the BSA. The croplands and orchards in the BSA do not constitute suitable habitat for this species. In addition, there are five documented occurrences within a 10-mile radius of the BSA; the nearest documented occurrence is at the Kesterson Reservoir approximately 9 miles south of the BSA in 1986. The other occurrences are concentrated in the Coast Range foothills, which are not

Scientific Name	Common Name	Status	Habitat Requirements	Habitat Present/ Absent	Rationale[1]
					representative of the habitat in the BSA. Due to the fact the BSA lacks recent documented occurrences and because the species was not detected during the 2012, 2013, and 2017 surveys, the species is presumed absent. The project will have No Effect on San Joaquin kit fox.
Birds					
Agelaius tricolor	tricolored blackbird	ST (nesting)	Nests in freshwater marshes with tules or cattails, or in other dense vegetation such as thistle, blackberry thickets, etc. in close proximity to open water. Forages in a variety of habitats including pastures, agricultural fields, rice fields, and feedlots.	A	Agricultural crops provide suitable foraging habitat for this species, however, the riparian vegetation associated with Orestimba Creek in the BSA does not provide suitable nesting habitat for this species and no other nesting habitat is located nearby. Therefore, this species is not expected to occur in the BSA.
Aquila chrysaetos	golden eagle	CFP	Inhabits rolling foothills, mountain areas, sage-juniper flats, shrub lands, grasslands, farmland, riparian and desert.	A	No suitable habitat present. This species could potentially be observed flying over the BSA but would not utilize the habitats present.
Ardea herodias	great blue heron	CA SA (nesting)	Colonial nester in large trees, cliffsides, and sequestered spots on marshes. Rookery sites in close proximity to foraging areas: marshes, lake margins, tide-flats, rivers and streams, wet meadows.	A (Rookery sites)	Special status only applies to rookery sites. No suitable rookery sites occur within the BSA.
Athene cunicularia	burrowing owl	CSC	Burrow sites in open, dry annual or perennial grasslands, deserts, and scrublands characterized by low-growing vegetation. Subterranean nester, dependent upon burrowing mammals, most notably, California ground squirrel.	A	No open grassland areas are present in the BSA or vicinity and no suitable burrows were observed during field investigations. This species is not expected to occur in the BSA.

Scientific Name	Common Name	Status	Habitat Requirements	Habitat Present/ Absent	Rationale[1]
Branta hutchinsii leucopareia	Aleutian cackling goose	CA SA	Winters on lakes and inland prairies. Winter foraging areas consists mostly of agricultural land such as flooded rice fields, pastures and crop stubble.	A	This species would only potentially occur in the BSA during the winter; however, no suitable habitat is present.
Buteo swainsoni	Swainson's hawk	ST	Breeds in stands with few trees in juniper-sage flats, riparian areas, and oak savannahs. Requires adjacent suitable foraging areas such as grasslands, or alfalfa or grain fields supporting rodent populations.	HP	BSA provides potential nesting habitat along the edges of the Orestimba Creek riparian corridor. Multiple CNDDB occurrences of this species are present within 2 mi of the BSA from along the San Joaquin River. See discussion in Section 4.3.2.
Egretta thula	snowy egret	CA SA (nesting)	Locally common in the Central Valley all year. Feeds in shallow water or along shores of wetlands or aquatic habitats. Nests in protected beds of dense tules.	A (Rookery Sites)	Special status only applies to rookery sites. No suitable rookery sites occur within the BSA.
Eremophila alpestris actia	California horned lark	SWL	Coastal regions and in the main part of the San Joaquin Valley and east to the foothills. Found in open habitats, usually where trees and large shrubs are absent: short-grass prairie, bald hills, mountain meadows, open coastal plains, fallow grain fields, and alkali flats.	A	Managed orchards and dense riparian vegetation in the BSA do not provide suitable habitat for this species.
Falco mexicanus	prairie falcon	CA SA (nesting)	Inhabits dry, open terrain, either level or hilly. Can occur in wide-open habitats including, sagebrush, desert, prairie, agricultural fields and alpine meadows up to 11,000 feet elevation. They nest on ledges on sheer rocky cliffs.	A	No suitable habitat present. This species could potentially be observed flying over the BSA but would not utilize the habitats present.
Lanius ludovicianus	loggerhead Shrike	CSC (nesting)	Occurs in open woodlands ad grasslands, oak savannah, pinyon-juniper and Joshua tree woodlands, desert oases, and scrub and wash habitats.	A	The riparian habitat in the BSA is too dense to provide suitable nesting habitat for this species.

Scientific Name	Common Name	Status	Habitat Requirements	Habitat Present/ Absent	Rationale[1]
Melospiza melodia	song sparrow "Modesto population"	CSC	Occurs in the northern Central Valley, with high populations near the Butte sink area and Sacramento-San Joaquin river delta. Found frequently along riparian corridors, particularly the Stanislaus and Cosumnes Rivers. Sometimes observed near vegetated irrigation canals and levees. In the winter, this species may be found far from water, in open habitats with shrubs or tall herbs.	A	No habitat present; the BSA is out of range for this species.
Vireo bellii pusillis	least Bell's vireo	FE, SE	Summer resident (nesting) of California in low riparian habitat dominated by willows or in dry river bottoms below elevations of 2,000 ft. Needs structurally diverse canopy for foraging and dense shrub cover for nesting, often in the active floodplain of a waterway.	A	No habitat present. BSA is outside the range of this species.
Reptiles					
Actinemys marmorata	northwestern pond turtle	CSC	Occurs in permanent or nearly permanent water sources, ponds, marshes, rivers, streams and irrigation ditches with emergent vegetation and basking sites. Lay eggs in upland habitat consisting of sandy banks or grassy, open fields.	HP	BSA provides potential aquatic habitat for this species. The nearest CNDDB occurrence of this species is from approximately 5.5 mi southeast of the BSA near the confluence of the Merced River and the San Joaquin River; the nearest of a cluster of occurrences in that area. See discussion in Section 4.3.4.
Gambelia sila	blunt-nosed leopard lizard	FE, SE, CFP	Inhabits open, sparsely vegetated areas in the San Joaquin Valley including native-type grasslands, alkali playa, chenopod scrub, and valley saltbush scrub. Not found in heavily degraded areas.	A	No suitable habitat present. The only sparsely vegetated areas in the BSA are gravel driveways, road shoulders and agricultural fields. The project will have No Effect on blunt-nosed leopard lizard.
Thamnophis gigas	giant garter snake	FT, ST	Streams and sloughs, usually with mud bottom. One of the most aquatic of garter snakes; usually in areas of freshwater marsh	A	Orestimba Creek does not support freshwater marsh habitat or significant

Scientific Name	Common Name	Status	Habitat Requirements	Habitat Present/ Absent	Rationale[1]
			and low-gradient streams with emergent vegetation, also drainage canals, irrigation ditches, ponds, and small lakes.		emergent vegetation. This species is not expected to be present in the BSA. The project will have No Effect on giant garter snake.
Coluber flagellum ruddocki	San Joaquin whipsnake	CSC	Open, dry habitats with little or no tree cover. Found in valley grassland and saltbrush scrub in the San Joaquin Valley.	A	No grasslands or saltbrush is present in the BSA or in the vicinity. This species is not expected to occur in the BSA.
Amphibians					
Ambystoma californiense	California tiger salamander	FT, ST	Most commonly found in annual grassland habitat, but also occurs in grassy understory of valley-foothill hardwood habitats, and uncommonly along stream courses in valley-foothill riparian habitats. Requires vernal pools or other seasonal water bodies for breeding. Needs underground refuges, especially ground squirrel burrows.	A	No suitable aquatic or upland habitat is present in the BSA or in the vicinity. This species is not expected to occur in the BSA. The project will have No Effect on California tiger salamander.
Rana draytonii	California red-legged frog	FT, CSC	Lowlands and foothills in or near permanent sources of deep water with dense, shrubby or emergent riparian vegetation.	A	This species is considered extirpated from the Central Valley. This species is considered absent from the BSA. The project will have No Effect on California red-legged frog.
Spea hammondii	western spadefoot	CSC	Occurs primarily in grassland habitats but also found in valley-foothill hardwood woodlands. Vernal pools are essential for breeding and egg-laying.	A	No suitable habitat present. No vernal pools occur within or near BSA.
Fish					
Hypomesus transpacificus	delta smelt	FT; SE	Sacramento-San Joaquin delta. Seasonally in Suisun bay, Carquinez strait, and San Pablo bay. Seldom found at salinities greater than 10 ppt. Most often in salinities less than 2 ppt.	A	No suitable habitat present. The BSA is not within the range of this species.

Scientific Name	Common Name	Status	Habitat Requirements	Habitat Present/ Absent	Rationale[1]
					The project will have No Effect on delta smelt.
Mylopharodon conocephalus	hardhead	CSC	Low to mid-elevation streams in the Sacramento-San Joaquin drainage. Found in clear deep pools with sand/gravel/boulder bottoms and slow water velocity.	A	No suitable habitat present in the BSA. The water velocities in the reach of Orestimba Creek are likely to high for this species and there are no pools present in or near the BSA.
Oncorhynchus mykiss	Central Valley steelhead DPS	FT	Populations occur and spawn in the Sacramento and San Joaquin rivers and their tributaries.	HP, CH	Orestimba Creek flows into the San Joaquin River (critical habitat for this species) approximately 3 mi to the northeast. No spawning habit is present within the BSA. However, this species could potentially occur in the BSA during migration or natal rearing. See discussion in Section 4.3.5. The project May Affect, but is Not Likely to Adversely Affect Central Valley steelhead DPS. The project will have No Effect on critical habitat for Central Valley steelhead.
Pogonichthys macrolepidotus	Sacramento splittail	CSC	Largely confined to the Delta, Suisun Bay, Suisun Marsh, Napa River, Petaluma River, and other parts of the Sacramento-San Joaquin estuary. Occurs in slow moving river sections and dead end sloughs. Requires flooded vegetation for spawning and foraging for young.	A	No suitable habitat present. The BSA is not within the range of this species.
Essential Fish Habitat					
----	Central Valley Fall-Run Chinook salmon EFH	----	Habitat Areas of Particular Concern (HAPC) are defined as specific types or areas of habitat within EFH, which provide one or more of the following: habitats, which provide	EFH	Orestimba Creek within the BSA is designated as EFH for this species. No HAPCs were identified within the BSA. See discussion in Section 4.1.4.

Scientific Name	Common Name	Status	Habitat Requirements	Habitat Present/ Absent	Rationale[1]
			important ecological functions, habitats which are especially vulnerable to human-induced environmental degradation or development activities, and the rarity of the habitat type. Examples of HAPCs include complex channels and floodplain habitats, thermal refugia, spawning habitat, estuaries, and marine and estuarine submerged aquatic vegetation.		The project Will Not Adversely Affect EFH for Chinook salmon.
Invertebrates					
Bombus crotchii	Crotch bumble bee	SC	Open grassland and scrub habitats. Primarily nests underground. Occurs primarily in California, from coastal California east to the Sierra-Cascade crest and south into Mexico.	A	No suitable habitat for this species (natural grasslands or scrub habitats) is present within the BSA. Furthermore, the nearest CNDDB occurrence is a non-specific occurrence from the general vicinity of Patterson, located approximately 6.5 miles northwest of the BSA, associated with collections made in 1949. There are no current (2000 – 2020) CNDDB records for this species within the San Joaquin Valley.
Branchinecta conservatio	Conservancy fairy shrimp	FE	Turbid playa pools in grasslands of the Central Valley. Requires a cool, stable temperature regime. Generally found in larger, deeper pools that remain inundated for 3-4 months.	A	No suitable habitat present. No vernal pools occur within or near BSA.
Brachinecta longjantenna	longhorn fairy shrimp	FE	Inhabits small, clear-water depressions in sandstone and clear to turbid clay/grass-bottomed pools in shallow swales in the eastern margin of the Central Coast Mountains in seasonally astatic grassland vernal pools.	A	No suitable habitat present. No vernal pools occur within or near BSA.
Branchinecta lynchi	vernal pool fairy shrimp	FT	Endemic to the grasslands of the Central Valley, Central Coast Mountains and South Coast Mountains. Typically associated with	A	No suitable habitat present. No vernal pools occur within or near BSA.

Scientific Name	Common Name	Status	Habitat Requirements	Habitat Present/ Absent	Rationale[1]
			small, shallow vernal pools with relatively short periods of inundation. Found in larger pools in southern extent of range.		The project will have No Effect on vernal pool fairy shrimp.
Desmocerus californicus dimorphus	valley elderberry longhorn beetle	FT	Occurs only in the Central Valley of California, in association with blue elderberry (*Sambucus mexicana*). Prefers branches greater than 1 inch in diameter.	HP	Elderberry shrubs with stems larger than 1 in diameter are present in the BSA associated with the Orestimba Creek riparian corridor. The nearest CNDDB occurrences of the species are from over 10 mi north of the BSA near Modesto. See discussion in Section 4.3.6. The project May Affect and is Likely to Adversely Affect valley elderberry longhorn beetle.
Lepidurus packardi	vernal pool tadpole shrimp	FE	Found in a variety of natural, and artificial, seasonally ponded habitat types including: vernal pools, swales, ephemeral drainages, stock ponds, reservoirs, ditches, backhoe pits, and ruts caused by vehicular activities. Within the Sacramento Valley.	A	No suitable habitat present. No vernal pools occur within or near BSA. The project will have No Effect on vernal pool tadpole shrimp.
Linderiella occidentalis	California linderiella	CA SA	Seasonal pools in unplowed grasslands with old alluvial soils underlain by hardpan or in sandstone depressions. Water in the pools has very low alkalinity and conductivity.	A	No suitable habitat present. No vernal pools occur within or near BSA.
Lytta moesta	Moestan blister beetle	CA SA	Occurs in central California; associated with grassland habitats and vernal pools; larvae parasitic on solitary bees.	A	No suitable habitat present. No vernal pools occur within or near BSA.
Plants					
Astragalus tener var. *tener*	alkali milk-vetch	CRPR 1B.2	Vernal pools in Valley foothill grasslands (3 – 200 ft). Blooms March – June.	A	No suitable habitat (vernal pools) for this species occurs within the BSA.
Atriplex cordulata var. *cordulata*	heartscale	CRPR 1B.2	Chenopod scrub, valley and foothill grasslands, meadows. Alkaline flats and scalds in the central valley with sandy soils (3 – 1,230 ft). Blooms April – October.	A	No suitable habitat present. No chenopod scrub or alkaline grasslands occur within the BSA.

Scientific Name	Common Name	Status	Habitat Requirements	Habitat Present/ Absent	Rationale[1]
Atriplex minuscula	lesser saltscale	CRPR 1B.1	Occurs in chenopod scrub, playas, and valley and foothill grassland. Found in alkali sinks and grassland in sandy, alkaline soils (50 – 650 ft). Blooms May – October.	A	No suitable habitat present. No chenopod scrub, alkalai sinks, or alkaline soils present in BSA.
Atriplex persistens	vernal pool smallscale	CRPR 1B.2	An annual herb found in vernal pools associated with alkaline soils (30 – 375 ft). Blooms June – October.	A	Habitat not present in the BSA. No vernal pools present in the BSA.
Atriplex subtilis	subtle orache	CRPR 1B.2	An annual herb found in Valley and foothill grasslands (130 – 330 ft). Blooms June – August.	A	Habitat not present. There are no annual grasslands in the BSA.
Blepharizonia plumosa	big tarplant	CRPR 1B.1	Valley and foothill grasslands, often on dry hills and plains, clay to clay loam soils (0 – 650 ft). Blooms July – October.	A	Habitat not present. There are no grasslands in the BSA.
Caulanthus lemmonii	Lemmon's jewelflower	CRPR 1B.2	Valley and foothill grassland, pinyon and juniper woodland, chapparal and scrub in southwest San Joaquin Valley (270 – 4,000 ft). Blooms March – May.	A	Habitat not present. There are no grasslands or juniper woodlands in the BSA.
Centromadia parryi ssp.*rudis*	Parry's rough tarplant	CRPR 4.2	Grassland, edges of marshes and vernal pools; other disturbed sites (0 – 320 ft). Blooms June – October.	A	No suitable habitat present, there are no marshes or vernal pools present in the BSA.
Chloropyron molle ssp. *hispidum*	hispid salty bird's-beak	CRPR 1B.1	Wet meadows and seeps in playas and Valley and foothill grasslands in alkaline soils (3 – 500 ft). Blooms June – September.	A	No suitable habitat present. There are no wet meadows or seeps in the BSA.
Eryngium racemosum	Delta button-celery	SE, CRPR 1B.1	Seasonally inundated floodplain on clay soil in riparian scrub habitat (10 – 100 ft). Blooms June – September.	A	No suitable habitat present. No scrub habitat is found within the riparian habitat in the BSA.
Eryngium spinosepalum	spiny-sepaled button-celery	CRPR 1B.2	Vernal pools and swales (328 – 4,160 ft). Blooms April – June.	A	Habitat not present. There are no vernal pools or swales in the BSA.
Eschscholzia rhombipetala	diamond-petaled California poppy	CRPR 1B.1	Fallow fields and open spaces, valley and foothill grasslands with alkali and clay (0 – 984 ft). Blooms March – April.	A	Habitat not present. There are no fallow fields or grasslands present in the BSA.

Scientific Name	Common Name	Status	Habitat Requirements	Habitat Present/ Absent	Rationale[1]
Extriplex joaquiniana	San Joaquin spearscale	CRPR 1B.2	Alkaline grasslands, chenopod scrub (3 – 2,740 ft). Blooms April – October.	A	No suitable habitat present. No chenopod scrub or alkaline grasslands area present in BSA.
Myosurus minimus ssp. *apus*	little mousetail	CRPR 3.1	Found in vernal pools in Valley and foothill grasslands (65 – 2,100 ft). Blooms March – June.	A	Habitat not present in the BSA. No vernal pools present in the BSA.
Navarretia prostrata	prostrate vernal pool navarretia	CRPR 1B.1	Vernal pools, meadows and seeps. Mesic, alkaline sites in valley and foothill grassland and coastal scrub (50 – 4,000 ft). Blooms April – July.	A	No suitable habitat present. No vernal pools, meadows, or seeps. No alkaline sites present in BSA.
Puccinellia simplex	California alkali grass	CRPR 1B.2	Found in alkaline, vernally mesic sinks, flats, and lake margins in chenopod scrub and Valley and foothill grassland.	A	No suitable habitat present. No alkaline sites present in BSA.
Sagittaria sanfordii	Sanford's arrowhead	CRPR 1B.2	In standing or slow-moving shallow freshwater ponds, marshes, swamps and ditches. (0 – 2,000 ft). Blooms May – October.	A	Habitat not present. The hydrologic regime (swift flows prone to heavy scouring) in the reach of Orestimba Creek within and adjacent to the BSA does not provide suitable habitat conditions for this species.
Sphenopholis obtusata	prairie wedge grass	CRPR 2B.2	Found in mesic meadows and seeps in cismontane woodland habitat (1,000 – 6,500 ft). Blooms April – July.	A	Habitat not present. Project elevation (75-80 ft) is below elevation range of this species.

Notes

[1] FESA effect determinations are provided for those federally listed species, or species proposed for federal listing, that were included on the USFWS IPaC and NMFS lists (included in Appendix B). FESA effect determinations are not provided for those federally listed species, or species proposed for federal listing, that were not included on the USFWS IPac and NMFS lists (i.e., only on the CNDDB and/or CNPS lists), as these species were included to support the State and local environmental process but will not be considered as part of any Section 7 consultation.

Status Codes

Federal
FE: Federally listed; Endangered
FT: Federally listed; Threatened
EFH: Essential Fish Habitat

California Rare Plant Rank:
1A: Plants presumed extirpated in California, either rare or extinct elsewhere
1B: Plants rare, threatened, or endangered in California and elsewhere
2A: Plants presumed extirpated in California but common elsewhere
2B: Plants rare, threatened or endangered in California but common elsewhere

3: Plants about which we need more information; a review list.
4: Plants of limited distribution; a watch list
0.1: Plants seriously threatened in California
0.2: Plants fairly threatened in California
0.3: Plants not very threatened in California

State
ST: State listed; Threatened
SE: State listed; Endangered
SC: State Candidate
SWL: State Watch List
CSC: California Species of Special Concern

Habitat Presence:
A: No habitat present and no further work needed
HP: Habitat is, or may be present; the species may be present
P: Species is present
CH: Project footprint is located within a designated critical habitat unit, but does not necessarily mean than appropriate habitat is present
EFH: Project footprint is located within Essential Fish Habitat

CA SA: Special Animal: General term that refers to taxa that the CNDDB is interested in tracking regardless of legal or protection status. Includes the following categories in addition to those listed above:

- Taxa which meet the criteria for listing, even if not currently included on any list, as described in Section 15380 of the California Environmental Quality Act Guidelines.
- Taxa that are biologically rare, very restricted in distribution, declining throughout their range, or have a critical, vulnerable stage in their life cycle that warrants monitoring.
- Populations in California that may be on the periphery of a taxon's range, but are threatened with extirpation in California.
- Taxa closely associated with a habitat that is declining in California at an alarming rate (e.g., wetlands, riparian, old growth forests, desert aquatic systems, native grasslands, vernal pools, etc.)
- Taxa designated as a special status, sensitive, or declining species by other state or federal agencies, or non-governmental organization (NGO).

Chapter 4 – Results: Biological Resources, Discussion of Impacts and Mitigation

This section provides a discussion of biological resources present in the BSA and potential impacts to those resources resulting from project implementation. Impacts to vegetation communities are based on the project footprint, which includes permanent and temporary impacts totaling 1.75 ac, and is shown in Figure 7. Existing developed and/or paved areas are excluded from this total.

Table 5 summarizes permanent (0.87 ac) and temporary (0.88 ac) impacts to all vegetation communities within the BSA. These impacts are illustrated in Figure 8.

Table 5: Summary of Impacts to Natural Communities and Land Uses in the BSA

Community/Land Use	Impacts (acres)	
	Permanent	**Temporary**
Natural Communities		
Black Walnut – Valley Oak Riparian	0.18	0.18
Riverine	0.04	0.02
Fringe Wetlands	0.05	0.02
Subtotal Natural Communities	***0.27***	***0.22***
Land Uses		
Orchards	0.23	0.48
Ruderal / Disturbed	0.37	0.18
Subtotal Land Uses	***0.60***	***0.66***
Total	**0.87**	**0.88**

4.1. Natural Communities of Special Concern

The BSA includes one formally designated natural community of concern: Black Walnut – Valley Oak Riparian. The BSA also supports two sensitive natural communities: Riverine and Fringe Wetlands.

The Black Walnut – Valley Oak Riparian community is associated with Orestimba Creek. Riparian communities are considered sensitive under CEQA and are regulated by CDFW pursuant to Section 1602 of the California Fish and Game Code, as described in Section 2.1.2.3.

The riverine community consists of open waters associated with Orestimba Creek. Fringe wetlands are limited to the banks of Orestimba Creek above the low-flow channel.

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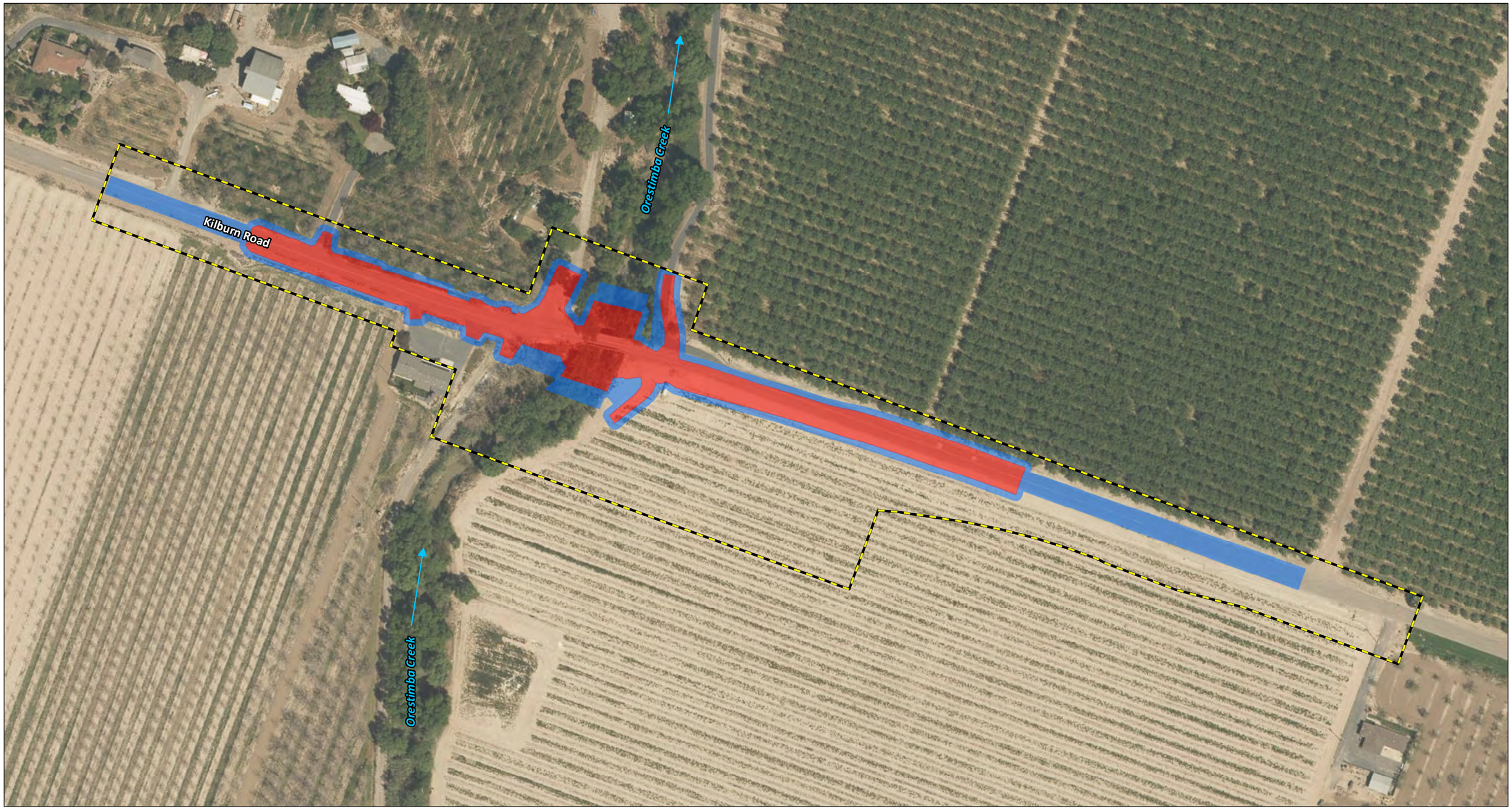

LEGEND

- Biological Study Area - (9.89 ac)
- Permanent Impact Footprint - (1.75 ac)
- Temporary Impact Footprint - (1.47 ac)

0 75 150
FEET

SOURCE: Stanislaus County Aerial Imagery (04/2017); Mapping - LSA (01/2019)

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FIGURE 7

Kilburn Road Bridge over Orestimba Creek (38C0168)
Replacement Project in Stanislaus County
Caltrans District 10; Federal Aid No. BRLO-5938(157)

Permanent and Temporary Impact Areas

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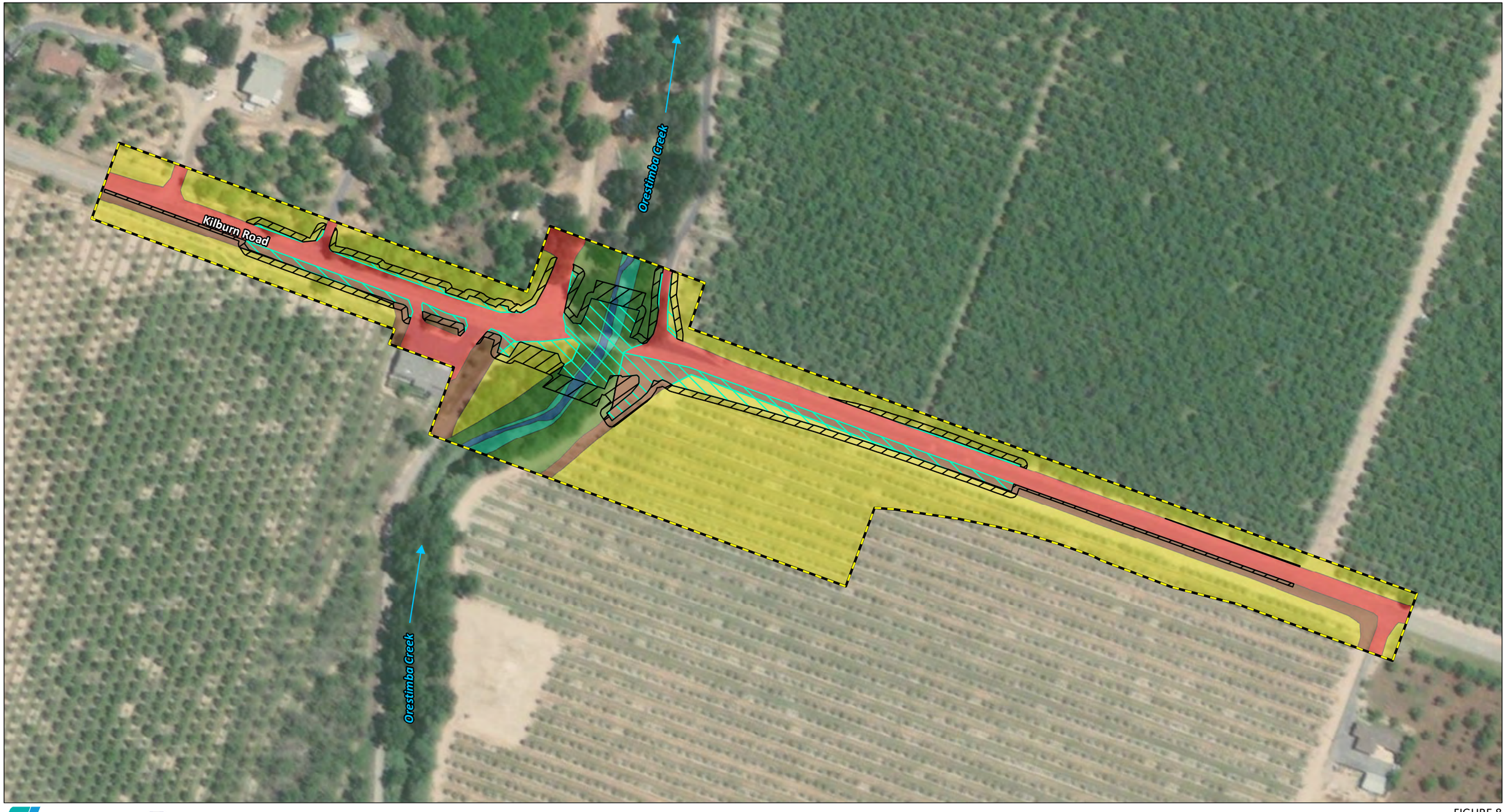

Caltrans

Biological Study Area - (9.89 ac)

Permanent Impacts to Natural Communities / Land Uses - (0.87 ac)

- Riverine - (0.04 ac)
- Fringe Wetlands - (0.05 ac)
- Black Walnut and Valley Oak Riparian - (0.18 ac)
- Orchard - (0.23 ac)
- Ruderal - (0.37 ac)

Temporary Impacts to Natural Communities / Land Uses - (0.88 ac)

- Riverine - (0.02 ac)
- Fringe Wetlands - (0.02 ac)
- Black Walnut and Valley Oak Riparian - (0.18 ac)
- Orchard - (0.48 ac)
- Ruderal - (0.18 ac)

0 75 150
FEET

SOURCE: Vivid Maxnar Aerial Imagery (04/2019); Mapping - LSA (07/2020)

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FIGURE 8

Kilburn Road Bridge over Orestimba Creek (38C0168)
Replacement Project in Stanislaus County
Caltrans District 10; Federal Aid No. BRLO-5938(157)

Impacts to Natural Communities\Land Uses

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Riverine and wetland communities are considered sensitive under CEQA and are regulated by the USACE and RWQCB, as described in Sections 2.1.2.1 and 2.1.2.2.

Potential permitting requirements for impacts to these communities are discussed in Section 5.4. Additionally, the reach of Orestimba Creek in the BSA is classified as EFH for Chinook salmon under the MSA, as described in Section 2.1.1.2.

4.1.1. BLACK WALNUT – VALLEY OAK RIPARIAN

4.1.1.1. Survey Results

As described in Section 3.1.3.1, the black walnut–valley oak riparian community is located along the length of Orestimba Creek in the BSA. The canopy is well developed, consisting of large mature trees, with a relatively sparse understory; Orestimba Creek is also included as part of this community. This plant community totals approximately 0.86 ac.

4.1.1.2. Project Impacts

As shown in Figure 8, the project will permanently impact 0.18 ac of black walnut–valley oak riparian in the BSA due to the installation of bridge abutments and placement of RSP. The project will also result in temporary impacts to approximately 0.18 ac of black walnut–valley oak riparian as a result of construction access activities. In-water work will be conducted between June 15 and September 30. Impacts to trees are summarized in Table 6. An inventory of all trees greater than 4 inch DBH is provided in Appendix D.

Table 6: Summary of Impacted Trees

Common Name	Scientific Name	Number of Trees to be Removed			
		5-18 dbh (inches)	18-24 dbh (inches)	24+ dbh (inches)	Total
Valley oak	*Quercus lobata*	3	2	0	**5**
Black walnut	*Juglans hindsii*	1	1	0	**2**
Fremont's cottonwood	*Populus fremontii*	1	0	0	**1**
Willow	*Salix sp.*	1	0	0	**1**
Total:		**6**	**3**	**0**	**9**

4.1.1.3. Avoidance and Minimization Efforts

The following measures will be implemented, in conjunction with the avoidance and minimization efforts in Section 4.1.2.3, to avoid and minimize impacts to the black walnut–valley oak riparian community.

1. Work in the black walnut–valley oak riparian vegetation and in the live channel of Orestimba Creek shall be minimized to the extent possible.

2. Environmentally Sensitive Area (ESA) fencing shall be installed at the limits of work within the black walnut–valley oak riparian vegetation, upstream and downstream of the work area, to protect these areas during construction.

3. ESA limits shall be marked using orange construction fencing or equivalent, and shall be maintained until construction is complete.

4. Staging areas, access routes and construction areas shall be located outside of wetland and riparian areas to the maximum extent practicable.

5. Measures consistent with the current Caltrans' Construction Site Best Management Practices (BMP) Manual (including the Storm Water Pollution Prevention Plan [SWPPP] and Water Pollution Control Plan [WPCP] Manuals) shall be implemented to minimize effects to the black walnut – valley oak riparian woodland resulting from erosion, siltation, etc. during construction.

6. A SWPPP shall be prepared by the contractor in accordance with typical provisions associated with a Regional General Permit for Construction Activities (on file with the Central Valley RWQCB). The SWPPP shall contain a Spill Response Plan with instructions and procedures for reporting spills, the use and location of spill containment equipment, and the use and location of spill collection materials.

7. All upland areas temporarily impacted during project construction shall be restored to preconstruction contours (if necessary) and revegetated with native species as specified in Table 7. Invasive exotic plants shall be controlled to the maximum extent practicable.

Table 7: Native Species Mix

Scientific Name	Common Name	Rate (pounds per Acre)	Minimum Percent Germination
Artemisia douglasiana	California mugwort	2.0	50
Bromus carinatus	California brome	5.0	85
Elymus trachycaulus	Slender wheatgrass	2.0	60
Eschscholzia californica	California poppy	2.0	70
Festuca microstachys	Small fescue	10.0	80
Hordeum brachyantherum	California barley	2.0	80
Lupinus bicolor	Bicolored lupine	4.0	80

8. Prior to issuance of a grading permit or other authorization to proceed with project construction, the project proponent shall obtain any regulatory permits that are required from the USACE, RWQCB, and/or CDFW.

4.1.1.4. Compensatory Mitigation

Mitigation for permanent impacts to black walnut–valley oak riparian vegetation shall be accomplished using the following method, contingent upon approval by the CDFW, USACE, and/or RWQCB:

- Purchase of credits at an approved mitigation bank at a minimum 1:1 mitigation ratio.

4.1.1.5. Cumulative Impacts

Impacts to black walnut–valley oak riparian vegetation in the general vicinity of the project likely will occur through habitat loss during public works project similar in scope to the subject project. Since the project will only affect a small amount of this community, the project will not substantially contribute to cumulative impacts for black walnut–valley oak riparian vegetation.

4.1.2. RIVERINE

4.1.2.1. Survey Results

As described in Section 3.1.3.1, riverine is an open water community consisting of the unvegetated low-flow channel of Orestimba Creek.

4.1.2.2. Project Impacts

As shown in Figure 8, the riverine community associated with Orestimba Creek will be impacted by construction of the proposed project. Permanent impacts to riverine, totaling 0.04 ac, will occur as a result of the installation of bridge abutments and placement of RSP. Temporary impacts, totaling 0.02 ac, will occur as a result of construction access activities.

4.1.2.3. Avoidance and Minimization Efforts

The following measures will be implemented, in conjunction with the avoidance and minimization efforts in Section 4.1.1.3, to avoid and minimize impacts to the riverine community.

1. Brightly colored ESA fencing shall be placed along the limits of work to prevent unnecessary encroachment into Orestimba Creek. Fencing shall be maintained in good condition for the duration of construction activities.

2. Prior to any work in the live channel, a water diversion shall be installed in Orestimba Creek in order to enclose the construction area and reduce sedimentation during work in the channel. The water diversion will consist of corrugated metal pipe culverts, sheet pile cofferdam, K-rail with Visquine, or an equivalent method.

Dewatering the work area will minimize the potential water quality impacts (e.g., siltation) and ensure that no work will be conducted in flowing water.

3. During removal of any part of the existing bridge, a debris collection device (e.g., heavy tarps, chain link mats) shall be used below the bridge to prevent debris from falling into Orestimba Creek and left in place until removal is complete.

4. Any emergent or submergent aquatic vegetation shall be retained as practical within the constraints of the proposed project. Where vegetation removal is necessary, rapidly sprouting plants, such as willows, shall be cut off at the ground line and the root systems left intact.

4.1.2.4. Compensatory Mitigation

Mitigation for permanent impacts to the riverine community shall be accomplished using the following method, contingent upon approval by the CDFW, USACE, and/or RWQCB:

- Purchase of credits at an approved mitigation bank at a minimum 1:1 mitigation ratio.

4.1.2.5. Cumulative Impacts

Impacts to riverine communities in the general vicinity of the project likely will occur through habitat loss during public works projects similar in scope to the subject project. Other projects in the region with similar impacts will also be required to minimize and/or mitigate those impacts. The project will impact a very small area of riverine habitat associated with Orestimba Creek. Considering the small area of permanent impact, with implementation of avoidance and minimization measures detailed in Sections 4.1.1.3 and 4.1.2.3, the project will not substantially contribute to cumulative effects for the riverine community.

4.1.3. FRINGE WETLANDS

4.1.3.1. Survey Results

As described in Section 3.1.3.5, potential wetlands in the BSA are limited to the banks of Orestimba Creek above the low-flow channel. Wetlands are dominated by a variety of hydrophytic vegetation including giant reed, rice cutgrass, knotweed, and arroyo willow.

4.1.3.2. Project Impacts

Permanent impacts to wetlands, totaling 0.05 ac, will occur as a result of the installation of bridge abutments and placement of RSP. Temporary impacts, totaling 0.02 ac, will occur as a result of construction access activities. Impacts to potential jurisdictional waters including wetlands are shown in Figure 8.

4.1.3.3. Avoidance and Minimization Efforts

The avoidance and minimization measures in Sections 4.1.1.3 and 4.1.2.3 will be implemented to minimize impacts to wetlands during and after construction.

4.1.3.4. Compensatory Mitigation

Mitigation for permanent impacts to wetlands shall be accomplished using the following method, contingent upon approval by the CDFW, USACE, and/or RWQCB:

- Purchase of credits at an approved mitigation bank at a minimum 1:1 mitigation ratio.

As described in Section 4.1.3.2, the project will result in minor permanent and temporary impacts to wetlands (0.05 ac permanent, 0.02 ac temporary). The project has been designed to avoid wetlands, where feasible. The avoidance and minimization measures in Sections 4.1.1.3 and 4.1.2.3, in conjunction with the compensatory mitigation described above, will minimize the loss of wetlands consistent with Executive Order 11990 (see Section 5.5).

4.1.3.5. Cumulative Impacts

Impacts to wetlands in the general vicinity of the project likely will occur through habitat loss during public works projects similar in scope to the subject project. Other projects in the region with similar impacts will also be required to minimize and/or mitigate those impacts. Considering the small area of permanent impact, with implementation of avoidance and minimization measures in Sections 4.1.1.3 and 4.1.2.3, the project will not substantially contribute to cumulative effects for wetlands.

4.1.4. ESSENTIAL FISH HABITAT

4.1.4.1. Survey Results

The Pacific Coast Salmon Fishery Management Plan covers salmon fisheries stocks off the coasts of Washington, Oregon, and California. The identification of Pacific Salmon EFH in the Fishery Management Plan is based on the habitat utilized by Coho, Chinook, and pink salmon. Orestimba Creek within the BSA is designated as EFH for Chinook Salmon (*Oncorhynchus tshawytscha*). EFH has not been identified for Central Valley Steelhead.

Habitat Areas of Particular Concern (HAPC) are defined as specific types or areas of habitat within EFH, which provide one or more of the following: habitats, which provide important ecological functions, habitats which are especially vulnerable to human-induced environmental degradation or development activities, and the rarity of the habitat type. Examples of HAPCs include complex channels and floodplain habitats,

thermal refugia, spawning habitat, estuaries, and marine and estuarine submerged aquatic vegetation. The portion of Orestimba Creek within the BSA does not include any HAPCs.

4.1.4.2. Project Impacts

Implementation of the project will result in minor permanent and temporary impacts to the Orestimba Creek channel. The project will permanently impact 0.04 ac and temporarily impact 0.02 ac of the riverine community in Orestimba Creek that is aquatic EFH for Chinook salmon. Permanent impacts will occur as a result of the installation of bridge abutments and placement of RSP; temporary impacts will occur as a result of project access for construction access activities. Construction related disturbance could result in temporary increases in turbidity and/or temperature within the live channel of Orestimba Creek. In-water work, consisting of placement of a water diversion, could result in temporary alteration of the channel and a temporary increase in flow velocity.

Implementation of the project will also result in permanent and temporary impacts to the adjacent riparian zone. Vegetation removal near the live channel could decrease shade cover, thereby increasing water temperature. The project will permanently impact 0.18 ac and temporarily impact 0.18 ac of the black walnut–valley oak riparian community, as well as permanently impact 0.05 ac and temporarily impact 0.02 ac of fringe wetlands associated with Orestimba Creek. Permanent impacts will occur as a result of the installation of bridge abutments and placement of RSP; temporary impacts will occur as a result of project access for construction access activities.

4.1.4.3. Avoidance and Minimization Efforts

The following measures will be implemented, in conjunction with the avoidance and minimization efforts in Sections 4.1.1.3 and 4.1.2.3, to avoid and minimize impacts to EFH.

1. Measures consistent with the current Caltrans' Construction Site BMPs Manual (including the SWPPP and WPCP Manuals) shall be implemented to minimize effects to salmonids and their habitat during construction.

2. A SWPPP will be prepared by the contractor in accordance with typical provisions associated with a Regional General Permit for Construction Activities (on file with the Central Valley RWQCB). The SWPPP will contain a Spill Response Plan with instructions and procedures for reporting spills, the use and location of spill containment equipment, and the use and location of spill collection materials. Implementation of the SWPPP will minimize effects to salmonids and their habitat from potential spills associated with construction activities.

4.1.4.4. Compensatory Mitigation

With the implementation of the avoidance and minimization measures for EFH in Sections 4.1.1.3, 4.1.2.3, and 4.1.4.3, the proposed project will not adversely affect designated EFH for Chinook salmon. No compensatory mitigation is proposed.

4.1.4.5. Cumulative Impacts

Impacts to EFH in Orestimba Creek likely will occur through habitat loss during public works projects similar in scope to the subject project. Other projects in the region with similar impacts will also be required to minimize and/or mitigate those impacts. The project will impact a very small area of EFH associated with Orestimba Creek. Considering the small area of permanent impact and that no HAPCs are present, with implementation of avoidance and minimization measures detailed in Section 4.1.3.4, the project will not substantially contribute to cumulative effects for EFH.

4.2. Special Status Plant Species

No special status plants occur in the BSA. Therefore, no impacts are expected to occur to special status plants.

4.3. Special Status Animal Species Occurrences

After evaluation of the special status wildlife species potentially occurring in the BSA, as shown in Table 4, the following wildlife species were determined to have a reasonable likelihood of occurring in the BSA and may be affected by the project.

4.3.1. BATS

There are five special status species of bats with the potential to occur in the BSA: pallid bat, Townsend's big-eared bat, and western red bat, which are each listed as California Species of Special Concern; as well as hoary bat and Yuma myotis, which are categorized as State special species.

Bats are nocturnal and are found in a variety of habitats. Many species forage over water; some also hunt over shrubs or meadows, within trees, and along forest edges. Some species have separate roosts for day, night, maternal, and hibernation use, whereas some species may use the same roost for more than one purpose. Bats roost in a variety of crevices, cavities, and protected sites; roosting sites may include bridges, buildings, cliff crevices, caves, mines, and trees. Multiple species often roost together.

Pallid bat is a locally common species of low elevations, and is a yearlong resident throughout most of its range. It uses a wide variety of habitats from sea level up through mixed conifer forests, but is most common in open, dry habitats with rocky areas for

roosting. This bat forages among trees and shrubs and over open ground, and often takes prey on the ground. Its diet is a variety of insects and spiders, including large, hard-shelled prey, which is often carried to a perch or night roost for consumption. Caves, crevices, and sometimes hollow trees and buildings are used for day roosts. Roosts must protect bats from high temperatures. Night roosts may be in more open sites, such as porches and open buildings. Pallid bats are social, and most roost in groups of 20 or more. Maternity colonies form in early April, and may have 10 to 100 individuals. Males may roost separately or in the nursery colony.

Townsend's big-eared bat is widely distributed in North America and occurs in a variety of habitats from sea level to about 10,000 feet elevation. This species is found throughout California, but specific details of its distribution are not well known. However, they are most abundant in mesic habitats. They roost in colonies and prefer caves, but they have also been reported to utilize buildings, bridges, rock crevices and man-made structures as roost sites. Foraging habitat includes edges along streams adjacent to and within a variety of wooded habitats, in addition to open areas such as pastures. Small moths and beetles are primary food sources. Echolocation is generally used to capture prey while in flight.

Western red bat is a common species in the Central Valley Basin and ranges up into the lower reaches of the Sierra Nevada Mountains. Forests and woodlands, especially on the edge of streams, fields or urban areas provide potential roosting habitat. It is mostly a solitary species and roosts predominantly in trees at the edge of streams, fields, or urban areas. This species is an aerial predator, foraging on a variety of insects over open terrain.

Hoary bats are one of North America's largest bats. Hoary bats tend not to utilize houses or other human structures, and they stay well-hidden in foliage throughout the day. They typically roost singly, 10-15 ft up in trees along forest borders. In the summer, hoary bats do not emerge to feed until after dark, but during migration, they may be seen soon after sundown. Hoary bats forage on flying insects that are caught along woodland openings and riparian corridors. These bats sometimes make round trips of up to 24 mi on the first foraging flight of the night, and then make several shorter trips, returning to the day roost about an hour before sunrise. Between late summer and early fall they migrate south to subtropical and tropical areas to spend the winter.

Yuma myotis is common and widespread in California. They are usually associated with permanent sources of water, typically rivers and streams. Optimal foraging habitat for this species generally consists of open forest or woodland areas near a water source. They primarily feed on insects close to the water surface. They can be found roosting in a variety of areas including the underside of bridges, caves, mines, and other man-made structures. This species hibernates in winter and may make short elevational migrations

according to the season. Yuma myotis roost in large groups, and may roost with other bat species.

4.3.1.1. Survey Results

- There are single CNDDB records of pallid bat, western red bat, hoary bat, and Yuma myotis in the search area; all from the same location, approximately 4.5 mi southeast of the BSA near the confluence of the Merced River and the San Joaquin River.

- One CNDDB record of Townsend's big-eared bat exists in the search area, located approximately 17 mi northeast of the BSA along the Tuolumne River just east of Modesto.

The bridge over Orestimba Creek provides suitable night roosting for bats. Additionally, signs of use by bats (body oil staining, droppings) were present on the underside of the bridge and the ground below. No suitable day roost sites were observed on the bridge structure. It is likely that bats, potentially including the special status species of bats described above, forage over the creek corridor and orchards, and use the bridge structure as a resting site between nightly foraging events. Night roosts, consisting of the 90-degree angles at the bridge abutments, may be used from around sunset to sunrise, usually spring through fall. The large trees in the BSA may provide cavities or spaces under bark where bats could roost, in addition to the leaves favored by some bat species.

4.3.1.2. Project Impacts

The project will result in permanent impacts to 0.18 ac of riparian habitat and 0.23 ac of orchard, which represents a permanent loss of potential foraging habitat. In addition, construction access and staging will result in temporary impacts to 0.18 ac of riparian habitat and 0.48 ac of orchard. Removal of the existing bridge prior to construction of the new bridge will also result in a temporary loss of potential night roosting habitat.

4.3.1.3. Avoidance and Minimization Efforts

Bats are most susceptible to disturbance at roost sites during the breeding season (i.e., day roosts) due to presence of pregnant females and non-volant pups, and during the winter when many bats enter torpor. During the rest of the year, many bat species are migrating or otherwise less likely to be strongly tied to roost sites and therefore are less susceptible to disturbance.

The following avoidance and minimization measures shall be implemented to reduce potential impacts to bats using the bridge as night roost habitat:

1. Work activities shall be limited to daylight hours to minimize potential effects to foraging bats.

2. The design of the new bridge shall provide equivalent night roost habitat to that on the existing bridge (e.g., 90-degree angles at the junction of bridge abutments and bridge deck). Any habitat that is incorporated into the new structure must allow for the safe, biennial, hands-on visual inspection of the bridge as required by 23 CFR Part 650, Subpart C—National Bridge Inspection Standards and any referenced materials

The following avoidance and minimization measures shall be implemented to reduce potential impacts to bats using trees in the impact area as day roost habitat:

1. Potential bat habitat trees, identified by a qualified bat biologist during a tree habitat assessment conducted several months prior to tree removal, shall be removed only between approximately March 1 and April 15, prior to parturition of pups, and when evening temperatures remain above 45° Fahrenheit (F) and rainfall does not exceed 0.5 inch in 24 hours. The next acceptable period is after pups become self-sufficiently volant between September 1 and about October 15, or prior to evening temperatures dropping below 45°F and onset of rainfall greater than 0.5 inch in 24 hours.

2. Bat habitat trees should be removed only during seasonal periods of bat activity as described above, and only after:

    a. Negative results from a night emergence survey conducted no more than 1-2 nights prior to tree removal by a qualified bat biologist, using night vision and/or infrared-sensitive camera equipment and bioacoustic recording equipment, or;

    b. All other vegetation other than trees within the limits of work is removed prior to bat habitat tree removal, during seasonal periods of activity, and preferably, within 4 days of commencing two-step removal of habitat trees, in accordance with the following measures:

        - 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 tree the next day prevents re-habituation and re-occupation 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 biologist 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 biologist does not need to remain on the site.

3. If non-habitat trees or other vegetation must be removed outside the seasonal periods outlined above, a 100 ft buffer around each habitat tree should be observed to reduce potential of disturbance of non-volant young during maternity season, or torpid bats during winter months.

4.3.1.4. Compensatory Mitigation

Potential impacts to bats shall be minimized with implementation of avoidance and minimization efforts in Section 4.3.1.3.; no compensatory mitigation is proposed.

4.3.1.5. Cumulative Impacts

Impacts to bats in the general vicinity of the project likely will occur through habitat loss during public works projects similar in scope to the subject project. Other projects in the region with similar impacts shall also be required to minimize and/or mitigate those impacts. Considering the amount of habitat available for this species in the region relative to the amount of habitat in the BSA, and with implementation of the avoidance and minimization measures detailed above, the project will not substantially contribute to cumulative impacts for bats.

4.3.2. SWAINSON'S HAWK

Swainson's hawk is listed as State Threatened; it has no formal federal status. Swainson's hawks favor mature trees (especially cottonwoods) in riparian areas, as well as oak savanna, and lone trees in agricultural fields for nesting. They prefer open grasslands for foraging, though they increasingly utilize row crop agricultural fields and open ruderal areas as more of their preferred natural habitats are developed.

Swainson's hawks are neotropical migrants, with most individuals leaving California in fall to spend the winter as far south as Argentina, though a few overwinter in the state, especially in the Delta region. Those that migrate typically begin returning to California in early March, and by mid-April, most adults have established breeding territories and begun their nest cycle. Young birds begin fledging in June and July, and flocks of individuals of various ages can often be seen following farm equipment in search of small mammal prey through late summer into early fall.

4.3.2.1. Survey Results

There are multiple CNDDB occurrences of Swainson's hawks within 10 mi of the BSA, the nearest of which are from along the San Joaquin River within 2 mi of the BSA.

No Swainson's hawks were observed during any of the site visits. However, the black walnut–valley oak riparian community in the BSA provides potential nesting habitat for Swainson's hawk.

4.3.2.2. Project Impacts

The project will permanently impact 0.18 ac, and temporarily impact 0.18 ac of black walnut-valley oak riparian habitat which is considered suitable nesting habitat for Swainson's hawk as a result of construction access, new bridge construction, and existing bridge removal. There is no suitable foraging habitat for Swainson's hawk within the BSA, but there is suitable foraging habitat for the species within 0.5 mile of the BSA.

4.3.2.3. Avoidance and Minimization Efforts

The following avoidance and minimization measures will be implemented to reduce potential impacts to nesting Swainson's hawks:

1. If work begins between February 1 and August 31, an early season preconstruction survey for nesting Swainson's hawks shall be conducted between January and March in the BSA and immediate vicinity (an approximately 0.25 mi radius) by a qualified biologist when tree foliage is relatively sparse and nests are easy to identify. A second preconstruction survey for nesting Swainson's hawks shall be conducted in the BSA and immediate vicinity (an approximately 0.25 mi radius) by a qualified biologist no more than 14 days prior to initiation of earthmoving activities.

2. If nesting Swainson's hawks are found within the survey area, a qualified biologist shall evaluate the potential for the project to disturb nesting activities. CDFW shall be contacted to review the evaluation and determine if the project can proceed without adversely affecting nesting activities. CDFW shall also be consulted to establish protection measures such as buffers. Disturbance of active nests shall be avoided until it is determined by a qualified biologist that nesting is complete and the young have fledged, or that the nest has failed. If work is allowed to proceed, at a minimum, a qualified biologist shall be on-site during the start of construction activities during the nesting season to monitor nesting activity. The monitor shall have the authority to stop work if it is determined the project is adversely affecting nesting activities.

3. Worker environmental awareness training will be conducted by a qualified biologist for all construction personnel. This training instructs workers to recognize Swainson's hawks and their habitat(s).

4. Brightly colored ESA fencing shall be placed along the limits of work to prevent unnecessary encroachment into adjacent areas. Fencing shall be maintained in good condition for the duration of construction activities.

4.3.2.4. Compensatory Mitigation

Potential impacts to Swainson's hawk will be minimized with implementation of avoidance and minimization efforts in Section 4.3.2.3. With the additional avoidance and minimization efforts as well as compensatory mitigation proposed for the black walnut–valley oak riparian habitat, no compensatory mitigation is proposed for Swainson's hawk.

4.3.2.5. Cumulative Impacts

Impacts to Swainson's hawk in the general vicinity of the project likely will occur through habitat loss during public works projects similar in scope to the subject project. Other projects in the region with similar impacts will also be required to minimize and/or mitigate those impacts. Considering the amount of habitat available for this species in the region relative to the amount of habitat in the BSA, and with implementation of the avoidance and minimization measures detailed above, the project will not substantially contribute to cumulative impacts for Swainson's hawk.

4.3.3. NORTHWESTERN POND TURTLE

Northwestern pond turtle is a California Species of Special Concern; it has no federal status. This species occurs in permanent or nearly permanent bodies of water in a variety of habitats including ponds, marshes, rivers, and irrigation ditches that typically have rocky or muddy bottoms and are vegetated with aquatic vegetation. Suitable habitat must include basking sites and adjacent upland habitat for egg-laying, usually sandy banks or open grassland. Eggs are laid at upland sites, away from the water, from April through August.

4.3.3.1. Survey Results

There are seven CNDDB records of northwestern pond turtle in the search area (as defined in Section 2.2.1). All but one of the records are located approximately 5.5 mi southeast of the BSA near the confluence of the Merced River and the San Joaquin River. The last record is located approximately 6 mi northeast of the BSA. The live channel of Orestimba Creek provides moderately suitable aquatic habitat for this species (muddy bottomed with basking sites adjacent), and the shaded banks of the creek and adjacent black walnut-valley oak riparian habitat provide suitable upland habitat for egg-laying.

4.3.3.2. Project Impacts

The project will result in permanent impacts to 0.18 ac of riparian habitat and 0.09 ac of aquatic habitat. It will also result in temporary impacts to 0.18 ac of riparian habitat and 0.04 ac of aquatic habitat as a result of project construction, staging, and temporary access in riparian areas.

4.3.3.3. Avoidance and Minimization Efforts

1. Prior to the start of dewatering activities, if necessary, in Orestimba Creek, the reach within the BSA shall be surveyed by a qualified biologist for the presence of pond turtles. If turtles are observed in the BSA, they shall be relocated outside of the work area by a qualified biologist.

2. Brightly colored ESA fencing shall be placed along the limits of work to prevent unnecessary encroachment into Orestimba Creek. Fencing shall be maintained in good condition for the duration of construction activities.

3. Worker environmental awareness training shall be conducted by a qualified biologist for all construction personnel. The training shall instruct workers about the purpose of ESA fencing and the resources being protected.

4. Measures consistent with the current Caltrans' BMP Manual (including the SWPPP and WPCP Manuals) shall be implemented to minimize effects to aquatic habitats resulting from erosion, siltation, etc. during construction.

5. Any emergent or submergent aquatic vegetation shall be retained as practical within the constraints of the proposed project. Where vegetation removal is necessary, rapidly sprouting plants, such as willows, shall be cut off at the ground line and the root systems left intact

6. Following completion of construction, all graded slopes, temporary impact and/or otherwise disturbed areas shall be restored to preconstruction contours (if necessary) and revegetated with the native seed mix specified in Table 7.

4.3.3.4. Compensatory Mitigation

Potential impacts to northwestern pond turtle will be minimized with implementation of avoidance and minimization efforts in Section 4.3.2.3.; no compensatory mitigation is proposed.

4.3.3.5. Cumulative Impacts

Impacts to northwestern pond turtle in the general vicinity of the project likely will occur through habitat loss during public works project similar in scope to the subject project. Considering the relatively small size of the permanent impacts, and implementation of the measures in Section 4.3.2.3, the project will not substantially contribute to cumulative impacts for northwestern pond turtle.

4.3.4. CENTRAL VALLEY STEELHEAD AND DESIGNATED CRITICAL HABITAT

The Central Valley steelhead DPS was listed as threatened on March 19, 1998, and reaffirmed on January 5, 2005. Critical habitat was designated for this species on September 2, 2005, and includes the Sacramento and San Joaquin Rivers. The Central Valley DPS includes all natural-occurring steelhead in the Sacramento River and San Joaquin River watersheds.

All steelhead stocks in the Central Valley of California are winter-run steelhead (McEwan and Jackson 1996). Most Central Valley steelhead spawning migration occurs between from October through February and spawning occurs from December to April. Newly emerged fry move to shallow stream margins to escape high water velocities and predation (Barnhart 1986). Juveniles emigrate episodically from natal streams during fall, winter and spring high flows.

4.3.4.1. Survey Results

Orestimba Creek flows into the San Joaquin River, which contains designated critical habitat for this species, approximately 2 mi northeast of the BSA. Within the BSA, Orestimba Creek is a narrow creek with a soft sand and mud substrate, which is not suitable spawning habitat for this species.

The Central California Irrigation District (CCID) Main Canal drains into Orestimba Creek approximately 3 mi upstream of the BSA, west of Highway 33. Water from the CCID Main Canal and agricultural run-off from adjacent farms substantially contribute to the flows in Orestimba Creek. Particularly in winter months, the CCID Main Canal is responsible for the majority of flow within the creek (RWQCB 2010).

As a result of the CCID flows entering the creek, water temperatures within Orestimba Creek are generally too high to provide suitable habitat for this species. In the summer months, when construction is expected to occur, the water temperatures are regularly in the 60s and 70s °F, which is much higher than the optimal water temperature for adult migration (46°-52°F) (McEwan and Jackson 1996). Additionally, flows during this time of the year are generally low and slow moving within the BSA, which can further increase water temperatures.

LSA biologists collected temperature measurements in March 2013 and again in August 2013; the temperature was 57° and 68°F, respectively. Construction activities are expected to occur during summer months, when the water temperature it at its highest (i.e., 60s and 70s). Consequently, during construction, water temperatures will not be conducive for steelhead migration due to the high water temperatures, which will be much higher than the optimal migration temperatures of 46°-52°F.

The reach of Orestimba Creek within the BSA is not within designated critical habitat for Central Valley steelhead. Although the BSA is located within 2 mi of designated critical habitat, the high water temperature resulting from agricultural runoff renders the habitat in Orestimba Creek unsuitable for this species, and the soft sand and mud substrate does not provide suitable spawning habitat. Therefore, the BSA does not provide the Primary Constituent Elements (PCEs) (i.e., suitable water quality and substrate conditions necessary to support freshwater spawning, rearing, and migration corridors) essential to the conservation of Central Valley steelhead DPS, and it is unlikely that steelhead will be present in the BSA during construction.

4.3.4.2. Project Impacts

While newly emerged fry move to the shallow margins of creeks after spawning, and would utilize the wetland habitat and shaded aquatic portions of the black walnut - valley oak riparian habitat within the BSA, the soft sand and mud substrate of the creek bed and the higher than optimal water temperatures render the BSA unsuitable spawning habitat for steelhead. Therefore, if they are to occur within the BSA, steelhead are most likely to occur in passing during their migration, and in the open water habitat only. The project will result in permanent impacts to 0.04 ac of open water habitat and temporary impacts to 0.02 ac of open water habitat as a result of project construction.

4.3.4.3. Avoidance and Minimization Efforts

Avoidance and minimization measures in Sections 4.1.1.3, 4.1.2.3, and 4.1.4.3 will help minimize impacts to steelhead during and after construction. Additionally, the following avoidance and minimization measures shall be implemented:

1. All in-water work associated with the proposed project shall be conducted between June 15 and September 30, which is within the seasonal work window recommended by NMFS to minimize effects to steelhead.

2. All construction shall be conducted during daylight hours to allow for an extended period of inactivity (i.e., night time) for salmonids, if present, to migrate undisturbed through the work area.

4.3.4.4. Compensatory Mitigation

Potential impacts to Central Valley steelhead will be minimized with implementation of avoidance and minimization efforts and compensatory mitigation in Sections 4.1.1.3, 4.1.2.3, 4.1.4.3, and 4.3.4.3. No compensatory mitigation is proposed.

4.3.4.5. Cumulative Impacts

Effects to the Central Valley steelhead in the general vicinity of the project likely will occur through habitat loss during public works projects similar in scope to the subject

project. Other projects in the region with similar effects would also be required to minimize and/or mitigate those effects, with measures similar to those described in Section 4.3.3.3. Consequently, the proposed project would not substantially contribute to cumulative effects for Central Valley steelhead.

Therefore, the project may affect, but not likely to adversely affect Central Valley steelhead DPS and will have no effect to Central Valley steelhead critical habitat.

4.3.5. VALLEY ELDERBERRY LONGHORN BEETLE

VELB is federally listed as threatened. The only designated critical habitat is located approximately 75 mi north along the American River in Sacramento County.

This species ranges from Redding to Madera County, into the western foothills of the Sierra Nevada, and into the eastern foothills of the Coast Range. Critical habitat was designated for VELB in Sacramento County; essential habitat for the recovery of the species also exists in Solano County. VELB is typically found in mature riparian vegetation associated with large river systems, but its range extends from the valley floor to 3,000 ft elevation.

The beetle is dependent on its host plant, blue elderberry, which is a common component of Central Valley riparian forests. VELB larvae feed and mature within elderberry stems that are 1 inch or larger in diameter, and exit prior to metamorphosing to the pupal stage. The life cycle takes 1 to 2 years to complete. The beetle spends most of its life in the larval stage, living within the stems of an elderberry plant. Adults emerge from late March through June, about the same time the elderberry produces flowers. The larval beetles cannot be detected within the stems, and the adult stage is short-lived; generally, the only evidence of beetle use is the exit holes in the stems created by the emerging larvae. According to the USFWS 2017 Framework, the presence of exit holes in a shrub increases the likelihood that the shrub is occupied by VELB; however, a lack of exit holes does not preclude occupancy by VELB. Furthermore, if elderberry shrubs are found on or within 165 ft of the project footprint within riparian habitat, that habitat is to be considered occupied by VELB.

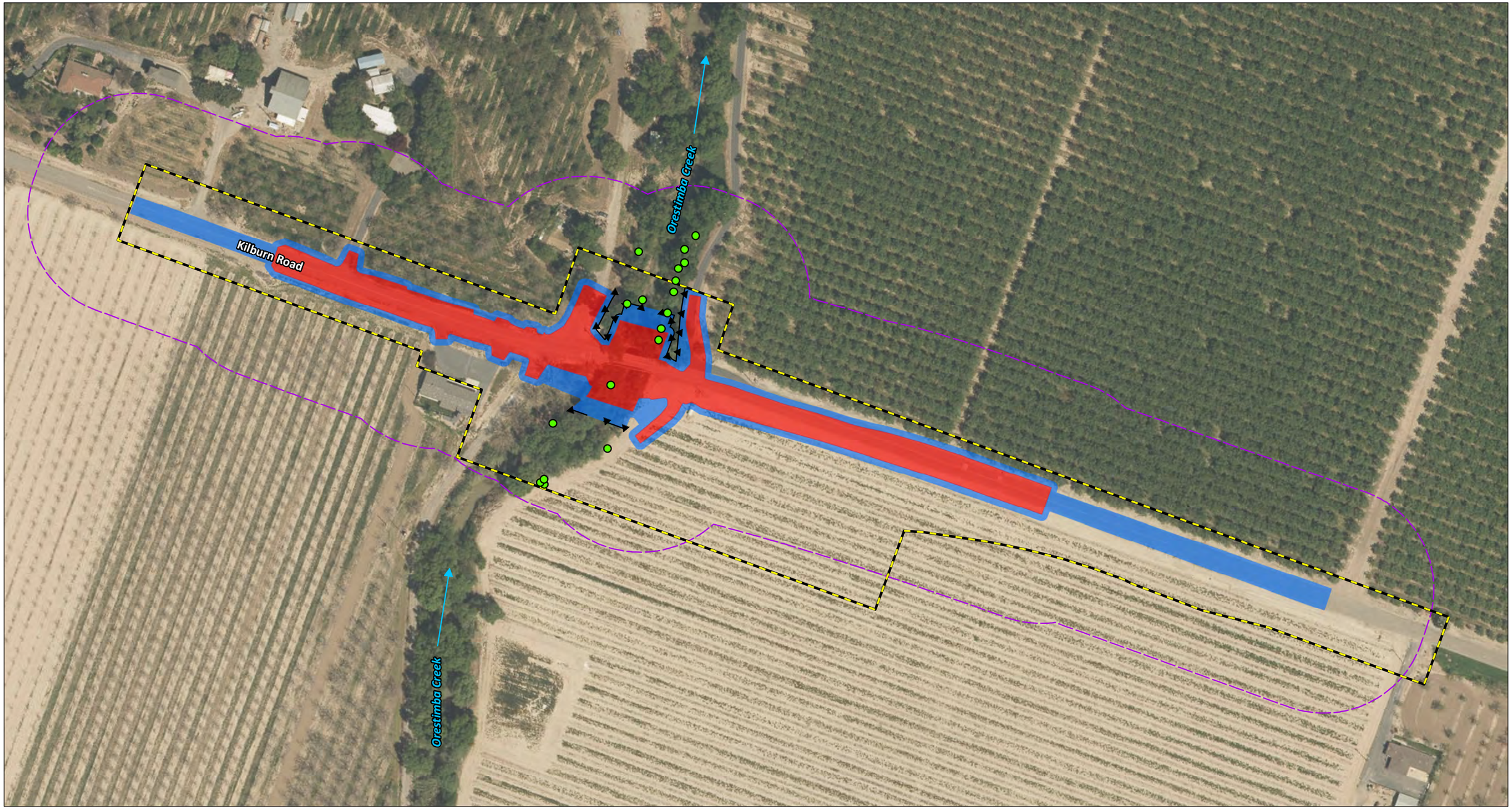
4.3.5.1. Survey Results

Surveys for elderberry shrubs were conducted on July 24, 2012 and January 31, 2013, and then again on November 17, 2017 due to the long duration from the previous survey. The survey area included the BSA and lands outside of the BSA within 165 ft of the limits of work. A total of 18 elderberry shrubs with at least one stem that measured 1 inch in diameter at ground level were identified in the survey area. Consequently, the riparian habitat within the survey area should be considered occupied by VELB.

Elderberry shrubs in the survey area are only located along the Orestimba Creek riparian corridor. Exit holes were found on one shrub within 165 ft of proposed disturbance. Figure 9 shows the locations of the elderberry shrubs in the BSA and vicinity.

4.3.5.2. Project Impacts

Of the 18 elderberry shrubs identified in the survey area, 2 shrubs are within the project permanent impact footprint (i.e., within the area planned for RSP) and will need to be removed. Elderberry shrubs within 20 ft of disturbance may be indirectly affected by project activities. Indirect impacts to elderberry shrubs outside the permanent impact footprint shall be avoided using the avoidance and mitigation efforts outlined in Section 4.3.4.3.



LEGEND

- Biological Study Area - (9.89 ac)
- 165-Foot Buffer from Project Area
- Permanent Impact Footprint
- Temporary Impact Footprint
- ESA Fencing
- Elderberry Shrub

0 75 150
FEET

SOURCE: Stanislaus County Aerial Imagery (04/2017); Mapping - LSA (11/2017)

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FIGURE 9

Kilburn Road Bridge over Orestimba Creek (38C0168)
Replacement Project in Stanislaus County
Caltrans District 10; Federal Aid No. BRLO-5938(157)

Elderberry Locations and ESA Fencing

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4.3.5.3. Avoidance and Minimization Efforts

The minimization measures below are consistent with the provisions of the VELB "Framework for Assessing Impacts to the Valley Elderberry Longhorn Beetle" dated May 2017.

1. ESA fencing will be established along the limits of construction to exclude construction activities from avoided habitat. Activities that may damage or kill an elderberry shrub (e.g., trenching, paving, etc.) may need an avoidance area of at least 20 ft from the drip-line, depending on the type of activity. Trucks and other vehicles will not be allowed to park in, not shall equipment be stored in, an ESA. No storage or dumping of oil, gasoline, or other substances shall be permitted within an ESA. All ESAs will be clearly delimited with yellow caution tape or temporary fencing prior to commencement of construction activities. The approximate location of ESA fencing is shown in Figure 9.

2. Signs will be installed along the edge of the ESA and will read the following: "This area is habitat of the beetle, a threatened species, and must not be disturbed. This species is protected by the Endangered Species Act of 1973, as amended. Violators are subject to prosecution, fines, and imprisonment." The signs should be clearly readable from a distance of 20 feet and must be maintained for the duration of construction.

3. All temporarily disturbed areas will be restored to approximate pre-construction contours and revegetated, either through hydroseeding or other means, with native species.

4. To prevent fugitive dust from drifting into adjacent habitat, all clearing, grubbing, scraping, excavation, land leveling, grading, cut and fill, demolition activities, or other dust generating activities will be effectively controlled for fugitive dust emissions utilizing application of water or by presoaking.

5. Prior to the start of construction, a qualified biologist will survey for elderberry shrubs within 165 feet of the disturbance area. If the survey documents any shrubs with stem diameter greater than 1 inch that were not identified during the November 2017 survey referenced in this NES, Caltrans will contact the USFWS. The USWFWS and Caltrans will work to determine a way to proceed without take or Caltrans will reinitiate consultation with the USFWS to update the Biological Opinion to obtain an Incidental Take Statement that includes any additional take that may occur.

6. All construction personnel will attend environmental awareness training. During the environmental awareness training, construction personnel will be briefed on the

status of the beetle, the need to avoid damage to the elderberry host plant, and the possible penalties for not complying with these requirements.

7. Herbicides will not be used within the drip-line of the shrub. Insecticides will not be used within 30 meters (98 feet) of an elderberry shrub. All chemicals will be applied using a backpack sprayer or a similar direct application method.

8. A qualified biologist will monitor the work area at project appropriate intervals to assure that all avoidance and minimization measures are implemented.

4.3.5.4. Compensatory Mitigation

According to the 2017 VELB Framework, permanent impacts to suitable riparian habitat shall be replaced at a 3:1 ratio. Additionally, elderberry shrubs that will be removed shall be transplanted, if feasible, to a USFWS-approved location. The VELB compensatory mitigation approach is shown in Table 9.

Table 9: Total VELB Compensation

Compensation Type	Compensation Ratio	Total Acres of Disturbance / Shrubs Impacted	Credits	Total Credit Purchase[1]
Riparian Habitat	3:1	0.27 ac	0.81 ac	19.76

[1] One credit (unit) = 1,800 sq. ft. or 0.041 acre

As shown in Table 9, a total of 0.81 ac of replacement riparian habitat will be required, equivalent to 19.76 credits.

4.3.5.5. Cumulative Impacts

Effects to VELB in the general vicinity of the project likely will occur through habitat loss during public works projects similar in scope to the subject project. Direct and indirect effects to VELB would be similar to those described in Section 4.3.5.2. Other projects in the region with similar effects would also be required to minimize and/or mitigate those effects, with measures similar to those described in Sections 4.3.5.3 and 4.3.5.4. Consequently, the proposed action would not substantially contribute to cumulative effects for VELB.

Chapter 5 – Conclusions and Regulatory Determinations

5.1. Federal Endangered Species Act Consultation Summary

As shown in Table 8, only two of the listed species, Central Valley steelhead and VELB, have a determination of May Affect. The proposed project May Affect, but is Not Likely to Adversely Affect, Central Valley steelhead DPS; the proposed project May Affect and is Likely to Adversely Affect VELB. All other species have a No Effect determination.

Table 8: Effect Determinations for Federally-Listed Species and Designated Critical Habitat

Common Name	Determination[1]
Blunt-nosed leopard lizard	No Effect
California tiger salamander	No Effect
California red-legged frog	No Effect
Central Valley steelhead	May Affect, Not Likely to Adversely Affect
Central Valley steelhead Critical Habitat	No Effect
Central Valley Fall-Run Chinook salmon Essential Fish Habitat	Will Not Adversely Affect
Delta smelt	No Effect
Giant garter snake	No Effect
San Joaquin kit fox	No Effect
Valley elderberry longhorn beetle	May Affect, Likely to Adversely Affect
Vernal pool fairy shrimp	No Effect
Vernal pool tadpole shrimp	No Effect

[1] FESA effect determinations are provided for those federally listed species, or species proposed for federal listing, that were included on the USFWS IPaC and NMFS lists (included in Appendix B). FESA effect determinations are not provided for those federally listed species, or species proposed for federal listing, that were not included on the USFWS IPac and NMFS lists (i.e., only on the CNDDB and/or CNPS lists), as these species were included to support the State and local environmental process but will not be considered as part of any Section 7 consultation.

A meeting was held on March 15, 2013 with Caltrans, the County, LSA, NMFS, and David Evans Associates, Inc. to discuss potential impacts to Central Valley steelhead. NMFS determined that informal consultation would be sufficient due to the low probability that this species will be present during construction. Meeting minutes are included in Appendix E.

Caltrans, as the federal lead agency, would initiate informal consultation with NMFS for Central Valley steelhead DPS and formal consultation with USFWS for VELB, pursuant to Section 7 of the FESA. A Biological Assessment will be submitted to the USFWS and NMFS to facilitate consultation. It is anticipated that the NMFS will concur with the above determination and that USFWS would issue a Biological Opinion to authorize take of VELB and the project will not jeopardize the continued existence of the species.

5.2. Federal Fisheries and Essential Fish Habitat Consultation Summary

Orestimba Creek within the BSA is designated as essential fish habitat (EFH) for Chinook salmon; however, no Habitat Areas of Particular Concern (HAPC) are present. As described in Section 4.1.4, implementation of the proposed project will result in minor permanent and temporary impacts to the Orestimba Creek channel and adjacent riparian zone. With implementation of the avoidance and minimization measures in Sections 4.1.1.3, 4.1.2.3, and 4.1.4.3, the proposed project will not adversely affect designated EFH for Chinook salmon. Projects with no adverse effect on EFH are not required to consult with NMFS under the Magnuson-Stevens Act.5.3.

5.3. California Endangered Species Act Consultation Summary

The proposed project will not affect any species listed as threatened or endangered under CESA. Consequently, consultation with CDFW for an incidental “take” permit pursuant to Section 2081 of the California Fish and Game Code is not required.

5.4. Wetlands and Other Waters Coordination Summary

The project will impact wetlands and non-wetlands waters subject to regulation by the USACE, RWQCB, and CDFW, as summarized in Table 10. (Note that for purposes of this document, waters of the State and are equivalent to waters of the U.S.).

Table 10: Impacts to Jurisdictional Waters/Features in the BSA (Acres)

Type	Permanent	Temporary
Waters of the U.S.		
Wetlands	0.05	0.02
Non-Wetland Waters	0.04	0.02
Total	**0.09**	**0.04**
Additional CDFW 1602 Features *Orestimba Creek riparian corridor above OHWM*	0.18	0.18

5.4.1. U.S. ARMY CORPS OF ENGINEERS

The waters of the U.S. in the BSA that will be affected by the project are regulated by the USACE under Section 404 of the CWA. It is expected the proposed discharge into waters of the U.S. during project construction can be authorized by the USACE using Nationwide Permit (NWP) 14 – Linear Transportation Projects. In accordance with the conditions of NWP 14, a Preconstruction Notification must be submitted to the USACE for verification that the proposed discharges comply with the conditions of the subject NWPs.

The project will result in permanent and temporary impacts to waters of the U.S. Permanent impacts will occur during installation of the bridge abutments and their associated footings, as well as RSP. These impacts will total 0.05 ac of wetlands and 0.04 ac of non-wetland waters. Temporary impacts will occur during bridge construction, existing bridge removal, and dewatering (if necessary). Temporary impacts total 0.02 ac of wetlands and 0.02 ac of non-wetland waters.

5.4.2. REGIONAL WATER QUALITY CONTROL BOARD

Discharges into waters of the State under Section 404 of the CWA also require a Water Quality Certification from the RWQCB, pursuant to Section 401 of the CWA. Waters of the State, and project impacts to waters of the State, will be the same as for waters of the U.S., as discussed in Section 5.4. The RWQCB may opt to waive the water quality certification and instead issue waste discharge requirements for waters of the State pursuant to their authority under the PCWQCA.

5.4.3. CALIFORNIA DEPARTMENT OF FISH AND WILDLIFE

The Orestimba Creek corridor and its associated riparian vegetation, totaling 1.14 ac in the BSA, are regulated by the CDFW under Sections 1600-1616 of the California Fish and Game Code. Impacts to these resources will require a Streambed Alteration Agreement from CDFW.

As reflected in Table 10, the project will permanently impact 0.09 ac and temporarily impact 0.04 ac of CDFW 1602 waters below the OHWM of Orestimba Creek. Additionally, the project will permanently impact 0.18 ac and temporarily impact 0.18 ac of riparian vegetation subject to CDFW jurisdiction above the OHWM of Orestimba Creek. Permanent impacts will occur during installation of the bridge abutments and their associated footings, as well as RSP. Temporary impacts will occur during bridge construction, existing bridge removal, and dewatering (if necessary). Total impacts within CDFW jurisdiction include 0.27 ac of permanent impacts and 0.22 ac of temporary impacts.

5.5. Executive Order 11990 – Protection of Wetlands

The project will result in minor permanent and temporary impacts to wetlands (0.05 ac permanent, 0.02 ac temporary). The project has been designed to avoid wetlands, where feasible. The measures in Sections 4.1.1.3 and 4.1.2.3 will also minimize impacts to wetlands and riparian vegetation during and after construction.

Based on the above considerations, it has been determined that there is no practicable alternative to the proposed construction in wetlands and that the proposed action includes all practicable measures to minimize harm to wetlands, which may result from such use.

5.6. Invasive Species

To avoid the introduction of invasive species into the BSA during project construction, contract specifications shall include, at a minimum, the following measures.

1. All earthmoving equipment to be used during project construction shall be thoroughly cleaned before arriving on the project site.

2. All seeding equipment (i.e., hydroseed trucks) shall be thoroughly rinsed at least three times prior to beginning seeding work.

3. To avoid spreading any non-native invasive species already existing on-site, to off-site areas, all equipment shall be thoroughly cleaned before leaving the site.

5.7 Migratory Bird Treaty Act and California Fish and Game Code (Breeding Birds)

Disturbance of migratory birds during their nesting season (February 1 to August 31) could result in “take” which is prohibited under the MBTA and Section 3513 of the California Fish and Game Code. Fish and Game Code (Section 3503) also prohibits take or destruction of bird nests or eggs.

The following seasonal work restrictions will be implemented during construction to minimize the potential for take of nesting birds:

1. If work must begin during the nesting season (February 1 to August 31), a qualified biologist shall survey all suitable nesting habitat in the BSA for presence of nesting birds. This survey shall occur no more than 10 days prior to the start of construction. If no nesting activity is observed, work may proceed as planned. If an active nest is discovered, a qualified biologist shall evaluate the potential for the project to disturb nesting activities. The evaluation criteria shall include, but are not limited to, the

location/orientation of the nest in the nest tree, the distance of the nest from the BSA, and line of sight between the nest and the BSA.

2. If work is allowed to proceed, a qualified biologist shall establish exclusion buffers (if necessary) and be on-site daily during construction activities to monitor nesting activity. The biologist shall have the authority to stop work if it is determined the project is adversely affecting nesting activities.

3. If work must begin during the nesting season and nests or remains of nests are observed on the bridge, exclusion structures shall be installed on the underside of the existing bridge to prevent nesting. Exclusion structures shall be installed prior to the start of the nesting season, and shall be left in place and maintained until the existing structure is removed, or September 1, whichever is earlier. Mud nests or remains of mud nests shall be removed prior to installation of exclusion structures.

4. Alternatively, as allowed by regulatory permits, high pressure hoses, extension poles, or similar methods shall be utilized to remove nests or remains of nests prior to the start of the nesting season. In addition, regular monitoring shall be required to remove new nests before they are large enough to support egg-laying.

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Chapter 6 – References

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Appendix A – Design Plans

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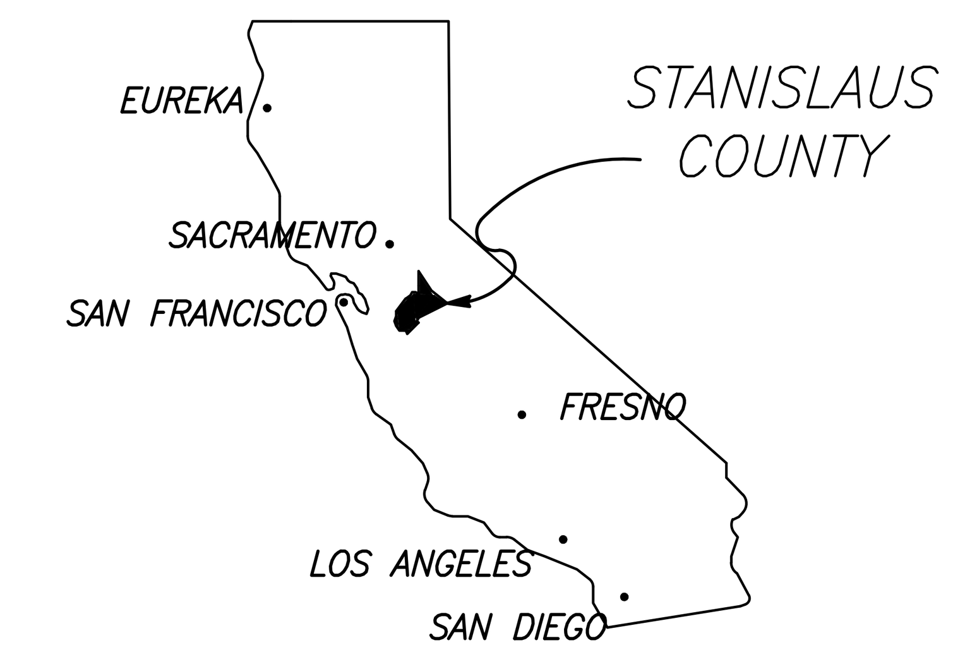
STANISLAUS COUNTY
DEPARTMENT OF PUBLIC WORKS
PLANS FOR THE CONSTRUCTION OF

KILBURN ROAD BRIDGE PROJECT OVER ORESTIMBA CREEK
STANISLAUS COUNTY, CALIFORNIA

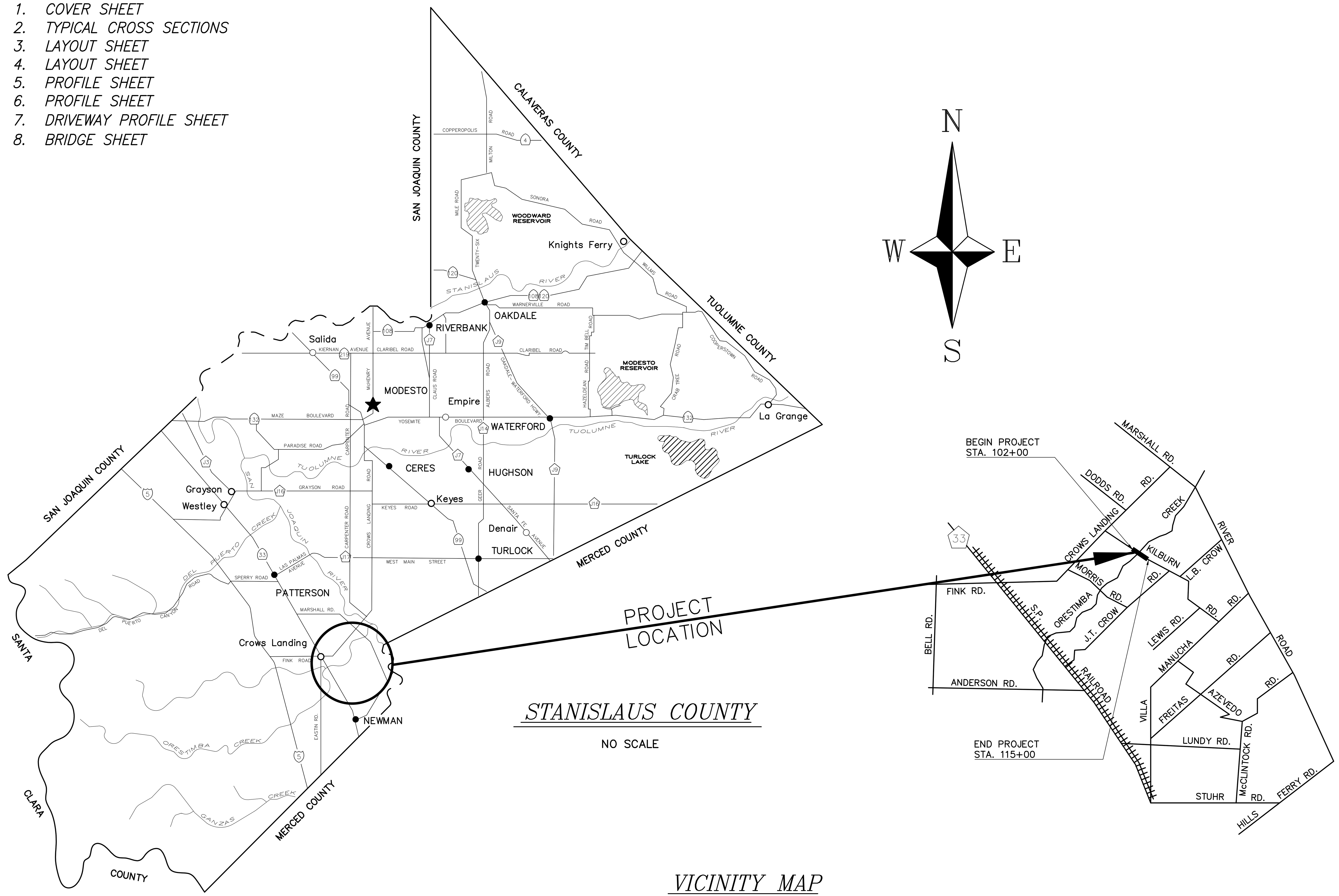
STANISLAUS COUNTY PROJECT NO. 9249
FEDERAL AID PROJECT XXXX–XXX(XX)



STATE OF CALIFORNIA

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION
STANDARD PLANS

INDEX OF SHEETS



VICINITY MAP

GENERAL NOTES

1. THE CONTRACTOR SHALL POSSESS THE LICENSE(S) REQUIRED IN THE INVITATION TO BID & SPECIAL PROVISIONS.
2. ALL MATERIAL AND WORK SHALL CONFORM TO STANISLAUS COUNTY SPECIFICATIONS AND IMPROVEMENT STANDARDS, 2007 EDITION, TO BE SUPPLEMENTED BY CALTRANS STANDARD PLANS, DATED MAY, 2010 AND STANDARD SPECIFICATIONS, DATED MAY, 2010; AND ALL ADDENDA THERETO. ALL IMPROVEMENTS ARE SUBJECT TO THE INSPECTION AND APPROVAL OF THE PUBLIC WORKS DEPARTMENT.
3. THE CONTRACTOR SHALL TAKE PRECAUTIONARY MEASURES TO PROTECT ALL UTILITIES. THE CONTRACTOR SHALL DO NO EXCAVATION UNTIL ALL UTILITY AGENCIES AND THE STANISLAUS COUNTY DEPARTMENT OF PUBLIC WORKS HAVE BEEN NOTIFIED AND HAVE BEEN GIVEN THE OPPORTUNITY TO MARK THEIR FACILITIES IN THE FIELD. THE CONTRACTOR SHALL CALL U.S.A. AT LEAST FORTY–EIGHT (48) HOURS PRIOR TO DOING ANY EXCAVATING.
4. THESE PLANS HAVE BEEN CHECKED BY THE STANISLAUS COUNTY DEPARTMENT OF PUBLIC WORKS AND/OR AUTHORIZED REPRESENTATIVE, BUT SUCH CHECKING AND/OR APPROVAL DOES NOT RELIEVE THE CONTRACTOR FROM HIS/HER RESPONSIBILITY TO CORRECT ERRORS, OMISSIONS, OR MAKE CHANGES REQUIRED BY CONDITIONS DISCOVERED IN THE FIELD DURING COURSE OF CONSTRUCTION.
5. ALL CONSTRUCTION SITE ACTIVITIES SHALL CONFORM TO THE STATE WATER RESOURCES CONTROL BOARD, NATIONAL POLLUTION DISCHARGE ELIMINATION SYSTEM (NPDES), WASTE DISCHARGE REQUIREMENTS FOR DISCHARGES OF STORM WATER RUNOFF ASSOCIATED WITH CONSTRUCTION ACTIVITY.
6. PRIOR TO INITIATING ANY CONSTRUCTION, THE CONTRACTOR SHALL VERIFY THAT ALL NECESSARY FEDERAL, STATE, AND LOCAL PERMITS HAVE BEEN OBTAINED.
7. CONTACT:

STANISLAUS COUNTY, DEPARTMENT OF PUBLIC WORKS
NATHANIEL TUMMINELLO, P.E., (209) 525–4101

APPROVED BY STANISLAUS COUNTY:

DAVID A. LEAMON, P.E., MPA PUBLIC WORKS DIRECTOR STANISLAUS COUNTY	DATE

811 CALL BEFORE YOU DIG

DAVID EVANS AND ASSOCIATES INC.
14432 SE Eastgate Way, Suite 400
Bellevue Washington 98007
Phone: 425.519.6500

NO	DESCRIPTIONS	DATE	APPROVED
REVISIONS			

STANISLAUS COUNTY
DEPARTMENT OF PUBLIC WORKS
ENGINEERING AND OPERATIONS DIVISION
1716 MORGAN ROAD – MODESTO, CA 95358

Stanislaus County Striving to be the best

COVER SHEET

IMPROVEMENT PLANS FOR:
KILBURN ROAD BRIDGE PROJECT
OVER ORESTIMBA CREEK
STANISLAUS COUNTY, CALIFORNIA

JOB NO	######
DATE	00/00/15
DR BY	DLO
CK BY	MLF
SURVEY	
CONST.	
SCALE	AS SHOWN

SHEET NUMBER 1 OF XX SHEETS

CALL BEFORE YOU DIG

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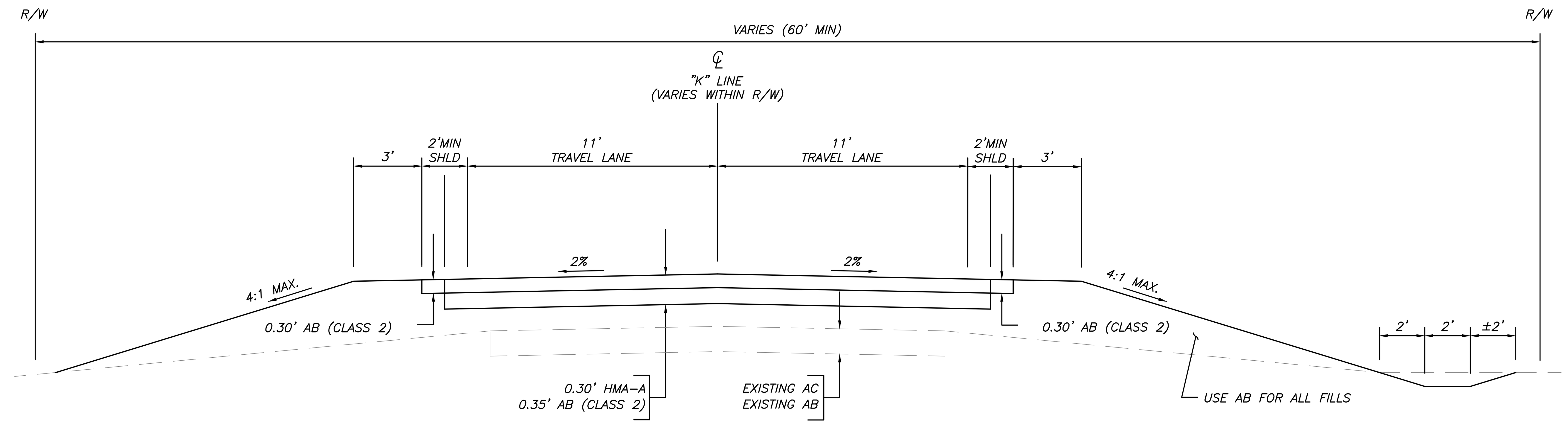
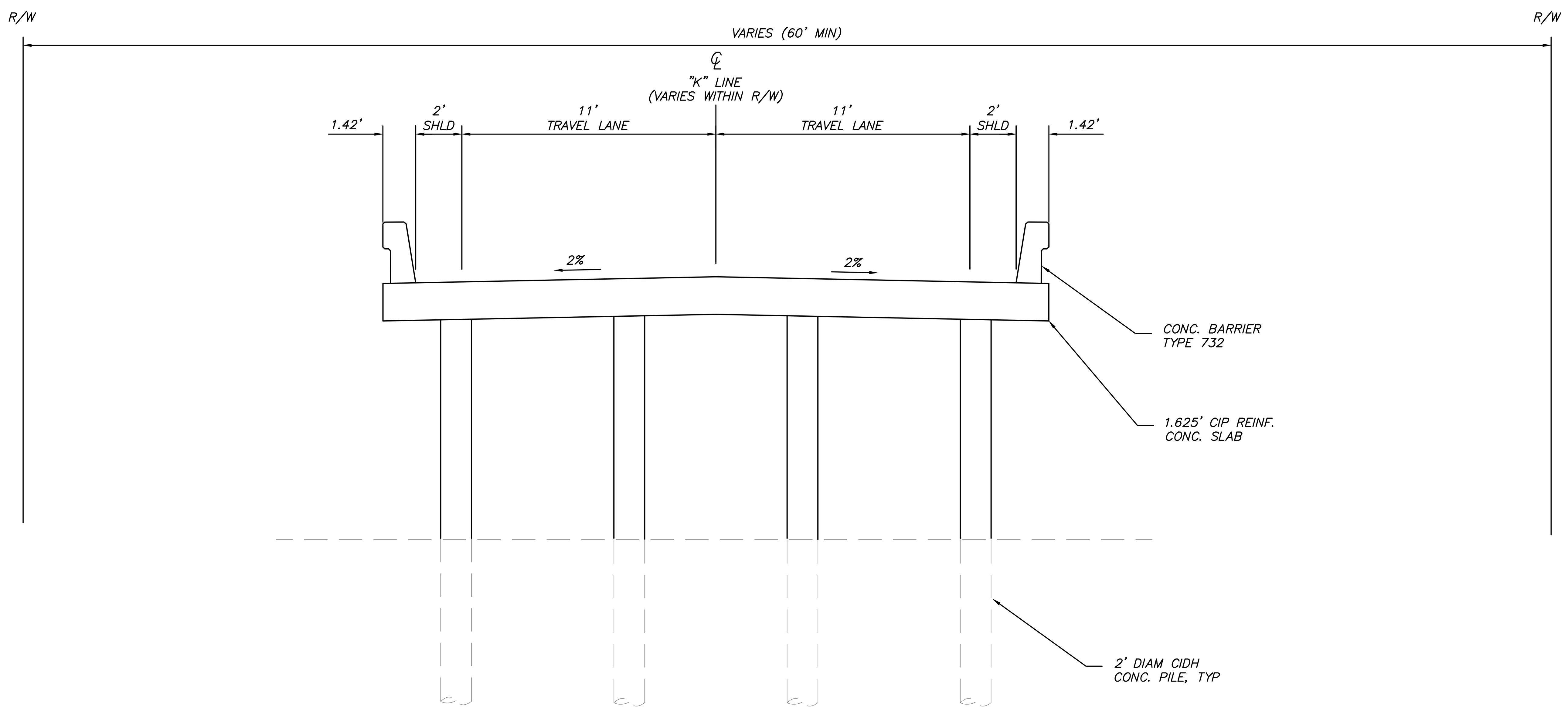


KILBURN ROAD

"K" LINE

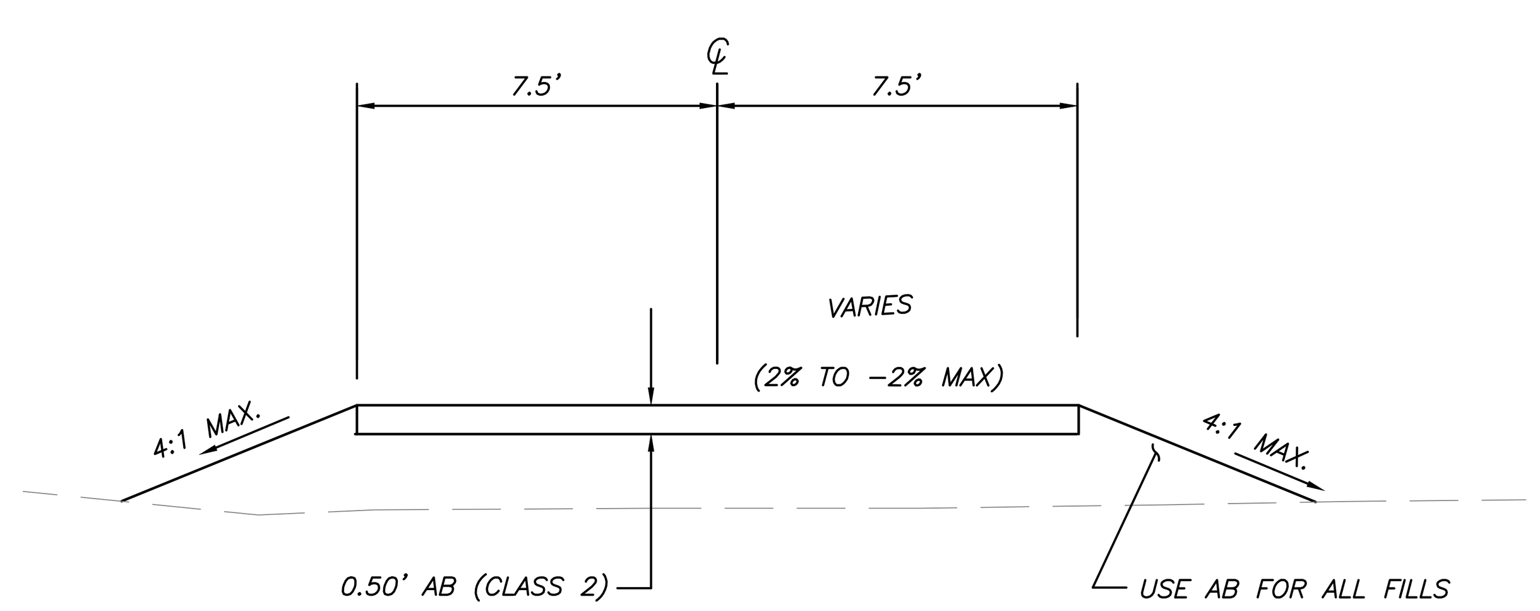
STA 102+00.00 TO STA 107+38.41
STA 108+53.41 TO STA 115+00.00



KILBURN ROAD

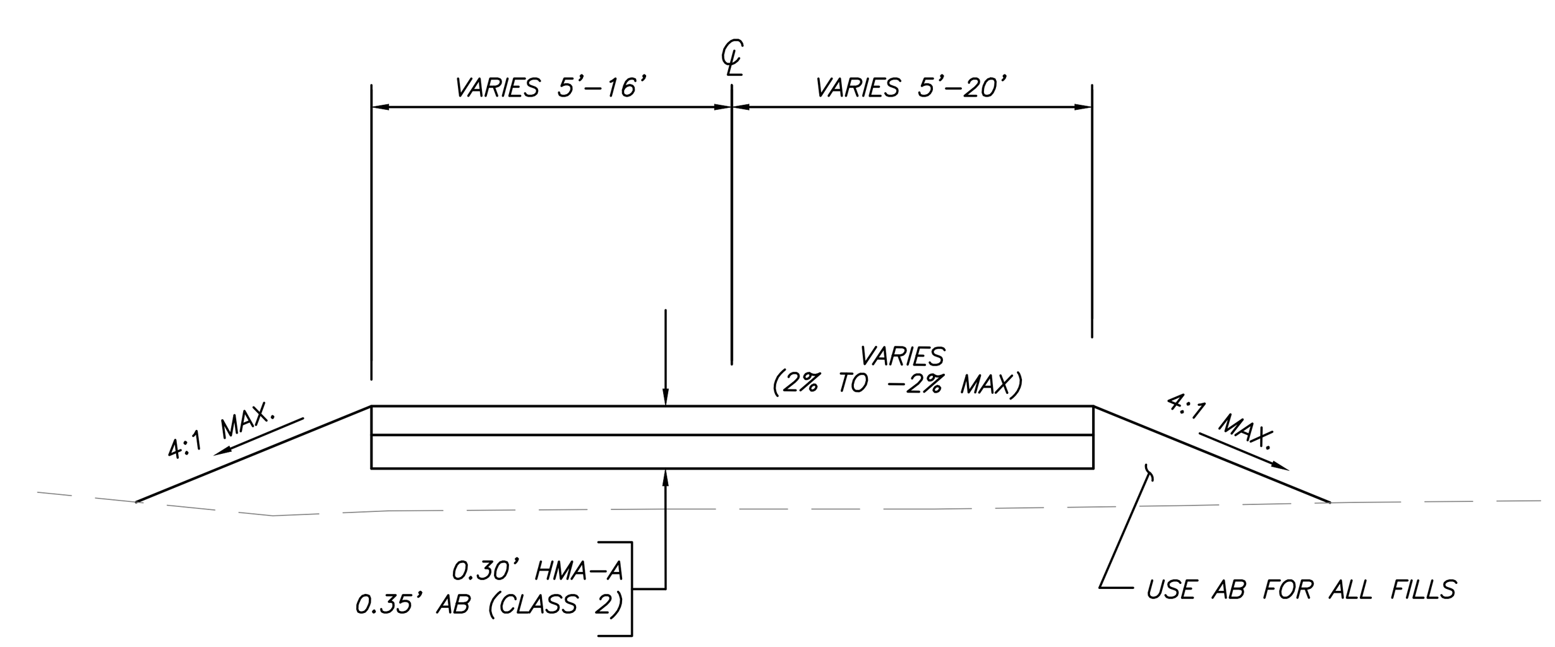
"K" LINE

STA 107+38.41 TO STA 108+53.41



GRAVEL DRIVEWAY

(DWY NDW1, NDW2, SDW3, AND SDW4)



HMA DRIVEWAY

(DWY SDW1, SDW2, AND NDW3)

CALL BEFORE YOU DIG

DAVID EVANS AND ASSOCIATES INC.
14432 SE Eastgate Way, Suite 400
Bellevue Washington 98007
Phone: 425.519.6500

NO	DESCRIPTIONS	DATE	APPROVED

REVISIONS

STANISLAUS COUNTY
DEPARTMENT OF PUBLIC WORKS
ENGINEERING AND OPERATIONS DIVISION
1716 MORGAN ROAD - MODESTO, CA 95358

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TYPICAL CROSS SECTIONS

IMPROVEMENT PLANS FOR:
KILBURN ROAD BRIDGE PROJECT
OVER ORESTIMBA CREEK
STANISLAUS COUNTY, CALIFORNIA

JOB NO	######
DATE	00/00/15
DR BY	DLO
CK BY	MLF
SURVEY	
CONST.	
SCALE	AS SHOWN

SHEET NUMBER 2 OF XX SHEETS

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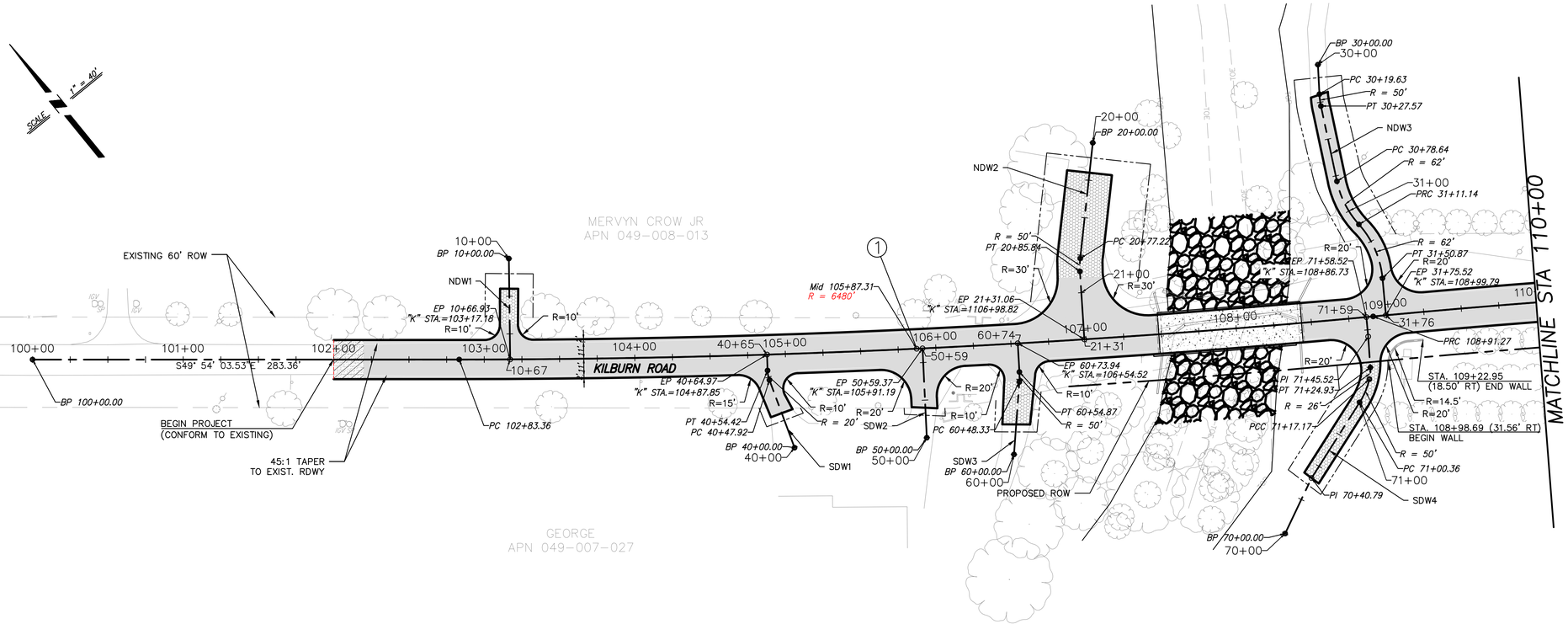

CURVE DATA

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1	6480'	05° 22' 30"	304.18'	607.91'

LEGEND

- 0.15' H.M.A. (MIN.) OVERLAY–TOP COURSE
- 0.30' H.M.A. OVER 0.35' A.B. STRUCTURAL SECTION
- COLD PLANE
- 0.30' A.B. SHOULDER BACKING/A.B. DRIVEWAY (0.5' MIN.)
- RIGHT OF WAY LINE

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LAYOUT SHEET

IMPROVEMENT PLANS FOR:
KILBURN ROAD BRIDGE PROJECT
OVER ORESTIMBA CREEK
STANISLAUS COUNTY, CALIFORNIA

JOB NO	#######
DATE	00/00/15
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CK BY	MLF
SURVEY	
CONST.	
SCALE	AS SHOWN

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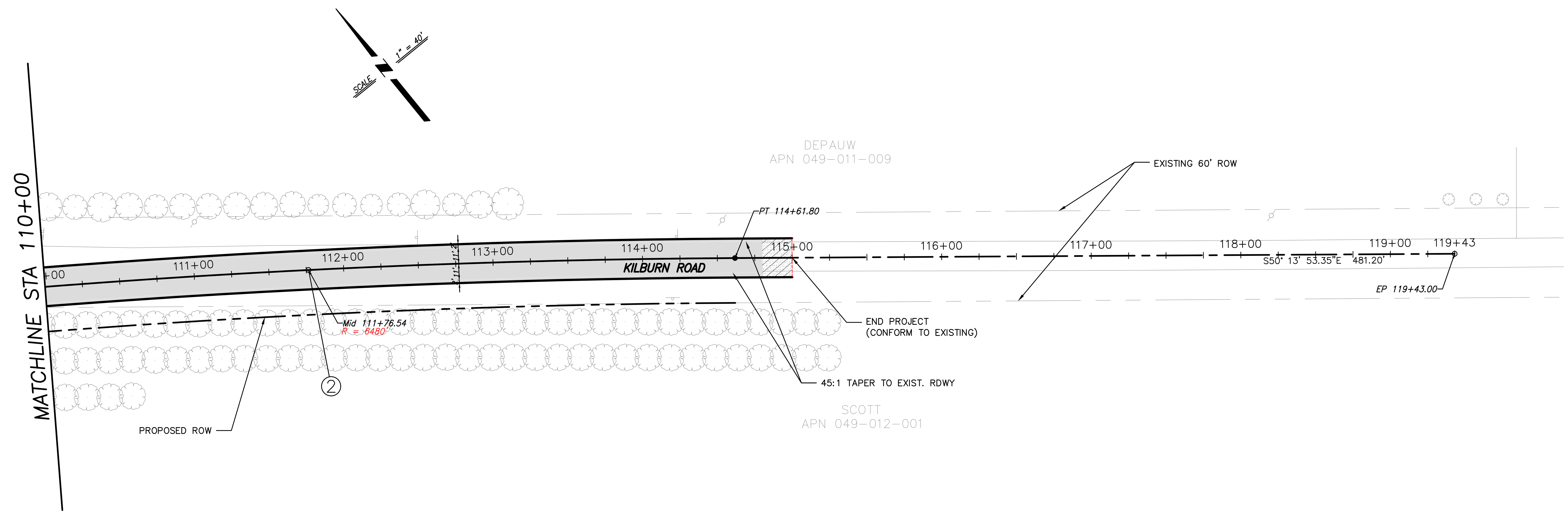

CURVE DATA

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LEGEND

- 0.15' H.M.A. (MIN.) OVERLAY-TOP COURSE
- 0.30' H.M.A. OVER 0.35' A.B. STRUCTURAL SECTION
- COLD PLANE
- 0.30' A.B. SHOULDER BACKING/A.B. DRIVEWAY (0.5' MIN.)
- RIGHT OF WAY LINE

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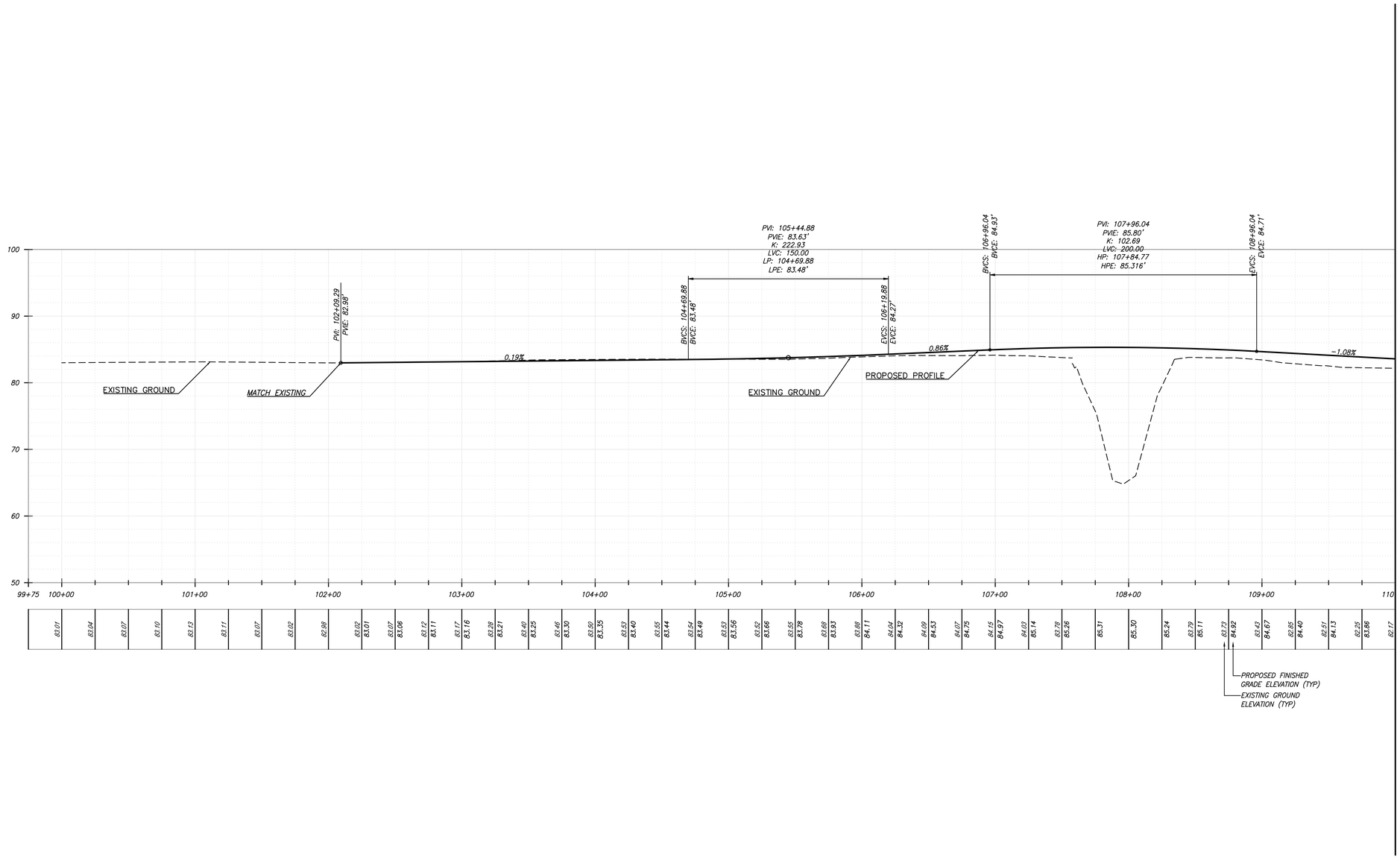

"K" LINE PROFILE

SCALE: H: 1"=40'-0"
V: 1"=5'

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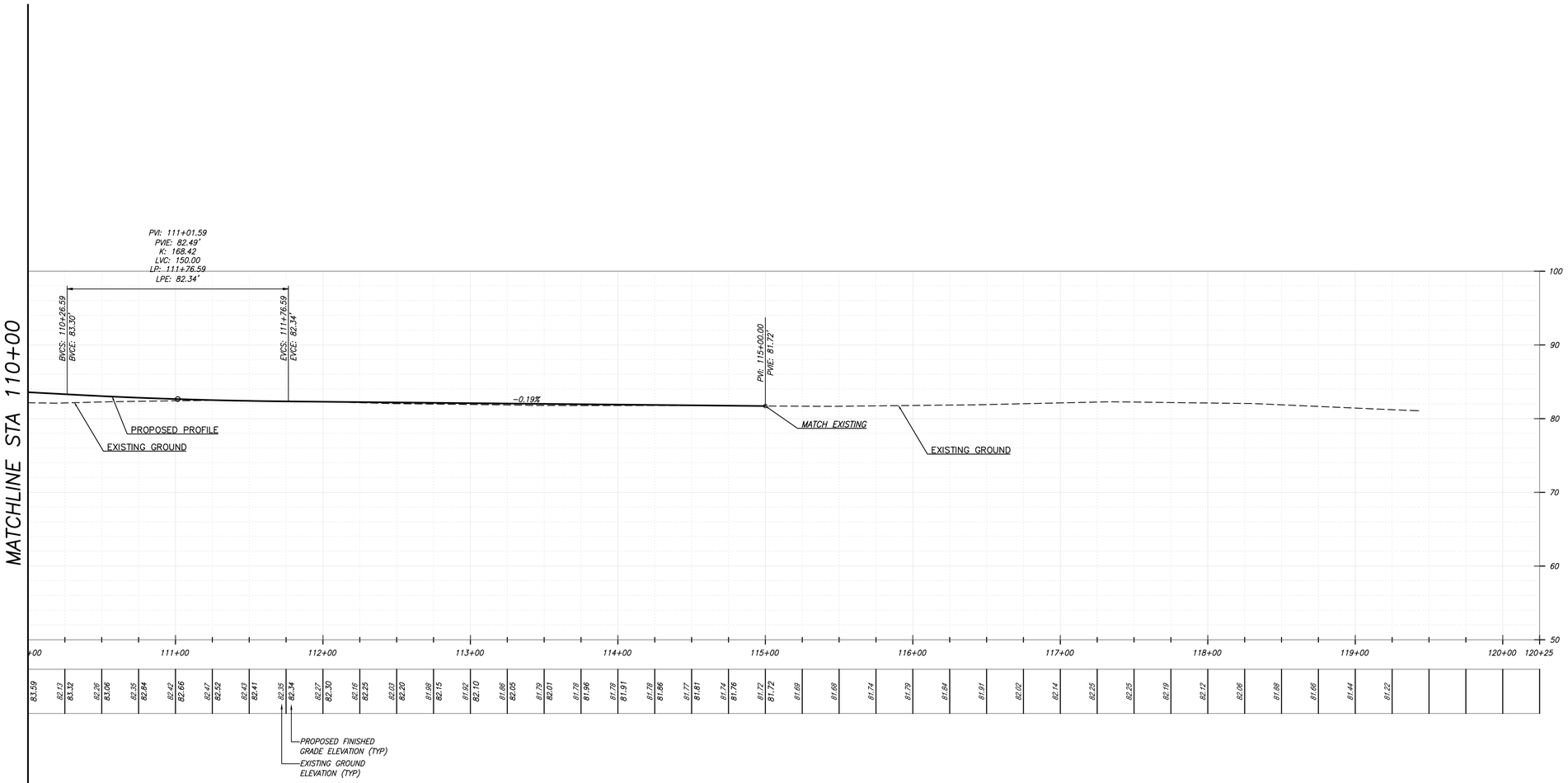

"K" LINE PROFILE

SCALE: H: 1"=40'-0"
V: 1"=5'

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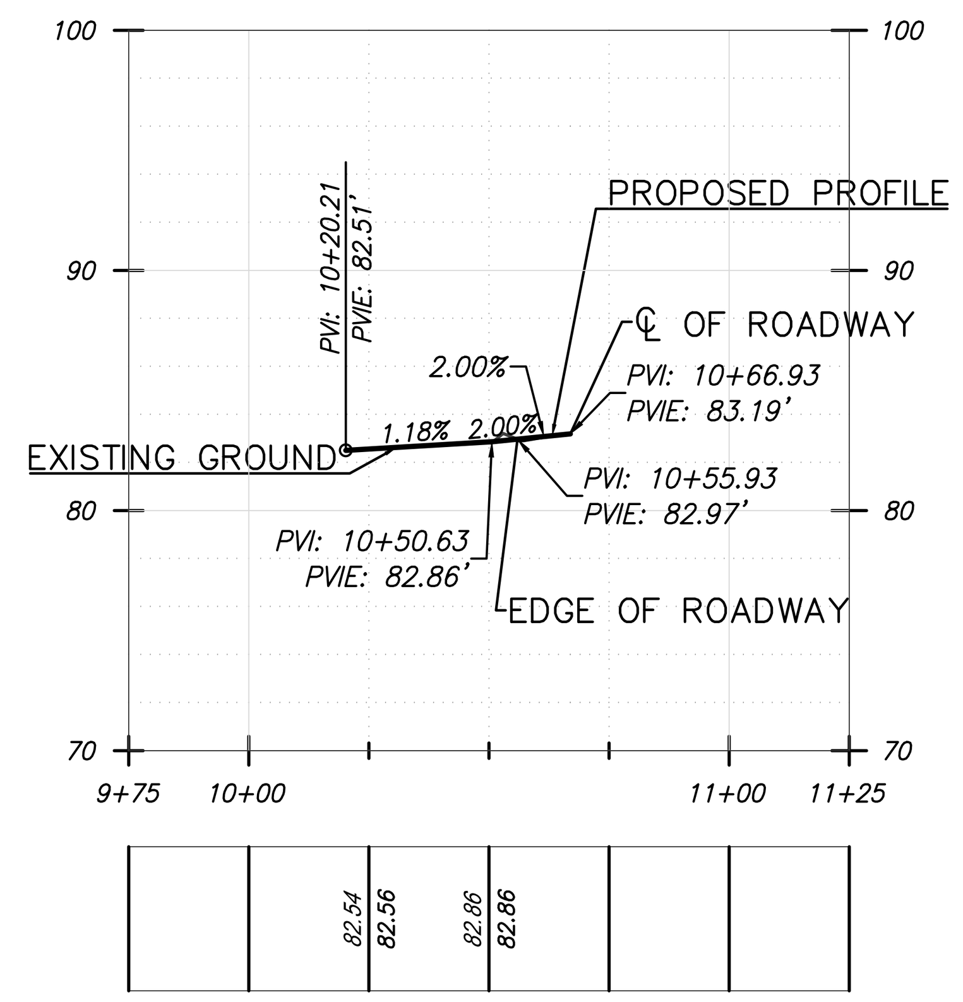

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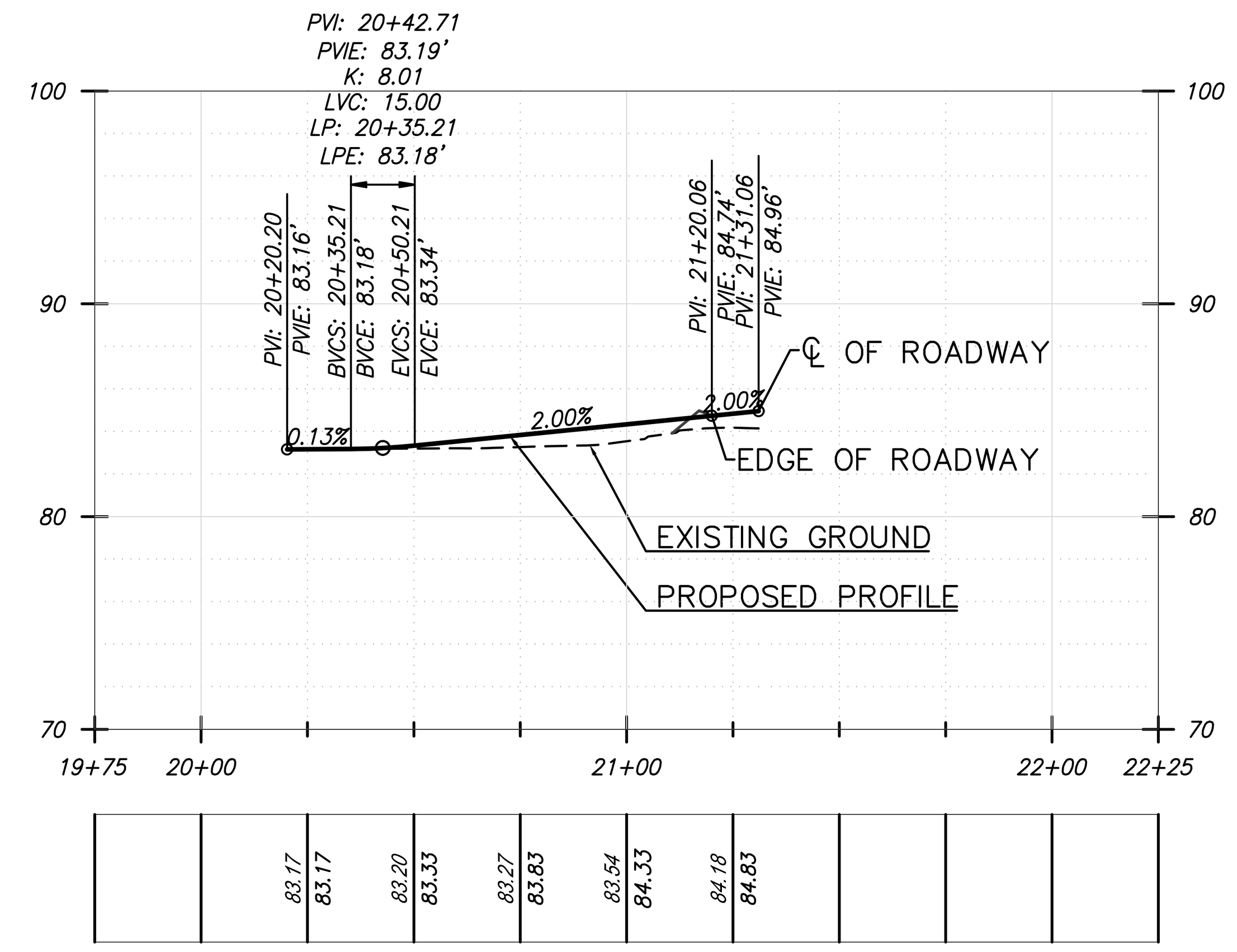

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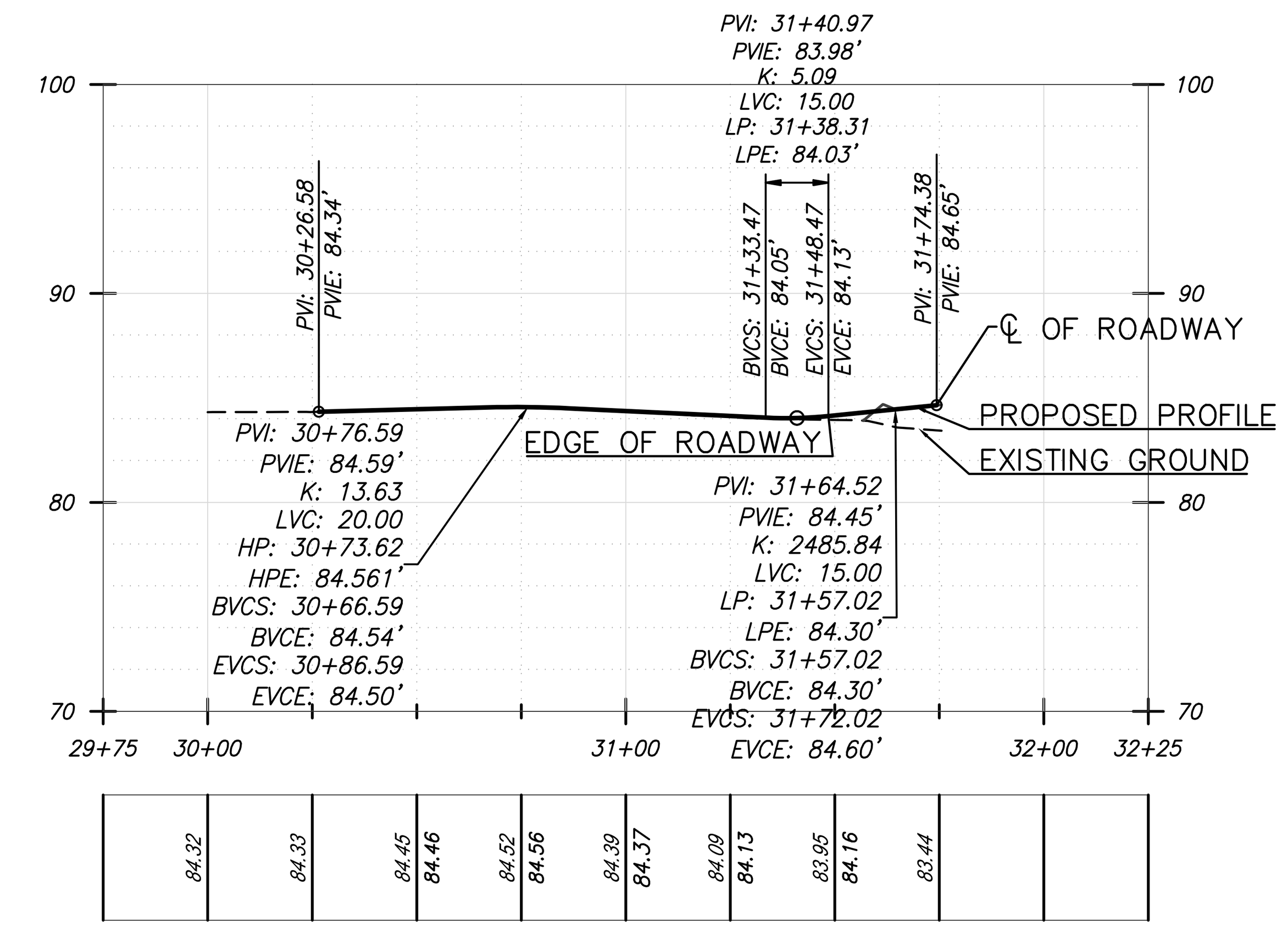

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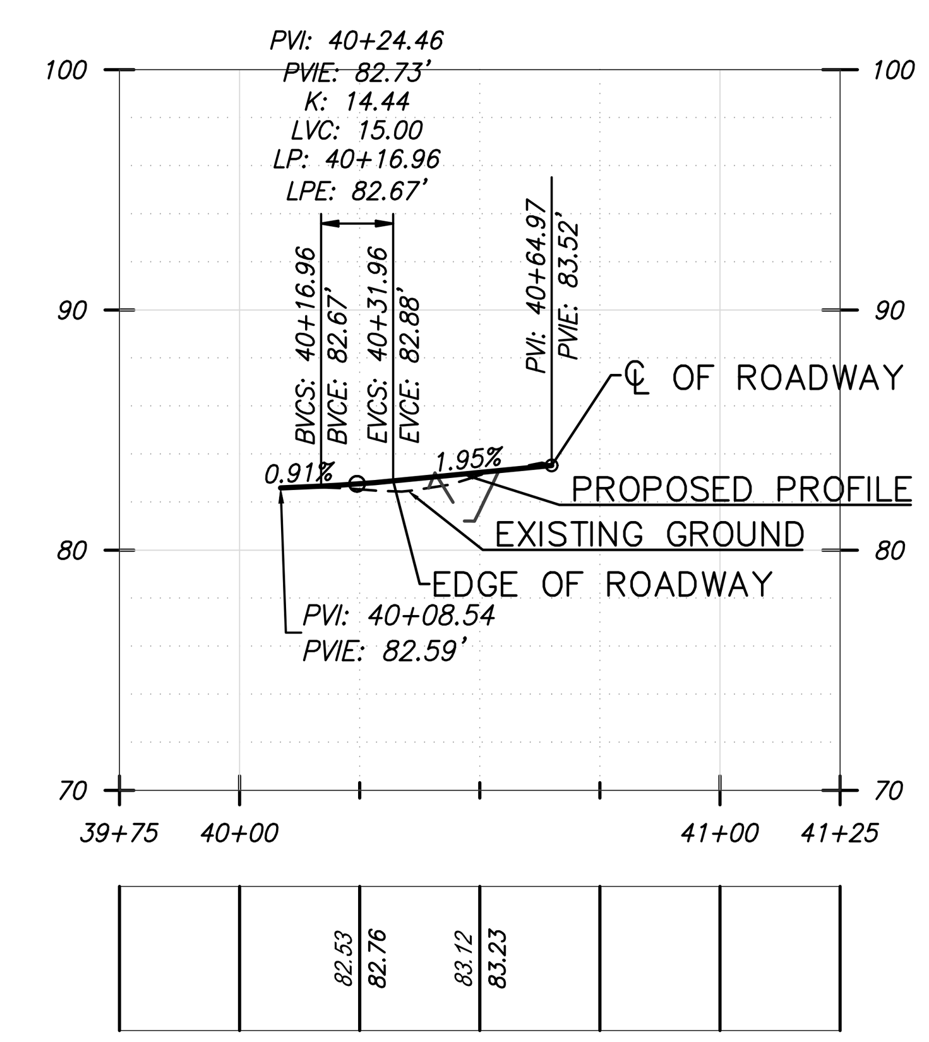

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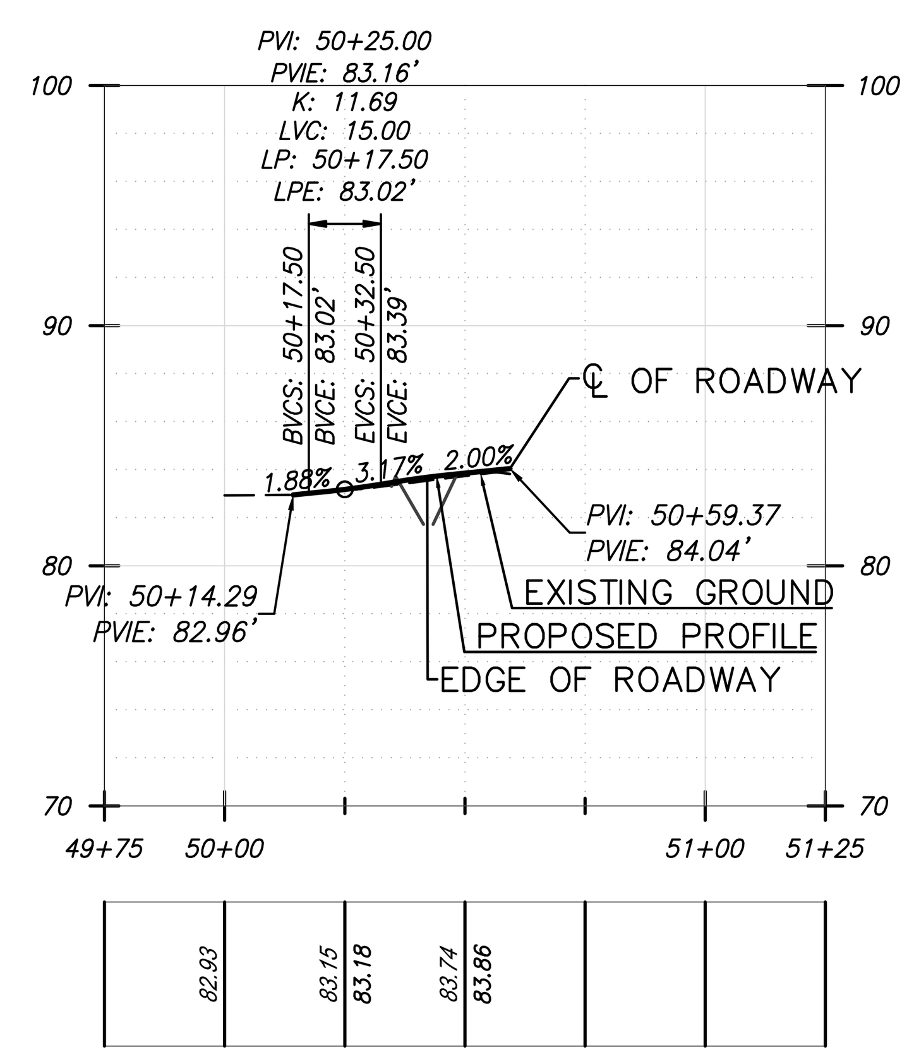

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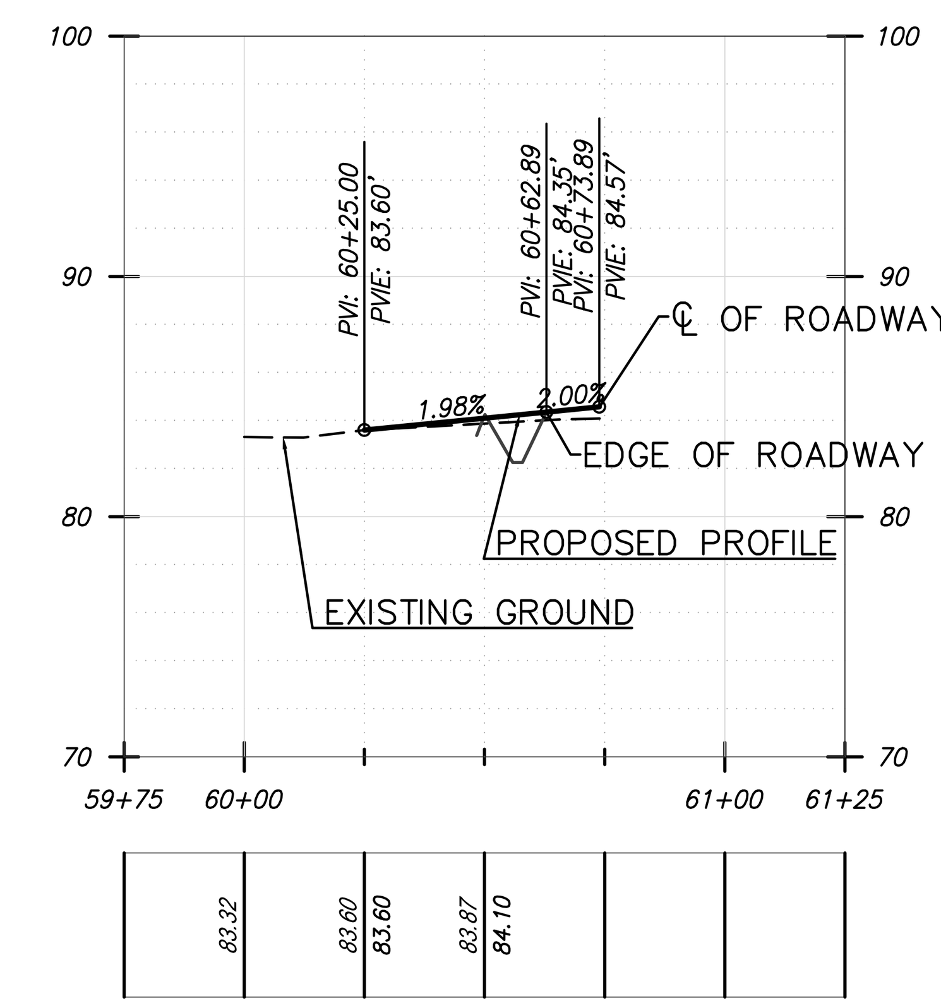
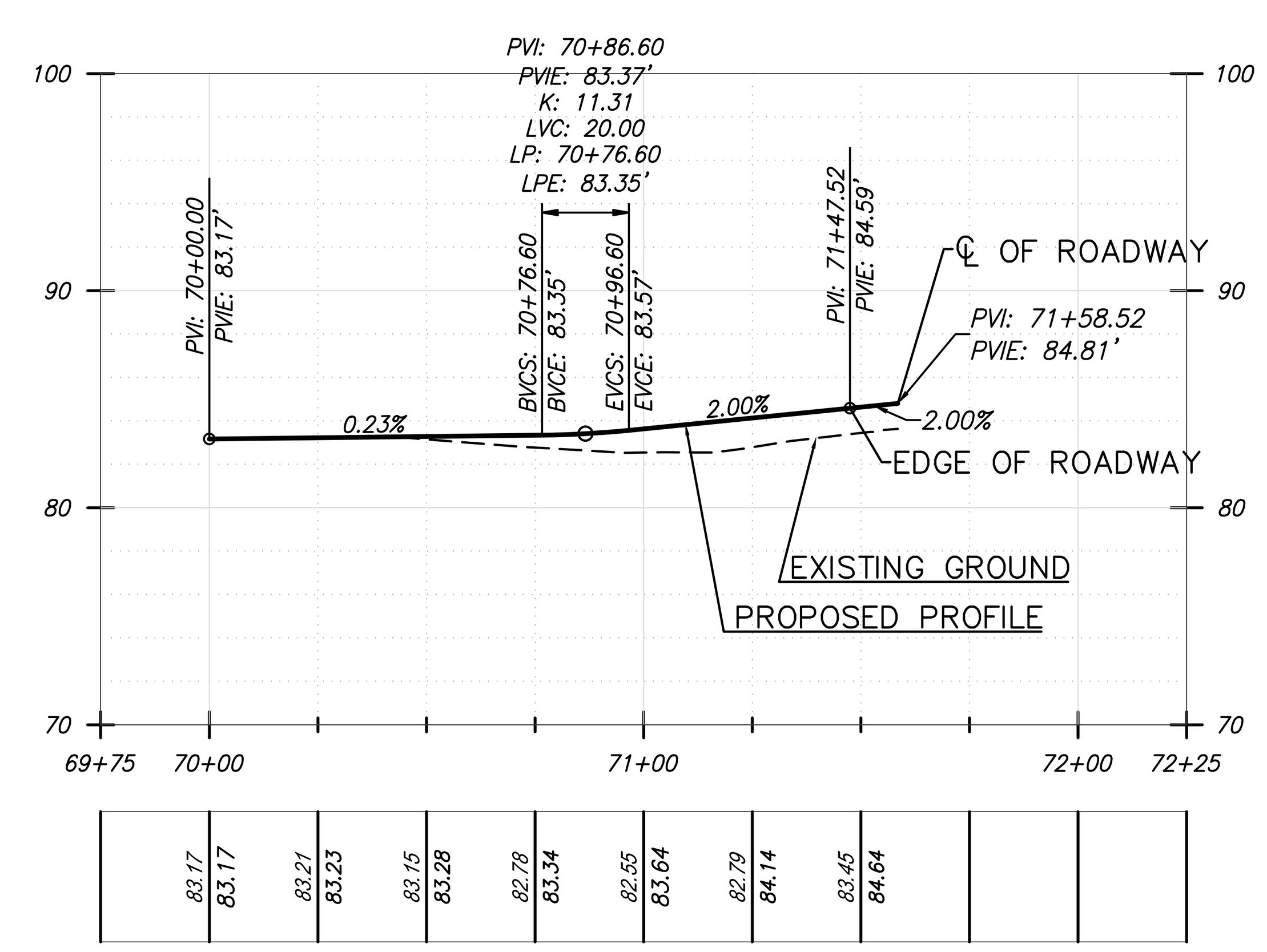
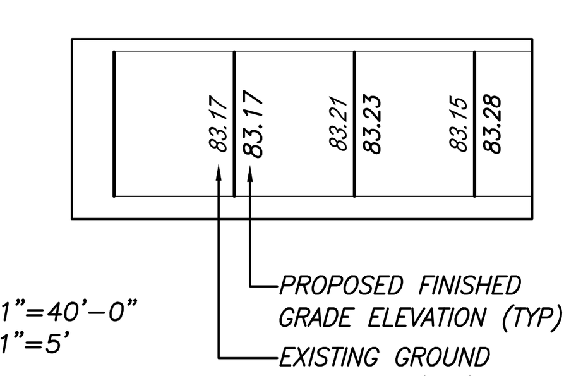


"SDW3" LINE PROFILE



"SDW4" LINE PROFILE

SCALE: H: 1"=40'-0"
V: 1"=5'



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PROFILE SHEET

IMPROVEMENT PLANS FOR:
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OVER ORESTIMBA CREEK
STANISLAUS COUNTY, CALIFORNIA

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SCALE	AS SHOWN

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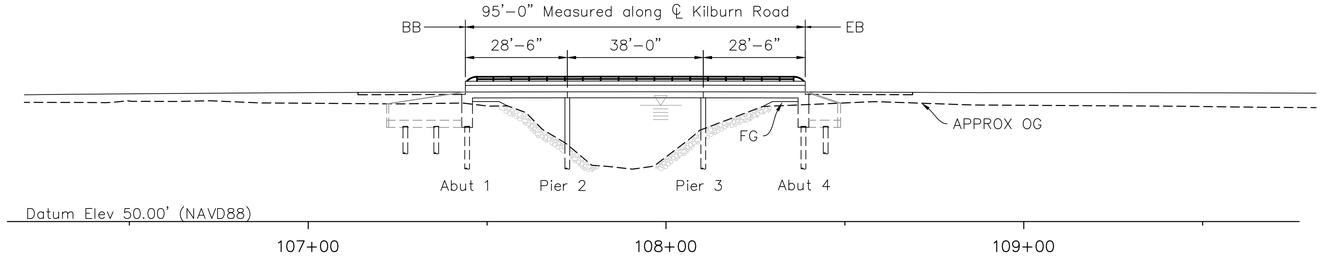
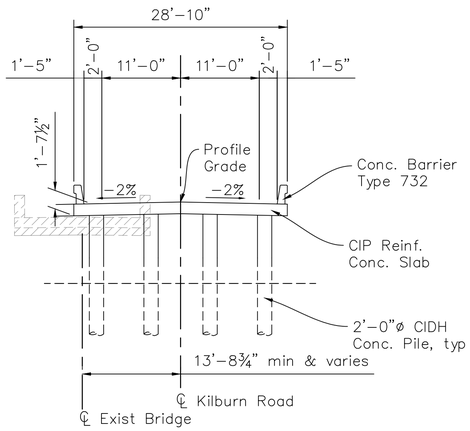


ELEVATION

1" = 20'–0"



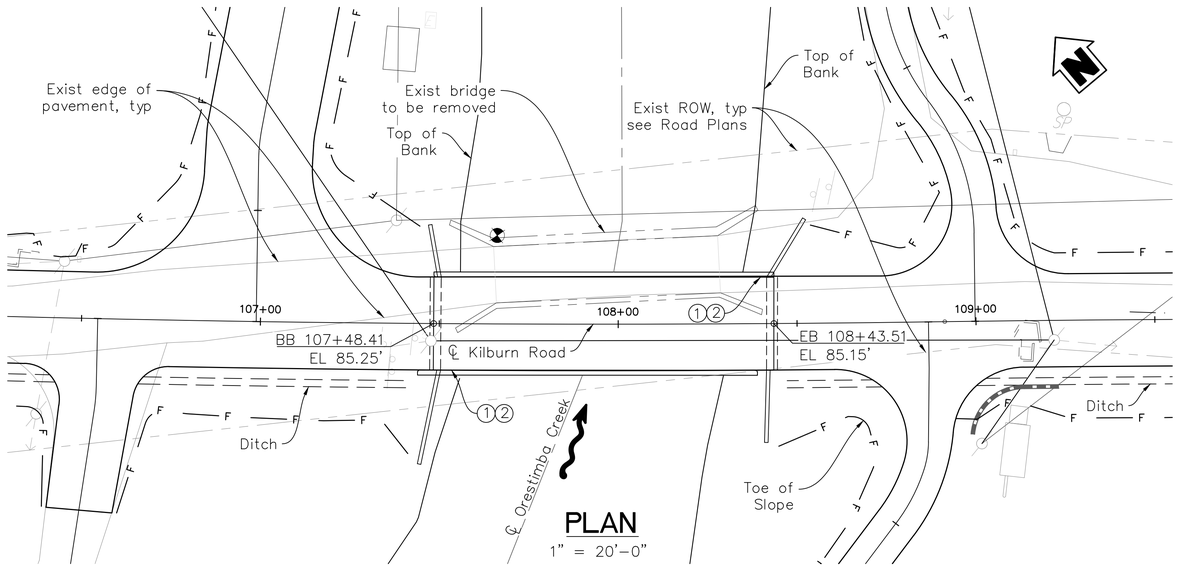
TYPICAL SECTION

1" = 10'–0"

Legend:

(1) Paint "Kilburn Road Bridge"

(2) Paint "Br. No. ???????"



PLAN

1" = 20'–0"

Vehicular Traffic

1. ____ New alignment. No traffic at the site.
2. _X_ Traffic will be detoured away from the site.
3. ____ Traffic will be carried on the structure. Stage construction will/will not be required.
4. ____ Traffic will pass under the structure on

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COVER SHEET

IMPROVEMENT PLANS FOR:
KILBURN ROAD BRIDGE PROJECT
OVER ORESTIMBA CREEK
STANISLAUS COUNTY, CALIFORNIA

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Appendix B – USFWS, CNDDB, CNPS, and NMFS Lists

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Selected Elements by Scientific Name

California Department of Fish and Wildlife

California Natural Diversity Database

Query Criteria: Quad IS (Westley (3712152) OR Brush Lake (3712151) OR Ceres (3712058) OR Crows Landing (3712141) OR Hatch (3712048) OR Newman (3712131) OR Gustine (3712038))

Species	Element Code	Federal Status	State Status	Global Rank	State Rank	Rare Plant Rank/CDFW SSC or FP
Agelaius tricolor tricolored blackbird	ABPBXB0020	None	Threatened	G2G3	S1S2	SSC
Ambystoma californiense California tiger salamander	AAAAA01180	Threatened	Threatened	G2G3	S2S3	WL
Antrozous pallidus pallid bat	AMACC10010	None	None	G5	S3	SSC
Ardea herodias great blue heron	ABNGA04010	None	None	G5	S4	
Astragalus tener var. tener alkali milk-vetch	PDFAB0F8R1	None	None	G2T1	S1	1B.2
Athene cunicularia burrowing owl	ABNSB10010	None	None	G4	S3	SSC
Atriplex cordulata var. cordulata heartscale	PDCHE040B0	None	None	G3T2	S2	1B.2
Atriplex minuscula lesser saltscale	PDCHE042M0	None	None	G2	S2	1B.1
Atriplex persistens vernal pool smallscale	PDCHE042P0	None	None	G2	S2	1B.2
Atriplex subtilis subtle orache	PDCHE042T0	None	None	G1	S1	1B.2
Blepharizonia plumosa big tarplant	PDAST1C011	None	None	G1G2	S1S2	1B.1
Bombus caliginosus obscure bumble bee	IIHYM24380	None	None	G4?	S1S2	
Bombus crotchii Crotch bumble bee	IIHYM24480	None	Candidate Endangered	G3G4	S1S2	
Branchinecta conservatio Conservancy fairy shrimp	ICBRA03010	Endangered	None	G2	S2	
Branchinecta longiantenna longhorn fairy shrimp	ICBRA03020	Endangered	None	G1	S1S2	
Branchinecta lynchi vernal pool fairy shrimp	ICBRA03030	Threatened	None	G3	S3	
Branta hutchinsii leucopareia cackling (=Aleutian Canada) goose	ABNJB05035	Delisted	None	G5T3	S3	WL
Buteo swainsoni Swainson's hawk	ABNKC19070	None	Threatened	G5	S3	
Caulanthus lemmonii Lemmon's jewelflower	PDBRA0M0E0	None	None	G3	S3	1B.2

Species	Element Code	Federal Status	State Status	Global Rank	State Rank	Rare Plant Rank/CDFW SSC or FP
Chloropyron molle ssp. hispidum hispid salty bird's-beak	PDSCR0J0D1	None	None	G2T1	S1	1B.1
Cismontane Alkali Marsh Cismontane Alkali Marsh	CTT52310CA	None	None	G1	S1.1	
Coastal and Valley Freshwater Marsh Coastal and Valley Freshwater Marsh	CTT52410CA	None	None	G3	S2.1	
Corynorhinus townsendii Townsend's big-eared bat	AMACC08010	None	None	G3G4	S2	SSC
Desmocerus californicus dimorphus valley elderberry longhorn beetle	IICOL48011	Threatened	None	G3T2	S2	
Egretta thula snowy egret	ABNGA06030	None	None	G5	S4	
Emys marmorata western pond turtle	ARAAD02030	None	None	G3G4	S3	SSC
Eremophila alpestris actia California horned lark	ABPAT02011	None	None	G5T4Q	S4	WL
Eryngium racemosum Delta button-celery	PDAPI0Z0S0	None	Endangered	G1	S1	1B.1
Eryngium spinosepalum spiny-sepaled button-celery	PDAPI0Z0Y0	None	None	G2	S2	1B.2
Eschscholzia rhombipetala diamond-petaled California poppy	PDPAP0A0D0	None	None	G1	S1	1B.1
Extriplex joaquinana San Joaquin spearscale	PDCHE041F3	None	None	G2	S2	1B.2
Great Valley Valley Oak Riparian Forest Great Valley Valley Oak Riparian Forest	CTT61430CA	None	None	G1	S1.1	
Lanius ludovicianus loggerhead shrike	ABPBR01030	None	None	G4	S4	SSC
Lasiurus blossevillii western red bat	AMACC05060	None	None	G5	S3	SSC
Lasiurus cinereus hoary bat	AMACC05030	None	None	G5	S4	
Lepidurus packardi vernal pool tadpole shrimp	ICBRA10010	Endangered	None	G4	S3S4	
Linderiella occidentalis California linderiella	ICBRA06010	None	None	G2G3	S2S3	
Lytta moesta moestan blister beetle	IICOL4C020	None	None	G2	S2	
Melospiza melodia song sparrow ("Modesto" population)	ABPBXA3010	None	None	G5	S3?	SSC
Mylopharodon conocephalus hardhead	AFCJB25010	None	None	G3	S3	SSC

Species	Element Code	Federal Status	State Status	Global Rank	State Rank	Rare Plant Rank/CDFW SSC or FP
Myotis yumanensis Yuma myotis	AMACC01020	None	None	G5	S4	
Navarretia prostrata prostrate vernal pool navarretia	PDPLM0C0Q0	None	None	G2	S2	1B.2
Oncorhynchus mykiss irideus pop. 11 steelhead - Central Valley DPS	AFCHA0209K	Threatened	None	G5T2Q	S2	
Perognathus inornatus San Joaquin Pocket Mouse	AMAFD01060	None	None	G2G3	S2S3	
Pogonichthys macrolepidotus Sacramento splittail	AFCJB34020	None	None	GNR	S3	SSC
Puccinellia simplex California alkali grass	PMPOA53110	None	None	G3	S2	1B.2
Rana draytonii California red-legged frog	AAABH01022	Threatened	None	G2G3	S2S3	SSC
Sagittaria sanfordii Sanford's arrowhead	PMALI040Q0	None	None	G3	S3	1B.2
Spea hammondii western spadefoot	AAABF02020	None	None	G3	S3	SSC
Sphenopholis obtusata prairie wedge grass	PMPOA5T030	None	None	G5	S2	2B.2
Sycamore Alluvial Woodland Sycamore Alluvial Woodland	CTT62100CA	None	None	G1	S1.1	
Sylvilagus bachmani riparius riparian brush rabbit	AMAEB01021	Endangered	Endangered	G5T1	S1	
Taxidea taxus American badger	AMAJF04010	None	None	G5	S3	SSC
Thamnophis gigas giant gartersnake	ARADB36150	Threatened	Threatened	G2	S2	
Valley Sacaton Grassland Valley Sacaton Grassland	CTT42120CA	None	None	G1	S1.1	
Valley Sink Scrub Valley Sink Scrub	CTT36210CA	None	None	G1	S1.1	
Vireo bellii pusillus least Bell's vireo	ABPBW01114	Endangered	Endangered	G5T2	S2	
Vulpes macrotis mutica San Joaquin kit fox	AMAJA03041	Endangered	Threatened	G4T2	S2	

Record Count: 58

CNPS California Native Plant Society

Inventory of Rare and Endangered Plants

*The database used to provide updates to the Online Inventory is under construction. View updates and changes made since May 2019 here.

Plant List

17 matches found. *Click on scientific name for details*

Search Criteria

Found in Quads 3712152, 3712151, 3712058, 3712141, 3712131 3712038 and 3712048;

Modify Search Criteria | Export to Excel | Modify Columns | Modify Sort | Display Photos

Scientific Name	Common Name	Family	Lifeform	Blooming Period	CA Rare Plant Rank	State Rank	Global Rank
Astragalus tener var. tener	alkali milk-vetch	Fabaceae	annual herb	Mar-Jun	1B.2	S1	G2T1
Atriplex cordulata var. cordulata	heartscale	Chenopodiaceae	annual herb	Apr-Oct	1B.2	S2	G3T2
Atriplex minuscula	lesser saltscale	Chenopodiaceae	annual herb	May-Oct	1B.1	S2	G2
Atriplex persistens	vernal pool smallscale	Chenopodiaceae	annual herb	Jun,Aug,Sep,Oct	1B.2	S2	G2
Atriplex subtilis	subtle orache	Chenopodiaceae	annual herb	Jun,Aug,Sep(Oct)	1B.2	S1	G1
Blepharizonia plumosa	big tarplant	Asteraceae	annual herb	Jul-Oct	1B.1	S1S2	G1G2
Centromadia parryi ssp. rudis	Parry's rough tarplant	Asteraceae	annual herb	May-Oct	4.2	S3	G3T3
Chloropyron molle ssp. hispidum	hispid bird's-beak	Orobanchaceae	annual herb (hemiparasitic)	Jun-Sep	1B.1	S1	G2T1
Eryngium racemosum	Delta button-celery	Apiaceae	annual / perennial herb	Jun-Oct	1B.1	S1	G1
Eryngium spinosepalum	spiny-sepaled button-celery	Apiaceae	annual / perennial herb	Apr-Jun	1B.2	S2	G2
Eschscholzia rhombipetala	diamond-petaled California poppy	Papaveraceae	annual herb	Mar-Apr	1B.1	S1	G1
Extriplex joaquinana	San Joaquin spearscale	Chenopodiaceae	annual herb	Apr-Oct	1B.2	S2	G2
Myosurus minimus ssp. apus	little mousetail	Ranunculaceae	annual herb	Mar-Jun	3.1	S2	G5T2Q
Navarretia prostrata	prostrate vernal pool navarretia	Polemoniaceae	annual herb	Apr-Jul	1B.1	S2	G2
Puccinellia simplex	California alkali grass	Poaceae	annual herb	Mar-May	1B.2	S2	G3
Sagittaria sanfordii	Sanford's arrowhead	Alismataceae	perennial rhizomatous herb (emergent)	May-Oct(Nov)	1B.2	S3	G3
Sphenopholis obtusata	prairie wedge grass	Poaceae	perennial herb	Apr-Jul	2B.2	S2	G5

Suggested Citation

California Native Plant Society, Rare Plant Program. 2020. Inventory of Rare and Endangered Plants of California (online edition, v8-03 0.39). Website http://www.rareplants.cnps.org [accessed 18 May 2020].

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The Jepson Flora Project
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From:	Kristin Nurmela
To:	nmfswcrca.specieslist@noaa.gov
Subject:	Caltrans District 10; Kilburn Road Bridge Replacement at Orestimba Creek
Date:	Monday, May 18, 2020 5:40:00 PM
Attachments:	image003.png

Federal agency name and address:

Karimeh Juma
Associate Environmental Planner
California Department Of Transportation – District 10
1976 E. Dr. Martin Luther King, Jr. Blvd.
Stockton, CA 95205
209 942 6045
Karimeh.Juma@dot.ca.gov

Non-federal agency (Project Proponent):

Earl Seaberg
Stanislaus County Public Works
1716 Morgan Road
Modesto, CA 95358
209 525 4138
seaberge@stancounty.com

Point-of-contact:

Kristin Nurmela, Associate Environmental Planner
kristin.nurmela@lsa.net
916 844 2961

Search Results for the Project Area Quadrangles:

Quad Name **Crows Landing**

Quad Number **37121-D1**

ESA Anadromous Fish

SONCC Coho ESU (T) -
CCC Coho ESU (E) -
CC Chinook Salmon ESU (T) -
CVSR Chinook Salmon ESU (T) -
SRWR Chinook Salmon ESU (E) -
NC Steelhead DPS (T) -
CCC Steelhead DPS (T) -
SCCC Steelhead DPS (T) -
SC Steelhead DPS (E) -
CCV Steelhead DPS (T) - **X**

Eulachon (T) -

sDPS Green Sturgeon (T) -

ESA Anadromous Fish Critical Habitat

SONCC Coho Critical Habitat -

CCC Coho Critical Habitat -

CC Chinook Salmon Critical Habitat -

CVSR Chinook Salmon Critical Habitat -

SRWR Chinook Salmon Critical Habitat -

NC Steelhead Critical Habitat -

CCC Steelhead Critical Habitat -

SCCC Steelhead Critical Habitat -

SC Steelhead Critical Habitat -

CCV Steelhead Critical Habitat - X

Eulachon Critical Habitat -

sDPS Green Sturgeon Critical Habitat -

ESA Marine Invertebrates

Range Black Abalone (E) -

Range White Abalone (E) -

ESA Marine Invertebrates Critical Habitat

Black Abalone Critical Habitat -

ESA Sea Turtles

East Pacific Green Sea Turtle (T) -

Olive Ridley Sea Turtle (T/E) -

Leatherback Sea Turtle (E) -

North Pacific Loggerhead Sea Turtle (E) -

ESA Whales

Blue Whale (E) -

Fin Whale (E) -

Humpback Whale (E) -

Southern Resident Killer Whale (E) -

North Pacific Right Whale (E) -

Sei Whale (E) -

Sperm Whale (E) -

ESA Pinnipeds

Guadalupe Fur Seal (T) -

Steller Sea Lion Critical Habitat -

Essential Fish Habitat

Coho EFH -

Chinook Salmon EFH - **X**

Groundfish EFH -

Coastal Pelagics EFH -

Highly Migratory Species EFH -

MMPA Species (See list at left)

ESA and MMPA Cetaceans/Pinnipeds

See list at left and consult the NMFS Long Beach office 562-980-4000

MMPA Cetaceans -

MMPA Pinnipeds -

Kristin Nurmela | Associate/Natural Resources Planner
LSA | 201 Creekside Ridge Court, Suite 250
Roseville, CA 95678
– – – – – – – – – – –
916-772-7450 Main
916-844-2961 Direct
Website

From: NMFSWCRCA Specieslist - NOAA Service Account
To: Kristin Nurmela
Subject: Re: Caltrans District 10; Kilburn Road Bridge Replacement at Orestimba Creek
Date: Monday, May 18, 2020 5:41:03 PM

Receipt of this message confirms that NMFS has received your email to nmfswcrca.specieslist@noaa.gov. If you are a federal agency (or representative) and have followed the steps outlined on the California Species List Tools web page (http://www.westcoast.fisheries.noaa.gov/maps_data/california_species_list_tools.html), you have generated an official Endangered Species Act species list.

Messages sent to this email address are not responded to directly. For project specific questions, please contact your local NMFS office.

Northern California/Klamath (Arcata) 707-822-7201

North-Central Coast (Santa Rosa) 707-387-0737

Southern California (Long Beach) 562-980-4000

California Central Valley (Sacramento) 916-930-3600

United States Department of the Interior

FISH AND WILDLIFE SERVICE
Sacramento Fish And Wildlife Office
Federal Building
2800 Cottage Way, Room W-2605
Sacramento, CA 95825-1846
Phone: (916) 414-6600 Fax: (916) 414-6713

In Reply Refer To: May 18, 2020
Consultation Code: 08ESMF00-2019-SLI-2820
Event Code: 08ESMF00-2020-E-06077
Project Name: Kilburn Road Bridge Replacement at Orestimba Creek

Subject: Updated list of threatened and endangered species that may occur in your proposed project location, and/or may be affected by your proposed project

To Whom It May Concern:

The enclosed species list identifies threatened, endangered, proposed and candidate species, as well as proposed and final designated critical habitat, under the jurisdiction of the U.S. Fish and Wildlife Service (Service) that may occur within the boundary of your proposed project and/or may be affected by your proposed project. The species list fulfills the requirements of the Service under section 7(c) of the Endangered Species Act (Act) of 1973, as amended (16 U.S.C. 1531 *et seq.*).

Please follow the link below to see if your proposed project has the potential to affect other species or their habitats under the jurisdiction of the National Marine Fisheries Service:

http://www.nwr.noaa.gov/protected_species/species_list/species_lists.html

New information based on updated surveys, changes in the abundance and distribution of species, changed habitat conditions, or other factors could change this list. Please feel free to contact us if you need more current information or assistance regarding the potential impacts to federally proposed, listed, and candidate species and federally designated and proposed critical habitat. Please note that under 50 CFR 402.12(e) of the regulations implementing section 7 of the Act, the accuracy of this species list should be verified after 90 days. This verification can be completed formally or informally as desired. The Service recommends that verification be completed by visiting the ECOS-IPaC website at regular intervals during project planning and implementation for updates to species lists and information. An updated list may be requested through the ECOS-IPaC system by completing the same process used to receive the enclosed list.

The purpose of the Act is to provide a means whereby threatened and endangered species and the ecosystems upon which they depend may be conserved. Under sections 7(a)(1) and 7(a)(2) of the Act and its implementing regulations (50 CFR 402 *et seq.*), Federal agencies are required to utilize their authorities to carry out programs for the conservation of threatened and endangered species and to determine whether projects may affect threatened and endangered species and/or designated critical habitat.

A Biological Assessment is required for construction projects (or other undertakings having similar physical impacts) that are major Federal actions significantly affecting the quality of the human environment as defined in the National Environmental Policy Act (42 U.S.C. 4332(2)(c)). For projects other than major construction activities, the Service suggests that a biological evaluation similar to a Biological Assessment be prepared to determine whether the project may affect listed or proposed species and/or designated or proposed critical habitat. Recommended contents of a Biological Assessment are described at 50 CFR 402.12.

If a Federal agency determines, based on the Biological Assessment or biological evaluation, that listed species and/or designated critical habitat may be affected by the proposed project, the agency is required to consult with the Service pursuant to 50 CFR 402. In addition, the Service recommends that candidate species, proposed species and proposed critical habitat be addressed within the consultation. More information on the regulations and procedures for section 7 consultation, including the role of permit or license applicants, can be found in the "Endangered Species Consultation Handbook" at:

http://www.fws.gov/endangered/esa-library/pdf/TOC-GLOS.PDF

Please be aware that bald and golden eagles are protected under the Bald and Golden Eagle Protection Act (16 U.S.C. 668 *et seq.*), and projects affecting these species may require development of an eagle conservation plan (http://www.fws.gov/windenergy/eagle_guidance.html). Additionally, wind energy projects should follow the wind energy guidelines (http://www.fws.gov/windenergy/) for minimizing impacts to migratory birds and bats.

Guidance for minimizing impacts to migratory birds for projects including communications towers (e.g., cellular, digital television, radio, and emergency broadcast) can be found at: http://www.fws.gov/migratorybirds/CurrentBirdIssues/Hazards/towers/towers.htm; http://www.towerkill.com; and http://www.fws.gov/migratorybirds/CurrentBirdIssues/Hazards/towers/comtow.html.

We appreciate your concern for threatened and endangered species. The Service encourages Federal agencies to include conservation of threatened and endangered species into their project planning to further the purposes of the Act. Please include the Consultation Tracking Number in the header of this letter with any request for consultation or correspondence about your project that you submit to our office.

Attachment(s):

- Official Species List

Official Species List

This list is provided pursuant to Section 7 of the Endangered Species Act, and fulfills the requirement for Federal agencies to "request of the Secretary of the Interior information whether any species which is listed or proposed to be listed may be present in the area of a proposed action".

This species list is provided by:

Sacramento Fish And Wildlife Office
Federal Building
2800 Cottage Way, Room W-2605
Sacramento, CA 95825-1846
(916) 414-6600

Project Summary

Consultation Code: 08ESMF00-2019-SLI-2820

Event Code: 08ESMF00-2020-E-06077

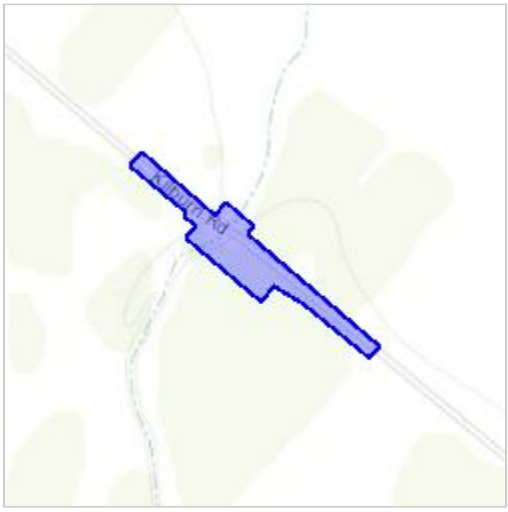
Project Name: Kilburn Road Bridge Replacement at Orestimba Creek

Project Type: TRANSPORTATION

Project Description: Stanislaus County Public Works (County), in cooperation with the California Department of Transportation (Caltrans) District 10, proposes to replace the existing Kilburn Road Bridge (Br. No. 38C0168) at Orestimba Creek, approximately 0.3 mile southeast from the intersection of Crows Landing and Kilburn Roads, near Crows Landing, Stanislaus County, California. The project would replace the existing two-lane, single-span bridge with a new two-lane, three-span bridge on the same general alignment as the existing bridge. The proposed bridge replacement project has been funded by the Federal Highway Bridge Program (HBP) and the Toll Credit Program, and recently the Federal Moving Ahead for Progress in the 21st Century Program (MAP-21). Caltrans is the lead agency under the National Environmental Policy Act (NEPA). The County is the lead agency under the California Environmental Quality Act (CEQA).

Project Location:

Approximate location of the project can be viewed in Google Maps: https://www.google.com/maps/place/37.39874040646512N121.03224316231041W



Counties: Stanislaus, CA

Endangered Species Act Species

There is a total of 9 threatened, endangered, or candidate species on this species list.

Species on this list should be considered in an effects analysis for your project and could include species that exist in another geographic area. For example, certain fish may appear on the species list because a project could affect downstream species.

IPaC does not display listed species or critical habitats under the sole jurisdiction of NOAA Fisheries[1], as USFWS does not have the authority to speak on behalf of NOAA and the Department of Commerce.

See the "Critical habitats" section below for those critical habitats that lie wholly or partially within your project area under this office's jurisdiction. Please contact the designated FWS office if you have questions.

---

1. NOAA Fisheries, also known as the National Marine Fisheries Service (NMFS), is an office of the National Oceanic and Atmospheric Administration within the Department of Commerce.

Mammals

NAME	STATUS
San Joaquin Kit Fox *Vulpes macrotis mutica* No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/2873	Endangered

Reptiles

NAME	STATUS
Blunt-nosed Leopard Lizard *Gambelia silus* No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/625	Endangered
Giant Garter Snake *Thamnophis gigas* No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/4482	Threatened

Amphibians

NAME	STATUS
California Red-legged Frog *Rana draytonii*	Threatened

There is **final** critical habitat for this species. Your location is outside the critical habitat.
Species profile: https://ecos.fws.gov/ecp/species/2891
Species survey guidelines:
https://ecos.fws.gov/ipac/guideline/survey/population/205/office/11420.pdf

California Tiger Salamander *Ambystoma californiense*	Threatened

Population: U.S.A. (Central CA DPS)
There is **final** critical habitat for this species. Your location is outside the critical habitat.
Species profile: https://ecos.fws.gov/ecp/species/2076

Fishes

NAME	STATUS
Delta Smelt *Hypomesus transpacificus*	Threatened

There is **final** critical habitat for this species. Your location is outside the critical habitat.
Species profile: https://ecos.fws.gov/ecp/species/321

Insects

NAME	STATUS
Valley Elderberry Longhorn Beetle *Desmocerus californicus dimorphus*	Threatened

There is **final** critical habitat for this species. Your location is outside the critical habitat.
Species profile: https://ecos.fws.gov/ecp/species/7850
Habitat assessment guidelines:
https://ecos.fws.gov/ipac/guideline/assessment/population/436/office/11420.pdf

Crustaceans

NAME	STATUS
Vernal Pool Fairy Shrimp *Branchinecta lynchi*	Threatened

There is **final** critical habitat for this species. Your location is outside the critical habitat.
Species profile: https://ecos.fws.gov/ecp/species/498

Vernal Pool Tadpole Shrimp *Lepidurus packardi*	Endangered

There is **final** critical habitat for this species. Your location is outside the critical habitat.
Species profile: https://ecos.fws.gov/ecp/species/2246

Critical habitats

THERE ARE NO CRITICAL HABITATS WITHIN YOUR PROJECT AREA UNDER THIS OFFICE'S JURISDICTION.

Appendix C – Preliminary Jurisdictional Delineation

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BERKELEY
CARLSBAD
FRESNO
IRVINE
PALM SPRINGS
POINT RICHMOND
RIVERSIDE
ROSEVILLE
SAN LUIS OBISPO

January 2, 2018

Dylan Van Dyne
Regulatory Project Manager, Sacramento Office
U.S. Army Corps of Engineers - Regulatory Branch
1325 J Street, Suite 1350
Sacramento, CA 95814-2922

Subject: Preliminary Delineation of Potential Waters of the U.S. – Kilburn Road Bridge Replacement at Orestimba Creek, Bridge No. 38C0168, Stanislaus County, California

Dear Mr. Van Dyne:

This letter, prepared by LSA on behalf of the Stanislaus County Department of Public Works, presents the results of a preliminary delineation of potential waters of the U.S. for the Kilburn Road Bridge Replacement at Orestimba Creek (review area). Included herein are a brief description of the review area, an explanation of the methods used during the delineation, and a discussion of the results.

INTRODUCTION

The review area, totaling 9.89 acres, is approximately 2,218 feet (ft) in length and consists of a 125 ft wide right-of-way centered on Kilburn Road, and proposed access and staging areas on the south side of the existing road. The review area is located in western Stanislaus County near Crows Landing, approximately 0.3 mile (mi) southeast from the intersection of Crows Landing Road and Kilburn Road. Topography is mostly flat with some shallow undulation; the elevation varies from approximately 80-90 ft above mean sea level (Figures 1 and 2).

Environmental Setting

The review area is located in Sections 19 and 24 of Township 6 south and Ranges 8 and 9 east. Topography in the region varies from lowlands of the valley floor to the rolling terrain of the foothills. Land use in the region primarily consists of agriculture, with small scattered areas of residential housing and development. The review area is surrounded by orchards and is bisected northwest to southeast by Kilburn Road.

Natural habitats comprise approximately 0.86 acre of the review area and include black walnut and valley oak riparian communities. Other vegetation communities, totaling 5.73 acres, include orchards and ruderal areas. The remaining 3.30 acres are devoted to developed land uses.

Aquatic features within the review area are limited to Orestimba Creek. Orestimba Creek is a perennial stream which flows southwest to northeast through the review area. Orestimba Creek

201 Creekside Ridge Court, Suite 250, Roseville, California 95678 916.772.7450 www.lsa.net

generally meanders north, terminating in the San Joaquin River approximately 2.93 miles downstream of the review area.

The review area contains the following soil types, as shown in Figure 3:

- Vernalis clay loam, 0 to 2 percent slopes (125)
- Elsalado loam, 0 to 2 percent slopes (274)

The Vernalis-series soils consist of very deep, well drained soils that formed in alluvium from mixed rock sources. These soils are typical found on alluvial fans and flood plains with slopes of 0 to 5 percent. The Elsalado-series soils are very deep, well drained soils formed in alluvium from sandstone and shale. These soils are also found on alluvial fans and have slopes of 0 to 2 percent. Neither of the soil types within the review area are characterized as hydric soils (NRCS Soil Survey Stanislaus County, California, Western Part).

METHODS

A delineation of waters of the U.S. potentially subject to regulation by the Army Corps of Engineers (ACOE) was conducted on July 24, 2012 by LSA biologist Mike Trueblood and on November 17, 2017, by LSA biologist Anna Van Zuuk.

All potential waters of the U.S. in the review area were delineated in accordance with the 1987 Corps of Engineers Wetlands Delineation Manual and the 2008 Regional Supplement – Arid West Region. A total of three formal observation points were described in the field. At each point, a pit was dug and soils and hydrology examined; vegetation was also characterized at each data point. Copies of the field data forms are attached.

Potential waters of the U.S. were located in the field using a GPS unit with sub-meter accuracy. All data was entered into a GIS database to calculate the extent of potential waters of the U.S. in the review area and to produce the final mapping. Final mapping was completed using color aerial photos, dated June 2016, at a scale of 1 inch = 150 feet.

RESULTS

A total of 0.28 acre of potential jurisdictional waters were mapped in the review area. Areas potentially meeting ACOE criteria for wetlands in the review area total 0.17 acre; areas considered non-wetland waters in the review area total 0.11 acre. See attached Figure 4 and Preliminary Jurisdictional Delineation (JD) Form. Representative photos are also provided in Figure 5.

Wetlands

Potential wetlands in the review area generally occur adjacent to the low-flow channel of Orestimba Creek, and are characterized by data points 1, 2, and 3. Wetland data forms are provided as an attachment to this letter.

Data collection points 1, 2, and 3 were dominated by a variety of hydrophytic vegetation including Fremont cottonwood (*Populus fremontii*) – FACW, arroyo willow (*Salix lasiolepis*) – FACW, giant reed (*Arundo donax*) – FACW, rice cutgrass (*Leersia oryzoides*) – OBL, northern California black walnut (*Juglans hindsii*) – FAC, prostrate knotweed (*Polygonum aviculare ssp. depressum*) – FAC, and Goodding's black willow (*Salix gooddingii*) – FACW. Other hydrophytic vegetation present by not dominant included tall flatsedge (*Cyperus eragrostis*) – FACW, rabbitsfoot grass (*Polypogon monspeliensis*) – FACW, California mugwort (*Artemisia douglasiana*) – FAC, blue elderberry (*Sambucus nigra ssp. caerulea*) – FAC, and Virginia creeper (*Parthenocissus quinquefolia*) – FAC. Since all three data points were dominated by hydrophytic species according to the ACOE, the vegetation criterion for wetlands was met.

Indicators for hydric soils were observed at data points 1, 2, and 3. Data point 1 consisted of a layer of loamy sand with a Munsell moist color of 10YR 3/1 to 14 inches and contained 30 percent redoxomorphic concentrations in the matrix of 7.5YR 3/4. Data point 2 consisted of a layer of loamy sand to 9 inches with a Munsell moist color of 10YR 3/1 and contained 20 percent redoxomorphic concentrations in the matrix of 7.5YR 3/4. Data point 3 consisted of three layers: 0 to 4 inches of silty clay with a Munsell moist color of 10YR 3/2 containing 8 percent redoxomorphic concentrations in the matrix of 7.5YR 3/3, 4 to 10 inches of loamy sand mixed with gravel with the same Munsell color, and 10 to 15 inches of silty clay with the same Munsell color containing 20 percent redoxomorphic concentrations in the matrix of 7.5YR 4/6. All three data points meet the requirements of the Redox Dark Surface indicator for hydric soils, and thus meet the ACOE hydric soils criterion for wetlands.

Hydrology indicators identified included surface water, saturation, and water-stained leaves, which are primary indicators for hydrology, as well as drift deposits (riverine), which is a secondary indicator for hydrology, and thus meet the minimum ACOE hydrology criterion for wetlands.

Corresponding upland data points were taken to help determine the upland/wetland boundary (data points 1a, 2a, and 3a). In areas where vegetation was problematic due to lack of cover nearby undisturbed vegetation was used to catalog hydrophytic vegetation. This is consistent with the2008 Regional Supplement – Arid West Region guidelines for problematic hydrophytic vegetation.

Non-Wetland Waters

Areas that were sampled and determined to be non-wetland waters include the live channel of Orestimba Creek (data points 1a, 2a, and 3a).

CONCLUSIONS

A total of 0.28 acre of potential waters of the U.S. were mapped in the review area, consisting of approximately 0.17 acre of potential wetlands and 0.11 acre of non-wetland waters, as shown in Figure 4 and summarized in Table 1 below.

Table 1: Summary of Potential Jurisdictional Waters in the Review Area

Type	Total
Wetlands	0.17 acre
Non-Wetland Waters	0.11 acre
Total	0.28 acre

Please contact me at 916-772-7450 or Anna. VanZuuk@lsa.net if you have any questions about the delineation.

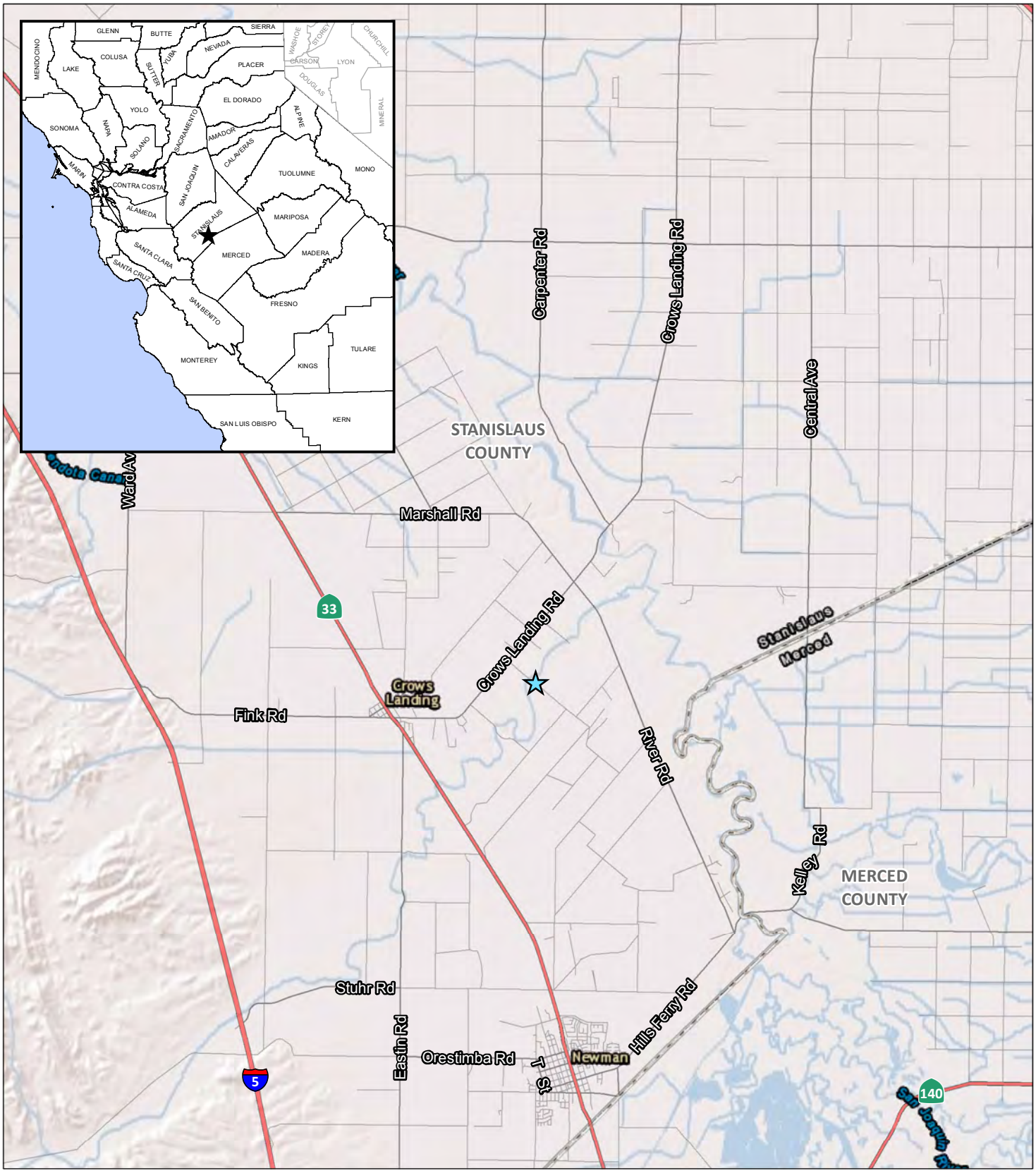
Sincerely,

LSA Associates, Inc.

Anna Van Zuuk
Assistant Biologist/Botanist

Attachments

cc:



LEGEND

Project Location

FIGURE 1

Kilburn Road Bridge over Orestimba Creek (38C0168)
Replacement Project in Stanislaus County
Caltrans District 10; Federal Aid No. BRLO-5938(157)

Regional Location

0 1 2
MILES

SOURCE: ESRI Imagery (2014)

I:\Dea1101\GIS\Reports\PJD\PJD_Fig1_Regional_loc.mxd (12/6/2017)

LEGEND

Review Area - (9.89 ac)

FIGURE 2

0 1000 2000

FEET

SOURCE: NAIP Aerial Imagery (06/2016)

I:\Dea1101\GIS\Reports\PJD\PJD_Fig2_Prj_vic_aerial.mxd (12/8/2017)

Kilburn Road Bridge over Orestimba Creek (38C0168)
Replacement Project in Stanislaus County
Caltrans District 10; Federal Aid No. BRLO-5938(157)

Project Vicinity on Aerial Base

LEGEND

Review Area - (9.89 ac)

NRCS Soil Classifications

125 - Vernalis clay loam, 0 to 2 percent slopes

274 - Elsalado loam, 0 to 2 percent slopes

0 75 150
FEET

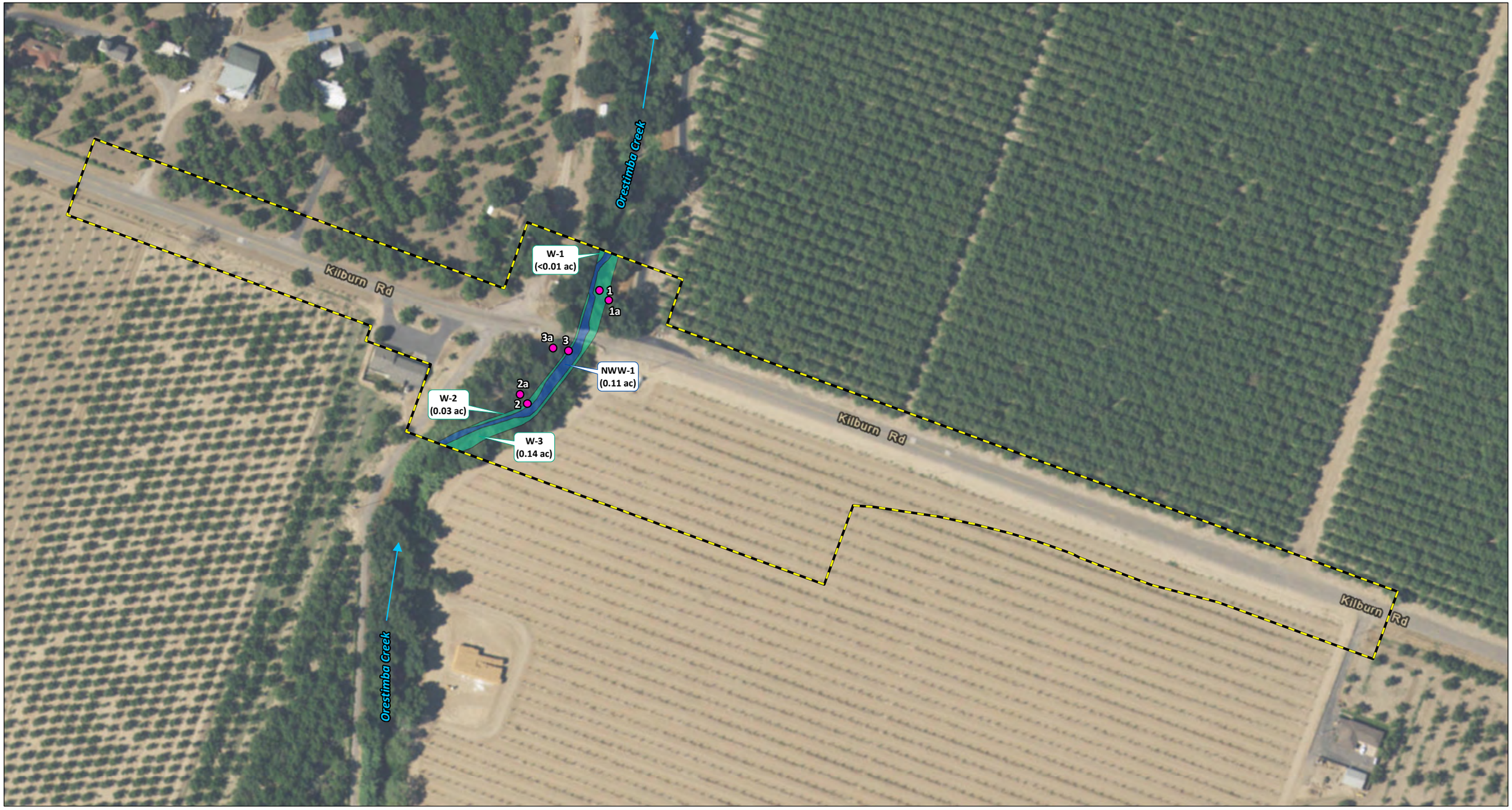
FIGURE 3

Kilburn Road Bridge over Orestimba Creek (38C0168)
Replacement Project in Stanislaus County
Caltrans District 10; Federal Aid No. BRLO-5938(157)

NRCS Soil Classifications

SOURCE: NAIP (06/2016); Mapping - NRCS Soil Survey of Stanislaus County, Western Part (2002)

I:\Dea1101\GIS\Reports\PJD\PJD_Fig3_Soils.mxd (12/8/2017)



LEGEND

- Biological Study Area - (9.89 ac)
- Data Point

Potential Jurisdictional Waters of the U.S. - (0.28 ac)

- Wetlands - (0.17 ac)
- Non-Wetland Waters - (0.11 ac)

0 75 150
FEET

SOURCE: NAIP (06/2016); Mapping - LSA (2017)

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FIGURE 4

Kilburn Road Bridge over Orestimba Creek (38C0168)
Replacement Project in Stanislaus County
Caltrans District 10; Federal Aid No. BRLO-5938(157)

Potential Jurisdictional Waters of the U.S.

Data point 1.

Data point 1a.

Data point 2.

Data point 2a.

FIGURE 5
Page 1 of 3

Kilburn Road Bridge over Orestimba Creek (38C0168)
Replacement Project in Stanislaus County
Caltrans District 10; Federal Project No. BRLS-5938(157)

Representative Photos

SOURCE: LSA (11/17).

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Data point 3.

Data point 3a.

Looking east at the Kilburn Road bridge.

East side of the Kilburn Road bridge looking north.

FIGURE 5
Page 2 of 3

Kilburn Road Bridge over Orestimba Creek (38C0168)
Replacement Project in Stanislaus County
Caltrans District 10; Federal Project No. BRLS-5938(157)

Representative Photos

SOURCE: LSA (11/17).

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East side of Kilburn Road bridge looking west towards bridge.

View from Kilburn Road bridge looking west.

Creek channel looking south from beneath bridge.

FIGURE 5
Page 3 of 3

Kilburn Road Bridge over Orestimba Creek (38C0168)
Replacement Project in Stanislaus County
Caltrans District 10; Federal Project No. BRLS-5938(157)

Representative Photos

SOURCE: LSA (11/17).

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REQUEST FOR JURISDICTIONAL DETERMINATION

This form should be used when a jurisdictional determination (JD) is required from the U.S. Army Corps of Engineers, Sacramento District. It is intended to help both the requestor and the Corps in determining which type of JD, if any, is appropriate. Use of the form is optional; however the information and consent is needed to complete a JD. If you are applying for a Department of the Army permit, you do not need to request a JD. A jurisdictional determination is not required to process a permit application. At the time an application is submitted, the Corps will assume the aquatic resources on the parcel/within the review area are waters of the United States for the purpose of making a permit decision. With no JD requested, the permit application may be processed more quickly. The permittee retains the ability to request a JD any time during or after the permit application review process.

I am requesting the U.S. Army Corps of Engineers, Sacramento District, complete a jurisdictional determination for the parcel/review area located at:

Street Address: 21943 Kilburn Road City: Crows Landing County: Stanislaus
State: CA Zip: 95313 Section: 19, 24 Township: 6S Range: 8E,9E
Latitude (decimal degrees): 37.398767 Longitude (decimal degrees): -121.032063
The approximate size of the review area for the JD is 9.89 acres. **(Please attach location map)**

Choose one:
- ☐ I currently own this property.
- ☐ I plan to purchase this property.
- ☑ I am an agent/consultant acting on behalf of the requestor.
- ☐ Other: _____

Choose one:
- ☐ I am requesting an Approved JD.
- ☑ I am requesting a Preliminary JD.
- ☐ I am unclear as to which JD I would like to request and require additional information to inform my decision.

Reason for request: (check all that apply)
- ☐ I intend to construct/develop a project or perform activities on this parcel/review area which would be designed to avoid all aquatic resources.
- ☐ I intend to construct/develop a project or perform activities on this parcel/review area which would be designed to avoid all jurisdictional aquatic resources under Corps authority.
- ☑ I intend to construct/develop a project or perform activities on this parcel/review area which may require authorization from the Corps, and the JD would be used to avoid and minimize impacts to jurisdictional aquatic resources and as an initial step in a future permitting process.
- ☐ I intend to construct/develop a project or perform activities on this parcel/review area which may require authorization from the Corps; this request is accompanied by my permit application and the JD is to be used in the permitting process.
- ☐ I intend to construct/develop a project or perform activities in a navigable water of the U.S. which is included on the district's list of navigable waters under Section 10 of the Rivers and Harbors Act of 1899 and/or is subject to the ebb and flow of the tide.
- ☐ A JD is required in order to obtain my local/state authorization.
- ☐ I intend to contest jurisdiction over a particular aquatic resource and request the Corps confirm that jurisdiction does/does not exist over the aquatic resource on the parcel/review.
- ☐ I believe that the parcel/review area may be comprised entirely of dry land.

Other: _____

Attached Information:
- ☑ Maps depicting the general location and aquatic resources within the review area consistent with Map and Drawing Standards for the South Pacific Division Regulatory Program (Public Notice February 2016, http://www.spd.usace.army.mil/Missions/Regulatory/Public-Notices-and-References/Article/651327/updated-map-and-drawing-standards/)
- ☑ Aquatic Resources Delineation Report, if available, consistent with the Sacramento District's Minimum Standards for Acceptance (Public Notice January 2016, http://1.usa.gov/1V68IYa)

By signing below, you are indicating that you have the authority, or are acting as the duly authorized agent of a person or entity with such authority, to and do hereby grant Corps personnel right of entry to legally access the site if needed to perform the JD. Your signature shall be an affirmation that you possess the requisite property rights to request a JD on the subject property.

*Signature: _____ Date: 01/02/2018
Name: Anna Van Zuuk Company name: LSA
Address: 201 Creekside Ridge Court, Suite 250
Roseville, Califronia 95678
Telephone: 916-772-7450 Email: Anna.VanZuuk@lsa.net

***Authorities:** Rivers and Harbors Act, Section 10, 33 USC 403; Clean Water Act, Section 404, 33 USC 1344; Marine Protection, Research, and Sanctuaries Act, Section 103, 33 USC 1413; Regulatory Program of the U.S. Army Corps of Engineers; Final Rule for 33 CFR Parts 320-332.
Principal Purpose: The information that you provide will be used in evaluating your request to determine whether there are any aquatic resources within the project area subject to federal jurisdiction under the regulatory authorities referenced above.
Routine Uses: This information may be shared with the Department of Justice and other federal, state, and local government agencies, and the public, and may be made available as part of a public notice as required by federal law. Your name and property location where federal jurisdiction is to be determined will be included in the approved jurisdictional determination (AJD), which will be made available to the public on the District's website and on the Headquarters USACE website.
Disclosure: Submission of requested information is voluntary; however, if information is not provided, the request for an AJD cannot be evaluated nor can an AJD be issued.

PRELIMINARY JURISDICTIONAL DETERMINATION FORM

This preliminary JD finds that there *"may be"* waters of the United States on the subject project site, and identifies all aquatic features on the site that could be affected by the proposed activity, based on the following information:

District Office: Sacramento District | File/ORM #: | PJD Date: Jan 2, 2018

State: CA | City/County: Stanislaus County

Nearest Waterbody:

Location: TRS, LatLong or UTM: Latitude 37.398767, Longitude -121.032063

Name/ Address of Person Requesting PJD:

Identify (Estimate) Amount of Waters in the Review Area:

Non-Wetland Waters: linear ft | width | 0.11 acres | Stream Flow: Ephemeral

Wetlands: 0.17 acre(s) | Cowardin Class: Riverine

Name of Any Water Bodies on the Site Identified as Section 10 Waters: Tidal: | Non-Tidal:

☐ Office (Desk) Determination
☑ Field Determination: Date of Field Trip: 11/17/2017

SUPPORTING DATA: Data reviewed for preliminary JD (check all that apply - checked items should be included in case file and, where checked and requested, appropriately reference sources below):

- ☑ Maps, plans, plots or plat submitted by or on behalf of the applicant/consultant: LSA
- ☐ Data sheets prepared/submitted by or on behalf of the applicant/consultant.
  - ☐ Office concurs with data sheets/delineation report.
  - ☐ Office does not concur with data sheets/delineation report.
- ☐ Data sheets prepared by the Corps
- ☐ Corps navigable waters' study:
- ☐ U.S. Geological Survey Hydrologic Atlas:
  - ☐ USGS NHD data.
  - ☐ USGS 8 and 12 digit HUC maps.
- ☑ U.S. Geological Survey map(s). Cite quad name: Crows Landing
- ☑ USDA Natural Resources Conservation Service Soil Survey. Citation: Stanislaus County
- ☐ National wetlands inventory map(s). Cite name:
- ☐ State/Local wetland inventory map(s):
- ☐ FEMA/FIRM maps:
- ☐ 100-year Floodplain Elevation is:
- ☑ Photographs: ☑ Aerial (Name & Date): NAIP Aerial Imagery, June 2016
  - ☐ Other (Name & Date):
- ☐ Previous determination(s). File no. and date of response letter:
- ☐ Other information (please specify):

IMPORTANT NOTE: The information recorded on this form has not necessarily been verified by the Corps and should not be relied upon for later jurisdictional determinations.

Signature and Date of Regulatory Project Manager (REQUIRED)

Signature and Date of Person Requesting Preliminary JD (REQUIRED, unless obtaining the signature is impracticable)

EXPLANATION OF PRELIMINARY AND APPROVED JURISDICTIONAL DETERMINATIONS:

1. The Corps of Engineers believes that there may be jurisdictional waters of the United States on the subject site, and the permit applicant or other affected party who requested this preliminary JD is hereby advised of his or her option to request and obtain an approved jurisdictional determination (JD) for that site. Nevertheless, the permit applicant or other person who requested this preliminary JD has declined to exercise the option to obtain an approved JD in this instance and at this time.

2. In any circumstance where a permit applicant obtains an individual permit, or a Nationwide General Permit (NWP) or other general permit verification requiring "preconstruction notification" (PCN), or requests verification for a non-reporting NWP or other general permit, and the permit applicant has not requested an approved JD for the activity, the permit applicant is hereby made aware of the following: (1) the permit applicant has elected to seek a permit authorization based on a preliminary JD, which does not make an official determination of jurisdictional waters; (2) that the applicant has the option to request an approved JD before accepting the terms and conditions of the permit authorization, and that basing a permit authorization on an approved JD could possibly result in less compensatory mitigation being required or different special conditions; (3) that the applicant has the right to request an individual permit rather than accepting the terms and conditions of the NWP or other general permit authorization; (4) that the applicant can accept a permit authorization and thereby agree to comply with all the terms and conditions of that permit, including whatever mitigation requirements the Corps has determined to be necessary; (5) that undertaking any activity in reliance upon the subject permit authorization without requesting an approved JD constitutes the applicant's acceptance of the use of the preliminary JD, but that either form of JD will be processed as soon as is practicable; (6) accepting a permit authorization (e.g., signing a proffered individual permit) or undertaking any activity in reliance on any form of Corps permit authorization based on a preliminary JD constitutes agreement that all wetlands and other water bodies on the site affected in any way by that activity are jurisdictional waters of the United States, and precludes any challenge to such jurisdiction in any administrative or judicial compliance or enforcement action, or in any administrative appeal or in any Federal court; and (7) whether the applicant elects to use either an approved JD or a preliminary JD, that JD will be processed as soon as is practicable. Further, an approved JD, a proffered individual permit (and all terms and conditions contained therein), or individual permit denial can be administratively appealed pursuant to 33 C.F.R. Part 331, and that in any administrative appeal, jurisdictional issues can be raised (see 33 C.F.R. 331.5(a)(2)). If, during that administrative appeal, it becomes necessary to make an official determination whether CWA jurisdiction exists over a site, or to provide an official delineation of jurisdictional waters on the site, the Corps will provide an approved JD to accomplish that result, as soon as is practicable.

PRELIMINARY JURISDICTIONAL DETERMINATION FORM

This preliminary JD finds that there *"may be"* waters of the United States on the subject project site, and identifies all aquatic features on the site that could be affected by the proposed activity, based on the following information:

Appendix A - Sites

District Office	Sacramento District	File/ORM #		PJD Date:	Jan 2, 2018
State	CA	City/County	Stanislaus	Person Requestinq PJD	

Site Number	Latitude	Longitude	Cowardin Class	Est. Amount of Aquatic Resource in Review Area	Class of Aquatic Resource
W-1	37.399535	-121.032252	Riverine	<0.01 ac	Non-Section 10 wetland
W-2	37.399111	-121.032809	Riverine	0.03 ac	Non-Section 10 wetland
W-3	37.399168	-121.032714	Riverine	0.14 ac	Non-Section 10 wetland
NWW-1	37.399154	-121.03273	Riverine	0.11 ac	Non-Section 10 nonwetland
			n/a		
			n/a		

Notes:

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: KILBURN ROAD BRIDGE City/County: STANISLAUS Sampling Date: 7/24/2012

Applicant/Owner: STANISLAUS COUNTY State: CA Sampling Point: 1

Investigator(s): MIKE TRUEBLOOD Section, Township, Range: _____

Landform (hillslope, terrace, etc.): _____ Local relief (concave, convex, none): _____ Slope (%): _____

Subregion (LRR): _____ Lat: _____ Long: _____ Datum: _____

Soil Map Unit Name: _____ NWI classification: _____

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✓ No _____ (If no, explain in Remarks.)

Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes ✓ No _____

Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ✓ No _____	**Is the Sampled Area within a Wetland?** Yes ✓ No _____
Hydric Soil Present?	Yes ✓ No _____	
Wetland Hydrology Present?	Yes ✓ No _____	

Remarks:

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status
1. POPULUS FREMONTII	20	Y	FACW
2. SALIX LASIOLEPIS	30	Y	FACW
3.			
4.			
	50	= Total Cover	
Sapling/Shrub Stratum (Plot size: _____)			
1.			
2.			
3.			
4.			
5.			
	_____	= Total Cover	
Herb Stratum (Plot size: _____)			
1. ARUNDO DONAX	50	Y	FACW
2. CYPERUS ERAGROSTIS	10	N	FACW
3. LEERSIA ORYZOIDES	20	Y	OBL
4. POLYPOGON MONSPELIENSIS	1	N	FACW
5. ARTEMISIA DOUGLASIANA	1	N	FAC
6.			
7.			
8.			
	82	= Total Cover	
Woody Vine Stratum (Plot size: _____)			
1.			
2.			
	_____	= Total Cover	

% Bare Ground in Herb Stratum _____ % Cover of Biotic Crust _____

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 4 (A)

Total Number of Dominant Species Across All Strata: 4 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100 (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species _____	x 1 = _____
FACW species _____	x 2 = _____
FAC species _____	x 3 = _____
FACU species _____	x 4 = _____
UPL species _____	x 5 = _____
Column Totals: _____ (A)	_____ (B)

Prevalence Index = B/A = _____

Hydrophytic Vegetation Indicators:

✓ Dominance Test is >50%

___ Prevalence Index is ≤3.0[1]

___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes ✓ No _____

Remarks:

SOIL

Sampling Point: 1

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-14"	10YR 3/1	70	7.5YR 3/4	30	C	M	SANDY LOAM	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5) **(LRR C)**
- ___ 1 cm Muck (A9) **(LRR D)**
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ✓ Depleted Matrix (F3)
- ✓ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Vernal Pools (F9)

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) **(LRR C)**
- ___ 2 cm Muck (A10) **(LRR B)**
- ___ Reduced Vertic (F18)
- ___ Red Parent Material (TF2)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes ✓ No ___

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ✓ Saturation (A3)
- ___ Water Marks (B1) **(Nonriverine)**
- ___ Sediment Deposits (B2) **(Nonriverine)**
- ___ Drift Deposits (B3) **(Nonriverine)**
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ✓ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- ___ Biotic Crust (B12)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water Marks (B1) **(Riverine)**
- ___ Sediment Deposits (B2) **(Riverine)**
- ___ Drift Deposits (B3) **(Riverine)**
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ___ No ✓ Depth (inches): 7¼"

Water Table Present? Yes ✓ No ___ Depth (inches): 12"

Saturation Present? (includes capillary fringe) Yes ✓ No ___ Depth (inches): 9"

Wetland Hydrology Present? Yes ✓ No ___

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: KILBURN ROAD BRIDGE City/County: STANISLAUS Sampling Date: 7/24/2012

Applicant/Owner: STANISLAUS COUNTY State: CA Sampling Point: 1A

Investigator(s): MIKE TRUEBLOOD Section, Township, Range: _____

Landform (hillslope, terrace, etc.): _____ Local relief (concave, convex, none): _____ Slope (%): _____

Subregion (LRR): _____ Lat: _____ Long: _____ Datum: _____

Soil Map Unit Name: _____ NWI classification: _____

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✓ No _____ (If no, explain in Remarks.)

Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes ✓ No _____

Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ✓	No _____	**Is the Sampled Area within a Wetland?** Yes _____ No ✓
Hydric Soil Present?	Yes _____	No ✓	
Wetland Hydrology Present?	Yes _____	No ✓	

Remarks:
UPLAND DATA POINT WITHIN RIPARIAN CANOPY.
HYDROPHYTIC VEGETATION DUE TO RIPARIAN CANOPY.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status
1. JUGLANS HINDSII	80	Y	FAC
2. POPULUS FREMONTII	30	Y	FACW
3. QUERCUS LOBATA	5	N	FACU
4.			
	115	= Total Cover	
Sapling/Shrub Stratum (Plot size: _____)			
1. SAMBUCUS NIGRA SSP. CAERULEA	10	N	FAC
2.			
3.			
4.			
5.			
	10	= Total Cover	
Herb Stratum (Plot size: _____)			
1. BROMUS DIANDRUS	30	Y	UPL
2.			
3.			
4.			
5.			
6.			
7.			
8.			
	30	= Total Cover	
Woody Vine Stratum (Plot size: _____)			
1.			
2.			
	_____	= Total Cover	

% Bare Ground in Herb Stratum 70 % Cover of Biotic Crust _____

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 3 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 67 (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species _____	x 1 = _____
FACW species _____	x 2 = _____
FAC species _____	x 3 = _____
FACU species _____	x 4 = _____
UPL species _____	x 5 = _____
Column Totals: _____ (A)	_____ (B)

Prevalence Index = B/A = _____

Hydrophytic Vegetation Indicators:

✓ Dominance Test is >50%

___ Prevalence Index is ≤3.0[1]

___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes ✓ No _____

Remarks:

SOIL

Sampling Point: 1A

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0-8"	2.5Y 3/3	100	—	—	—	—	LOAMY SAND	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5) (**LRR C**)
- ___ 1 cm Muck (A9) (**LRR D**)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Vernal Pools (F9)

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) (**LRR C**)
- ___ 2 cm Muck (A10) (**LRR B**)
- ___ Reduced Vertic (F18)
- ___ Red Parent Material (TF2)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes _____ No ✓

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1) (**Nonriverine**)
- ___ Sediment Deposits (B2) (**Nonriverine**)
- ___ Drift Deposits (B3) (**Nonriverine**)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- ___ Biotic Crust (B12)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water Marks (B1) (**Riverine**)
- ___ Sediment Deposits (B2) (**Riverine**)
- ___ Drift Deposits (B3) (**Riverine**)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes _____ No ✓ Depth (inches): —

Water Table Present? Yes _____ No ✓ Depth (inches): >8"

Saturation Present? (includes capillary fringe) Yes _____ No ✓ Depth (inches): >8"

Wetland Hydrology Present? Yes _____ No ✓

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: KILBURN ROAD BRIDGE City/County: STANISLAUS Sampling Date: 7/24/2012

Applicant/Owner: STANISLAUS COUNTY State: CA Sampling Point: 2

Investigator(s): MIKE TRUEBLOOD Section, Township, Range: _____

Landform (hillslope, terrace, etc.): _____ Local relief (concave, convex, none): _____ Slope (%): _____

Subregion (LRR): _____ Lat: _____ Long: _____ Datum: _____

Soil Map Unit Name: _____ NWI classification: _____

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✓ No _____ (If no, explain in Remarks.)

Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes ✓ No _____

Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ✓ No _____	**Is the Sampled Area within a Wetland?** Yes ✓ No _____
Hydric Soil Present?	Yes ✓ No _____	
Wetland Hydrology Present?	Yes ✓ No _____	

Remarks:

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status
1. QUERCUS LOBATA	30	Y	FACU
2. JUGLANS HINDSII	30	Y	FAC
3.			
4.			
	60 = Total Cover		
Sapling/Shrub Stratum (Plot size: _____)			
1.			
2.			
3.			
4.			
5.			
	_____ = Total Cover		
Herb Stratum (Plot size: _____)			
1. ARUNDO DONAX	30	Y	FACW
2. POLYGONUM ARENASTRUM	20	Y	OBL
3.			
4.			
5.			
6.			
7.			
8.			
	50 = Total Cover		
Woody Vine Stratum (Plot size: _____)			
1.			
2.			
	_____ = Total Cover		

% Bare Ground in Herb Stratum 50 % Cover of Biotic Crust _____

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 3 (A)

Total Number of Dominant Species Across All Strata: 4 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 75 (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species _____	x 1 = _____
FACW species _____	x 2 = _____
FAC species _____	x 3 = _____
FACU species _____	x 4 = _____
UPL species _____	x 5 = _____
Column Totals: _____ (A)	_____ (B)

Prevalence Index = B/A = _____

Hydrophytic Vegetation Indicators:

✓ Dominance Test is >50%

___ Prevalence Index is ≤3.0[1]

___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes ✓ No _____

Remarks:

SOIL

Sampling Point: 2

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-9"	10YR 3/1	80	7.5YR 3/4	20	C	M	SANDY LOAM	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5) **(LRR C)**
- ___ 1 cm Muck (A9) **(LRR D)**
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ✓ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Vernal Pools (F9)

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) **(LRR C)**
- ___ 2 cm Muck (A10) **(LRR B)**
- ___ Reduced Vertic (F18)
- ___ Red Parent Material (TF2)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes ✓ No ___

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ✓ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1) **(Nonriverine)**
- ___ Sediment Deposits (B2) **(Nonriverine)**
- ___ Drift Deposits (B3) **(Nonriverine)**
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- ___ Biotic Crust (B12)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water Marks (B1) **(Riverine)**
- ___ Sediment Deposits (B2) **(Riverine)**
- ___ Drift Deposits (B3) **(Riverine)**
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ✓ No ___ Depth (inches): 0"

Water Table Present? Yes ✓ No ___ Depth (inches): 0"

Saturation Present? (includes capillary fringe) Yes ✓ No ___ Depth (inches): 0"

Wetland Hydrology Present? Yes ✓ No ___

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

EDGE OF LIVE CHANNEL ON WETLAND BANK.

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: KILBURN ROAD BRIDGE City/County: STANISLAUS Sampling Date: 7/24/2012

Applicant/Owner: STANISLAUS COUNTY State: CA Sampling Point: 2A

Investigator(s): MIKE TRUEBLOOD Section, Township, Range: _____

Landform (hillslope, terrace, etc.): _____ Local relief (concave, convex, none): _____ Slope (%): _____

Subregion (LRR): _____ Lat: _____ Long: _____ Datum: _____

Soil Map Unit Name: _____ NWI classification: _____

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✓ No _____ (If no, explain in Remarks.)

Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes ✓ No _____

Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes _____	No ✓	**Is the Sampled Area within a Wetland?** Yes _____ No ✓
Hydric Soil Present?	Yes _____	No ✓	
Wetland Hydrology Present?	Yes _____	No ✓	

Remarks: UPLAND DATA POINT.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status
1. JUGLANS HINDSII	20	Y	FAC
2. QUERCUS LOBATA	30	Y	FACU
3. AILANTHUS ALTISSIMA	10	N	FACU
4.			
	60	= Total Cover	
Sapling/Shrub Stratum (Plot size: _____)			
1. RUBUS ARMENIACUS	30	Y	FACU
2.			
3.			
4.			
5.			
	30	= Total Cover	
Herb Stratum (Plot size: _____)			
1. BROMUS DIANDRUS	30	Y	UPL
2.			
3.			
4.			
5.			
6.			
7.			
8.			
	30	= Total Cover	
Woody Vine Stratum (Plot size: _____)			
1.			
2.			
	_____	= Total Cover	

% Bare Ground in Herb Stratum 40 % Cover of Biotic Crust _____

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 4 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 25 (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species _____	x 1 = _____
FACW species _____	x 2 = _____
FAC species _____	x 3 = _____
FACU species _____	x 4 = _____
UPL species _____	x 5 = _____
Column Totals: _____ (A)	_____ (B)

Prevalence Index = B/A = _____

Hydrophytic Vegetation Indicators:

___ Dominance Test is >50%

___ Prevalence Index is ≤3.0[1]

___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes _____ No ✓

Remarks:

SOIL

Sampling Point: 2A

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-10"	2.5Y 3/3	100	—	—	—	—	LOAMY SAND	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5) **(LRR C)**
- ___ 1 cm Muck (A9) **(LRR D)**
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Vernal Pools (F9)

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) **(LRR C)**
- ___ 2 cm Muck (A10) **(LRR B)**
- ___ Reduced Vertic (F18)
- ___ Red Parent Material (TF2)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes _____ No ✓

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1) **(Nonriverine)**
- ___ Sediment Deposits (B2) **(Nonriverine)**
- ___ Drift Deposits (B3) **(Nonriverine)**
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- ___ Biotic Crust (B12)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water Marks (B1) **(Riverine)**
- ___ Sediment Deposits (B2) **(Riverine)**
- ___ Drift Deposits (B3) **(Riverine)**
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes _____ No ✓ Depth (inches): —

Water Table Present? Yes _____ No ✓ Depth (inches): >10"

Saturation Present? (includes capillary fringe) Yes _____ No ✓ Depth (inches): >10"

Wetland Hydrology Present? Yes _____ No ✓

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: KILBURN ROAD BRIDGE REPLACEMENT City/County: STANISLAUS Sampling Date: 11/17/2017

Applicant/Owner: STANISLAUS CO. DEPT. OF PUBLIC WORKS State: CA Sampling Point: 3

Investigator(s): A. VAN ZUUK Section, Township, Range: _____

Landform (hillslope, terrace, etc.): _____ Local relief (concave, convex, none): _____ Slope (%): _____

Subregion (LRR): _____ Lat: _____ Long: _____ Datum: _____

Soil Map Unit Name: _____ NWI classification: _____

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✓ No _____ (If no, explain in Remarks.)

Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes ✓ No _____

Are Vegetation _____, Soil ✓, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ✓ No _____	**Is the Sampled Area within a Wetland?** Yes ✓ No _____
Hydric Soil Present?	Yes ✓ No _____	
Wetland Hydrology Present?	Yes ✓ No _____	

Remarks:

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status
1. SALIX GOODINGII	25	Y	FACW
2.			
3.			
4.			
	25 = Total Cover		
Sapling/Shrub Stratum (Plot size: _____)			
1.			
2.			
3.			
4.			
5.			
	_____ = Total Cover		
Herb Stratum (Plot size: _____)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
	_____ = Total Cover		
Woody Vine Stratum (Plot size: _____)			
1.			
2.			
	_____ = Total Cover		

% Bare Ground in Herb Stratum ~100 % Cover of Biotic Crust _____

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100 (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:	
OBL species _____	x 1 =	_____
FACW species _____	x 2 =	_____
FAC species _____	x 3 =	_____
FACU species _____	x 4 =	_____
UPL species _____	x 5 =	_____
Column Totals: _____ (A)		_____ (B)

Prevalence Index = B/A = _____

Hydrophytic Vegetation Indicators:

✓ Dominance Test is >50%

___ Prevalence Index is ≤3.0[1]

___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes ✓ No _____

Remarks:

SOIL

Sampling Point: 3

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-4"	10 YR 3/2	92	7.5 YR 3/3	8	C	M	SILTY CLAY	
4-10"	10 YR 3/2	100	—	—	—	—	LOAMY SND	GRAVEL
10-15"	10 YR 3/2	80	7.5 YR 4/6	20	C	M	SILTY CLAY	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5) **(LRR C)**
- ___ 1 cm Muck (A9) **(LRR D)**
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ✓ Depleted Matrix (F3)
- ✓ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Vernal Pools (F9)

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) **(LRR C)**
- ___ 2 cm Muck (A10) **(LRR B)**
- ___ Reduced Vertic (F18)
- ___ Red Parent Material (TF2)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes ✓ No ___

Remarks: PROBLEMATIC SOIL. STRATIFICATION LIKELY DUE TO SEASONAL DEPOSITION OF NEW MATERIAL.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1) **(Nonriverine)**
- ___ Sediment Deposits (B2) **(Nonriverine)**
- ___ Drift Deposits (B3) **(Nonriverine)**
- ___ Surface Soil Cracks (B6)
- ✓ Inundation Visible on Aerial Imagery (B7)
- ✓ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- ___ Biotic Crust (B12)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water Marks (B1) **(Riverine)**
- ___ Sediment Deposits (B2) **(Riverine)**
- ✓ Drift Deposits (B3) **(Riverine)**
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ___ No ✓ Depth (inches): >15"

Water Table Present? Yes ___ No ✓ Depth (inches): >15"

Saturation Present? (includes capillary fringe) Yes ✓ No ___ Depth (inches): >1"

Wetland Hydrology Present? Yes ✓ No ___

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: RECENT RAINSTORM LIKELY CAUSE OF SATURATION.

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: KILBURN ROAD BRIDGE REPLACEMENT City/County: STANISLAUS Sampling Date: 11/17/2017

Applicant/Owner: STANISLAUS CO. DEPT. OF PUBLIC WORKS State: CA Sampling Point: 3A

Investigator(s): A. VAN ZUUK Section, Township, Range: _____

Landform (hillslope, terrace, etc.): _____ Local relief (concave, convex, none): _____ Slope (%): _____

Subregion (LRR): _____ Lat: _____ Long: _____ Datum: _____

Soil Map Unit Name: _____ NWI classification: _____

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✓ No _____ (If no, explain in Remarks.)

Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes ✓ No _____

Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes _____	No ✓	**Is the Sampled Area within a Wetland?** Yes _____ No ✓
Hydric Soil Present?	Yes _____	No ✓	
Wetland Hydrology Present?	Yes _____	No ✓	

Remarks:
UPLAND DATA POINT

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	_____ = Total Cover		
Sapling/Shrub Stratum (Plot size: _____)			
1. QUERCUS LOBATA	12	Y	FACU
2.			
3.			
4.			
5.			
	12 = Total Cover		
Herb Stratum (Plot size: _____)			
1. HORDEUM MURINUM	28	Y	FACU
2. BROMUS DIANDRUS	30	Y	UPL
3.			
4.			
5.			
6.			
7.			
8.			
	58 = Total Cover		
Woody Vine Stratum (Plot size: _____)			
1. PARTHENOCISSUS QUINQUEFOLIA	50	Y	FAC
2.			
	50 = Total Cover		

% Bare Ground in Herb Stratum _____ % Cover of Biotic Crust _____

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 4 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 25 (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species _____	x 1 = _____
FACW species _____	x 2 = _____
FAC species 50	x 3 = 150
FACU species 40	x 4 = 160
UPL species 30	x 5 = 150
Column Totals: 120 (A)	460 (B)

Prevalence Index = B/A = 3.83

Hydrophytic Vegetation Indicators:

___ Dominance Test is >50%

___ Prevalence Index is ≤3.0[1]

___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes _____ No ✓

Remarks:

SOIL

Sampling Point: 3A

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-12"	10 YR 3/3	100	—	—	—	—	CLAY LOAM	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5) **(LRR C)**
- ___ 1 cm Muck (A9) **(LRR D)**
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Vernal Pools (F9)

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) **(LRR C)**
- ___ 2 cm Muck (A10) **(LRR B)**
- ___ Reduced Vertic (F18)
- ___ Red Parent Material (TF2)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes ____ No ✓

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1) **(Nonriverine)**
- ___ Sediment Deposits (B2) **(Nonriverine)**
- ___ Drift Deposits (B3) **(Nonriverine)**
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- ___ Biotic Crust (B12)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water Marks (B1) **(Riverine)**
- ___ Sediment Deposits (B2) **(Riverine)**
- ___ Drift Deposits (B3) **(Riverine)**
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ____ No ✓ Depth (inches): >12"

Water Table Present? Yes ____ No ✓ Depth (inches): >12"

Saturation Present? (includes capillary fringe) Yes ✓ No ____ Depth (inches): 0-5"

Wetland Hydrology Present? Yes ____ No ✓

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: SATURATION DUE TO RECENT RAINSTORM (11/16/17)

Appendix D – Tree Inventory

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Kilburn Road Bridge (38C0168) Replacement at Orestimba Creek
2017 Tree Inventory

Tree #	Scientific Name	Common Name	DBH (ft)	TBR	Notes
1	*Juglans californica var. hindsii*	Black walnut	22	No	
2	*Juglans californica var. hindsii*	Black walnut	12	No	
3	*Juglans californica var. hindsii*	Black walnut	18	Yes	
4	*Juglans californica var. hindsii*	Black walnut	18	No	
5	*Juglans californica var. hindsii*	Black walnut	32	No	
6	*Juglans californica var. hindsii*	Black walnut	8	No	
7	*Juglans californica var. hindsii*	Black walnut	32	No	
8	*Juglans californica var. hindsii*	Black walnut	8	No	
9	*Populus fremontii*	Fremont cottonwood	38	Yes	
10	*Populus fremontii*	Fremont cottonwood	42	No	
11	*Quercus lobata*	Valley oak	24	Yes	
12	*Quercus lobata*	Valley oak	16	No	
13	*Quercus lobata*	Valley oak	8	No	
14	*Quercus lobata*	Valley oak	28	No	
15	*Quercus lobata*	Valley oak	18	No	
16	*Quercus lobata*	Valley oak	56	Yes	
17	*Quercus lobata*	Valley oak	36	No	
18	*Quercus lobata*	Valley oak	24	No	
19	*Quercus lobata*	Valley oak	18	No	
20	*Quercus lobata*	Valley oak	12	No	
21	*Quercus lobata*	Valley oak	12	No	
22	*Quercus lobata*	Valley oak	29	No	
23	*Quercus lobata*	Valley oak	13	No	
35	*Juglans regia*	English walnut	74	No	Crown dieback
36	*Juglans regia*	English walnut	61.25	No	
37	*Juglans regia*	English walnut	48	No	
38	*Juglans regia*	English walnut	56	No	DBH taken below trunk split
39	*Quercus lobata*	Valley oak	96	No	
40	*Quercus lobata*	Valley oak	24	No	18, 12, 12, 8, 6 multi-trunk
41	*Juglans californica var. hindsii*	Black walnut	12	No	Multi-trunk
42	*Juglans californica var. hindsii*	Black walnut	56	Yes	Twisted, leaned over
43	*Quercus lobata*	Valley oak	12	Yes	
44	*Quercus lobata*	Valley oak	21.5	Yes	DBH taken below trunk split
45	*Quercus lobata*	Valley oak	48	Yes	DBH taken below trunk split
46	*Salix sp.*	Willow	33.25	Yes	Twisted and bent over
47	*Juglans californica var. hindsii*	Black walnut	27	No	DBH taken below trunk split
48 - 50	*Juglans californica var. hindsii*	Black walnut	9	No	3 trees, slope too steep

Appendix E – Agency Coordination

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Kilburn Road Bridge Replacement at Orestimba Creek, BRLO-5938(157)

Notes for 3/15/13 Field Meeting

Attendees:

Caltrans: Kathy Ikeda and Rachel Kleinfelter

DEA: Dennis Pecchia

Kleinfelder: Michael Beltran

LSA: Jeff Bray

NOAA: Dylan VanDyne

Stanislaus County: Denis Basyak, Don Hicks, Charlie Simpson

Dennis:

-Current bridge is a non-standard, steel truss bridge.

New Bridge:

-Design plan maps were handed out to the team.

-Preferred alternative is a 3 span bridge, 1200 feet to the south and 800 feet to the north, with two lanes and standard shoulder.

-2 piers in channel and abutments will be located on the banks of the creek. Piers will be above water level in creek.

-Single span bridge was considered but would not work because bridge would need to be elevated by 3 feet. It would also be the largest footprint of the bridge alternatives considered.

-Eliminate stop lanes.

-A pump station will need to be relocated.

-Single season construction.

-There will be a need to dewater creek during construction. Will need to maintain flow of irrigation water through a pipe during construction. This will also allow for fish passage during construction.

-Mentioned that a field boring will be necessary at the project site. Boring will be taken at the bridge deck, probably this summer. Boring will be taken with an 8 inch casing w/3 to 4-foot bit. Material from boring will come up through casing and up through the bridge deck.

-Reduce disturbance to creek by cutting current bridge piles at ground level when existing bridge is dismantled.

DRAFT

Jeff:

Salmonids

-Creek is not perennial (intermittent ephemeral). Water in creek comes from a high water table and storm run-off.

-Attempted to contact the Central California Irrigation District (CCID) to get information on how the flows in Orestimba Creek are manipulated. Still waiting for a response from CCID.

-There are tail water flows which consist mainly of agricultural runoff in Orestimba Creek throughout the year.

- Average summer water temperatures are 65 degrees Fahrenheit or higher.

-Unsure if salmonids are using the creek, however, several steelhead have been seen at the mouth of the San Joaquin River.

-There are no known migration barriers for salmonids.

-Noted that creek does not provide good salmonid habitat.

-Draft environmental document (ED) to Caltrans in early summer. This may affect the ability to get current water temperature data for Orestimba Creek to include in the Biological Assessment (BA).

-A benefit of the project is that the existing bridge will be removed which will open-up the channel. However, new bridge will require riprap.

VELB

-Jeff showed Caltrans a map of the elderberry shrubs located within the project area. Only one shrub will be impacted within the 20-foot exclusion buffer required by the United States Fish and Wildlife Service (USFWS). The shrub is located on the northwest of the existing bridge. The shrub will be impacted by the removal of the existing bridge. Current condition of the shrub is poor and shrub has been cut down to almost ground level.

Dylan:

Recommended informal consultation (not likely to adversely affect determination) with the National Marine Fisheries Services (NMFS) for the Central Valley (CV) steelhead.

-No designated or proposed critical habitat for the Central Valley (CV) steelhead at bridge location. There is a 2.5 mile distance from the bridge project to Chinook salmon essential fish habitat (EFH) along the San Joaquin River.

-Potential migration of CV steelhead within Orestimba Creek. No visible rearing or pooling areas within the project site for CV steelhead on date of site visit. However this could change during different seasons so additional tests and/or analysis should be done to verify this (as discussed on site).

-Implement a construction work window for in water work activities within the creek during the dry season and use standard Best Management Practices (BMPs) such as environmentally sensitive area (ESA) fencing. Turbidity and water quality BMPs such as those covered in the Storm Water Pollution Prevention Plan (SWPPP) and Water Pollution Control Plan (WPCP) will help to reduce water quality impacts during construction.

-Typical work window for in-water work is June/July to mid-October (July 1 to October 1 is preferable in the dry season). Potential to start in-water work in May but NMFS will need more information about creek conditions during this time.

DRAFT

-Important to look at current or past temperature studies on Orestimba Creek. Recommends taking water temperatures for this season (May 1-Oct. 1) so that there will be current information that can be used for the construction season 2015. At minimum, check every other month. Also recommended looking into connectivity issues and seasonal inundation of Orestimba Creek. Is it year round? Look at future and historic outlook.

-Will need to complete an acoustic analysis unless a vibratory method is used to drill in the piles. Jeff has completed several hydro acoustic studies for projects and Kathy just completed an acoustic study on another local assistance project. Dylan suggested sharing this with group if drilling is required for this project.

-NMFS Biological Opinions (BO's) are including primary constituent elements (PCEs). Will need to figure out what CV steelhead life stages will be impacted by the project and include an assessment of them in the Biological Assessment (BA). Clearly describe the primary constituent elements that are present in the action area and how they may be affected by project activities (effects).

-Will need to account for direct, indirect, and cumulative, and temporal effects. Also, temporary and permanent effects associated with mitigation of riparian vegetation, along with proposed replacement ratios.

-No green sturgeon should be present in upper reaches of the SJR or its' tributaries.

-Noted that creek is stagnant with algae today on 3/15/13. This may or may not be an accurate reflection of creek flow and structural dynamics for Orestima Creek during this time of year, so further analysis is needed to verify this statement. Connectivity of creek is not present today on 3/15/13.

-Suggested referencing the avoidance and minimization measures that were used in the Crow's Landing BO to see if any of the measures captured in the BO are applicable to this project since they are located in close proximity to each other. However, keep in mind that Crow's was a formal located on the SJR mainstem and Orestimba Creek bridge project is a proposed informal 2.5 miles from the confluence with the SJR, so not all measures may apply since this project is in a focused location on a tributary of the SJR.

Mitigation

-NMFS stated that the standard mitigation ratio for replacement of riparian habitat is 3:1. He suggested that an analysis be conducted on how the steelhead are using the creek; a 1:1 or 2:1 habitat replacement ratio could be proposed for this project depending on the outcome of Caltrans assessment of the temporary and permanent disturbance of riparian vegetation along Orestimba Creek in the action area.

-According to Jeff, habitat replacement will be necessary for the area that will be covered with riprap. Maximum amount of area impacted by riprap would be 0.2 acre.

-There are 3 approved NMFS mitigation banks and the closest to this project would be the Cosumnes Floodplain Mitigation Bank. It's possible the Liberty Island Conservation Bank may apply as well, and Dylan recommends the consultant look into both bank locations to see which would be a more suitable candidate for off-site mitigation purposes if needed.

Action Items:

1. Jeff will follow-up with the CCID to see what the year round flows are for Orestimba Creek and send information to Caltrans.
2. Caltrans will send final Crow's Landing NMFS BO to team.
3. Caltrans will send NMFS BA checklist to team.
4. Caltrans will contact the USFWS and get direction on how to proceed with impacts to the elderberry shrub that was examined during the field meeting.

DRAFT

Appendix F – Representative Photos

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View east at Kilburn Road Bridge.

View northwest at Kilburn Road Bridge.

View west at Kilburn Road Bridge over Orestimba Creek.

View northwest at Kilburn Road approaching Orestimba Creek and the bridge showing orchard and ruderal landscape east of the bridge.

LSA

APPENDIX F

Kilburn Road Bridge over Orestimba Creek (38C0168)
Replacement Project in Stanislaus County
Caltrans District 10; Federal Aid No. BRLO-5938(157)

Representative Photos

Source: LSA (02/2018)

View southwest at Kilburn Road Bridge from Orestimba Creek bed.

View northeast at Orestimba Creek bed from underneath Kilburn Road Bridge.

View of eastern end of Kilburn Road Bridge from Orestimba Creek bed.

Blue elderberry shrubs along Orestimba Creek corridor approximately 100 feet southwest of Kilburn Road Bridge.

APPENDIX B

NOTICE OF PREPARATION AND COMMENTS RECEIVED

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NOTICE OF PREPARATION OF AN ENVIRONMENTAL IMPACT REPORT

FOR THE
KILBURN ROAD BRIDGE (38C-0168) OVER ORESTIMBA CREEK
REPLACEMENT PROJECT

DATE: August 26, 2020

TO: Interested Agencies and Individuals

FROM: Stanislaus County Department of Public Works

Stanislaus County (herein referred to as the "County") is the lead agency, in cooperation with the California Department of Transportation (Caltrans), for preparation of a Focused Environmental Impact Report (EIR) that addresses the potential impacts of the proposed Kilburn Road Bridge (Br. No. 38C0168) over Orestimba Creek Replacement Project (herein referred to as the Project). The EIR will evaluate potential significant environmental effects associated with implementation of the proposed Project. The County will use the EIR when considering approval of the proposed Project. Responsible Agencies, which are public agencies other than Stanislaus County that also have a role in approving or implementing the Project, will likewise need to consider the EIR prepared by Stanislaus County when issuing approvals for the implementation of the Project. This Notice of Preparation (NOP) was prepared to provide Responsible Agencies, Trustee Agencies, and other Interested Parties with a description of the proposed Project and to identify potential environmental effects pursuant to the California Environmental Quality Act (CEQA) (14 California Code of Regulations [CCR]) and State CEQA Guidelines Sections 15082(A), 15103, and 15375.

The scoping comment period begins August 28, 2020 and ends September 27, 2020. Please direct all written comments to: Stanislaus County Department of Public Works, Attention: Mr. Earl Seaberg, 1716 Morgan Street, Modesto, CA 95358; or by e-mail to seaberge@stancounty.com. Due to the outbreak of COVID-19 in California (and globally), California Governor Gavin Newsom has announced directives to avoid large public gatherings. In response to these directives, a scoping meeting is not planned at this time. This notice can also be found on the Stanislaus County Public Works website at http:// www.stancounty.com/publicworks/projects.shtm.

PROJECT LOCATION: The Kilburn Road Bridge over Orestimba Creek Replacement Project is located in unincorporated Stanislaus County, California, approximately 0.3 miles southeast from the intersection of Crows Landing and Kilburn Roads, near Crows Landing, Stanislaus County, California (Figures 1 and 2).

BACKGROUND: The existing bridge, constructed in 1906, is a steel Warren Pony Truss bridge with steel truss members that were encased in reinforced concrete in 1918. The existing bridge is single span, approximately 62 feet long by 19.7 feet wide, and carries one lane of traffic. Stop signs on either side of the bridge alternate the travel direction. The existing bridge is currently structurally deficient with a sufficiency rating of 23.4. The reinforced concrete that encases the steel truss members is cracked and spalled at numerous locations. In addition, the existing bridge width of 19.7 feet is severely substandard for two-way traffic. The Kilburn Road Bridge is classified as a historic bridge due to its age and unique construction that combines reinforced concrete and steel truss technologies.

The objective of the Project is to improve overall safety and accessibility by replacing the existing structurally deficient bridge; comply with County, Caltrans, and AASHTO design standards for design and construction of the approach roadway and replacement bridge; and accommodate regional and occasional interregional transportation needs including permit loads. The Project would replace the existing two-lane, single-span bridge with a new two-lane, three-span bridge on the same general alignment as the existing bridge. The existing bridge would be removed and then the new bridge constructed. The demolition of a historic structure cannot be mitigated to less than significant under CEQA; therefore, the County will prepare a CEQA EIR.

PROJECT DESCRIPTION: Stanislaus County, in cooperation with Caltrans, proposes to replace the existing Kilburn Road Bridge with a new three-span bridge that would be approximately 95 feet long and 34.8 feet wide, accommodating an 11-foot lane and 2-foot shoulder in each direction. Construction of the new bridge will involve building piers within the creek channel located approximately 28.5 feet from the abutments and approximately 38 feet apart. With the bridge replacement, Kilburn Road would horizontally be similar to existing while the vertical profile would be revised in order the bridge to clear the 50-year flood water elevation. Realignment of the roadway profile would require a reconfiguration of the private driveways on both sides of the bridge. This roadway alignment design would provide a safer roadway for the traveling public.

A retaining wall may be constructed on the south side of the eastern roadway approach to the bridge to protect the existing water pump system. A slope easement or retaining wall may be required on the north side of the western roadway approach to the bridge.

The proposed roadway alignment may require some existing overhead utility poles to be relocated. The proposed bridge would be constructed on the same general alignment as the existing bridge; therefore, Kilburn Road will be closed to traffic until construction is complete. A detour along Crows Landing Road, Morris Road, and JT Crow Road would be available to allow for the closure of Kilburn Road while the connection from new to existing roadway is made. Detour travel between the Crows Landing Road / Kilburn Road Intersection and the JT Crow Road / Kilburn Road Intersection would be approximately 1.7 miles for through travelers and just over 2 miles for the residences near the existing Kilburn Road Bridge.

Dewatering activities will be required for construction of the new bridge. Dams will be placed upstream and downstream of the bridge and culverts will allow the flow to continue through the work area.

The project has been funded by the Federal Highway Bridge Program (HBP), and recently the Federal Moving Ahead for Progress in the 21st Century Program (MAP-21). Caltrans is the lead agency under the National Environmental Policy Act (NEPA). The County is the lead agency under the California Environmental Quality Act (CEQA).

SCOPE OF THE EIR: Following receipt of input during the comment period, the County will prepare a Draft EIR that will describe the Project and alternatives (including a no project alternative as required by CEQA) and will identify the potential environmental effects and mitigation measures that may be necessary to minimize or avoid such effects. The Draft EIR will be made available for public review and input for a 45-day review period. The County will consider all comments received and will prepare a Final EIR which identifies any necessary changes to the Draft and provides responses to all comments on the Draft. The County Board of

Supervisors will consider certification of the Final EIR prior to approval of actions required for undertaking the Project.

The EIR will contain full analysis of both the construction (short-term) and operational (long-term) impacts of the Project on the following environmental resource area: cultural resources. The following issues are likely to have no impacts or to be less than significant and will be briefly discussed in the EIR: aesthetics, air quality, agriculture and forestry, biological resources, energy, geology/soils, greenhouse gas emissions, hazards and hazardous materials, hydrology/water quality, land use/planning, mineral resources, noise, population/housing, public services, recreation, traffic and transportation, and utilities.

Below is a brief summary of potential effects to be discussed in detail in the EIR:

Cultural Resources – The existing Kilburn Road Bridge was determined eligible for inclusion in the National Register of Historic Places (NRHP) as part of a historic truss bridge inventory conducted by Caltrans in the 1980s; the State Historic Preservation Officer (SHPO) concurred with Caltrans' determination regarding NRHP eligibility in 1985. The EIR will evaluate the removal of the existing historic bridge, which would result in significant and unavoidable impacts to cultural resources. The EIR will recommend mitigation fieldwork, and archival documentation to minimize impacts.

Tribal Cultural Resources – The EIR will also include the results of consultation with Native American representatives in an effort to preserve and mitigate potential impacts to tribal cultural resources.

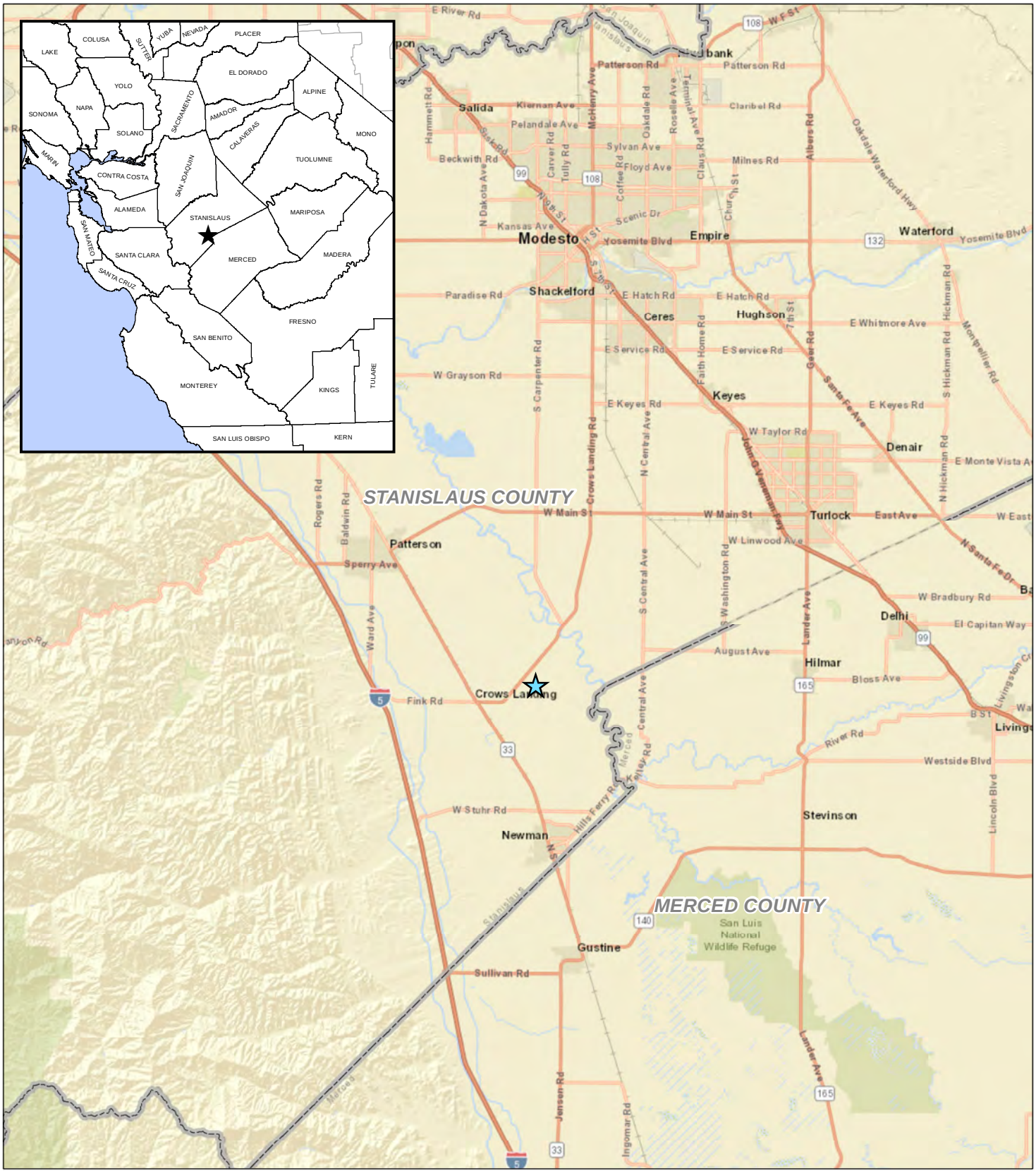
Lastly, the EIR will evaluate the CEQA required assessment conclusions including: Cumulative Impacts, Growth Inducing Impacts, Effects found not to be Significant, Unavoidable Significant Environmental Impacts, and Significant Irreversible Changes.

ATTACHED FIGURES

Figure 1: Project Location

Figure 2: Project Area

Figure 3: Project Design



LEGEND

Project Location

FIGURE 1

Kilburn Road Bridge Over
Orestimba Creek Replacement Project
Stanislaus County, California; Caltrans District 10
Federal Project No. BRLO-5938(157)
Expenditure Authorization No. 10-956771L

Study Vicinity

N

0 2.5 5
Miles

SOURCE: ESRI World Street Map (01/2020)

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LEGEND

Project Area - (8.56 ac)

FIGURE 2

0 1000 2000

FEET

SOURCE: Stanislaus County Aerial Imagery (04/2017)

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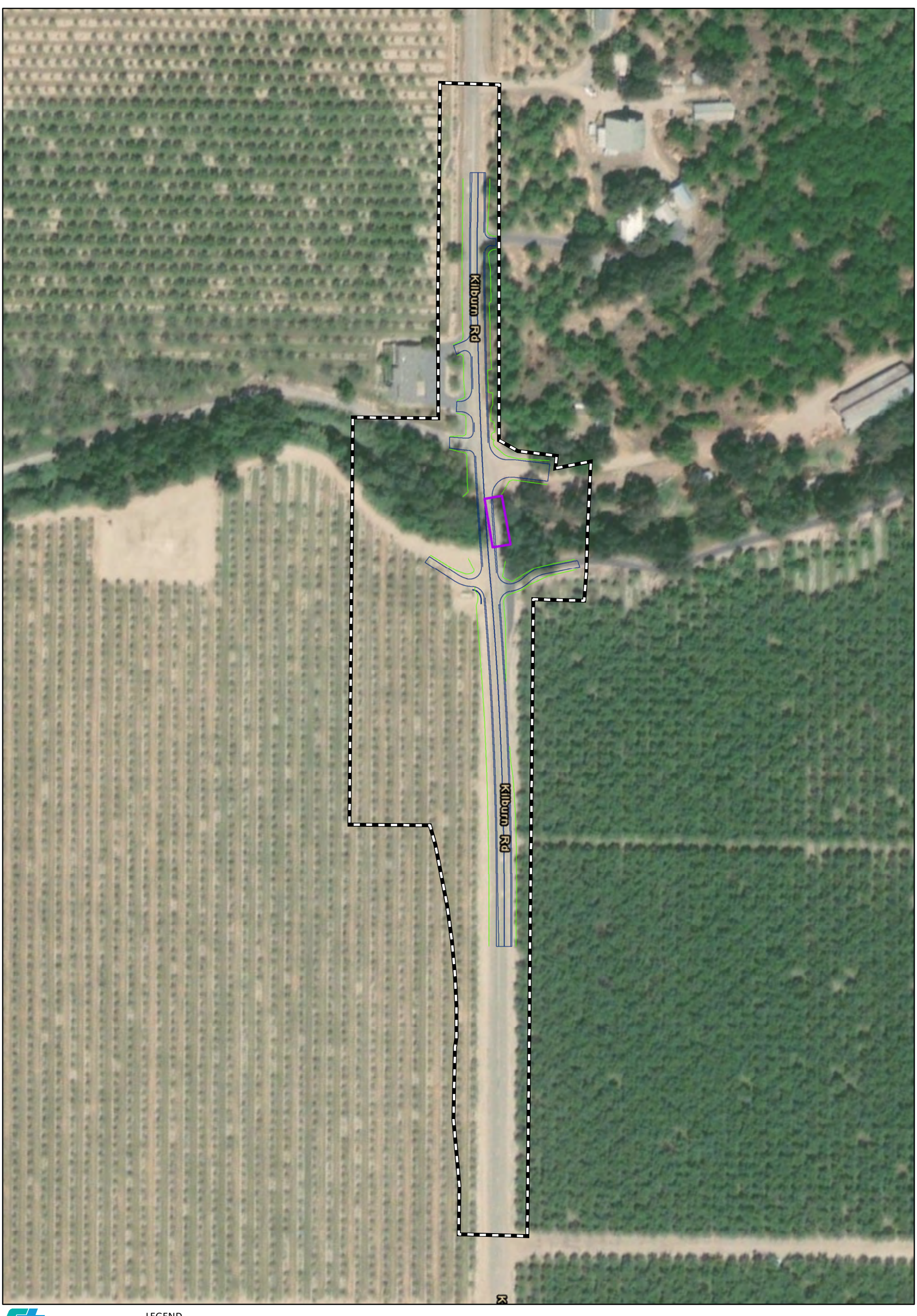
Kilburn Road Bridge over Orestimba Creek (38C0168)
Replacement Project in Stanislaus County
Caltrans District 10; Federal Aid No. BRLO-5938(157)

Project Vicinity on Aerial Base



LEGEND

- Project Area - (8.56 ac)
- Project Design
- Fill
- Existing Bridge No. 38C0168

0 75 150
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Kilburn Road Bridge Over
Orestimba Creek Replacement Project
Stanislaus County, California; Caltrans District 10
Federal Project No. BRLO-5938(157)
Expenditure Authorization No. 10-956771L

Project Design

SOURCE: Aerial Imagery - Stanislaus County (04/2017); Design - David Evans and Associates, Inc. (05/2020)

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STATE OF CALIFORNIA Gavin Newsom, Governor

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Pomo

NAHC HEADQUARTERS
1550 Harbor Boulevard
Suite 100
West Sacramento,
California 95691
(916) 373-3710
nahc@nahc.ca.gov
NAHC.ca.gov

August 31, 2020

Earl Seaberg
Stanislaus County Department of Public Works
1716 Morgan Street
Modesto, CA 95358

Re: 2020089028, Kilburn Road Bridge (38C-0168) Over Orestimba Creek Replacement Project, Stanislaus County

Dear Mr. Seaberg:

The Native American Heritage Commission (NAHC) has received the Notice of Preparation (NOP), Draft Environmental Impact Report (DEIR) or Early Consultation for the project referenced above. The California Environmental Quality Act (CEQA) (Pub. Resources Code §21000 et seq.), specifically Public Resources Code §21084.1, states that a project that may cause a substantial adverse change in the significance of a historical resource, is a project that may have a significant effect on the environment. (Pub. Resources Code § 21084.1; Cal. Code Regs., tit.14, §15064.5 (b) (CEQA Guidelines §15064.5 (b)). If there is substantial evidence, in light of the whole record before a lead agency, that a project may have a significant effect on the environment, an Environmental Impact Report (EIR) shall be prepared. (Pub. Resources Code §21080 (d); Cal. Code Regs., tit. 14, § 5064 subd.(a)(1) (CEQA Guidelines §15064 (a)(1)). In order to determine whether a project will cause a substantial adverse change in the significance of a historical resource, a lead agency will need to determine whether there are historical resources within the area of potential effect (APE).

CEQA was amended significantly in 2014. Assembly Bill 52 (Gatto, Chapter 532, Statutes of 2014) (AB 52) amended CEQA to create a separate category of cultural resources, "tribal cultural resources" (Pub. Resources Code §21074) and provides that a project with an effect that may cause a substantial adverse change in the significance of a tribal cultural resource is a project that may have a significant effect on the environment. (Pub. Resources Code §21084.2). Public agencies shall, when feasible, avoid damaging effects to any tribal cultural resource. (Pub. Resources Code §21084.3 (a)). **AB 52 applies to any project for which a notice of preparation, a notice of negative declaration, or a mitigated negative declaration is filed on or after July 1, 2015.** If your project involves the adoption of or amendment to a general plan or a specific plan, or the designation or proposed designation of open space, on or after March 1, 2005, it may also be subject to Senate Bill 18 (Burton, Chapter 905, Statutes of 2004) (SB 18). **Both SB 18 and AB 52 have tribal consultation requirements.** If your project is also subject to the federal National Environmental Policy Act (42 U.S.C. § 4321 et seq.) (NEPA), the tribal consultation requirements of Section 106 of the National Historic Preservation Act of 1966 (154 U.S.C. 300101, 36 C.F.R. §800 et seq.) may also apply.

The NAHC recommends consultation with California Native American tribes that are traditionally and culturally affiliated with the geographic area of your proposed project as early as possible in order to avoid inadvertent discoveries of Native American human remains and best protect tribal cultural resources. Below is a brief summary of portions of AB 52 and SB 18 as well as the NAHC's recommendations for conducting cultural resources assessments.

Consult your legal counsel about compliance with AB 52 and SB 18 as well as compliance with any other applicable laws.

7. Conclusion of Consultation: Consultation with a tribe shall be considered concluded when either of the following occurs:

a. The parties agree to measures to mitigate or avoid a significant effect, if a significant effect exists, on a tribal cultural resource; or

b. A party, acting in good faith and after reasonable effort, concludes that mutual agreement cannot be reached. (Pub. Resources Code §21080.3.2 (b)).

8. Recommending Mitigation Measures Agreed Upon in Consultation in the Environmental Document: Any mitigation measures agreed upon in the consultation conducted pursuant to Public Resources Code §21080.3.2 shall be recommended for inclusion in the environmental document and in an adopted mitigation monitoring and reporting program, if determined to avoid or lessen the impact pursuant to Public Resources Code §21082.3, subdivision (b), paragraph 2, and shall be fully enforceable. (Pub. Resources Code §21082.3 (a)).

9. Required Consideration of Feasible Mitigation: If mitigation measures recommended by the staff of the lead agency as a result of the consultation process are not included in the environmental document or if there are no agreed upon mitigation measures at the conclusion of consultation, or if consultation does not occur, and if substantial evidence demonstrates that a project will cause a significant effect to a tribal cultural resource, the lead agency shall consider feasible mitigation pursuant to Public Resources Code §21084.3 (b). (Pub. Resources Code §21082.3 (e)).

10. Examples of Mitigation Measures That, If Feasible, May Be Considered to Avoid or Minimize Significant Adverse Impacts to Tribal Cultural Resources:

a. Avoidance and preservation of the resources in place, including, but not limited to:

i. Planning and construction to avoid the resources and protect the cultural and natural context.

ii. Planning greenspace, parks, or other open space, to incorporate the resources with culturally appropriate protection and management criteria.

b. Treating the resource with culturally appropriate dignity, taking into account the tribal cultural values and meaning of the resource, including, but not limited to, the following:

i. Protecting the cultural character and integrity of the resource.

ii. Protecting the traditional use of the resource.

iii. Protecting the confidentiality of the resource.

c. Permanent conservation easements or other interests in real property, with culturally appropriate management criteria for the purposes of preserving or utilizing the resources or places.

d. Protecting the resource. (Pub. Resource Code §21084.3 (b)).

e. Please note that a federally recognized California Native American tribe or a non-federally recognized California Native American tribe that is on the contact list maintained by the NAHC to protect a California prehistoric, archaeological, cultural, spiritual, or ceremonial place may acquire and hold conservation easements if the conservation easement is voluntarily conveyed. (Civ. Code §815.3 (c)).

f. Please note that it is the policy of the state that Native American remains and associated grave artifacts shall be repatriated. (Pub. Resources Code §5097.991).

11. Prerequisites for Certifying an Environmental Impact Report or Adopting a Mitigated Negative Declaration or Negative Declaration with a Significant Impact on an Identified Tribal Cultural Resource: An Environmental Impact Report may not be certified, nor may a mitigated negative declaration or a negative declaration be adopted unless one of the following occurs:

a. The consultation process between the tribes and the lead agency has occurred as provided in Public Resources Code §21080.3.1 and §21080.3.2 and concluded pursuant to Public Resources Code §21080.3.2.

b. The tribe that requested consultation failed to provide comments to the lead agency or otherwise failed to engage in the consultation process.

c. The lead agency provided notice of the project to the tribe in compliance with Public Resources Code §21080.3.1 (d) and the tribe failed to request consultation within 30 days. (Pub. Resources Code §21082.3 (d)).

b. The final written report should be submitted within 3 months after work has been completed to the appropriate regional CHRIS center.

3. Contact the NAHC for:

a. A Sacred Lands File search. Remember that tribes do not always record their sacred sites in the Sacred Lands File, nor are they required to do so. A Sacred Lands File search is not a substitute for consultation with tribes that are traditionally and culturally affiliated with the geographic area of the project's APE.

b. A Native American Tribal Consultation List of appropriate tribes for consultation concerning the project site and to assist in planning for avoidance, preservation in place, or, failing both, mitigation measures.

4. Remember that the lack of surface evidence of archaeological resources (including tribal cultural resources) does not preclude their subsurface existence.

a. Lead agencies should include in their mitigation and monitoring reporting program plan provisions for the identification and evaluation of inadvertently discovered archaeological resources per Cal. Code Regs., tit. 14, §15064.5(f) (CEQA Guidelines §15064.5(f)). In areas of identified archaeological sensitivity, a certified archaeologist and a culturally affiliated Native American with knowledge of cultural resources should monitor all ground-disturbing activities.

b. Lead agencies should include in their mitigation and monitoring reporting program plans provisions for the disposition of recovered cultural items that are not burial associated in consultation with culturally affiliated Native Americans.

c. Lead agencies should include in their mitigation and monitoring reporting program plans provisions for the treatment and disposition of inadvertently discovered Native American human remains. Health and Safety Code §7050.5, Public Resources Code §5097.98, and Cal. Code Regs., tit. 14, §15064.5, subdivisions (d) and (e) (CEQA Guidelines §15064.5, subds. (d) and (e)) address the processes to be followed in the event of an inadvertent discovery of any Native American human remains and associated grave goods in a location other than a dedicated cemetery.

If you have any questions or need additional information, please contact me at my email address: Nancy.Gonzalez-Lopez@nahc.ca.gov.

Sincerely,

Nancy Gonzalez-Lopez
Cultural Resources Analyst

cc: State Clearinghouse

28 September 2020

Earl Seaberg
Stanislaus County
Public Works Department
1716 Morgan Road
Modesto, CA 95358

COMMENTS TO REQUEST FOR REVIEW FOR THE NOTICE OF PREPARATION FOR THE DRAFT ENVIRONMENTAL IMPACT REPORT, KILBURN ROAD BRIDGE (38C-0168) OVER ORESTIMBA CREEK REPLACEMENT PROJECT, SCH#2020089028, STANISLAUS COUNTY

Pursuant to the State Clearinghouse's 28 August 2020 request, the Central Valley Regional Water Quality Control Board (Central Valley Water Board) has reviewed the *Request for Review for the Notice of Preparation for the Draft Environmental Impact Report* for the Kilburn Road Bridge (38C-0168) over Orestimba Creek Replacement Project, located in Stanislaus County.

Our agency is delegated with the responsibility of protecting the quality of surface and groundwaters of the state; therefore our comments will address concerns surrounding those issues.

I. Regulatory Setting

Basin Plan

The Central Valley Water Board is required to formulate and adopt Basin Plans for all areas within the Central Valley region under Section 13240 of the Porter-Cologne Water Quality Control Act. Each Basin Plan must contain water quality objectives to ensure the reasonable protection of beneficial uses, as well as a program of implementation for achieving water quality objectives with the Basin Plans. Federal regulations require each state to adopt water quality standards to protect the public health or welfare, enhance the quality of water and serve the purposes of the Clean Water Act. In California, the beneficial uses, water quality objectives, and the Antidegradation Policy are the State's water quality standards. Water quality standards are also contained in the National Toxics Rule, 40 CFR Section 131.36, and the California Toxics Rule, 40 CFR Section 131.38.

The Basin Plan is subject to modification as necessary, considering applicable laws, policies, technologies, water quality conditions and priorities. The original Basin Plans were adopted in 1975, and have been updated and revised periodically as required, using Basin Plan amendments. Once the Central Valley Water Board has

adopted a Basin Plan amendment in noticed public hearings, it must be approved by the State Water Resources Control Board (State Water Board), Office of Administrative Law (OAL) and in some cases, the United States Environmental Protection Agency (USEPA). Basin Plan amendments only become effective after they have been approved by the OAL and in some cases, the USEPA. Every three (3) years, a review of the Basin Plan is completed that assesses the appropriateness of existing standards and evaluates and prioritizes Basin Planning issues. For more information on the *Water Quality Control Plan for the Sacramento and San Joaquin River Basins*, please visit our website:
http://www.waterboards.ca.gov/centralvalley/water_issues/basin_plans/

Antidegradation Considerations

All wastewater discharges must comply with the Antidegradation Policy (State Water Board Resolution 68-16) and the Antidegradation Implementation Policy contained in the Basin Plan. The Antidegradation Implementation Policy is available on page 74 at:
https://www.waterboards.ca.gov/centralvalley/water_issues/basin_plans/sacsjr_201805.pdf

In part it states:

Any discharge of waste to high quality waters must apply best practicable treatment or control not only to prevent a condition of pollution or nuisance from occurring, but also to maintain the highest water quality possible consistent with the maximum benefit to the people of the State.

This information must be presented as an analysis of the impacts and potential impacts of the discharge on water quality, as measured by background concentrations and applicable water quality objectives.

The antidegradation analysis is a mandatory element in the National Pollutant Discharge Elimination System and land discharge Waste Discharge Requirements (WDRs) permitting processes. The environmental review document should evaluate potential impacts to both surface and groundwater quality.

II. Permitting Requirements

Construction Storm Water General Permit

Dischargers whose project disturb one or more acres of soil or where projects disturb less than one acre but are part of a larger common plan of development that in total disturbs one or more acres, are required to obtain coverage under the General Permit for Storm Water Discharges Associated with Construction and Land Disturbance Activities (Construction General Permit), Construction General Permit Order No. 2009-0009-DWQ. Construction activity subject to this permit includes clearing, grading, grubbing, disturbances to the ground, such as stockpiling, or excavation, but does not include regular maintenance activities performed to restore the original line, grade, or capacity of the facility. The Construction General Permit requires the development and implementation of a Storm Water Pollution Prevention Plan (SWPPP). For more information on the Construction General Permit, visit the

State Water Resources Control Board website at: http://www.waterboards.ca.gov/water_issues/programs/stormwater/constpermits.shtml

Clean Water Act Section 404 Permit

If the project will involve the discharge of dredged or fill material in navigable waters or wetlands, a permit pursuant to Section 404 of the Clean Water Act may be needed from the United States Army Corps of Engineers (USACE). If a Section 404 permit is required by the USACE, the Central Valley Water Board will review the permit application to ensure that discharge will not violate water quality standards. If the project requires surface water drainage realignment, the applicant is advised to contact the Department of Fish and Game for information on Streambed Alteration Permit requirements. If you have any questions regarding the Clean Water Act Section 404 permits, please contact the Regulatory Division of the Sacramento District of USACE at (916) 557-5250.

Clean Water Act Section 401 Permit – Water Quality Certification

If an USACE permit (e.g., Non-Reporting Nationwide Permit, Nationwide Permit, Letter of Permission, Individual Permit, Regional General Permit, Programmatic General Permit), or any other federal permit (e.g., Section 10 of the Rivers and Harbors Act or Section 9 from the United States Coast Guard), is required for this project due to the disturbance of waters of the United States (such as streams and wetlands), then a Water Quality Certification must be obtained from the Central Valley Water Board prior to initiation of project activities. There are no waivers for 401 Water Quality Certifications. For more information on the Water Quality Certification, visit the Central Valley Water Board website at: https://www.waterboards.ca.gov/centralvalley/water_issues/water_quality_certification/

Waste Discharge Requirements – Discharges to Waters of the State

If USACE determines that only non-jurisdictional waters of the State (i.e., "non-federal" waters of the State) are present in the proposed project area, the proposed project may require a Waste Discharge Requirement (WDR) permit to be issued by Central Valley Water Board. Under the California Porter-Cologne Water Quality Control Act, discharges to all waters of the State, including all wetlands and other waters of the State including, but not limited to, isolated wetlands, are subject to State regulation. For more information on the Waste Discharges to Surface Water NPDES Program and WDR processes, visit the Central Valley Water Board website at:https://www.waterboards.ca.gov/centralvalley/water_issues/waste_to_surface_water/

Projects involving excavation or fill activities impacting less than 0.2 acre or 400 linear feet of non-jurisdictional waters of the state and projects involving dredging activities impacting less than 50 cubic yards of non-jurisdictional waters of the state may be eligible for coverage under the State Water Resources Control Board Water Quality Order No. 2004-0004-DWQ (General Order 2004-0004). For more information on the General Order 2004-0004, visit the State Water Resources

Control Board website at:
https://www.waterboards.ca.gov/board_decisions/adopted_orders/water_quality/2004/wqo/wqo2004-0004.pdf

Dewatering Permit

If the proposed project includes construction or groundwater dewatering to be discharged to land, the proponent may apply for coverage under State Water Board General Water Quality Order (Low Threat General Order) 2003-0003 or the Central Valley Water Board's Waiver of Report of Waste Discharge and Waste Discharge Requirements (Low Threat Waiver) R5-2018-0085. Small temporary construction dewatering projects are projects that discharge groundwater to land from excavation activities or dewatering of underground utility vaults. Dischargers seeking coverage under the General Order or Waiver must file a Notice of Intent with the Central Valley Water Board prior to beginning discharge.

For more information regarding the Low Threat General Order and the application process, visit the Central Valley Water Board website at:
http://www.waterboards.ca.gov/board_decisions/adopted_orders/water_quality/2003/wqo/wqo2003-0003.pdf

For more information regarding the Low Threat Waiver and the application process, visit the Central Valley Water Board website at:
https://www.waterboards.ca.gov/centralvalley/board_decisions/adopted_orders/waivers/r5-2018-0085.pdf

Limited Threat General NPDES Permit

If the proposed project includes construction dewatering and it is necessary to discharge the groundwater to waters of the United States, the proposed project will require coverage under a National Pollutant Discharge Elimination System (NPDES) permit. Dewatering discharges are typically considered a low or limited threat to water quality and may be covered under the General Order for *Limited Threat Discharges to Surface Water* (Limited Threat General Order). A complete Notice of Intent must be submitted to the Central Valley Water Board to obtain coverage under the Limited Threat General Order. For more information regarding the Limited Threat General Order and the application process, visit the Central Valley Water Board website at:
https://www.waterboards.ca.gov/centralvalley/board_decisions/adopted_orders/general_orders/r5-2016-0076-01.pdf

If you have questions regarding these comments, please contact me at (916) 464-4856 or Nicholas.White@waterboards.ca.gov.

Nicholas White
Water Resource Control Engineer

cc: State Clearinghouse unit, Governor's Office of Planning and Research, Sacramento

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