

**INITIAL STUDY/MITIGATED NEGATIVE DECLARATION
PREPARED FOR THE
BUCKMAN ROAD BRIDGE REPLACEMENT PROJECT
SAN JOAQUIN COUNTY, CALIFORNIA**



Prepared by:

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July 2021



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**INITIAL STUDY/MITIGATED NEGATIVE DECLARATION
PREPARED FOR THE BUCKMAN ROAD BRIDGE REPLACEMENT ACROSS DUCK CREEK
Federal Aid Project BRLS-5929(245)**

Pursuant to Public Resources Code Section 21080 *et seq.* (California Environmental Quality Act) and
California Code of Regulations, Title 14,
(California Environmental Quality Act (CEQA) Guidelines) Sections 15160-15170

INITIAL STUDY/ENVIRONMENTAL CHECKLIST

PROJECT INFORMATION

1. Project Title

Buckman Road Bridge Replacement Project

2. Lead Agency Name and Address

San Joaquin County Public Works Department (SJCPWD) (Lead Agency)
1810 E. Hazelton Avenue
Stockton, California 95205
<https://www.sjgov.org/departments/pwk/>

3. Contact Person, Phone, Email

Jeffrey Levers, T.E.
Associate Engineer/Transportation Planner
(209) 953-7631
jlevers@sjgov.org

4. Project Location

Buckman Road Bridge (No. 29C-227) 0.2 miles north of State Route 4 across Duck Creek, unincorporated San Joaquin County. The Project is on the Farmington CA USGS 7.5' Quadrangle within Township 1 North, Range 9 East, Section 15. (see Figure 1, Vicinity Map, below).

5. Project Sponsor's Name and Address:

Name:	San Joaquin County Department of Public Works
Physical Address:	1810 East Hazleton Avenue; Stockton, CA 95205
Mailing Address:	1810 East Hazleton Avenue; Stockton, CA 95205
Email:	jlevers@sjgov.org
URL:	https://www.sjgov.org/departments/pwk/default

6. General Plan And Zoning Designations

The Buckman Road Bridge Replacement project site is in the San Joaquin County General Plan (SJC General Plan) Agricultural/General (A/G) land use designation and is zoned 333. The SJC General Plan designation provides for large-scale agricultural production and associated processing, sales, and support uses. The General Agriculture Designation generally applies to areas outside areas planned for urban development where soils are capable of producing a wide variety of crops and/or support grazing. Typical building types include low-intensity structures associated with farming and agricultural processing and sales. Minimum parcel sizes within the AG Zone are 20,

40, 80, and 160 acres, as specified by the precise zoning. Buckman Road is not designated in the General Plan as an arterial or collector roadway (San Joaquin County General Plan, Figure TM-1, Circulation Diagram).

7. Existing Setting

The proposed project is located in eastern San Joaquin County, approximately 2.8 miles west of the Calaveras County line. The Buckman Road bridge lies approximately 0.2 miles north of State Route (SR) 4 and crosses over Duck Creek, approximately 1.25 miles east/northeast of the community of Farmington. Buckman Road is a north-south, single-lane roadway in each direction, classified as “Local (07)” in the County’s maintained mileage record. The road serves multiple agricultural field access driveways, as well as residences beyond the bridge. Surrounding land uses consist of row crops and orchards.

Duck Creek flows east to west in the vicinity of the project, and is channelized with concrete riprap. The creek is mapped as an intermittent channel on the Farmington CA USGS 7.5’ Quadrangle and is classified as a palustrine, emergent, persistent, seasonally flooded (PEM1C) feature on the current National Wetland Index (NWI) map. Duck Creek flows in an east to west direction under Buckman Road and empties into Walker Slough, a tributary to French Camp Slough. The banks are gently sloping and vegetated primarily with non-native invasive species (i.e., poison hemlock and other ruderal/weedy species). The streambed is sandy silt with patches of hydrophytic vegetation (bulrush) growing within the channel. Narrowleaf willow grows within the channel and along the banks near the bridge. The creek’s average width in the vicinity of the bridge is approximately 16 feet.

8. Background

Buckman Road Bridge Number 29C-227 was built in 1931 and consists of three-span timber girders (18) with a timber deck on timber 3-column bents and RC abutments with monolithic wingwalls. All are founded on spread footings. The most recent Caltrans Bridge Inspection Report, dated November 14, 2012, indicated there was work performed on the bridge structure after the previous inspection report dated February 4, 2011.

Work included:

- A supplemental/temporary timber cap installed at bent 2;
- Rip rap was placed at the column footing on bent 3;
- A timber post was attached to each side of each column at bent 2; and
- Several timber stringers were replaced at:
 - Spans 1 and 2, exterior stringers
 - Span 3, stringers 1, 3, 4, 5, 9, and 18

Despite these repairs, the bridge structure Sufficiency Rating (SR) remains low. The columns at bent 2 are encased in soil at the base which has accelerated deterioration. All the columns are retaining water near the timber cap. A hydraulic report dated July 30, 2003, determined the structure is scour-critical due to degradation of the channel. White fungus was also observed on the deck soffit near bent 2, on the right side.

As a result of the National Bridge Inventory (NBI) item (60) “Substructure” having a rating of 4, Buckman Road Bridge has been rated as structurally deficient and has an SR of 53.2. In addition, NBI item (113) “Scour Critical Bridges” was rated 3, which indicated that the bridge is scour-critical and that the bridge foundations were unstable for calculated scour conditions. The bridge is on the eligible list and qualifies for federal funding under the Highway Bridge Program.

9. Project Description

The project proposes to replace the existing two-lane timber structure with a cast-in-place, pre-stressed single-span concrete voided-slab bridge. The proposed bridge will consist of two 9-foot-wide lanes, 2-foot paved

shoulders, and will include 1.75-foot-high Type 836 barrier rail on both sides. The finished bridge width would be 25.5 feet, with a total deck width of 29 feet.

From the end of the bridge, the County will transition the paved 22-foot clear width to match the existing 18-foot roadway within the attainable 400-feet or less on both sides.

Work will also include the construction of approach railing with terminal systems, and appropriate approach road work at the ends of the bridge. A bridge type-selection report will be prepared during the preliminary engineering phase to determine the most cost-effective bridge structure based on the existing site condition, and various engineering studies will be conducted at the bridge location.

Rock slope protection (RSP) will be placed in the channel to prevent future scour on the new structure. Pile driving will occur up to 30 feet deep for the bridge footings.

Overhead utility lines are present on both sides of the proposed project. San Joaquin County will coordinate with utility companies regarding any necessary relocation.

The bridge and approaches will be closed to traffic for the duration of the construction period. Traffic along Buckman Road will be detoured around the Project site (see Figure 12 below).

Creek Diversion System. If water is present when construction is scheduled to begin, a creek diversion system will be used to divert flow through the construction zone and dewater the area around the abutments during construction. The creek diversion system will consist of placing coffer dams upstream and downstream of the construction site and conveying the water from Duck Creek through temporary culverts. Any temporary fill associated with the dewatering system will be removed at the end of construction, returning the creek to its original condition. The temporary cofferdams and culverts will be completely removed after the removal of the existing bridge and completion of the replacement bridge.

The creek diversion system and subsequent site dewatering will be designed in conformance with County specifications and regulations as required by the Regional Water Quality Control Board (RWQCB), California Department of Fish and Wildlife (CDFW), and the United States (US) Fish and Wildlife Service (FWS). The operational timeline for the creek diversion would likely be June 15 to October 31, depending on the regulatory permit mitigation measures.

Demolition. Demolition of the existing bridge will be performed in accordance with the Caltrans Standard Specifications as modified to meet environmental permit requirements (see Caltrans, Programs/Design, available at <https://dot.ca.gov/programs/design> (accessed June 10, 2021)). Prior to construction, the contractor will be required to prepare a bridge demolition plan for County approval, including the creek diversions/bypass details described above. All concrete and other debris resulting from bridge demolition will be removed from the Project site and disposed of by the contractor.

The construction staging area would be located along the closed portions of Buckman Road within the existing County right-of-way.

Construction. Construction will consist of the following phases:

- Installing construction area and detour signs:
 - Sufficiently in advance of construction operations, detour signs will be installed identifying the road closure and detour routes. Signs will remain in place throughout the duration of construction.
- Relocating utilities (if required):
 - Any existing overhead utilities that conflict with equipment required to install piling will be temporarily relocated. When construction is complete, utilities will be re-installed at their original locations.
- Clearing and grubbing work site:

- The areas around the work site will be cleared of vegetation and fencing that would interfere with bridge and approach construction.
- Demolishing the existing bridge structure:
 - The existing bridge, abutment, retaining walls, asphalt, etc., will be demolished and properly disposed of off-site. The creek below the bridge will be protected from contamination and all debris generated by the demolition by best management practices (BMPs) in accordance with an erosion control plan. All debris generated by the demolition will be removed from the site.
- Constructing the new bridge and approaches.

Right of way acquisition. The County proposes to acquire approximately 0.176 acres of right-of-way from four adjacent parcels to the Buckman Road bridge, and approximately 0.955 acre for temporary construction easements (TCEs), distributed as follows:

1. APN 187-310-17 (northwest): approximately 0.072 acre and 0.176 acre for the TCE;
2. APN 187-310-19 (northeast): approximately 0.023 acre and 0.223 acre for the TCE;
3. APN 187-310-20 (southeast): approximately 0.017 acre and 0.287 acre for the TCE; and
4. APN 187-310-18 (southwest): approximately 0.064 acre and 0.269 acre for the TCE.

Traffic Provisions: The bridge will be closed to traffic for the duration of the construction period. Traffic along Buckman Road will be detoured around the project site. A detour plan during construction of the bridge is shown on Figure 12 below.

Construction Equipment. Bridge demolition and construction will likely require the following non-road vehicles and heavy equipment:

- Hydraulic Hammer (demolition)
- Hoe ram (demolition)
- Jackhammer (demolition)
- Water Truck (earthwork construction, dust control)
- Bulldozer/Loader (earthwork construction, clearing and grubbing)
- Haul Truck (earthwork construction, clearing and grubbing)
- Front-End Loader (dirt or gravel manipulation)

Numerous environmental-protection measures are incorporated into the project design and workflow, as required under permits from the California Department of Fish and Wildlife and other regulatory agencies. These measures are summarized in the discussions below, and detailed in the project's approved NEPA documentation (Preliminary Environmental Study with supporting Technical Studies) performed in 2017 for the California Department of Transportation (Caltrans), the Biological Assessment performed for the project in 2019, the Natural Environment Study (NES) performed in January 2020, the Stormwater Pollution and Prevention Plan (SWPPP) required for the project, and others. All materials cited and incorporated by reference are listed at the end of this document.

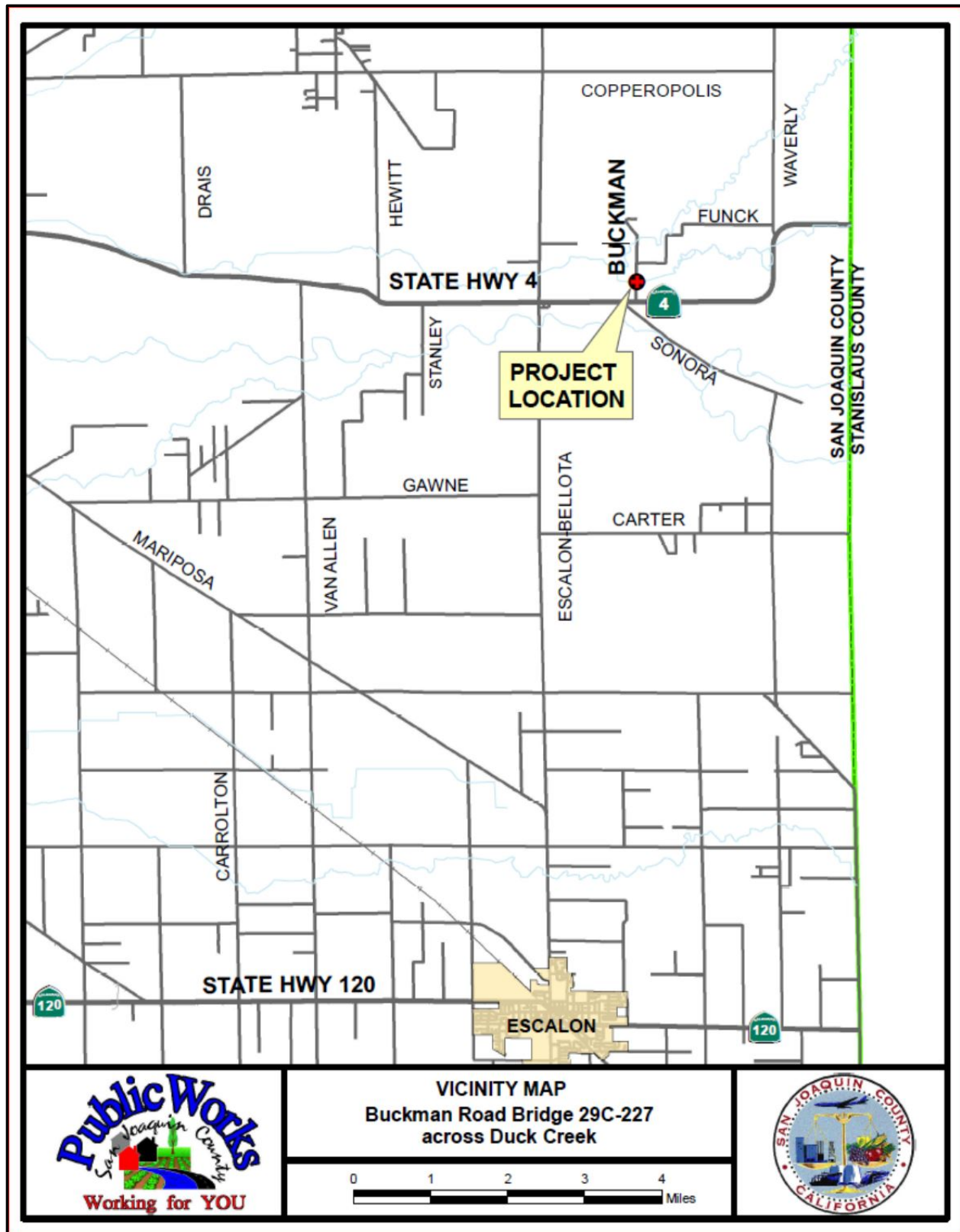


Figure 1 - Vicinity Map

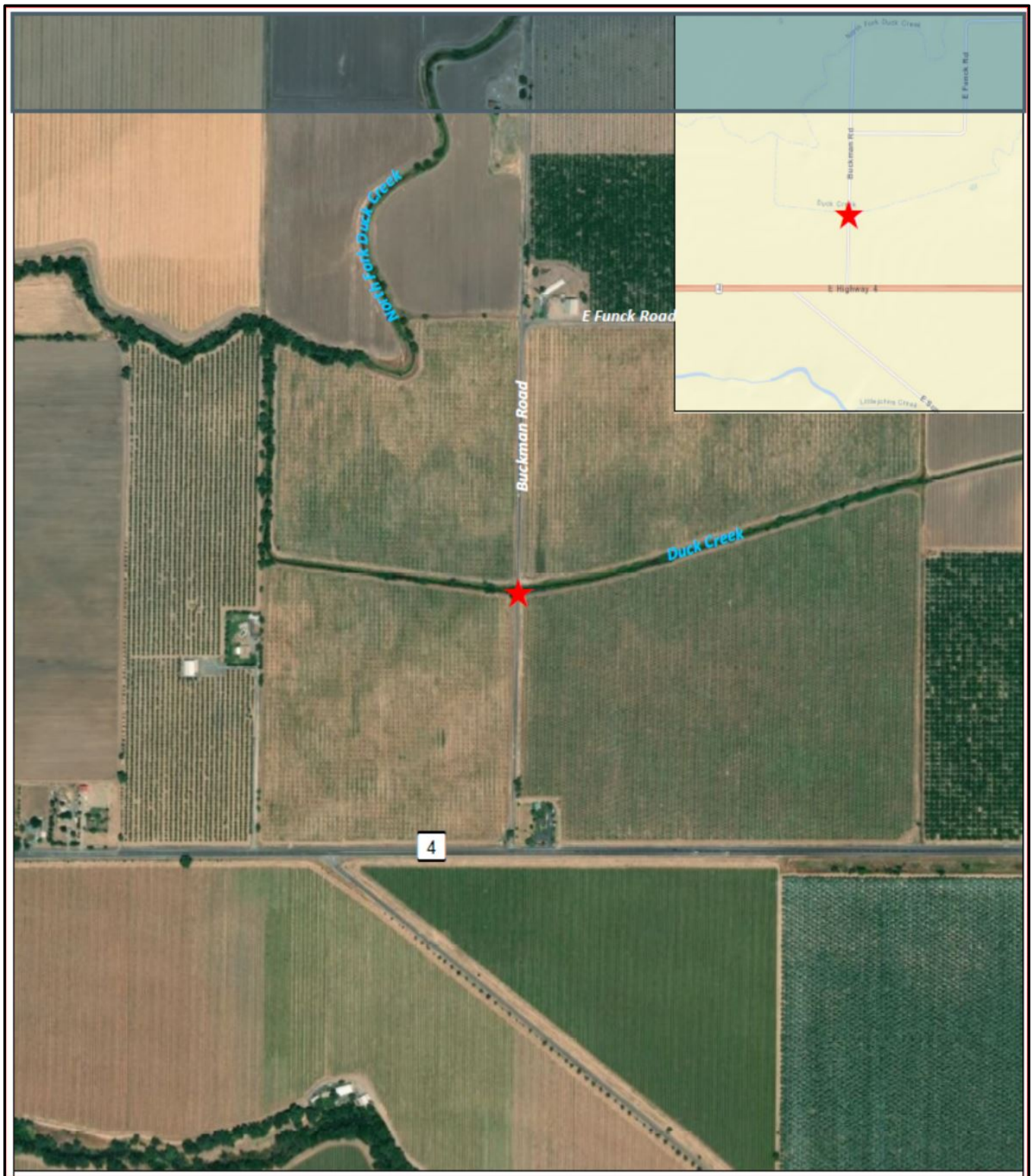


Figure 2 – Aerial View

★ Indicates project site

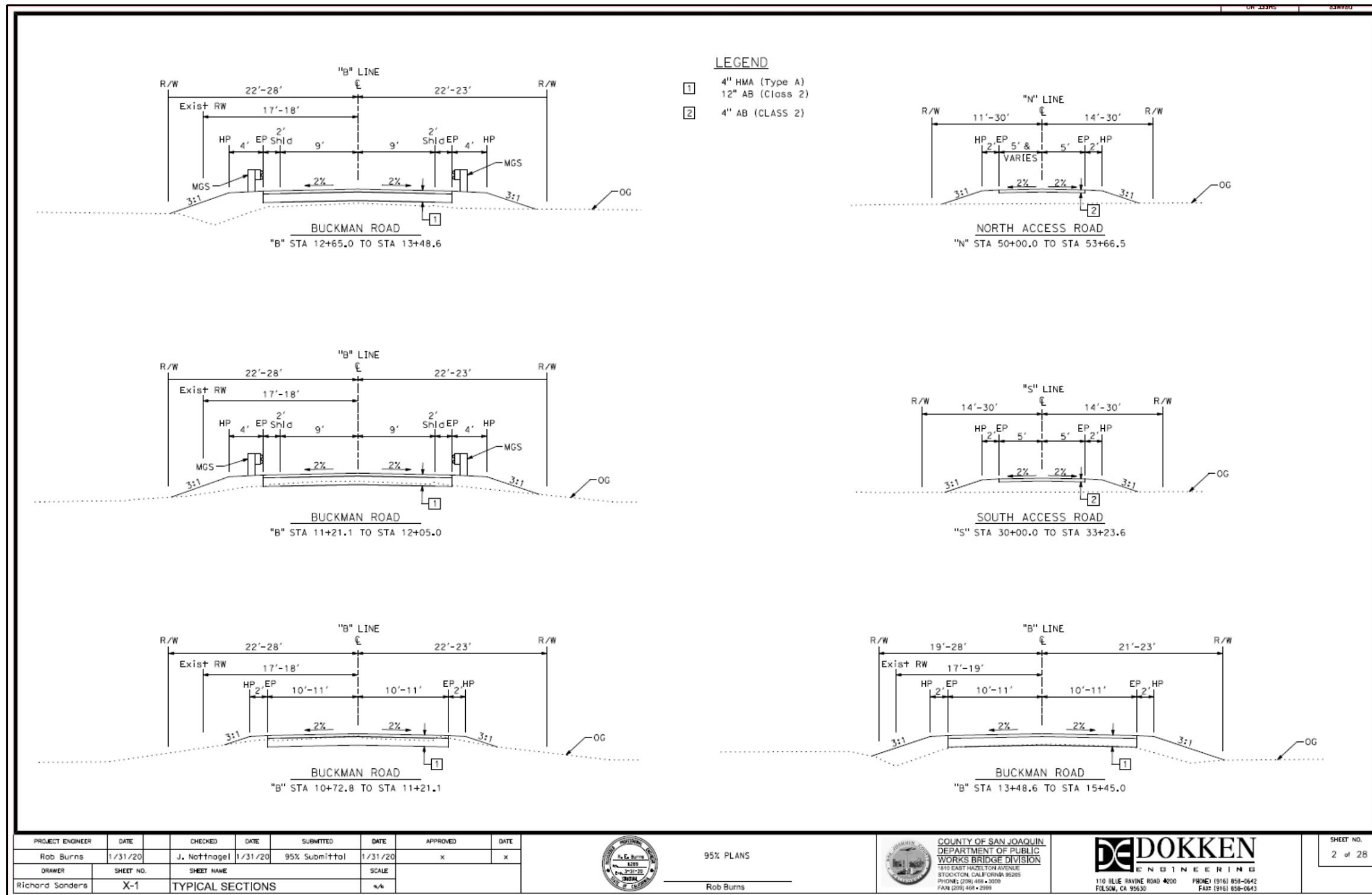


Figure 4 – Typical Sections

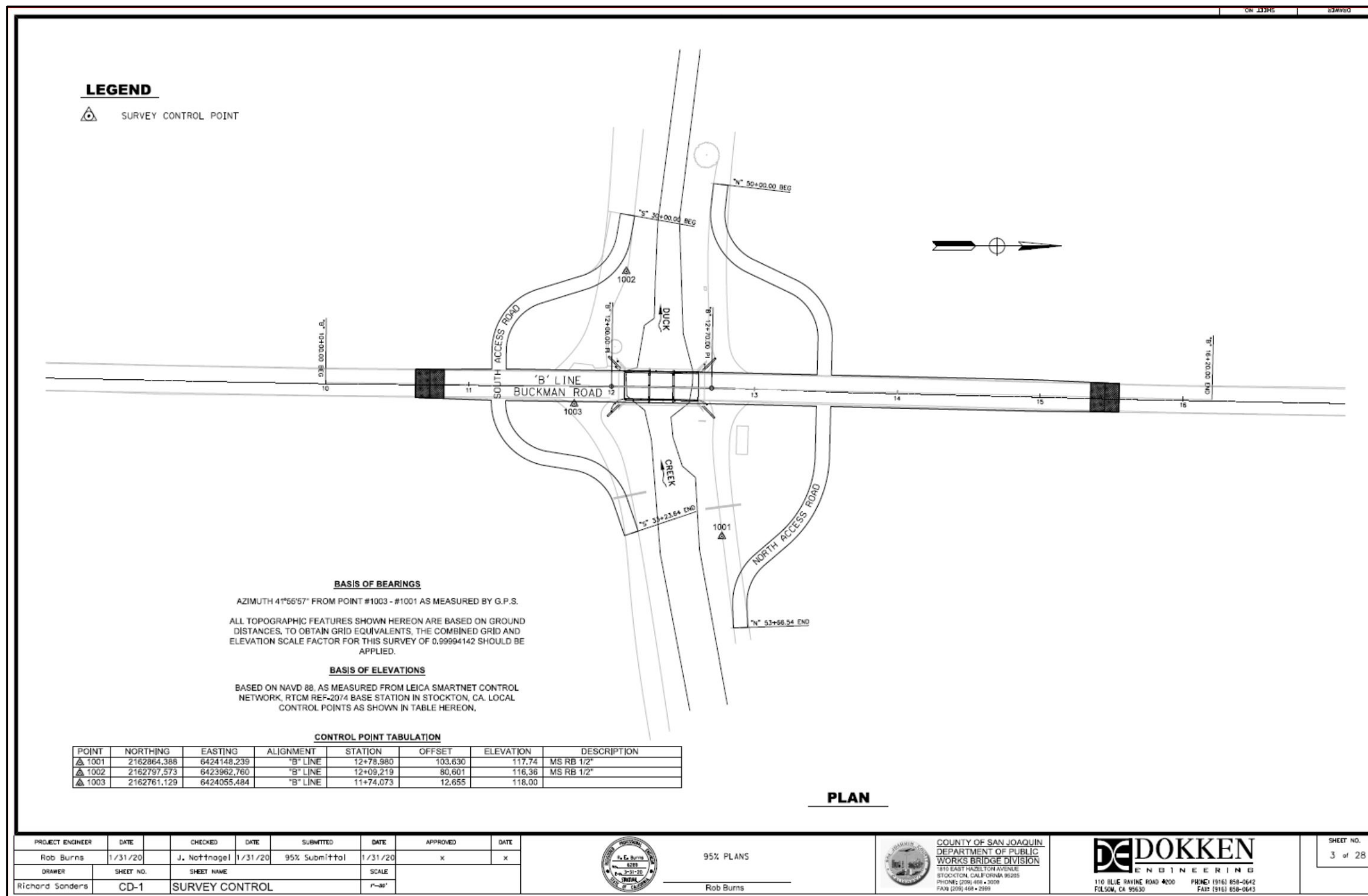


Figure 5 - Plan View

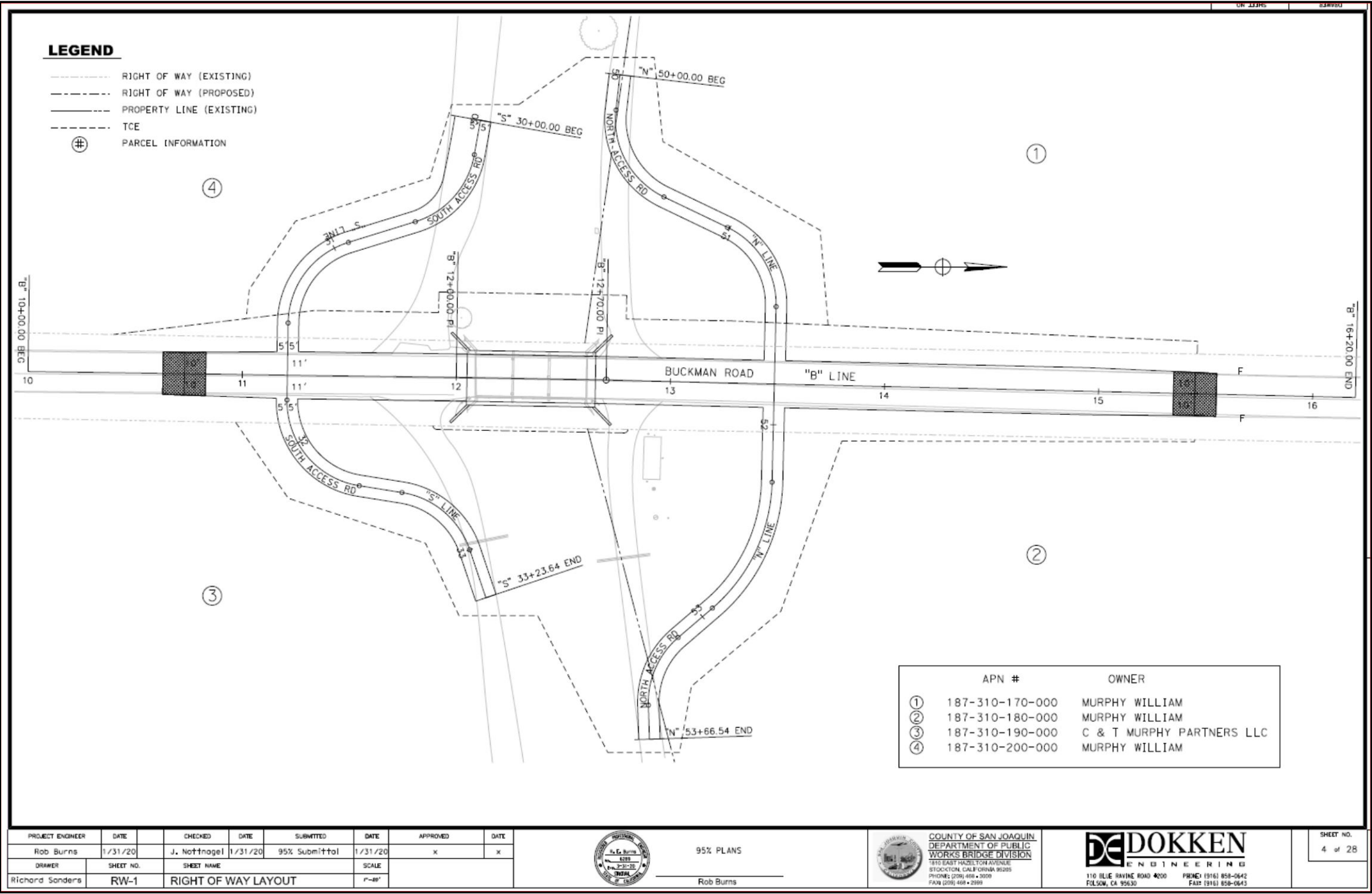


Figure 6 – Right-of-Way Layout

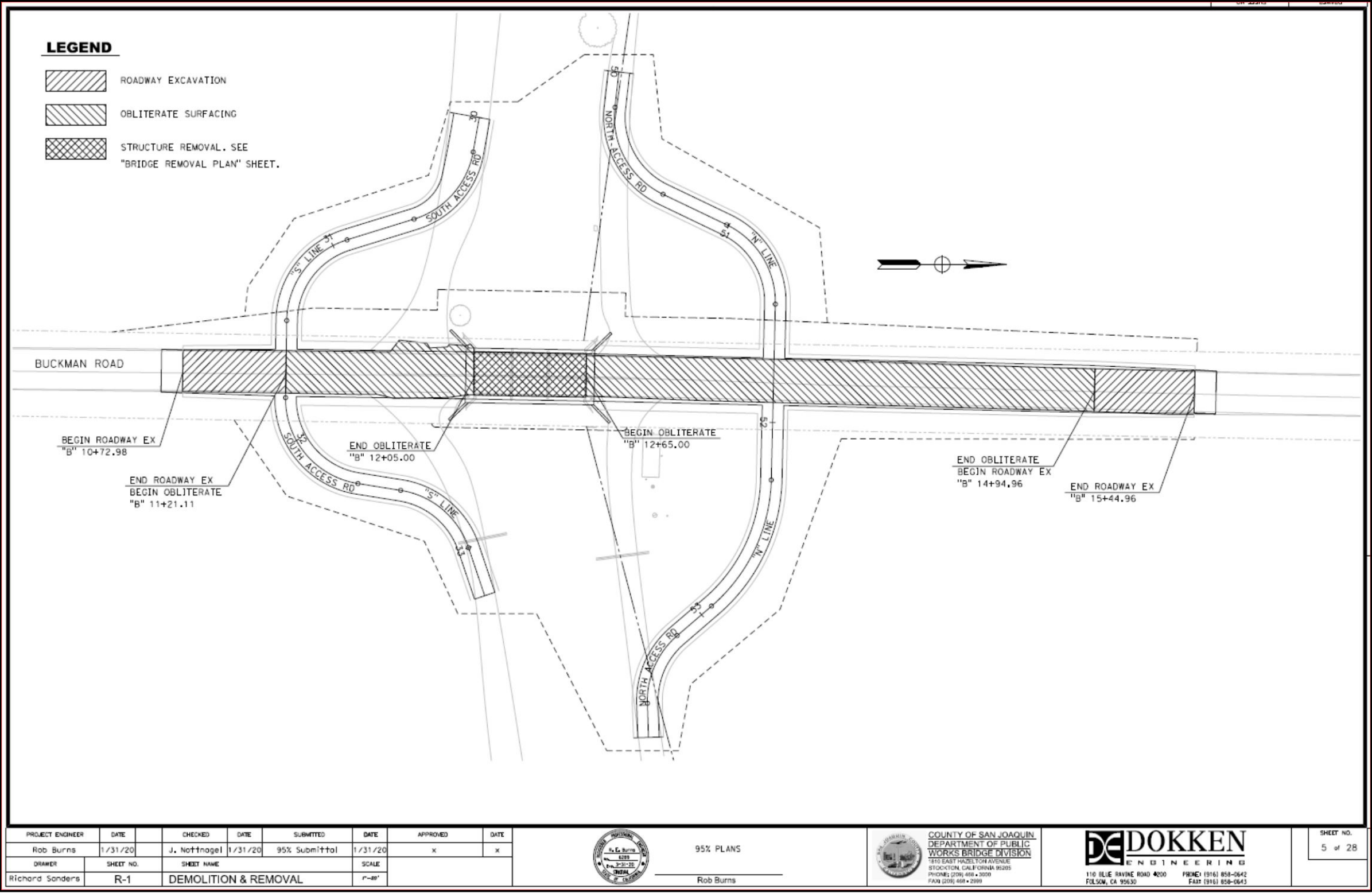


Figure 7 – Demolition and Removal Plan

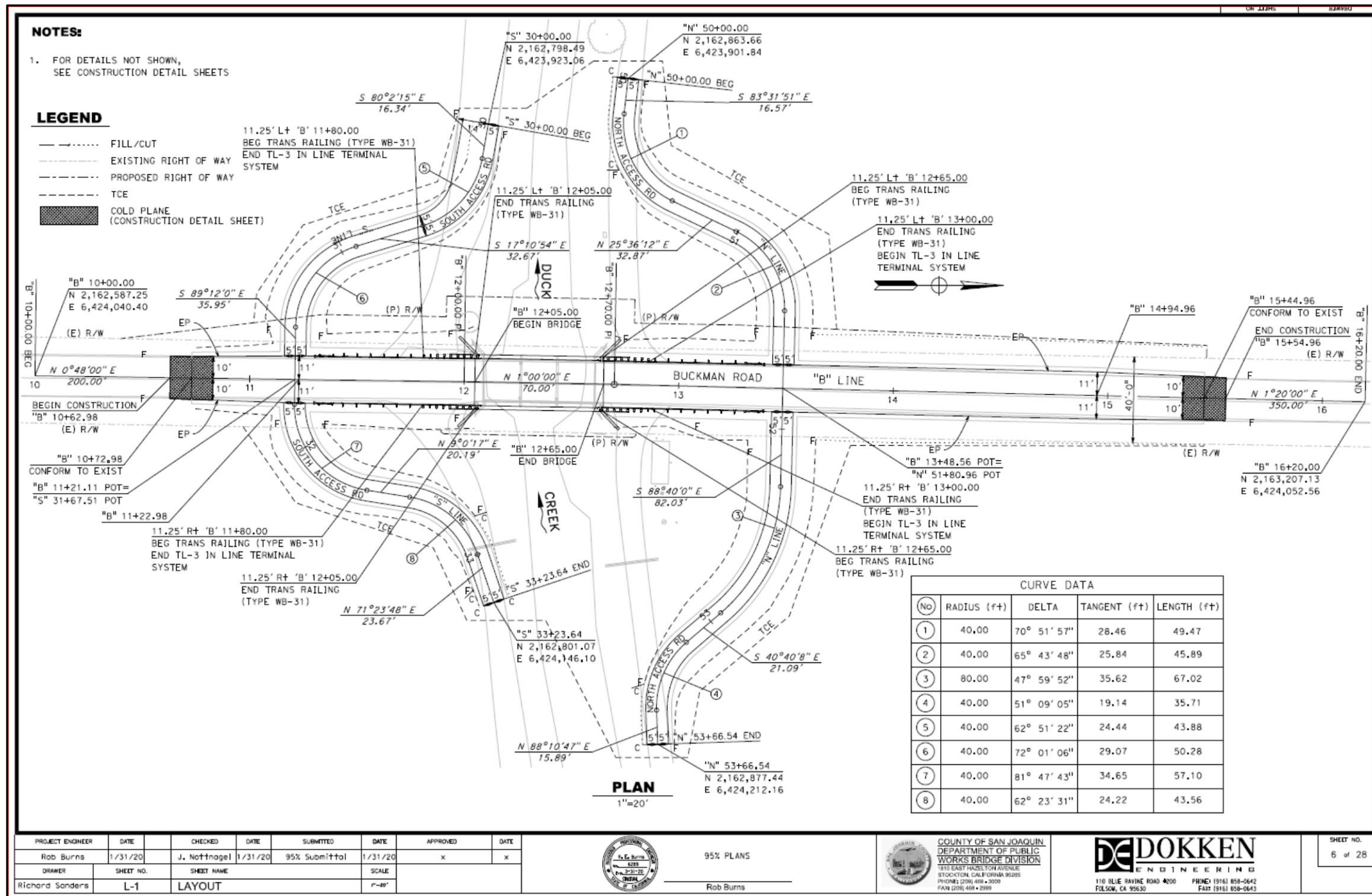


Figure 8 – Layout Showing Temporary Access Roads

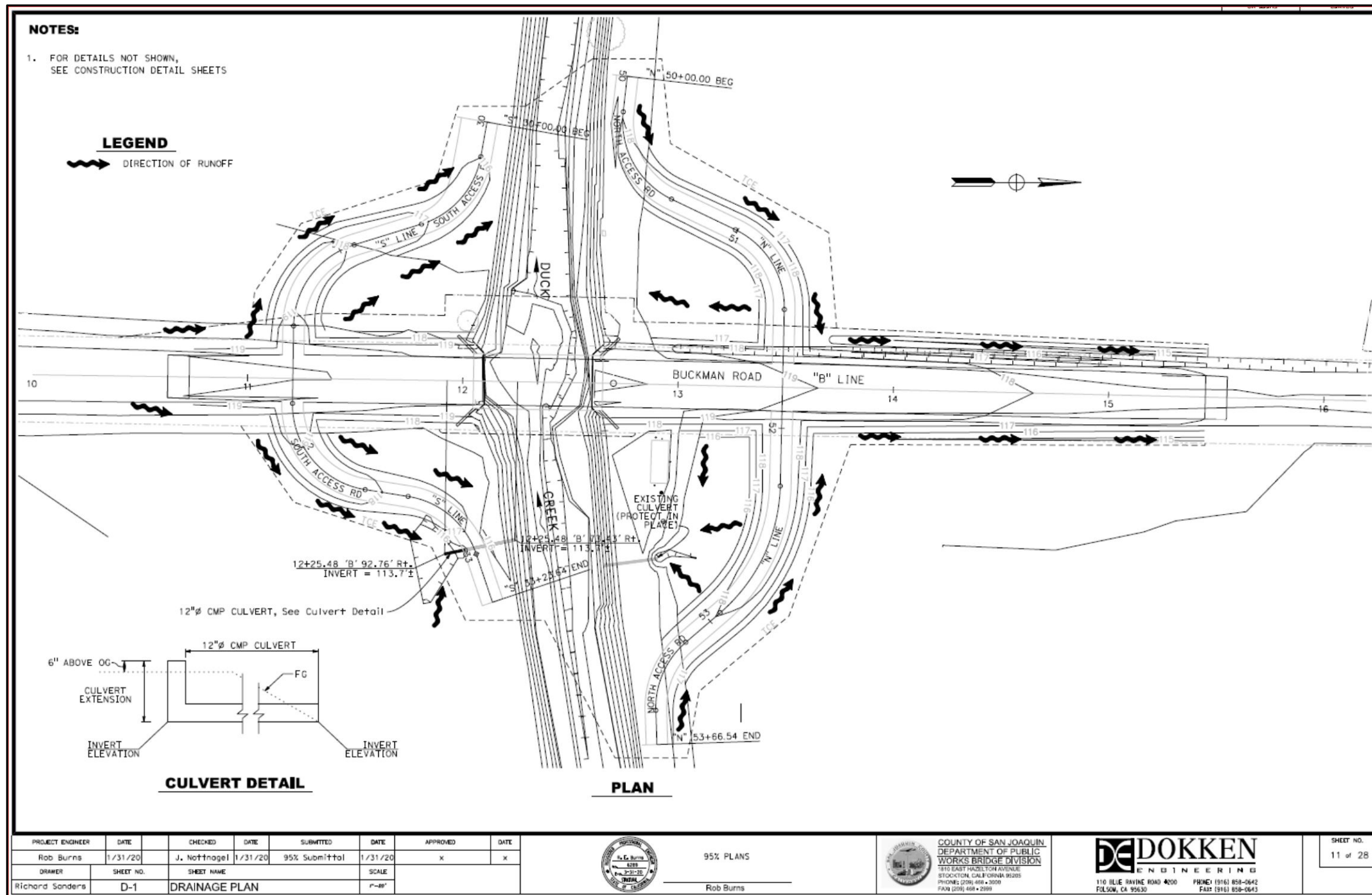


Figure 9 – Drainage Plan

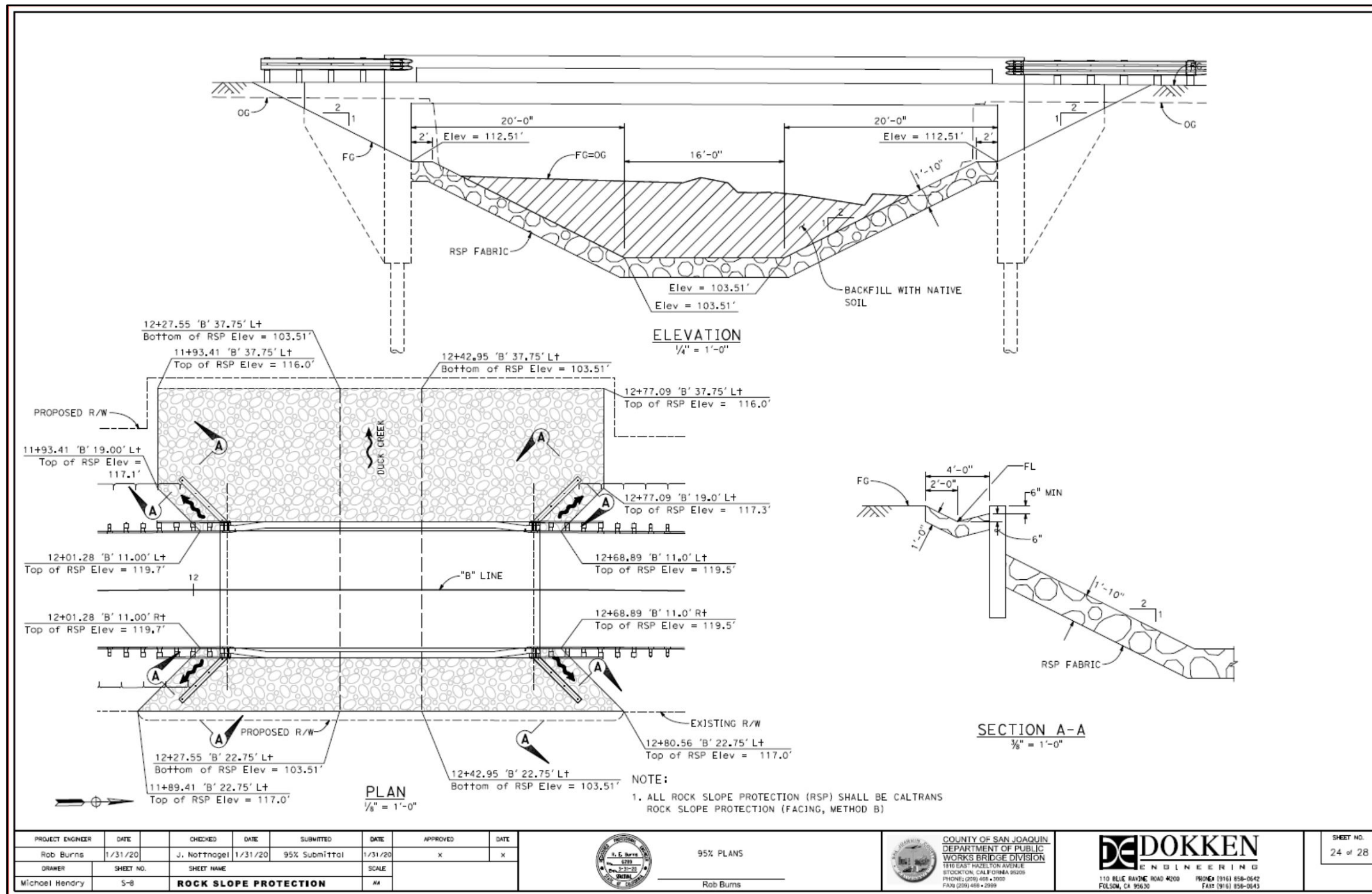


Figure 10 – Rock Slope Protection (RSP) Plan

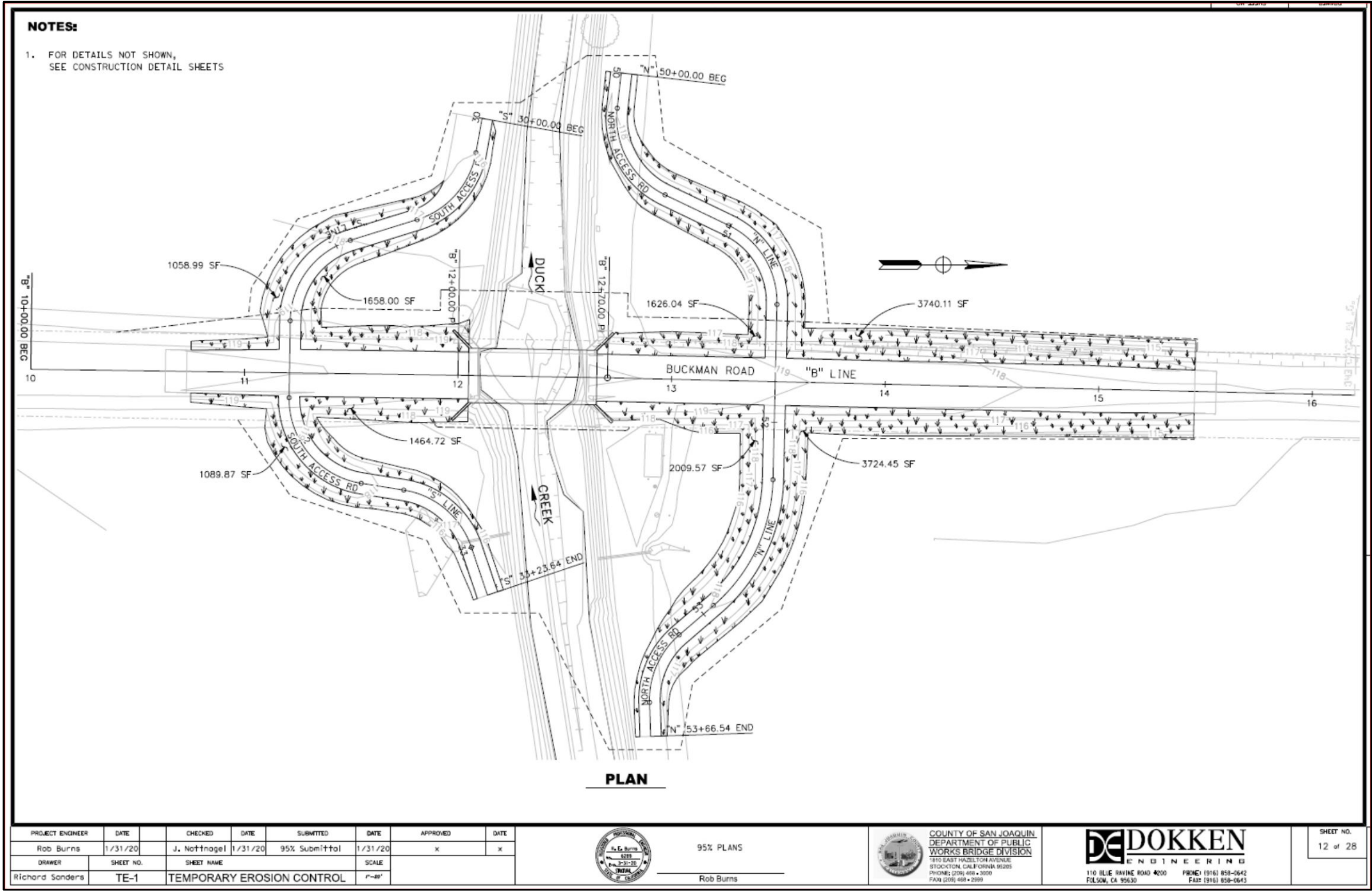


Figure 11 – Temporary Erosion Control

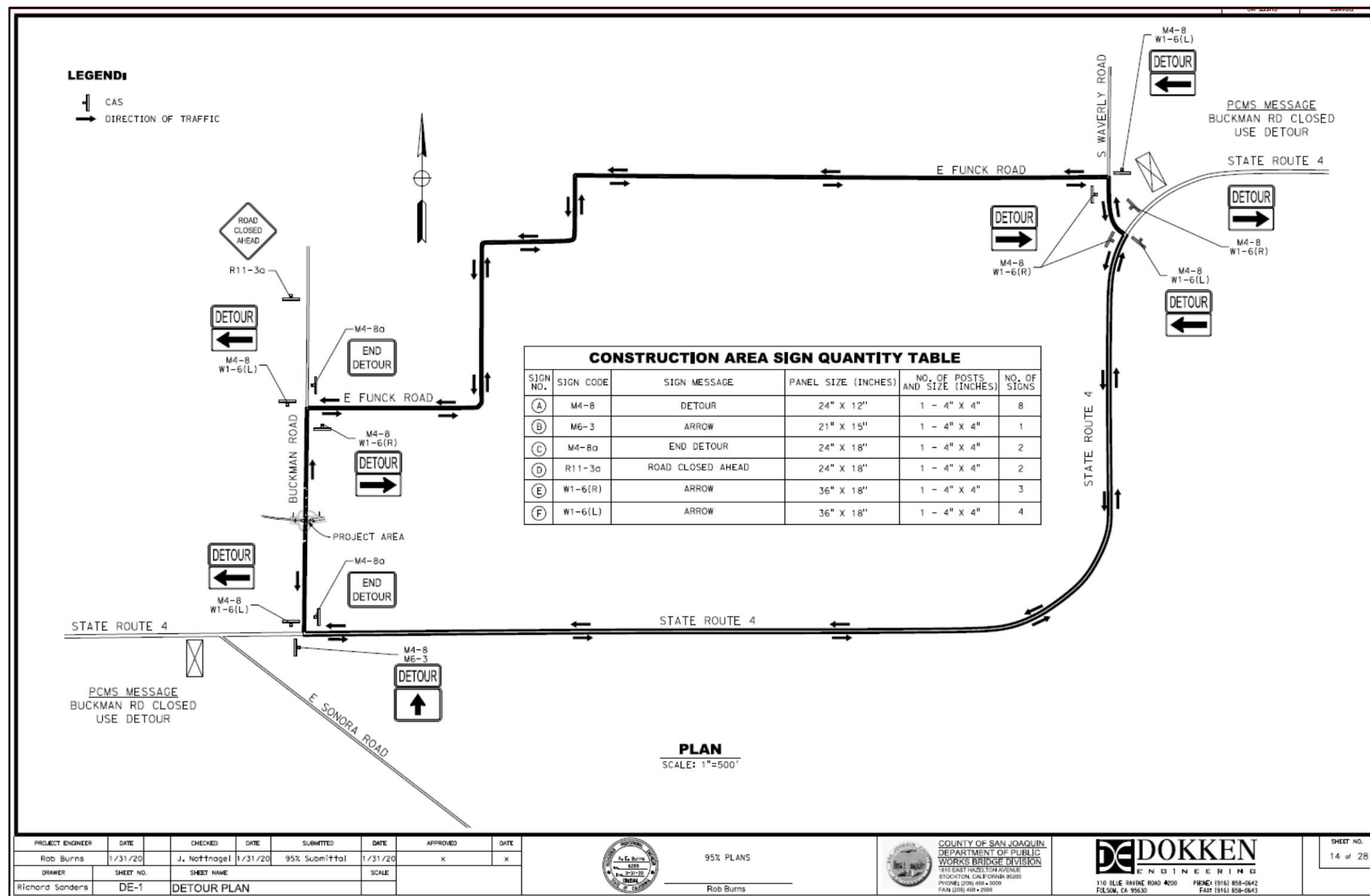




Figure 13 – Buckman Bridge (view from east side of bridge toward the west)



Figure 14 – Buckman Road Bridge (view from northern approach)



Figure 15 – Agricultural uses in vicinity



Figure 16 – Ruderal (Disturbed) habitat along banks of Duck Creek near bridge



Figure 17 – Upstream Duck Creek from bridge



Figure 18 – Downstream Duck Creek from bridge

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ENVIRONMENTAL FACTORS POTENTIALLY AFFECTED

The environmental factors checked below would be potentially affected by this project, involving at least one impact that is a "Potentially Significant Impact" as indicated by the checklist on the following pages.

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

DETERMINATION:

On the basis of this initial evaluation:

- ☐ I find that the proposed project COULD NOT have a significant effect on the environment, and a NEGATIVE DECLARATION will be prepared.
- ☒ I find that although the proposed project could have a significant effect on the environment, there will not be a significant effect in this case because revisions in the project have been made by or agreed to by the project proponent. A MITIGATED NEGATIVE DECLARATION will be prepared.
- ☐ I find that the proposed project MAY have a significant effect on the environment, and an ENVIRONMENTAL IMPACT REPORT is required.
- ☐ I find that the proposed project MAY have a "potentially significant impact" or "potentially significant unless mitigated" impact on the environment, but at least one effect 1) has been adequately analyzed in an earlier document pursuant to applicable legal standards, and 2) has been addressed by mitigation measures based on the earlier analysis as described on attached sheets. An ENVIRONMENTAL IMPACT REPORT is required, but it must analyze only the effects that remain to be addressed.
- ☐ I find that although the proposed project could have a significant effect on the environment, because all potentially significant effects (a) have been analyzed adequately in an earlier 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.

Signature

Date

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I. AESTHETICS

Except as provided in Public Resources Code Section 21099(d) (which prohibits a significance determination regarding aesthetics impacts for transit-oriented infill projects within transit priority areas),

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) In non-urbanized areas, substantially degrade the existing visual character or quality of public views of the site and its surroundings? (Public views are those that are experienced from publicly accessible vantage point.) If the project is in an urbanized area, would the project conflict with applicable zoning and other regulations governing scenic quality?	☐	☐	☐	☒
d) Create a new source of substantial light or glare that would adversely affect day or nighttime views in the area?	☐	☐	☐	☒

BACKGROUND AND REGULATORY SETTING

San Joaquin County is centrally located in the agricultural heartland of California, known as the San Joaquin Valley. The terrain is generally level with the foothills of the Diablo Range to the southwest and the foothills of the Sierra Nevada Range to the east. In addition to the vast acreage of agricultural land, a complex network of sloughs, canals, rivers, and creeks forms a distinctive landscape. The Delta wetlands, river corridors, valley oak tree groves, and sloping foothills and ridges of the Diablo and Sierra Nevada Ranges are the key scenic landscape features in San Joaquin County (Baseline Environmental Consulting 1992).

The County has designated Interstate 5, State Routes 4 and 99, and 26 local roadways as scenic routes; Interstates 5 and 580 are state-designated scenic highways (SJC 2030 General Plan, Natural and Cultural Resources Element, Figure NCR-1). These routes were selected based on several factors, including those roads which lead to recreation areas, exhibit scenery with agricultural/rural values or topographical interest, provide access to historical sites, or offer views of waterways. Buckman Road is not classified as a scenic route.

IMPACT DISCUSSION:

a-d) **No Impact.** The project and surrounding area consist of rural and agricultural property. There are no designated scenic vistas or scenic highways within the vicinity of the project area. The proposed project will replace an existing bridge with one that will have similar visual characteristics, and will not directly change the overall setting. Because no new roadway lighting is proposed, the proposed project would also not create a new source of substantial light or glare, adversely affecting day or nighttime views; therefore, no impacts associated with aesthetic changes are anticipated.

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 the 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) Conflict with existing zoning for, or cause rezoning of, forestland (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))?	☐	☐	☐	☒
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?	☐	☐	☐	☒

BACKGROUND AND REGULATORY SETTING

The California Department of Conservation, Division of Land Resource Protection, administers the California Farmland Mapping and Monitoring Program (FMMP), to assess and plan for California's agricultural land resources. The FMMP produces *Important Farmland Maps*, which identify "Prime Farmland" and "Farmland of Statewide Importance." These classifications are based on criteria developed by the United States Department of Agriculture Natural Resources Conservation Service (NCRS), which classify soils by various physical and chemical properties. For farmland to be considered "Prime" or of "Statewide Importance" in California, land must have been used for irrigated agricultural production at some time during the four years prior to the Important Farmland Map date. See California Department of Conservation, *Prime Farmland and Farmland of Statewide Importance*, available at https://www.conservation.ca.gov/dlrp/fmmp/Pages/prime_farmland_fmmp.aspx (accessed March 1, 2021).

The California Land Conservation Act of 1965 (commonly known as the Williamson Act) established a voluntary tax incentive program for preserving agricultural and open space lands. A property owner enters into a 10-year

contract with the County, which places restrictions on the land in exchange for tax savings. The property is taxed according to the income it is capable of generating from agriculture and other compatible uses, rather than its full market value. Williamson Act contracts are renewed automatically each year unless they are canceled or a Notice of Non-renewal is filed with the County (Baseline 1992).

The California Department of Forestry and Fire Protection monitors and maps the state's forest resources and overall vegetation status, and produces a "land cover" map that classifies the State's lands into 11 large-scale categories that encompass both natural landscapes as well as agricultural and urban uses, and water bodies. The current Land Cover map identifies the project area, as well as the majority of the San Joaquin Valley, as agricultural land. There is no mapped forestland in San Joaquin County. See California Department of Forestry and Fire Protection, *FRAP Map: Land Cover*, available at https://frap.fire.ca.gov/media/10311/fveg_19_ada.pdf (accessed March 1, 2021).

IMPACT DISCUSSION:

- a) **Less Than Significant Impact.** The project and surrounding area consist of rural and agricultural property, much of it considered "Prime Farmland" (see Figure 21 below). The proposed project will replace an existing timber bridge and will require a moderate area of additional right-of-way along the west side of Buckman Road to accommodate the new bridge approaches and transition (0.136 net acre, 5,924 square feet; see Figure 6 above) to the new bridge deck. Specifically, 0.072 acre would be obtained from the 34.73-acre APN 187-310-17 (0.21% of total acreage) and 0.064 acre would be obtained from the 40.2-acre APN 187-310-18 (0.16% of total acreage). Additional acreage would be required to be used for temporary construction easements, but this land would revert to agricultural uses when construction is complete. San Joaquin County does not have a significance threshold for acreage conversion from agricultural to non-agricultural uses; however, it is reasonable to conclude that less than one-half percent of a parcel's acreage would have less than significant impacts to the farmland's productivity.
- b) **Less Than Significant Impact.** The project would not be expected to conflict significantly the existing agricultural zoning or with Williamson Act-encumbered parcels. According to the San Joaquin County District Viewer, the two parcels described in (a) above are associated with Williamson Act contracts (San Joaquin County District Viewer, Williamson Act map background view, available at <http://www.sjmap.org/DistrictViewer/> (accessed March 1, 2021). However, the proposed bridge replacement project would require minimal dimensions of right-of-way from the parcels' eastern boundaries, and would not interfere with the remaining areas' agricultural capability. Property owners would be compensated for the acquisition.
- c) **No Impact.** There is no mapped forestland in the vicinity of the proposed project or in San Joaquin County generally. Accordingly, no impacts associated with farmland or forestland loss are anticipated.
- d) **No Impact.** Other than the minimal acreage discussed in (a) above, the bridge-replacement project would not induce further conversion of agricultural land to non-agricultural uses. The roadway capacity would not be increased, and the surrounding area is wholly used for agriculture and is so designated in the County General Plan.

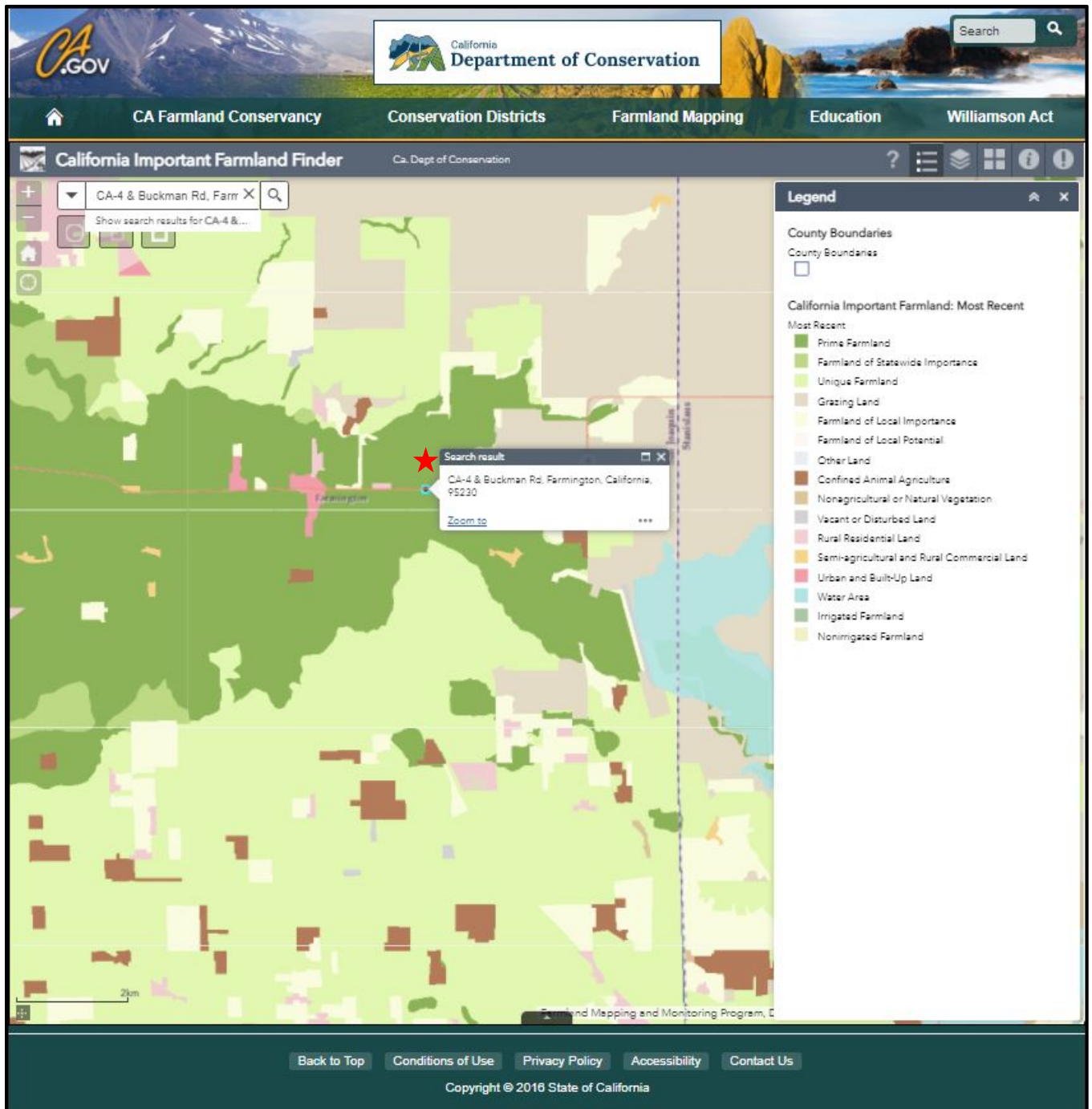


Figure 19 – Important Farmland Map

★ Indicates approximate project site

III. AIR QUALITY

Where available, the significance criteria established by the applicable air quality management district 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) Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard?	☐	☐	☒	☐
c) Expose sensitive receptors to substantial pollutant concentrations?	☐	☐	☒	☐
d) Result in other emissions (such as those leading to odors) adversely affecting a substantial number of people?	☐	☐	☒	☐

BACKGROUND AND REGULATORY SETTING

San Joaquin County is located at the northern end of the San Joaquin Valley Air Basin (SJVAB), and is within the jurisdiction of the San Joaquin Valley Air Pollution Control District (SJVAPCD). The pollution potential for this air basin is very high due to the topographic and meteorological conditions which often trap air pollutants in the valley (SJC General Plan). In compliance with the federal Clean Air Act (CAA) and United States Environmental Protection Agency (EPA) requirements, the SJVAPCD prepares plans for reducing pollutants, particularly ozone, fine and ultrafine particulate matter (PM₁₀ and PM_{2.5}), and carbon monoxide emissions to meet the EPA's National Ambient Air Quality Standards (NAAQS) as well as the more stringent California standards. An air basin is in "nonattainment" when pollutant concentrations exceed these levels. The SJVAB is classified as "nonattainment" for ozone and PM according to both federal and state standards, and is in "attainment" for carbon monoxide.

Ozone, a colorless, reactive gas, is formed near the earth's surface when sunlight reacts with volatile organic compounds (VOCs), carbon monoxide (CO) and nitrogen oxides (NOX) from vehicle exhaust, industrial processes, wildfire smoke, and other causes. Ozone levels tend to concentrate in the San Joaquin Valley because the surrounding mountain ranges limit air transport and pollutant dispersion. Ozone is hazardous to human health, and damages crops, ornamental vegetation, and man-made materials.

Particulate matter is a mixture of solid particles and liquid droplets of soot, ash, dust, or man-made compounds, such as diesel emissions, suspended in the air; it can also form in the atmosphere through photochemical reactions of sunlight on airborne materials. PM can include chemicals or chemical compounds such as organic carbon, elemental carbon, geologic material, trace metals, secondary organic aerosols, ammonium nitrate, and ammonium sulfate. As referenced above, the EPA classifies PM into two categories: particles that are 10 microns or less in diameter (PM₁₀) and particles that are less than 2.5 microns in diameter (PM_{2.5}). The latter particles are typical of diesel emissions. Particulate matter is hazardous to human and animal health when inhaled, and obscures visibility.

Carbon monoxide (CO) is an odorless, colorless gas that is directly emitted as a product of combustion. High CO concentrations are generally associated with cold, stagnant weather conditions in winter. CO emissions typically are concentrated around emission sources, including stationary sources (internal combustion engines, generators, flares, gas-fired central furnaces, etc.) as well as vehicle emissions around heavily-congested

intersections and roadways. CO is also hazardous to human and animal health, as it binds to hemoglobin in the blood and reduces the ability of blood to carry oxygen; it is particularly dangerous for individuals with heart or lung disease or anemia.

Table AQ-1 below summarizes the San Joaquin Valley Air Basin's attainment status:

SAN JOAQUIN VALLEY ATTAINMENT STATUS		
Pollutant	Designation/Classification	
	Federal Standards^a	State Standards^b
Ozone - One hour	No Federal Standard ^f	Nonattainment/Severe
Ozone - Eight hour	Nonattainment/Extreme ^e	Nonattainment
PM-10	Attainment ^c	Nonattainment
PM-2.5	Nonattainment ^d	Nonattainment
Carbon Monoxide	Attainment/Unclassified	Attainment/Unclassified
Nitrogen Dioxide (NOX)	Attainment/Unclassified	Attainment
Sulfur Dioxide (SOX)	Attainment/Unclassified	Attainment
Lead	No Designation/Classification	Attainment
Hydrogen Sulfide	No Federal Standard	Unclassified
Sulfates	No Federal Standard	Attainment
Visibility- Reducing Particles	No Federal Standard	Unclassified
Vinyl Chloride	No Federal Standard	Attainment
^a See 40 CFR Part 81 ^b See CCR Title 17 Sections 60200-60210 ^c On September 25, 2008, EPA re-designated the San Joaquin Valley to attainment for the PM10 National Ambient Air Quality Standard (NAAQS) and approved the PM10 Maintenance Plan. ^d The Valley is designated nonattainment for the 1997 PM2.5 NAAQS. EPA designated the Valley as nonattainment for the 2006 PM2.5 NAAQS on November 13, 2009 (effective December 14, 2009). ^e Though the Valley was initially classified as serious nonattainment for the 1997 8-hour ozone standard, EPA approved Valley reclassification to extreme nonattainment in the Federal Register on May 5, 2010 (effective June 4, 2010). ^f Effective June 15, 2005, the U.S. Environmental Protection Agency (EPA) revoked the federal 1-hour ozone standard, including associated designations and classifications. EPA had previously classified the SJVAB as extreme nonattainment for this standard. EPA approved the 2004 Extreme Ozone Attainment Demonstration Plan on March 8, 2010 (effective April 7, 2010). Many applicable requirements for extreme 1-hour ozone nonattainment areas continue to apply to the SJVAB. Source: San Joaquin Valley Air Pollution Control District, Ambient Air Quality Standards & Valley Attainment Status, available at https://www.valleyair.org/aqinfo/attainment.htm (accessed March 10, 2021).		

Table AQ - I

Table AQ-2 below identifies health effects of some common pollutants:

Air Pollutant	<u>Concentration/Averaging Time</u>		Most Relevant Health Effects
	State Standard (California Ambient Air Quality Standards)	Federal Primary Standard (National Ambient Air Quality Standards)	
Ozone	0.09 ppm (180 µg/m³), 1-hr. avg. 0.070 ppm (137 µg/m³), 8-hr avg.	0.075 ppm (147 µg/m³), 8-hr avg. (three-year average of annual 4 th - highest daily maximum)	(a) Pulmonary function decrements and localized lung edema in humans and animals; (b) Risk to public health implied by alterations in pulmonary morphology and host defense in animals; (c) Increased mortality risk; (d) Risk to public health implied by altered connective tissue metabolism and altered pulmonary morphology in animals after long- term exposures and pulmonary function decrements in chronically exposed humans; (e) Vegetation damage; and (f) Property damage
Nitrogen Dioxide ¹	0.18 ppm (339 µg/m³), 1-hr avg. 0.030 ppm (57 µg/m³), annual arithmetic mean	0.100 ppm (188 µg/m³), 1-hr avg. (three-year avg. of the 98 th percentile of the daily maximum 1- hour avg.) 0.053 ppm (100 µg/m³), annual arithmetic mean	(a) Potential to aggravate chronic respiratory disease and respiratory symptoms in sensitive groups; (b) Risk to public health implied by pulmonary and extrapulmonary biochemical and cellular changes and pulmonary structural changes; and (c) Contribution to atmospheric discoloration
Carbon Monoxide	20 ppm (23 µg/m³), 1- hr avg. 9.0 ppm (20 µg/m³), 8- hr avg.	35 ppm (40 µg/m³), 1-hr avg. (not to be exceeded more than once per year) 9 ppm (10 µg/m³), 8-hr avg. (not to be exceeded more than once per year)	(a) Aggravation of angina pectoris and other aspects of coronary heart disease; (b) Decreased exercise tolerance in persons with peripheral vascular disease and lung disease; (c) Impairment of central nervous system functions; and (d) Possible increased risk to fetuses
Sulfur Dioxide ²	0.25 ppm (655 µg/m³), 1-hr. avg. 0.04 ppm (105 µg/m³), 24-hr avg.	0.075 ppm (196 µg/m³), 1-hr avg. (three-year avg. of the 99 th percentile) No 24-hr avg.	Broncho-constriction accompanied by symptoms, which may include wheezing, shortness of breath and chest tightness, during exercise or physical activity in persons with asthma
Suspended Particulate Matter (PM10)	50 µg/m³, 24-hr avg. 20 µg/m³, annual arithmetic mean	150 µg/m³, 24-hr avg. (not to be exceeded more than once per year on average over three years)	(a) Excess deaths from short-term exposures and exacerbation of symptoms in sensitive patients with respiratory disease; and (b) Excess seasonal declines in pulmonary function, especially in children.
Suspended Particulate Matter (PM2.5)	12 µg/m³, annual arithmetic mean	35 µg/m³, 24-hr avg. (three-year average of 98 th percentile) 15 µg/m³, annual arithmetic mean (three- year average)	(a) Increased hospital admissions and emergency room visits for heart and lung disease; (b) Increased respiratory symptoms and disease; and (c) Decreased lung functions and premature death.

Air Pollutant	Concentration/Averaging Time		Most Relevant Health Effects
	State Standard (California Ambient Air Quality Standards)	Federal Primary Standard (National Ambient Air Quality Standards)	
Lead ³	1.5 µg/m ³ , 30-day avg.	1.5 µg/m ³ , calendar quarter 0.15 µg/m ³ , three-month rolling average	(a) Increased body burden; and (b) Impairment of blood formation and nerve conduction
Visibility- Reducing Particles	Extinction coefficient of 0.23 per kilometer - visibility of 10 miles or more due to particles when relative humidity is less than 70 percent.	None	The statewide standard is intended to limit the frequency and severity of visibility impairment due to regional haze. This is a visibility based standard not a health based standard. Nephelometry and AISI Tape Sampler; instrumental measurement on days when relative humidity is less than 70 percent.
Sulfates	25 µg/m ³ , 24-hr avg.	None	(a) Decrease in ventilatory function; (b) Aggravation of asthmatic symptoms; (c) Aggravation of cardio-pulmonary disease; (d) Vegetation damage; (e) Degradation of visibility; and (f) Property damage
Hydrogen Sulfide	0.03 ppm (42 µg/m ³), 1-hr avg.	None	Odor annoyance
Vinyl Chloride ³	0.01 ppm (26 µg/m ³), 24-hr avg.	None	Highly toxic and a known carcinogen that causes a rare cancer of the liver.

Source: South Coast Air Quality Management District, Final Program Environmental Impact Report for the 2012 Air Quality Management Plan, (2012) Table 3.2-8, p. 3.2-29

µg/m³ = microgram per cubic meter.

ppm = parts per million by volume.

¹ On January 25, 2010, the USEPA promulgated a new 1-hour NO₂ standard. The new 1-hour standard is 0.100 parts per million (188 micrograms per cubic meter [µg/m³]) and became effective on April 12, 2010.

² On June 3, 2010, the USEPA issued a new 1-hour SO₂ standard. The new 1-hour standard is 0.075 parts per million (196 µg/m³). The USEPA also revoked the existing 24-hour and annual standards citing a lack of evidence of specific health impacts from long-term exposures. The new 1-hour standard became effective 60 days after publication in the Federal Register.

³ CARB has identified lead and vinyl chloride as "toxic air contaminants" with no threshold level of exposure for adverse health effects determined. These actions allow for the implementation of control measures at levels below the ambient concentrations specified for these pollutants.

Table AQ - 2

The SJVAPCD 2016 Ozone Plan's principal goal is to attain the EPA 2008 8-hour ozone standard of 75 parts per billion (ppb) by the end of 2031 (and the 2015 70 ppb standard by 2037) by reducing all ozone-generating pollutants from both stationary and mobile emission sources. Quantitatively, this means reducing present ozone-precursor emissions, primarily NO_x, by 207.7 tons per day. The Plan contains rules for stationary sources and cites California Air Resources Board (ARB) regulations for mobile sources (on- and off-road vehicles, trucks, buses, boats, etc.) as part of an overall emissions-reduction strategy. The 2016 Ozone Plan shows that these strategies continue to be considerably effective, showing a drop in 8-hour ozone levels from approximately 115 ppb in 2004-2005 to approximately 92 ppb in 2015. See generally San Joaquin Valley Air Pollution Control District, 2016 Plan for the 2008 8-Hour Ozone Standard (June 16, 2016), available at http://valleyair.org/Air_Quality_Plans/Ozone-Plan-2016.htm, (accessed March 10, 2021).

The SJVAPCD 2018 *Particulate Matter Plan* for the 1997, 2006, and 2012 PM_{2.5} Standards is the latest effort to combine successive plans to reduce overall PM, but particularly PM_{2.5}, in order to achieve EPA attainment status (the San Joaquin Valley has attained the federal PM₁₀ standard). The Plan includes regulatory measures – “Rules” – for stationary sources (industrial flares, internal combustion engines, boilers/steam generators, glass melting furnaces, agricultural operations, etc.) and construction equipment or practices (such as requiring catalyzed engines, watering of soil surfaces one or more times per day), measures for mobile sources (trucks, buses, agricultural equipment, passenger vehicles, trains, etc.), measures addressing concentrated PM sources that create “hot spots,” such as residential wood burning and commercial charbroilers. Additionally, the Plan includes public outreach measures as well as research on and demonstration of new clean air technologies for reducing emissions. PM-reduction efforts have been quite successful – the number of days that Valley air exceeded the federal 2006 24-hour PM_{2.5} Standard (35 micrograms/cubic meter) have dropped from approximately 130 days in 2002 to 50 days in 2017 (San Joaquin Valley Air Pollution Control District, 2018 *PM 2.5 Plan for the San Joaquin Valley, Executive Summary*, Figure 6 (November 15, 2018), available at <http://valleyair.org/pmplans/documents/2018/pm-plan-adopted/ExecutiveSummary.pdf> (accessed March 10, 2021). With compliance, the Plan will reduce approximately 4.2 tons per day of directly-emitted PM_{2.5} emissions and 173.5 tons per day of NO_x from the baseline year of 2013 to the final attainment year of 2025. See generally San Joaquin Valley Air Pollution Control District, 2018 *PM 2.5 Plan for the San Joaquin Valley* (November 15, 2018), available at <http://valleyair.org/pmplans/documents/2018/pm-plan-adopted/04.pdf> (accessed March 10, 2021).

The SJVAPCD implements the California Air Resources Board (ARB) 2004 Revision to the California State Implementation Plan (SIP) for Carbon Monoxide (CO), which in turn implements the federal Clean Air Act’s ongoing requirements. Although the SJVAPCD is in attainment for CO, ongoing efforts are necessary to maintain attainment. These efforts, including rules for stationary sources and vehicle-emissions reductions, have accomplished nearly a 60% reduction in CO levels since 1993. See California Air Resources Board, 2004 *Revision to the California State Implementation Plan for Carbon Monoxide* (July 22, 2004), available at https://www.arb.ca.gov/planning/sip/co/final_2004_co_plan_update.pdf (accessed March 10, 2021).

The SJVAPCD sets thresholds of significance for “criteria” pollutants: CO, NO_x, ROG (reactive organic gases), SO_x (sulfur oxides), PM₁₀ and PM_{2.5} as shown in the Table AQ-3 below:

AIR QUALITY THRESHOLDS OF SIGNIFICANCE – CRITERIA POLLUTANTS			
Pollutant/Precursor	Construction Emissions	Operational Emissions	
		Permitted Equipment and Activities	Non-Permitted Equipment and Activities
	tons/year	tons/year	tons/year
CO	100	100	100
NO _x	10	10	10
ROG	10	10	10
SO _x	27	27	27
PM ₁₀	15	15	15
PM _{2.5}	15	15	15

Table AQ - 3

Sensitive Receptors. Sensitive receptors are places typically occupied for extended periods by individuals with greater susceptibility to air pollution’s hazardous effects, such as residences, hospitals, schools, day care centers, retirement homes, and convalescent facilities where there is reasonable expectation of continuous human exposure to poor air quality standards (CARCB 2007).

IMPACT DISCUSSION:

- a, b) **Less Than Significant.** The proposed project would not conflict with, or obstruct implementation of the applicable air quality plan, violate any air quality standard, or contribute substantially to an existing or projected air quality violation, because, as explained below, project construction and operation would not be anticipated to generate pollutants in excess of applicable thresholds. Construction of the project would result in short-term emissions and/or odors associated with construction equipment and dust from earthmoving activities; however, SJVAPCD fugitive dust control requirements for construction sites would apply to all earthmoving and ground-disturbing activities (Regulation VIII, Fugitive PM10 Prohibitions), which would reduce PM impacts to less than significant levels. Other emissions from construction equipment are not anticipated to be significant, primarily because they would be limited to the duration of project construction and would cease when the bridge is completed. Moreover, this project was evaluated by the California Department of Transportation (Caltrans) in conjunction with the federal funding obtained for project construction. Caltrans did not require additional air quality studies to determine whether additional mitigation measures were necessary. Accordingly, with compliance with existing regulations, impacts associated with violations of air quality standards or inconsistency with air quality plans are anticipated to be less than significant.
- c) **Less Than Significant.** A project is generally deemed inconsistent with air quality plans if it would result in population and/or employment growth that exceeds growth estimates set forth in the applicable air quality plan. Accordingly, proposed projects need to be evaluated to determine whether they would generate population and employment growth, and if so, whether that growth would exceed the growth rates specified in the relevant air plans. The proposed project would replace an existing bridge, and would not introduce new housing or employment-related construction, and thus would not induce population or employment growth. Therefore, the proposed project would not affect local or regional air quality plans.
- d, e) **Less Than Significant.** The nearest sensitive receptors (two residences) in the vicinity of the project area are located 1,000' and 1300' from the project site, and are not anticipated to be affected by emissions generated by project construction. The project would result in temporary pollutant emissions and/or odors associated with construction equipment and dust from earthmoving activities; however, construction activities would be required to comply with the SJVAPCD fugitive dust control requirements referenced above, which would reduce impacts to less than significant levels.

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 Wildlife or U.S. Fish and Wildlife Service?	☐	☒	☐	☐
b) Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service?	☐	☒	☐	☐
c) Have a substantial adverse effect on state or federally protected wetlands (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?	☐	☐	☒	☐
d) Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede 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?	☐	☐	☒	☐

Note: The analysis below incorporates and relies on the findings presented in the Natural Environment Study (NES) prepared in June 2018 (Tisch 1), and the Biological Assessment (BA) prepared in June 2019 (Tisch 2) for the California Department of Transportation (Caltrans) by the San Joaquin County Public Works Department (County). These documents are hereby incorporated by reference and are available for inspection at the San Joaquin County Public Works Department, Transportation Planning Division.

BACKGROUND AND REGULATORY SETTING

U.S. Endangered Species Act of 1973 (16 U.S.C. §§ 1531-1544), California Endangered Species Act (Fish & G. Code §§ 2050-2089.25). The federal Endangered Species Act (ESA) was passed by Congress to identify and protect special-status species and their habitats nationwide in order to protect them from extinction; it is administered by the U.S. Fish and Wildlife Service (USFWS). The California Endangered Species Act of 1970 (CESA) likewise identifies and protects such species within California, and is administered by the California Department of Fish and Wildlife (CDFW). Special-status species include:

- USFWS-designated listing of threatened or endangered species, as well as candidate species;
- CDFW-designated listing of rare, threatened, or endangered species, as well as candidate species;

- Species considered to be rare or endangered under the conditions of Section 15380 of the CEQA Guidelines, such as those identified in the Inventory of Rare and Endangered Vascular Plants of California by the California Native Plant Society; and
- Other species that are considered sensitive or of special concern due to limited distribution or lack of adequate information to permit listing, or rejection for state or federal status, such as Species of Special Concern designated by the CDFW.

The USFWS and CDFW both publish lists of special-status species, which satisfy criteria classifying them as endangered. Species that have been proposed for listing, but have not yet been accepted are classified as candidate species. Generally, the term endangered (federal, state) refers to a species that is in danger of becoming extinct throughout all or a significant portion of its range, while a threatened (federal, state) or rare (state) species is one that could become endangered in the foreseeable future.

U.S. Migratory Bird Treaty Act of 1918 (16 U.S.C. 703–712, MBTA). The Migratory Bird Treaty Act implements four international conservation treaties that the U.S. entered into with Canada in 1916, Mexico in 1936, Japan in 1972, and Russia in 1976. It is intended to ensure the sustainability of populations of all protected migratory bird species. The law has been amended with the signing of each treaty, as well as when any of the treaties were amended, such as with Mexico in 1976 and Canada in 1995. The Migratory Bird Treaty Act prohibits the take (including killing, capturing, selling, trading, and transport) of protected migratory bird species without prior authorization by the Department of Interior U.S. Fish and Wildlife Service. Most non-game wild birds are protected under the MBTA; a list of species protected under the Act is here: <https://www.federalregister.gov/documents/2020/04/16/2020-06779/general-provisions-revised-list-of-migratory-birds> (accessed March 10, 2021).

California Fish and Game Code (See, e.g., Fish & G. Code §§ 2080, 2081, 3503, 3511, 3513, 4700, 5050, 5515). The CDFW provides protection from take for state-listed and non-listed species. The CFGC defines “take” as “hunt, pursue, catch, capture, or kill, or attempt to hunt, pursue, catch, capture, or kill.” CFGC § 2080 prohibits take of a species listed as endangered or threatened under the CESA and CFGC § 2081 allows CDFW to issue an incidental take permit in accordance with Title 14 California Code of Regulations (CCR) § 783.4(a -b) and § 2081(b). Eggs and nests of all birds are protected from take under CFGC § 3503. Raptors and raptor nests or eggs are protected from take under CFGC § 3503.5. Migratory birds are expressly prohibited from take under CFGC § 3513, and species designated by CDFW as fully-protected species are protected from take under CFGC § 3511, 4700, 5050, and 5515.

California Native Plant Protection Act (Fish & G. Code § 1900 et seq). The Native Plant Protection Act (NPPA) of 1977 allows the Fish and Game Commission to designate plants as rare or endangered. There are 64 species, subspecies, and varieties of plants that are protected as rare under the NPPA. The NPPA prohibits take of endangered or rare native plants, but includes some exceptions for agricultural and nursery operations; emergencies; and after properly notifying CDFW for vegetation removal from canals, roads, and other sites, changes in land use, and in certain other situations.

Wetlands and Riparian Habitat Statutes and Regulations.

U.S. Rivers and Harbors Act of 1889 (33 U.S.C. § 403); Clean Water Act of 1972 (33 U.S.C. § 1251 et seq.). The U.S. Army Corps of Engineers (Corps) has primary federal responsibility for administering regulations that concern waters of the U.S., including wetlands and drainages. The Corps acts under two statutory authorities: the Rivers and Harbors Act (Sections 9 and 10), which governs specified activities in “navigable waters of the U.S.,” and the Clean Water Act (CWA) Section 404, which governs specified activities in waters of the U.S. The Corps requires that a permit be obtained if a Project proposes placing structures within, over, or under navigable waters and/or discharging dredged or fill material into waters of the United States (WOUS), including adjacent

wetlands. The Environmental Protection Agency (EPA), USFWS, and several other agencies provide comment on Corps permit applications.

Executive Order 11990 – Protection of Wetlands. Executive Order (E.O.) 11990 established a national policy to avoid adverse impacts on wetlands whenever there is a practicable alternative. The U.S. Department of Transportation (DOT) promulgated DOT Order 5660.1A in 1978 to comply with this direction. On federally-funded Projects, impacts to wetlands must be identified and alternatives that avoid wetlands must be considered. If wetland impacts cannot be avoided, then all practicable measures to minimize impacts must be included. This must be documented in a specific Wetlands Only Practicable Alternative Finding. An additional requirement is to provide early public involvement in Projects affecting wetlands. The Federal Highway Administration (FHWA) provides technical assistance (Technical Advisory 6640.8A) and reviews environmental documents for compliance.

California Porter-Cologne Water Quality Control Act of 1970 (Wat. Code § 13000 et seq). The State’s authority in regulating activities in WOUS and/or waters of the State of California, including wetlands, resides primarily with the State Water Resources Control Board (SWRCB). SWRCB, acting through Regional Water Quality Control Board (RWQCB), must certify that a Corps permit action meets state water quality objectives under §401 of the CWA. RWQCB jurisdiction over waters of the state is extended through the Porter-Cologne Act, which defines waters of the state as any surface water or groundwater, including saline waters, within the boundaries of the state (Wat. Code §13050[e]). In the absence of CWA § 404 jurisdiction over isolated waters or other waters of the state, California retains authority to regulate discharges of wastes into any waters of the state. The Porter-Cologne Act provides a comprehensive framework to protect water quality in California. It requires any entity that plans to discharge waste where it might adversely affect waters of the state to first notify the RWQCB, which may impose requirements to protect water quality.

California Fish and Game Code §§ 1600–1607 (Lake and Streambed Alteration Program). The CDFW has jurisdiction over streams that support fish and wildlife resources. Section 1602 of California Fish and Game Code requires any person, state or local governmental agency, or public utility to notify CDFW before beginning any activity that will do one or more of the following:

- a. Substantially divert or obstruct the natural flow of any river, stream, or lake;
- b. Substantially change or use any material from the bed, channel, or bank of, any river, stream, or lake; or
- c. Deposit or dispose of debris, waste, or other material containing crumbled, flaked, or ground pavement where it may pass into any river, stream, or lake, including seasonal drainages and intermittent streams.

When CDFW is notified, it will determine whether an activity might substantially adversely affect an existing fish and wildlife resource, and may require that a Lake or Streambed Alteration Agreement be obtained prior to proceeding with any work in areas subject to CDFW jurisdiction. The Lake or Streambed Alteration Agreement contains measures that are required to be implemented to protect fish and wildlife resources.

CDFW jurisdiction extends beyond the ordinary high water mark of streams – it encompasses all portions of the bed, bank, and channel of a stream, and often includes adjacent riparian vegetation and floodplains. As such, CDFW’s jurisdictional area is generally larger than the U.S. Army Corps of Engineers jurisdictional area.

San Joaquin County General Plan (December 2016). The General Plan sets forth various goals and policies for natural resources, including biological resources. Goal NCR-1.1 states that “[t]he County shall protect, preserve and enhance important natural resource habitat, biological diversity, and the ecological integrity of natural systems in the County.” Goal NCR-2.1 calls for protecting significant biological and ecological resources, Goal NCR-2.5 requires that no net loss of wetlands results from development, Goal NCR-2.6 lists requirements for

development projects that could fill wetlands, and NCR-2.7 requires vegetated natural open space buffers along natural waterways to protect waterfowl and water quality. The General Plan Land Use Diagram (Figure LU-1) indicates that virtually all riparian corridors are designated “Open Space/Resource Conservation” (OS/RC).

San Joaquin County Riparian Habitat Ordinance. The San Joaquin County Development Title contains provisions to preserve county natural resources, including riparian habitat (San Joaquin County Code of Ordinances, Title 9, Division 15, available at https://library.municode.com/ca/san_joaquin_county/codes/development_title?nodeId=TIT9DETI_DIV15NARERE (accessed May 27, 2021)). These provisions apply to all development projects requiring discretionary approval (§ 9-1510.2). Sections 9-1510.1 through 9-1510.5 contain measures to avoid, protect, and mitigate impacts to riparian habitat. Included in these sections is a description for a Riparian Habitat Mitigation Plan. The creation of such a plan would be part of the conditions for approval which would be required when an action is proposed that had the potential to destroy, eliminate, or degrade riparian habitat in the county. Components of the plan would include description of on-site riparian habitat (as well as protection measures), mitigation sites, contribution to an existing off-site habitat site, replacement vegetation, maintenance, and conservation easements. This plan would address the potential impacts to or loss of existing riparian habitat in addition to a planning approach for habitat restoration or replacement, as necessary. The establishment of natural bank buffers is also part of this provision (§ 9-1510.5). This would require that a natural open space for riparian habitat and waterway protection be established parallel to any natural bank of a waterway approximately 100 feet from the mean high-water level. This requirement would provide protection for potential wildlife habitat and water quality.

Biological Resources Assessments

A Biological Assessment and a Natural Environment Study (NES) were performed for the project to assess habitat quality and the presence/absence of special-status species, particularly the Giant Garter Snake (GGS), *Thamnophis gigas*, the western spadefoot (*Spea hammondi*), western pond turtle (*Emys marmorata*), Swainson’s hawk (*Buteo swainsonii*), tricolored blackbird (*Aegialius tricolor*), and burrowing owl (*Athene cunicularia*). The NES evaluated the immediate project area and an area defined by a 100-foot radius around the project construction limits. Duck Creek was also assessed for its potential to support aquatic and semi-aquatic species including California Central Valley (CV) steelhead (*Oncorhynchus mykiss*), California tiger salamander (CTS; *Ambystoma californiense*), giant garter snake (GGS, *Thamnophis gigas*), and western pond turtle (*Emys marmorata*).

Background research for both studies included a records search of the US Fish and Wildlife Service, the National Marine Fisheries Service (NOAA Fisheries), the California Resources Agency Natural Diversity Database, and the California Native Plant Society (CNPS). The NES contains a comprehensive table of species with potential to occur within a five-mile radius of the biological study area (BSA) (Tisch 1, Tables 3-2, 3-3). Figure 20 below shows the biological study area.

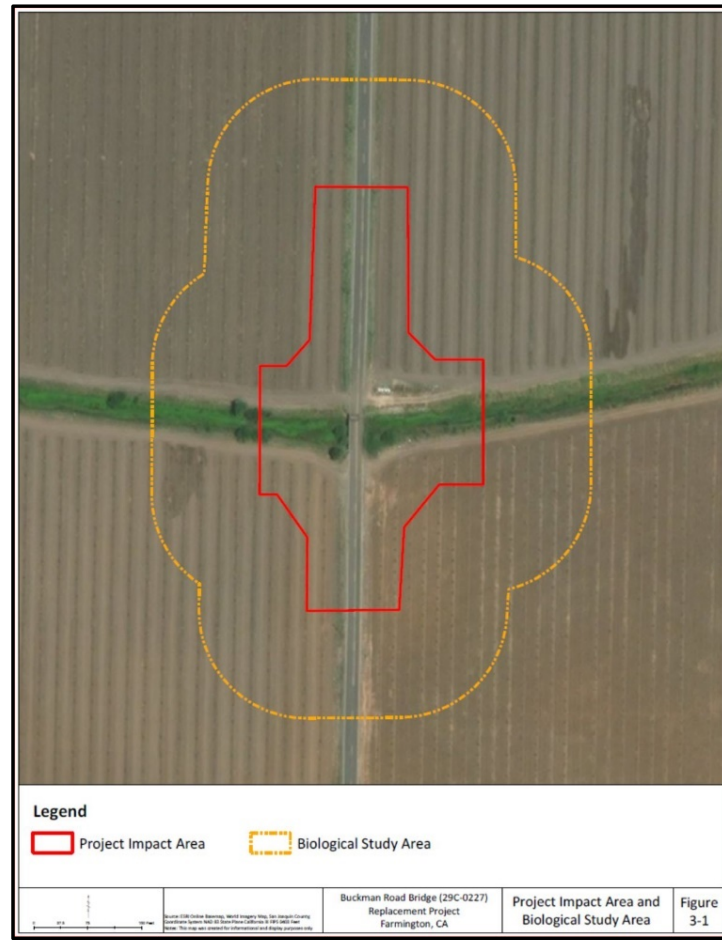


Figure 20 – Biological Study Area

Source: Tisch 2, Figure 3-1

Habitat Types

Terrestrial habitat types include agriculture, ruderal (disturbed), and urban (developed). Agricultural uses surround the BSA; agricultural fields, such as hay fields and row crops, have high foraging habitat value for wildlife species. Ruderal (disturbed) habitat is present along the banks of Duck Creek, along the southern shoulder of Buckman Road, and on the parcel of land in the southeast corner of the BSA. This vegetation type is subjected to ongoing or past disturbances (e.g., vehicle use, mowing, herbicide application, etc.); because of this repeated disturbance, non-native and introduced weedy species become established and displace native species. Urban habitats within the BSA include Buckman Road and the unpaved agricultural access roads. Generally, urban areas are landscaped with ornamental species, paved, or otherwise developed and generally lack natural vegetation; there is no formal “landscaping” within the BSA (Tisch 1, pp. 17-21, Fig. 3-2, Table 3-1).

The dominant aquatic habitat type in the BSA – Duck Creek - is riverine intermittent. Riverine habitats are distinguished by intermittent or continually running water, and occur in association with a variety of terrestrial habitats. Riverine habitat, even when intermittent or seasonal, provides water and a migration corridor for a variety of amphibians, reptiles, and fish species. Duck Creek has a well-defined bed and bank. The slopes of the banks are relatively gentle and low and are primarily vegetated with poison hemlock and other weedy species. Concrete rip-rap extends from the base of both riverbanks up to mid-height (id., p. 21).



Figure 21 – Habitat Types Within BSA

Source: Tisch 2, Figure 3-3:

Species Observed during NES and BA

Bird species observed during the NES and BA assessments included Red-tailed hawk (*Buteo jamaicensis*), Swainson's hawk (*Buteo swainsonii*), house sparrow (*Passer domesticus*), American robin (*Turdus migratorius*), white-crowned sparrow (*Zonotrichia leucophrys*), red-winged blackbird (*Agelaius phoeniceus*), western scrub-jay (*Aphelocoma californica*), brown-headed cowbird (*Molothrus ater*), cliff swallow (*Petrochelidon pyrrhonota*), black phoebe (*Sayornis nigricans*), and northern mockingbird (*Mimus polyglottos*) (id., Appendix E). All bird species observed are protected under the Migratory Bird Treaty Act described above, and the Swainson's Hawk is listed in California as "threatened" (id., Table 3-3, p. 31).

Native plant species included several stunted valley oaks (*Quercus lobata*) along the tops of the banks, and narrowleaf willow (*Salix exigua*) near the bridge, along the banks and within the channel. Bulrush (*Scirpus* spp.) grows within the channel. Non-native invasive weedy species include Poison-hemlock (*Conium maculatum*), Yellow star-thistle (*Centaurea solstitialis*), Milk thistle (*Silybum marianum*), Ripgut brome (*Bromus diandrus*), Himalayan blackberry (*Rubus armeniacus*), slender wild oat (*Avena barbata*), common wild oat (*Avena fatua*), Bristly ox-tongue (*Helminthotheca echioides*), and Smooth cats-ear (*Hypochaeris glabra*); other non-native weedy species include Prickly-lettuce (*Lactuca serriola*), Wild radish/Jointed charlock (*Raphanus raphanistrum*), and Spring vetch (*Vicia sativa*). Native annual plants observed included Cleavers (*Galium aparine*) and Turkey-mullein (*Croton setigerus*) (id.). No special-status plant species were observed; suitable habitat for such species was generally absent because the BSA has been degraded by agricultural practices.

The NES indicates that there is suitable nesting and/or foraging habitat for the western pond turtle, the western spadefoot, the Swainson's hawk, and the burrowing owl (id., Table 3-3). These special-status species and their preferred habitats are described below:

Western Pond Turtle (*Emys marmorata*). Western pond turtles, including both the northwestern (ssp. *marmorata*) and southwestern (ssp. *pallida*) subspecies, are California species of concern. Western pond turtles occur throughout the state of California, from southern coastal California and the Central Valley, east to the Cascade Range and the Sierra Nevada. The two subspecies are believed to integrate over a broad range in the Central Valley. They occupy a variety of permanent and intermittent aquatic habitats, such as ponds, marshes, rivers, streams, and ephemeral pools. Pond turtles require suitable basking and haul-out sites, such as emergent rocks or floating logs, which they use to regulate their temperature throughout the day. In addition to appropriate aquatic habitat, these turtles require an upland egg-laying site in the vicinity of the aquatic habitat, often within 200 meters (656 feet). Nests are typically dug in grassy, open fields with soils that are high in clay or silt. Egg-laying usually takes place between March and August.

This species may spend the winter in an inactive state, on land or in the water, and in other cases may remain active and in the water throughout the year. While the turtles may be active all year along the coast, at interior locations such as the Central Valley, pond turtles are more likely to be active between April and October. Western pond turtles have been documented hibernating up to 350 meters (1,007 feet) from a watercourse, immediately adjacent to a watercourse, and underwater in mud. Upland hibernation sites may include any type of crack, hole, or object that a turtle seeking cover might squeeze into or burrow under.

Western Spadefoot (*Spea hammondi*). The western spadefoot, an amphibian, occurs throughout the Central Valley and adjacent foothills (including the Sierra foothills). It also occurs in the Southern Coast Range from Santa Barbara County to the Mexican border. This species primarily inhabits lowlands, including such features as vernal pools, washes, floodplains of rivers, alluvial fans, playas, and alkali flats. The toad is almost completely terrestrial, entering water only to breed. Preferring areas of short grasses, where soil is sandy or gravelly, it can be found in valley and foothill grasslands, open chaparral, and pine-oak woodlands. Though some surface activity may occur in any month between October and April, it typically becomes surface-active following relatively warm rains in late winter-spring and fall. The western spadefoot breeds in temporary pools, such as vernal pools, or pools in ephemeral waterways. For young to successfully metamorphose, breeding pools must lack exotic predators, such as fish, bullfrogs, and crayfishes. Breeding occurs between January and May (id., p. 41).

There are six recorded occurrences of western spadefoot within 5 miles of the BSA. The closest record, from 1978, is approximately 1.03 miles north of the BSA. Tadpoles were observed in several slow-moving creeks that crossed Southworth Road and Ospital Road. The most recent record is from 1992 and is approximately 1.2 miles south-southwest of the BSA. Tadpoles were found in three natural ponds in grasslands along dredge tailings which are likely utilized as terrestrial habitat by the adults during most of the year (id., p. 42).

There are no recorded occurrences of western spadefoot within 5 miles of the BSA but Duck Creek does provide suitable habitat for this species. Review of aerial photography shows that water is typically present until June of most years and the gentle slope of the banks provides suitable basking structure. The presence of aquatic vegetation and small amphibians (i.e., tree frogs) provide suitable forage for this species. However, no western spadefoots were observed during the surveys conducted in March 2018 (id.).

Tricolored Blackbird (*Agelaius tricolor*). The Tricolored blackbird is designated as a State Candidate for listing as Endangered, as well as a species of special concern by CDFW and is considered nearly endemic to California. This species historically nested throughout the Central Valley and along the coast from Sonoma County to Mexico. During the winter, tricolored blackbirds generally withdraw from the southern San Joaquin Valley and north Sacramento Valley and concentrate around the Sacramento-San Joaquin River Delta and coastal areas, including Monterey and Marin counties. California's population of tricolored blackbirds has been reduced by an estimated 64 percent from its historic numbers due to the loss of freshwater wetland habitat and human disturbance. The Tricolored blackbird is a highly colonial species reported to breed in groups that consist of up to 100,000 and 200,000 nests. This species historically nested almost exclusively in freshwater marshes dominated by cattails or

bulrushes with smaller numbers nesting in willow (*Salix* spp.), blackberry (*Rubus* spp.), thistle (*Cirsium* and *Centaurea* spp.), and nettles (*Urtica* spp.). In recent decades, many colonies have been observed in areas of dense Himalayan blackberry (*Rubus armeniacus*). In the San Joaquin Valley, large flocks have been observed nesting in silage and grain fields. Other observed nesting substrates include giant reed (*Arundo donax*), safflower (*Carthamus tinctorius*), black mustard (*Brassica nigra*), tamarisk (*Tamarix* spp.), Fremont's cottonwood (*Populus fremontii*), Oregon ash (*Fraxinus latifolia*), barley (*Hordeum* spp.), mule fat (*Baccharis salicifolia*), wheat (*Triticum* spp.), a desert olive (*Forestiera neomexicana*) grove, and a lemon (*Citrus limon*) orchard (id., p. 45).

High-quality foraging habitat for tricolored blackbirds includes irrigated pastures, lightly grazed rangelands, dry seasonal pools, mowed alfalfa fields, feedlots, and dairies. Low-quality foraging habitat includes cultivated row crops, orchards, vineyards, and heavily grazed rangelands (id.).

There is one recorded occurrence of tricolored blackbird within five miles of the BSA. The occurrence was recorded in 1994, approximately 4.5 miles east of the BSA on the north side of SR 4 where it crosses Rock Creek. Habitat consisted of willow-riparian vegetation along Rock Creek where about 2,000 – 4,000 birds were observed (id., p. 46).

No tricolored blackbirds or their nests were observed in the BSA during the March 2018 survey. The narrowleaf willow may provide marginal nesting habitat for tricolored blackbirds; the adjacent agricultural fields provide medium to low quality foraging habitat for this species (id.).

Burrowing Owl (*Athene cunicularia*). Burrowing owls, a California species of concern, are often found in open, dry grasslands, agricultural lands, range lands, and desert habitats. They can also inhabit grass, forb, and shrub stages of pinyon and ponderosa pine habitats. Burrowing owls occur at elevations ranging from 200 feet below sea level to over 9,000 feet above sea level. In California, the highest elevation where burrowing owls are known to occur is 5,300 feet above sea level in Lassen County. In addition to natural habitats, burrowing owls can be found in urban habitats such as at the margins of airports and golf courses and in vacant urban lots (id., p. 47).

Burrowing owls nest in ground burrows, often occupying old ground squirrel burrows or badger dens. They are also known to use artificial burrows such as abandoned pipes or culverts. The nesting season for burrowing owls can begin as early as February 1 and continues through August 31. The owl commonly perches on fence posts or on top of mounds outside its burrow. Burrowing owls forage in adjacent grasslands and other suitable habitats primarily for insects and small mammals, and less often for reptiles, amphibians, and other small birds (id., p. 48).

There are two recorded occurrences of western burrowing owl within five miles of the BSA. The closest occurrence is approximately one mile northeast of the BSA along Duck Creek where several small colonies of owls were observed along the banks of the creek in 1987. Soils within the BSA are sandy and friable and, although there are no mounds, the banks of the creek could provide potential nesting sites. The agriculture habitat also provides suitable foraging habitat for this species. This species was not observed during the surveys conducted in March 2018 (id.).

Swainson's Hawk (*Buteo swainsoni*). Swainson's hawk is a state-listed threatened species under the CESA. The Swainson's hawk is a medium-sized hawk with relatively long, pointed wings and a long, square tail. Swainson's hawks were once found throughout lowland California and were absent only from the Sierra Nevada, north Coast Ranges, Klamath Mountains, and portions of the desert regions of the state. Presently, Swainson's hawks are restricted to portions of the Central Valley and Great Basin regions where suitable nesting and foraging habitat is still available. Swainson's hawks nest in riparian forests, remnant oak woodlands, isolated trees, and roadside trees. They forage primarily in open agricultural habitats, particularly those that optimize availability of prey (e.g., alfalfa and other hay crops, some row and grain crops), but they also use irrigated pastures and annual grasslands. In summer months, Swainson's hawks primarily eat insects, birds, and small mammals, occasionally taking reptiles, amphibians, and other invertebrates. Swainson's hawks breed in the Central Valley,

occurring in California only during the spring and summer breeding season (generally, March through August), and migrate to Mexico and portions of Central and South America during winter (id., p. 49).

There is one recorded occurrence of Swainson's hawk within five miles of the BSA. The occurrence was recorded in July 1994 and is located approximately three miles southeast of the BSA along Littlejohn's Creek at the Henry Road crossing. A nest with a pair of adults and one juvenile were observed in a large oak within a remnant patch of riparian vegetation. The BSA is located within a predominately agricultural setting which supports grassland habitat and agricultural fields that provide suitable foraging areas for Swainson's hawk (id., p. 50).

There is no suitable nesting habitat within the BSA; however, there are suitable nesting trees within 0.25 mile of the BSA. During the 2018 survey, a pair of Swainson's hawks were observed exhibiting courtship flying behavior over the BSA and two large stick nests were observed within the large valley oak trees approximately 0.56 and 0.58 mile northeast of the BSA (id.).

Other Migratory Birds and Raptors. CFGC 3503.5 protects all birds in the orders Accipitriformes, Falconiformes and Strigiformes (collectively known as raptors or birds of prey) and include hawks, eagles, falcons, and owls. All other migratory bird species, except non-native and invasive bird species, are protected under the Migratory Bird Treaty Act described above. Swallows, such as the barn swallow (*Hirundo rustica*), cliff swallow (*Petrochelidon pyrrhonota*), and black phoebe (*Sayornis nigricans*) commonly nest on the undersides of bridges that cross over or are near aquatic habitats such as rivers, streams, and lakes. Such bridges provide suitable nesting habitat due to their proximity to nest building material (mud and grasses) as well as optimal foraging habitat. Aquatic habitats and associated corridors provide habitat for large numbers of aquatic and terrestrial insects, which are these species' primary prey items.

Common raptors, such as red-shouldered hawk (*Buteo lineatus*), and red-tailed hawk (*Buteo jamaicensis*), and other birds, such as tree swallows (*Tachycineta bicolor*) and sparrows, commonly nest in large trees that overhang or are near (within 0.25 mile) rivers, streams, and lakes, and that are near annual grasslands and agricultural fields. Aquatic and terrestrial habitats and associated corridors provide habitat for large numbers of aquatic and terrestrial insects, which are these species' primary prey items.

The more densely vegetated ruderal (weedy, disturbed) habitat along the banks of the creek, the narrowleaf willow, as well as the existing Buckman Road Bridge, provides potential nesting and foraging habitat for birds listed by the MBTA. No nests were observed within the ruderal habitat, the willows, or beneath the bridge; however, cliff swallows were observed flying beneath the bridge with nesting material and small flocks of sparrows and red-winged blackbirds were observed exhibiting nesting behavior within the patches of Himalayan blackberry along Duck Creek. A pair of red-tailed hawks were observed calling and soaring over the large stick nests located approximately 0.56 and 0.58 mile northeast of the BSA.

Jurisdictional Delineation

A preliminary jurisdictional delineation was performed to determine the extent of waters of the United States and waters of the State of California (id., p. 38, Fig. 4-2). There is approximately 0.23 acre of intermittent riverine habitat in the BSA. The OHWM determination was based primarily on the presence of scour and water staining on both banks and has an average width of approximately 16 feet.

The Project would permanently impact approximately 0.004 acre of intermittent stream waters and temporarily impact approximately 0.03 acre of Duck Creek. A final jurisdictional delineation would be prepared in conjunction with the project application for a §404 permit. See Figure 22 below.

Duck Creek had slow-moving water during the delineation field work in March 2018. The banks are gently sloping and vegetated primarily with non-native invasive species (i.e., poison hemlock and other ruderal species). Concrete blocks of rip-rap line the banks. The bed of Duck Creek is sandy silt with patches of

hydrophytic (plants adapted to growing in water) vegetation (bulrush) growing within the channel. Narrowleaf willow grows within the channel and along the banks near the bridge.

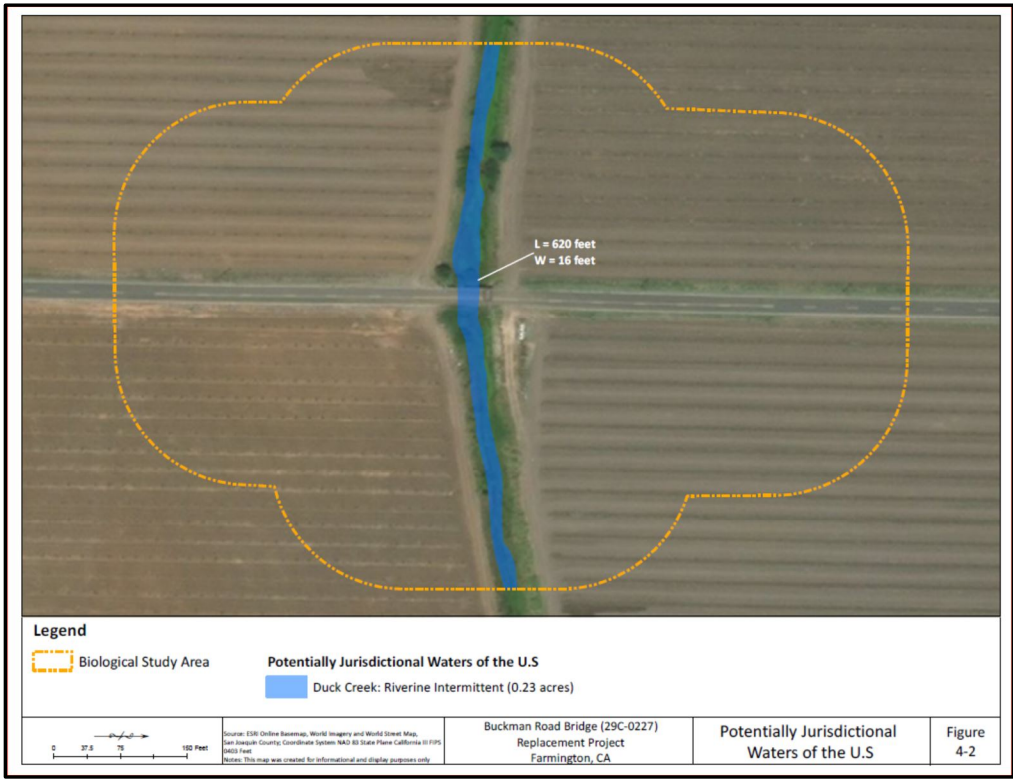


Figure 22 – Preliminary Jurisdictional Determination Map

Wildlife Movement Corridors

Wildlife movement corridors link areas of suitable wildlife habitat that may otherwise be separated by rugged terrain, changes in vegetation, and/or areas of human disturbance or urban development. Topography and other natural factors, in combination with urbanization, can fragment or separate large open-space areas. The fragmentation of natural habitat creates isolated “islands” of habitat that may not provide sufficient area to accommodate sustainable populations and can adversely impact genetic and species diversity. Movement corridors mitigate the effects of this fragmentation by allowing animals to move between remaining habitats, which in turn allows depleted populations to be replenished and promotes genetic exchange between separate populations. Duck Creek provides a movement corridor for areas between the Bay-Delta region and the Sierra Nevada foothills. The creek allows aquatic and terrestrial wildlife species to safely disperse back and forth between suitable habitats to the east and west of the BSA. Highways and roads can present an impassable barrier to many wildlife species and are hazardous for wildlife to cross. Relatively unimpeded waterways such as Duck Creek provide important movement corridors, which allow dispersal and subsequent gene flow between wildlife populations separated by roads and populated areas.

IMPACT DISCUSSION:

- a) **Less Than Significant With Mitigation Incorporated.** The proposed bridge-replacement project has the potential to affect five special-status wildlife species: western spadefoot, western pond turtle, burrowing owls, the Swainson's hawk, and other raptors or migratory birds. There is also a potential that construction could affect nesting migratory birds. Specific impacts and corresponding mitigation measures are described below.
- i. **Western Spadefoot.** Potential impacts include direct harm to spadefoots that could potentially come into contact with construction personnel and/or equipment, temporarily inhibiting movement of spadefoot through the project impact area (PIA), and increased chance of predation or physical harm if they were to become trapped in the construction area. While spadefoots are not expected to reside in the PIA, they could be present within the ruderal (disturbed) habitat and Duck Creek during normal dispersal activities. However, the avoidance and harm minimization measures described in Mitigation Measure Bio-1 below would reduce impacts to western spadefoots to less-than-significant levels by requiring pre-construction surveys, worker training, monitoring the project site after rain during the spadefoot migration and breeding season, creating buffers around burrows, and site inspections.
 - ii. **Western Pond Turtle.** Potential aquatic and upland habitat for western pond turtle is present within the BSA. If western pond turtles are present within the PIA during construction, equipment movement and construction of bridge structures could crush pond turtles or nests containing eggs or young. However, the avoidance and harm minimization measures described in Mitigation Measure Bio-1 below would reduce impacts to western pond turtles to less-than-significant levels by requiring pre-construction surveys to determine whether turtles are present, having a properly-qualified biologist with CDFW permit relocate turtles, worker training, and creating barriers to prevent re-located turtles from accessing the PIA.
 - iii. **Tricolored Blackbird.** If construction begins during the breeding season (February 1 through August 31) and tricolored blackbirds are nesting in or immediately adjacent to the BSA, the new disturbance associated with heavy equipment could adversely affect nesting birds. Indirect impacts to nesting birds during construction could extend up to 250 feet from the limits of construction. Potential impacts could include abandonment of nest sites and the mortality of young. However, the avoidance and harm minimization measures presented in Mitigation Measure Bio-3 would reduce impacts to nesting tricolored blackbirds to less-than-significant levels by conducting construction outside of the breeding season, performing pre-construction surveys, and establishing no-work buffers around active nests.
 - iv. **Western Burrowing Owl.** The proposed project could potentially impact individual burrowing owls if they occupied the PIA prior to construction. Indirect impacts to nesting birds during construction could extend up to 500 feet from the limits of construction. Potential impacts could include abandonment of nest sites and the mortality of young. The proposed project could also result in a temporary loss of foraging opportunities for burrowing owl in and adjacent to the PIA during construction. However, the avoidance and harm minimization measures presented in Mitigation Measure Bio-3 would reduce impacts to burrowing owls to less-than-significant levels by limiting construction to outside of the breeding season, conducting pre-construction surveys to determine whether owls and/or active nests are present, and if so, having a properly-trained and CDFW-permitted biologist relocate owls if they are discovered outside of the breeding

season or, if active nests are discovered during the breeding season, delineate minimum 250' buffers around active nests.

- v. **Swainson's Hawk.** Noise associated with construction activities involving heavy equipment operation that occurs during the breeding season (generally between February 1 and August 31) could disturb nesting Swainson's hawk if an active nest is located near these activities. Potential impacts could include abandonment of nest sites and the mortality of young. However, the avoidance and harm minimization measures presented in Mitigation Measure Bio-3 would reduce impacts to Swainson's Hawks to less-than-significant levels by conducting pre-construction surveys in the BSA and within a 0.5-mile radius of the BSA perimeter to determine whether active nests are present, and if so, establishing a no-work zone around the nest until the young have fledged and the nest is abandoned.
- vi. **Other migratory birds and raptors.** If demolition of the bridge begins during the breeding season (February 1 to August 31), the proposed project could result in mortality of young through forced fledging or nest abandonment by adult birds. Exclusion of nesting adult birds from the underside of the bridge could potentially result in disruption of nesting activities and the loss of nesting productivity. If it is necessary to remove vegetation prior to construction or construction activities begin during the breeding season (February 1 to August 31), the proposed project could result in mortality of young through forced fledging or nest abandonment by adult birds, as well as destruction of nests.

However, the avoidance and harm minimization measures presented in Mitigation Measure Bio-3 would reduce impacts to bridge-nesting birds as well as birds nesting in the creekside ruderal vegetation to less-than-significant levels by (1) during non-nesting season: removing old nests from the bridge; removing ruderal vegetation; installing exclusionary netting on the bridge before nesting season (netting to remain until bridge demolition); and (2) during nesting season, conducting pre-construction surveys in the PIA and establishing no-work buffers around active nests.

- b) **Less Than Significant With Mitigation Incorporated.** The project would cause temporary and minor *permanent* modification or alteration of the already-disturbed riparian habitat along Duck Creek: Site preparation and equipment staging would cause temporary impacts to approximately 0.03 acre (1,307 ft²) of riverine habitat in the PIA: bridge abutments would be placed at the top of the channel, and above the ordinary high water mark (OHWM). In-channel work within the creek would be limited to placing permanent rock slope protection (RSP) (crushed rock) at the bridge supports on the banks to prevent scour. Placing RSP would result in up to 0.004 acre (174 ft²) of permanent impacts to Duck Creek. Figure 23 below shows the estimated habitat disturbance. The mitigation measures below are anticipated to reduce any impacts to less-than-significant levels, because (1) best management practices will be employed to prevent discharges into the creek; (2) erosion control measures, such as fiber rolls would be used; (3) measures to protect species would be implemented according to Mitigation Measures Bio-1 through 3 below.

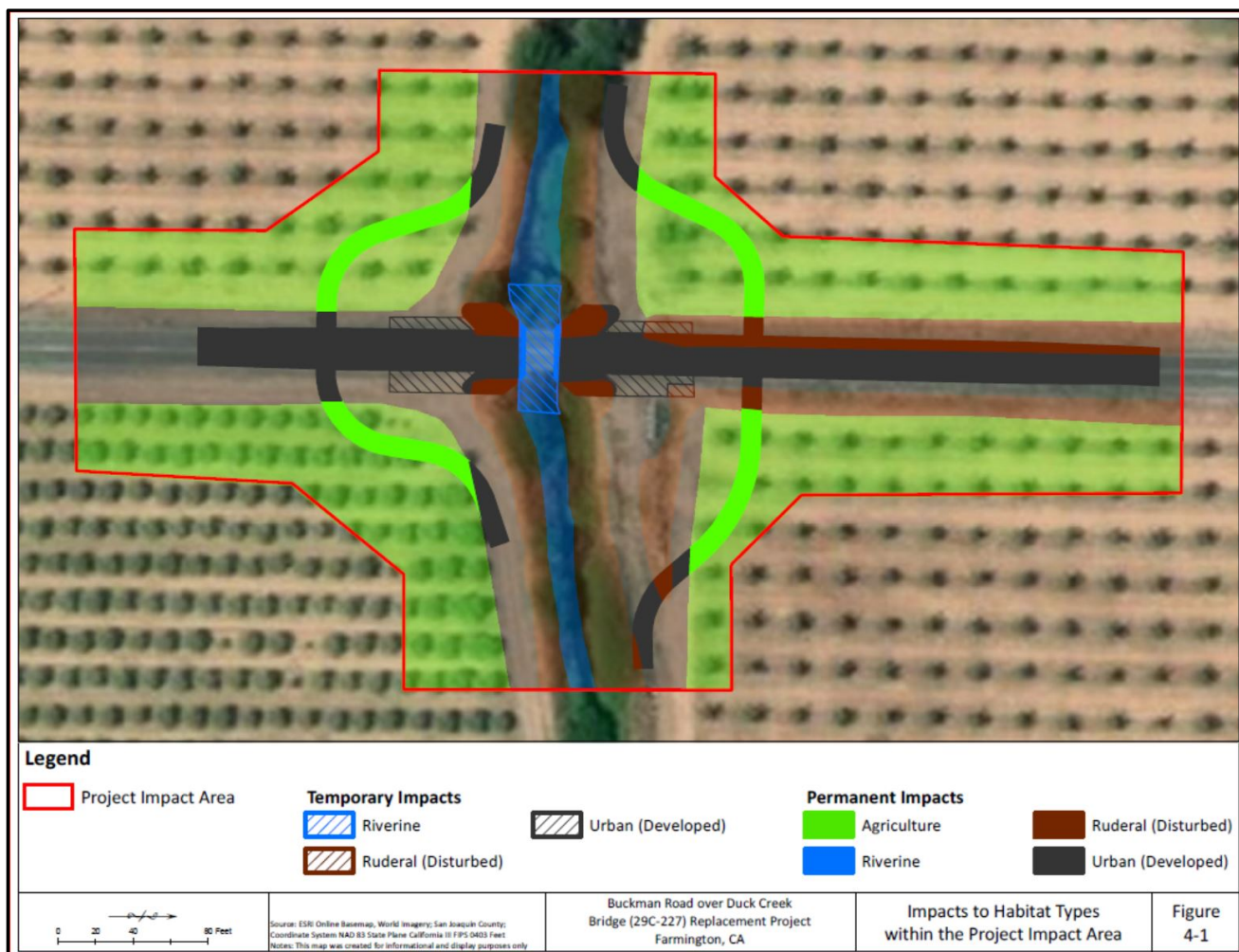


Figure 23 – Impacted Habitats in the BSA

- c) **Less Than Significant.** The proposed project would temporarily affect 0.14 acre of jurisdictional wetlands. If construction begins when water is present in the Duck Creek channel, temporary diversion of water would be required for bridge replacement. Water flow diversion would not appreciably reduce water flow in the downstream channel, because a hydrological connection would be maintained. Once construction is complete, water would be returned to the channel. Water diversion would take place under the permit conditions issued by the USACE (CWA §404 or Nationwide permit), by the CDFW (Lake and Streambed Alteration Permit), and the RWQCB (CWA §401 permit). All permit conditions are intended to prevent harm to wetlands, WOUS and waters of the State, and the County cannot proceed with the project until permits have been obtained. With these permit conditions in place as part of the project design, no additional mitigation measures are required.
- d) **Less Than Significant With Mitigation Incorporated.** The proposed bridge-replacement project would not be anticipated to interfere substantially with wildlife movement, migratory corridors, or nursery sites. The NES performed for the project's NEPA compliance requirements notes that Duck Creek provides a movement corridor for areas between the Bay/Delta region and the Sierra Nevada foothills (Tisch I, pp. 23-24), but that the project would not permanently disrupt this corridor. Temporary impacts

to wildlife movement could occur during construction, however. As noted above, if water is present at the beginning of construction, a water-diversion plan would be required, and hydrological connectivity would be maintained. The mitigation measures required in (a) above would reduce impacts to involved species, and the permit requirements described in (c) above would reduce temporary impacts with respect to the channel integrity and function as a movement corridor to less-than-significant levels.

- e) **Less Than Significant.** The proposed bridge-replacement project would not conflict with the San Joaquin County Riparian Habitat Ordinance, because that ordinance does not apply to public infrastructure projects. San Joaquin County does not have a tree-protection ordinance. The project itself would not conflict with County General Plan policies that advocate protecting riparian habitat, because as noted in (a) – (d) above, the bridge replacement would be conducted according to federal and state permit requirements that are designed to protect riparian habitat.
- f) **Less Than Significant.** As explained below, the proposed bridge replacement project is not anticipated to conflict with the provisions of the 2000 San Joaquin County Multi-Species Habitat Conservation and Open Space Plan (available at <https://ca-sjcog2.civicplus.com/DocumentCenter/View/5/Habitat-Planpdf?bidId=> (accessed June 11, 2021). The Plan sets forth goals, strategies, and mitigation measures for conserving natural resources within the County, particularly for sensitive plant, fish, and wildlife species. The bridge project would not conflict with these measures, because (1) no open space habitat would be converted to non-open-space use; (2) the project-specific mitigation measures below address impacts to the sensitive species with potential to occur in the PIA surrounding the bridge site.

MITIGATION MEASURES

Bio-1 Pre-construction surveys. The Public Works Department shall retain a CDFW-qualified biologist/biological monitor (designated biologist) to survey the project site and environs not more than two weeks prior to beginning construction, to inspect for nests, burrows, and the sensitive/protected species listed above. If protected species, active nests, or active burrows are discovered, the Public Works Department shall postpone construction to after nests and/or burrows have been abandoned for the season. This mitigation measure does not preclude implementing deterrence protocols to prevent occupation of the project site before construction begins.

Bio-2 Pre-construction worksite training. The designated biologist/biological monitor shall be present at the pre-construction meeting and shall inform construction crews about the species that might be present on-site, provide an overview of required avoidance, minimization, and mitigation measures, and explain the correct reporting requirements during construction activities. This training shall include visual aids, e.g., laminated photos, to assist in recognizing sensitive species. Photos or other representations shall be retained at the project site through construction.

Bio-3 (Western Spadefoot) The following measures to protect the Western Spadefoot shall be included in project construction documents and bid specifications, and shall be implemented before or in conjunction with construction:

- a. **Site inspections after rain.** For work conducted during the western spadefoot migration and breeding season (November 1 to May 31), the designated biologist shall survey the active work areas (including access roads) in mornings following rainfall in volumes sufficient to wet the project area soils. Construction may start once the biologist has confirmed that no spadefoots are in the work area.
- b. **No-disturbance buffer.** If one or more burrows that provide suitable upland habitat for western spadefoot are discovered during the pre-construction surveys required by Mitigation Measure Bio-1, the designated biologist shall delineate with marking paint, chalk, or other suitable non-permanent

substance a 50-foot no-disturbance buffer around the burrow, and shall advise the Public Works Department regarding suitable fencing or other barrier material. Prior to construction, the Public Works Department shall place this barrier around the burrow according to the delineation marking. Any fencing or barrier material shall not impede spadefoot movement. This barrier shall remain in place during the course of construction.

- c. **Workday Inspections.** Prior to beginning work each day, the designated biologist or trained County staff shall inspect underneath equipment and in any stored pipes greater than 1.2 inches (3 cm) in diameter for western spadefoot. If any are found, they shall be allowed to move out of the construction area under their own accord.
- d. **Discovery During Construction.** If one or more western spadefoots are discovered within the construction footprint during construction, workers shall allow the animal to move out of harm's way of its own volition. Alternatively, the designated biologist or properly-trained County staff shall relocate the animal to the nearest burrow that is outside of the construction impact area.
- e. **Trenches and Holes.** Trenches and/or holes shall be covered at the end of each workday to prevent spadefoot entry, and shall be inspected for stranded animals at the beginning of each workday. If feasible, trenches and holes deeper than one foot deep shall contain escape ramps (maximum slope of 2:1) to allow trapped animals to escape uncovered holes or trenches. Holes and trenches shall be inspected prior to filling or pile placement.

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 pursuant to § 15064.5?	☐	☐	☒	☐
b) Cause a substantial adverse change in the significance of an archaeological resource pursuant to § 15064.5?	☐	☒	☐	☐
c) Disturb any human remains, including those interred outside of dedicated cemeteries?	☐	☐	☒	☐

Note: The analysis below incorporates and relies on the findings presented in the Historic Property Survey Report (HPSR) (November 2018) (Starkey I) and the Archaeological Survey Report (ASR) (November 2018)(Starkey II) prepared by Anna M. Starkey of Drake Haglan and Associates for the California Department of Transportation (Caltrans) in compliance with National Environmental Policy Act (NEPA) requirements. These documents are on file with the San Joaquin County Public Works Department, Transportation Planning Division.

BACKGROUND AND REGULATORY SETTING

Cultural resources in California are protected by a number of federal, state, and local regulations and ordinances.

National Historic Preservation Act (NHPA) of 1966 (16 U.S.C. 470 et seq.). The NHPA was enacted to avoid unnecessary harm to historic properties, NHPA includes regulations that apply specifically to federal land-holding agencies, but also includes regulations (Section 106) which pertain to all “undertakings” funded, permitted, or approved by any federal agency that have the potential to affect cultural resources. Provisions of NHPA establish the National Register of Historic Places (NRHP), the Advisory Council on Historic Preservation, State Historic Preservation Offices, and the federal grants-in-aid programs.

American Indian Religious Freedom Act of 1978 (42 U.S.C. 1996 and 1996a, as amended), and Native American Graves and Repatriation Act of 1990 (25 U.S.C. 3001 et seq., as amended). These acts establish as National policy that Native American traditional religious practices and beliefs, sacred lands (including right of access), and the use of sacred objects shall be protected and preserved. Native American remains are further protected by the Native American Graves Protection and Repatriation Act of 1990.

U.S. Secretary of the Interior Standards. The Secretary of the Interior is responsible for establishing professional standards and providing guidance related to the preservation and protection of all cultural resources listed in, or eligible for listing in, the NRHP. The 1992 Secretary of the Interior’s Standards for the Treatment of Historic Properties (36 CFR 68) apply to all grants-in-aid projects assisted through the National Historic Preservation Fund, and are intended to be applied to a wide variety of resources, including buildings, structures, sites, objects, and districts. The standards address four treatments:

Preservation means the act or process of applying measures necessary to sustain the existing form, integrity, and materials of a historic property. Work, including preliminary measures to protect and stabilize the property, generally focuses on the ongoing maintenance and repair of historic materials and features, rather than extensive replacement and new construction.

Rehabilitation means the act or process of making possible an efficient compatible use for a property through repair, alterations, and additions while preserving those portions or features that convey its historical, cultural, or architectural values.

Restoration means the act or process of accurately depicting the form, features, and character of a property as it appeared at a particular period of time by means of the removal of features from other periods in its history and reconstruction of missing features from the restoration period.

Reconstruction means the act or process of depicting, by means of new construction, the form, features, and detailing of a non-surviving site, landscape, building, structure, or object for the purpose of replicating its appearance at a specific period of time and in its historic location.

National Register of Historic Places (NRHP). Archaeological and historical sites can be given a measure of protection if they are eligible for the NRHP (36 CFR 60.4, 36 CFR 800). Significance in American history, architecture, archaeology, and culture is present in districts, sites, buildings, structures, and objects of state and local importance that possess integrity of location, design, setting, materials, workmanship, feeling, and association, and that

are associated with events that have made a significant contribution to the broad patterns of our history; or are associated with the lives of persons significant in our past; or

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

have yielded, or may be likely to yield, information important to prehistory or history (36CFR60.4 (a-d)).

Traditional Cultural Properties (TCP). TCPs are properties that are eligible for NRHP listing, exhibit one or more of these criteria:

1. A location associated with the traditional beliefs of a Native American group about its origins, its cultural history, or the nature of the world;
2. A rural community whose organization, buildings and structures, or patterns of land use reflect the cultural traditions valued by its long-term residents;
3. An urban neighborhood that is the traditional home of a particular cultural group, and that reflects its beliefs and practices;
4. A location where Native American religious practitioners have historically gone, and are known or thought to go today, to perform ceremonial activities in accordance with traditional cultural rules of practice; and
5. A location where a community has traditionally carried out economic, artistic, or other cultural practices important in maintaining its historic identity.

California Public Resources Code § 21000 et. seq (California Environmental Quality Act (CEQA)). CEQA incorporates provisions that provide for the documentation and protection of significant prehistoric and historic resources. Prior to the approval of discretionary projects and/or beginning work on a public infrastructure project or other public facility, the potential impacts of the project on archaeological and historical resources must be considered (Public Resources Code §§ 21083.2 and 21084.1 and the CEQA Guidelines [California Code of Regulations Title 14, § 15064.5]).

The CEQA Guidelines define a significant historical resource as “a resource listed or considered eligible for listing on the California Register of Historical Resources” (CRHR) (Public Resources Code § 5024.1). A cultural resource may be eligible for listing on the CRHR if it:

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

California Health and Safety Code (Health & Saf. Code) § 7050. Section 7050 sets forth procedures and penalties for dealing with human remains discovered outside of a designated cemetery. If human remains are

discovered during site reconnaissance or excavation, § 7050(b) requires all work within the area stop and that the San Joaquin County Coroner and a professional archaeologist be contacted to determine the nature of the remains. The coroner is required to examine all discoveries of human remains within 48 hours of receiving a notice of discovery on private or state lands (Health & Saf. Code § 7050.5(b)). If the coroner determines that the remains are those of a Native American, he or she must contact the NAHC by phone within 24 hours of making the determination (& 7050(c)). See

(<https://leginfo.legislature.ca.gov/faces/codesdisplayText.xhtml?lawCode=HSC&division=7.&title=&part=1.&chapter=2.&article=>) (accessed June 14, 2021).

California Public Resources Code (Pub. Resources Code) § 5097.98. Section 5097.98 sets forth detailed procedures for follow-up action after Native American remains are discovered. The principal requirements include identification of and contacting the Most Likely Descendant, and site inspection by descendants (with a landowner's permission). Descendants are required to inspect the site and make recommendations for treatment of the remains within 48 hours of being granted access to the site. See https://leginfo.legislature.ca.gov/faces/codes_displaySection.xhtml?sectionNum=5097.98.&nodeTreePath=7.24&lawCode=PRC (accessed June 14, 2021).

Investigation And Native American Consultation Results

As part of the project's NEPA compliance, San Joaquin County prepared an Area of Potential Effect Map (APE), (approved by Caltrans on February 11, 2019) and requested a public records search in 2018 from the Central California Information Center at California State University Stanislaus and the Native American Heritage Commission (NAHC), which indicated that no prehistoric/historical resources had been recorded in the project area. San Joaquin County further retained the services of a consultant, Drake Haglan and Associates (DHA), to conduct a confidential record search, follow-up with Native American tribes, field survey the APE, and to provide documentation of their findings to Caltrans (November 2018). DHA produced two documents: a Historic Property Survey Report and an Archaeological Survey Report, as referenced above. Caltrans, under authority delegated by the Federal Highway Administration, approved the cultural documents to meet and address requirements of the NHPA § 106.

IMPACT DISCUSSION:

- a. **Less Than Significant.** The proposed bridge-replacement project is not anticipated to cause substantial adverse changes in the significance of historical resources in the project area. The HPSR cited above reviewed all relevant records and maps containing the APE, and found that (1) the Caltrans Structures Maintenance and Investigations of Historical Significance of Local Agency Bridges shows Bridge Number 29C-227 over Duck Creek was built in 1931 and is not eligible for listing in the NRHP, and (2) no resources listed in the NRHP, CRHR, or local registries are in the APE or within 1-mile of the APE (Starkey I, pp. 2-4).
- b. **Less Than Significant With Mitigation Incorporated.** The proposed bridge-replacement project is not anticipated to cause substantial adverse changes in the significance of archaeological resources in the project area as explained further below. The ASR cited above indicated that the site has minimal potential for such resources to be present. The reconnaissance-level pedestrian survey of the area discovered and recorded one prehistoric "isolate" (an isolated artifact) 227-ISO1 in the APE. This artifact appeared to be associated with the imported road fill and bridge ballast rock materials and not local to the project site (Starkey II, p. 20). The artifact was recorded on appropriate California Department of Parks and Recreation (DPR) forms as an isolate. No other historic or prehistoric archaeological resources were identified. Moreover, the archaeological sensitivity assessment suggests the APE has low sensitivity for buried prehistoric archaeological cultural resources and for buried historic-period archaeological cultural resources because the prevailing soil types pre-date human settlement (Starkey I, p. 2).

However, the proposed project *will* excavate within the area, which could result in a previously-undiscovered find. If any subsurface resources are discovered, Mitigation Measure Cult-1 below requires that all work stop until a qualified archaeologist has evaluated the find, reported on its significance, and recommended additional mitigation measures, which shall include contacting the Southern Sierra Miwuk Nation and the Northern Valley Yokut/Ohlone/Bay Miwuk Tribe for appropriate treatment of the find, and commitment by the County to facilitate that treatment.

- c. **Less Than Significant.** The proposed bridge-replacement project is not anticipated to disturb/uncover previously undiscovered human remains, because as described in the ASR prepared for the project, the APE has been substantially disturbed by 100 years of agricultural activity, road construction and channel grading, and any buried resources would likely have already been discovered. Additionally, if human remains *are* uncovered, § 7050(b) of the California Health and Safety Code (described above) requires that all work within the area stop and that the San Joaquin County Coroner and a professional archaeologist be contacted to determine the nature of the remains. The coroner is required to examine all discoveries of human remains within 48 hours of receiving a notice of discovery on any location other than a dedicated cemetery (Health & Saf. Code § 7050.5(b)). If the coroner determines that the remains are those of a Native American, he or she will contact the NAHC by telephone within 24 hours of making that determination (Health and Saf. Code § 7050(c)). Following the coroner's findings, the archaeologist, and the NAHC-designated Most Likely Descendent (MLD) shall determine the ultimate treatment and disposition of the remains and take appropriate steps to ensure that additional human interments treated with appropriate dignity per Pub. Resources Code § 5097.98 (described above). With adherence to the above regulations, no additional mitigation measures are required.

MITIGATION MEASURES

- **CULT-1:** If cultural resources are encountered during ground-disturbing activities, work within a 50'-diameter radius of the find shall stop, and the project supervisor shall immediately contact the San Joaquin County Public Works Transportation Planning Division, who shall then engage an archaeologist meeting the Secretary of the Interior's Professional Qualifications Standards for archaeology to evaluate the find. Work shall be allowed to continue outside the buffer area.
- If the archaeologist identifies the find as a tribal cultural resource or suspects it to be a tribal cultural resource, the County shall contact the Native American Heritage Commission (NAHC) to report the discovery, and shall simultaneously contact local Native American tribal representatives who have requested notification, including the Southern Sierra Miwuk Nation and the Northern Valley Yokut/Ohlone/Bay Miwuk Tribe. Should the newly-discovered artifact(s) be determined to be a tribal cultural resource, Native American construction monitoring shall be initiated. The County shall coordinate with the archaeologist and tribal representative(s) to develop and follow through on an appropriate treatment plan for the resources.

VI. GEOLOGY AND SOILS

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

Note: The analysis below incorporates and relies on the information and findings presented in the Initial Site Assessment (ISA) (May 2018) prepared by Leslie Haglan of Drake Haglan and Associates for the California Department of Transportation (Caltrans) in compliance with National Environmental Policy Act (NEPA) requirements (Haglan I). These documents are on file with the San Joaquin County Public Works Department, Transportation Planning Division.

BACKGROUND AND REGULATORY SETTING

Geology

San Joaquin County is located in the San Joaquin Valley, which comprises the southernmost portion of the Great Valley Geomorphic Province of California. The Great Valley is an elongated alluvial plain bounded by the uplifted blocks of the Sierra Nevada on the east and the Coast Ranges to the west. The Sacramento River drains the Valley's northern portion and the San Joaquin River drains the southern portion (SJC 2035 GPDEIR, p. 4.1-1).

Soils

The soil types in the project area are Hicksville loam and Hollenbeck silty clay. Both soil types are moderately well-drained, with moderate to slow infiltration rates. The Hicksville soils exhibit moderately coarse texture; the

Hollenbeck soils are clayey and typically associated with high water tables (Haglan I, p. 5). These soils are also considered to be expansive (SJC 2035 GPDEIR, Fig. 4.1-1).

Geologic Hazards

Geologic hazards in San Joaquin County associated with soil and slope characteristics include expansive soils, erosion, subsidence, and, infrequently, soil instability (landslides and slope failure) (id., pp. 4.1-4-6). Expansive soils occur throughout the County, while subsidence and erosion potential are largely confined to the in the Delta region. (id., Fig. 4.1-1). Slope stability hazards occur in the foothills and mountain terrain that border the San Joaquin Valley, the steep banks of the major rivers which pass through the Valley floor, and the levees of the Delta (id., p. 4.1-6).

Seismic hazards (earthquake-induced ground rupture, ground shaking, liquefaction, seiche or tsunami). There are six historically-active faults in the vicinity of San Joaquin County, but none within the County itself (id. p. 4.1-7, Table 4.1-1); there are numerous “potentially active” faults within the County, but these have not been documented to rupture within the past 11,000 years (id., fn. 4). The nearest active fault zone to the project site is the Marsh Creek-Greenville Fault, approximately 50 miles west of the project site (id., Fig. 4.1-2). The six active faults are the most likely to cause seismic hazards, particularly ground-shaking, liquefaction, and earthquake-induced settlement (id., pp. 4.1-11 - 4.1-12).

Liquefaction occurs when a water-saturated, cohesionless soil loses its strength and liquefies during intense and prolonged ground shaking. Areas which have the greatest potential for liquefaction occur where the water table is less than 50 feet below the surface and soils are predominantly clean, comprised of relatively uniform sands, and are of loose to medium density (id., p. 4.1-11).

Settlement can occur during an earthquake when soils are rapidly shaken and then compact when the seismic shaking stops. Soils prone to settlement are typically loose, sandy sediments above the water table (id., p. 4.1-12).

IMPACT DISCUSSION:

a(i) **Less Than Significant.** The proposed bridge replacement would not be anticipated to expose people or structures to fault rupture, because as noted above, there are no active faults within San Joaquin County, and there are likewise no mapped Alquist-Priolo zones near the project site (California Dept. of Conservation, [Earthquake Zones of Required Investigation](https://maps.conservation.ca.gov/cgs/EQZApp/), available at <https://maps.conservation.ca.gov/cgs/EQZApp/> (accessed June 110, 2021). Moreover, the County’s proposed project will be replacing the existing bridge with a similar structure, and any risks associated with fault rupture would be similar to those that already exist.

a(ii, iii) **Less Than Significant.** As noted above, localized ground shaking and liquefaction are the most significant seismic-related hazards in San Joaquin County, and could be expected to affect the project. However, impacts associated with ground shaking and liquefaction are not anticipated to be significant, in part because the County’s proposed project would be constructed according to contemporary Federal Highway Manual and California seismic standards for bridges, which are designed to reduce or minimize risk from liquefaction or other seismic-related ground failure to people and structures. Moreover, the project will be placing scour-reduction measures within the existing channel, further protecting the new bridge foundation. Finally, the project would replace the existing bridge with a similar structure, and any risks associated with ground shaking and liquefaction would be similar to those that already exist.

a(iv) **Less Than Significant.** Slope-stability hazards within San Joaquin County are mostly confined to three areas: 1) the foothills and mountain terrain which border the San Joaquin Valley, 2) the steep banks of the major rivers which pass through the Valley floor, and 3) the levees of the Delta. The County’s proposed project is not located within one of these areas, and the surrounding terrain is level, unlikely to be subject to landslides.

- b) **Less Than Significant.** The proposed bridge replacement project would not be expected to result in substantial soil erosion or loss of topsoil, because the project would not involve substantial grading or excavation of soils on the land surfaces on either end of the bridge. Additionally, scour-protection features would be installed around the bridge piles and abutments that would reduce erosion around the bridge support structure.
- c) **Less Than Significant.** The proposed bridge replacement project would not be constructed on an unstable geologic unit, as evidenced by the existing bridge's stability since its construction in the 1930s. Although the project area (as is the greater San Joaquin Valley) is located within an area underlain by alluvial deposits, which could liquefy under strong ground shaking from a large regional earthquake, the new bridge would be constructed to current seismic standards, including standards for construction on soils subject to liquefaction or other instability.
- d) **Less Than Significant.** The proposed bridge replacement project would be constructed in an area containing expansive soils (San Joaquin County District Viewer, available at <http://www.sjmap.org/DistrictViewer/> (accessed June 15, 2021). However, as noted above, the new bridge would be constructed according to current bridge-construction standards, including specifications for expansive soils, minimizing risks to life and property.
- e) **No Impact.** The proposed project would not involve septic systems or other waste-water treatment.

VII. GREENHOUSE GAS EMISSIONS

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?	☐	☐	☒	☐

BACKGROUND AND REGULATORY SETTING

"Greenhouse gases" (so called because of their role in trapping heat near the surface of the earth) emitted by human activity are implicated in global climate change, commonly referred to as "global warming." These greenhouse gases contribute to an increase in the temperature of the earth by allowing incoming short wavelength visible sunlight to penetrate the atmosphere, while restricting outgoing terrestrial long wavelength heat radiation from exiting the atmosphere. The principal greenhouse gases (GHGs) include carbon dioxide (CO₂), methane CH₄), and nitrous oxide (N₂O). Collectively GHGs are measured as carbon dioxide equivalents (CO₂e).

Fossil-fuel consumption in the transportation sector (on-road motor vehicles, off-highway mobile sources, and aircraft) is the single largest source of GHG emissions, accounting for approximately half of global GHG emissions. Industrial and commercial sources are the second-largest contributors of GHG emissions, constituting about one-fourth of total emissions. According to climate scientists, California and the rest of the developed world must cut emissions by 80 percent from today's levels to stabilize the amount of CO₂ in the atmosphere and prevent the most severe effects of global climate change.

California has passed several bills and former Governor Jerry Brown has signed seven executive orders (EOs) regarding greenhouse gases. GHG statutes and EOs include Assembly Bill (AB) 32, Senate Bill (SB) 1368, EO S-03-

05, EO S-20-06, EO S-01-07, EO S-13-08, EO B-16-12, EO B-18-12, and EO B-30-15. Of these, AB 32, the California Global Warming Solutions Act of 2006, mandates that California's GHG emissions be reduced to 1990 levels by 2020, and tasks the California Air Resources Board (CARB) with regulating GHG emissions as well as coordinating with other state agencies to implement AB 32's reduction goals.

EO S-3-05 provides a more long-range goal and requires an 80 percent reduction of GHGs from 1990 levels by 2050. On a per-capita basis, that means reducing annual emissions of 14 metric tons (MTs) of CO₂ equivalents for every person in California down to approximately 10 MTs per person by 2020. Issued in 2015, EO-B-30-15 sets an increasingly-aggressive GHG-emissions target for 2030, 40 percent below 1990 levels. EO-B-30-15 was codified by SB 32 in 2016, which also provided the CARB with additional direction for refining the Climate Change Scoping Plan. That EO set forth five "pillars" for accomplishing GHG reduction, including (1) reducing today's petroleum use in cars and trucks by up to 50 percent; (2) increasing from one-third to 50 percent our electricity derived from renewable sources; (3) doubling the energy efficiency savings achieved at existing buildings and making heating fuels cleaner; (4) reducing the release of methane, black carbon, and other short-lived climate pollutants; (5) managing farm and rangelands, forests and wetlands so they can store carbon; and (6) periodically updating the state's climate adaptation strategy, *Safeguarding California*.

The CARB's 2017 Climate Change Scoping Plan, in part implements EO B-30-15, and sets forth a "reference scenario" as a baseline for measuring how much GHG emissions can be reduced in several economic sectors. This scenario illustrates the level of GHG emissions generated statewide through 2030 with existing policies and programs, but without any further action to reduce GHGs. This level is estimated to be approximately 400 million metric tons (MMTs) of CO₂e from all sources in 2030. The CARB's statewide 2030 target level of emissions is approximately 260 MMTs. The Scoping Plan estimates that the change from 1990 levels in the residential and commercial sectors must be from 44 MMTCO₂e to 38-40 MMTCO₂e by 2030, a four- to eight-percent reduction.

Senate Bill 375 was enacted to link land use and transportation in a manner that would reduce vehicle miles traveled (VMT), thereby reducing GHG emissions. Under SB 375, the California Air Resources Board (CARB) is responsible for establishing GHG emission-reduction targets, and regional Metropolitan Planning Organizations (MPOs) are responsible for preparing and adopting "Sustainable Communities Strategies" that achieve CARB's targets.

The San Joaquin Council of Governments (SJCOC) is the local MPO that includes the San Joaquin County, and is preparing a Climate Adaptation & Resiliency Study to incorporate strategies set forth in the SJCOC's 2018 Regional Transportation Plan and Sustainable Communities Strategy (RTP/SCS). Those strategies include reducing transportation-related emissions, but do not set quantitative thresholds for GHG emissions. (See San Joaquin Council of Governments, Request for Proposals, Climate Adaptation & Resiliency Study, September 7, 2018, available at <https://www.sjcog.org/DocumentCenter/View/4302/Climate-Adaptation--Resiliency-Study-RFP---Sept-2018?bidId=> (accessed April 23, 2021).)

Compliance with GHG-reduction strategies may not reduce an individual project's impacts below significant levels unless an emissions target or threshold, based on substantial evidence has been adopted by a local agency. In the absence of a target or threshold, quantified GHG emissions may be determined to be significant and unavoidable. However, if a project demonstrates consistency with either a local CAP or with the CARB Scoping Plan, a finding of "less than significant with mitigation incorporated" may be appropriate.

IMPACT DISCUSSION

a-b) **Less Than Significant.** The proposed project would be replacing the existing bridge with a similar structure. Project construction would generate short-term greenhouse gas emissions, but these emissions would be limited in duration, would cease after construction, and are not anticipated to cause significant impacts to the environment. Moreover, the project will not increase bridge or roadway capacity, and will not alter the

location, distribution, or traffic intensity of the area. Furthermore, the proposed project will not create new housing, commercial or other land uses that would generate new vehicle trips and associated greenhouse gas emissions, nor would the project result in increased transportation needs.

VIII. 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 § 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 or excessive noise for people residing or working in the project area?	☐	☐	☐	☒
f) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?	☐	☐	☐	☒
g) Expose people or structures, either directly or indirectly, to a significant risk of loss, injury or death involving wildland fires?	☐	☐	☐	☒

Note: The analysis below incorporates and relies on the information and findings presented in the Initial Site Assessment (ISA) (May 2018) prepared by Leslie Haglan of Drake Haglan and Associates for the California Department of Transportation (Caltrans) in compliance with National Environmental Policy Act (NEPA) requirements (Haglan I). These documents are on file with the San Joaquin County Public Works Department, Transportation Planning Division.

BACKGROUND AND REGULATORY SETTING

Hazardous materials include all flammable, reactive, corrosive, or toxic substances, which, because of these properties, pose potential harm to the public or environment. Hazardous materials include, but are not limited to, agricultural chemicals, natural gas and petroleum, explosives, radioactive materials, and various commercial substances that are used, stored, or produced (SJC General Plan).

Hazardous waste is waste, or a combination of waste, that either causes or significantly contributes to an increase in mortality or an increase in serious irreversible illness, incapacitating reversible illness, or pose a

substantial present or potential hazard to human health or the environment when improperly treated, stored, transported, or disposed of.

Numerous Federal and State laws regulate hazardous materials and wastes, such as Cal/EPA and Department of Toxic Substances Control (DTSC). However, depending on the waste, Office of the State Fire Marshal (OSFM), the State Water Resources Control Board (SWRCB), or another agency may be involved. The California Department of Transportation (Caltrans) issues standards and specifications for managing hazardous wastes associated with federally-funded projects; these directives add various measures for contractors to perform, and where appropriate, reference and incorporate federal and state regulations that address hazardous waste.

Locally, the San Joaquin County Environmental Health Department (SJCEHD), San Joaquin County Office of Emergency Services (SJCOES), and the San Joaquin Valley Air Pollution Control District (SJVAPCD) have responsibility for enforcing some state standards (SJC General Plan).

The SJCEHD regulates large- and small-quantity hazardous waste generators, administers the underground storage tank program, and oversees the investigation and cleanup of contaminated underground tank sites under a contract with the SWRCB. Enforcement of San Joaquin County hazardous material regulations is under the jurisdiction of the SJCOES. The SJVAPCD regulates air emissions from industrial operations and contaminated soils (SJC General Plan).

The ISA cited above describes the bridge's construction history and includes a report of field reconnaissance. No signs of hazardous waste contamination, such as stained soils, waste material containers, etc., were-observed on or near the Project site (Haglan I, p. 10).

IMPACT DISCUSSION:

- a. **Less Than Significant.** The proposed bridge-replacement project would not involve the routine use, transport, or disposal of hazardous materials because the bridge itself would not require hazardous material use in its construction and Buckman Road is not a primary route to hazardous waste generators or to a hazardous waste facility. Treated wood, asbestos-containing materials or materials coated with lead-based-paint would be transported to an approved facility during construction, but such transport would stop once all on-site material is removed. Impacts are accordingly anticipated to be less than significant.
- b. **Less Than Significant With Mitigation Incorporated.** The proposed bridge-replacement project is not anticipated to create a *substantial* hazard to the public or environment through foreseeable hazardous material upset or accidental release, in part because bridge construction would not require large volumes of hazardous materials. However, the ISA prepared for the project indicates that there is a strong probability that asbestos, lead-based paint, and treated wood exist in the bridge materials (Haglan I, pp. 11-12). Because the bridge was constructed long before asbestos-containing materials were banned by the EPA in 1989, it is possible that asbestos could be found in various bridge components (id., p. 11). Likewise, lead-based paint residue could exist in on the bridge itself, or within striping on the roadway. Finally, bridge components, such as pilings and railings, are generally made of treated wood (id.). Improper disposal of these materials would risk harm to people or to the environment. To manage these materials safely and limit risk to the public and site workers, the ISA recommends several mitigation measures, which are set forth as Haz-1, Haz-2, Haz-3, and Haz-4 below. Mitigation Measure Haz-1 requires preparation of a Health and Safety Plan for construction workers and the general public; Mitigation Measure Haz-2 requires that the bridge components and pavement markings be surveyed for asbestos per the San Joaquin Valley Air Pollution Control District (SJVAPCD) Asbestos Program and Rule 4002, which incorporates the U.S. EPA

National Emission Standard for Hazardous Air Pollutants (NESHAP) requirements¹; Mitigation Measure Haz-3 requires a survey for lead-based paint, with proper remediation performed under Caltrans' Standard Special Provisions (SSP) and DTSC regulations; and Mitigation Measure Haz-4 requires that treated wood waste be removed and disposed of in a properly-authorized landfill (treated-wood waste must be placed either in a Class I hazardous-waste facility or in a landfill facility that has received a variance from the California Department of Toxic Substances Control²). With these measures in place and with adherence to existing regulations governing the use, transport and disposal of hazardous materials, impacts are anticipated to be less than significant.

- c. **No Impact.** There are no schools within one quarter mile of the project site (the nearest school is the Walnut Grove Middle School, 0.6 mile southwest of the site).
- d. **No Impact.** The project area is not shown on any lists identified under California Government Code Section 65962.5 (https://leginfo.ca.gov/faces/codes_displaySection.xhtml?lawCode=GOV§ionNum=65962.5). Furthermore, the San Joaquin County Environmental Health Department did not have any case files for the project area or immediately adjoining properties. Both the California Envirostor and Geotracker websites were reviewed as part of the Preliminary Environmental Study for the project and no sites were identified. Accordingly, no impacts associated with hazardous waste sites are anticipated.
- e. **No Impact.** The proposed project area is not located in an airport land use plan or within two miles of a public or private airport/airstrip. The proposed project would replace the existing bridge with a similar structure, which would not otherwise result in a safety hazard for people residing or working in the project area. No safety hazards associated with development around an airport are anticipated.
- f. **Less Than Significant.** The proposed project may temporarily impair implementation of or physically interfere with an adopted emergency response plan when the bridge is closed during construction (removal of the existing bridge and installation of the new bridge) because of a required traffic detour around Buckman Road (see Figure 12). After the old bridge is removed and the new bridge can support vehicle traffic, one lane of the bridge and entire road will remain open during the remainder of construction. Because the closure would be temporary and as brief as possible, impacts to emergency response or evacuation plans are anticipated to be less than significant.
- g. **No Impact.** The proposed bridge-replacement project is surrounded by irrigated agricultural land and crosses Duck Creek, and is not in wildland terrain. According to the California Department of Forestry and Fire Protection Natural Fire Hazard map (2007), the project area is not located within a fire hazard area. Furthermore, the proposed project would not build housing or other structures and/or facilities that would be occupied by people. Accordingly, the project would not expose people or structures to significant risks from wildland fires, and no related impacts are anticipated.

MITIGATION MEASURES

Haz-1 The construction contractor shall prepare and implement a Health and Safety Plan (HASP) for the Project, using project-relevant U.S. Environmental Protection Agency standards. Since known historical contaminants have been identified within the Project site, general construction OSHA health

¹ See San Joaquin Valley Air Pollution Control District, *Asbestos Requirements for Demolitions and Renovations*, available at <http://www.valleyair.org/busind/comply/asbestosbultn.htm> and Asbestos Requirements Applicable to Renovation and Demolition Projects (brochure), available at <https://www.valleyair.org/newsed/asbestos.pdf> (both accessed July 9, 2021).

² See Department of Toxic Substances Control, *Managing Hazardous Waste/Treated Wood Waste*, available at <https://dtsc.ca.gov/toxics-in-products/treated-wood-waste/> (accessed July 9, 2021).

and safety procedures shall be included. The HASP shall describe appropriate procedures to follow in the event that any unknown contaminated soil or groundwater is encountered during construction activities.

Haz-2 Asbestos. *(Compliance with San Joaquin Valley Air Pollution Control District Rule 4002, incorporating U.S. EPA National Emission Standard for Hazardous Air Pollutants (NESHAP) requirements)*

The County/project contractor shall engage a California-Certified Asbestos Consultant to survey for asbestos-containing materials prior to demolition (including concrete elements) and to submit a National Emission Standard for Hazardous Air Pollutants (NESHAP) notification to the SJVAPCD, EPA Region 9, and to the County.³ If asbestos-containing materials are found, the County shall proceed according to SJVAPCD Rule 4002.

Haz-3 Lead-Based Paint. The County/project contractor shall engage a California-licensed lead-abatement contractor to survey for lead-based paint residues on the bridge structural surfaces and surrounding soils, and to determine whether lead residue is present in pavement striping. If lead residues are found, the abatement contractor shall proceed according to Caltrans' SSP 14-11.13 and other federal and state regulations for lead waste, including but not limited to preparing a Lead Compliance Plan for the disposal of LBP. Grindings (which consist of the roadway material and the yellow and white color traffic stripes) shall be removed and disposed of in accordance with Caltrans' SSP 36-4 (Residue Containing High Lead Concentration Paints) and SSP 7-1.02K (6)(j)(iii) (Earth Material Containing Lead).

Haz-4 Treated Wood Waste (TWW). The project contractor shall remove and dispose of all TWW consistent with California Health and Safety Code DTSC current regulations, which include disposing of TWW in a Class 1 Hazardous Waste Landfill, a landfill that has received a TWW variance from the DTSC, or stockpiling according to Caltrans and DTSC regulations.

³ Haglan I, p. 12, states *"Per Section 14-9.02 of the Asbestos NESHAP regulation, all "demolition activity" requires written notification even if there is no asbestos present. This notification should be typewritten and postmarked or delivered no later than ten days prior to the beginning of the asbestos demolition or removal activity."* The section referenced is *not* the NESHAP regulation, which is in the U.S. Code of Federal Regulations (CFR), 40 CFR Part 61 Subpart M, available at <https://www.govinfo.gov/content/pkg/CFR-2015-title40-vol9/pdf/CFR-2015-title40-vol9-part61-subpartM.pdf>. Rather, the referenced section is Caltrans Standard Specification 14-9.02, Air Pollution Control, which requires a Caltrans contractor to *"[c]omply with air-pollution-control rules, regulations, ordinances, and statutes that apply to work performed under the Contract, including those provided in Govt Code § 11017 (Pub Cont. Code § 10231)".* Such compliance thus includes NESHAP compliance by following the SJVAPCD Rule 4002 and the SJVAPCD Asbestos Program.

VIX. 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 or otherwise substantially degrade surface or ground water quality?	☐	☐	☒	☐
b) Substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin?	☐	☐	☒	☐
c) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would:				
i. Result in substantial erosion or siltation on- or off-site?	☐	☐	☒	☐
ii. Substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site?	☐	☐	☒	☐
iii. Create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff; or	☐	☐	☒	☐
iv. Impede or redirect flood flows?	☐	☐	☒	☐
d) In flood hazard, tsunami, or seiche zones, risk release of pollutants due to project inundation?	☐	☐	☒	☐
e) Conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan?	☐	☐	☒	☐

Note: The analysis below incorporates and relies upon the water quality technical memorandum performed for the Preliminary Environmental Study prepared for the project: Drake Haglan and Associates, *Water Quality Technical Memorandum for the Buckman Road Bridge Replacement Project* (May 14, 2018), (on file with the San Joaquin County Public Works Department, Transportation Planning), the Local Hydraulic Study Form (Michael Chung, P.E., San Joaquin County Department of Public Works, Bridge Division (approved by Caltrans 2/26/19), and information contained in the San Joaquin County General Plan.

BACKGROUND AND REGULATORY SETTING

Four major rivers flow through or along the boundaries of San Joaquin County: San Joaquin, Stanislaus, Mokelumne, and Calaveras. The flows in these rivers are controlled by dams, which impound six major reservoirs to provide water supplies and flood control. Numerous tributaries and irrigation canals drain into the major rivers, which drain into the Delta.

The San Joaquin Valley is comprised of several sub-basins, identified by geologic and hydrologic barriers. The project area is located within the Eastern San Joaquin sub-basin, which is defined by the areal extent of unconsolidated to semi-consolidated sedimentary deposits that are bounded by the Mokelumne River on the north and northwest; San Joaquin River on the west; Stanislaus River on the south; and consolidated bedrock on the east. It is drained by the San Joaquin River and several of its major tributaries such as the Stanislaus, Calaveras, and Mokelumne Rivers (DWR 2006).

Water-bearing formations of significance in the Eastern San Joaquin sub-basin consist of the Alluvium and Modesto/Riverbank Formations, Flood Basin Deposits, Laguna Formation, and Mehrten Formation. The Mehrten Formation is considered to be the oldest freshwater-bearing formation on the east side of the basin. Annual precipitation in this sub-basin ranges from about 11 inches in the southwest to about 25 inches in the northeast (DWR 2006).

Flood Hazard Areas

San Joaquin County receives runoff from over 40 percent of the land area in California (SJC Dam Failure Plan, 2003). Flooding is the most likely natural hazard to occur in the County, although many physical and management systems are in place to limit risks of flooding or damage when it periodically occurs. Flood events from rainstorms generally occur between November and April and are characterized by high peak flows of moderate duration. Snowmelt floods, which normally occur between April and June, have larger water volumes and last longer than rain flooding. Intensive rainstorm or snowmelt generally cause flooding because of levee overtopping, levee failure, or localized drainage problems (SJC General Plan).

100-year Floods

The boundary of the 100-year floodplain is the basic planning criterion used to demarcate unacceptable public safety hazards. The 100-year floodplain boundary defines the geographic area that would be inundated by a flood having a one percent (1%) chance of being equaled or exceeded in a given year, which is based on hydrology, topography, and the modeling of flow during predicted rainstorms. Outside the boundary, the degree of flooding risk is not considered sufficient to justify the imposition of floodplain management regulations, while inside the 100-year floodplain a tighter level of regulation is required to protect public health, safety, and welfare (SJC General Plan 2014).

San Joaquin County has been participating in the National Flood Insurance Program (NFIP) since 1973. This federal program is administered by the Federal Emergency Management Act (FEMA). The primary benefit of participating in this program is that it provides an opportunity for property owners to purchase flood insurance if their community has made a commitment to implement floodplain management regulations that are specified by FEMA. Failure to implement these regulations could result in suspension from the program (SJC General Plan).

Levees

All of the major rivers and some streams in San Joaquin County contain levees. The potential of levee failure is highest in the Delta because these levees often contain unstable material and have been constructed on an unstable base, such as a mixture of peat and silt. A breach in a levee under non-flood conditions would be localized to the specific Delta tract, while 100-year conditions could lead to levee failure on a series of Delta islands (SJC General Plan).

Dams

There are 15 major dams that have been identified as having the potential to inundate portions of San Joaquin County in the event of a dam failure. A dam failure can occur as the result of an earthquake, an isolated incident due to structural instability, natural or human causes, or lack of maintenance (SJC General Plan).

Seiches, Tsunamis, Mudflows

A seiche is a wave that oscillates in lakes, bays, or gulfs from a few minutes to a few hours as a result of seismic or atmospheric disturbances (wind and atmospheric pressure variations), including tsunamis (Merriam Webster 1994). A tsunami is a system of gravity waves formed in the sea by a large-scale disturbance of the sea level over a short duration of time. Tsunamis can be generated by submarine volcanic eruptions, coastal landslides into a bay or harbor, meteor impact, or by vertical displacement of the earth's crust along a subduction zone/fault (OES 2006). A mudslide, also called mudflow, is a flow of dirt and debris that occurs after intense rainfall or snow

melt, volcanic eruptions, earthquakes, and severe wildfires. The speed of the slide depends on the amount of precipitation, steepness of slope, vibration of the ground, and alternate freezing and thawing of the ground (Merriam Webster 1994).

For a comprehensive summary of environmental regulations for water quality, storm water pollution prevention plans, floodplain regulation, etc., see the San Joaquin County 2035 General Plan, Draft Environmental Impact Report, Chapter 4.J, Hydrology and Water Quality (2014), available at <https://www.sjgov.org/commdev/cgi-bin/cdyn.exe/file/Planning/Environmental%20Impact%20Reports/GENERAL%20PLAN%202035%20-%20DRAFT%20EIR.pdf> (accessed July 9, 2021).

IMPACT DISCUSSION:

- a, e) **Less than Significant Impact.** The proposed project would not be anticipated to violate water quality standards/waste discharge requirements, or otherwise substantially degrade water quality, or to conflict with water management plans, since all construction within Duck Creek and on its banks will be subject to the conditions set forth in the project's permits from State and Federal agencies, including United States Clean Water Act Sections 401 and 404 permits, California Department of Fish and Wildlife Lake and Streambed Alteration Agreement, a Stormwater Pollution Prevention Plan, and a General Construction Permit. These permits are designed to minimize significant impacts to water resources. With compliance, no additional mitigation measures are required.
- b) **No Impact.** The proposed project will have no impact on groundwater supplies because it would not create a water-consuming land use.
- c) **Less Than Significant Impact.** The proposed project would not permanently alter the drainage pattern of the site or area, increase surface runoff so as to cause flooding, create excessive or polluted runoff, or impede or redirect flood flows, because all work would be performed according to the permit conditions described in (a) above, which are designed to minimize impacts to water resources. As indicated in the Project Description above, project construction will require temporarily de-watering and re-directing Duck Creek during the dry season, between June 15 and October 31. Creek flow would be restored after construction is completed, and any soil erosion or drainage alteration around the bridge would be moderated by the construction techniques described in the Project Description above, as well as by additional permit conditions. Runoff from roadway surfaces would not be appreciably changed since the roadway surface area is not proposed to be expanded or travel lanes added. Remaining impacts to the existing drainage pattern of the site are thus anticipated to be less than significant.
- d) **Less Than Significant Impact.** The project area is located within a 100-year flood zone, but the proposed project would not be anticipated to generate pollutants if inundated because the bridge would be a static structure, without any sort of material containment prone to flood-caused release. During demolition, treated wood waste, asbestos, and lead waste would be required to be stockpiled outside of the flood zone prior to export from the site, according to DTSC regulations cited in Section VIII above. Moreover, demolition is anticipated to occur during the dry season when flooding is unlikely. Finally, the project area is not within a tsunami or seiche (wind-caused waves on lakes) zone. Accordingly, project impacts associated with inundation-caused pollutant release are anticipated to be less than significant.

X. 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) Cause a significant environmental impact due to a conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect?	☐	☐	☒	☐

BACKGROUND AND REGULATORY SETTING

The SJC General Plan establishes general land use categories (designations) for the unincorporated portions of San Joaquin County. The San Joaquin County zoning ordinance implements the SJC General Plan's goals and policies.

The SJC General Plan and zoning designations for the project area are Agricultural/General and General Agricultural (AG-160), respectively. The General Agriculture (AG Zone) zoning is established to preserve agricultural lands for the continuation of commercial agriculture enterprises. Minimum parcel sizes within the AG Zone are 20, 40, 80, and 160 acres, as specified by the precise zoning. Typical uses include crop production, feed and grain storage and sales, crop spraying, and animal raising and sales. Residential density is limited to a maximum of one primary residence per 40 acres (SJC General Plan).

IMPACT DISCUSSION:

- a) **No Impact.** The proposed project will not divide an established community because it would not create a physical or visual barrier to north/south travel along Buckman Road. The project is limited to replacing an existing bridge on an existing roadway that passes through agricultural fields.
- b) **Less Than Significant Impact.** The proposed project would not conflict with land use plans, policies or regulations adopted for the purpose of avoiding or mitigating environmental effects, simply because the project must comply with state and federal resource agencies' permit conditions that are designed to avoid and mitigate environmental effects, and to comply with existing environmental regulations. Project funding will not be issued if permit conditions are not met. Moreover, although the proposed project would remove some agricultural land for right-of-way acquisition, the acreage required is less than 0.2 acre and would not substantially impair present or future agricultural production.

XI. 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 a 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?	☐	☐	☐	☒

BACKGROUND AND REGULATORY SETTING

The primary extractive resources in San Joaquin County are sand and gravel aggregate. Peat soil, placer gold and silver are extracted to a much lesser extent. These are all nonrenewable resources. The County seeks to protect these resources and manage their production in an environmentally sound manner. Reclamation plays a central role in determining the impact of extractive activities on the environment by controlling waste and erosion and rehabilitating streambeds. Sand and gravel are important resources used primarily for construction materials such as asphalt and concrete. Because materials are costly to transport, they are extracted as close as possible to their use (SJC General Plan and Development Title).

IMPACT DISCUSSION:

a, b) **No Impact.** The proposed bridge-replacement project would not result in the loss of availability of regionally- or locally-important mineral resources, because the project area is not located within an area designated or otherwise identified as having known mineral resources (SJC 2035 General Plan Final EIR, Figure 4.0-1, Aggregate Resources).

XII. NOISE

Would the project result in:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Generation of a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?	☐	☐	☒	☐
b) Generation of excessive ground-borne vibration or ground-borne noise levels?	☐	☐	☒	☐
c) For a project located within the vicinity of a private airstrip or an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels?	☐	☐	☐	☒

BACKGROUND AND REGULATORY SETTING

Section 9-1025.9 (Noise) of the San Joaquin County Development Title sets forth noise exposure standards for transportation and stationary noise sources. Table 9-1025.9 sets a transportation source noise threshold of 65 decibels (dB) as acceptable for outdoor activity areas around various land uses, and 45 dB for interior spaces; stationary noise sources have lower thresholds, 50-70 dB for outdoor activity areas during the day and 45-65 dB at night. Development must be planned and designed to minimize noise interference from outside noise sources (§ 9-1025.9(a-b)). Exemptions include noise sources associated with construction, provided that such activities do not take place before 6:00 a.m. or after 9 p.m. on any day (§ 9-1025.9(c)(3)). The same applies to noise sources associated with work performed by private or public utilities for facility maintenance or modification (§ 9-1025.9(c)(7)). There are no County standards for ground-borne vibration.

The sound levels associated with common noise sources and their effects are presented in Figure 24 below.

The San Joaquin County Development Title further stipulates that proposed projects that will create new stationary noise sources or expand existing stationary noise sources shall be required to mitigate the noise levels from these stationary noise sources so as not to exceed the noise level standards specified in Table I below.

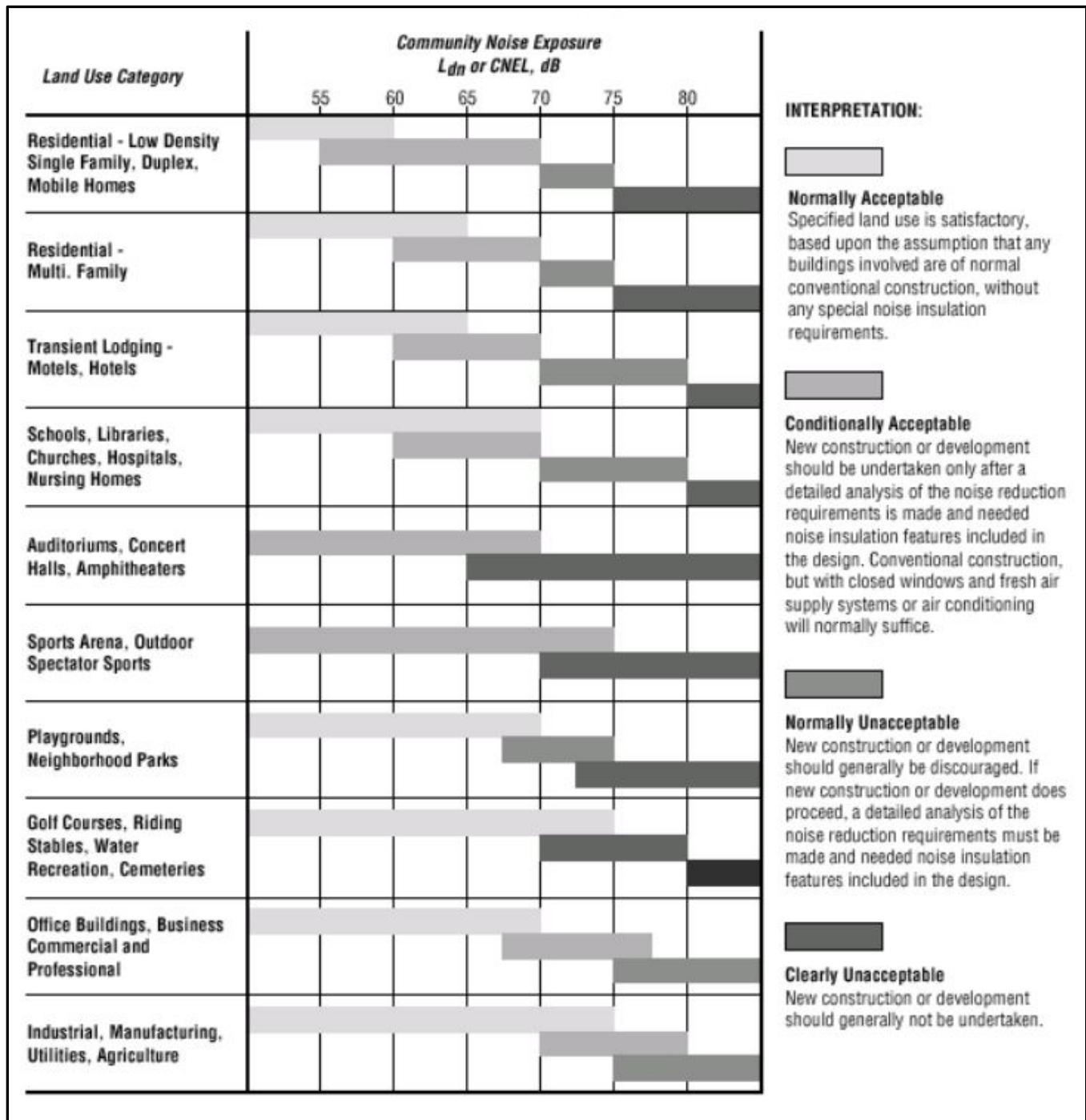


Figure 24 - Typical Sound Levels for Common Noise Sources

Source: SJC General Plan Final EIR, Figure 4.H-19

Table 1 – Maximum Allowable Noise Exposure

Transportation Noise Source		
Noise Sensitive Land Use (Use Types)	Outdoor Activity Areas¹ dB Ldn	Interior Spaces dB Ldn
Residential	65	45
Administrative Office	--	45
Child Care Services – Child Care Centers	--	45
Community Assembly	65	45
Cultural & Library Services	--	45
Educational Services: General	--	45
Funeral & Interment Services – Undertaking	65	45
Lodging Services	65	45
Medical Services	65	45
Professional Services	--	45
Public Services (excluding Hospitals)	--	45
Recreation – Indoor Spectator	--	45
Religious Assembly	65	45
STATIONARY NOISE SOURCES	Outdoor Activity Areas	Outdoor Activity Areas
	Daytime² (7 a.m. to 10 p.m.)	Nighttime² (10 p.m. 7 a.m.)
Hourly Equivalent Sound Level (Leq), dB	50	45
Maximum Sound Level (Lmax), dB	70	65

Source: San Joaquin County 2030 General Plan, Public Health and Safety Element, Tables PHS-1 and 2, pp. 3.3-19, 20.

¹ Where the location of outdoor activity areas is unknown or is not applicable, the noise standard shall be applied at the property line of the receiving land use. When determining the effectiveness of noise mitigation measures, the standards shall be applied on the receiving side of noise barriers or other property line noise mitigation measures.

² Each of the noise level standards shall be reduced by 5 dB for impulsive noise, single tone noise, or noise consisting primarily of speech or music.

Table 2 – Typical Road Construction Equipment Noise

Typical Road Construction Equipment Noise	
Equipment	Maximum Noise Level (dBA at 50 feet)
Scrapers	89
Bulldozers	85
Heavy Trucks	88
Backhoe	80
Pneumatic Tools	85
Concrete Pump	82

Source: Federal Transit Administration, 2006. See also: Caltrans, *Noise Study Report Annotated Outline*, available for download at <https://dot.ca.gov/-/media/dot-media/programs/environmental-analysis/documents/ser/noise-study-report-annotated-outline.docx> (accessed July 15, 2021).

IMPACT DISCUSSION:

- a. **Less Than Significant Impact.** The proposed bridge-replacement project would not generate substantial temporary or permanent noise *in excess of San Joaquin County standards*, generally because those standards do not apply to construction projects conducted during the day, and because bridge operational noise would not be anticipated to change from present conditions, since the project would not increase road capacity nor induce substantial additional traffic.
- b. **Less Than Significant Impact.** The proposed project is not anticipated to generate excessive ground-borne vibration or noise levels because the construction activities that would generate ground-borne vibration or noise would be short-term and would stop after construction. Moreover, there are no sensitive receptors (residences, schools, etc.) within a 1,000' radius of the project site, and the site itself is surrounded by orchards.
- c. **No Impact.** The project site is not near a private airstrip, and is not within two miles of a public or public-use airport. The nearest airport to the project site is the Stockton Metropolitan Airport, approximately 14 miles to the west-southwest.

XIII. POPULATION AND HOUSING

Would the project:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Induce substantial unplanned 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 people or housing, necessitating the construction of replacement housing elsewhere?	☐	☐	☐	☒

BACKGROUND AND REGULATORY SETTING

Residences near the project area are associated with agricultural uses, predominately orchards. The surrounding area is planned and zoned for agricultural uses.

IMPACT DISCUSSION:

a-b) **No Impact.** The proposed bridge-replacement project will not induce population growth or displace people or housing, because the project would not change the roadway capacity, extend a new roadway into undeveloped areas, and would not change the project area's General Plan designation or zoning from its present agricultural designation. Moreover, the project would not displace people or housing, because the project is limited to replacing an existing bridge, and would not affect residences in the area.

XIV. PUBLIC SERVICES

Would the project:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times, or other performance objectives for any of the public services:				
Fire protection?	☐	☐	☐	☒
Police protection?	☐	☐	☐	☒
Schools?	☐	☐	☐	☒
Parks?	☐	☐	☐	☒
Other public facilities?	☐	☐	☐	☒

BACKGROUND AND REGULATORY SETTING

Fire Protection

The Farmington Fire Districts provide fire protection services for the project area vicinity (SJC General Plan).

Police Protection

Police services in unincorporated areas of San Joaquin County are provided by the San Joaquin County Sheriff Department. The California Highway Patrol assists in maintaining routine patrols and investigating traffic accidents on public roads in unincorporated areas (SJC General Plan).

Schools

The project limits are located near Farmington, within the Escalon Unified School District (SJC General Plan, p. 3.1-142).

Parks

No parks exist in the project area vicinity.

Other Facilities

Other public facilities include water, wastewater, and storm drainage, which are discussed further in section XVII, Utilities and Service Systems within this document.

IMPACT DISCUSSION:

- a. **No Impact.** The proposed bridge replacement project will not result in substantial adverse physical impacts resulting from new or altered government facilities, because as described throughout this document, environmental impacts arising from the proposed bridge replacement project are minimized through project design, existing regulations, and applicable mitigation measures. Moreover, the project is limited to removing and replacing the existing bridge, and would not trigger the need for other new public facility construction.

XV. RECREATION

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

BACKGROUND AND REGULATORY SETTING

The surrounding area provides fishing, boating, and wildlife viewing opportunities at the nearby Sacramento-San Joaquin Delta.

IMPACT DISCUSSION:

- a. **No Impact.** The proposed bridge-replacement project would not contribute to increased use or deterioration of neighborhood or regional parks in the County, or facilities in the Delta, because (1) Buckman Road does not provide access to any such facilities, and (2) the project will not create new population-generating development that would increase park use. No associated impacts are anticipated.
- b. **No Impact.** The proposed bridge-replacement project will not include construction or expansion of recreational facilities. No impacts associated with such facilities' construction are anticipated.

XVI. TRANSPORTATION/TRAFFIC

Note: Except as provided in CEQA Guidelines § 15064.3(b)(2) (regarding roadway capacity projects), a project's effect on automobile delay shall not constitute a significant environmental impact. Level of Service (LOS) analysis is no longer required under CEQA, although agencies may set LOS standards outside of the CEQA process. See 14 CCR § 15064.3.

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

BACKGROUND AND REGULATORY SETTING

Part 3.2 of the San Joaquin County General Plan addresses the County's roadway system, and assigns categories to roadways throughout the County (General Plan, Table TM-1). Roadways are classified as freeway, expressway, principal arterial, minor arterial, collector, local residential, local commercial and residential, rural residential, and rural. Neither Buckman Road nor East Funck Road are classified in the County General Plan as arterial or collector roads (General Plan, Figure TM-1).

IMPACT DISCUSSION:

- a. **No Impact.** The proposed bridge-replacement project will not conflict with circulation system programs, plans, ordinances, or policies, simply because the project has been included in the regional Federal State Transportation Improvement Program (FSTIP 2014/15 – 2019/20, p. 10) and is consistent with that plan. Project plans and their various effects have been considered in the project's NEPA compliance process (NEPA records available for review at the San Joaquin County Public Works Department).
- b. **No Impact.** The proposed bridge replacement project would not permanently affect the area's vehicle miles traveled, because the project does not propose a bridge with increased capacity on a through-route that would induce additional vehicle use.
- c. **No Impact.** The proposed bridge-replacement project will not result in a geometric design feature that would substantially increase hazards, because the new bridge will be constructed to current engineering standards for safety, minimizing hazards.
- d. **No Impact.** The proposed bridge-replacement project is not anticipated to result in permanently inadequate emergency access, because the new bridge will maintain the same capacity for emergency vehicles as exists now. During preparation for construction, one lane will remain open for traffic on Buckman Road and the bridge. During the actual bridge replacement, Buckman Road will be closed to through traffic at the Duck Creek channel. The segment of Buckman Road south of the project site would remain accessible to emergency vehicles from SR 4, and the segment north of the project site would remain accessible via East Funck Road to the north. Figure 12 above (Detour

Plan) shows the proposed detour route during bridge construction. When construction is complete, through-access would resume.

XVII. TRIBAL CULTURAL RESOURCES

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:

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in Public Resources Code section 5020.1(k), or	☐	☒	☐	☐
b) A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Public Resources Code Section 5024.1. In applying the criteria set forth in subdivision (c) of Public Resources Code Section 5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe.	☐	☒	☐	☐

IMPACT DISCUSSION

- a-b) **Less Than Significant with Mitigation Incorporated.** The proposed bridge-replacement project is not anticipated to cause substantial adverse changes to tribal cultural resources. As discussed in Section V, Cultural Resources, above, the Archeological Survey Report prepared for the project's NEPA process concluded that the project area has low potential for archeological resources, and found no evidence showing that the project site was associated with a sacred place or Native American cultural activities. (Starkey I, p. 2). However, as noted in Section V(b), the proposed project *will* excavate within the area, which could result in a previously-undiscovered find. If any subsurface resources are discovered, Mitigation Measure Cult-1 above requires that all work stop until a qualified archaeologist has evaluated the find, reported on its significance, and recommended additional mitigation measures, which shall include contacting the Southern Sierra Miwuk Nation and the Northern Valley Yokut/Ohlone/Bay Miwuk Tribe for appropriate treatment of the find, and commitment by the County to facilitate that treatment.

XVIII. UTILITIES AND SERVICE SYSTEMS

Would the project:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
c) Require or result in the relocation or construction of new or expanded water, wastewater treatment or storm water drainage, electric power, natural gas, or telecommunications facilities, the construction or relocation of which could cause significant environmental effects?	☐	☐	☐	☒
d) Have sufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry, and multiple dry years?	☐	☐	☐	☒
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) Generate solid waste in excess of state or local standards, or in excess of the capacity of local infrastructure, or otherwise impair the attainment of solid waste reduction goals?	☐	☐	☒	☐
g) Comply with federal, state, and local management and reduction statutes and regulations related to solid waste?	☐	☐	☐	☒

BACKGROUND AND REGULATORY SETTING

The collection, treatment, and disposal of wastewater in San Joaquin County occurs in primarily two ways: community collection and treatment systems with discharge into various rivers, watercourses, and the Delta, or individual on-site treatment systems with discharge into the ground (SJC General Plan).

Storm Drainage

Storm water runoff is that portion of rainfall not absorbed into the soil that leaves a site by surface flow. A storm drainage system designed to prevent flooding can consist of both natural and man-made structures used to collect, convey, and store rainwater during storms. The captured storm water is eventually discharged to a natural body of water via the terminal drainage (SJC General Plan).

Water Supply

The Eastern San Joaquin County Groundwater Basin is the primary source of potable domestic water in San Joaquin County. The boundaries of the groundwater basin extend from the San Joaquin-Sacramento County line and Dry Creek in the north to the Stanislaus River in the south, and from the San Joaquin River and eastern edge of the Delta to the west to approximately the San Joaquin County line to the east (DWR 2006).

Groundwater has been the preferred water source for domestic consumption because the cost of good quality, fresh groundwater is substantially less than the cost of importing treated surface water. Groundwater generally requires little treatment, whereas surface water must be filtered and treated for domestic use. In addition, it is much less costly to locate wells near the end users with short transmission lines to transport water a longer distance through larger, more capital intensive systems. However, overdrafting in the past few decades has caused a steady decline in groundwater levels in San Joaquin County, creating a zone of depression in western San Joaquin County areas and allowing the intrusion of highly saline Delta water into the groundwater basin. A number of proposed projects to provide areas with supplemental water will decrease groundwater pumping to safe yield levels (SJC General Plan).

The second major source of water is supplied by major rivers such as the Mokelumne, Calaveras, Stanislaus, and San Joaquin Rivers, and reservoirs such as the Camanche, Pardee, Farmington, Woodward, New Hogan, and New Melones. Surface water is subject to a complex federal and state legal system establishing the rights of individuals and agencies to water flows through permits, licenses, court decrees, contracts, and federally prescribed flood control regulations (SJC General Plan).

The third major source of water is the Delta, particularly in southwest San Joaquin County. Exporting fresh water from the Delta, however, has caused many problems. Reverse flows, declining fisheries, water quality problems, and levee erosion are among the many problems associated with water transfers from the Delta (SJC General Plan).

Solid Waste

The San Joaquin County Solid Waste Division is the lead for the administration of solid wastes and the operation of related facilities. The San Joaquin County Environmental Health Department is involved in administering local and state regulations regarding waste management and has been appointed as the Local Enforcement Agency (LEA) in the unincorporated areas. San Joaquin County 2035 General Plan Policy PHS-6.5 requires the County to achieve a 75 percent diversion of landfilled waste by 2020, and a 90 percent diversion rate by 2035 (SJC General Plan).

IMPACT DISCUSSION:

- a) **No Impact.** The proposed bridge-replacement project would not require or result in significant environmental impacts associated with utility relocation or construction, because all construction activities would be limited to the bridge and its immediate surroundings and no existing utilities would be affected. The bridge will not require water, wastewater, power, or telecommunication connections.
- b) **No Impact.** The proposed bridge-replacement project would not require a water supply connection for bridge construction or operation.
- c) **No Impact.** The proposed bridge-replacement project would not generate wastewater requiring treatment.
- d) **Less Than Significant Impact.** The proposed bridge replacement project is not anticipated to generate solid waste in excess of available capacity. Bridge demolition would require disposing treated wood waste, concrete, and asphalt debris at appropriately-permitted waste disposal facilities. Debris is planned to be transported off-site for disposal (the Foothill Sanitary Landfill approximately nine miles north of the project site, the Forward Landfill approximately 18 miles to the southwest, or equivalently suitable landfill), and a limited amount of landfill volume may be required for construction debris. The San Joaquin County 2030 General Plan Draft Environmental Impact Report (GPDEIR) (October 2014) notes that development facilitated by General Plan implementation could require more landfill space than is available (Impact 4.N-5); however, the waste diversion required by Policy PHS-6.5 described above (implementing GPDEIR Mitigation Measure 4.N-5) was considered to conserve landfill volume. Because County activities, including the proposed bridge demolition, must comply with General Plan requirements for waste diversion, and the resulting bridge debris volume would be balanced by comparable waste material recycled or repurposed, impacts associated with landfill capacity are anticipated to be less than significant.
- e) **No Impact.** The proposed bridge-replacement project, as a County public-works improvement project, would be expected to comply with applicable regulations regarding solid waste disposal, including potentially hazardous materials, as discussed above in Section VII, Hazards and Hazardous Materials.

XIX. WILDFIRE

If located in or near state responsibility areas or lands classified as very high fire hazard severity zones, would the project:	Less Than			
	Potentially Significant Impact	Significant with Mitigation Incorporated	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 downslope or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes?	☐	☐	☐	☒

BACKGROUND AND REGULATORY SETTING

Revisions to the CEQA Guidelines in January 2018 created a new, focused section on wildfire hazards. Generally, CEQA does not require that lead agencies analyze the environment's impacts on a project, but rather that they address a project's impact on the environment (*California Building Industry Ass'n v. Bay Area Air Quality Management District*, 62 Cal.4th 369 (2015)). However, CEQA does require evaluating whether a project would place future occupants or users of a project at substantial risks of environmental effects, such as wildfires or earthquakes (id., p. 377).

San Joaquin County General Plan, Public Health and Safety Element.

The General Plan Public Health and Safety Element sets forth goals and policies for fire hazards in the County (General Plan, p. 3.3-10), and identifies four communities within the County that are at particular risk for wildfire: Bellota, Clements, Linden and Lockeford). Policies 4.1 – 4.6 address measures for fire resilience in Fire Hazard Severity Zones.

San Joaquin County Local Hazard Mitigation Plan

The County Office of Emergency Services prepares a Local Hazard Mitigation Plan (LHMP) every five years for the Federal Emergency Management Agency (FEMA) (see *San Joaquin County Local Hazard Mitigation Plan*, rev. 2017, available at <https://www.sjgov.org/uploadedfiles/sjc/departments/oes/content/docs/plans/lhmp.pdf> (accessed July 19, 2021)). The LHMP meets the State and Federal requirement of the Disaster Mitigation Act of 2000 to develop an on-going process for mitigating disaster damage both prior to and following a disaster by providing strategies for the County and other local jurisdictions to identify and implement mitigation actions for reducing damage from various potential natural and technological disasters. LHMP pages 27-28 show fire severity zones throughout the County, and identify whether those zones are within state or local management responsibility. Currently, there are no areas of "high" fire severity in the County. Figures 25 and 26 below show the state and local wildfire severity zones in the project area.

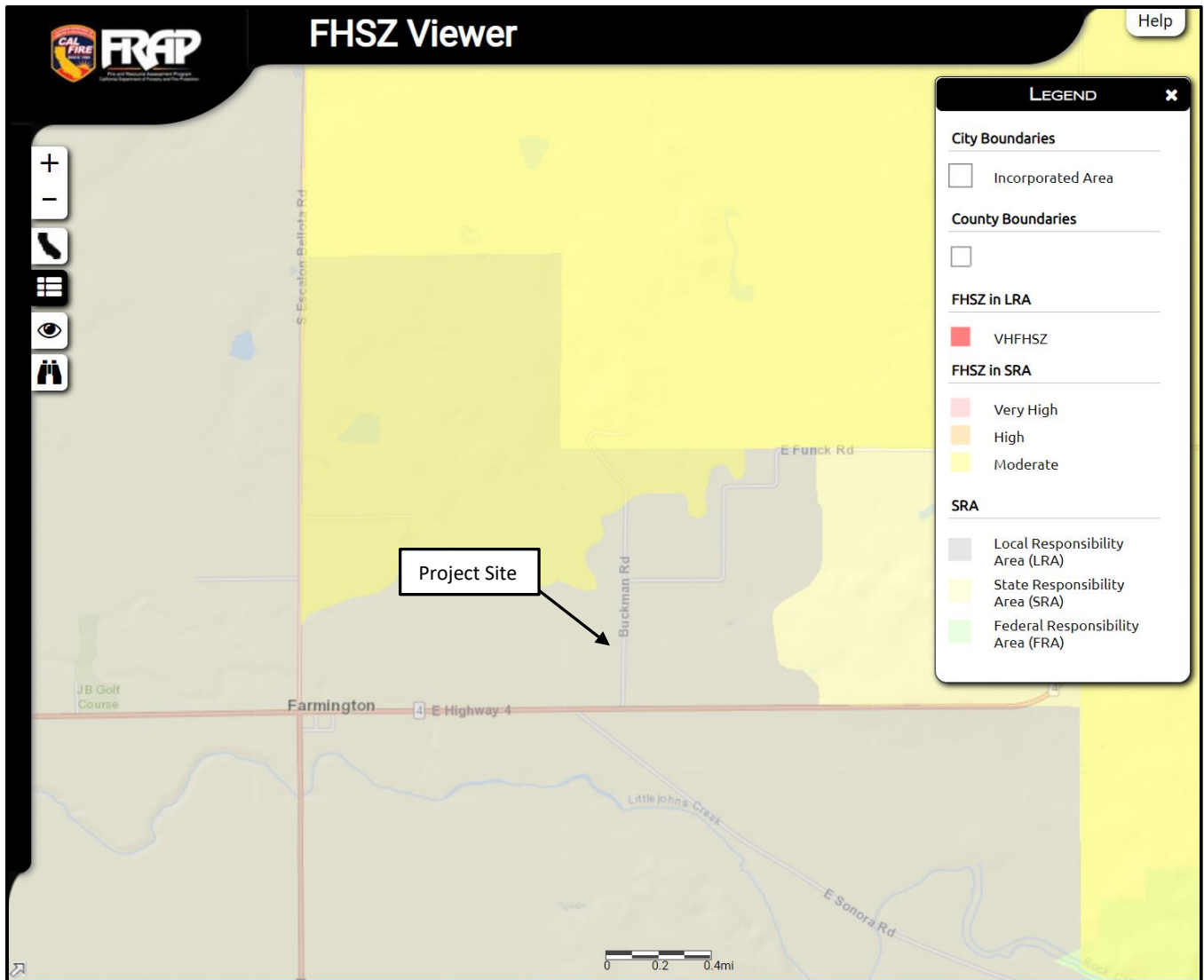


Figure 25 – State-Managed Wildfire Severity Zones in Project Area

Source: Calfire FHSZ Viewer, available at <https://legis.fire.ca.gov/FHSZ/> (accessed July 18, 2021)

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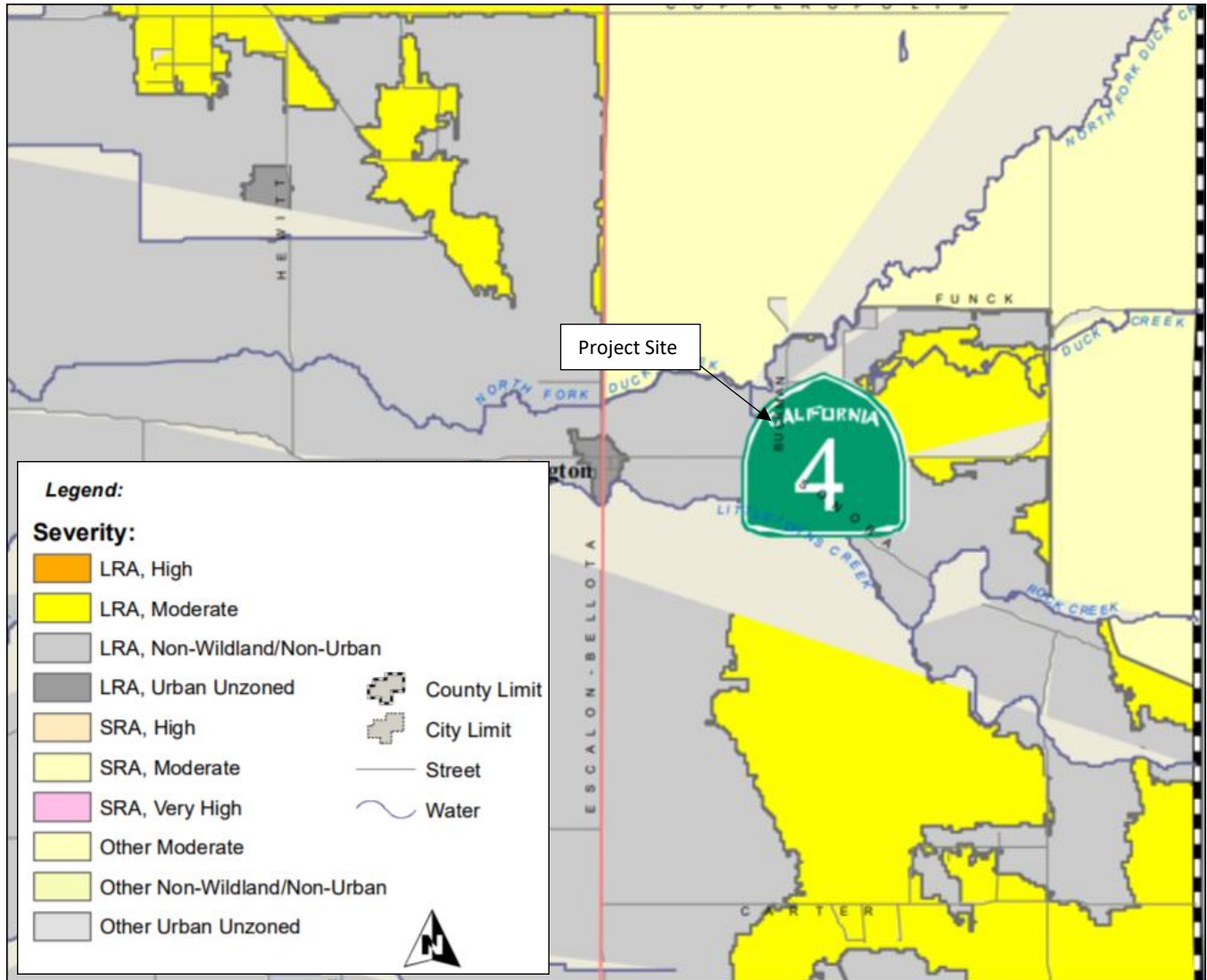


Figure 26 – Fire Severity Zones, Local Responsibility Areas

Source: San Joaquin County Local Hazard Mitigation Plan, p. 21

IMPACT DISCUSSION:

- a-d) **No Impact.** As shown in Figures 25 and 26 above, the proposed bridge replacement project site is not in or near lands classified as very high fire severity zones.

XX. MANDATORY FINDINGS OF SIGNIFICANCE

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Does the project have the potential to substantially degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, substantially reduce the number, or restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory?	☐	☐	☒	☐
Does the project have impacts that are individually limited, but cumulatively considerable? (<i>"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.</i>)	☐	☐	☒	☐
Does the project have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly?	☐	☐	☐	☒

IMPACT DISCUSSION:

- a) **Less Than Significant Impact.** As explained in Section IV, Biological Resources, above, the proposed Buckman Road bridge-replacement project would not substantially degrade the quality of the environment, fish or wildlife habitat or populations, nor would it substantially impair plant or animal communities or affect rare or endangered plants. Mitigation Measures Bio-1 through Bio-3 minimize impacts to biological resources, including conducting bridge demolition during the late spring through summer timeframe to reduce the likelihood of affecting western pond turtles, disturbing nesting bird species, or harming sensitive aquatic species. To avoid construction-related impacts, SJCPWD will require a qualified biologist to conduct a pre-construction survey for turtles, spadefoots, and nesting birds if construction is scheduled within the breeding/nesting/active season and to observe fish and/or water levels. Project permits from the US Army Corps of Engineers, (404, 401), California Department of Fish and Wildlife (1602), San Joaquin County (General Construction Permit, Storm Water Pollution Prevention Plan) will also set forth multiple requirements for avoiding significant impacts to biological and water resources. Remaining impacts to biological resources are anticipated to be less than significant.

Additionally, as explained in Section V, Cultural Resources, the project is not anticipated to affect important historical, archaeological, or paleontological resources, and compliance with Mitigation Measure Cult-1 and existing regulations regarding discovery of human remains would avoid impacts to them. Remaining impacts to cultural resources are anticipated to be less than significant.

- b) **No Impact.** The proposed bridge-replacement project would not result in cumulatively considerable impacts, because the new two-lane bridge would not change the existing bridge's capacity, and would not provide new road access to an area that previously lacked access. Bridge replacement will not trigger re-classification of either Buckman or East Funk Roads. Additionally, the bridge structure would not significantly change the existing channel flow from present conditions. The project area is occupied

by agricultural uses, which are not likely to change within the San Joaquin County 2030 General Plan's planning horizon. No cumulative impacts are anticipated.

- c) **No Impact.** As explained throughout this document, the proposed bridge-replacement project will not cause environmental effects that would result in substantial direct or indirect harm to humans.

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