2019059100

INITIAL STUDY/
MITIGATED NEGATIVE DECLARATION
EA 2016-0002 (Jack Slough Bridge Replacement Project)

Project Title:	Environmental Assessment EA 2016-0001 (Jack Slough Bridge Replacement Project)
Lead Agency Name and Address:	County of Yuba Planning Department 915 8th Street, Suite 123 Marysville, CA 95901
Project Location:	Iowa City Road over Jack Slough
Contact Person:	Ciara Fisher, Planner II
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Date Prepared	May 2019

Project Description

The County is planning to replace the Bridge No. 16C0077 on Iowa City Road over Jack Slough. The County has nominated this bridge for replacement under the federal-aid Highway Bridge Program administered by the Federal Highway Administration through California Department of Transportation (Caltrans) Local Assistance. The existing bridge is a two-lane bridge on a two-lane road and is structurally deficient. The proposed project will improve public safety and road usefulness by replacing a currently load-limited and deficient structure. The new bridge will meet current design standards of Yuba County, American Association of State Highway and Transportation Officials (AASHTO), and Caltrans.

The proposed project area is located near the unincorporated community of Iowa City in Yuba County, California. It includes the Iowa City Road Bridge crossing Jack Slough and areas east and west of the existing bridge along Iowa City Road. It is shown on the *Loma Rica, California* 7.5-minute U.S. Geological Survey (USGS) quadrangle in Township 16N, Range 4E, Section 3. The center of the proposed project area is located at approximately latitude 39.294158°, longitude -121.490007° (National American Datum 27).

The existing bridge is a two-span concrete structure spanning Jack Slough, and was originally constructed in 1934. The bridge is approximately 32.2 feet long and 21.3 feet wide and consists of a continuous reinforced concrete slab on a drop cap three column bent and seat abutments. The bridge is designated as a Category 5 bridge in the *Caltrans Historic Bridge Inventory-Local Agency Bridges*. The existing bridge is classified as structurally deficient, with a Sufficiency Rating of 35.7. All existing supports appear to be founded on spread footings. The stream channel and topography at this location are relatively flat with irrigation ditches located nearby.

The Iowa City Road Bridge Replacement Project will replace the existing bridge with a longer structure located along the same alignment (see Reference 10, Figure 2). The replacement structure will provide a clear width of 34 feet between barrier rails per recommendations outlined in the design guidelines. The bridge will consist of two 12-foot-wide lanes and two 4- foot-wide shoulders. A vehicular railing will be attached to the edge of the deck on the new structure. Two alternatives are being investigated for the proposed replacement structure, which will have a short span and relatively flat topography. Both alternatives would be reinforced concrete slat slab bridges, but would vary in structure depth based on a single-span versus two-span layout. The abutments and central support will be founded on spread footings. The bridge will require falsework supports that will be placed at the abutment locations. The channel has flow year round, so culverts will be required to convey the flow during construction, with a cofferdam at the north end and detour road at the south end.

The proposed project is anticipated to be completed in a single construction season between May 1 and October 1. Project activities occurring outside the period of May 1 to October 1 will be limited to construction site clean-up, deck work on the new bridge structure, or other activities which do not involve ground disturbance. Construction of the project is currently scheduled for 2020, but actual schedule will depend on the timeline for securing the required funding, permits, and approvals.

Bridge removal will require approximately 1 week. Foundation and substructure construction will require several weeks. Modifications to roadway approaches and superstructure construction will require an additional several weeks. Restoration of the channel banks to pre-construction condition could take up to several weeks.

Utilities

Based on site visits to the Project area, it appears that underground and overhead utility facilities exist within the Project area. An overhead electrical service drop may require relocation and the underground communication line along the existing bridge will need to be relocated. Some drainage culverts may need to be replaced along the existing roadway. The proposed improvements to the culverts will include reinforced concrete pipe with flared end sections and/or rock slope protection.

Right-Of-Way (ROW)

Acquisition of permanent ROW may be required to the south but all staging areas will be within existing County ROW. Because the proposed alignment is along the existing roadway and the topography is relatively flat, minimal fill slope for embankment work is anticipated. A temporary construction easement will need to be acquired before construction for placement of the temporary detour road. U.S. Fish & Wildlife Service

Environmental Factors Potentially Affected:

The environmental factors checked below would be potentially affected by this project, as indicated by the checklist and corresponding discussion on the following pages:

☐ Aesthetics	☐ Agriculture & Forestry Resources	☒ Air Quality
☒ Biological Resources	☒ Cultural Resources	☐ Energy
☐ 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	☐ Wildfire	
☒ Mandatory Findings of Signficance		

DETERMINATION: (To be completed by the Lead Agency)

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 EIR or NEGATIVE DECLARATION pursuant to applicable standards, and (b) have been avoided or mitigated pursuant to that earlier EIR or NEGATIVE

DECLARATION, including revisions or mitigation measures that are imposed upon the proposed project, nothing further is required.

Ciara Fisher 5/17/19

Planner's Signature Date

Ciara Fisher'

Planner II

PURPOSE OF THIS INITIAL STUDY

This Initial Study has been prepared consistent with CEQA Guidelines Section 15063, to determine if the Environmental Assessment EA 2016-0001 (Iowa City Road Bridge Replacement Project), as proposed, may have a significant effect upon the environment. Based upon the findings contained within this report, the Initial Study will be used in support of the preparation of a Mitigated Negative Declaration.

EVALUATION OF ENVIRONMENTAL IMPACTS

1) A brief explanation is required for all answers except "No Impact" answers that are adequately supported by the information sources a lead agency cites in the parentheses following each question. A "No Impact" answer is adequately supported if the referenced information sources show that the impact simply does not apply to projects like the one involved (e.g., the project falls outside a fault rupture zone). A "No Impact" answer should be explained where it is based on project-specific factors as well as general standards (e.g., the project will not expose sensitive receptors to pollutants, based on project-specific screening analysis).
2) All answers must take into account the whole action involved, including offsite as well as onsite, cumulative as well as project-level, indirect as well as direct, and construction as well as operational impacts.
3) Once the lead agency has determined that a particular physical impact may occur, then the checklist answers must indicate whether the impact is potentially significant, less than significant with mitigation, or less than significant. "Potentially Significant Impact" is appropriate if there is substantial evidence that an effect may be significant. If there are one or more "Potentially Significant Impact" entries when the determination is made, an EIR is required.
4) "Negative Declaration: Less Than Significant With Mitigation Incorporated" applies where the incorporation of mitigation measures has reduced an effect from "Potentially Significant Impact" to a "Less Than Significant Impact." The lead agency must describe the mitigation measures, and briefly explain how they reduce the effect to a less than significant level mitigation measures from Section XVII, "Earlier Analyses," may be cross-referenced.
5) Earlier analyses may be used where, pursuant to the tiering, program EIR, or other CEQA process, an effect has been adequately analyzed in an earlier EIR or negative declaration. Section 15063(c) (3) (D). In this case, a brief discussion should identify the following:
    a) Earlier Analysis Used. Identify and state where they are available for review.
    b) Impacts Adequately Addressed. Identify which effects from the above checklist were within the scope of and adequately analyzed in an earlier document pursuant to applicable legal standards, and state whether such effects were addressed by mitigation measures based on the earlier analysis.
    c) Mitigation Measures. For effects that are "Less than Significant with Mitigation Measures Incorporated," describe the mitigation measures which were

incorporated or refined from the earlier document and the extent to which they address site-specific conditions for the project.

6) Lead agencies are encouraged to incorporate into the checklist references to information sources for potential impacts (e.g., general plans, development code). Reference to a previously prepared or outside document should, where appropriate, include a reference to the page or pages where the statement is substantiated.

7) Supporting Information Sources: A source list should be attached, and other sources used or individuals contacted should be cited in the discussion.

8) The explanation of each issue should identify:

   a) The significance criteria or threshold, if any, used to evaluate each question; and

   b) The mitigation measure identified, if any, to reduce the impact to less than significance.

I. AESTHETICS Would the project:	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
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) Substantially degrade the existing visual character or quality of the site and its surroundings?	☐	☐	☐	☒
d) Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?	☐	☐	☐	☒

Discussion/Conclusion/Mitigation:

a) *Less than Significant* – Scenic vistas in the project vicinity generally consist of rolling hills and roadways that will not change as a result of the bridge replacement project.. The proposed bridgework would not deviate atheistically from what currently exists on Iowa City Road.

b) *Less than Significant* –There will be no substantial effects to rock outcroppings, historic buildings, or trees and the project site is not on a state scenic highway.

c) *No Impact* – As discussed in a) above, the existing visual characteristics of the project site would not be significantly altered by the project. There would be no change in the existing visual character or quality of the site and its surroundings.

d) *No Impact* – The proposed project would be conducted during daytime hours; no nighttime construction is proposed. No temporary or permanent lighting is proposed. There would be no effect on nighttime views.

II. 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 Dept. of Conservation as an optional model to use in assessing impacts on agriculture and farmland. In determining whether impacts to forest resources, including timberland, are significant environmental effects, lead agencies may refer to information compiled by the California Department of Forestry and Fire Protection regarding the state's inventory of forest land, including the Forest and Range Assessment project and the Forest Legacy Assessment project; and forest carbon measurement methodology provided in Forest Protocols adopted by the California Air Resources Board.

Would the project:	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
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?	☐	☐	☐	☒

Discussion/Conclusion/Mitigation:

a) *No Impact* – The proposed project is a bridge replacement project. Nearly all project activity is in the existing right-of-way and no farmland conversion would needed for this project. Therefore, no loss or conversion of farmland would result from the proposed project.

b) *No Impact* – The project area, consisting predominately of public roadways, is designated Rural Community by the Yuba County 2030 General Plan. The surrounding project zoning is "AR" Agricultural Residential. The proposed project is consistent with the General Plan and zoning. The property is not under a Williamson Act contract, as Yuba County has not established a Williamson Act program.

c) *No Impact* – The project does not involve any activities that would result in a rezone or loss of a Timberland Preservation Zone. The long-term use of the property will remain as a road.

d) *No Impact*- As discussed in the above Environmental Setting section, the proposed project is not located in an area that contains forestland. No conversion of forests would occur because of the project.

e) *No Impact*- The project consists of replacing a structurally deficient bridge. Nothing related to the project will lead to the conversion of any type of viable agricultural land.

III. AIR QUALITY

Where available, the significance criteria established by the applicable air quality management or air pollution control district may be relied upon to make the following determinations.

Would the project:	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Conflict with or obstruct implementation of the applicable air quality plan?	☐	☐	☒	☐
b) Violate any air quality standard or contribute substantially to an existing or projected air quality violation?	☐	☐	☒	☐
c) Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard (including releasing emissions which exceed quantitative thresholds for ozone precursors)?	☐	☐	☒	☐
e) Expose sensitive receptors to substantial pollutant concentrations?	☐	☐	☒	☐
f) Create objectionable odors affecting a substantial number of people?	☐	☐	☒	☐

Discussion/Conclusion/Mitigation:

a) *Less Than Significant Impact* – In 2010, an update to the 1994 Air Quality Attainment Plan was prepared for the Northern Sacramento Valley Air Basin (NSVAB), which includes Yuba County. The plan proposes rules and regulations that would limit the amount of certain emissions, in accordance with the 1994 State Implementation Plan (SIP). The 2010 update summarizes the feasible control measure adoption status of each air district in the NSVAB, including the Feather River Air Quality Management District (FRAQMD). The 2010 update was adopted by the FRAQMD, and development proposed by the project would be required to comply with its provisions.

The Air Quality Attainment Plan also deals with emissions from mobile sources, primarily motor vehicles and construction equipment with internal combustion engines. Data in the Plan, which was incorporated in the SIP, are based on the most currently available growth and control data. As is stated in the guidelines of FRAQMD, projects are considered to have a significant impact on air quality if they reach emission levels of at least 25 pounds per day of reactive organic gases (ROG), 25 pounds per day of nitrogen oxides (NOx), and/or 80 pounds per day for PM10. FRAQMD recommends that Type 2 District projects, like a road construction/rehabilitation project, use a District recommended land use model to calculate project related emissions.

In May 2019 a project air quality analysis was performed using the CalEEMod air quality emissions calculator to determine project daily impacts to ROG; NOx; PM10; and PM2.5. The CalEEMod analysis was based on a 30-day project construction length, a project construction impact of 0.20 acres, and that twice-daily project watering would occur at the construction site. The resulting analysis determined that the project daily emission levels were: ROG 0.17 lbs/day; NOx 1.21 lbs/day; PM10 0.087 lbs/day; and PM2.5 0.87lbs/day. The CalEEMod emission analysis demonstrates that project related air quality emissions would not substantially add to the Air Quality Attainment Plan and FRAQMD thresholds. Therefore, impacts to air quality plans would be less than significant.

b) *Less Than Significant Impact* – The California Air Resources Board provides information on the attainment status of counties regarding ambient air quality standards for certain pollutants, as established by the federal and/or state government.

As of 2004, Yuba County is in non-attainment status for State and national (one-hour) air quality standards for ozone, and State standards for particulate matter less than 10 microns in diameter (PM_{10}).

As discussed above in Section A, under the guidelines of FRAQMD projects are considered to have a significant impact on air quality if they reach emission levels of at least 25 pounds per day of reactive organic gases (ROG), 25 pounds per day of nitrogen oxides (NOx), and/or 80 pounds per day for PM_{10}. ROG and NOx are ingredients for ozone. The CalEEMod analysis shows the project is below the PM10 threshold. The proposed project does not result in any new development or have an operational emissions phase and would not contribute substantially to the existing non-attainment status for ozone and PM_{10}.

c) *Less Than Significant with Mitigation Incorporated* – As previously noted, the project proposes a bridge replacement along Iowa City Road. There is no future development associated with the project. The only air emissions associated with the project are emissions associated with project construction and idling vehicular traffic associated with construction traffic delays. The proposed project does not exceed any daily air quality thresholds. Nevertheless, Yuba County currently is in non-attainment status for State and federal (one-hour) air quality standards for ozone, and State standards for particulate matter less than 10 microns in diameter (PM_{10}). Therefore, any pollutant contribution may be considered cumulatively considerable, especially when included with emissions from other proposed projects in the County.

The FRAQMD has a list of standard construction-phase Mitigation Measures that apply to all projects. Also, FRAQMD has established a list of Fugitive Dust Control Mitigation Measures applicable to construction activities, from its Indirect Source Review Guidelines. Based on these, the following Mitigation Measures shall be implemented.

Mitigation Measures:

MM 3.1 The most current FRAQMD Standard Mitigation Measures applicable to construction activities shall be incorporated as part of the project.

MM 3.2 To mitigate impacts of construction vehicle and equipment emissions during construction, the following Mitigation Measures shall be incorporated as part of the project and included in all construction bid documents:

1. Water inactive construction sites and exposed stockpile sites at least twice daily.
2. Pursuant to California Vehicle Code, all trucks hauling soil and other loose material to and from the construction site shall be covered or should maintain at least 6 inches of freeboard (i.e. minimum vertical distance between top of load and the trailer).
3. Any topsoil that is removed for the construction operation shall be stored on-site in piles not to exceed 4 feet in height to allow development of microorganisms prior to replacement of soil in the construction area. These topsoil piles shall be clearly marked and flagged. Topsoil piles that will not be immediately returned to use shall be revegetated with a non-persistent erosion control mixture.
4. Soil piles for backfill shall be marked and flagged separately from native topsoil stockpiles. These soil piles shall also be surrounded by filt fencing, straw wattles, or other sediment barriers or covered unless they are to be immediately used.
5. Equipment or manual watering shall be conducted on all stockpiles, dirt/gravel roads, and exposed or disturbed soil surfaces, as necessary, to reduce airborne dust.

Implementation of **MM 3.1 and 3.2** would further reduce potential pollutant emissions of the project, and further minimize any cumulative impact. Impacts after mitigation would be less than significant.

d) *Less Than Significant Impact* – The proposed project would be located in a sparsely populated rural area in the community of Iowa City and Loma Rica. The proposed construction activities are not expected to generate pollutant concentrations at a sufficient level to be noticed by any nearby residences, particularly given the rural nature of the project area.

e) *No Impact* – The project would not allow activities that generate odors considered objectionable. Furthermore, the project is located in a rural area, and as noted above, any odors generated by the project would be temporary and consistent with odors emitted from the surrounding rural residences.

IV. BIOLOGICAL RESOURCES **Would the project:**	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
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, or regulations or by the California Department of Fish and Game or US Fish and Wildlife Service?	☐	☒	☐	☐
c) Have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?	☐	☒	☐	☐
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?	☐	☐	☐	☒

Discussion/Conclusion/Mitigation:

a, b, c) Stantec Environmental prepared a Natural Environment Study for the project and below are the results of the study.

Informational Review

Special-status plant and animal special-status species and/or other special habitats having the potential to occur in the BSA were determined, in part, using several database searches and review of a species list provided by the U.S. Fish and Wildlife Service (USFWS). Prior to conducting field assessments, the following information sources were reviewed:

- *Loma Rica, California*, USGS 7.5-minute quadrangle;

- Aerial photographs of the BSA and vicinity;
- USFWS list of endangered and threatened species that may occur in Yuba County (Appendix A);
- California Natural Diversity Data Base (CNDDB; California Department of Fish and Wildlife 2018a) and California Native Plant Society (CNPS) records for the *Loma Rica, California* USGS 7.5-minute quadrangle and the eight surrounding quadrangles (Appendix A);
- California Wildlife Habitat Relationships (CWHR) System (California Department of Fish and Game 2008); and
- Pertinent literature, including the online *Inventory of Rare and Endangered Vascular Plants of California* (California Native Plant Society 2018), *The Jepson manual: vascular plants of California* (Baldwin et. al. 2012), *Amphibian and reptile species of special concern in California* (Jennings and Hayes 1994), *California bird species of special concern: A ranked assessment of species, subspecies, and distinct populations of birds of immediate conservation concern in California, Studies of Western Birds 1* (Shuford and Gardali 2008).

Biological Study Area
The 9.18-acre BSA is located along Iowa City Road in the unincorporated community of Iowa City in Yuba County, California. Public lands within the BSA includes Iowa City Road and road shoulders that are within the right-of-way, and a portion of Jack Slough that includes the existing and proposed bridge alignments. The potential staging areas east of the bridge and portions of parcels along Iowa City Road are public and private lands.

Survey Methods
Biological surveys were conducted on April 29, 2014, August 7 and 14, 2014, and July 20, 2018; including botanical surveys in general accordance with the Protocols for Surveying and Evaluating Impacts to Special Status Native Plant Populations and Natural Communities (California Department of Fish and Wildlife 2018b). Per the CDFW guidelines, a target list of special-status plant species with the potential to occur on the site was developed prior to the surveys through interpretation of the USFWS, CNDDB and CNPS query results (Appendix A). A list of all plant species observed is provided in Appendix B. Invasive plant species designated with a California Invasive Plant Council rating of "High" or a California Department of Food and Agriculture rating of "A" were recorded in the field and are listed in Section 3.1.5.

On August 7 and 14, 2014, and July 20, 2018, a Corps jurisdictional wetland determination was performed according to methodology described in the Corps of Engineers Wetlands Delineation Manual (Environmental Laboratory 1987). A copy of the report is included as Appendix C.

Personnel and Survey Dates

Following is a list of personnel and tasks performed during visits to the BSA:

- Patrick Martin, Wildlife Biologist, North State Resources, Inc.
  Biological habitat assessment, wetland delineation survey, botanical survey, August 7 and 14, 2014.
- Paul Kirk, Botanist, North State Resources, Inc.

Botanical survey April 29, 2014.

- Tim Hanson, Botanist, Stantec
  Wetland delineation and botanical survey, July 20, 2018.

Agency Coordination and Professional Contacts

A site visit with Yuba County, Caltrans, and USFWS staff was conducted on October 11, 2018 to assess the potential for project impacts on giant garter snake.

Limitations That May Influence Results

All field studies were conducted in accordance with applicable protocols. Therefore, no limitations that may influence the results of biological field studies are known to have occurred.

Results: Environmental Setting

Description of Existing Physical and Biological Conditions

Study Area

The BSA includes Iowa City Road and road shoulders that are within the right-of-way (ROW), and Jack Slough that includes the existing and proposed bridge alignments. The BSA encompasses 9.18 acres and includes annual grassland, barren, rice, valley foothill riparian, fresh emergent wetland, and riverine.

CURRENT/RECENT LAND USE

The BSA occurs along Jack Slough in Iowa City, California in the Lower Feather River watershed. Land use in the BSA is predominantly rice farming. Most of the lands are held by private individuals who utilize these areas for agriculture (ranching, farming) and residential uses. The annual grasslands north of the BSA may also be used for cattle grazing.

Physical Conditions

SITE TOPOGRAPHY AND ELEVATION

The topography of the BSA is generally characterized by a portion of the Jack Slough channel and incudes adjacent level terraces. The terraces gently slope towards Jack Slough until reaching the small, steep banks. Jack Slough, in the BSA, drains from north to south. An agricultural ditch flows from east to west through the BSA and Jack Slough. Elevation in the BSA is approximately 125 feet.

CLIMATE

Climate within the BSA is described based on historical precipitation and temperature data collected at Marysville, California 12 miles southwest of the BSA. The BSA is characterized by a Mediterranean climate with moderate winters and hot, dry summers. Precipitation in the BSA primarily falls as rain. Average annual rainfall is approximately 22 inches (Western Regional Climate Center 2018). Air temperatures in the BSA range between an average January high of 54 degrees Fahrenheit (°F), and an average July high of 96 °F. The year-round average high is approximately 76 °F (Western Regional Climate Center 2018).

HYDROLOGICAL RESOURCES

The hydrology within the BSA is provided by Jack Slough, which is a part of a network of managed agricultural ditches that deliver water to rice fields within the Lower Feather River watershed. Hydrology in the BSA is generally provided by sheet flow, springs, water diversions, and groundwater. Jack Slough, agricultural ditches, and the vegetated ditch provides hydrology that supports riparian wetlands. Agricultural ditches and the vegetated ditch are tributary Jack Slough and Honcut Creek, which are tributary to the Feather River.

Biological Conditions in the Biological Study Area

Vegetation communities were classified based on habitat descriptions provided in *A Guide to Wildlife Habitats of California* (Mayer and Laudenslayer 1988). Six vegetation communities occur in the BSA: annual grassland, barren, rice, valley foothill riparian, fresh emergent wetland, and riverine (Reference 8, Figure 3).

ANNUAL GRASSLAND

Annual grassland occurs throughout the BSA primarily north of Iowa City Road in the eastern portion of the BSA. It is characterized as a dense herbaceous layer and is dominated by introduced annual grass species, including wild oats (*Avena fatua*), soft brome (*Bromus hordeaceus,*), ripgut brome (*B. diandrus*,), Bermuda grass (*Cynodon dactylon*), dallisgrass (*Paspalum dilatatum*), medusahead (*Elymus caput-medusae*), and seaside barley (*Hordeum marinum*). Other common herbaceous species include lotus (*Acmispon* sp.), black mustard (*Brassica nigra,*), yellow star-thistle (*Centaurea solstitialis*), spikeweed (*Centromadia fitchii*), chicory (*Cichorium intybus*), turkey mullein (*Croton setigerus,*), western rush (*Juncus occidentalis*), dock (*Rumex* spp.), and vinegarweed (*Trichostema lanceolatum*).

Annual grasslands are productive wildlife habitat. Grassland bird species, such as mourning dove (*Zenaida macroura*), savannah sparrow (*Passerculus sandwichensis*), and white-crowned sparrow (*Zonotrichia leucophrys)* as well as rodents, including California ground squirrel (*Spermophilus beecheyi*), Botta's pocket gopher (*Thomomys bottae*), and deer mouse (*Peromyscus maniculatus*), forage on the seed crop this community provides. These species, in turn, attract predators such as gopher snake (*Pituophis catenifer*), American kestrel (*Falco sparverius*), red-tailed hawk (*Buteo jamaicensis*), barn owl (*Tyto alba*), gray fox (*Urocyon cinereoargenteus*), and coyote (*Canis latrans*).

BARREN

Barren occurs as dirt and paved roads and their associated road shoulders. Vegetation is usually not present, although sparse opportunistic grasses and forbs or weedy species occur. This habitat provides few resources to wildlife species. Although some species associated with adjacent habitats likely forage in the barren habitat to some extent, use of this habitat by wildlife is expected to be limited.

RICE

Rice fields occur in the BSA south of Iowa City Road both east and west of Jack Slough. At the time of the survey, the rice fields were flooded. Fringes of the rice field are dominated by wild oats, dallisgrass, and Bermuda grass.

Rice is typically found on nearly level terrain in close association with valley foothill riparian and wetland habitats. Rice may provide habitat for aquatic species and waterfowl.

VALLEY FOOTHILL RIPARIAN

The valley foothill riparian community occurs along portions of Jack Slough, agricultural ditches, and the vegetated ditch in the BSA. Dominant canopy trees include Fremont's cottonwood (*Populus fremontii*), narrow-leaf willow (*Salix exigua*) and Gooding's willow (*S. gooddingii*). Other common woody and herbaceous plants include dallisgrass, tall flatsedge (*Cyperus eragrostis*), Himalayan blackberry (*Rubus armeniacus*), coffeeberry (*Frangula californica*), western rush, beard grass (*Polypogon* sp.) bulrush (*Schoenoplectus* sp.), cattail (*Typha latifolia*), western rush, common smartweed (*Persicaria hydropiper*), and water primrose (*Ludwigia peploides*).

Riparian areas are important wildlife habitats due to their high floristic and structural diversity, high biomass (and therefore high food abundance), and water availability. In addition to providing breeding, foraging, and roosting habitat for a diverse array of animals, riparian habitats also provide movement corridors.

The leaf litter, fallen tree branches, and logs associated with the riparian communities provide cover for amphibians such as western toad and Pacific chorus frog (*Pseudacris regilla*). Western fence lizard and western skink are also expected to occur here, as are several snake species, including western rattlesnake, yellow-bellied racer (*Coluber constrictor*), and common kingsnake (*Lampropeltis getula*).

Common bird species nesting and foraging in this habitat, primarily in the riparian tree canopy, include bushtit (*Psaltriparus minimus*), black phoebe (*Sayornis nigricans*), Nuttall's woodpecker (*Picoides nuttallii*), northern flicker, and downy woodpeckers (*Picoides pubescens*). Other resident species, such as spotted towhee and song sparrow (*Melospiza melodia*), often nest and forage in dense understory vegetation. Several species of raptors, including red-shouldered hawk (*Buteo lineatus*), Cooper's hawk (*Accipiter cooperii*), American kestrel, and great horned owl are also year-round residents of riparian communities.

Several mammals also occur in riparian communities. Small mammals, such as Botta's pocket gopher and deer mouse may burrow or find refuge in dense grass or brushy thickets. Mule deer frequently use riparian habitats, and opportunists, such as raccoon, are attracted by the abundance of prey and cover.

FRESH EMERGENT WETLAND

The fresh emergent wetland community occurs along portions of Jack Slough in the BSA. Fresh emergent wetland occurs intermixed with valley foothill riparian habitat. Dominant species include tall flatsedge, bulrush, cattail, common smartweed, and water primrose.

Fresh emergent wetland habitat provides critical food, water, and cover to a variety of wildlife species. Many amphibians, fish, and invertebrates are dependent on fresh emergent wetland habitat for significant stages in their lifecycle. Fresh emergent wetland is the primary habitat for the threatened giant garter snake. Several species of waterfowl and wading birds use fresh emergent wetland habitats to escape predation and seek refuge. Many birds of prey use fresh emergent wetland habitats as foraging grounds to hunt for waterfowl or small mammals.

RIVERINE

Riverine habitat occurs in Jack Slough and agricultural ditches throughout the BSA. It is dominated by a slow flow channel with sand substrates. Vegetation within the channel is dominated by riparian wetland along its banks and within the channel.

Riverine habitat provides critical food, water, and cover to a variety of wildlife species. Many amphibians, fish, and invertebrates are dependent on riverine habitat for survival. Several species of waterfowl and wading birds use riverine habitats to escape predation and seek refuge. Additionally, many species of insectivorous birds and bats find their prey over water. River otter (*Lontra canadensis*) is also a common resident of riverine habitat.

Habitat Connectivity

Environmental corridors are segments of land that provide a link between these different habitats while also providing cover. On a broader level, corridors also function as avenues along which wide-ranging animals can travel, plants can propagate, genetic interchange can occur, populations can move in response to environmental changes and natural disasters, and threatened species can be replenished from other areas. In the BSA, Jack Slough, agricultural ditches, and associated riparian habitat may provide a migration corridor for fish and wildlife species.

Invasive Species

Three noxious weeds were observed in the BSA: medusahead, yellow star-thistle, and Himalayan blackberry.

Regional Species and Habitats of Concern

Anadromous Fish

Aquatic habitat is present in the BSA. Native and non-native fish, such as Sacramento pike-minnow (*Ptychocheilus grandis*), green sunfish (*Lepomis cyanellus*), black bass (*Micropterus* spp.), and carp (*Cyprinus carpio*) along with other populations of native and non-native warm water fish species, have the potential to occur, or are known to occur within the vicinity of the BSA. Mosquitofish (*Gambusia affinis*) were observed in Jack Slough and associated agricultural ditches throughout the BSA during the August 7 and 14, 2014, and July 20, 2018 site visits.

Jack Slough has many agricultural water diversion structures, private dams, and other artificial barriers downstream of the BSA. Also, the aquatic habitat within the BSA does not provide holding, spawning, or rearing habitat suitable for special-status anadromous fish species such as Chinook salmon (*Oncorhynchus tshawytscha*) or steelhead (*Oncorhynchus mykiss*). Therefore, no anadromous fish are anticipated to occur in the BSA and the project is not subject to NOAA Fisheries jurisdiction.

Riparian Habitat

Riparian habitat (valley foothill riparian) is considered a sensitive natural community and is present in the BSA. In addition to providing habitat for many wildlife species, riparian areas provide shade, sediment, nutrient or chemical regulation, stream bank stability, and input for large woody debris or organic matter to the channel, which are necessary habitat elements for fish and other aquatic species. Based on field observations, all of the valley foothill riparian vegetation in the BSA occurs within or adjacent to waters of the United States. Activities within

these areas may be regulated by the Corps under the CWA. The CDFW may require a discretionary Stream Alteration Agreement to be issued prior to initiating construction within riparian habitat that is adjacent to streambeds. Potential adverse effects on riparian habitat are discussed in Section 4.1.1.2.

Waters of the United States

Stantec conducted a delineation of waters of the United States within the BSA on August 7 and 14, 2014, and July 20, 2018 (Appendix C). Verification of the delineation by the Corps is pending. Potential waters of the United States include perennial stream, riparian wetland, riparian wetland/agricultural ditch complex, rice field/managed wetland, and vegetated ditch. These features occupy a total of 3.247 acres of the BSA. Table 1 provides an acreage and linear distance summary by feature type. The boundaries of waters of the United States within the BSA are illustrated in Reference 8, Figure 4. Potential adverse effects and avoidance and minimization measures for waters of the United States are discussed in Chapter 4.

Table 1. Acreage Summary of Potential Waters of the United States

Waters of the United States	Total Acreage	Total Linear Feet
Wetlands		
Perennial Stream	0.108	221
Riparian wetland/Agricultural Ditch Complex	0.711	1,885
Riparian Wetland		
Rice Field/Managed Wetland	2.275	N/A
Vegetated Ditch	0.028	407
Total Waters of the United States	**3.247**	**2,513**

Special-Status Plants

For the purpose of this evaluation, special-status plant species include plants that are (1) listed as threatened or endangered under the CESA or the ESA; (2) designated as rare by the CDFW; (3) state or federal candidate or proposed species for listing as threatened or endangered; and/or (4) have a California Rare Plant Rank (RPR) of 1A, 1B, 2A, or 2B.

Regionally occurring special-status plant species were identified based on a review of pertinent literature, the USFWS species list, CNDDB, and CNPS database records, and the field survey results. The status of each special-status plant species was verified using the *Special Vascular Plants, Bryophytes, and Lichens List* (California Department of Fish and Wildlife 2018c) and the *State and Federally Listed Endangered, Threatened and Rare Plants of California* (California Department of Fish and Wildlife 2018d). For each species, habitat requirements were assessed and compared to the habitats in the BSA and immediate vicinity to determine if potential habitat occurs in the BSA. Based on the habitat assessment and the results of the botanical survey, it was determined that special-status plant species do not have the potential to occur in the BSA.

Special-Status Animals

Special-status animal species include species that are (1) listed as threatened or endangered under the CESA or the ESA; (2) proposed for federal listing as threatened or endangered; (3) state or federal candidates for listing as threatened or endangered; and/or (4) identified by the CDFW as Species of Special Concern or California Fully Protected Species.

A list of regionally occurring special-status animal species was compiled based on a review of pertinent literature, the results of the field surveys, review of the USFWS species list, CNDDB database records, and a query of the CWHR system. The status for each special-status wildlife species was verified using the *Special Animals List* (California Department of Fish and Wildlife 2018e) and the *State and Federally Listed Endangered and Threatened Animals of California* (California Department of Fish and Wildlife 2018f). The CWHR system was used to help determine wildlife species that potentially occur in the vegetation communities within the BSA. The CWHR is a predictive database system based on scientific information concerning wildlife species and their habitat relationships. Fish and invertebrates are not included in the CWHR system.

For each species, general habitat requirements were assessed and compared to the habitats within the BSA and immediate vicinity in order to determine their potential to be adversely affected by the proposed Project. Based on this review of general habitat requirements, and the results of the field assessment, eleven special-status animal species were determined to have the potential to occur in the BSA (Table 2). Potential adverse effects and avoidance and minimization measures for these special-status species are discussed in Chapter 4.

Table 2. Special-Status Wildlife Potentially Occurring or Known to Occur in the BSA

Common Name *Scientific Name*	Status[1] (Fed/State)	General Habitat Description	Habitat Assessment[2]	Rationale
Federal- or State-Listed Species				
		Reptiles		
Giant garter snake *Thamnophis gigas*	T/T	Freshwater marshes and low gradient streams with emergent vegetation. Adapted to drainage canals and irrigation ditches with mud substrate.	HP	Giant garter snake *Thamnophis gigas*
foothill yellow-legged frog *Rana boylii*	—/CT	Requires partly shaded, shallow streams and riffles with a rocky substrate in a variety of habitats. Need at least some cobble-sized substrate for egg laying.	A	foothill yellow-legged frog *Rana boylii*

Table 2. Special-Status Wildlife Potentially Occurring or Known to Occur in the BSA

Common Name *Scientific Name*	Status[1] (Fed/State)	General Habitat Description	Habitat Assessment[2]	Rationale
California red-legged frog *Rana draytonii*	T/SSC	Requires aquatic habitat for breeding, also uses a variety of other habitat types including riparian and upland areas. Adults utilize dense, shrubby or emergent vegetation associated with deep-water pools with fringes of cattails and dense stands of overhanging vegetation. This species may also breed in ephemeral ponds that support little or no vegetation.	A	California red-legged frog *Rana draytonii*
delta smelt *Hypomesus transpacificus*	T/E	Endemic to Sacramento-San Joaquin River Delta in open, shallow, low salinity (<1%) waters. Spawns in middle and upper reaches of Delta from late winter to spring	A	delta smelt *Hypomesus transpacificus*
valley elderberry longhorn beetle *Desmocerus californicus dimorphus*	T/—	Elderberry shrubs having stems with a basal diameter equal to or greater than 1 inch. Typically associated with riparian habitat.	A	The BSA does not contain any elderberry shrubs.
vernal pool fairy shrimp *Branchinecta lynchi*	E/—	Vernal and intermittent freshwater pools.	A	The BSA does not contain vernal or intermittent pools.
vernal pool tadpole shrimp *Lepidurus packardi*	T/—	Vernal and intermittent freshwater pools.	A	The BSA does not contain vernal or intermittent pools.
California black rail *Laterallus jamaicensis coturniculus*	—/T	Coastal brackish marshes dominated by pickleweed or fresh emergent wetlands in the Sierra Nevada foothills.	HP	The BSA contains suitable nesting habitat in fresh emergent wetlands.
tri-colored blackbird *Agelaius tricolor*	—/CE	Nests in dense emergent vegetation in freshwater habitats.	HP	The BSA contains suitable nesting habitat in fresh emergent wetlands.
Swainson's hawk *Buteo swainsoni*	—/T	Breeds in stands with few trees in juniper-sage flats, riparian areas, and oak savannah; forages in adjacent livestock pasture, grassland or grain fields.	HP	Isolated or groups of trees in and adjacent to the BSA provide nesting habitat for Swainson's hawk. The BSA contains suitable foraging habitat in annual grasslands.

Table 2. Special-Status Wildlife Potentially Occurring or Known to Occur in the BSA

Common Name *Scientific Name*	Status[1] (Fed/State)	General Habitat Description	Habitat Assessment[2]	Rationale
Other Special-Status Species				
western pond turtle *Emys marmorata*	—/SSC	Slow water aquatic habitat with available basking sites. Hatchlings require shallow water with dense submergent or short emergent vegetation. Requires an upland oviposition site near the aquatic site.	HP	The BSA contains suitable aquatic habitat for western pond turtle in Jack Slough and agricultural ditches.
white-tailed kite *Elanus leucurus*	—/FP	Nests in tall shrubs and trees, forages in grasslands, agricultural fields and marshes.	HP	Habitat within and adjacent to the BSA provides potential foraging and nesting habitat for white-tailed kite.
northern harrier *Circus cyaneus*	—/SSC	Forages in marshes, grasslands, and ruderal habitats; nests in extensive marshes and wet fields.	HP	Habitat within and adjacent to the BSA provides potential foraging and nesting habitat for northern harrier.
western burrowing owl *Athene cunicularia*	—/SSC	Grasslands and ruderal habitats.	HP	The BSA contains ruderal areas with suitable nesting and foraging habitats.
loggerhead shrike Lanius ludovicianus	—/SSC	Prefers open habitats with scattered shrubs and trees throughout the Central Valley of California. Nests in shrubs and trees.	HP	The BSA provides potential nesting and foraging habitat for loggerhead shrike.
western red bat *Lasiurus blossevillii*	—/SSC	Typically roost solitarily in dense tree foliage, particularly in willows, cottonwoods, and sycamores. Strongly associated with riparian habitats, particularly mature stands of cottonwood/sycamore.	HP	The riparian vegetation within and adjacent to the BSA may provide suitable roosting habitat for western red bat.

[1] Status Codes: Endangered (E); Threatened (T); Candidate Threatened (CT); State Fully Protected (FP); State Species of Special Concern (SSC).

[2] Assessment Codes. Absent (A): No habitat present and no further work needed. Habitat Present (HP): Habitat is, or may be present. The species may be present. Present (P): The species is present. Critical Habitat (CH): BSA is located within a designated critical habitat unit [this does not necessarily mean that appropriate habitat is present].

Results: Biological Resources, Discussion of Impacts and Mitigation

Habitats and Natural Communities of Concern

Riparian Habitat

SURVEY RESULTS

Riparian habitat was mapped in the BSA adjacent to Jack Slough and agricultural ditches (Reference 8, Figure 3).

PROJECT IMPACTS

The proposed project may result in temporary impacts on up to 0.053 acre of non-wetland valley foothill riparian habitat and permanent impacts on up to 0.084 acre of non-wetland valley foothill riparian habitat. These temporary impacts would be due to the construction of the new bridge and widening of Iowa City Road near the new bridge, and the removal of the old bridge, including removal of piers and abutments.

AVOIDANCE AND MINIMIZATION EFFORTS

By implementing the conservation measures provided in Section 1.3, the project will avoid or minimize the potential for adverse impacts on riparian habitat.

COMPENSATORY MITIGATION

Impacts on riparian habitat will be mitigated for as described in Section 1.3.5.

CUMULATIVE IMPACTS

With implementation of the above measures, the project will avoid or minimize the potential for adverse impacts on riparian habitat.

Waters of the United States, Including Wetlands

SURVEY RESULTS

The field delineation was conducted by Stantec on August 7 and 14, 2014, and July 20, 2018. A total of 3.247 acres of waters of the United States was mapped in the BSA. Waters of the United States occurred as perennial stream (0.108 acre [221 linear feet]), riparian wetland (0.125 acre), riparian wetland/agricultural ditch complex (0.711 acre [1,885 linear feet]), rice field/managed wetland (2.275 acre), and vegetated ditch (0.028 acre [407 linear feet).

PROJECT IMPACTS

The piers and abutments of the existing bridge are located within the OHWM of Jack Slough. The removal of the existing bridge and the construction of the replacement bridge will require the construction of a temporary water diversion system in the channel of Jack Slough. The proposed replacement bridge is a single span, cast-in-place reinforced concrete slab. This structure type requires falsework to be placed within the banks and wetted channel. The reinforced concrete abutments will be founded on spread footings outside of the OHWM of Jack Slough. Rock slope protection will be placed along the banks of Jack Slough upstream and downstream of the replacement bridge in accordance with applicable Caltrans' standards. Culverts will be placed through the proposed project area to convey water flowing within the channel. Construction of the new bridge and removal of the old bridge will have permanent impacts on up to 0.011 acre of waters of the United States and temporary impacts on up to 0.059 acre of waters of the United States (Reference 8, Figure 5).

AVOIDANCE AND MINIMIZATION EFFORTS

In addition to the conservation measures provided above, the following measures shall be implemented to avoid or minimize the potential for adverse impacts on potential waters of the United States.

Mitigation Measure 4.1 Prior to any discharge of dredge or fill material into Jack Slough, the required permits/authorizations shall be obtained from the

Corps and the RWQCB. All terms and conditions of the required permits/authorizations shall be implemented.

Mitigation Measure 4.2 Prior to any activities that would obstruct the flow of, or alter the bed, channel, or bank of Jack Slough, notification of streambed alteration shall be submitted to the CDFW. If required, a streambed alteration agreement shall be obtained from CDFW and all conditions of the agreement shall be implemented.

Mitigation Measure 4.3 All waters of the United States that are temporarily affected by project construction shall be restored as close as practicable to their original contour and conditions within 10 days of the completion of construction activities.

COMPENSATORY MITIGATION

Implementation of the conservation measures and AMMs will minimize the impacts on potential waters of the United States and compensatory mitigation is not anticipated to be required.

CUMULATIVE IMPACTS

With implementation of the above measures, the proposed project would not result in cumulatively considerable adverse impacts on waters of the United States, including wetlands.

Special-Status Plant Species

Based on the review of habitat requirements and the results of the field surveys, it was determined that the BSA only provides marginal habitat for special-status plant species.

No special-status plant species were detected during the botanical surveys conducted on April 29, August 7 and 14, 2014, and July 20, 2018. Thus, implementation of the proposed project is not expected to adversely affect any special-status plant species.

Special-Status Animal Species

Potential habitat for ten special-status animal species occurs in the BSA. These species include giant garter snake, western pond turtle, California black rail, white-tailed kite, northern harrier, Swainson's hawk, burrowing owl, loggerhead shrike, tricolored blackbird, and western red bat. No incidental observations of special-status species occurred during the field surveys. A discussion of the regulatory status, habitat requirements, and potential for occurrence, recommended avoidance and minimization measures, potential project-related impacts, and cumulative effects for each of these species is provided below.

Giant Garter Snake

SURVEY RESUL

Giant garter snake, which is federally and state-listed as threatened, is endemic to wetlands in the Sacramento and San Joaquin valleys. The giant garter snake inhabits marshes, sloughs, ponds, small lakes, low-gradient streams, and other waterways as well as agricultural wetlands, such as vegetated canals and rice fields. The giant garter snake feeds on a variety of small vertebrates including fishes, tadpoles, and frogs (Fitch 1941; Hansen and Brode 1980; Hansen 1988). The

giant garter snake breeding season extends through March and April, and females give birth to live young from late July through early September (Hansen and Hansen 1990).

Essential components of giant garter snake habitat include: (1) adequate water from early spring through fall to provide foraging habitat and cover; (2) emergent herbaceous wetland vegetation, such as cattails and bulrush, to provide foraging habitat, cover, and basking areas; (3) upland habitat for basking, cover, and retreat; and (4) higher elevation sites for cover and refuge from flood waters (Hansen and Brode 1980; U.S. Fish and Wildlife Service 1997).

POTENTIAL FOR OCCURANCE

All of the essential components of giant garter snake habitat are present within and around the BSA. Aquatic habitat is present within Jack Slough, agricultural ditches, and rice fields in and around the BSA as they provide adequate water from early spring through fall and emergent herbaceous wetland vegetation.

Giant garter snakes also require emergent vegetation adjacent to aquatic habitat which provides cover from predators while basking (Hansen 1980; U.S. Fish and Wildlife Service 1997). Emergent vegetation (e.g., tall flatsedge, bulrush, cattail, common smartweed) grows on the banks of the agricultural ditches along both sides of Iowa City Road, and along the margins of the managed wetland.

Refugia are important upland habitat components for giant garter snake. Higher elevation refugia are limited within and adjacent to the BSA because Jack Slough is a topographically low portion of the surrounding basin, and because most of the land within the BSA and vicinity has been leveled for rice production or other agricultural crops. Within the BSA, the highest ground is along portions of the banks of the agricultural ditches on the south side of Iowa City Road. Small mammal burrows that could provide refuge for giant garter snake were present, but not observed in high numbers during the field surveys.

There is one CNDDB occurrence record for giant garter snake within 10 miles of the BSA. This record is located approximately 1.2 miles south of the BSA. An individual giant garter snake was observed on May 6, 2010 at this location in a rice growing area. The next nearest recorded occurrence of giant garter snake is approximately 12.5 miles southwest of the BSA.

The BSA is with a mile of the transition from the Sacramento Valley to the Sierra Nevada foothills. As such, this area is considered to be near the edge of the historical range of giant garter snake (U.S. Fish and Wildlife Service 2017). Comprehensive surveys for this species have not been conducted in vicinity of the BSA (i.e., east of the Feather River and north of the Yuba River) and the historic and current abundance of the species in this region is relatively unknown (U.S. Fish and Wildlife Service 2012).

PROJECT IMPACTS

Because project implementation would involve modification or alteration of the Jack Slough and the agricultural ditches and ditch banks, it has the potential for impacts on giant garter snake. Implementation of the project during the active period of giant garter snake (May 1–October 1) will reduce the potential that giant garter snake would be present during construction activities because the snakes would be expected to actively move away from disturbance during this time.

If giant garter snake is present during construction, potential direct effects include mortality, increased risk of predation, and increased stress resulting from removal of vegetative cover and basking sites; temporary reduction in available aquatic habitat and prey base as a result of dewatering and other construction disturbance; displacement from the BSA due to the presence of people and equipment; obstruction of movement corridors due to the presence of people and equipment in the creek channel and on the banks; crushing, dismemberment, and other injuries resulting from contact with vehicles and other construction equipment; and degraded habitat and a reduction in prey items resulting from siltation, the placement of fill, or a spill of oil or other chemicals.

Indirect effects under the federal ESA are those that are caused by or will result from the proposed action and occur later in time (U.S. Fish and Wildlife Service and National Marine Fisheries Service 1998). The proposed project is a short-term construction activity that would be completed within a few months. The proposed project is not expected to significantly alter habitat suitability for giant garter snake from existing conditions. The proposed project would not result in potential adverse indirect effects on giant garter snake.

The proposed project is a single and complete project and is not interrelated or interdependent with other projects. The proposed project has independent utility and is not dependent on other actions for its justification.

AVOIDANCE AND MINIMIZATION EFFORTS

In addition to the conservation measures provided above, the following AMMs shall be implemented to avoid or minimize the potential for impacts on giant garter snake. With implementation of these measures, the project is not likely to adversely affect giant garter snake.

Mitigation Measure 4.4 All construction personnel shall complete environmental awareness training prior to beginning work. The training shall inform construction personnel of: 1) conservation measures for protection of special-status wildlife species (e.g., inspecting around equipment and work area before operating, minimize vegetation disturbance, protect water quality); 2) identification of potentially occurring special-status species and potential habitat in the project area; and 3) procedures to follow if special-status species are observed. If special-status species are encountered within the work area during project construction, work activity with a potential to disturb the special-status species will cease until the special-status species has left the work area.

Mitigation Measure 4.5 Ground disturbance within 200 feet of Jack Slough, agricultural ditches, rice fields, or other managed wetlands shall be limited to the active period of giant garter snake (May 1–October 1). During this timeframe, the potential for injury and mortality are lessened because snakes are actively moving and avoiding danger. Project

activities occurring outside the period of May 1 to October 1 will be limited to construction site clean-up, deck work on the new bridge structure, or other activities which do not involve ground disturbance.

Mitigation Measure 4.6 24 hours prior to construction activities, the proposed project area shall be surveyed for giant garter snake by a qualified biologist. A survey of the proposed project area shall be repeated if a lapse in construction activity of two weeks or greater has occurred.

Mitigation Measure 4.7 Any dewatered habitat should remain dry for at least 15 consecutive days after April 15 and prior to excavating or filling of the dewatered habitat.

Mitigation Measure 4.8 All excavated areas more than one foot deep will have one or more escape ramps constructed of earthen fill or wooden planks placed in them at the end of each workday. If ramps cannot be provided, holes or trenches will be covered with plywood or other hard material. The biological monitor(s) or construction personnel will thoroughly inspect trenches for trapped giant garter snake before they are filled.

Mitigation Measure 4.9 Vegetation clearing shall be limited to the minimum area necessary within 200 feet of the banks of Jack Slough and other aquatic habitats (e.g., agricultural ditches). The movement and placement of vehicles, equipment, and other materials within 200 feet of the banks of Jack Slough or other aquatic habitats shall be minimized to the greatest extent practicable.

Mitigation Measure 4.10 If a giant garter snake is encountered during construction, activities shall cease until appropriate corrective measures have been completed or it has been determined that the snake will not be harmed. Any giant garter snakes encountered during construction activities shall be allowed to move away from construction activities on their own. Capture and relocation is not permitted unless approved by the USFWS. Any sighting or incidental take of giant garter snake shall be immediately reported to the USFWS.

COMPENSATORY MITIGATION

None required.

CUMULATIVE EFFECTS

Cumulative effects (as defined under the ESA) are the effects of future state, local, and private actions that are reasonably certain to occur in the BSA. The proposed project is not expected to change existing land uses that could result in cumulative effects or otherwise contribute to cumulative effects on giant garter snake. The agricultural ditches in the BSA are currently subject to management action for flood control and water delivery. The adjacent agricultural

lands are also subject to ongoing agricultural operations. The existing land uses in the BSA would not be altered by implementation of the proposed project.

Western Pond Turtle

SURVEY RESULT

Western pond turtle is designated as a species of special concern by the CDFW. This species is found in ponds, marshes, creeks, and irrigation ditches. Within their aquatic habitat, they are associated with areas that contain underwater refugia such as rocks, submerged vegetation, or holes along a bank (Hays et al. 1999). This species also requires basking sites such as partially submerged logs, rocks, mats of floating vegetation, or open mud banks. They frequently bask on logs or other objects out of the water when water temperatures are low and air temperatures are greater than water temperatures. When air temperatures become too warm, western pond turtles water bask by lying in the warmer surface water layer with their heads out of the water. Hibernation in colder areas is passed underwater in bottom mud (Zeiner et al. 1988). Mating typically occurs in late April or early May, but may occur year-round. Nests are located in an upland location that may be a considerable distance from the aquatic site (up to ¼ mi) (Jennings and Hayes 1994). Females excavate an upland nest chamber in which the eggs are laid and subsequently buried. Hatchling turtles are thought to emerge from the nest and move to the aquatic site in the spring. The western pond turtle is a dietary generalist, often foraging on the bottom of water features for aquatic invertebrates. This species occurs throughout California west of the Sierra crest and is absent from desert regions except for along the Mojave River (Zeiner et al. 1988).

Jack Slough and agricultural ditches with areas of slow moving water with fresh emergent wetland provides suitable aquatic habitat for western pond turtle. Upland areas along the banks of ditches and in upland riparian areas provide suitable nesting habitat for western pond turtle. There are no CNDDB records for western pond turtle within a 5-mile radius of the BSA.

PROJECT IMPACTS

The proposed project could adversely affect western pond turtle if individuals were present in the BSA during construction. Potential direct effects include harassment, injury, and mortality of individuals due to equipment and vehicle traffic. The species may also be affected if construction activities result in degradation of aquatic habitat and water quality due to erosion and sedimentation, accidental fuel leaks, and spills. In addition, loss of riverine and riparian habitat may have a negative impact on these species.

AVOIDANCE AND MINIMIZATION EFFORTS

In addition to the conservation measures discussed in section 1.3 and mitigation measure 4, the following mitigation measure shall be implemented to avoid or minimize project-related impacts on western pond turtle:

Mitigation Measure 4.11 If western pond turtles are encountered within the BSA during construction, work activity in the immediate vicinity will cease until any turtles have left the work area. If the turtles do not leave the work area and relocation is necessary, they shall be relocated only by a qualified biologist.

COMPENSATORY MITIGATION
None Required

CUMULATIVE IMPACTS
With implementation of the above measures, the proposed project would not result in cumulatively considerable adverse effects on western pond turtle.

California Black Rail, White-tailed kite, Northern Harrier, Loggerhead Shrike, and Tricolored Blackbird

SURVEY RESULTS

California Black Rail

California black rail is a state-listed threatened species. California black rail is a rare and secretive bird that frequents permanent to semi-permanent palustrine wetlands in the Sierra Nevada foothills of northern California (Richmond et al. 2010). California black rail requires shallow water zones in wetland habitats that are 1.2 inches deep or less. This species may also use dense vegetation along irrigation canals and other irrigated wetlands that provide relatively permanent water (Richmond et al. 2010). Wetlands that are managed for water fowl or rice typically do not provide sufficient habitat for California black rail (Richmond et al. 2010). California black rail may occupy wetland habitat year-round, where nests are constructed out of sticks over moist soil or shallow water. In the Sierra Nevada foothills, the nesting season for this species is thought to occur between March and late July (California Department of Fish and Game 2008).

The riparian and fresh emergent wetland habitats along Jack Slough and agricultural ditches may provide marginal nesting habitat for California black rail. The agricultural ditches in the BSA are more likely to provide foraging habitat corridors for California black rail between suitable shallow water nesting habitat. Jack Slough and the agricultural ditches do not provide shallow-water wetland habitat preferred by California black rail, but may provide a permanent water source. This species is more likely to use shallow water wetland habitat outside of the BSA that may provide permanent or semi-permanent water. The rice field does not provide a year round water source for California black rail since it is irrigated only during the growing season. This species is unlikely to nest in the BSA. There are eight CNDDB occurrences for California black rail recorded within a 5-mile radius of the BSA.

White-tailed Kite

White-tailed kite is designated as a fully protected species by the CDFW. This species can be found in association with the herbaceous and open stages of a variety of habitat types, including open grasslands, meadows, emergent wetlands, and agricultural lands. The white-tailed kite is found year-round in both the coastal zones and lowlands of the Central Valley in California. Nests are constructed near the top of dense oaks, willows, or other tree stands located adjacent to foraging areas. The species forages in undisturbed, open grasslands, meadows, farmlands, and emergent wetlands. White-tailed kites are seldom observed more than 0.5 mile from an active nest during the breeding season (Zeiner et al. 1990).

Annual grasslands and scattered trees within and adjacent to the BSA provides potential foraging and nesting habitat for white-tailed kite. No large stick nests were identified within the BSA

during the site visits on August 7 and 14, 2014, and July 20, 2018. There are no CNDDB records for white-tailed kite within a 5-mile radius of the BSA.

Northern Harrier

Northern harrier is designated as a species of special concern by the CDFW. This species frequents meadows, grasslands, freshwater wetlands and other open rangelands. Northern harrier typically does not occur in heavily forested areas. It nests on dry sites located on the ground on the edge of wetlands or waterways, in grasslands, grain fields, or sagebrush flats. Nesting season is typically from April to late July. The nest consists of a mound of sticks with dry grass. Northern harrier feed on small mammals, amphibians and reptiles, and is often found flying low over open ground where it dives onto its prey (California Department of Fish and Game 2008).

Wetland edges and agricultural ditches provide nesting habitat for northern harrier in the BSA. Annual grasslands in and adjacent to the BSA provide foraging and nesting habitat for northern harrier. Nests for northern harrier were not identified within the BSA during the site visits on August 7 and 14, 2014, and July 20, 2018. There are no CNDDB records for northern harrier within a 5-mile radius of the BSA.

Loggerhead Shrike

Loggerhead shrike is designated as a species of special concern by the CDFW. This species is generally found in open grasslands, relatively open woodlands, and ruderal agricultural settings throughout the Central Valley. Loggerhead shrike nests in trees or shrubs and generally requires barbed-wire fences, thorn bushes, or similar barbed structures for impaling and storing prey items. In the Central Valley, the nesting season for this species occurs between March and August (California Department of Fish and Game 2008).

Potential nesting and foraging habitat for loggerhead shrike occur in and adjacent to the BSA. Barbed-wire fences generally run along the ROW in the BSA that could be used by shrikes for impaling larger prey items. Nesting habitat is limited to riparian trees and shrubs within the BSA. There are no CNDDB records for loggerhead shrike within a 5-mile radius of the BSA.

Tricolored Blackbird

Tricolored blackbird is a candidate for state listing as an endangered species by the CDFW. Tricolored blackbirds are colonial nesters that typically breed near fresh water, primarily in dense and expansive emergent vegetation, but may also nest in blackberry, rose, willow thickets, and small trees in open country, rangeland, cropland, and near marshes or wetlands. In the Central Valley, the nesting season for this species occurs between mid-April and late July (California Department of Fish and Game 2008).

The riparian and fresh emergent wetland habitats along Jack Slough and agricultural ditches provide nesting habitat for tricolored blackbird. Tricolored blackbird could occur nesting in vegetation along the ditches north and south of the bridge. Annual grassland habitat north of Iowa City Road may provide foraging habitat for this species. There are three CNDDB occurrences for tricolored blackbird recorded within a 5-mile radius of the BSA.

PROJECT IMPACTS

California black rail, white-tailed kite, northern harrier, loggerhead shrike, and tricolored blackbird may nest in or adjacent to the BSA. Thus, construction disturbance during the breeding season could result in the loss of fertile eggs or nestlings, or otherwise lead to nest abandonment or nest destruction. Loss of fertile eggs or nesting special-status birds, or any activities resulting in nest abandonment or destruction, may adversely affect the species. The proposed project may also result in a small, temporary reduction of foraging and/or nesting and/or roosting habitat for the species. However, due to the regional abundance of similar habitats, temporary habitat loss is not expected to result in an adverse effect on these species.

AVOIDANCE AND MINIMIZATION EFFORTS

In addition to the conservation measures provided in Chapter 1, the following measures shall be implemented to avoid or minimize the potential for project-related impacts on nesting California black rail, white-tailed kite, northern harrier, loggerhead shrike, and tricolored blackbird:

Mitigation Measure 4.12 Vegetation removal, grading, and other construction activities shall be scheduled to avoid the breeding season for nesting raptors and other special-status birds (i.e., February 15 through August 31) to the extent practicable. If construction occurs outside of the breeding season, no further measures are necessary. If the breeding season cannot be completely avoided, then AMM 13 will be implemented.

Mitigation Measure 4.13 A qualified biologist shall conduct a minimum of one pre-construction survey for nesting migratory birds and raptors within the BSA and a 250-foot buffer around the BSA. The survey should be conducted no more than 15 days prior to the initiation of construction. If an active nest is found, appropriate conservation measures (as determined by a qualified biologist) shall be implemented. These measures may include, but are not limited to: establishing a construction-free buffer zone around the active nest site, biological monitoring of the active nest site, and delaying construction activities in the vicinity of the active nest site until the young have fledged.

COMPENSATORY MITIGATION

None required.

CUMULATIVE IMPACTS

With implementation of the above measures, the proposed project would not result in cumulatively considerable adverse effects on California black rail, white-tailed kite, northern harrier, loggerhead shrike, and tricolored blackbird.

Swainson's Hawk

SURVEY RESULTS

Swainson's hawk is a state-listed threatened species. In the Central Valley, this species generally nests in isolated stands of trees and along forested edges near open habitats, such as annual grasslands and row crops that provide foraging habitat. The nesting season (nesting building to post-fledging) generally occurs between April 1 and July 30 (Swainson's Hawk Technical Advisory Committee 2000), but some active nesting activity may occur into August.

Large trees that provide nesting habitat are present along portions of the agricultural ditches and along Jack Slough at the east end of the BSA. Foraging habitat is present in the annual grassland areas north of the BSA. There are two CNDDB records for this species within a 5-mile radius of the BSA. No large stick nests were identified within the BSA; however, several large trees are located within 1,000 feet of the BSA that could support a nest.

The presence of foraging habitat within the BSA and its vicinity, the presence of nesting habitat in close proximity to the BSA, and recent nesting records in the vicinity of the BSA indicate that Swainson's hawk occur in the proposed project vicinity and have a high likelihood of occurring in the vicinity during implementation of the proposed project.

PROJECT IMPACTS

If Swainson's hawks are nesting within 0.25 mile of the BSA, construction disturbance during the breeding season could result in the loss of fertile eggs or nestlings, or otherwise lead to nest abandonment (Swainson's Hawk Technical Advisory Committee 2000). No foraging habitat would be converted to other uses; therefore, the proposed project is not anticipated to result in impacts on Swainson's hawk foraging habitat.

AVOIDANCE AND MINIMIZATION EFFORTS

In addition to the conservation measures provided above, the following measures shall be implemented to avoid or minimize the potential for impacts on Swainson's hawk. If construction activities are conducted completely outside of the nesting season (i.e., after August 31 and before February 1), no further measures are necessary.

Mitigation measure 4.14 If construction activities must occur during the nesting season (i.e., February 1 through August 31), the following measure shall be implemented. A minimum of one pre-construction survey for active Swainson's hawk nests within 0.25 mile (where accessible) of the proposed project area shall be conducted by a qualified biologist within 15 days prior to the initiation of construction activities. If any Swainson's hawk nests are identified, appropriate conservation measures (as determined by a qualified biologist) shall be implemented. These measures may include, but are not limited to, establishing a construction-free buffer zone around the active nest site, biological monitoring of the active nest site, and delaying construction activities in the vicinity of the active nest site until the young have fledged.

COMPENSATORY MITIGATION

None required.

CUMULATIVE EFFECTS

No future projects near the current proposed project are known at this time. The bridge replacement project would not result in a change of road use along the adjacent roads, and cumulative effects are not anticipated.

Western Burrowing Owl

SURVEY RESULTS

Western burrowing owl is designated as a species of special concern by the CDFW. This species occurs in open, dry grassland, desert habitats, and open shrub stages of some coniferous forests (California Department of Fish and Game 2008). Western burrowing owl feed mostly on invertebrates, but will also prey upon small vertebrates and carrion. Western burrowing owls typically use mammal burrows, but may also use other man-made structures, such as pipes or culverts when natural burrows are scarce (California Department of Fish and Game 2008). In the Central Valley, the peak nesting season for this species occurs between April 15 and July 15 (The California Burrowing Owl Consortium 1993). The BSA is located within the summer and winter range of western burrowing owl (California Department of Fish and Game 2008).

Habitat for western burrowing owl within the BSA is limited annual grasslands north of the BSA, the banks of Jack Slough and ditches and culverts under Iowa City Road within the BSA. Foraging habitat is present in the BSA for western burrowing owl, and burrows or refugia suitable for this species that may support wintering and breeding behaviors may be present in the annual grasslands surrounding the BSA. Potential burrows and other refuge sites were not abundant in the BSA. Western burrowing owl or sign was not observed within the BSA during the site visits on August 7 and 14, 2014, and July 20, 2018. There are no CNDDB-reported occurrences of western burrowing owl within five miles of the BSA. This species is unlikely to nest within the BSA since nesting habitat is limited only to culverts and sparse mammal burrows.

PROJECT IMPACTS

If western burrowing owls are present in within or near the BSA, construction disturbance during the breeding season could result in the loss of fertile eggs or nestlings or otherwise lead to nest abandonment. Construction disturbance during the wintering season could result in the temporary displacement of burrowing owls from their burrows or foraging habitat. Potential adverse impacts on western burrowing owl may also include mortality, increased risk of predation, and increased stress resulting from removal of vegetation; filling or crushing of burrows or crevices used for refuge and winter retreats; temporary reduction in available habitat and prey base as a result of construction disturbance; displacement from the BSA or obstruction of movement corridors due to the presence of people and equipment in the BSA; crushing, dismemberment, and other injuries resulting from contact with vehicles and other construction equipment; and degraded habitat from construction activities.

AVOIDANCE AND MINIMIZATION EFFORTS

In addition to the conservation measures provided in Chapter 1, the following measures shall be implemented to avoid or minimize the potential for impacts on western burrowing owl:

Mitigation measure 4.15 A minimum of one pre-construction survey for occupied burrowing owl burrows within 300 feet of the BSA will be conducted by a qualified biologist within 15 days prior to the

initiation of construction activities regardless of the timing of construction. If any occupied burrows are identified, appropriate conservation measures (as determined by a qualified biologist) will be implemented. No disturbance will occur within 150 feet of occupied burrows during the non-breeding season (September 1–January 31) or within 250 feet during the breeding season (February 1–August 31). These measures may also include establishing a construction-free buffer zone around the active nest site in coordination with the CDFW, biological monitoring of the active nest site, and delaying construction activities in the vicinity of the active nest site until the young have fledged.

COMPENSATORY MITIGATION
None required.

CUMULATIVE EFFECTS
With implementation of the above measures, the proposed project would not result in cumulatively considerable adverse impacts on western burrowing owl.

Western Red Bat
SURVEY RESULTS
Western red bat is designated as a species of special concern by CDFW. This species prefers sites with a mosaic of habitats that includes large trees for roosting and open areas for nocturnal foraging. Western red bat is strongly associated with riparian habitats (California Department of Fish and Game 2008).

Western red bat could roost in tree foliage within the BSA. Riparian habitat is present for western red bat in the BSA along Jack Slough and agricultural ditches. Open areas for foraging include rice fields, and annual grasslands which are located in the BSA and dominate the landscape. There are no CNDDB records of western red bat in the vicinity of the BSA. No active bat roosts or evidence of roosting bats were detected within or adjacent to the BSA. There are no CNDDB-reported occurrences of bat roosts in the vicinity of the BSA.

PROJECT IMPACTS
Project implementation is unlikely to have an adverse effect on foraging bats due to the abundance of suitable roosting and foraging habitat in the region, and the limited mature riparian habitat within the BSA. Project implementation may require the removal of a limited number of riparian trees within the BSA. If a tree is removed that contains a bat colony, the disturbance could result in bat mortality or injury. Indirect impacts may occur from construction disturbances if a maternity colony is present in or adjacent to the BSA. Significant noise disturbance could result in adults temporarily or permanently leaving the maternity colony.

AVOIDANCE AND MINIMIZATION EFFORTS
In addition to the conservation measures provided above, the following measure shall be implemented to avoid or minimize the potential for project-related impacts on western red bat:

Mitigation Measure 4.16 To the extent practicable, removal of mature riparian trees shall occur before maternity colonies form (i.e., prior to March 1) or after young are volant (i.e., after August 15).

Mitigation Measure 4.17 If construction (including the removal of large trees) occurs during the non-volant season (March 1 through August 15), a qualified biologist shall conduct a pre-construction survey of the BSA for maternity colonies. The pre-construction survey will be performed no more than 14 days prior to the implementation of construction activities (including staging and equipment access). If a lapse in construction activities for 14 days or longer occurs between those dates, another pre-construction survey will be performed. If any maternity colonies are detected, appropriate conservation measures (as determined by a qualified biologist) shall be implemented. These measures may include, but are not limited to: establishing a construction-free buffer zone around the maternity colony site, biological monitoring of the maternity colony, and delaying construction activities in the vicinity of the maternity site.

COMPENSATORY MITIGATION
None required.

CUMULATIVE IMPACTS
With implementation of the above measures, the proposed project would not result in cumulatively considerable adverse impacts on western red bat.

Nesting Raptors and Migratory Birds
SURVEY RESULTS
Migratory birds and raptors and their nests are protected under the MBTA (50 CFR 10 and 21) and California Fish and Game Code.

Riparian and forest habitats in and near the BSA provide suitable nesting habitat for raptors (e.g., red-tailed hawk). Grasslands, riparian vegetation, and other nesting substrates (e.g., artificial structures), provide nesting substrates for migratory birds. Cliff swallows (*Petrochelidon pyrrhonota*), barn swallows (*Hirundo rustica*), black phoebes, and other migratory birds are known to build nests under bridges.

The existing bridge structure was visually surveyed for evidence of previous migratory bird nesting activity (e.g., remnant mud nests) during the August 7 and 14, 2014, and July 20, 2018 field assessments. Inactive swallow nests were observed underneath the bridge indicating previous nesting activities.

PROJECT IMPACTS
If migratory birds or raptor species are nesting within the BSA, construction disturbance during the breeding season could result in the loss of fertile eggs or lead to nest abandonment.

AVOIDANCE AND MINIMIZATION EFFORTS

In addition to the conservation measures discussed above and mitigation measures 12 and 13, the following measure shall be implemented to avoid or minimize the potential for adverse effects on nesting migratory birds or raptors.

Mitigation Measure 4.13 If construction activities during the nesting season cannot be avoided, existing cliff swallow nests on the Jack Slough Bridge shall be removed prior to the nesting season (i.e., removal between September 1 and February 14) to discourage continued nesting on this structure prior to construction. An effective deterrent to cliff swallow nesting should be installed on the bridge prior to the nesting season. If a nesting deterrent is used, the deterrent shall be monitored for integrity and effectiveness until the proposed project is completed. If nesting activities cannot be effectively deterred, continuous removal of cliff swallow nest starts prior to egg-laying may be necessary before construction activities are initiated. Disturbance or removal of active nests (i.e., nests containing eggs) shall not be conducted without the appropriate authorization(s) from the USFWS and/or the CDFW.

COMPENSATORY MITIGATION

None required.

CUMULATIVE IMPACTS

No future projects near the current proposed project are known at this time. The bridge replacement project would not result in a change of road use along the adjacent roads, and cumulative effects are not anticipated.

d) *Less than Significant with Mitigation Incorporated* –The proposed project could affect wildlife nursery sites, but will not affect any migration patterns of any migratory fish or other species as Iowa City Road is an existing road and the project is replacing an existing bridge. Aforementioned mitigation measures would ensure that impacts to nursery sites are mitigated to a less than significant level.

e) *No Impact* –There would be no conflicts with General Plan policies regarding Mitigation of biological resources. The County has no ordinances explicitly protecting biological resources.

f) *No Impact* – No habitat conservation plans or similar plans currently apply to the project site. Both Yuba and Sutter Counties recently ended participation in a joint Yuba-Sutter Natural Community Conservation Plan/Habitat Conservation Plan (NCCP/HCP). The project site was not located within the proposed boundaries of the former plan and no conservation strategies have been proposed to date which would be in conflict with the project.

V. CULTURAL RESOURCES Would the project:	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Cause a substantial adverse change in the significance of a historical resource as defined in 15064.5?	☐	☐	☒	☐
b) Cause a substantial adverse change in the significance of an archaeological resource pursuant to 15064.5?	☐	☒	☐	☐
c) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?	☐	☐	☐	☒
d) Disturb any human remains, including those interred outside of formal cemeteries?	☐	☐	☒	☐

Discussion/Conclusion/Mitigation:

a) *Less Than Significant* – A Historic Property and Archaeological Survey Report was conducted for the project by North State Resources in January 2016. The HPSR/ASR searched State and other databases at the North Central Information Center for historic site/survey records within a ¼ mile of the project site, a pedestrian field survey was conducted, and various Native America groups and the Native American Heritage Society were contacted to identify potential historic sites or cultural issues of concern.

Additionally, it was determined that nothing associated with the project was eligible for listing in the National Register of Historic Places (NRHP) or the California Register of Historical Resources (CRHR) and that the project does not appear to be a historical resource for the purposes of CEQA.

b) *Less Than Significant With Mitigation Incorporated* – NSR archaeologist Amy MacKinnon surveyed the entire APE on August 7, 2014. The survey consisted of examining both sides of the APE along Iowa City Road, generally on a single transect. Multiple transects were generally not possible due to the narrow configuration of portions of the APE (along Iowa City Road). Ground surface visibility varied from 15 to 100 percent, dependent on vegetation cover and built environment (e.g., paved road surfaces, gravel shoulders, existing bridge support structures). The overall APE and surrounding area were documented with digital photography.

Archival research for the Project included a records search conducted through the North Central Information Center (NCIC) of the California Historical Resources Information System at California State University, Sacramento. The records search covered the APE and a distance of up to 0.5 mile from its boundaries. The purpose of this research was to determine whether any prehistoric or historic-era cultural resources were known to exist in or in the vicinity of the APE. Conducted by NSR on June 6, 2014 (NCIC Records Search No. YUB-14-19), the record search included, but was not necessarily restricted to a review of the following sources:

- *National Register of Historic Places* (NRHP)
- *California Register of Historic Resources* (CRHR)

- *California Historical Landmarks*
- *California Inventory of Historic Resources*
- *Historic Properties Directory*
- General Land Office (GLO) Plat maps
- Historic USGS topographic quadrangles
- *Caltrans Historic Bridge Inventory: Local Agency Bridges* List.

The NCIC records search results noted that no prehistoric or historic-era sites, features, or artifacts were known to exist in the APE. The NCIC records search results also noted that no previous archaeological surveys had occurred in the vicinity of the APE. Two surveys were conducted for the area within 0.5 mile of the APE, but no cultural resources were documented in or adjacent to the APE as a result.

Summary of Others Consulted

Additional research included a review of historic maps, topographic quadrangles, and patents of the APE and surrounding vicinity. The 1895 USGS *Smartsville, California* 30-minute topographic quadrangle map, does not depict any historic-era buildings or structures near the APE. This map does, however show shows two major roads in the vicinity of the APE that were established and used in the late nineteenth century. Although not named on the 1895 map, this road alignment corresponds approximately with Fruitland Road and Loma Rica Road.

The 7.5-minute 1947 USGS *Loma Rica, California* map (Reference 10, Figure 4) indicates that the communities of Iowa City and Olive Hill are about 1 mile from the APE along Iowa City Road. The location of the existing bridge (16C-0077) over Jack Slough is depicted on this map. It was built in 1934, and is designated as a Category 5 structure (Bridge not Eligible for the NRHP) in the *Caltrans Historic Bridge Inventory-Local Agency Bridges* (Appendix B).

A review of the 1856 GLO plat map for Township 17 North, Range 4 East (Reference 10, Figure 5), revealed that no historic activities appear to have occurred in the vicinity of the APE. This map illustrates the exterior boundaries of the Honcut Rancho as recorded by A. W. Von Schmidt, and shows the Rancho property extending into Section 26. One unnamed road in the approximate location of Fruitland Road and one dry rivulet in the approximate location of Jack Slough are recorded. The northern boundary of the APE lies in the historic Honcut Rancho, a Mexican land grant.

A review of GLO land patents revealed that the southern portion of the APE is in lands held by David Keller, obtained as a Cash Entry land patent in 1870 (Bureau of Land Management 2014). The 1872 Great Register of Yuba County lists a David Keller from Pennsylvania who was a famer and lived in the Marysville Township (U.S. Census Bureau 1872). Within 0.5 mile of the APE are lands owned by the Central Pacific Railroad obtained under the authority of the Oregon and California Railroad Grant of 1872 and 1875 (Bureau of Land Management 2014).

On November 4, 2015 NSR contacted Ms. Elizabeth Belle, director of the Yuba Feather Historical Association and Museum. Ms. Belle stated that the historical records held by the museum and historical association do not cover the project area. On November 4, 2015 an

attempt to contact the Yuba County Historical society revealed that their phone number has been disconnected.

The results of the NCIC research and other NSR archival research suggest that the main historical themes relevant to the APE and its vicinity consist primarily of cattle ranching and agriculture with some mining activities occurring during the Gold Rush (see Section 3.7, History, below). With these activities having occurred near the APE, it is expected that resources associated with these themes could be documented during an archaeological survey.

Summary of Native American Outreach

To determine whether any culturally significant Native American properties were situated in or near the APE, NSR contacted the Native American Heritage Commission (NAHC) on June 4, 2014, requesting a search of the Sacred Lands File and a list of appropriate Native American representatives who might have an interest in or concerns with the Project. The NAHC replied to NSR on June 12, 2014, stating that no culturally significant properties were located in or near the APE (see Appendix C). The NAHC also provided contact information for the following Native American representatives and organizations:

- Mr. Ren Reynolds, Butte Tribal Council
- The Honorable Mr. Gary Archuleta, Chairperson, Mooretown Rancheria of Maidu Indians
- Mr. James Sanders, Tribal Administrator, Mooretown Rancheria of Maidu Indians
- The Honorable Ms. Glenda Nelson, Chairperson, Enterprise Rancheria of Maidu Indians
- Mr. Art Angle, Vice-Chairperson, Enterprise Rancheria of Maidu Indians
- The Honorable Mr. Gene Whitehouse, Chairperson, United Auburn Indian Community (UAIC) of the Auburn Rancheria
- Mr. Marcos Guerrero, Tribal Preservation Committee, United Auburn Indian Community of the Auburn Rancheria
- Mr. Jason Camp, Tribal Historic Preservation Officer (THPO), UAIC of the Auburn Rancheria
- The Honorable Mr. Don Ryberg, Chairperson, T'Si-Akim Maidu
- The Honorable Ms. Eileen Moon, Vice Chairperson, T'Si-Akim Maidu
- Mr. Grayson Coney, Cultural Director, T'Si-Akim Maidu
- Ms. Judith Marks, Colfax-Todds Valley Consolidated Tribe
- The Honorable Ms. Cathy Bishop, Chairperson, Strawberry Valley Rancheria

Information outreach letters were sent to the individuals listed above on July 3, 2014. On July 30, 2014, the Honorable Mr. Gene Whitehouse, Chairperson of the UAIC, responded to outreach efforts by letter, indicating, "The UAIC is concerned about development in its aboriginal territory that has potential to impact the lifeways, cultural sites, and landscapes that may be of sacred or ceremonial significance." Mr. Whitehouse requested that the UAIC receive copies of Project environmental documents to allow for comment, as well as the "opportunity to have tribal monitors accompany [archaeologists] during field survey." Messages were left on September 23, 2014, with Mr. Marcos Guerrero and Mr. Jason Camp of UAIC, to discuss a possible field visit and request more information regarding potential concerns related to cultural

sensitivities for this project. On August 12, 2014, Mr. Ren Reynolds of Butte Tribal Council and Enterprise Rancheria of Maidu Indians responded by email stating that although this project will occur in their tribal area, they did not have any specific concerns. Mr. Reynolds requested that if any Native American artifacts or human remains were discovered during any phase of the Project, that Enterprise Rancheria be contacted immediately.

On September 23, 2014, NSR also attempted to follow the information solicitation letters with phone calls to the individuals listed above for whom contact information was provided. Mr. Grayson Coney, Cultural Director of the T'Si-Akim Maidu, indicated that they did not have any concerns regarding this project at this time. Messages were left with the remaining Native American contacts listed above, but responses were not received as of October 29, 2014.

On October 8, 2014, UAIC requested a field visit to address potential concerns related to cultural sensitivities for this project. NSR Cultural Resource Specialist Amy MacKinnon and Yuba County Associate Engineer Kenneth Godleski met with Jason Camp, UAIC THPO, and Marcos Guerrero, UAIC, at Iowa City Road Bridge (16C-0077) at Jack Slough on October 21, 2014. Mr. Godleski described the Project in detail. Mr. Guerrero conducted a pedestrian survey of the APE and did not locate any areas of concern. Mr. Camp and Mr. Guerrero indicated that they would provide the County with informational material regarding cultural resources identification and avoidance, and requested that the information be discussed before the start of construction.

Survey Results

One cultural resource, consisting of Bridge 16C-0077, was identified in the APE. Caltrans lists this bridge as a Category 5 structure, which identifies it as not eligible for listing on the NRHP (see Appendix B).

No other historic-era or prehistoric sites, features, or artifacts, or potentially sensitive landforms or soil deposits were noted in the APE as a result of the archaeological survey. Exposed soils on the surface in and near the APE appear to be the result of bedrock decomposition and alluvial deposition from Jack Slough, as well as landscape grading activities for the construction related to agricultural properties adjacent to the APE.

Unidentified Cultural Materials

Mitigation Measure 5.1 If previously unidentified cultural materials are unearthed during construction, it is Caltrans' policy that work be halted in that area until a qualified archaeologist can assess the significance of the find. Additional archaeological surveying will be needed if Project limits are extended beyond the present survey APE limits.

Human Remains

Mitigation Measure 5.2 If human remains are discovered during Project activities, all activities in the vicinity of the find will be stopped and the Yuba County Sheriff–Coroner's Office shall be notified. If the coroner determines that the remains may be those of a Native American, the coroner will contact the NAHC. Treatment of the remains shall be conducted in accordance with

further direction of the NAHC-designated Most Likely Descendent and landowner as appropriate.

Implementation of the above Mitigation Measure would reduce potential adverse impacts on uncovered cultural resources. Impacts after mitigation would be less than significant.

c) *No Impact* – No known record exists of any paleontological resources on the project site and no known unique geological features were identified or are known to exist on the project site.

d) *Less Than Significant* – There are no known burial sites within the project site. If human remains are unearthed during construction, the provisions of California Health and Safety Code Section 7050.5 shall apply. Under this section, no further disturbance of the remains shall occur until the County Coroner has made the necessary findings as to origin, pursuant to California Public Resources Code Section 5097.98. If the remains are determined to be Native American, the County Coroner shall contact the Native American Heritage Commission within 24 hours.

VI. ENERGY **Would the project:**	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Result in 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?	☐	☐	☒	☐

DISCUSSION/CONCLUSION/MITIGATION:

a) b) *Less Than Significant* – The proposed project is a bridge replacement project would not impact energy resources and conflict with local plans for energy.

VII. GEOLOGY AND SOILS Would the project:	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Expose people or structures to 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 Section 1803.5.3 to 1808.6 of the 2010 California Building Code, creating substantial risks to life or property?	☐	☐	☐	☒
e) Have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems where sewers are not available for the disposal of wastewater?	☐	☐	☐	☒

Discussion/Conclusion/Mitigation:

a

i) *Less Than Significant-* Yuba County 2030 General Plan describes the potential for seismic activity potential within Yuba County as being relatively low and it is not located within a highly active fault zone. No Alquist-Priolo Earthquake Fault Zones are located within the County. The faults that are located within Yuba County are primarily inactive and consist of the Foothills Fault System, running south-southeastward near Loma Rica, Browns Valley and Smartsville. Faults within the Foothill Fault System include Prairie Creek Fault Zone, the Spenceville Fault, and the Swain Ravine Fault. The project area is not known to be prone to liquefaction as well.

ii) *Less Than Significant* – Within Yuba County, the Swain Ravine Lineament of the Foothills Fault system is considered a continuation of the Cleveland Hill Fault, the source of the 1975 Oroville earthquake. The Foothill Fault System has not yet been classified as active, and special seismic zoning was determined not to be necessary by the California Division of Mines and Geology. While special seismic zoning was not determined to be necessary, the Foothill Fault system is considered capable of seismic activity. In addition, the County may experience ground shaking from faults outside the County.

The bridge replacement will be constructed to meet all applicable State of California seismic building codes and design as applicable to the project.

iii) *No Impact* – Ground failures, such as differential compaction, seismic settlement and liquefaction, occur mainly in areas that have fine-grained soils and clay. The proposed project would not result in any people or new structures in the project area.

iv) *No Impact* – Landslides are most likely to form when the ground is sloped. The project site has flat topography and no steep slopes (defined as slopes exceeding 60 percent grade). The proposed project would not result in any new structures in the project area.

b) *Less Than Significant Impact* –As part of the construction process, projects are required to submit plans for the disposition of surface runoff and erosion control to the County's Public Works Department. In addition, the Feather River Air Quality Management District has standard Mitigation Measures that address earth-disturbing activities. Mitigation Measures in the Air Quality section have incorporated these measures.

c) *No Impact* – The proposed project would not be subject to significant hazards associated with landslides, lateral spreading, liquefaction, or collapse. Activities that would cause subsidence include groundwater pumping and natural gas extraction. There are a number of wells in the project vicinity that are used to supply water for agricultural and residential uses. These wells will continue to be used in the future. However, the project would not result in an increased demand for water. Water usage associated with the proposed project would not significantly draw down aquifers in the area to a level that would cause subsidence.

d) *No Impact* – Expansive soils could cause damage to structures; however, the project will be required to meet all applicable State of California building code requirements.

e) *No Impact* – The project does not propose any residential uses and would not generate any wastewater. No septic systems are proposed.

VIII. GREENHOUSE GAS EMMISSIONS Would the project:	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
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?	☐	☐	☐	☒

Discussion/Conclusion/Mitigation:

a) *Less Than Significant*- Global Warming is a public health and environmental concern around the world. The predominant opinion within the scientific community is that global warming is currently occurring, and that it is being caused and/or accelerated by human activities, primarily the generation of "greenhouse gases" (GHG).

In 2006, the California State Legislature adopted AB32, the California Global Warming Solutions Act of 2006, which aims to reduce greenhouse gas emissions in California. Greenhouse gases, as defined under AB32, include carbon dioxide, methane, nitrous oxide, hydro-fluorocarbons, perfluorcarbons, and sulfur hexafluoride. AB 32 requires that the state's GHG emission be reduced to 1990 levels by 2020.

In 2008, the California Air Resources Board (CARB) adopted the Scoping Plan for AB32. The Scoping Plan identifies specific measures to reduce GHG emissions to 1990 levels by 2020, and requires ARB and other state agencies to develop and enforce regulations and other initiatives for reducing GHGs. The Scoping Plan also recommends, but does not require, an emissions reduction goal for local governments of 15% below "current" emissions to be achieved by 2020 (per Scoping Plan current is a point in time between 2005 and 2008). The Scoping Plan also recognized that Senate Bill 375 Sustainable Communities and Climate Protection Act of 2008 (SB 375) is the main action required to obtain the necessary reductions from the land use and transportation sectors in order to achieve the 2020 emissions reduction goals of AB 32.

SB 375 complements AB 32 by reducing GHG emission reductions from the State's transportation sector through land use planning strategies with the goal of more economic and environmentally sustainable (i.e., fewer vehicle miles travelled) communities. SB 375 requires that the ARB establish GHG emission reduction targets for 2020 and 2035 for each of the state's 18 metropolitan planning organizations (MPO). Each MPO must then prepare a plan called a Sustainable Communities Strategy (SCS) that demonstrates how the region will meet its SB 375 GHG reduction target through integrated land use, housing, and transportation planning.

The Sacramento Area Council of Governments (SACOG), the MPO for Yuba County, adopted an SCS for the entire SACOG region as part of the 2035 Metropolitan Transportation Plan

(MTP) on April 19, 2012. THE GHG reduction target for the SACOG area is 7 percent per capita by 2020 and 16 percent per capita by 2035 using 2055 levels as the baseline. Further information regarding SACOG's MTP/SCS and climate change can be found at http://www.sacog.org/2035/.

While AB32 and SB375 target specific types of emissions from specific sectors, and ARBs Scoping Plan outlines a set of actions designed to reduce overall GHG emissions it does not provide a GHG significance threshold for individual projects. Air districts around the state have begun articulating region-specific emissions reduction targets to identify the level at which a project may have the potential to conflict with statewide efforts to reduce GHG emissions (establish thresholds). To date, the Feather River Air Quality Management District (FRAQMD) has not adopted a significance threshold for analyzing project generated emissions from plans or development projects or a methodology for analyzing impacts. Rather FRAQMD recommends that local agencies utilize information from the California Air Pollution Control Officers Association (CAPCOA), Attorney General's Office, Cool California, or the California Natural Resource Agency websites when developing GHG evaluations through CEQA.

GHGs are emitted as a result of activities in residential/commercial buildings when electricity and natural gas are used as energy sources. New California buildings must be designed to meet the building energy efficiency standards of Title 24, also known as the California Building Standards Code. Title 24 Part 6 regulates energy uses including space heating and cooling, hot water heating, ventilation, and hard-wired lighting that are intended to help reduce energy consumption and therefore GHG emissions. Replacing an existing bridge will not create any new sources of GHG outside of the small emission that would take place during project construction that are within the limits allowed in the Yuba County 2030 General Plan.

Therefore a bridge replacement project on an existing road would likely not generate significant GHG emissions that would result in a cumulatively considerable contribution to climate change impacts.

b) No Impact- Yuba County is currently preparing a Resource Efficiency Plan that will address Greenhouse Gas emissions; however there is not a plan in place at this time. The project is consistent with the Air Quality & Climate Change policies within the Public Health & Safety Section of the 2030 General Plan therefore, the project does not conflict with any applicable plan, policy or regulation.

IX. HAZARDS AND HAZARDOUS MATERIALS **Would the project:**	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
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 two miles of a public airport or public use airport, would the project result in a safety hazard for people residing or working in the project area?	☐	☐	☐	☒
f) For a project within the vicinity of a private airstrip, would the project result in a safety hazard for people residing or working in the project area?	☐	☐	☐	☒
g) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?	☐	☐	☐	☒
h) Expose people or structures to a significant risk of loss, injury or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands?	☐	☐	☐	☒

Discussion/Conclusion/Mitigation:

a) *Less than Significant*– The project consists of a bridge replacement along a section of Iowa City Road. Construction equipment typically uses only a minor amount of hazardous materials, primarily motor vehicle fuels and oils. Because of their limited quantity, these materials would present a minor hazard, and only if spillage occurs. Standard spill prevention and control

measures will be maintained by the contractor. Use of these materials would cease once project construction is completed.

b) *No Impact* – As noted in a) above, only a limited amount of hazardous materials would be used by construction equipment during road construction. Spills of these materials could potentially occur, but they would be minor and would not lead to an evacuation in a rural area.

c) *No Impact* – There are no schools located near the project site. As noted in a) above, the only hazardous materials associated with proposed project are motor vehicle fuels and oils which would not present a significant hazard. The project would not include any activities that would generate hazardous material emissions or use acutely hazardous materials.

e) *No Impact-*. The project is proposing a bridge replacement along an existing stretch of road and does not have a land-use element that is inconsistent with the BAFB or Yuba County Airport Land Use Compatibility Plans or base operations. The project site is well over 9-miles from either one of the aforementioned airports.

d) *No Impact* – The project is not located on a site known for having any hazardous materials.

f) *No Impact* – There are no private airstrips located near the project site. Therefore, the project will not have any potential safety impacts related to private airstrips.

g) *No Impact* – The County is currently developing a Pre-Disaster Multi-Hazard Mitigation Plan (MHMP), in accordance with the Disaster Mitigation Act of 2000, to develop activities and procedures to reduce the risk of loss of life and property damage resulting from natural and man-made hazards and disasters. The 2030 General Plan contains safety and seismic safety policies. The project is not expected to have an impact on any of the County's emergency response plans or policies. The project does not propose any development that would have to evacuate and would not interfere with an emergency evacuation of the area.

h) *No Impact* – The project does not propose any development; therefore, it would not expose people or structures to wildland fires. All heavy equipment used during the construction of the project will be mandated to possess fire extinguishers and all construction personal training to use the fire extinguishers.

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

Discussion/Conclusion/Mitigation:

a) *Less Than Significant with Mitigation* – The project may result in ground disturbance equal to or greater than one acre in size and would then be within the jurisdiction of the Central Valley

Regional Water Quality Control Board (RWQCB), which develops and enforces water quality objectives and implementation plans that safeguard the quality of water resources in its region. Prior to construction of a project greater than one acre, the RWQCB requires a project applicant to file for a National Pollution Discharge Elimination System (NPDES) General Permit. The General Permit process requires the project applicant to 1) notify the State, 2) prepare and implement a Storm Water Pollution Prevention Plan (SWPPP), and 3) to monitor the effectiveness of the plan.

The following mitigation shall be incorporated into the project's construction activities and stormwater runoff design to offset the potential for siltation (erosion) and other potential water quality impacts.

Mitigation Measure 9.1 Prior to the County's approval of a grading plan or site improvement plans, the project applicant shall obtain from the Central Valley Regional Water Quality Control Board a National Pollution Discharge Elimination (NPDES) Permit for the disturbance of over one acre. Further, approval of a General Construction Storm Water Permit (Order No. 99-08-DWQ) is required along with a Small Construction Storm Water Permit. The permitting process also requires that a Storm Water Pollution Prevention Plan (SWPPP) be prepared prior to construction activities. The SWPPP is used to identify potential construction pollutants that may be generated at the site including sediment, earthen material, chemicals, and building materials. The SWPPP also describes best management practices that will be employed to eliminate or reduce such pollutants from entering surface waters.

b) *No Impact* – The project will not affect groundwater supplies or interfere with any groundwater recharge. There is not a development component to the project.

c) *Less than Significant* – The proposed construction plan would not substantially alter the existing drainage pattern of the site or area. The natural drainage pattern of the area will be enhanced, but not altered in terms of changing drainage channels/paths.

The project sponsor is also required to file a NPDES General Construction Storm Water Permit. The NPDES General Construction Permit process requires the project sponsor to 1) notify the State, 2) prepare and implement a SWPPP, and 3) monitor the effectiveness of the plan. The SWPPP identifies pollutants that may be generated at the construction site, including sediment, earthen material, chemicals, and building materials. The SWPPP also describes best management practices that a project will employ to eliminate or reduce contamination of surface waters. Implementation of the conditions of the NPDES General Construction Permit, if required, would control potential erosion problems.

d) *No Impact* – As stated above, the proposed project would not substantially alter the existing drainage pattern of the site. No future development such as the construction or structures or houses is proposed; however a small increase in impervious surfaces would occur. Therefore, flooding is unlikely to be generated by the additional impervious surfaces.

e) *No Impact* – As noted in d) above, the proposed project would not generate higher runoff rates.

f) *No Impact* – The project would not have any effect on water quality other than those impacts discussed above.

g-h) *No Impact* – The project is located within a 100-year flood plain, as mapped by the Federal Emergency Management Agency (FEMA). The project is not placing any housing on the project site, therefore there is no impact.

i) *Less Than Significant* – The project site is located within the 100-year flood plain, but is not adding any additional structures. The project is to restore the existing bridge. No additional impacts that what is already occurring will occur.

j) *No Impact* – Seiche and tsunami hazards occur only in areas adjacent to a large body of water. The project site is not located in such an area. There are no steep slopes in the project area; the landslide potential of the project site is minimal and the mudflow hazard is minimal.

XI. LAND USE AND PLANNING Would the project:	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Physically divide an established community?	☐	☐	☐	☒
b) Conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project (including, but not limited to the general plan, specific plan, local coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect?	☐	☐	☐	☒
c) Conflict with any applicable habitat conservation plan or natural community conservation plan?	☐	☐	☐	☒

Discussion/Conclusion/Mitigation

a) *No Impact* – The project site consists of a bridge replacements and is located in a rural area and there would be no change in land use. The project would not physically divide an established community.

b) *No Impact* – The Yuba County General Plan designates the project site as Rural Community. The project site is surrounded by properties zoned "AR" Agricultural Residential and meets all the requirements and intents for this zone. No rezoning to accommodate the project is required. The project is consistent with the current General Plan policies and zoning designations.

c) *No Impact* – As discussed in the Biological Resources section, no habitat conservation plans or similar plans currently apply to the project site. Both Yuba and Sutter Counties recently ended participation in a joint Yuba-Sutter Natural Community Conservation Plan/Habitat Conservation Plan (NCCP/HCP). The project site was not located within the proposed boundaries of the former plan and no conservation strategies have been proposed to date which would be in conflict with the project.

XII. MINERAL RESOURCES **Would the project:**	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
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?	☐	☐	☐	☒

Discussion/Conclusion/Mitigation:

a) and b) *No Impact* – Exhibit GS-5, Mineral Resource Locations, of the Yuba County 2030 General Plan Geology and Soils Background Report, identify known and expected mineral resources within Yuba County, respectively. The project site is not located with an active mining area or a mineral resource zone in Exhibit GS-5. The project is expected to have no impact on mineral resources.

XIII. NOISE **Would the project result in:**	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Exposure of persons to or generation of noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?	☐	☐	☒	☐
b) Exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels?	☐	☐	☐	☒
c) A substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project?	☐	☐	☐	☒
d) A substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project?	☐	☐	☒	☐
e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels?	☐	☐	☐	☒
f) For a project within the vicinity of a private airstrip, would the project expose people residing or working in the project area to excessive noise levels?	☐	☐	☐	☒

Discussion/Conclusion/Mitigation:

a) *Less Than Significant* – The Yuba County 2030 General Plan contains recommended ambient allowable noise level objectives. The plan recommends a maximum allowable ambient noise level of 50 dB in both daytime and evening hours. Temporary construction noise associated with project construction would be minimal and be conducted solely during daylight hours. During construction, noise levels are expected to remain well below these thresholds of significance. After construction is complete, noise levels will drop to existing levels.

b) *No Impact* – Primary sources of groundborne vibrations include heavy vehicle traffic on roadways and railroad traffic. There are no railroad tracks near the project site. Traffic on roadways in the area would include very few heavy vehicles, as no land uses that may require them are in the vicinity.

c) *No Impact* – The only noise generated by the project would be during the construction phase; there would be no permanent increase in ambient noise levels in the project vicinity.

d) *Less Than Significant* – Construction activities associated with the project may cause a temporary increase in noise levels in the vicinity. However, these noise levels would be

temporary and would cease once construction activities end. In addition, the temporary construction noise associated with grading activities would be similar to noise generated by other rural residential activities. There are few residences on the surrounding parcels and construction noise is expected to have little impact on these parcels. The County noise ordinance requires that both agriculture and low- density residential zones not exceed an ambient noise level of 50 decibels from 10:00 pm to 7:00 am. This would further reduce construction noise impacts on the few residences adjacent to the project site, particularly at nighttime when residents are most sensitive to noise.

e) *No Impact* – The nearest airport to the project site is the BAFB Airport. The existing and future land use will not change as a result of this project and the project would not expose people residing or working in the project area to excessive noise levels.

c) *No Impact* – The project site is not located within the vicinity of a private airstrip.

XIV. POPULATION AND HOUSING **Would the project:**	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
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, necessitating the construction of replacement housing elsewhere?	☐	☐	☐	☒
c) Displace substantial numbers of people, necessitating the construction of replacement housing elsewhere?	☐	☐	☐	☒

Discussion/Conclusion/Mitigation:

a) *No Impact* – The project does not include the construction of homes or any infrastructure that would be required to foster population growth near the project area; therefore, there would be no increase in population.

b-c) *No Impact* – The project does not include the demolition of any housing; therefore it would not displace any housing or people and would not require the construction of replacement housing.

XV. PUBLIC SERVICES **Would the project result in:**	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
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:				
a) Fire protection?	☐	☐	☐	☒
b) Police protection?	☐	☐	☐	☒
c) Schools?	☐	☐	☐	☒
d) Parks?	☐	☐	☐	☒
e) Other public facilities?	☐	☐	☐	☒

Discussion/Conclusion/Mitigation:

a) *No Impact* – The proposed project does not include the construction of any housing or land uses that would require a change or increase in fire protection. There would be no impact on fire protection services.

b) *No Impact* – The Yuba County Sheriff's Department would continue to provide law enforcement services to the project site and the California Highway Patrol will respond in the event of a vehicle accident. The proposed project does not include the construction of any housing or land uses that would result in a change or increase in the demand for law enforcement.

c) *No Impact* – The proposed project does not include the construction of any housing and would not generate any students. The project would not increase the demand on school districts.

d) *No Impact* – The proposed project does not include the construction of housing and would not generate an increased demand for parks.

e) *No Impact* – Other public facilities that are typically affected by development projects include the Yuba County Library and County roads. However, since there is no development proposed by the project, there would be no increased demand for these services. The temporary traffic generated by construction activities would not generate any additional roadway maintenance.

XVI. RECREATION Would the project:	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
a) 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?	☐	☐	☐	☒

Discussion/Conclusion/Mitigation:

a-b) *No Impact* – The proposed project does not include the construction of any housing and therefore would not increase the demand for parks or recreational facilities. The project also does not include the construction of any new recreational facilities.

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

Discussion/Conclusion/Mitigation:

a) Less Than Significant – The proposed project would generate a temporary increase in traffic during construction. It is expected that the roadway can accommodate the temporary increase in traffic during construction. The project would not significantly increase traffic in the area. However, there could be upwards to a fifteen-minute traffic delay during construction activities.

b) *Less Than Significant* – Level of service (LOS) is a qualitative measure of traffic conditions on a given road segment or intersection. LOS ratings are from A to F, with A being the best condition. According to the Yuba County General Plan, the minimum acceptable LOS for County roads is D. According to the Yuba County 2030 General Plan, Iowa City Road is classified as having a Level of Service "A" that is an acceptable level of service for a Yuba County Road. Iowa City Road is able to accommodate the additional temporary increase in traffic during construction while maintaining a Level of Service "B". Temporary traffic associated with project construction will only be temporary and will not result in any permanent change to the current "A" LOS rating for Iowa City Road.

c) *No Impact* – As noted in the Hazards and Hazardous Materials section, the project site is not located within a safety or over-flight zone of any public or public-use airport. Therefore, the project would have no influence on flight patterns.

d) *Less Than Significant* – Iowa City Road is an existing road that currently provides access to the project site. Iowa City Road is used by the surrounding rural community and for traffic traveling through the community of Iowa City. Iowa City Road would be used by construction equipment accessing the project site; however, there would be no substantial increase in hazards due to this temporary use of the road.

e) *No Impact* – Emergency access to the project site would be via Iowa City Road. There would be no change in emergency access as a result of the project.

f) *No Impact* – The County has not adopted alternative transportation plans for this area of Yuba County.

XVIII. TRIBAL CULTURAL RESOURCES **Would the project:**	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
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.	☐	☒	☐	☐

Discussion/Conclusion/Mitigation:

a) (i-ii) *Less Than Significant with Mitigation Incorporated* – The County was contacted by the United Auburn Indian Community (UAIC) on July 30, 2014 requesting formal notification and information on proposed projects for which the County will serve as the lead agency under the California Environmental Quality Act (CEQA) in accordance with Public Resources Code Section 21080.3.1 subd. (b), otherwise known as Assembly Bill 52 (AB 52). Before receiving the UAIC request, the County had previously started the formal consultation process on July 3, 2014 as formal notification was provided to the UAIC, including all project information documents. The County received a response from UAIC requesting copies of any cultural resource surveys and/or cultural resource assessments performed as part of the project and a copy of the environmental document. On October 8, 2014, UAIC requested a field visit to address potential concerns related to cultural sensitivities for this project. NSR Cultural Resource Specialist Amy MacKinnon and Yuba County Associate Engineer Kenneth Godleski met with Jason Camp, UAIC THPO, and Marcos Guerrero, UAIC, at Iowa City Road Bridge (16C-0077) at Jack Slough on October 21, 2014. Mr. Godleski described the Project in detail. Mr. Guerrero conducted a pedestrian survey of the APE and did not locate any areas of concern.

With mitigation measure **Mitigation Measure 5.1 and Mitigation Measure 5.2,** in the event of the accidental discovery or recognition of tribal cultural resources in the project area the impact upon tribal cultural resources would be ***less than significant impact with mitigation incorporated.***

XIX. UTILITIES AND SERVICE SYSTEMS Would the project:	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board?	☐	☐	☐	☒
b) Require or result in the construction of new water or wastewater treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?	☐	☐	☐	☒
c) Require or result in the construction of new storm water drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?	☐	☐	☒	☐
d) Have sufficient water supplies available to serve the project from existing entitlements and resources, or are new or expanded entitlements needed?	☐	☐	☒	☐
e) 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?	☐	☐	☐	☒
f) Be served by a landfill with sufficient permitted capacity to accommodate the project's solid waste disposal needs?	☐	☐	☐	☒
g) Comply with federal, state, and local statutes and regulations related to solid waste?	☐	☐	☐	☒

Discussion/Conclusion/Mitigation:

a) *No Impact* – The project does not propose the construction of any structures that would generate wastewater.

b) *No Impact* – The project does not require the use of water or wastewater treatment facilities.

c) *Less Than Significant* – As discussed in the Hydrology and Water Quality section, there would be little increase in impervious surfaces as a result of the project; therefore, the project would minimally increase runoff.

d) *Less Than Significant* – As discussed earlier, there is no need for a water supply at the proposed project site.

e) *No Impact* – The project does not require the use of water or wastewater treatment facilities.

f-g) *No Impact* – The project is not anticipated to result in the generation of any solid waste.

XX. WILDFIRE Would the project:	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
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 down slope or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes?	☐	☐	☒	☐

DISCUSSION/CONCLUSION/MITIGATION:

a,b,c,d) *Less than Significant* – The project is a bridge replacement project that is intended to replace a structurally deficient bridge that will ultimately improve emergency access and wildfire safety to the area. During project construction, local residents and construction employees would still be able to utilize nearby Loma Rica Road and/or Iowa City Road to reach Highway 20. Project related impacts to the adopted emergency response plan and emergency evacuation plan would be less than significant.

XXI. MANDATORY FINDINGS OF SIGNIFICANCE

NOTE: If there are significant environmental impacts which cannot be mitigated and no feasible project alternatives are available, then complete the mandatory findings of significance and attach to this initial study as an appendix. This is the first step for starting the environmental impact report (EIR) process.

Does the project:	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Have the potential to degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, reduce the number or restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory?	☐	☒	☐	☐
b) Have impacts that are individually limited, but cumulatively considerable? ("Cumulatively considerable" means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects)?	☐	☒	☐	☐
c) Have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly?	☐	☒	☐	☐

Discussion/Conclusion/Mitigation:

a) *Less Than Significant With Mitigation Incorporated* – As discussed in the Biological and Cultural Resources sections, construction associated with the project could potentially have impacts on cultural resources, and to small animal and bird species as discussed in both sections. Proposed mitigation measures would lessen the impact this project would have on both biological and cultural resources.

b) *Less Than Significant Impact with Mitigation Incorporated* – Construction of the project, in combination with other proposed projects in the adjacent area, may contribute to air quality impacts that are cumulatively considerable. However, when compared with the thresholds in the Air Quality section, the project would not have a cumulatively significant impact on air quality.

The project is consistent with the Yuba County 2030 General Plan land use designation for the project site and the zoning for the project site. With the identified Mitigation Measures **Mitigation Measure 3.1** and **Mitigation Measure 3.2** in place, cumulative impacts would be

less than significant. No other cumulative impacts associated with this project have been identified.

c) *Less Than Significant Impact with Mitigation Incorporated* – Due to the nature and size of the proposed project, no substantial adverse effects on humans are expected. The project would not emit substantial amounts of air pollutants, including hazardous materials. The project would not expose residents to flooding. The one potential human health effects identified as a result of project implementation were minor construction-related impacts, mainly dust that could affect the few scattered residences near the project site. These effects are temporary in nature and subject to Feather River Air Quality Management District's Standard Mitigation Measures that would reduce these emissions to a level that would not be considered a significant impact.

REFERENCES

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4. Yuba County Important Farmland Map 2010. California Department of Conservation.
5. Yuba County Improvement Standards.
6. State of California Hazardous Waste and Substance site "Cortese" list
7. Yuba County 2008-2013 Housing Element. AECOM. Dec. 2010
8. Jack Slough Bridge Replacement Project NES. March 2019. Stantec
9. Jack Slough Bridge Replacement Project HPSR. January 2016. North State Resources, Inc
10. Jack Slough Bridge Replacement Project ASR. January 2016. North State Resources, Inc
11. Jack Slough Bridge Replacement Project CalEEMod Air Quality Project Analysis. May 2019. Yuba County Planning Department.