



KAWEAH DELTA WATER CONSERVATION DISTRICT

## **JOHNSON SLOUGH RECHARGE BASIN**

# **DRAFT INITIAL STUDY/MITIGATED NEGATIVE DECLARATION**

**TULARE COUNTY, CALIFORNIA  
APRIL 2025**

**PREPARED FOR:**

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**PREPARED BY:**

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- Appendix A. CalEEMod Output Files
- Appendix B. Biological Resources Evaluation
- Appendix C. Phase I Cultural Resources Assessment
- Appendix D. Kaweah MLRP Vegetation Outline

## ACRONYMS & ABBREVIATIONS

APE	Area of Potential Effect
BMP	Best Management Practices
BPS	Best Performance Standards
BUOW	Burrowing Owl
CalEEMod	California Emissions Estimator Modeling (software)
CBC	California Building Code
CARB	California Air Resources Board
CCAA	California Clean Air Act
CDFW	California Department of Fish and Wildlife
CEQA	California Environmental Quality Act
CGP	Construction General Permit
CH <sub>4</sub>	Methane
CHRIS	California Historical Resources Information System
CNDDDB	California Natural Diversity Database
CNPS	California Native Plant Society
CO	Carbon monoxide
CO <sub>2</sub>	Carbon dioxide
CO <sub>2</sub> e	Carbon dioxide-equivalents
CPDC	Consolidated Peoples Ditch Company
CWA	Clean Water Act
District	Kaweah Delta Water Conservation District
DTSC	Department of Toxic Substances Control
EIR	Environmental Impact Report
FMMP	Farmland Mapping and Monitoring Program
GHG	Greenhouse Gas
GWP	Global Warming Potential
HCP	Habitat Conservation Plan
IPaC	U.S. Fish and Wildlife Service's Information for Planning and Consultation system
IS	Initial Study
IS/MND	Initial Study/Mitigated Negative Declaration
KDWCD	Kaweah Delta Water Conservation District
MMRP	Mitigation Monitoring and Reporting Program
MND	Mitigated Negative Declaration
MRZ	Mineral Resource Zone
MTCO <sub>2</sub> e	Metric Tons of Carbon Dioxide Equivalent
NAAQS	National Ambient Air Quality Standards
NAHC	Native American Heritage Commission
NCCP	Natural Communities Conservation Plan
ND	Negative Declaration
NO <sub>2</sub>	Nitrogen dioxide
NO <sub>x</sub>	Nitrogen oxides
NPT	Northwestern Pond Turtle
O <sub>3</sub>	Ozone
Pb	Lead
PM <sub>10</sub>	particulate matter with a diameter of 10 microns or less
PM <sub>2.5</sub>	particulate matter with a diameter of 2.5 microns or less
ppb	parts per billion

ppm	parts per million
Project	Johnson Slough Recharge Basin Project
ROG	Reactive Organic Gases
RWQCB	Regional Water Quality Control Board
SGMA	Sustainable Groundwater Management Act
SJVAB	San Joaquin Valley Air Basin
SJVAPCD	San Joaquin Valley Air Pollution Control District
SO <sub>2</sub>	Sulfur dioxide
SSJVIC	Southern San Joaquin Valley Information Center
SR	State Route
SWPPP	Storm Water Pollution Prevention Plan
SWRCB	State Water Resources Control Board
USACE	United States Army Corps of Engineers
USEPA	United States Environmental Protection Agency
USFWS	United States Fish and Wildlife Service
µg/m <sup>3</sup>	micrograms per cubic meter

# CHAPTER 1 INTRODUCTION

Provost & Pritchard Consulting Group (Provost & Pritchard) has prepared this Initial Study/Mitigated Negative Declaration (IS/MND) on behalf of the Kaweah Delta Water Conservation District (District) to address the potential environmental effects of the Johnson Slough Recharge Basin Project (Project). This document has been prepared in accordance with the California Environmental Quality Act (CEQA), Public Resources Code Section 21000 et seq. The Kaweah Delta Water Conservation District is the CEQA lead agency for this Project.

The site and the Project are described in detail in [Chapter 2 Project Description](#).

## 1.1 REGULATORY INFORMATION

An Initial Study (IS) is a document prepared by a lead agency to determine whether a project may have a significant effect on the environment. In accordance with California Code of Regulations Title 14 (Chapter 3, Section 15000, *et seq.*)-- also known as the CEQA Guidelines--Section 15064 (a)(1) states that an environmental impact report (EIR) must be prepared if there is substantial evidence in light of the whole record that the Project under review may have a significant effect on the environment and should be further analyzed to determine mitigation measures or project alternatives that might avoid or reduce project impacts to less than significant levels. A negative declaration (ND) may be prepared instead if the lead agency finds that there is no substantial evidence in light of the whole record that the project may have a significant effect on the environment. An ND is a written statement describing the reasons why a proposed Project, not otherwise exempt from CEQA, would not have a significant effect on the environment and, therefore, why it would not require the preparation of an EIR (CEQA Guidelines Section 15371). According to CEQA Guidelines Section 15070, a ND or *mitigated* ND shall be prepared for a project subject to CEQA when either:

- a. The IS shows there is no substantial evidence, in light of the whole record before the agency, that the proposed Project may have a significant effect on the environment, or
- b. The IS identified potentially significant effects, but:
  1. Revisions in the project plans or proposals made by or agreed to by the applicant before the proposed MND and IS is released for public review would avoid the effects or mitigate the effects to a point where clearly no significant effects would occur is prepared, and
  2. There is no substantial evidence, in light of the whole record before the agency, that the proposed Project as revised may have a significant effect on the environment.

## 1.2 DOCUMENT FORMAT

This IS/MND contains six chapters. [Chapter 1 Introduction](#) provides an overview of the Project and the CEQA process. [Chapter 2 Project Description](#) provides a detailed description of proposed Project components and objectives. [Chapter 3 Determination](#) discusses the Lead Agency's determination based upon this initial evaluation. [Chapter 4 Environmental Impact Analysis](#) presents the CEQA checklist and environmental analysis for all impact areas, mandatory findings of significance, and feasible mitigation measures. Where the Project does not have the potential to significantly impact a given impact area, the relevant section provides a brief discussion of the reasons why no impacts are expected. If the Project could have a potentially significant impact on a resource, the impact area discussion provides a description of potential impacts, and appropriate mitigation measures and/or permit requirements that would reduce those impacts to a less than significant level. [Chapter 5 Mitigation, Monitoring, and Reporting Program](#) (MMRP) provides proposed mitigation measures, implementation timelines, and the entity/agency responsible for ensuring implementation. [Chapter 6 References](#) details the documents and reports this document relies upon to provide its analysis.

The California Emissions Estimator Modeling (CalEEMod) Output Files, Biological Resources Evaluation, Phase I Cultural Resources Assessment, and Kaweah MLRP Vegetation are provided as technical **Appendix A, Appendix B, Appendix C, and Appendix D**, respectively, at the end of this document.



## CHAPTER 2 PROJECT DESCRIPTION

### 2.1 PROJECT BACKGROUND

#### 2.1.1 PROJECT TITLE

Johnson Slough Recharge Basin

#### 2.1.2 LEAD AGENCY NAME AND ADDRESS

Kaweah Delta Water Conservation District  
2975 Farmersville Road  
Farmersville, CA 93223

#### 2.1.3 CONTACT PERSON AND PHONE NUMBER

Shane Smith  
General Manager  
(559) 747-5601

#### 2.1.4 CEQA CONSULTANT

Provost & Pritchard Consulting Group  
Jarred Olsen, Environmental Project Manager  
(559) 449-2700

#### 2.1.5 PROJECT LOCATION

The proposed Project is located in Tulare County (County), California, approximately 193 miles southeast of Sacramento and 62 miles north of Bakersfield, and approximately 4.5 miles east of the City of Visalia (see [Figure 2-1](#) and [Figure 2-2](#)). The Project site is located approximately on Assessor's Parcel Number 111-140-073. The centroid of the Project site is 36° 19' 57.88" N, 119° 09' 51.83" W.

#### 2.1.6 GENERAL PLAN DESIGNATION AND ZONING

Table 2-1: General Plan Designation and Zoning

Project Area	General Plan Designation	Zoning District
ONSITE	Rural Valley Lands Plan – Agriculture	AE-40 (Agriculture, 40-acre minimum)
ADJACENT LANDS	Rural Valley Lands Plan – Agriculture	AE-20 (20-acre minimum), AE-40

#### 2.1.7 DESCRIPTION OF THE PROJECT

##### 2.1.7.1 PROJECT BACKGROUND AND PURPOSE

The Consolidated Peoples Ditch Company (CPDC or Company) is a private agricultural irrigation company located in Tulare County, ultimately within the San Joaquin Valley. Similar to other areas within the San Joaquin Valley, Tulare County is facing a groundwater depletion issue due to overdraft, which occurs when the amount of groundwater extracted exceeds the long-term average water supply. The benefit of the Project is two-fold. Primarily, the Project would assist in the effort of achieving groundwater sustainability by constructing a recharge basin. Secondly, the Project would increase the native habitat by include planting of native plant species.

### 2.1.7.2 PROJECT DESCRIPTION

The CPDC is proposing to develop a recharge basin on an approximately 81-acre property north of the Johnson Slough east of the Kaweah Oaks Preserve along Road 182, north of Highway 198. The Project is anticipated to construct an approximately 18-acre basin that is an off-stream basin diverting from Johnson Slough. It is also anticipated there will be an ability to return water from the new basin back into Johnson Slough for potential use downstream.

The Project would assist CPDC in expanding its groundwater recharge efforts in response to the 2014 Sustainable Groundwater Management Act (SGMA). The Project would include a turnout structure with a capacity for approximately 20 cubic feet per second. The proposed turnout facility would allow CPDC to divert surface water from Johnson Slough into the proposed basin area to increase groundwater storage. The proposed facility would consist of cast-in-place concrete structure, control gate(s), trash rack, and related appurtenances from the north bank of the Johnson Slough to divert to the proposed basin. The turnout structure would connect to an inlet structure approximately 150 linear feet (LF) from Johnson Slough in a proposed distribution channel through reinforced concrete piping, equipped with a metered connection. The diversion structure excavation depth would be up to 15 feet below ground surface for establishing proper compaction under the structure and pipeline. Almost all this excavation material will be put back in place. The Project would also include conservation space in the way of native plant species planting. Native habitat plantings would be located along the perimeter of the proposed recharge basin and species would be chosen in accordance with the recommended species outlined in the Kaweah MLRP Vegetation Outline document found in .

Construction would include equipment mobilization, excavation of earthwork for the recharge basin, and construction of basin perimeter berms. As standard practice, basin perimeter berms would be designed in accordance to be used as access roads for operation and maintenance (O&M) purposes. The Project site would contain temporary staging areas for construction equipment and material storage during the construction effort. Staging would not be located along or near Johnson Slough and would be located on an elevated surface away from basin construction. Basin construction would also include performance testing and demobilization. Excavation material would be used on site for berm construction along the perimeter. Any excess material would be exported off site. New berm construction would not exceed six feet in height, measured from the exterior toe to the top of new berm. The maximum depth of ground disturbance for the basin would be as much as nine (9) feet. The site is currently devoid of vegetation so no tree or vegetation removal is needed. Portions of the site have been recently disturbed by earthwork activities.

Through the development of this proposed recharge basin, it is anticipated to recharge approximately 450 acre-feet (AF) in years water will be available. This is derived by an estimated recharge rate of 0.5 AF per acre across approximately 18 acres of wetted area. Assuming surplus water is available for approximately 50 days equates to the approximate 450 AF recharged. 50 days is that average annual amount of surplus surface water availability on the Johnson Slough system.

#### Area of Potential Effects

The term Area of Potential Effects (APE) is used throughout this document, primarily in [Section 4.4 Biological Resources](#) and [Section 4.5 Cultural Resources](#). The APE is the overall Project footprint, including any buffers. As noted in [Appendix B. Biological Resources Evaluation](#), the APE encompasses a total of 41.1 acres. As noted in [Appendix C. Phase I Cultural Resources Assessment](#), the APE encompasses a total of 34.3 acres. These acreages differ because the Biological Evaluation includes a 50-foot buffer around the site. The Cultural Resources Assessment does not include a buffer but is in alignment with the Project site map shown in [Figure 2-2](#), and the 18 acres referenced throughout this document pertains to the recharge basin itself. It does not account for the perimeter of the basin, the turnout footprint, and the Johnson Slough.

### **2.1.7.3 CONSTRUCTION SCHEDULE**

Construction of the Project is anticipated to be completed within six months. Generally, construction would occur between the hours of 7am and 7pm, Monday through Saturday, excluding holidays.

### **2.1.7.4 EQUIPMENT**

Construction equipment would likely include the following equipment used during construction:

- Excavators,
- Backhoes,
- Graders,
- Skid steers,
- Loaders,
- Hauling trucks,
- Scrapers,
- Compactors
- D9 dozer,
- Large tractor and large discing unit,
- Water trucks supplying water for dust control and conditioning soil for compaction, and
- Large watercannon and hoses

### **2.1.7.5 OPERATION AND MAINTENANCE**

The operation and maintenance of the recharge basin would be consistent with CPDC's other similar facilities in that groundwater conditions would be monitored to minimize negative impacts on the surrounding areas (such as nearby wells, crops, and septic systems).

## **2.1.8 OTHER PUBLIC AGENCIES WHOSE APPROVAL MAY BE REQUIRED**

- United States Army Corps of Engineers
- California Department of Fish & Wildlife
- State Water Resources Control Board

## **2.1.9 CONSULTATION WITH CALIFORNIA NATIVE AMERICAN TRIBES**

Public Resources Code Section 21080.3.1, *et seq.* (codification of Assembly Bill 52, 2013-14)) requires that a lead agency, within 14 days of determining that it will undertake a project, must notify in writing any California Native American Tribe traditionally and culturally affiliated with the geographic area of the project if that Tribe has previously requested notification about projects in that geographic area. The notice must briefly describe the project and inquire whether the Tribe wishes to initiate request formal consultation. Tribes have 30 days from receipt of notification to request formal consultation. The lead agency then has 30 days to initiate the consultation, which then continues until the parties come to an agreement regarding necessary mitigation or agree that no mitigation is needed, or one or both parties determine that negotiation occurred in good faith, but no agreement will be made.

The Kaweah Delta Water Conservation District (KDWCD) has not received any written correspondence from a Tribe pursuant to Public Resources Code Section 21080.3.1 requesting notification of proposed Project.

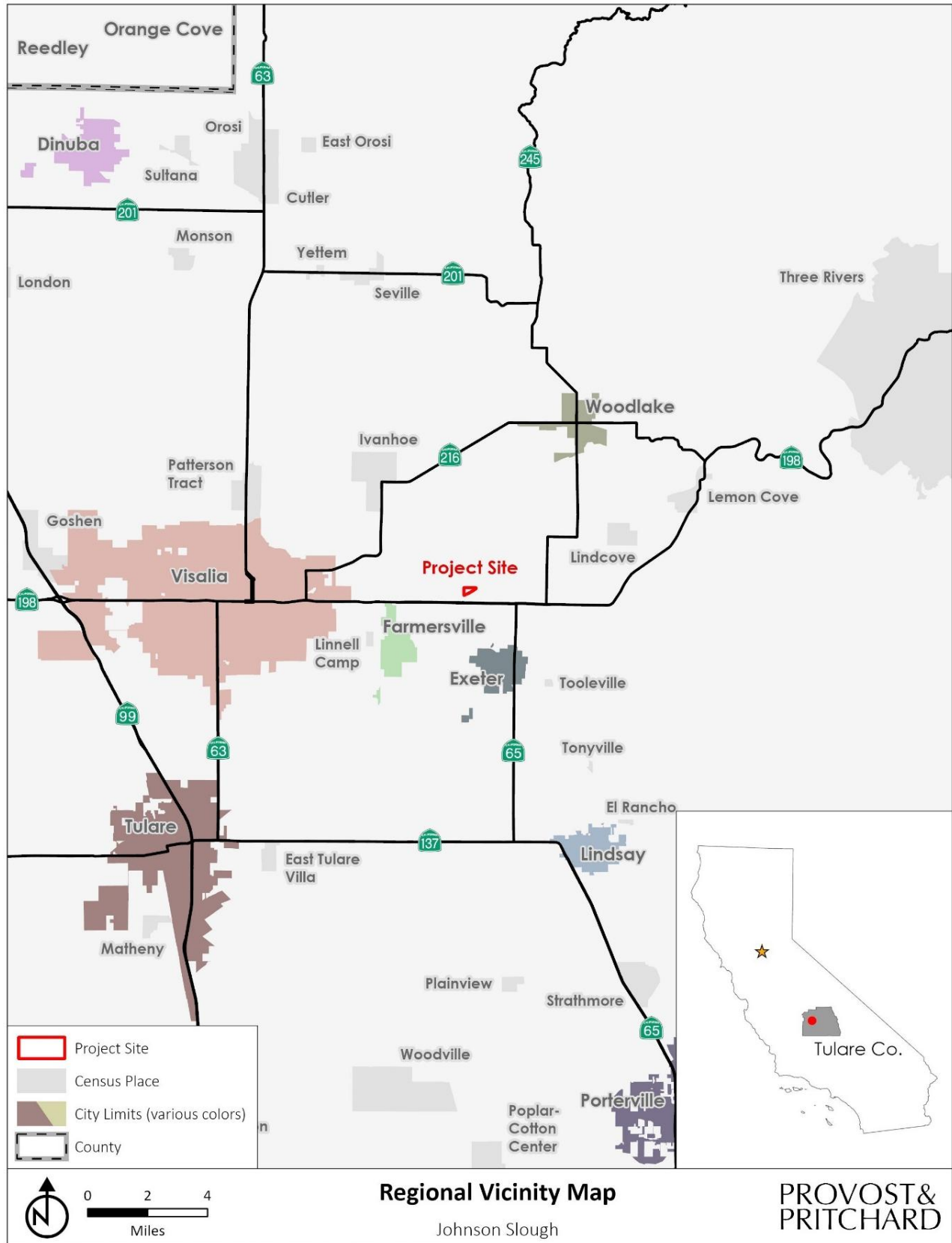


Figure 2-1: Regional Location Map





Figure 2-2: Project Site Map



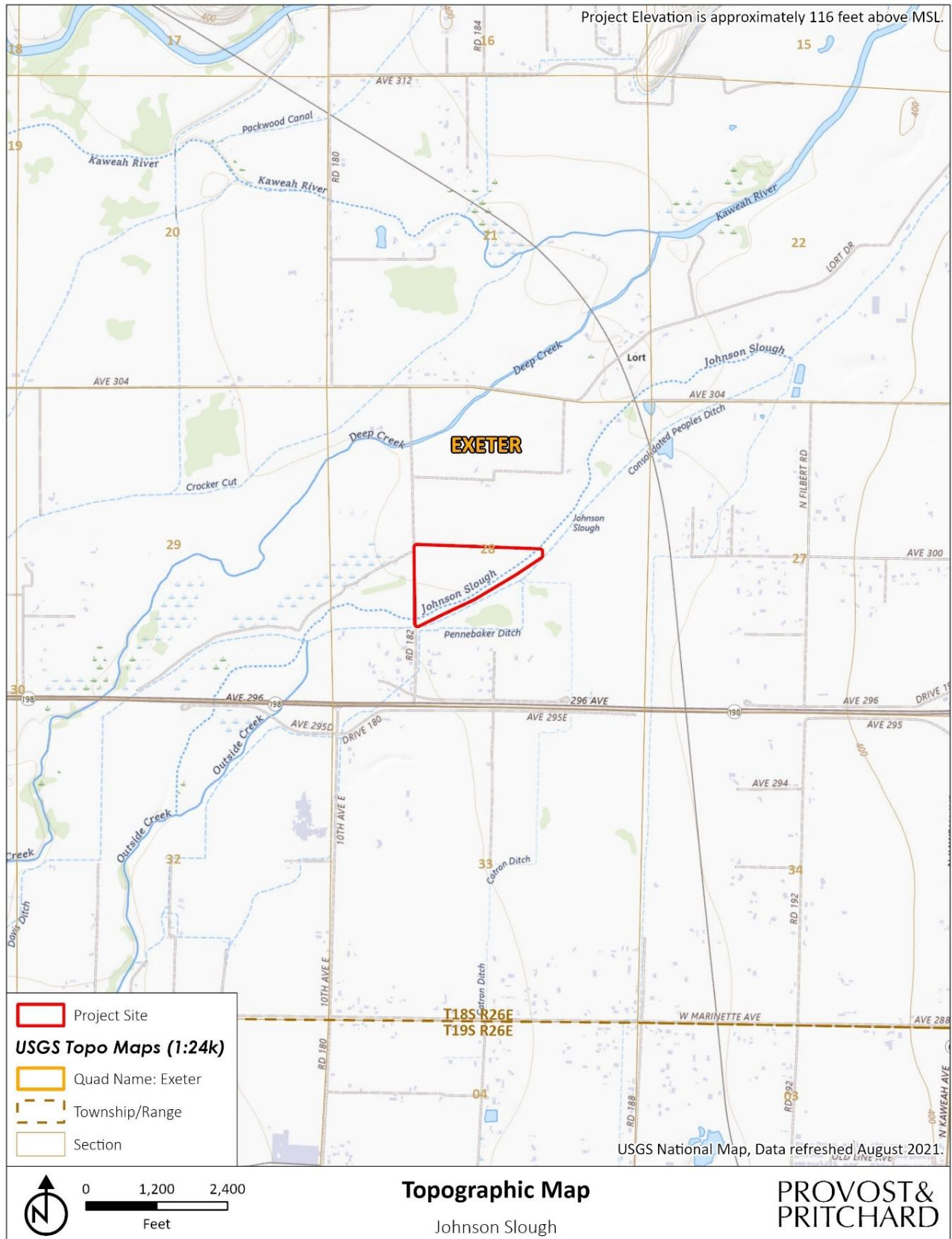


Figure 2-3: Topo Quad Map



Figure 2-4: General Plan Land Use Designation Map



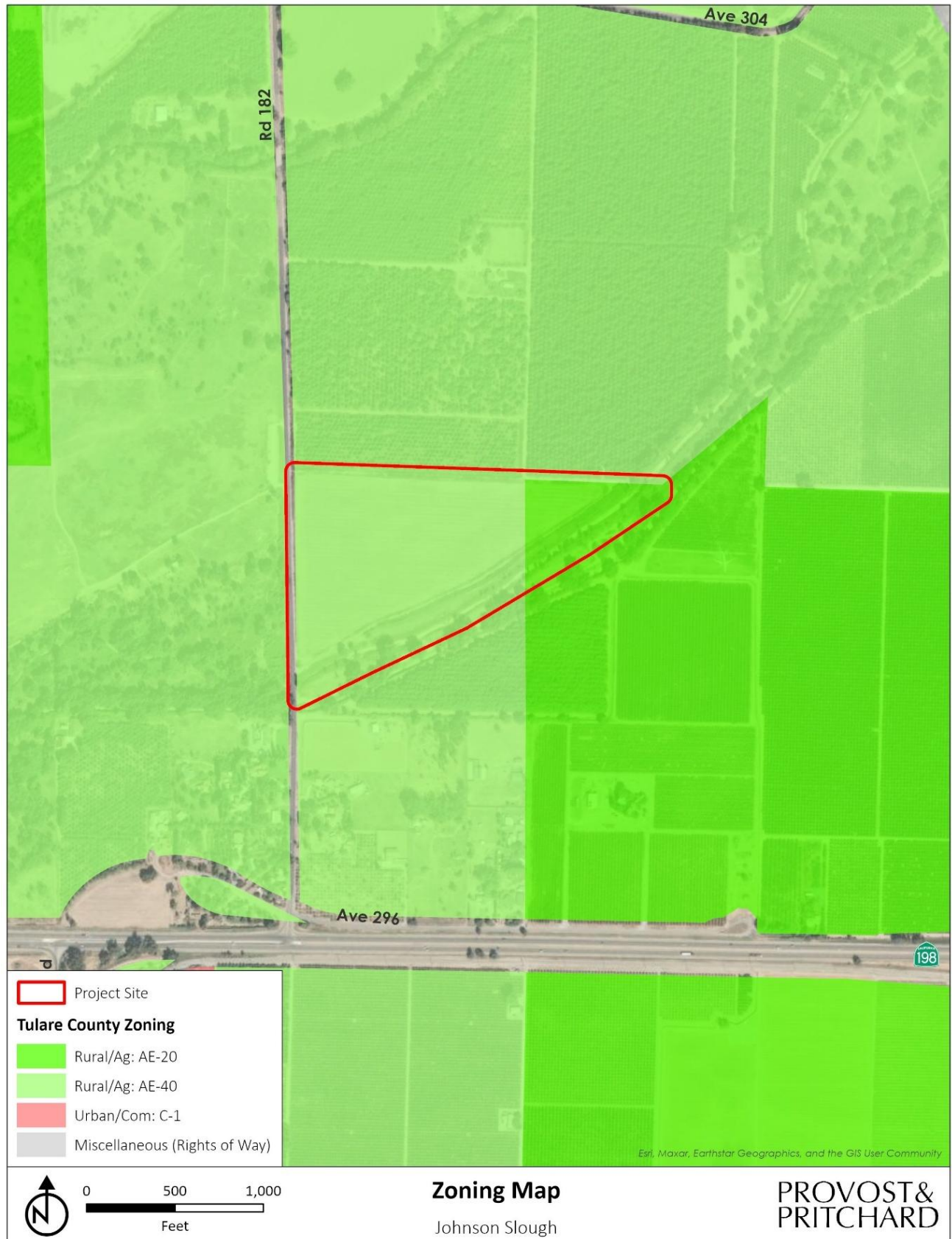


Figure 2-5: Zoning Map



## CHAPTER 3 DETERMINATION

### 3.1 POTENTIAL ENVIRONMENTAL IMPACTS

As indicated by the discussions of existing and baseline conditions, and impact analyses that follow in this Chapter, environmental factors not checked below would have no impacts or less than significant impacts resulting from the project. Environmental factors that are checked below would have potentially significant impacts resulting from the project. Mitigation measures are recommended for each of the potentially significant impacts that would reduce the impact to less than significant.

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

The analyses of environmental impacts in **Chapter 4 Impact Analysis** result in an impact statement, which shall have the following meanings.

**Potentially Significant Impact.** This category is applicable if there is substantial evidence that an effect may be significant, and no feasible mitigation measures can be identified to reduce impacts to a less than significant level. If there are one or more “Potentially Significant Impact” entries when the determination is made, an EIR is required.

**Less than Significant with Mitigation Incorporated.** This category applies where the incorporation of mitigation measures would reduce an effect from a “Potentially Significant Impact” to a “Less than Significant Impact.” The lead agency must describe the mitigation measure(s), and briefly explain how they would reduce the effect to a less than significant level (mitigation measures from earlier analyses may be cross-referenced).

**Less than Significant Impact.** This category is identified when the proposed Project would result in impacts below the threshold of significance, and no mitigation measures are required.

**No Impact.** This category applies when a project would not create an impact in the specific environmental issue area. “No Impact” answers do not require a detailed explanation if they are adequately supported by the information sources cited by the lead agency, which show that the impact does not apply to the specific project (e.g. the project falls outside a fault rupture zone). A “No Impact” answer should be explained where it is based on project-specific factors as well as general standards (e.g. the project will not expose sensitive receptors to pollutants, based on a project-specific screening analysis).

## 3.2 DETERMINATION

On the basis of this initial evaluation (to be completed by the Lead Agency):

- ☐ 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

04/15/25  
\_\_\_\_\_  
Date

LUIS VERPUGO / ENGINEER  
\_\_\_\_\_  
Printed Name/Position

## CHAPTER 4 ENVIRONMENTAL IMPACT ANALYSIS

### 4.1 AESTHETICS

Table 4-1: Aesthetics Impacts

Except as provided in Public Resources Code Section 21099, would the project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
a) Have substantial adverse effect on a scenic vista?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) 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?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
d) Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

#### 4.1.1 BASELINE CONDITIONS

The proposed Project is located in Tulare County approximately 4.5 miles east of the City of Visalia. The Project site is currently a vacant fallow field, with areas of existing ground disturbance due to earthwork activities. The Project site is surrounded by farmland to the north and east and south. The Kaweah Oaks Preserve is located to the west of the Project site across Road 182. The closest residence to the Project site is approximately 100 feet across Road 182 from the southwest corner. The Project site is relatively flat with elevations around 380 to 390 feet above mean sea level. The southern portion of the Sierra Nevada mountain range, which is a prominent visual feature within Tulare County, is located approximately 20 miles to the east; however, it can only be clearly seen on a clear day. Views are often obstructed due to smog caused by the inversion layer found in the San Joaquin Valley.

The Project site is not located near a California State Scenic Highway. According to the California State Scenic Highway System, the closest officially designated state scenic highway is State Route (SR) 180 located approximately 25 miles north in Fresno County.<sup>1</sup> SR 198, which is the major thoroughfare through Visalia, is an eligible state scenic highway located approximately 2.6 miles south.<sup>2</sup> According to the Tulare County General Plan, the Project site, nor the Project vicinity, contains any designated scenic vistas.<sup>3</sup>

<sup>1</sup> (California Department of Transportation, 2023)

<sup>2</sup> Ibid.

<sup>3</sup> (Tulare County 2030 General Plan Update, 2010)

### 4.1.2 IMPACT ANALYSIS

#### a) Have substantial adverse effect on a scenic vista?

**No Impact.** As mentioned, there are no designated scenic vistas at the Project site, nor are there any within the vicinity of the Project. Furthermore, the Project region is generally flat and nowhere on the site provides characteristics that could support a potential scenic vista. Therefore, there would be no impact.

#### b) Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?

**No Impact.** The Project is not located within, or visible from, a designated State Scenic Highway. Furthermore, the Project would not remove any trees, rock outcroppings, or historic buildings. Therefore, there would be no impact.

#### 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?

**Less than Significant Impact.** The Project is located in Tulare County and is considered a non-urbanized area. Implementation of the Project would result in a concaved piece of land, surface water diversion equipment attached to Johnson Slough. These Project features would not substantially degrade the existing visual character, nor would they degrade the quality of a public view. Impacts would be less than significant.

#### d) Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?

**No Impact.** No artificial lighting is proposed. Vehicular traffic to the site after the facility is constructed would be limited to as needed daytime maintenance trips. Therefore, the Project would not create a new source of substantial light or glare that would adversely affect day or nighttime views in the area or be inconsistent with existing conditions. There would be no impact.

## 4.2 AGRICULTURE AND FORESTRY RESOURCES

Table 4-2: Agriculture and Forest Impacts

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?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b) Conflict with existing zoning for agricultural use, or a Williamson Act contract?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c) Conflict with existing zoning for, or cause rezoning of, forest land (as defined in 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))?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d) Result in the loss of forest land or conversion of forest land to non-forest use?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
e) Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland, to non-agricultural use or conversion of forest land to non-forest use?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

### 4.2.1 BASELINE CONDITIONS

The Project is located in California's San Joaquin Valley in Tulare County. Tulare County is known for its agricultural production as it was the number one agriculture producing county in the United States for 2020.<sup>4</sup> In 2022, Tulare County's agriculture production grossed 8.6 billion dollars, an increase in 6.5% from the previous year.<sup>5</sup> The Project site is planned and zoned for agricultural uses and was previously used as an orchard. The site has been fallowed and removed of any crop remnants, resulting in vacant dirt lot, with areas of existing ground disturbance due to earthwork activities.

**Farmland Mapping and Monitoring Program:** The Farmland Mapping and Monitoring Program (FMMP) produces maps and statistical data used for analyzing impacts to California's agricultural resources. Agricultural land is rated according to soil quality and irrigation status; the best quality land is called Prime Farmland. The maps are updated every two years with the use of a computer mapping system, aerial imagery, public review, and field reconnaissance. The California Department of Conservation's 2018 FMMP is a non-regulatory program that produces "Important Farmland" maps and statistical data used for analyzing impacts on California's agricultural resources. The Important Farmland maps identify eight land use categories, five of which are agriculture related: prime farmland, farmland of statewide importance,

<sup>4</sup> (University of California Agriculture and Natural Resources, 2022)

<sup>5</sup> (Tulare County Agricultural Commissioner/Sealer, 2022)

unique farmland, farmland of local importance, and grazing land — rated according to soil quality and irrigation status. Each is summarized below:

- *PRIME FARMLAND (P): Farmland with the best combination of physical and chemical features able to sustain long-term agricultural production. This land has the soil quality, growing season, and moisture supply needed to produce sustained high yields. Land must have been used for irrigated agricultural production at some time during the four years prior to the mapping date.*
- *FARMLAND OF STATEWIDE IMPORTANCE (S): Farmland similar to Prime Farmland but with minor shortcomings, such as greater slopes or less ability to store soil moisture. Land must have been used for irrigated agricultural production at some time during the four years prior to the mapping date.*
- *UNIQUE FARMLAND (U): Farmland of lesser quality soils used for the production of the state's leading agricultural crops. This land is usually irrigated but may include non- irrigated orchards or vineyards as found in some climatic zones in California. Land must have been cropped at some time during the four years prior to the mapping date.*
- *FARMLAND OF LOCAL IMPORTANCE (L): Land of importance to the local agricultural economy as determined by each county's board of supervisors and a local advisory committee.*
- *GRAZING LAND (G): Land on which the existing vegetation is suited to the grazing of livestock. The minimum mapping unit for Grazing Land is 40 acres.*
- *URBAN AND BUILT-UP LAND (D): Land occupied by structures with a building density of at least 1 unit to 1.5 acres, or approximately 6 structures to a 10-acre parcel. This land is used for residential, industrial, commercial, institutional, public administrative purposes, railroad and other transportation yards, cemeteries, airports, golf courses, sanitary landfills, sewage treatment, water control structures, and other developed purposes.*
- *OTHER LAND (X): Land not included in any other mapping category. Common examples include low density rural developments; brush, timber, wetland, and riparian areas not suitable for livestock grazing; confined livestock, poultry, or aquaculture facilities; strip mines, borrow pits; and water bodies smaller than 40 acres. Vacant and non-agricultural land surrounded on all sides by urban development and greater than 40 acres is mapped as Other Land.*
- *WATER (W): Perennial water bodies with an extent of at least 40 acres.*

As demonstrated in **Figure 4-1**, the FMMP for the Project site is designated as Prime Farmland.<sup>6</sup>

## 4.2.2 IMPACT ANALYSIS

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?**

**Less than Significant Impact.** As mentioned, the Project site is designated as Prime Farmland (see **Figure 4-1**), despite existing conditions showing the land as vacant and fallow. The Project would include the construction of a recharge basin, and a surface water turnout. The primary goal of the Project is to divert water from Johnson Slough to the proposed basin in order to replenish groundwater supplies. The replenishment of groundwater supplies would ultimately benefit agricultural wells in the vicinity and could potentially assist in the prevention of less than potential for the need to fallow planted agricultural lands due to inadequate or costly recovery of declining groundwater supply. Groundwater replenishment

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<sup>6</sup> (California Department of Conservation, 2020)

associated with the Project is also consistent with the overall goals of SGMA, which aims to bring balance to groundwater management. Therefore, impacts would be less than significant.

**b) Conflict with existing zoning for agricultural use, or a Williamson Act contract?**

**Less than Significant Impact.** According to the Tulare County Assessor's Parcel Map, the Project is subject to a Williamson Act contract. However, the Project would not conflict with the goals of the Williamson Act as the construction and implementation of the basin would facilitate greater security of groundwater storage for regional growers. Implementation would also promote the agricultural zoning intentions. The implementation of the Project would promote groundwater security, protecting agricultural resources and would facilitate efficient urban growth. Impacts would be less than significant.

**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))?**

**No Impact.** There is no timber land in the vicinity or in proximity to the site; therefore, there would be no impact.

**d) Result in the loss of forest land or conversion of forest land to non-forest use?**

**No Impact.** As discussed above, there are no lands within or near the Project site that contain forest land. The Project site and its vicinity are predominantly agricultural land with scattered residences. Implementation of the Project would not result in the loss of forest land or conversion of forest land to non-forest use.

**e) Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland, to non-agricultural use or conversion of forest land to non-forest use?**

**No Impact.** The Project would not convert any existing farmland to a non-agricultural use. As discussed throughout this section, the Project site is not located on or in the vicinity of forestland, and therefore would not convert forest land to non-forest use. There would be no impact.



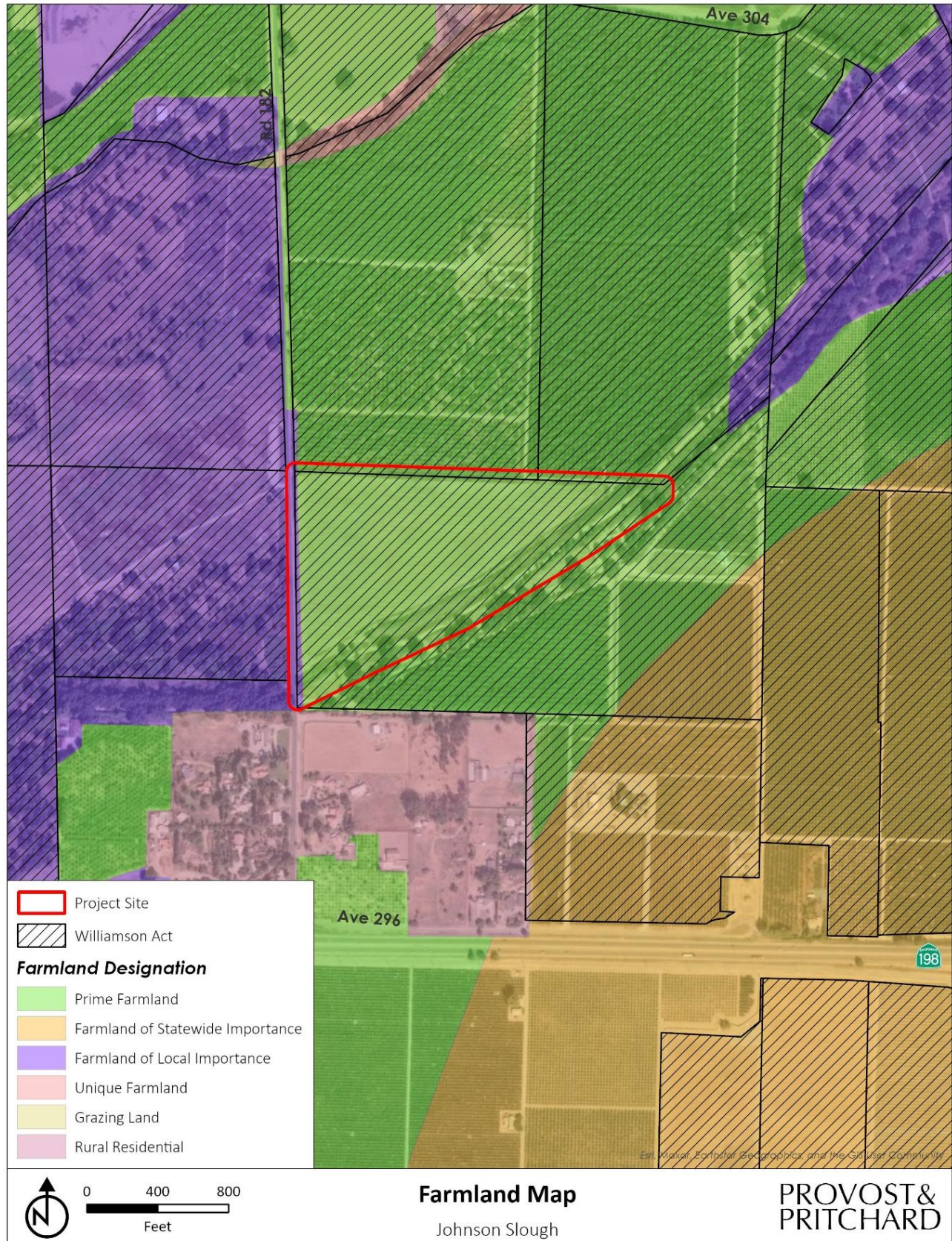


Figure 4-1: Farmland Designation Map



## 4.3 AIR QUALITY

Table 4-3: Air Quality Impacts

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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c) Expose sensitive receptors to substantial pollutant concentrations?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
d) Result in other emissions (such as those leading to odors) adversely affecting a substantial number of people?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

### 4.3.1 BASELINE CONDITIONS

The proposed Project is located in the County of Tulare, within the boundaries of the San Joaquin Valley Air Pollution Control District (SJVAPCD) and the San Joaquin Valley Air Basin (SJVAB). The SJVAB is positioned within the San Joaquin Valley of California. The San Joaquin Valley is bounded by the Sierra Nevada Mountain Range to the east and the Coastal Mountain Range to the west. Wind within the SJVAB typically channels south-southwest during the summer months, while wind flows to the north-northwest during the winter months. Wind velocity for the region is considered low for an area of such size.<sup>7</sup> Due to a lack of strong wind and the natural confinement of the mountain ranges surrounding the SJVAB, the region experiences some of the worst air quality in the world.

#### 4.3.1.1 REGULATORY ATTAINMENT DESIGNATIONS

Under the California Clean Air Act (CCAA), the California Air Resources Board (CARB) is required to designate areas of the State as attainment, nonattainment, or unclassified with respect to applicable standards. An “attainment” designation for an area signifies that pollutant concentrations did not violate the applicable standard in that area. A “nonattainment” designation indicates that a pollutant concentration violated the applicable standard at least once, excluding those occasions when a violation was caused by an exceptional event, as defined in the criteria. Depending on the frequency and severity of pollutants exceeding applicable standards, the nonattainment designation can be further classified as serious nonattainment, severe nonattainment, or extreme nonattainment, with extreme nonattainment being the most severe of the classifications. An “unclassified” designation signifies that the data does not support either an attainment or nonattainment designation. The CCAA divides districts into moderate, serious, and severe air pollution categories, with increasingly stringent control requirements mandated for each category.

The United States Environmental Protection Agency (USEPA) designates areas for ozone, CO, and NO<sub>2</sub> as “does not meet the primary standards,” “cannot be classified,” or “better than national standards.” For SO<sub>2</sub>, areas are designated as “does not meet the primary standards,” “does not meet the secondary

<sup>7</sup> (San Joaquin Valley Air Pollution Control District, 2022)

standards,” “cannot be classified,” or “better than national standards.” However, the CARB terminology of attainment, nonattainment, and unclassified is more frequently used. The USEPA uses the same sub-categories for nonattainment status: serious, severe, and extreme. In 1991, USEPA assigned new nonattainment designations to areas that had previously been classified as Group I, II, or III for PM<sub>10</sub> based on the likelihood that they would violate national PM<sub>10</sub> standards. All other areas are designated as “unclassified.”

The SJVAB is currently designated as a nonattainment area with respect to the State PM<sub>10</sub> standard, ozone, and PM<sub>2.5</sub> standards. The SJVAB is designated nonattainment for the National Ambient Air Quality Standards (NAAQS) eight-hour ozone and PM<sub>2.5</sub> standards. On September 25, 2008, the USEPA re-designated the San Joaquin Valley to attainment status for the PM<sub>10</sub> NAAQS and approved the PM<sub>10</sub> Maintenance Plan.<sup>8</sup>

**Table 4-4: Summary of Ambient Air Quality Standards and Attainment Designation**

Pollutant	Averaging Time	California Standards*		National Standards*	
		Concentration*	Attainment Status	Primary	Attainment Status
OZONE (O <sub>3</sub> )	1-hour	0.09 ppm	Nonattainment/ Severe	–	No Federal Standard
	8-hour	0.070 ppm	Nonattainment	0.075 ppm	Nonattainment (Extreme)**
PARTICULATE MATTER (PM <sub>10</sub> )	AAM	20 µg/m <sup>3</sup>	Nonattainment	–	Attainment
	24-hour	50 µg/m <sup>3</sup>		150 µg/m <sup>3</sup>	
FINE PARTICULATE MATTER (PM <sub>2.5</sub> )	AAM	9 µg/m <sup>3</sup>	Nonattainment	9 µg/m <sup>3</sup>	Nonattainment
	24-hour	No Standard		35 µg/m <sup>3</sup>	
CARBON MONOXIDE (CO)	1-hour	20 ppm	Attainment/ Unclassified	35 ppm	Attainment/ Unclassified
	8-hour	9 ppm		9 ppm	
	8-hour (Lake Tahoe)	6 ppm		–	
NITROGEN DIOXIDE (NO <sub>2</sub> )	AAM	0.030 ppm	Attainment	53 ppb	Attainment/ Unclassified
	1-hour	0.18 ppm		100 ppb	
SULFUR DIOXIDE (SO <sub>2</sub> )	AAM	–	Attainment	--	Attainment/ Unclassified
	24-hour	0.04 ppm		--	
	3-hour	–		0.5 ppm	
	1-hour	0.25 ppm		75 ppb	
LEAD (PB)	30-day Average	1.5 µg/m <sup>3</sup>	Attainment	–	No Designation/ Classification
	Calendar Quarter	–		--	
	Rolling 3-Month Average	–		0.15 µg/m <sup>3</sup>	
SULFATES (SO <sub>4</sub> )	24-hour	25 µg/m <sup>3</sup>	Attainment	No Federal Standards	
HYDROGEN SULKWCDE (H <sub>2</sub> S)	1-hour	0.03 ppm (42 µg/m <sup>3</sup> )	Unclassified		
VINYL CHLORIDE (C <sub>2</sub> H <sub>3</sub> CL)	24-hour	0.01 ppm (26 µg/m <sup>3</sup> )	Attainment		
VISIBILITY-REDUCING	8-hour	Extinction coefficient: 0.23/km-visibility of 10 miles or more due to	Unclassified		

<sup>8</sup> (San Joaquin Valley Air Pollution Control District, 2022)

Pollutant	Averaging Time	California Standards*		National Standards*	
		Concentration*	Attainment Status	Primary	Attainment Status
<b>PARTICLE MATTER</b>		particles when the relative humidity is less than 70%.			

\* For more information on standards visit: <https://www3.arb.ca.gov/research/aaqs/aaqs2.pdf>

\*\* No Federal 1-hour standard. Reclassified extreme nonattainment for the Federal 8-hour standard 07-02-2024.

\*\*\*Secondary Standard

Source: <http://www.valleyair.org/aqinfo/attainment.htm>. Accessed 2024.

#### 4.3.1.2 CONSTRUCTION-GENERATED EMISSIONS

Construction of the Project is assumed to be completed over approximately six months. Emissions associated with the Project were calculated using CalEEMod Air Quality Model, Version 2022.1.1.25. The emissions modeling includes emissions generated by off-road equipment, haul trucks, and worker commute trips. Emissions were quantified based on anticipated construction schedules and the default parameters contained in the model. Localized air quality impacts associated with the Project would be minor and were qualitatively assessed. Modeling assumptions and output files are included in [Appendix A](#).

#### 4.3.1.3 THRESHOLDS OF SIGNIFICANCE

Air pollutant emissions have regional effects and localized effects. This analysis assesses the regional effects of the Project's criteria pollutant emissions in comparison to SJVAPCD thresholds of significance for short-term construction activities and long-term operation of the Project. Localized emissions from Project construction and operation are also assessed using concentration-based thresholds that determine if the Project would result in a localized exceedance of any ambient air quality standards or would make a cumulatively considerable contribution to an existing exceedance.

The primary pollutants of concern during Project construction and operation are reactive organic gases (ROG), Nitrogen Oxides (NO<sub>x</sub>), PM<sub>10</sub>, and PM<sub>2.5</sub>. The SJVAPCD Guide for Assessing and Mitigating Air Quality Impacts adopted in 2015 contains thresholds for ROG and NO<sub>x</sub>; Sulfur Oxides (SO<sub>x</sub>), CO, PM<sub>10</sub>, and PM<sub>2.5</sub>.

Ozone is a secondary pollutant that can be formed miles away from the source of emissions through reactions of ROG and NO<sub>x</sub> emissions in the presence of sunlight. Therefore, ROG and NO<sub>x</sub> are termed ozone precursors. The SJVAB often exceeds the state and national ozone standards. Therefore, if the Project emits a substantial quantity of ozone precursors, the Project may contribute to an exceedance of the ozone standard. The SJVAB also exceeds air quality standards for PM<sub>10</sub>, and PM<sub>2.5</sub>; therefore, substantial Project emissions may contribute to an exceedance for these pollutants.

The SJVAPCD adopted significance thresholds for construction-related and operational ROG, NO<sub>x</sub>, PM, CO, and SO<sub>x</sub>, these thresholds are included in [Table 4-5](#).

Table 4-5: Project-Level Air Quality CEQA Thresholds of Significance

Pollutant	Significance Threshold	
	Construction Emissions (tons/year)	Operational Emissions (tons/year)
ROG	10	10
NO <sub>x</sub>	10	10
CO	100	100
SO <sub>x</sub>	27	27

Pollutant	Significance Threshold	
	Construction Emissions (tons/year)	Operational Emissions (tons/year)
PM <sub>10</sub>	15	15
PM <sub>2.5</sub>	15	15

Source: SJVAPCD. 2015. Guidance for Assessing and Mitigating Air Quality Impacts. Website: <https://www.valleyair.org/transportation/GAMAQI-2015/FINAL-DRAFT-GAMAQI.PDF>. Accessed July 2, 2024.

## 4.3.2 IMPACT ANALYSIS

### 4.3.2.1 SHORT-TERM CONSTRUCTION-GENERATED EMISSIONS

Estimated construction-generated emissions are summarized in [Table 4-6](#) and [Table 4-7](#), also in [Appendix A](#). Operational emissions of the proposed Project would be considered negligible due to the type of use proposed on-site.

Table 4-6: Unmitigated Short-Term Construction Generated Emissions of Criteria Air Pollutants

Source	Annual Emissions (Tons per Year)					
	ROG	NO <sub>x</sub>	CO	SO <sub>2</sub>	PM <sub>10</sub>	PM <sub>2.5</sub>
CONSTRUCTION EMISSIONS	0.395	4.648	3.428	0.014	0.6	0.23
<i>SJVAPCD THRESHOLD</i>	10	10	100	27	15	15
THRESHOLD EXCEEDED?	No	No	No	No	No	No

Table 4-7: Maximum Daily Construction Related Emissions of Criteria Air Pollutants

Source	Daily Emissions Maximum (in pounds)					
	ROG	NO <sub>x</sub>	CO	SO <sub>x</sub>	PM <sub>10</sub>	PM <sub>2.5</sub>
CONSTRUCTION – SUMMER	3.41	31.7	31.3	0.06	9.17	5.23
CONSTRUCTION – WINTER	3.29	29.8	29.3	0.06	4.99	2.60
<i>SJVAPCD THRESHOLD</i>	100	100	100	100	100	100
THRESHOLD EXCEEDED?	No	No	No	No	No	No

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

**No Impact.** The Project would not conflict with or obstruct implementation of the applicable air quality plan. The Project would align with the standards and guidelines set by the SJVAPCD. Therefore, there would be no impact.

#### b) Would the project 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?

**Less than Significant Impact.** The Project would not result in a cumulatively considerable net increase of any criteria pollutant for which the Project region is in non-attainment. As shown in [Table 4-6](#) and [Table 4-7](#), the Project would not exceed an emissions threshold which has been set by the SJVAPCD for construction related emissions. The Project would result in negligible quantities of operational emissions. Therefore, impacts would be less than significant.

#### c) Would the project expose sensitive receptors to substantial pollutant concentrations?

**Less than Significant Impact.** As discussed above, the Project would not result in significant long-term operational emissions. Construction related emissions, shown in [Table 4-6](#) and [Table 4-7](#), would be temporary in nature and would cease upon completion of Project construction.

Short-term construction activities, however, could result in temporary increases in pollutant concentrations that could impact nearby sensitive receptors. Sensitive Receptors are groups that would be more affected by air, noise, light pollution, pesticides, and other toxic chemicals than others. This includes infants, children under 16, elderly over 65, athletes, and people with cardiovascular and respiratory diseases. High concentrations of these groups would include daycares, residential areas, hospitals, elder care facilities, schools, and parks. While the Project would be located in an area near sensitive receptors, such as the residential homes primarily to the north and east, the Project would not exceed the daily emission thresholds set by the SJVAPCD. Nonetheless, due to the closest residence being within 100 feet of the Project, the HARP2 air dispersion model was run for the Project site to show the health risk the Project would have on sensitive receptors in the area. The model run results, which can be viewed in [Appendix A](#), indicates that the Project would result in a cancer risk of 0.001984 in one million, which is less than the SJVAPCD's threshold of 20 in one million. The Project would also present a chronic hazard index of less than one and an acute hazard index of 0, which would be less than the SJVAPCD's threshold of one for both chronic and acute. Therefore, impacts would be less than significant.

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

**Less than Significant Impact.** During construction activities, construction equipment exhaust would temporarily emit odors. Construction could have an effect on some residences that would be located within the vicinity of the Project. Construction of the Project would be temporary, and odors would not remain after Project completion. Therefore, impacts would be less than significant.

## 4.4 BIOLOGICAL RESOURCES

Table 4-8: Biological Resources Impacts

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?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b) Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations, or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) Have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
d) Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
f) Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

### 4.4.1 BASELINE CONDITIONS

#### 4.4.1.1 GENERAL

A reconnaissance-level field survey of the Project's Area of Potential Effect (APE) (see [Figure 2-2](#)) was conducted on June 24, 2022, by Provost & Pritchard biologists. A second survey was completed by a Provost & Pritchard biologist on December 17, 2024. The survey consisted of walking thoroughly through the 18-acre APE while identifying and noting land uses, biological habitats and communities, plant and animal species encountered and assessed for suitable habitats of various wildlife species.

The Project site is located in the San Joaquin Valley, east of the City of Visalia and north of the City of Exeter in Tulare County, California. The Project's APE includes a fallow field and Johnson Slough with additional 50-foot buffer surrounding the Project site. Surrounding lands to the north, south, and east are primarily residential, and a paved road runs adjacent to the east boundary. Lands to the north, east, and south comprise of open farmland, while the west contains the Kaweah Oaks Preserve, a 344-acre valley oak riparian forest. The Consolidated People's Ditch canal runs parallel to Johnson Slough along the Project's southern boundary. The topography of the site is relatively flat with elevations ranging from approximately 380 to 390 feet.

Like most of California, the area experiences a Mediterranean climate. Warm, dry summers are followed by cool, moist winters. Summer temperatures often reach above 90 degrees Fahrenheit (°F), and the humidity is generally low. Winter minimum temperatures are near 40 °F. On average, the Central Valley receives approximately 12 inches of precipitation in the form of rainfall yearly, most of which occurs between October and March.

#### 4.4.1.2 SOILS

Two soil mapping units representing two soil types were identified within the Project site and are listed in [Table 4-9](#) (see Appendix D of [Appendix B](#) for the full Web Soil Survey Report). The soils are displayed with their core properties in the table below, according to the Major Land Resource Area of California 19 map area. Both soils are primarily used for irrigated cropland or dairy and cattle production.

**Table 4-9: List of Soils Located on the Project Site and Their Basic Properties**

Soil	Soil Map Unit	Percent of APE	Hydric Unit	Hydric Minor Units	Drainage	Permeability	Runoff
<i>Akers</i>	Saline-Sodic, 0 to 2 percent slopes	31.7%	No	Yes	Well drained	Moderately slow	Negligible
<i>Grangeville</i>	Sandy loam, 0 to 2 percent slopes	68.3%	Yes	Yes	Poorly drained	Moderately rapid	Negligible to very low

One of the major soil mapping units and some of the minor soil mapping units were identified as hydric. The major and minor soils which are hydric make up 88.73% of the soil in the APE. Hydric soils are defined as soils that are saturated, flooded, or ponded long enough during the growing season to develop anaerobic conditions such that under sufficiently wet conditions, hydrophytic vegetation can be supported.

#### 4.4.1.3 BIOTIC HABITATS

Two biotic habitats were observed within the site and included ruderal/agricultural and slough (see [Figure 4-2](#) and [Figure 4-3](#) for representative photos of the observed habitats). These habitats and their constituent plant and animal species are described in more detail in the following sections.

##### 4.4.1.3.1 RUDERAL/AGRICULTURAL

The Project site is primarily composed of a fallow field which had previously been used for agricultural production. The field is bordered by Johnson Slough to the southeast and agricultural orchards to the northeast. The Kaweah Oaks Preserve, a 344 acre preserve containing valley grassland and oak riparian woodlands is located directly west of the Project site across Road 182. At the time of the survey the field appeared to be heavily disturbed from recent discing. Vegetation was almost entirely absent from the field beyond patches of annual weeds. Vegetation growing along the margins next to the adjacent orchard and Road 182 included horseweed (*Erigeron canadensis*), sacred datura (*Datura wrightii*), Indian tobacco (*Nicotiana quadrivalvis*), goat's head (*Tribulus terrestris*), white horehound (*Marrubium vulgare*), and



pappose tarweed (*Centromadia parryi*). Vegetation was densest in the margin between the field and Johnson Slough. This area also contained several small stands of pomegranate trees (*Punica granatum*) which appear to have been intentionally planted. Songbirds were present within both the adjacent orchards and within the vegetation in the slough margin. Bird species identified during the survey include Ash-throated Flycatcher (*Myiarchus cinerascens*), Mourning Dove (*Zenaida macroura*), California Scrub Jay (*Aphelocoma californica*), House Finch (*Haemorhous mexicanus*), European Starling (*Sturnus vulgaris*), Northern Flicker (*Colaptes auratus*), Black Phoebe (*Sayornis nigricans*), American Robin (*Turdus migratorius*), and California Quail (*Callipepla californica*). Additionally, several Red-tailed Hawks (*Buteo jamaicensis*) and one Turkey Vulture (*Cathartes aura*) were seen perching on utilities poles on the northern border of the field. The northern bank of Johnson Slough adjacent to the field contained several burrows. These burrows all appeared to be either inactive or occupied by desert cottontails (*Sylvilagus audubonii*). No whitewash, feathers, or owl pellets were observed in the vicinity of the burrows. The area surrounding the fallow field is also suitable habitat for other mammals, including striped skunks (*Mephitis mephitis*), coyote (*Canis latrans*), and California ground squirrel (*Otospermophilus beecheyi*).

The second survey resulted in the observation of the following wildlife and plant species, horseweed (*Erigeron canadensis*), salt heliotrope (*Heliotropium curassavicum*), telegraph weed (*Heterotheca grandiflora*), pomegranate (*Punica granatum*), white horehound (*Marrubium vulgare*), common cocklebur (*Xanthium orientale*), Russian thistle (*Salsola tragus*), common knotgrass (*Polygonum aviculare*), red-tail hawk (*Buteo jamaicensis*), and California ground squirrel burrows.

#### 4.4.1.3.2 SLOUGH

Johnson Slough was dry at the time of the survey. Aerial imagery suggests that the canal remains dry throughout the year and only flows in response to agricultural water deliveries. This is also true of the Consolidated People's Ditch canal which runs parallel to Johnson Slough adjacent to the APE. The banks of the Slough contained several mature valley oak trees (*Quercus lobata*) as well as dense stands of invasive lamb's quarters (*Chenopodium album*) and scattered tree tobacco (*Nicotiana glauca*), a facultative species known to grow in both upland and wetland habitats. Bird species observed adjacent to the Slough which were not seen along the fallow field include Acorn Woodpecker (*Melanerpes formicivorus*), Anna's Hummingbird (*Calypte anna*), Brewer's Blackbird (*Euphagus cyanocephalus*), Cliff Swallow (*Petrochelidon pyrrhonota*), Common Raven (*Corvus corax*), Lesser goldfinch (*Spinus psaltria*), and Western kingbird (*Tyrannus verticalis*). Several Red-tailed hawks were identified in the valley oak trees adjacent to the Slough, and a single active Red-tailed Hawk nest was observed in one such tree overhanging the Slough. A common side-blotched (*Uta stansburiana*) lizard was observed on the trunk of a valley oak, and the carcass of a raccoon (*Procyon lotor*) was identified within the dry channel of the Consolidated People's Ditch canal. Muddy raccoon prints were also identified on infrastructure near the canal. The area overall appeared to be of moderate value to wildlife, which is likely increased due to the proximity of the Kaweah Oaks Preserve. The Slough and canal both run along the southern border of the preserve, therefore providing a protected connection between the Project site and high-quality habitat at times when the water bodies are dry.

The second survey resulted in the observation of the following plant and animal species; Jonhson grass (*Sorghum halepense*), narrow leaf willow (*Salix exigua*), blue elderberry (*Sambucus cerulea*), valley oak (*Quercus lobata*), mourning dove (*Zenaida macroura*), common raven (*Corvus corax*), Anna's hummingbird (*Calypte anna*), California scrub jay (*Aphelocoma californica*), Steller's jay (*Cyanocitta stelleri*), white crown sparrow (*Zonotrichia leucophrys*), acorn woodpecker (*Melanerpes formicivorus*), northern mockingbird (*Mimus polyglottos*), house finch (*Haemorhous mexicanus*), desert cotton tail (*Sylvilagus audubonii*), northern raccoon (*Procyon lotor*) tracks, bobcat (*Lynx rufus*) tracks, coyote (*Canis latrans*) tracks, striped skunk (*Mephitis mephitis*) tracks, domestic dog (*Canis familiaris*) tracks, and California ground squirrel (*Otospermophilus beecheyi*) burrows.





Figure 4-2: Ruderal/Agricultural Habitat Photograph



Figure 4-3: Slough Habitat Photograph

#### 4.4.1.4 NATURAL COMMUNITIES OF SPECIAL CONCERN AND RIPARIAN HABITAT

Natural communities of special concern are those that are of limited distribution, distinguished by significant biological diversity, or home to special status species. California Fish and Wildlife (CDFW) is responsible for the classification and mapping of all-natural communities in California. Just as the special status plant and animal species, these natural communities of special concern can be found within the California Natural Diversity Database (CNDDB).

According to CNDDB, there are no recorded observations of natural communities of special concern with potential to occur within the Project site or vicinity. Additionally, no natural communities of special concern were observed during the biological survey.

#### 4.4.1.5 DESIGNATED CRITICAL HABITAT

The United States Fish and Wildlife Service (USFWS) often designates areas of “Critical Habitat” when it lists species as threatened or endangered. Critical Habitat is a specific geographic area that contains features essential for the conservation of a threatened or endangered species and that may require special management and protection. According to CNDDB and IPaC, designated critical habitat is absent from the Project site and vicinity.

#### 4.4.1.6 WILDLIFE MOVEMENT CORRIDORS AND NATIVE WILDLIFE NURSERY SITES

Wildlife movement corridors are routes that animals regularly and predictably follow during seasonal migration, dispersal from native ranges, daily travel within home ranges, and inter-population movements. Movement corridors in California are typically associated with valleys, ridgelines, and rivers and creeks supporting riparian vegetation. Both Johnson Slough and the Consolidated People’s Ditch canal likely act as movement corridors for local wildlife to move through areas with high agricultural disturbance. The raccoon carcass and prints within the Consolidated People’s Ditch canal found during the survey provides evidence for this theory. Project disturbance, however, would not impact both waterways, therefore allowing wildlife passage through the area during construction activities.

#### 4.4.1.7 SPECIAL STATUS PLANT AND ANIMAL

A thorough search of the CNDDB for published accounts of special status plant and animal species was conducted for the *Exeter* 7.5-minute quadrangles that contain the APE in its entirety, and for the eight surrounding quadrangles: *Monson*, *Ivanhoe*, *Woodlake*, *Rocky Hill*, *Lindsay*, *Cairns Corner*, *Tulare*, and *Visalia*. These species, and their potential to occur within the APE, are listed in [Table 4-10](#) and [Table 4-11](#) on the following pages. Raw data obtained from CNDDB is available in [Appendix B](#) at the end of this document. All relevant sources of information, as discussed in the *Study Methodology* section of this report, as well as field observations, were used to determine if any special status species are known to be within the APE. [Figure 2-3](#) shows the Project’s 7.5-minute quadrangle, according to United States Geological Survey Topographic Maps.

**Table 4-10: List of Special Status Animals with Potential to Occur on the APE and/or in the Vicinity**

Species	Status	Habitat	Occurrence within Project Site
American badger ( <i>Taxidea taxus</i> )	CSC	Grasslands, savannas, and mountain meadows near timberline are preferred. Most abundant in drier open spaces of shrub and grassland. Burrows in soil.	<b>Possible.</b> The APE along the ditch habitat and within the ruderal field habitat can provide suitable denning habitat for this species. The nearest observation occurred a little over one mile west of the APE in 1994.
Blunt-nosed leopard lizard ( <i>Gambelia sila</i> )	FE, CE, CFP	Inhabits semi-arid grasslands, alkali flats, low foothills, canyon floors, large washes, and arroyos, usually on sandy, gravelly, or	<b>Absent.</b> The required habitat and soil for this species were not observed within the APE.

Species	Status	Habitat	Occurrence within Project Site
		loamy substrate, sometimes on hardpan. Often found where there are abundant rodent burrows in dense vegetation or tall grass. Cannot survive on lands under cultivation. Known to bask on kangaroo rat mounds and often seeks shelter at the base of shrubs, in small mammal burrows, or in rock piles. Adults may excavate shallow burrows but rely on deeper pre-existing rodent burrows for hibernation and reproduction.	
Buena Vista Lake ornate shrew ( <i>Sorex ornatus relictus</i> )	FE, CSSC	Prefers moist soils, inhabiting marshes, swamps, and riparian shrublands in the Tulare Basin. Uses stumps, logs, and leaf litter for cover.	<b>Absent.</b> While the APE reaches the northern extent of the accepted range for this species, the range does not overlap with the required habitat for this species.
Burrowing Owl ( <i>Athene cunicularia</i> )	CC	Resides in open, dry annual or perennial grasslands, deserts, and scrublands with low growing vegetation. Nests underground in existing burrows created by mammals, most often ground squirrels.	<b>Possible.</b> Numerous California ground squirrel burrows were observed throughout the entire APE that this species could use for burrowing and nesting during the breeding and non-breeding season. The most recent recorded observation occurred 7.5 miles southwest of the APE in 2022 via iNaturalist.
California condor ( <i>Gymnogyps californianus</i> )	FE, CE, CFP	Typically nests in cavities in canyon or cliff faces but has also been recorded nesting in giant sequoias in Tulare County. Requires vast expanses of open savannah, grassland, and/or foothill chaparral in mountain ranges of moderate altitude. Forages for carrion up to 100 miles from their roost/nest sites	<b>Unlikely.</b> The species could forage within the APE but there is no suitable nesting habitat within the APE. The most recent recorded observation occurred 10 miles east of the APE in 1976.
California tiger salamander ( <i>Ambystoma californiense</i> )	FT, CT	Requires vernal pools or seasonal ponds for breeding and small mammal burrows for aestivation. Generally found in grassland and oak savannah plant communities in central California from sea level to 1500 feet in elevation.	<b>Absent.</b> No suitable vernal pool habitat is within range of the APE. Agricultural activities in the area would make potential upland habitat less than marginal for this species. The most recent recorded observation of this species was approximately 9 miles northeast of the APE in 2013 in vernal pool habitat.
Crotch bumble bee ( <i>Bombus crotchii</i> )	CCE	Occurs throughout coastal California, as well as east to the Sierra-Cascade crest, and south into Mexico. Food plant genera include <i>Antirrhinum</i> , <i>Phacelia</i> , <i>Clarkia</i> , <i>Dendromecon</i> , <i>Eschscholzia</i> , and <i>Eriogonum</i> .	<b>Unlikely.</b> No food plants were observed within the APE. The most recent recorded observation occurred less than two miles north-northwest of the APE in 2022 via iNaturalist.org.
Delta smelt ( <i>Hypomesus transpacificus</i> )	FT, CE	This pelagic and euryhaline species is Endemic to the Sacramento-San Joaquin River Delta, upstream through Contra Costa, Sacramento, San Joaquin, and Solano Counties.	<b>Absent.</b> No perennial aquatic habitat was present within the APE for this species. There are no recorded observations of this species within the 9-quadrant search on CNDDB.
Foothill yellow-legged frog ( <i>Rana boylei</i> )	CCT, CSC	Frequents rocky streams and rivers with rocky substrate and open, sunny banks in forests, chaparral, and woodlands. Occasionally found in isolated pools, vegetated backwaters, and deep, shaded, spring-fed pools.	<b>Absent.</b> The APE and surrounding areas are marginal for this species. The APE is located near or below the lower elevational range for this species. The only recorded observation of this species



Species	Status	Habitat	Occurrence within Project Site
			was approximately 7.5 miles northeast of the APE in 1941 and is listed as extirpated.
Giant gartersnake ( <i>Thamnophis gigas</i> )	FT, CT	Occurs in marshes, sloughs, drainage canals, irrigation ditches, rice fields, and adjacent uplands. Prefers locations with emergent vegetation for cover and open areas for basking. This species uses small mammal burrows adjacent to aquatic habitats for hibernation in the winter and to escape from excessive heat in the summer.	<b>Absent.</b> The APE is well outside the known range of the species. There are no recorded observations of this species within the 9-quad search on CNDDB.
Monarch Butterfly ( <i>Danaus plexippus</i> )	FPT	Roosts located in wind-protected tree groves (eucalyptus, Monterey pine, cypress), with nectar and water sources nearby. Larval host plants consist of milkweeds ( <i>Asclepias</i> sp.). Winter roost sites extend along the coast from northern Mendocino to Baja California, Mexico.	<b>Possible.</b> Valley oak trees along Johnson Slough could provide suitable roosting habitat for this species during migration. However, no milkweed larval host plants were observed. Multiple observations over several years have been made at the Kaweah Oaks Preserve, which was adjacent to the APE, via iNaturalist.org.
Northern California legless lizard ( <i>Anniella pulchra</i> )	CSC	Found primarily underground, burrowing in loose, sandy soil. Forages in loose soil and leaf litter during the day. Occasionally observed on the surface at dusk and night.	<b>Unlikely.</b> Nearby observations of this species occurred in the Kaweah Oaks Preserve. However, suitable habitat for this species was absent from the APE at the time of the second survey. The most recent recorded observation of this species was approximately 5.5 miles southeast of the APE in 2021. The nearest recorded observation of this species was approximately 0.5 mile west of the APE in 2015.
Northern leopard frog ( <i>Lithobates pipiens</i> )	CSC	Inhabits grassland, wet meadows, potholes, forests, woodland, brushlands, springs, canals, bogs, marshes, and reservoirs. Generally prefers permanent water with abundant riparian vegetation.	<b>Absent.</b> The Johnson Slough does not contain water regularly to be able to support this species.
Pallid bat ( <i>Antrozous pallidus</i> )	CSC	Found in grasslands, chaparral, and woodlands, where it feeds on ground- and vegetation-dwelling arthropods, and occasionally takes insects in flight. Prefers to roost in rock crevices, but may also use tree cavities, caves, bridges, and other man-made structures.	<b>Possible.</b> This species could potentially roost in trees or crevices of structures near the APE. The only recorded observation of this species was approximately 3 miles northwest of the APE in 2004.
San Joaquin kit fox ( <i>Vulpes macrotis mutica</i> )	FE, CT	Underground dens with multiple entrances in alkali sink, valley grassland, and woodland in valleys and adjacent foothills.	<b>Unlikely.</b> The APE has suboptimal quality for habitat for this which is also in an isolated location surrounded by agriculture fields. The nearest recorded observation occurred two miles west in 1975. This observation was made when the United States Fish and Wildlife Service mailed leaflets asking for citizen's kit fox observations.
Swainson's Hawk ( <i>Buteo swainsoni</i> )	CT	Nests in large trees in open areas adjacent to grasslands, grain or alfalfa fields, or livestock pastures suitable for supporting rodent populations.	<b>Possible.</b> Valley oak trees along Johnson Slough are large enough for this species to use during the nesting season. Additionally, multiple unoccupied stick nests were observed during both recon surveys. The most recent recorded

Species	Status	Habitat	Occurrence within Project Site
			observation occurred 9 miles south of the APE in 2017.
Tipton kangaroo rat ( <i>Dipodomys nitratoideus nitratoideus</i> )	FE, CE	Burrows in soil. Often found in grassland and shrubland.	<b>Absent.</b> The required habitat for this species was not observed within the APE.
Tricolored Blackbird ( <i>Agelaius tricolor</i> )	CT, CSC	Nests colonially near fresh water in dense cattails or tules, or in thickets of riparian shrubs. Forages in grassland and cropland. Large colonies are often found on dairy farm forage fields.	<b>Absent.</b> The Johnson Slough lacks the dense vegetation that would be required to support this species during the breeding season.
Valley elderberry longhorn beetle ( <i>Desmocerus californicus dimorphus</i> )	FT	Lives in mature elderberry shrubs of the Central Valley and foothills. Adults are active March to June.	<b>Unlikely.</b> While an elderberry shrub was found in the slough habitat within the APE, in 2014 USFWS published findings suggesting that previous CNDDDB observations of this species within Tulare County should be discounted as they likely represent the California elderberry longhorn beetle, which is not a protected subspecies (United States Fish and Wildlife Service, 2014). The most recent recorded observation occurred 2.5 miles north-northeast of the APE in 1991.
Vernal pool fairy shrimp ( <i>Branchinecta lynchi</i> )	FT	Occupies vernal pools, clear to tea-colored water, in grass or mud-bottomed swales, and basalt depression pools.	<b>Absent.</b> Vernal pools and seasonal pools were not observed within the APE.
Vernal pool tadpole shrimp ( <i>Lepidurus packardii</i> )	FE	Occurs in vernal pools, clear to tea-colored water, in grass or mud-bottomed swales, and basalt depression pools.	<b>Absent.</b> Vernal pools and seasonal pools were not observed within the APE.
Western mastiff bat ( <i>Eumops perotis californicus</i> )	CSC	Found in open, arid to semi-arid habitats, including dry desert washes, flood plains, chaparral, oak woodland, open ponderosa pine forest, grassland, and agricultural areas, where it feeds on insects in flight. Roosts most commonly in crevices in cliff faces but may also use high buildings and tunnels.	<b>Unlikely.</b> Cliffs, tunnels, and high buildings are absent from the immediate area around the APE. The most recent recorded observation of this species was approximately 9 miles west of the APE in 2002. The nearest recorded observation of this species was approximately 4.5 miles west of the APE in 1994 adjacent to Lake Kaweah where cliff faces are abundant.
Western pond turtle ( <i>Emys marmorata</i> )	FPT, CSSC	An aquatic turtle of ponds, marshes, slow-moving rivers, streams, and irrigation ditches with riparian vegetation. Requires adequate basking sites and sandy banks or grassy open fields to deposit eggs.	<b>Unlikely.</b> This species has recently been recognized as two separate species: southwestern pond turtle ( <i>Actinemys pallida</i> ) and northwestern pond turtle ( <i>Actinemys marmorata</i> ). The APE is only within the known range of the northwestern pond turtle, therefore all analyses within this report are in reference to northwestern pond turtles. This species is known to utilize agricultural canals in this region of the San Joaquin Valley. Even though water is primarily present during agricultural deliveries in the summer, this species can aestivate for extended periods of time. Habitats within the adjacent Kaweah Oaks Preserve are highly suitable for this species and the APE is within dispersal range from the preserve.

Species	Status	Habitat	Occurrence within Project Site
			However, habitat features suitable for this species were absent from the APE at the time of the second survey.
Western spadefoot ( <i>Spea hammondi</i> )	CSC	Prefers open areas with sandy or gravelly soils, in a variety of habitats including mixed woodlands, grasslands, coastal sage scrub, chaparral, sandy washes, lowlands, river floodplains, alluvial fans, playas, alkali flats, foothills, and mountains. Vernal pools or temporary wetlands, lasting a minimum of three weeks, which do not contain bullfrogs, fish, or crayfish are necessary for breeding.	<b>Unlikely.</b> Habitats within the APE are less than marginal due to the lack of wetlands. Aquatic habitats within the adjacent Kaweah Oaks Preserve could serve as suitable breeding habitat for this species, though dispersal from that site would be difficult due to land uses in the surrounding area. Additionally, no observations of this species have occurred within the preserve, though American Bullfrogs are documented within the preserve. The most recent recorded observation of this species was approximately 11 miles northwest of the APE in 2019. The nearest recorded observation of this species was approximately 5 miles east of the APE in 1991.
Western Yellow-billed Cuckoo ( <i>Coccyzus americanus occidentalis</i> )	FT, CE	Suitable nesting habitat in California includes dense riparian willow-cottonwood and mesquite habitats along a perennial river. Once a common breeding species in riparian habitats of lowland California, this species currently breeds consistently in only two locations in the State: along the Sacramento and South Fork Kern Rivers.	<b>Absent.</b> The APE is outside the current range of these species.

**Table 4-11: List of Special Status Plants with Potential to Occur on the APE and/or in the Vicinity**

Species	Status	Habitat	Occurrence within Project Site
Alkali-sink goldfields ( <i>Lasthenia chrysantha</i> )	CNPS 1B	Found in vernal pool and wet saline flat habitats. Occurrences documented in the San Joaquin and Sacramento Valleys at elevations below 656 feet. Blooms February - April.	<b>Absent.</b> The required habitat and soils were not observed within the APE.
Brittlescale ( <i>Atriplex depressa</i> )	CNPS 1B	Found in the San Joaquin Valley and Sacramento Valley in alkaline or clay soils, typically in meadows or annual grassland in at elevations below 1050 feet. Sometimes associated with vernal pools. Blooms June–October.	<b>Absent.</b> The required habitat and soils were not observed within the APE.
Calico monkeyflower ( <i>Diplacus pictus</i> / <i>Mimulus pictus</i> / <i>Eunanus pictus</i> )	CNPS 1B	Found in the Sierra Nevada foothills and the Tehachapi mountains in bare, sunny, shrubby areas, and around granite outcrops within foothill woodland communities at elevations between 450 feet and 4100 feet. Blooms March – May.	<b>Absent.</b> The APE is outside this species elevational range.
California alkali grass ( <i>Puccinellia simplex</i> )	CNPS 1B	Found in the San Joaquin Valley and other parts of California in saline flats and mineral springs within valley grassland and wetland-riparian communities at elevations below 3000 feet. Blooms March–May.	<b>Absent.</b> The required habitat and soils were not observed within the APE.

Species	Status	Habitat	Occurrence within Project Site
California jewelflower ( <i>Caulanthus californicus</i> )	FE, CE, CNPS 1B	Found in the San Joaquin Valley and Western Transverse Ranges in sandy soils. Occurs on flats and slopes, generally in non-alkaline grassland at elevations between 230 feet and 6100 feet. Blooms February–April.	<b>Absent.</b> The required habitat and soils were not observed within the APE.
California satintail ( <i>Imperata brevifolia</i> )	CNPS 2B	Although this facultative species is equally likely to occur in wetlands and non-wetlands, it is often found in wet springs, meadows, streambanks, and floodplains at elevations below 1600 feet. Blooms September – May.	<b>Absent.</b> The required habitat and soils were not observed within the APE.
Coulter’s goldfields ( <i>Lasthenia glabrata</i> ssp. <i>coulteri</i> )	CNPS 1B	Found on alkaline or saline soils in vernal pools and playas in grassland at elevations below 4500 feet. Blooms April–May.	<b>Absent.</b> The required habitat and soils were not observed within the APE.
Earlimart orache ( <i>Atriplex cordulata</i> var. <i>erecticaulis</i> )	CNPS 1B	Found in the San Joaquin Valley in saline or alkaline soils, typically within valley and foothill grassland at elevations below 375 feet. Blooms August–September.	<b>Absent.</b> The required habitat and soils were not observed within the APE.
Greene’s tuctoria ( <i>Tuctoria greenei</i> )	FE, CR, CNPS 1B	Found in the San Joaquin Valley and other parts of California in vernal pools within valley grassland, wetland, and riparian communities at elevations below 3500 feet. Blooms May – September.	<b>Absent.</b> The required habitat and soils were not observed within the APE.
Hoover’s spurge ( <i>Euphorbia hooveri</i> )	FT, CNPS 1B	Found in the San Joaquin Valley and Sacramento Valley in vernal pools within valley grassland, freshwater wetland, and riparian communities at elevations below 800 feet. Blooms July – September.	<b>Absent.</b> Vernal pools were not observed within the APE.
Kaweah brodiaea ( <i>Brodiaea insignis</i> )	CE, CNPS 1B	Found in the Sierra Nevada foothills in foothill woodland and valley grassland communities at elevations between 650 feet and 1650 feet. Blooms May – June.	<b>Absent.</b> The APE is outside of this species elevational range.
Lesser saltscale ( <i>Atriplex minuscula</i> )	CNPS 1B	Found in the San Joaquin Valley in sandy, alkaline soils in alkali scrub, valley and foothill grassland, and alkali sink communities at elevations below 750 feet. Blooms April–October.	<b>Absent.</b> The required habitat and soils were not observed within the APE.
Recurved larkspur ( <i>Delphinium recurvatum</i> )	CNPS 1B	Occurs in poorly drained, fine, alkaline soils in grassland and alkali scrub communities at elevations between 100 feet and 2600 feet. Blooms March–June.	<b>Absent.</b> The required habitat and soils were not observed within the APE.
San Joaquin adobe sunburst ( <i>Pseudobahia peirsonii</i> )	FT, CE, CNPS 1B	Found in the San Joaquin Valley and the Sierra Nevada Foothills in bare dark clay soils in valley and foothill grassland and cismontane woodland communities at elevations between 325 feet and 2950 feet. Blooms March–May.	<b>Absent.</b> The required habitat and soils were not observed within the APE.
San Joaquin Valley Orcutt grass ( <i>Orcuttia inaequalis</i> )	FT, CE, CNPS 1B	Found in the eastern San Joaquin Valley and the Sierra Nevada foothills in vernal pools within valley grassland, freshwater wetland, and wetland-riparian communities at elevations below 2600 feet. Blooms April – September.	<b>Absent.</b> No vernal pools were observed within the APE.

Species	Status	Habitat	Occurrence within Project Site
Sanford's arrowhead ( <i>Sagittaria sanfordii</i> )	CNPS 1B	Found in the San Joaquin Valley and other parts of California in freshwater-marsh, primarily ponds and ditches, at elevations below 1000 feet. Blooms May–October.	<b>Absent.</b> Johnson Slough does not contain water regularly to be able to support this species.
Spiny-sepaled button-celery ( <i>Eryngium spinosepalum</i> )	CNPS 1B	Found in the Sierra Nevada Foothills and the San Joaquin Valley. Occurs in vernal pools, swales, and roadside ditches. Often associated with clay soils in vernal pools within grassland communities. Occurs at elevations between 50 feet and 4160 feet. Blooms April–July.	<b>Absent.</b> The required habitat and soils were not observed within the APE.
Striped adobe-lily ( <i>Fritillaria striata</i> )	CT, CNPS 1B	Found in the Sierra Nevada foothills in adobe soil within valley grassland and foothill woodland communities at elevations below 3300 feet. Blooms February – April.	<b>Unlikely.</b> The required soils for this species were not observed within the APE. The most recent recorded observation occurred seven miles southeast of the APE in an undetermined location in 1983.
Subtle orache ( <i>Atriplex subtilis</i> )	CNPS 1B	Found in the San Joaquin Valley in saline depressions in alkaline soils within valley and foothill grassland communities at elevations below 330 feet. Blooms June–October.	<b>Absent.</b> The APE is outside this species elevational range
Vernal pool smallscale ( <i>Atriplex persistens</i> )	CNPS 1B	Occurs in the San Joaquin Valley and Sacramento Valley in alkaline vernal pools at elevations below 375 feet. Blooms June–September.	<b>Absent.</b> No vernal pools were observed within the APE.
Watershield ( <i>Brasenia schreberi</i> )	CNPS 2B	Found in marshes and swamps, as well as near artificial waterbodies at elevations below 2,200 feet. Blooms April – October.	<b>Absent.</b> Johnson Slough does not contain water regularly to be able to support this species.
Winter's sunflower ( <i>Helianthus winteri</i> )	CNPS 1B	Found in the Sierra Nevada foothills on steep, south-facing grassy slopes, rock outcrops, and road-cuts at elevations ranging from 600 feet to 1500 feet. Blooms year-round.	<b>Absent.</b> The APE is outside the elevational range for this species. Additionally, disturbed habitats onsite would be less than marginal for this species.

#### **\*EXPLANATION OF OCCURRENCE DESIGNATIONS AND STATUS CODES**

Present:	Species observed on the APE at time of field surveys or during recent past.
Likely:	Species not observed on the APE, but it may reasonably be expected to occur there on a regular basis.
Possible:	Species not observed on the APE, but it could occur there from time to time.
Unlikely:	Species not observed on the APE, and would not be expected to occur there except, perhaps, as a transient.
Absent:	Species not observed on the APE and precluded from occurring there due to absence of suitable habitat.

#### **STATUS CODES**

FE	Federally Endangered	CE	California Endangered
FT	Federally Threatened	CCE	California Endangered (Candidate)
FPT	Federally Threatened (Proposed)	CT	California Threatened
FC	Federal Candidate	CFP	California Fully Protected
		CSSC	California Species of Special Concern

#### **CNPS LISTING**

1B	Plants rare, threatened, or endangered in California and elsewhere.	2B	Plants rare, threatened, or endangered in California, but more common elsewhere.
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## 4.4.2 IMPACT ANALYSIS

- a) Would the project have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service?

**Less than Significant Impact with Mitigation Incorporated.** Of the 25 regionally occurring special status animal species, 19 are considered absent from or unlikely to occur within the APE due to past or ongoing disturbance and/or the absence of suitable habitat. These species include: blunt-nosed leopard lizard, Buena Vista Lake ornate shrew, California condor, California tiger salamander, Crotch bumble bee, delta smelt, foothill yellow-legged frog, giant gartersnake, northern leopard frog, northwestern pond turtle, northern California legless lizard, San Joaquin kit fox, Tipton kangaroo rat, Tricolored Blackbird, Valley elderberry longhorn beetle, vernal pool fairy shrimp, vernal pool tadpole shrimp, western mastiff bat, western spadefoot, and Western Yellow-billed Cuckoo.

Since it is unlikely that these species would occur onsite, implementation of the Project should have no impact on these 19 special status species through construction mortality, disturbance, or loss of habitat. Mitigation measures are not warranted.

All of the 21 regionally occurring special status plant species are considered absent from or unlikely to occur within the APE due to past or ongoing disturbance and/or the absence of suitable habitat. These species include: alkali-sink goldfields, brittlescale, Calico monkeyflower, California alkali grass, California jewelflower, California satintail, Coulter's goldfields, Earlimart orache, Greene's tuctoria, Hoover's spurge, Kaweah brodiaea, lesser satlscale, recurved larkspur, San Joaquin adobe sunburst, San Joaquin Valley Orcutt grass, Sanford's arrowhead, spiny-sepaled button-celery, striped adobe lily, subtle orache, vernal pool smallscale, and Winter's sunflower.

Since it is unlikely that these species would occur onsite, implementation of the Project should have no impact on these 21 special status species through construction mortality, disturbance, or loss of habitat. Mitigation measures are not warranted.

### General Project-Related Impacts

The Project has the potential to impact a number of sensitive resources, as described in more detail in the following sections. Impacts to these resources would be a violation of state and federal laws or considered a potentially significant impact under CEQA. Implementation of the mitigation measures **BIO-1** and **BIO-2** will help reduce potential impacts to these resources to a less than significant level under CEQA and will help with complying with State and federal laws protecting these resources. These mitigation measures are identified in **Section 4.4.3** below.

### Project-Related Mortality and/or Nest Abandonment of Migratory Birds, Raptors, and Special Status Birds

The Project site contains suitable nesting and/or foraging habitat for a variety of avian species. The survey was conducted within nesting bird season and resulted in the identification of an active Red-tailed Hawk nest located in an oak tree over the south bank of Johnson Slough. Though outside the APE, Cliff Swallow's nests appeared to be present underneath the Consolidated People's Ditch bridge under Road 182. The oak trees along the Slough provide high quality habitat for nesting birds, potentially including Swainson's Hawk. Habitats on the margins of the Slough and canal could provide habitat for ground-nesting birds, such as Killdeer (*Charadrius vociferus*). Birds nesting within the APE during construction have the

potential to be injured or killed by Project-related activities. In addition to the direct “take” of nesting birds, nesting birds within the APE or adjacent areas could be disturbed by Project-related activities resulting in nest abandonment. Projects that adversely affect the nesting success of raptors and migratory birds or result in the mortality of individual birds is considered a violation of State and federal laws and are considered a potentially significant impact under CEQA.

Implementation of the mitigation measures **BIO-3** through **BIO-5** will reduce potential impacts to nesting raptors, migratory birds, and special status birds to a less than significant level under CEQA and will help the Project comply with state and federal laws protecting these bird species. These mitigation measures are identified in [Section 4.4.3](#) below.

#### **Project-Related Mortality and/or Disturbance to Burrowing Owl**

The site contained suitable nesting, roosting, and foraging habitat for burrowing owls (BUOW). Existing burrows were observed within the Project site. Construction activities that adversely affect the nesting success of BUOWs or result in the mortality of individuals constitute a violation of state and federal laws and would be considered a significant impact under CEQA.

Implementation of the mitigation measures **BIO-6** through **BIO-8** will reduce potential impacts to nesting or roosting BUOW to a less than significant level under CEQA and help the Project comply with state and federal laws protecting this avian species. These mitigation measures are identified in [Section 4.4.3](#) below.

#### **Project-Related Mortality and/or Disturbance of Bats**

In reviewing the CNDDDB, pallid bat, a California Species of Special Concern, was identified as having the potential to occur within or adjacent to the APE due to the abundance of oak trees within the APE and surrounding area. Additionally, fallow agricultural fields onsite and throughout the region provide suitable foraging habitat for multiple species of bats. Bats foraging within the APE during construction have the potential to be injured or killed by Project-related activities. In addition to the direct “take” of bats, roosting bats within the APE or adjacent areas could be disturbed by Project-related activities resulting in roost abandonment. Roosting habitat becomes especially sensitive to bat populations during the maternity season (March 1 to September 30) while pups are maturing. Projects that adversely affect the roosting bats or result in the mortality of individual bats is considered a potentially significant impact under CEQA.

Implementation of the mitigation measures **BIO-9** through **BIO-12** will reduce potential impacts to roosting maternity bats and roosting special status bats to a less than significant level under CEQA. These mitigation measures are identified in [Section 4.4.3](#) below.

#### **Project-Related Mortality and/or Disturbance of Special Status Fossorial Mammals**

American badger has been documented in the Project vicinity, and the uncultivated grasslands of Kaweah Oaks Preserve could serve as suitable denning or foraging habitat for this species. If an American badger were present onsite during ground-disturbance, it could be injured or killed by construction activities. Projects that result in the mortality of special status species are considered a violation of State and federal laws and are considered a potentially significant impact under CEQA.

Implementation of the mitigation measures **BIO-13** through **BIO-16** will reduce potential impacts to American badgers to a less than significant level under CEQA. These mitigation measures are identified in [Section 4.4.3](#) below.

### Project-Related Impacts to Monarch Butterflies

Valley oak trees along Johnson Slough could provide suitable roosting habitat for this species during migration. Although no milkweed larval host plants were observed, suitable roosting habitats exist.

Implementation of the mitigation measures **BIO-17** through **BIO-19** would reduce potential impacts to wildlife movement corridors to a less than significant level under CEQA and ensure compliance with state and federal laws protecting this avian species. These mitigation measures are identified in **Section 4.4.3** below.

**b) Would the project have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations, or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service?**

**No Impact.** There are no CNDDDB-designated “natural communities of special concern” recorded within the Project site or surrounding lands. Mitigation is not warranted and there would be no impact.

**c) Would the project have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?**

**Less than Significant Impact.** The Johnson Slough within the APE, below the ordinary high-water mark, would most likely fall under the jurisdiction of United States Army Corps of Engineers (USACE) as a waters of the United States and construction activities in this area could be subject to USACE permit requirements pursuant to Section 404 of the Clean Water Act (CWA). This Project may be authorized under a Nationwide Permit but could require an individual permit if Nationwide Permit limits are exceeded. In addition, a Section 401 of the CWA Water Quality Certification from the Regional Water Quality Control Board (RWQCB) is required for dredge and fill of waters of the State and activities must meet State water quality standards. These permits and certifications are typically issued on the condition that the applicant agrees to provide mitigation that result in no net loss of wetland functions, jurisdictional waters or beneficial uses.

If the Project’s construction work would result in impacts to waters of the United States, the Project proponent would be required to secure permits from USACE and RWQCB. Compliance with each permit requires avoidance, minimization, and mitigation measures to ensure that Project-related impacts to these potentially jurisdictional waters are less-than-significant in nature or are fully mitigated.

Project activities with potential to alter the Johnson Slough including the bed, bank, floodplain and associated riparian habitat, would be within CDFW’s jurisdiction, pursuant to Section 1602 of the California Fish and Game Code. The Project proponent would be required to notify CDFW if the Project’s activities have potential to impact rivers, streams, or the riparian corridor of any aquatic features onsite that may be beneficial to fish or wildlife resources. If CDFW determines that the Project could potentially adversely affect fish and wildlife resources and/or riparian habitat, a Lake or Streambed Alteration (LSA) Agreement would be issued prior to construction. LSA Agreements are typically issued with mandatory avoidance and minimization measures, protective measures for special status species, and required compensatory mitigation for removal of riparian trees, shrubs, and herbaceous cover along the banks. Compliance with measures of the LSA Agreement would ensure that the Project’s impacts to aquatic features and riparian habitat within CDFW’s jurisdiction remain less-than-significant or are fully mitigated.

- d) Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?

**Less than Significant Impact with Mitigation Incorporated.** There were a number of different species trails within Johnsons Slough which suggest wildlife use the slough as a movement corridor to pass through areas within the project site due to activities or from the level of disturbed habitat within the Project site.

Implementation of mitigation measures **BIO-20** and **BIO-21** would reduce potential impacts to wildlife movement corridors to a less than significant level under CEQA and ensure compliance with state and federal laws protecting this avian species.

- e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?

**No Impact.** The Project appears to be consistent with the goals and policies of the Tulare County General Plan, and there are no known ordinances that protect biological resources that the Project would conflict with. There would be no impact and mitigation measures are not warranted.

- 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?

**No Impact.** The Project is not located within the boundaries of an adopted HCP, NCCP, or other approved local, regional, or State habitat conservation plan. There would be no impact and mitigation measures are not warranted.

### 4.4.3 MITIGATION

#### General Project-Related Impacts

- BIO-1** (**WEAP Training**): Prior to initiating construction activities (including staging and mobilization), all personnel associated with Project construction will attend a mandatory Worker Environmental Awareness Program (WEAP) training, conducted by a qualified biologist, to aid workers in identifying special status resources that may occur within the Project site. The specifics of this program will include identification of the sensitive species and suitable habitats, a description of the regulatory status and general ecological characteristics of sensitive resources, and review of the limits of construction and mitigation measures required to reduce impacts to biological resources within the work area. This training will discuss special status species, describe the laws and regulations in place to provide protection of these species, identify the penalties for violation of applicable environmental laws and regulations, and include a list of required protective measures to avoid "take." A fact sheet summarizing this information, along with photographs or illustrations of sensitive species and sensitive habitats such as wetlands with potential to occur onsite, will also be prepared for distribution to all contractors, their employees, and all other personnel involved with construction of the Project. All trainees will sign a form documenting that they have attended WEAP training and understand the information presented to them.

**BIO-2**                    **(BMPs):** The Project proponent will ensure that all workers employ the following BMPs in order to avoid and minimize potential impacts to special status species:

- Vehicles will observe a 15-mph speed limit while on unpaved access routes.
- Workers will inspect areas beneath parked vehicles prior to mobilization. If special status species are detected beneath vehicles, the individual will either be allowed to leave of its own volition or will be captured by the qualified biologist (must possess appropriate collecting/handling permits) and relocated out of harm's way to the nearest suitable habitat beyond the influence of the Project work area. "Take" of a listed (rare, threatened, or endangered) species is prohibited.
- The presence of any special status species and/or any wildlife mortalities will be reported to the Project's designated biologist and the appropriate regulatory agencies.

#### Project-Related Mortality and/or Nest Abandonment of Migratory Birds, Raptors, and Special Status Birds

**BIO-3**                    **(Avoidance):** The Project's construction activities will occur, if feasible, between September 16 and January 31 (outside of the nesting bird season) in an effort to avoid impacts to nesting birds.

**BIO-4**                    **(Pre-construction Surveys):** If activities must occur within the nesting bird season (February 1 to September 14), qualified biologist would conduct a pre-construction survey for Swainson's hawk nests onsite and within a 0.5-mile radius. This survey would be conducted in accordance with the Recommended Timing and Methodology for Swainson's Hawk Nesting Surveys in California's Central Valley (Swainson's Hawk Technical Advisory Committee, 2000) or current guidance. The pre-construction survey would also provide a presence/absence survey for all other nesting birds within the APE and an additional 50 feet, no more than 7 days prior to the start of construction. All raptor nests would be considered "active" upon the nest-building stage.

**BIO-5**                    **(Avoidance Buffers):** On discovery of any active nests or breeding colonies near work areas, the biologist will determine appropriate construction setback distances based on applicable CDFW and/or USFWS guidelines and/or the biology of the species in question. Construction buffers will be identified with flagging, fencing, or other easily visible means, and will be maintained until the biologist has determined that the nestlings have fledged.

#### Project-Related Mortality and/or Disturbance to Burrowing Owl

**BIO-6**                    **(Pre-construction Take Avoidance Survey):** A qualified biologist will conduct a pre-construction take avoidance survey for BUOWs in accordance with CDFW's *Staff Report on Burrowing Owl Mitigation* (2012) within 30 days prior to the start of construction activities. The survey will include the proposed work area and surrounding lands within 500 feet. If no BUOW individuals or suitable burrows are observed, no further mitigation is required.

- BIO-7** *(Avoidance):* If an active BUOW burrow is detected, the occurrence will be reported to the local CDFW office and the CNDDDB, and disturbance-free buffers will be implemented in accordance with CDFW’s 2012 Staff Report on Burrowing Owl Mitigation, as outlined in the table below:

Location	Time of Year	Level of Disturbance		
		Low	Medium	High
Nesting sites	April 1 – August 15	200 meters	500 meters	500 meters
Nesting sites	August 16 – October 15	200 meters	200 meters	500 meters
Nesting sites	October 16 – March 31	50 meters	100 meters	500 meters

- BIO-8** *(Consultation with CDFW and Passive Relocation):* If avoidance of an active BUOW burrow is not feasible, CDFW will be immediately consulted to determine the best course of action, which may include passive relocation during non-breeding season. Passive relocation and/or burrow exclusion will not take place without coordination with CDFW and preparation of an approved exclusion and relocation plan.

#### Project-Related Mortality and/or Disturbance of Bats

- BIO-9** *(Avoidance):* The Project’s construction activities will occur, if feasible, between November 1 and February 28 (outside of bat maternity season) in an effort to avoid impacts to maternity roosts.
- BIO-10** *(Pre-Construction Survey):* A pre-construction survey for bats will be performed if construction activities fall between March 1 and September 30 (bat maternity season) and if the Project includes tree removal. A qualified biologist will conduct the survey within (7) seven days prior to construction to identify potential roosting habitat within the APE and an additional 100-foot survey area around the designated APE. If no individuals, roosts, or suitable habitat is observed, no further mitigation is required.
- BIO-11** *(Establish Buffers):* On discovery of any bat roosts near work areas, a qualified biologist will determine appropriate construction setback distances (buffer zones) based on applicable CDFW and/or USFWS guidelines, if appropriate. Construction buffers will be identified with flagging, fencing, or other easily visible means, and will be maintained until the biologist has determined that the roost will no longer be impacted by construction.
- BIO-12** *(Operational Hours):* Construction activities will be limited to daylight hours to reduce potential impacts to special status bats that could be foraging onsite.

#### Project-Related Mortality and/or Disturbance of Special Status Fossorial Mammals

- BIO-13** *(Pre-construction Survey):* A qualified biologist will conduct a pre-construction survey of Project areas within 30 days prior to vegetation clearing or ground disturbing activities. Goals of this survey include a search for potentially active badger dens and suitable habitat within Project areas for American badger. Environmentally sensitive areas will be

flagged for avoidance. If no American badger individuals or suitable burrows are observed, no further mitigation is required.

- BIO-14**      **(Camera Station):** If potential dens with dimensions suitable for American badger (diameter of four (4) inches or greater) are detected during pre-construction surveys, each potential den will be monitored by a qualified biologist with remote camera stations for a period of three consecutive nights. If there is no activity at the den location recorded for three consecutive nights, the den can be deemed “inactive” or “unoccupied” and will be sealed or destroyed within 24 hours of the inactive findings.
- BIO-15**      **(Den Avoidance/Buffers):** If an American badger is denning on or within 100 feet of the Project site, the Project proponent will avoid the den by a minimum 100-foot buffer. If the 100-foot buffer cannot be maintained, the Project proponent will contact CDFW for guidance on how to proceed.
- BIO-16**      **(Consultation/ITP):** Badgers will not be evicted from dens without CDFW consultation/coordination. In the event an active den is detected during surveys and cannot be avoided, consultation with CDFW is warranted to discuss how to implement the Project and avoid take. If take cannot be avoided, take authorization through the acquisition of an ITP pursuant to Fish and Game Code section 2081, subdivision (b) is necessary to comply with CESA.

#### Project-Related Mortality Impacts to Monarch Butterflies

- BIO-17**      **(Avoidance):** The Project’s construction activities will occur, if feasible between December and February (outside the monarch migration) in an effort to avoid impacts to monarch butterflies.
- BIO-18**      **(Pre-construction Surveys):** If activities must occur within monarch butterfly migration season (March- November) a qualified biologist (someone who is familiar with the species ecology and habitat use) will conduct a pre-construction survey within 48 hours of the start of construction. The survey area will include the APE and all trees which overhang across the boundary of the APE. The goal of this survey is to search for roosting monarchs.
- BIO-19**      **(Avoidance Buffer):** If a closed-winged monarch butterfly or cluster is discovered during a morning pre-construction survey it can be assumed the monarch butterfly(s) spent the night at the location. Therefore, a qualified biologist will set up the appropriate visual setback buffer which will remain in place until the qualified biologist has determined the buffer is no longer warranted.

#### Project-Related Impacts to Wildlife Movement Corridors

- BIO-20**      **(Wildlife Access):** Access on both sides of the channel should not be blocked outside of construction hours or during overnight hours or weekends. If construction must block both sides of the channel an alternative route through the construction area should be identified by a qualified biologist and maintained throughout the construction schedule timeframe.



**BIO-21**      **(Cover Excavations):** Pipeline/culvert/siphon excavations and vertical pipes should be covered each night to prevent wildlife from falling in and becoming trapped or injured during migratory or dispersal movements

## 4.5 CULTURAL RESOURCES

Table 4-12: Cultural Resources Impacts

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 in § 15064.5?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b) Cause a substantial adverse change in the significance of an archaeological resource pursuant to § 15064.5?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c) Disturb any human remains, including those interred outside of dedicated cemeteries?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

### 4.5.1 BASELINE CONDITIONS

#### 4.5.1.1 PEDESTRIAN SURVEY

A Phase I Cultural Resources Assessment was prepared for the Project, dated November 2024 (see [Appendix C](#)). On October 12, 2024, Taylored Archaeology archaeologists walked 10-meter intervals by walking north to south transects. The whole area in the Project boundary was accessible and surveyed to identify any archaeological deposits that may be present on the ground surface. Ground disturbances, such as burrows, and exposed areas, were visually inspected. The topography in the APE was relatively flat, with a levee at least four feet in height along the Johnson Slough. The natural topography of the area has been altered by agricultural practices and much of the land was graded, plowed, planted and/or harvested over the past one hundred plus years, which caused additional disturbance to the soil.

Results of the survey indicated that the 18-acre APE consists of a fallowed agricultural field with no noted development. Johnson Slough was dry and able to be surveyed. In addition to evidence of disking and plowing from past agricultural use, other noted disturbances include approximately 3.6 acres of grading and digging from construction, including approximately a 0.4-acre excavation up to 12 feet deep below ground surface.

#### 4.5.1.2 RECORDS SEARCH

On September 17, 2024, Taylored Archaeology requested a cultural resource records search from the Southern San Joaquin Valley Information Center (SSJVIC) of the California Historical Resources Information System (CHRIS) at California State University in Bakersfield, California. The purpose of this request was to identify and review prior cultural resource studies and previously recorded cultural resources on or near the APE. The records search included prior cultural resources investigation reports conducted, previously recorded resources within the APE and the 1.0-mile radius around the APE. Also included in research were cultural resource records (DPR forms) as well as the Historic Properties Directory of the Office of Historic Preservation list, General Land Office Maps, Archaeological Determinations of Eligibility list, and the California Inventory of Historic Resources list.

The SSJVIC provided records search results in a letter dated September 30, 2024. According to the records search results, there are no prior cultural resources studies conducted within the APE. Ten cultural resources studies were completed within a 1.0-mile radius of the APE. Furthermore, the SSJVIC reported

no records of cultural resources previously recorded within the APE, but five were documented within a 1.0-mile radius of the APE.

#### 4.5.1.3 NATIVE AMERICAN OUTREACH

Taylor Archaeology requested a Sacred Lands File (SLF) Can search from the Native American Heritage Commission (NAHC) on September 17, 2024. A response from the NAHC was received on September 24, 2024. The SLF search was requested to identify whether there are sensitive or sacred tribal cultural resources in the vicinity of the APE that could be affected by the Project. The NAHC's SLF results search of the APE was negative. The NAHC also included contact information of local Native American representatives who may have knowledge or interest in sharing information of resources of sacred significance present in or near the APE. Each representative was sent a nongovernmental outreach letter, and a map were sent via email notifying them of the Project and asking if they had any knowledge of the Project area or surrounding vicinity. The tribes notified are listed in [Section 4.18 Tribal Cultural Resources](#). The SLF can be found in [Appendix C](#).

### 4.5.2 IMPACT ANALYSIS

- a) Would the project cause a substantial adverse change in the significance of a historical resource pursuant to in § 15064.5?
- b) Would the project cause a substantial adverse change in the significance of an archaeological resource pursuant to § 15064.5?

**a and b) Less than Significant Impact with Mitigation Incorporated.** According to the CHRIS records search from the SSJVIC, no archaeological sites, isolated artifacts, buildings or features were encountered within the Project's APE during the survey. The search confirmed there are no prior cultural resources studies conducted within the APE. Ten cultural resources studies were completed within a 1.0-mile radius of the APE. Furthermore, the SSJVIC reported no records of cultural resources previously recorded within the APE, but five were documented within a 1.0-mile radius of the APE. While past agricultural and development activities may have potentially destroyed or obscured ground surface evidence of archaeological resources within the APE, intact archaeological resources may potentially exist below the ground surface. According to the Phase I Cultural Resources Assessment prepared for the Project ([Appendix C](#)), based upon ethnographic data, historical maps, and archaeological sensitivity models, the Project area was adjacent to a natural watercourse and potentially contained a high supply of natural resources for indigenous populations. Thus, there is a high possibility of encountering buried cultural resources during Project ground disturbing activities. Therefore, mitigation measure **CUL-1** outlined below will be implemented in order to reduce impacts to less than significant.

- c) Would the project disturb any human remains, including those interred outside of dedicated cemeteries?

**Less than Significant Impact with Mitigation Incorporated.** As mentioned above, based upon ethnographic data, historical maps, and archaeological sensitivity models, the Project area was dominated by natural watercourses and likely contained a rich supply of natural resources for indigenous populations. Thus, there is a high possibility of encountering buried cultural resources during Project ground disturbing activities. Therefore, mitigation measure **CUL-2** outlined below will be implemented in order to reduce impacts to less than significant.

### 4.5.3 MITIGATION

- CUL-1** In the event that previously unidentified archaeological remains are encountered during development or ground-moving activities in the APE, all work should be halted until a qualified archaeologist can identify the discovery and assess its significance. In the event of accidental discovery of unidentified archaeological remains during development or ground-moving activities in the APE, all work shall be halted in the immediate vicinity until a qualified archaeologist can identify the discovery and assess its significance.
- CUL-2** If human remains are uncovered during construction, the Tulare County Coroner is to be notified to investigate the remains and arrange proper treatment and disposition. If the remains are identified on the basis of archaeological context, age, cultural associations, or biological traits to be those of a Native American, California Health and Safety Code 7050.5 and PRC 5097.98 require that the coroner notify the NAHC within 24 hours of discovery. The NAHC will then identify the Most Likely Descendent who will be afforded an opportunity to make recommendations regarding the treatment and disposition of the remains.

## 4.6 ENERGY

Table 4-13: Energy Impacts

Would the project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
a) Result in potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b) Conflict with or obstruct a state or local plan for renewable energy or energy efficiency?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

### 4.6.1 BASELINE CONDITIONS

Eastside Power Authority supplies electricity to the Project area, while Southern California Gas provides natural gas. Power is currently available to the Project site. New construction would be subject to Titles 20 and 24 of the California Code of Regulations which each serve to reduce demand for electrical energy by implementing energy-efficient standards for residential, as well as non-residential buildings.

### 4.6.2 IMPACT ANALYSIS

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

**Less than Significant Impact.** Fuel consumed by construction equipment would be the primary energy resource expended over the course of Project construction. For heavy-duty construction equipment, horsepower and load factor were assumed using default data from the CalEEMod model. Fuel use associated with construction vehicle trips generated by the Project was also estimated; trips include construction worker trips, haul trucks trips for material transport, and vendor trips for construction material deliveries. Fuel use from these vehicles traveling to the Project was based on (1) the projected number of trips the Project would generate (CalEEMod default values), (2) default average trip distance by land use in CalEEMod, and (3) fuel efficiencies estimated in the ARB 2017 Emissions Factors model (EMFAC2017) mobile source emission model.

Construction is estimated to consume a total of 27,182.40 gallons of diesel fuel and 1,067.43 gallons of gasoline fuel (See [Appendix A](#)). California Code of Regulations Title 13, Motor Vehicles, Section 2449(d)(2), Idling, limits idling times of construction vehicles to no more than 5 minutes, thereby precluding unnecessary and wasteful consumption of fuel because of unproductive idling of construction equipment. In addition, the energy consumption for construction activities would not be ongoing as they would be limited to the duration of Project construction.

Energy consumption of non-residential uses is currently governed by the 2022 California Building Code (CBC), Part 6 for structures, and Title 20 of the California Code of Regulations for appliances. Energy consumption is anticipated to decrease over time as more energy efficient standards take effect and



energy-consuming equipment reaches its end-of-life and necessitates replacement. Therefore, impacts would be less than significant.

**b) Would the project conflict with or obstruct a state or local plan for renewable energy or energy efficiency?**

**No Impact.** State and local authorities regulate energy use and consumption. These regulations at the State level are intended to reduce energy use and greenhouse gas (GHG) emissions. These include, among others, Assembly Bill 1493 – Light-Duty Vehicle Standards; California Code of Regulations Title 24, Part 6 – Energy Efficiency Standards; and California Code of Regulations Title 24, Parts 6 and 11 – California Energy Code and Green Building Standards. The Project would not conflict with or obstruct a State or local plan for renewable energy or energy efficiency. Therefore, there would be no impact.

## 4.7 GEOLOGY AND SOILS

Table 4-14: Geology and Soils Impacts

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.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
ii. Strong seismic ground shaking?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
iii. Seismic-related ground failure, including liquefaction?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
iv. Landslides?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Result in substantial soil erosion or the loss of topsoil?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c) Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction or collapse?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
d) Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994) creating substantial direct or indirect risks to life or property?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
e) Have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems where sewers are not available for the disposal of wastewater?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
f) Directly or indirectly destroy a unique paleontological resource or site or unique geological feature?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

### 4.7.1 BASELINE CONDITIONS

#### 4.7.1.1 GEOLOGY AND SOILS

The Project is located in Tulare County, in the southern section of California's Great Valley Geomorphic Province, or Central Valley. The Sacramento Valley makes up the northern third and the San Joaquin Valley makes up the southern two-thirds of the geomorphic province.<sup>9</sup> Both valleys are watered by large rivers flowing west from the Sierra Nevada Range, with smaller tributaries flowing east from the Coast Ranges.

<sup>9</sup> (California Department of Conservation, 2002)

Most of the surface of the Great Valley is covered by Quaternary (present day to 1.6 million years ago) alluvium. The sedimentary formations are steeply upturned along the western margin due to the uplifted Sierra Nevada Range. From the time the Valley first began to form, sediments derived from erosion of igneous and metamorphic rocks and consolidated marine sediments in the surrounding mountains have been transported into the Valley by streams.

#### **4.7.1.2 FAULTS AND SEISMICITY**

The Project site is not located within the Alquist-Priolo Earthquake Fault Zone and no known faults cut through the soil at the site. The nearest major fault is the San Andreas Fault, located approximately 74 miles west of the Project site.<sup>10</sup> The San Andreas Fault is the dominant active tectonic feature of the Coast Ranges and represents the boundary of the North American and Pacific plates. A smaller fault zone, the Pond Fault, is located approximately 43 miles south.<sup>11</sup>

#### **4.7.1.3 LIQUEFACTION**

The potential for liquefaction, which is the loss of soil strength due to seismic forces, is dependent on soil types and density, the groundwater table, and the duration and intensity of ground shaking. Although no specific liquefaction hazard areas have been identified in Tulare County, this potential is recognized throughout the San Joaquin Valley where unconsolidated sediments and a high-water table coincide. It is reasonable to assume that due to the depth to groundwater within the southern portion of Tulare County, liquefaction hazards would be negligible.

#### **4.7.1.4 SOIL SUBSIDENCE**

There are two types of Subsidence: Land subsidence and hydrocompaction subsidence. Hydrocompaction subsidence occurs when a large land area settles due to over-saturation. These areas are typically composed of open-textured soils that become saturated, high in silt or clay content. Land subsidence occurs when an extensive amount of ground water, oil, or natural gas is withdrawn from below the ground surface. The San Joaquin Valley has become an area that has increasingly experienced subsidence due to excessive groundwater pumping activities lowering the water table.

#### **4.7.1.5 DAM AND LEVEE FAILURE**

The closest dam to the Project site is the Bravo Lake Reservoir and is approximately six miles northeast of the Project site.

### **4.7.2 IMPACT ANALYSIS**

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

- i. Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publication 42.
- ii. Strong seismic ground shaking?

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<sup>10</sup> (California Department of Conservation, 2023)

<sup>11</sup> Ibid.

**a-i – a-ii) Less than Significant Impact.** The Project site is located in an area traditionally characterized by relatively low seismic activity. The Project site is not located in an Alquist-Priolo Earthquake Fault Zone as established by the Alquist-Priolo Fault Zoning Act. The nearest major fault is the San Andreas Fault, located approximately 74 miles west-southwest of the Project site. All proposed Project features would be constructed in a manner to handle seismic events, as required by the CBC. This would result in less than significant impacts. In addition, the Project would not include habitable structures; therefore, the Project would not result in potential substantial adverse effects, including the risk of loss, injury, or death. Impacts would be less than significant.

**iii. Seismic-related ground failure, including liquefaction?**

**Less than Significant Impact.** Liquefaction occurs when loose, water-saturated sediments lose strength and fail during strong ground shaking. Generally, liquefiable areas are generally confined to the Valley floor covered by Quaternary-age alluvial deposits, Holocene soil deposits, current river channels, and active wash deposits and their historic floodplains, marshes, and dry lakes. Specific liquefaction hazard areas have not been identified in Tulare County. The Project site is not located within a wetland area, and it is located in the southwestern portion of Tulare County where liquefaction risk is considered low to moderate. Impacts would be less than significant.

**iv. Landslides?**

**No Impact.** The Project is located on the Valley floor where no major geologic landforms exist on or near the site that could result in a landslide event. The potential landslide impact at this location is minimal as the site is not adjacent to high-sloping lands and the local topography is essentially flat. There would be no impact.

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

**Less than Significant Impact.** Earthmoving activities associated with the Project would include excavation and basin construction. These activities could expose soils to erosion processes and the extent of erosion would vary depending on slope steepness/stability, vegetation/cover, concentration of runoff, and weather conditions. Dischargers whose projects disturb one (1) or more acres of soil, or whose projects disturb less than one acre but are part of a larger common plan of development that in total disturbs one or more acres, are required to obtain coverage under the General Permit for Discharges of Storm Water Associated with Construction Activity Construction General Permit (CGP) Order 2009-0009-DWQ. Construction activity subject to this permit includes clearing, grading, and disturbances to the ground such as stockpiling or excavation but does not include regular maintenance activities performed to restore the original line, grade, or capacity of the facility. The CGP requires the development of a Storm Water Pollution Prevention Plan (SWPPP) by a certified Qualified SWPPP Developer. Since the Project site has relatively flat terrain with a low potential for soil erosion, and would comply with the California State Water Resources Control Board (SWRCB) requirements of implementing a SWPPP, the impact would be less than significant.

**c) Would the project be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction or collapse?**

**Less than Significant Impact.** The Project is not anticipated to adversely affect soil stability or increase the potential for local or regional landslides, subsidence, liquefaction, or collapse. As discussed previously,

the Project site is in an area that is not reasonably assumed to contain conditions conducive to liquefaction hazards. The Project would not exacerbate hazards related to unstable soil and would not result in on- or off-site landslides, lateral spreading, subsidence, liquefaction, or collapse. Impacts would be less than significant.

**d) Would the project 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?**

**Less than Significant Impact.** The Project would not contain any facilities that could be affected by expansive soils, nor would substantial grading change the topography such that the Project would generate substantial risks to life or property. In addition, the Project site does not include soils that are conducive to expanding and contracting; therefore, impacts would be less than significant.

**e) Would the project 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?**

**No Impact.** The Project would not include any habitable structures; therefore, new septic installation or alternative wastewater disposal systems are not necessary for the Project. There would be no impact.

**f) Would the project directly or indirectly destroy a unique paleontological resource or site or unique geological feature?**

**Less than Significant Impact.** Paleontological resources are fossilized remains of flora and fauna and associated deposits. Most fossils are found in sedimentary rock. Sedimentary rock is formed by dirt (sand, silt, or clay) and debris that settles to the bottom of an ocean or lake and compresses for such a long time that it becomes hard as a rock. CEQA requires that a determination be made as to whether a project would directly or indirectly destroy a unique paleontological resource or site or unique geological feature (CEQA Appendix G(v)(c)). If an impact is significant, CEQA requires feasible measures to minimize the impact (CCR Title 14(3) Section 15126.4(a)(1)). PRC Section 5097.5 (see above) also applies to paleontological resources.

The Project would require grading and excavation activities on a previously farmed site. The Project would comply with California Public Resources Code Section 5097.5 which pertains to the protection of paleontological resources. With compliance with said regulation, impacts would be less than significant.



## 4.8 GREENHOUSE GAS EMISSIONS

Table 4-15: Greenhouse Gas Emissions Impacts

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?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b) Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

### 4.8.1 BASELINE CONDITIONS

Commonly identified GHG emissions and sources include the following:

**Carbon dioxide (CO<sub>2</sub>)** is an odorless, colorless natural greenhouse gas. CO<sub>2</sub> is emitted from natural and anthropogenic sources. Natural sources include the following: decomposition of dead organic matter; respiration of bacteria, plants, animals, and fungus; evaporation from oceans; and volcanic out gassing. Anthropogenic sources include the burning of coal, oil, natural gas, and wood.

**Methane (CH<sub>4</sub>)** is a flammable greenhouse gas. A natural source of CH<sub>4</sub> is the anaerobic decay of organic matter. Geological deposits, known as natural gas fields, also contain CH<sub>4</sub>, which is extracted for fuel. Other sources are from landfills, fermentation of manure, and ruminants such as cattle.

**Nitrous oxide (N<sub>2</sub>O)**, also known as laughing gas, is a colorless greenhouse gas. Nitrous oxide is produced by microbial processes in soil and water, including those reactions that occur in fertilizer containing nitrogen. In addition to agricultural sources, some industrial processes (fossil fuel-fired power plants, nylon production, nitric acid production, and vehicle emissions) also contribute to its atmospheric load.

**Water vapor** is the most abundant and variable greenhouse gas. It is not considered a pollutant; in the atmosphere, it maintains a climate necessary for life.

**Ozone (O<sub>3</sub>)** is known as a photochemical pollutant and is a greenhouse gas; however, unlike other greenhouse gases, ozone in the troposphere is relatively short-lived and, therefore, is not global in nature. Ozone is not emitted directly into the atmosphere but is formed by a complex series of chemical reactions between volatile organic compounds, nitrogen oxides, and sunlight.

**Aerosols** are suspensions of particulate matter in a gas emitted into the air through burning biomass (plant material) and fossil fuels. Aerosols can warm the atmosphere by absorbing and emitting heat and can cool the atmosphere by reflecting light.

**Chlorofluorocarbons (CFCs)** are nontoxic, nonflammable, insoluble, and chemically unreactive in the troposphere (the level of air at the earth's surface). CFCs were first synthesized in 1928 for use as

refrigerants, aerosol propellants, and cleaning solvents. CFCs destroy stratospheric ozone; therefore, their production was stopped as required by the Montreal Protocol in 1987.

**Hydrofluorocarbons (HFCs)** are synthetic chemicals that are used as a substitute for CFCs. Of all the greenhouse gases, HFCs are one of three groups (the other two are perfluorocarbons and sulfur hexafluoride) with the highest global warming potential. HFCs are human made for applications such as air conditioners and refrigerants.

**Perfluorocarbons (PFCs)** have stable molecular structures and do not break down through the chemical processes in the lower atmosphere; therefore, PFCs have long atmospheric lifetimes, between 10,000 and 50,000 years. The two main sources of PFCs are primary aluminum production and semiconductor manufacture.

**Sulfur hexafluoride (SF<sub>6</sub>)** is an inorganic, odorless, colorless, nontoxic, nonflammable gas. It has the highest global warming potential of any gas evaluated. Sulfur hexafluoride is used for insulation in electric power transmission and distribution equipment, in the magnesium industry, in semiconductor manufacturing, and as a tracer gas for leak detection.

There are uncertainties as to exactly what the climate changes will be in various local areas of the earth, and what the effects of clouds will be in determining the rate at which the mean temperature will increase. There are also uncertainties associated with the magnitude and timing of other consequences of a warmer planet: sea level rise, spread of certain diseases out of their usual geographic range, the effect on agricultural production, water supply, sustainability of ecosystems, increased strength and frequency of storms, extreme heat events, air pollution episodes, and the consequence of these effects on the economy.

Emissions of GHGs contributing to global climate change are largely attributable to human activities associated with the industrial/manufacturing, utility, transportation, residential, and agricultural sectors. About three-quarters of human emissions of CO<sub>2</sub> to the global atmosphere during the past 20 years are due to fossil fuel burning. Atmospheric concentrations of CO<sub>2</sub>, CH<sub>4</sub>, and N<sub>2</sub>O have increased 31 percent, 151 percent, and 17 percent, respectively, since the year 1750 (CEC 2008). GHG emissions are typically expressed in carbon dioxide-equivalents (CO<sub>2</sub>e), based on the GHG's Global Warming Potential (GWP). The GWP is dependent on the lifetime, or persistence, of the gas molecule in the atmosphere. For example, one ton of CH<sub>4</sub> has the same contribution to the greenhouse effect as approximately 21 tons of CO<sub>2</sub>. Therefore, CH<sub>4</sub> is a much more potent GHG than CO<sub>2</sub>. In accordance with SJVAPCD's *CEQA Greenhouse Gas Guidance for Valley Land-use Agencies in Addressing GHG Emission Impacts for New Projects*<sup>12</sup>, proposed projects complying with Best Performance Standards (BPS) would be determined to have a less-than-significant impact. Projects not complying with BPS would be considered less than significant if operational GHG emissions would be reduced or mitigated by a minimum of 29 percent, in comparison to business-as-usual (year 2004) conditions. In addition, project-generated emissions complying with an approved plan or mitigation program would also be determined to have a less-than-significant impact.

CalEEMod air quality modeling software was run on July 2024 and is contained in [Appendix A](#).

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<sup>12</sup> (San Joaquin Valley Air Pollution Control District, 2009)

## 4.8.2 IMPACT ANALYSIS

### 4.8.2.1 PROJECT RELATED EMISSIONS

Short-term construction emissions associated with the Project were calculated using CalEEMod, Version 2022.1.1.25. The emissions modeling includes emissions generated by off-road equipment, haul trucks, and worker commute trips. Emissions were quantified based on an anticipated construction schedule of approximately six months. Remaining assumptions were based on the default parameters contained in the model. Modeling assumptions and output files are included in [Appendix A](#). Estimated construction-generated emissions are summarized in [Table 4-16](#). As discussed in [Section 4.3](#), the amount of operational related emissions generated would be considered negligible.

**Table 4-16: Short-term Construction Related GHG Emissions**

	Emissions (MT CO <sub>2</sub> e) in Tons per Year
Maximum Annual Construction CO <sub>2</sub> e Emissions	460
AB 32 Consistency Threshold for Stationary Source Projects*	10,000
Threshold Exceeded?	No

\* As published in the Bay Area Air Quality Management District's CEQA Air Quality Guidelines. Available online at [http://www.baaqmd.gov/~media/files/planning-and-research/ceqa/ceqa\\_guidelines\\_may2017-pdf.pdf?la=en](http://www.baaqmd.gov/~media/files/planning-and-research/ceqa/ceqa_guidelines_may2017-pdf.pdf?la=en) Accessed 7/15/2024.

Construction related generation of GHGs would be a maximum of 460 Metric Tons of Carbon Dioxide Equivalent (MTCO<sub>2</sub>e) per year. While some operational emissions could result from the Project, this quantity would be negligible. The Project would not exceed the AB 32 consistency threshold for land use projects for both short term construction emissions and long-term operational emissions as a result.

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

**Less than Significant Impact.** The Project would not generate GHG emissions, either directly or indirectly, that may have a significant impact on the environment. GHG emissions would be generated during construction. As shown in [Table 4-16](#), the Project would not result in the generation of GHG emissions that would exceed the AB 32 consistency threshold of 10,000 MTCO<sub>2</sub>e annually during construction activities. Therefore, impacts would be less than significant.

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

**No Impact.** The Project would not conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of GHGs. The Project would be in compliance with all SJVAPCD policies and regulations and would not exceed an applicable threshold for GHG emissions. Therefore, there would be no impact.

## 4.9 HAZARDS AND HAZARDOUS MATERIALS

Table 4-17: Hazards and Hazardous Materials Impacts

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?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b) Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c) Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d) Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard or excessive noise for people residing or working in the project area?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
f) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
g) Expose people or structures, either directly or indirectly to a significant risk of loss, injury or death involving wildland fires?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

### 4.9.1 BASELINE CONDITIONS

#### 4.9.1.1 HAZARDOUS MATERIALS

The Hazardous Waste and Substances Sites (Cortese) List is a planning document used by the State, local agencies, and developers to comply with CEQA requirements in providing information about the location of hazardous materials release sites. Government Code Section 65962.5 requires the California Environmental Protection Agency to develop at least annually an updated Cortese List. The Department of Toxic Substances Control (DTSC) is responsible for a portion of the information contained in the Cortese List. Other State and local government agencies are required to provide additional hazardous material

release information for the Cortese List. DTSC's EnviroStor database provides DTSC's component of Cortese List data. In addition to the EnviroStor database, the SWRCB GeoTracker database provides information on regulated hazardous waste facilities in California, including underground storage tank (UST) cases and non-UST cleanup programs, including Spills-Leaks-Investigations-Cleanups sites, Department of Defense (DOD) sites, and Land Disposal program. A search of the DTSC EnviroStor database and the SWRCB GeoTracker performed on November 1, 2024, determined that there are no known active hazardous waste generators or hazardous material spill sites within the Project site or immediate surrounding vicinity.<sup>13</sup>

#### 4.9.1.2 AIRPORTS

The nearest airport, Visalia Municipal, is located approximately 12.5 miles west of the Project.

#### 4.9.1.3 EMERGENCY RESPONSE PLAN

The Tulare County Office of Emergency Services coordinates the development and maintenance of the Tulare County Operational Area Master Emergency Services Plan. Tulare County offers an alert system called "AlertTC". AlertTC is Tulare County's public mass notification system, designed to keep those who live or work in Tulare County informed of important information during emergency events. The system is administered by the County of Tulare and is operated in partnership with many Tulare County cities.<sup>14</sup>

#### 4.9.1.4 SENSITIVE RECEPTORS

Common sensitive receptors typically consist of residences, schools, day care centers, hospitals, and nursing homes. The nearest sensitive receptor is the single-family residence 350 feet southwest of the Project site.

### 4.9.2 IMPACT ANALYSIS

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

b) Would the project create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?

**a and b) Less than Significant Impact.** There are no designated hazardous materials transportation routes in the vicinity of the Project site. Additionally, there would be no transport, use, or disposal of hazardous materials associated with the construction, with the exception of diesel fuel for construction equipment. Any potential accidental hazardous materials spills during Project construction are the responsibility of the contractor to remediate in accordance with industry BMPs and State and Tulare County regulations. Impacts would therefore be less than significant.

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

**No Impact.** There are no schools within a quarter-mile of the Project site as the nearest school facility to the Project is Farmersville High School, located approximately 2.3 miles southwest. Furthermore, since the Project would not emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste, the Project would not result in hazardous materials impacts. The Project would

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<sup>13</sup> (California Department of Toxic Substances Control, 2024); (California State Waterboards, 2024)

<sup>14</sup> (Tulare County, 2023)

require the handling of diesel for construction equipment; however, diesel would be handled in accordance with industry BMPs and State and Tulare County regulations. There would be no impact.

- d) Would the project be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?

**No Impact.** The Project does not involve land that is actively listed as a hazardous materials site pursuant to Government Code Section 65962.5 and is not included on a list compiled by the DTSC. Both the SWRCB's GeoTracker and DTSC's EnviroStor websites were checked for contaminated groundwater or sites in the area. There would be no impact.

- 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?

**No Impact.** The Project is not located within an airport land use plan or within two miles of a public or public use airport. Therefore, there would be no impact.

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

**No Impact.** The Project would not provide any physical barriers or disturb any roadways in such a way that would impede emergency or hazards response; therefore, the Project would not interfere with implementation of any existing or future emergency response plans or evacuation plans of the area. There would be no impact.

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

**Less than Significant Impact.** According to the California Department of Forestry and Fire Protection (Cal Fire), the Project site is not located in a State Responsibility Area (SRA) or a Very High Fire Hazard Severity Zone; therefore, the likelihood of a fire hazard is low. In addition, the Project would not include habitable structures that would be susceptible to wildland fires, nor would it result in additional permanent people in the area. Furthermore, as the Project proposes a recharge basin that's sole purpose is to retain water and recharge, the retained water could be beneficially used to fight an unlikely wildfire event. Therefore, impacts related to wildland fires would be less than significant. For further discussion regarding wildfires, see [Section 4.20 Wildfire](#).



## 4.10 HYDROLOGY AND WATER QUALITY

Table 4-18: Hydrology and Water Quality Impacts

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?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b) Substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
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;	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
ii. substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site;	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
iv. impede or redirect flood flows?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
d) In flood hazard, tsunami, or seiche zones, risk release of pollutants due to project inundation?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
e) Conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

### 4.10.1 BASELINE CONDITIONS

Hydrology in the Project area is associated with the Tulare Lake Hydrologic Region, containing three main subbasins. The Tulare Lake subbasin is in the northern alluvial fan and basin subarea characterized by southwest to south flowing rivers, creeks, and irrigation canal systems that convey water from the Sierra Nevada to the west toward the Tulare Lake Bed. The southern portion of the basin is internally drained by the Kings, Kaweah, Tule, and Kern Rivers.<sup>15</sup> The Tulare Lake Basin comprises the drainage area of the San Joaquin Valley south of the San Joaquin River and is essentially a closed basin because surface water drains

<sup>15</sup> (California Department of Water Resources. Natural Resources Agency, 2015)

north into the San Joaquin River only in years of extreme rainfall. The Project site consists of a vacant fallow field, with areas of existing ground disturbance due to earthwork activities, bordering Johnson Slough.

#### 4.10.2 IMPACT ANALYSIS

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

**Less than Significant Impact.** As mentioned in [Section 4.7 Geology and Soils](#), the Project would be required to implement a SWPPP. A SWPPP involves site planning and scheduling, limiting disturbed soil areas, and determining BMPs to minimize the risk of pollution and sediments being discharged from construction sites. Implementation of the SWPPP would minimize the potential for the Project to substantially alter the existing drainage pattern in a manner that would result in substantial erosion or siltation onsite or offsite. Additionally, there would be no discharge to any surface source. However, there would be percolation discharge to groundwater via the proposed multi-cell recharge basin. Use of chemicals or surfactants would not be generated through the maintenance or operation of the Project and as such, there would be no discharge directly associated with Project implementation that could impact water quality standards. The Project would not violate any water quality standards and would not impact waste discharge requirements. Impacts would be less than significant.

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

**Less than Significant Impact.** The purpose of the Project is to improve groundwater supplies by recharging the underlying aquifer with flood waters. Implementation of the Project would increase the local groundwater table. Any impacts to the underlying groundwater supply would be less than significant.

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

i. result in substantial erosion or siltation on- or off-site;

**Less than Significant Impact.** The Project would improve groundwater storage and prevent exceedances of stormwater drainage systems by providing depressional spaces for surface water to be captured and stored for recharge purposes. The Project would not alter the course of the flow of a stream or river in which substantial erosion or siltation could occur. In addition, the Project would not result in an increase in the amount of surface runoff because the scope of this Project does not include the conversion of any permeable surface into impermeable surfaces. Therefore, impacts would be less than significant.

ii. substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site;

**No Impact.** The Project would improve groundwater storage and prevent exceedances of storm water drainage systems or additional polluted runoff by providing a depressional space for surface water. The volume would be stored and allowed to infiltrate the underlying soils over a period of time after a storm or flood event in an effort to recharge and replenish the underground aquifers. There would be no impact.

- 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

**Less than Significant Impact.** Construction activity would involve excavation and soil disturbing activities that could contribute to surface runoff. However, as described under impact analysis “a”, the proposed Project would be required to implement a SWPPP to reduce any impacts. Therefore, with the inclusion of the SWPPP and its associated BMPs, impacts would be less than significant.

- iv. impede or redirect flood flows?

**Less than Significant Impact.** The Project would divert water from Johnson Slough; however, the slough would still maintain its existing channel and flood waters would continue to flow as it currently operates. The Project would utilize excess flood flows to improve groundwater storage and prevent exceedances of storm water drainage systems or additional polluted runoff by providing a depressional space for surface water. Impacts would be less than significant.

- d) Would the project in flood hazard, tsunami, or seiche zones, risk release of pollutants due to project inundations?

**Less than Significant Impact.** Johnson Slough runs along the southern and eastern edge of the Project site. Furthermore, the southern portion of the Project is located in a 100-year floodplain (see [Figure 4-4](#)). In order to minimize erosion and run-off during construction activities, a SWPPP would be implemented, and the contractor would comply with all Cal/OSHA regulations regarding regular maintenance and inspection of equipment, spill prevention, and spill remediation in order to reduce the potential for incidental release of pollutants or hazardous substances onsite. While the Project would be located within a 100-year flood zone, the measures listed above would diminish any potential impacts to a less than significant level.

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

**Less than Significant Impact.** As mentioned, the Project would require coverage under the SWRCB CGP. In accordance with the requirements of the CGP, a risk assessment would be prepared and submitted to the Central Valley RWQCB to determine the Project’s risk level and associated water quality control requirements. These requirements would include the preparation and implementation of a SWPPP identifying specific BMPs to be implemented and maintained on the site in order to comply with the applicable effluent standards and prevent any potential groundwater quality impacts. Therefore, the Project would not conflict with a water quality control plan. Additionally, the Project would increase recharge to the underlying aquifer, ultimately enhancing groundwater levels. Therefore, the Project would not conflict with the local Groundwater Sustainability Plan. Impacts would be less than significant.

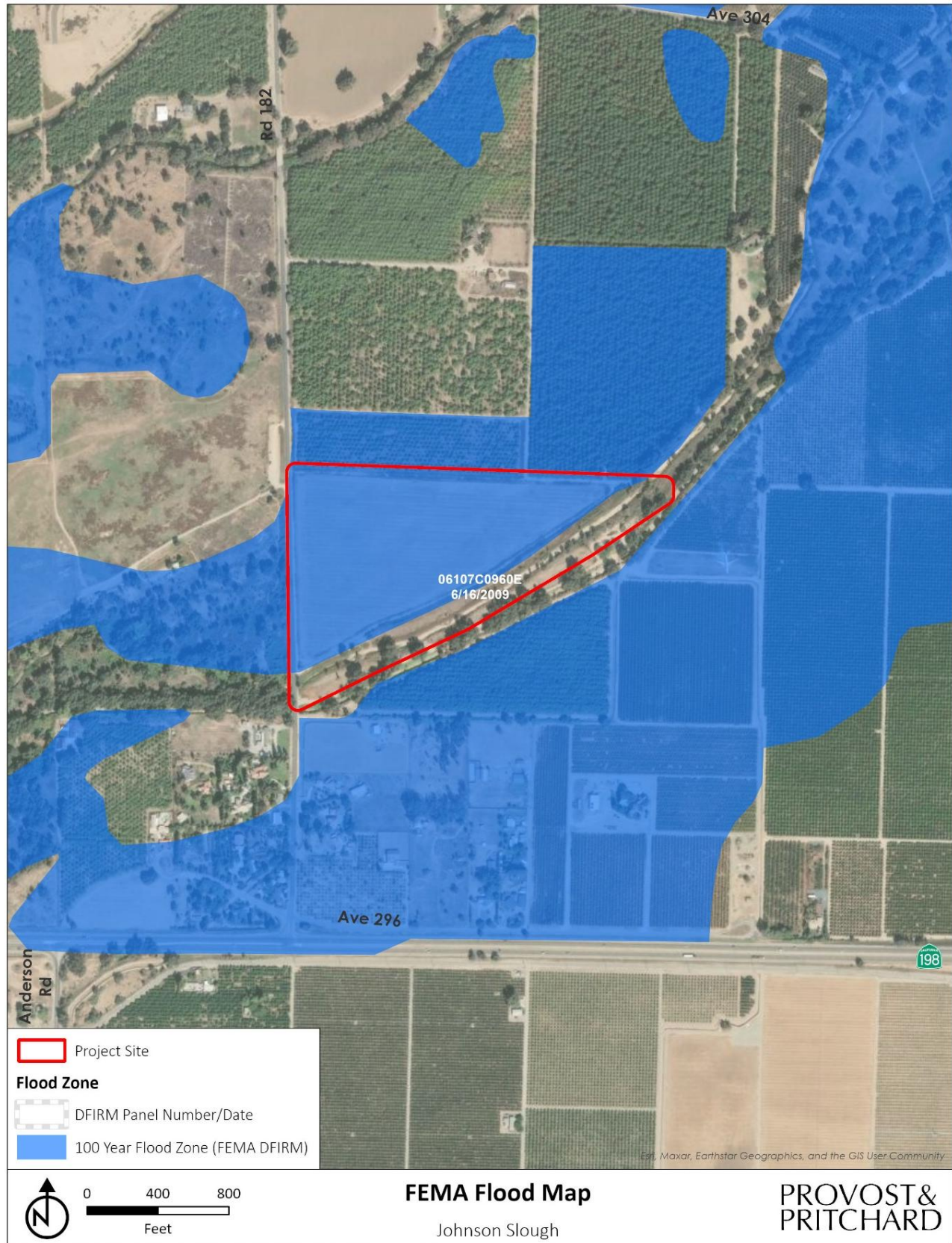


Figure 4-4: FEMA Flood Map



## 4.11 LAND USE AND PLANNING

Table 4-19: Land Use and Planning Impacts

Would the project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
a) Physically divide an established community?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

### 4.11.1 BASELINE CONDITIONS

The Project is located in Tulare County, which is the land use authority for the Project site. The Project site is designated “Rural Valley Lands Plan – Agriculture” and zoned AE-40. As seen in [Table 2-1](#), the surrounding lands are also zoned AE-40 and planned for agriculture purposes.

### 4.11.2 IMPACT ANALYSIS

#### a) Would the project physically divide an established community?

**No Impact.** The Project would not physically divide an established community. As mentioned, the Project is located in unincorporated Tulare County outside of any city jurisdictions. Project features would not cause any sort of obstruction. Therefore, there would be no impact.

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

**No Impact.** The Project site is zoned and planned for agricultural purposes. The Project would allow for groundwater recharge which would ultimately result in benefits to agricultural operations in the vicinity. Therefore, there would be no impact.

## 4.12 MINERAL RESOURCES

Table 4-20: Mineral Resources Impacts

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

### 4.12.1 BASELINE CONDITIONS

The bulk of Tulare County's mineral extraction activities focus on aggregate (sand, gravel, and crushed stone) which is primarily used in building materials. The Kaweah River, Lewis Creek, and the Tule River have historically provided the main sources of high-quality sand and gravel in Tulare County. According to the Tulare County General Plan Background Report, all of the known potential mineral resource locations are mapped within the foothills and/or along major water courses. Similarly, the only active oil and gas fields are located in the foothills along Deer Creek.<sup>16</sup> These sources do not identify any known potential mineral resource locations within or adjacent to the Project site. The Project site is not delineated on a local land use plan as a locally important mineral resource recovery site. The California Geological Survey Division of Mines and Geology has not classified the Project site as a Mineral Resource Zone (MRZ) under the Surface Mining and Reclamation Act.<sup>17</sup> California's Division of Oil, Gas and Geothermal Resources has no records of active oil or gas wells on the Project site or in the immediate area.<sup>18</sup>

### 4.12.2 IMPACT ANALYSIS

a) Would the project result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state?

b) Would the project result in the loss of availability of a locally important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan?

**a and b) No Impact.** No known mineral resources are within the Project site nor has the site been classified as an MRZ. The Project would not cause an impact as a result in the loss of availability of a known mineral resource that would be of value to the region and the residents, nor would it result in the loss of availability of a locally important mineral resource recover site delineated on a local general plan, specific plan or other land use plan since no known mineral resources occur in this area.

<sup>16</sup> (Environmental Science Associates, 2010)

<sup>17</sup> (California Department of Conservation, 2022)

<sup>18</sup> (California Department of Conservation, 2022)



## 4.13 NOISE

Table 4-21: Noise Impacts

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?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b) Generation of excessive ground borne vibration or ground borne noise levels?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

### 4.13.1 BASELINE CONDITIONS

The Project is located in Tulare County approximately 4.5 miles east of the City of Visalia. The Project site is a currently vacant fallow field. The site is surrounded by farmland to the north and east and south. The Kaweah Oaks Preserve is located to the west of the Project site across Road 182. The closest residence is approximately 100 feet across Road 182 from the southwest corner of the Project site. Traffic noise in the vicinity of the Project originates from Road 182, which is located along the Project's western border. The nearest major highway is SR 198, located approximately 0.28 miles south of the Project site.

### 4.13.2 IMPACT ANALYSIS

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

**Less than Significant Impact.** The nearest sensitive receptor to the Project site is the single-family residence located approximately 100 feet across Road 182 at the southwest corner of the Project site. Project construction-related activities would involve temporary, short-term, and intermittent noise sources including site preparation. The construction phase of the Project would involve temporary noise sources originating predominantly from construction equipment included, but not limited to, the ones identified in Table 4-22. Table 4-22 provides a summary of these typical noise levels of construction equipment as measured at a distance of 50 feet from the operating equipment.<sup>19</sup>

<sup>19</sup> (U.S. Department of Transportation, 2006)

**Table 4-22: Typical Noise Levels of Construction Equipment**

Type of Equipment	Impact Device?	Specification Maximum Sound Levels for Analysis (50 feet)
Auger Drill Rig	No	85
Backhoe	No	80
Compactor	No	82
Dozer	No	85
Excavator	No	85
Grader	No	85

Construction-related noise levels would be higher than existing ambient noise levels in the Project site but would not occur after construction-related activities are completed. Construction activities are temporary, lasting approximately six months. Operation and maintenance noise would be similar in character to existing noise in the area resulting from existing activity such as traffic noise, farm equipment noise as the Project would be passive in nature. Tulare County General Plan Policies HS-8.18 and HS-8.19 address noise generated from construction-related activities. Policy HS-8.18 limits noise-generating activities (such as construction-related activities) to hours of normal business operation unless specific Tulare County approval is given. Construction-related activities would be restricted to daytime hours and would be short-term, temporary, and intermittent in nature. Policy HS-8.19 requires Tulare County to ensure contractors implement best practices as appropriate to reduce the construction-related noise impacts. By complying with Tulare County General Plan Policies HS-8.18 and HS-8.19, the Project would have a less than significant impact.

**b) Would the project result in generation of excessive ground borne vibration or ground borne noise levels?**

**Less than Significant Impact.** There are no federal or State standards that address construction noise or vibration. Additionally, Tulare County does not have regulations that define acceptable levels of vibration. However, the Federal Transit Administration (FTA) publication concerning noise and vibration impact assessment from transit activities has vibration standards suggestions. Although the FTA guidelines are to be applied to transit activities and construction, they may be reasonably applied to the assessment of the potential for annoyance or structural damage resulting from other activities. To prevent vibration annoyance in residences, a level of 80 VdB (vibration velocity level in dB) or less is suggested when there are fewer than 70 vibration events per day. A level of 100 VdB or less is suggested by the FTA guidelines to prevent damage to fragile buildings. **Table 4-23** describes the typical construction equipment vibration levels. While these construction-related activities would result in ground borne vibration, such ground borne noise or vibration would attenuate rapidly from the source and would not be generally perceptible outside of the construction-related areas. In addition, there would not be any vibrational impacts from operation and maintenance activities.

**Table 4-23. Typical Construction Equipment Vibration Sources Levels**

Equipment	PPV at 25 ft, in/sec	Approximate Lv* at 25 ft
Large bulldozer	0.089	87
Caisson drilling	0.089	87
Loaded trucks	0.076	86
Jackhammer	0.035	79
Small bulldozer	0.003	58
*RMS velocity in decibels, VdB re 1 micro-in/sec Source: (John A. Volpe National Transportation Systems Center, 2018)		

Construction-related activities in general can have the potential to create ground borne vibrations. However, based on the soil types found in the general Project vicinity, there would not be any blasting or pile-driving necessary in connection with construction of the Project. Therefore, the potential for ground borne vibrations to occur as part of construction-related activities of the Project would not be significant. Additionally, operation of the Project would not contain any activities that would create excessive ground borne vibrations. The Project would not result in exposure of persons to, or generation of excessive ground borne vibration or ground borne noise levels. Therefore, impacts would be less than significant.

- 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?

**No Impact.** The Project would not be located within an airport land use plan or within two miles of an airport. The nearest airport, Visalia Municipal, is located approximately 12.5 miles west of the Project. Furthermore, the Project would not involve the development of habitable structures or require the presence of permanent staff onsite. There would be no impact.

## 4.14 POPULATION AND HOUSING

Table 4-24: Population and Housing Impacts

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)?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

### 4.14.1 BASELINE CONDITIONS

According to the U.S Census Bureau, as of July 1, 2023, Tulare County has an estimated population of 479,468 people. Since the 2020 Census, it is estimated that Tulare County grew approximately 1.3% from 473,116.<sup>20</sup> Additionally, it is estimated that Tulare County currently has 140,670 households.<sup>21</sup>

### 4.14.2 IMPACT ANALYSIS

a) Would the project 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)?

**Less than Significant Impact.** The Project's primary purpose is to increase water resources in the region. The Project would not induce substantial unplanned population growth in an area directly or indirectly. There would be no impact.

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

**No Impact.** The Project site is currently a fallow field. The site does not contain any homes or structures that house people. Therefore, the Project would not displace any people or houses. There would be no impact.

<sup>20</sup> (United States Census Bureau, 2023)

<sup>21</sup> Ibid.

## 4.15 PUBLIC SERVICES

Table 4-25: 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:				
i. Fire protection?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
ii. Police protection?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
iii. Schools?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
iv. Parks?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
v. Other public facilities?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

### 4.15.1 BASELINE CONDITIONS

**Fire Protection:** The Project area would be served by the Tulare County Fire Department (TCFD). The closest TCFD is the Exeter station located approximately 2.7 miles northwest.

**Police Protection:** Police protection is provided by the Tulare County Sheriff's Office. The closest Tulare County Sheriff station to the Project is located approximately 10.3 miles west in the City of Visalia.

**Schools:** The nearest school facility to the Project is Rocky Hill Elementary School, located approximately 2.3 miles southeast.

**Parks:** The nearest park to the Project site is the Kaweah Oaks Preserve, located approximately 25 feet west across Road 182.

**Landfills:** The nearest landfill to the Project site is the Visalia Landfill, located approximately 12.2 miles northeast.

### 4.15.2 IMPACT ANALYSIS

a) Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for any of the public services: Fire Protection; Police Protection; Schools; Parks; Other public facilities?

**a-i – a-v) No Impact.** The Project would not require new or altered governmental facilities in order to maintain acceptable service ratios, response times, or other performance objectives for public services.

The Project involves the construction of a recharge basin for groundwater recharge and a surface water turnout facility to divert water into the basin. The Project would not result in habitable structures that could result in an increase in population requiring the need for public service expansion or alteration. There would be no impact to the listed public services.



## 4.16 RECREATION

Table 4-26: Recreation Impacts

Would the project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
a) Increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

### 4.16.1 BASELINE CONDITIONS

Tulare County has several regional parks, as well as State and national parks, national forest, wilderness areas, and ecological reserves. There are 13 park and recreation facilities that are owned and operated by Tulare County. The Tulare County Resource Management Agency, Parks and Recreation Branch maintains and develops regional parks and landscaped areas. Colonel Allensworth State Historic Park is the only State Park in Tulare County. Mountain Home State Forest, a State Forest managed by the California Department of Forestry and Fire Protection, is situated just east of Porterville and contains numerous Giant Sequoias. Lake Kaweah and Lake Success are federal recreation areas within Tulare County, operated by the U.S. Army Corps of Engineers. The majority of the recreational opportunities within Tulare County are found within Sequoia National Forest, Giant Sequoia National Monument, and in Sequoia and Kings Canyon National Parks.

Federal lands, such as wilderness, national forests, monuments, and parks occupy 52.2 percent of land area within Tulare County. Agricultural uses encompass 43 percent of Tulare County's land. The remainder comprises miscellaneous uses, such as Tulare County parks, urban uses in cities, unincorporated communities, and hamlets, and infrastructure rights-of-way. The Tulare County General Plan sets forth guidelines in order to maintain an overall standard of five or more acres of public Tulare County parkland per 1,000 population in unincorporated areas, regional parks at one-acre per 1,000 population, neighborhood parks at three to six acres per 1,000 population, and community parks at one to two acres per 1,000 population.<sup>22</sup>

As noted in [Section 4.15](#), the closest recreational facility to the Project is the Kaweah Oaks Preserve, located approximately 25 feet west across Road 182.

<sup>22</sup> (Tulare County 2030 General Plan Update, 2010)

#### 4.16.2 IMPACT ANALYSIS

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

**No Impact.** As mentioned above, the Project is located approximately 25 feet from the Kaweah Oaks Preserve. Although the preserve is fairly close to the Project, a physical connection would not be made. In addition, Road 182 separates the Project from the preserve. Therefore, it is not anticipated that the Project would increase the use of the Kaweah Oaks Preserve resulting in substantial physical deterioration of the park. There would be no impact.

- 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?

**No Impact.** The Project does not include recreational facilities, nor would it require the construction or expansion of recreational facilities. As mentioned, the Project is located across the street from the Kaweah Oaks Preserve; however, the Project would not impact it any way that would result in additional utilization of it. There would be no impact.

## 4.17 TRANSPORTATION

Table 4-27: Transportation Impacts

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?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b) Conflict or be inconsistent with CEQA Guidelines section 15064.3, subdivision (b)?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c) Substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d) Result in inadequate emergency access?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

### 4.17.1 BASELINE CONDITIONS

The Project is located in Tulare County approximately 4.5 miles east of the City of Visalia. Road 182 borders the western edge of the Project site and runs in a north-west direction. The nearest major highway is SR 198, located approximately 0.28 miles south of the Project site.

### 4.17.2 IMPACT ANALYSIS

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

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

**a and b) Less than Significant Impact.** The Project includes the construction of an approximately 18-acre groundwater recharge basin and a surface water turnout. Construction traffic associated with the Project would be minimal and temporary, lasting approximately six months. Operational traffic consists of as-needed maintenance trips to the site. No road improvements are proposed as a part of the Project; however, typically the berms built along basins are dually used for vehicular/pedestrian access for O&M purposes. In accordance with its design, the basin berms would be constructed and compacted in a manner that could withstand the weight of vehicles/pedestrians. There would not be a significant adverse effect to existing roadways in the area.

Construction associated with the Project would be restricted to the Project site and it would not intersect any roadways or pedestrian/bicycle paths. Construction-related impacts would be temporary and there would be no impacts to the surrounding transportation network. Road closures and detours are not anticipated as part of construction.

There is no population growth associated with the Project, nor would implementation of the Project result in an increase of staff or drivers utilizing roadways in the area. Therefore, implementation of the

Project would not increase the demand for any changes to congestion management programs or interfere with existing level of service standards during the operational phase. Construction-related roadway interferences would be less than significant.

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

**No Impact.** No new roadway design features are associated with the Project. Therefore, there would be no impact.

**d) Would the project result in inadequate emergency access?**

**Less than Significant Impact.** As mentioned above in Impact Assessments a, b, and c, the Project would not propose new roadway design features or permanent alterations to roadways. All potential disturbances to roadways during construction would be temporary. Road closures and detours are not anticipated as part of the construction phase of the Project. The operational phase of the Project would have no effect on roadways or emergency access. Therefore, overall potential Project-related impacts to emergency access on local roadways would be considered less than significant.

## 4.18 TRIBAL CULTURAL RESOURCES

Table 4-28: Tribal Cultural Resources Impacts

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 tribal cultural resource, defined in Public Resources Code section 21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe, and that is:				
i. Listed or eligible for listing in the California Register of Historical Resources, or in the local register of historical resources as defined in Public Resources Code section 5020.1(k), or	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
ii. A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Public Resources Code Section 5024.1. In applying the criteria set forth in subdivision (c) of Public Resources Code Section 5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

### 4.18.1 BASELINE CONDITIONS

The Project's site is in the Southern Valley Yokuts ethnographic territory of the San Joaquin Valley. Within California, the Yokuts were generally divided into three major groups, the Northern Valley Yokuts, the Southern Valley Yokuts, and the Foothill Yokuts. The Yokuts are a sub-group of the Penutian language that covers much of coastal and central California and Oregon.

#### 4.18.1.1 NATIVE AMERICAN OUTREACH

The District, as a public lead agency, has not received any written correspondence from a Tribe pursuant to Public Resources Code Section 21080.3.1 requesting notification of a proposed project.

Taylor Archaeology requested a SLF search from the NAHC on September 17, 2024. The NAHC responded on September 24, 2024, via letter regarding Taylor Archaeology's request. The SLF search did not identify the presence of cultural resources in the Project APE. The NAHC supplied a list of Native American representatives to contact for information or knowledge of cultural resources in the APE and the surrounding area. The following Native American organizations/individuals were contacted from the list provided by NAHC below:

1. Vice Chairperson Joel Marvin of Big Sandy Rancheria of Western Mono Indians
2. Tribal Administrator Tom Zizzo of Big Sandy Rancheria of Western Mono Indians
3. Chairperson Elizabeth Kipp of Big Sandy Rancheria of Western Mono Indians
4. Chairperson Shane Ratchford of Cold Springs Rancheria of Mono Indians of California
5. Tribal Administrator Desiree Lewis of Cold Springs Rancheria of Mono Indians of California
6. Chairperson Robert Ledger of the Dumna Wo-Wah Tribal Government
7. Chairperson Delia Dominguez of Kitanemuk and Yowlumne Tejon Indians
8. Chairperson Charlotte Lange of Mono Lake Kutzadika Tribe
9. Chairperson Ron Goode of the North Fork Mono Tribe
10. Tribal Secretary Anna Phipps of the North Fork Mono Tribe
11. Council Member - Archaeological Director Jesse Valdez of the North Fork Mono Tribe
12. Tribal Historic Preservation Officer Shana Powers of the Santa Rosa Rancheria Tachi Yokut Tribe
13. Cultural Specialist I Nichole Escalon of the Santa Rosa Rancheria Tachi Yokut Tribe
14. Cultural Specialist II Samantha McCarty of the Santa Rosa Rancheria Tachi Yokut Tribe
15. Chairperson Michelle Heredia-Cordova of Table Mountain Rancheria
16. Cultural Resource Director Bob Pennell of Table Mountain Rancheria
17. Chairperson David Alvarez of Traditional Choinumni Tribe
18. Environmental Department Director Kerri Vera of the Tule River Tribe
19. Tribal Archaeologist Joey Garfield of the Tule River Indian Tribe
20. Chairperson Neil Peyron of the Tule River Indian Tribe
21. Chairperson Kenneth Woodrow of the Wuksachi Indian Tribe/Eshom Valley Band

The outreach letters were sent via certified mail to each individual on the contact list on October 24, 2024 ([Appendix C](#)). The letters included a description of the proposed Project and a topographic map and aerial map of the location. Follow-up by emails were sent on November 5, 2024. Chairperson Ron Goode of North Fork Mono Tribe responded to the letter via email on October 27, 2024, that the tribe has no comment. Chairperson Kenneth Woodrow of the Wuksachi Indian Tribe/Eshom Valley Band responded by telephone on November 8, 2024, stating the Project area is in a culturally sensitive area and sent an official statement via email on November 12, 2024, requesting cultural monitoring of all ground disturbing activity in the APE.

As of the date of this report, no other responses have been received. Responses received by Native American individuals at the time of writing may be found in [Appendix C](#).

#### **4.18.1.2 ASSEMBLY 52**

PRC Section 21080.3.1, et seq. (codification of AB 52, 2013-14) requires that a lead agency, within 14 days of determining that it would undertake a project, must notify in writing any California Native American Tribe traditionally and culturally affiliated with the geographic area of the project if that Tribe has previously requested notification about projects in that geographic area. The notice must briefly describe the project and inquire whether the Tribe wishes to initiate request formal consultation. Tribes have 30 days from receipt of notification to request formal consultation. The lead agency then has 30 days to initiate the consultation, which then continues until the parties come to an agreement regarding necessary mitigation or agree that no mitigation is needed, or one or both parties determine that negotiation occurred in good faith, but no agreement would be made. As of the date of this report, KDWCD has not received any written correspondence from a Tribe pursuant to Public Resources Code Section 21080.3.1 requesting notification of a proposed project.



#### 4.18.2 IMPACT ASESMENT

- a) Would the project cause a substantial adverse change in the significance of a tribal cultural resource, defined in Public Resources Code section 21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe, and that is:
- v. Listed or eligible for listing in the California Register of Historical Resources, or in the local register of historical resources as defined in Public Resources Code section 5020.1(k), or
  - vi. 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.

**Less than Significant Impact with Mitigation Incorporated.** A search of the NAHC SLF was completed for the APE. No tribal cultural resources were identified. Additionally, a records search was conducted at the SSJVIC, California State University, Bakersfield. This search also determined that tribal cultural resources were not present on-site.

The District, as a public lead agency, has not received any written correspondence from a Tribe pursuant to Public Resources Code Section 21080.3.1 requesting notification of a proposed project.

According to the Phase I Cultural Resources Assessment prepared for the Project ([Appendix C](#)), based upon ethnographic data, historical maps, and archaeological sensitivity models, the Project area was adjacent to a natural watercourse and potentially contained a high supply of natural resources for indigenous populations. Thus, there is a possibility of encountering buried cultural resources during Project ground disturbing activities. Therefore, implementation of mitigation measures **CUL-1** and **CUL-2**, described in [Section 4.5.3](#) are recommended. Implementation of mitigation measures referenced above will reduce impacts to tribal cultural resources to less than significant.

#### 4.18.3 MITIGATION

See **CUL-1** and **CUL-2** outlined in [Section 4.5.3](#)

## 4.19 UTILITIES AND SERVICE SYSTEMS

Table 4-29: Utilities and Service Systems Impacts

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

### 4.19.1 BASELINE CONDITIONS

The Project is located in Tulare County approximately 4.5 miles east of the City of Visalia. The site is currently a vacant fallow field and does not include any water or sewer infrastructure. The nearest public agency that provides water and sewer services is the City of Visalia. The Patterson Tract Community Services District, which provides water services, is located just a half-mile north. Solid waste in the Project area is managed by the Tulare County Solid Waste Department.

### 4.19.2 IMPACT ANALYSIS

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

**No Impact.** The Project would construct a basin, short pipeline, and turnout and would not require construction of new or relocation or expansion of existing facilities for water, wastewater treatment, storm water drainage, electric power, natural gas, or telecommunications. There would be no impact.

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

**No Impact.** The Project consists of the construction of a groundwater recharge basin and a turnout. The purpose of the Project is for CPDC to utilize its surface water rights for groundwater recharge to achieve groundwater sustainability. Project operation would be passive and would not reduce the area's available water supply under any scenario. There would be no impact.

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

**No Impact.** The Project does not require wastewater treatment, so analysis of capacity is not warranted. There would be no impact.

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

**Less than Significant Impact.** The Project would generate minor amounts of solid waste during construction; however, it would be temporary and properly disposed of during construction and upon completion. No solid waste would be generated during operation and maintenance. Any impacts with regard to solid waste would be less than significant.

**e) Would the project comply with federal, state, and local management and reduction statutes and regulations related to solid waste?**

**No Impact.** The Project would continue to comply with any federal, State, and local regulations related to solid waste. There would be no impact.

## 4.20 WILDFIRE

Table 4-30: Wildfire Impacts

If located in or near state responsibility areas or lands classified as very high fire hazard severity zones, would the project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
a) Substantially impair an adopted emergency response plan or emergency evacuation plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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 uncontrollable spread of wildfire?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

### 4.20.1 BASELINE CONDITIONS

The Project site is currently a vacant fallow field. The site is surrounded by farmland to the north and east and south. The Kaweah Oaks Preserve is located to the west of the Project site across Road 182. The closest residence to the Project site is approximately 100 feet across Johnson Slough. The Project site is relatively flat with elevations around 380 to 390 feet above mean sea level. The Project site is located within the jurisdiction of Tulare County and receives fire protection services from the TCFD. As mentioned in [Section 4.15](#), the closest TCFD station to the Project is the Exeter station located approximately 2.7 miles northwest located in the City of Exeter.

According to the California Department of Forestry and Fire Protection (CalFire), the Project is not located within an SRA.<sup>23</sup> SRAs typically receive wildfire prevention and protection services from CalFire. As the Project is not located in an SRA, the Project site receives services from the local provider, TCFD. Furthermore, according to CalFire, the Project area is not located within a Very High Fire Hazard Severity Zone, nor is the Project located within a high or moderate fire hazard severity zone.<sup>24</sup>

<sup>23</sup> (California Department of Forestry and Fire Protection, 2022)

<sup>24</sup> (ArcGIS, 2023)

#### 4.20.2 IMPACT ANALYSIS

- a) If located in or near state responsibility areas or lands classified as very high fire hazard severity zones, would the project substantially impair an adopted emergency response plan or emergency evacuation plan?
- b) If located in or near state responsibility areas or lands classified as very high fire hazard severity zones, would the project due to slope, prevailing winds, and other factors, exacerbate wildfire risks and thereby expose project occupants to pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire?
- c) If located in or near state responsibility areas or lands classified as very high fire hazard severity zones, would the project require the installation or maintenance of associated infrastructure (such as roads, fuel breaks, emergency water sources, power lines or other utilities) that may exacerbate fire risk or that may result in temporary or ongoing impacts to the environment?
- d) If located in or near state responsibility areas or lands classified as very high fire hazard severity zones, would the project expose people or structures to significant risks, including downslope or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes?

**a-d) No Impact.** The Project site is located in a section of Tulare County that has not been designated as either a Very High Fire Hazard Severity Zone or an SRA. Additionally, if there was a fire in the area, a recharge basin could provide water needs. Therefore, further analysis is not required and there would be no impact.

## 4.21 CEQA MANDATORY FINDINGS OF SIGNIFICANCE

Table 4-31: CEQA Mandatory Findings of Significance

Does the project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
a) 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?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b) Have impacts that are individually limited, but cumulatively considerable? ("Cumulatively considerable" means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects)?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c) Have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

### 4.21.1 STATEMENT OF FINDINGS

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?

**Less than Significant Impact with Mitigation Incorporated.** The analysis conducted in this IS/MND results in a determination that the Project, with incorporation of mitigation measures, would have a less than significant effect on the environment. The potential for impacts to biological resources, cultural resources, and tribal cultural resources from the construction and operation of the recharge basin Project would be less than significant with the incorporation of the mitigation measures discussed in **Chapter 5 Mitigation, Monitoring, and Reporting Program**. Accordingly, the Project would involve no potential for significant impacts through the degradation of the quality of the environment, the reduction in the habitat or population of fish or wildlife, including endangered plants or animals, the elimination of a plant or animal community or example of a major period of California history or prehistory.



- b) Does the project have impacts that are individually limited, but cumulatively considerable? (“Cumulatively considerable” means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects)?

**Less than Significant Impact.** As discussed above, the Project would result in less than significant impacts to biological resources, cultural resources, and tribal cultural resources with mitigation incorporated. Project operations would not require any on-site personnel. Maintenance would be performed on an as-needed basis and would not require any permanent on-site personnel. As such, the Project operations would generate minimal Project-related vehicle trips as a result of implementation. The implementation of the identified Project-specific mitigation measures, and compliance with applicable codes, ordinances, laws, and other required regulations would reduce the magnitude of any impacts associated with construction activities to a less than significant level.

- c) Does the project have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly?

**Less than Significant Impact.** The Project would include the construction of a recharge basin and a surface water turnout. The Project in and of itself would not create a significant hazard to the public or the environment. Construction-related air quality/dust exposure impacts could occur temporarily as a result of project construction. However, implementation of basic regulatory requirements identified in this IS/MND would ensure that impacts are less than significant. Therefore, the Project would not have any direct or indirect adverse impacts on humans. The impacts would be less than significant

## CHAPTER 5    MITIGATION, MONITORING, AND REPORTING PROGRAM

This MMRP has been formulated based upon the findings of the IS/MND for the Mathews Basin Project in Tulare County. The MMRP lists mitigation measures recommended in the IS/MND for the Project and identifies monitoring and reporting requirements.

**Table 5-1: Mitigation, Monitoring, and Reporting** Program presents the mitigation measures identified for the Project. Each mitigation measure is numbered with a symbol indicating the topical section to which it pertains, a hyphen, and the impact number. For example, AIR-2 would be the second mitigation measure identified in the Air Quality analysis of the IS/MND.

The first column of **Table 5-1: Mitigation, Monitoring, and Reporting** Program identifies the mitigation measure. The second column, entitled “When Monitoring is to Occur,” identifies the time the mitigation measure should be initiated. The third column, “Frequency of Monitoring,” identifies the frequency of the monitoring of the mitigation measure. The fourth column, “Agency Responsible for Monitoring,” names the party ultimately responsible for ensuring that the mitigation measure is implemented. The last columns will be used by the Lead and Responsible Agencies to ensure that individual mitigation measures have been complied with and monitored

**Table 5-1: Mitigation, Monitoring, and Reporting Program**

<b>Mitigation, Monitoring, and Reporting Program</b>						
Item	Mitigation Measure	When Monitoring is to Occur	Frequency of Monitoring	Agency Responsible for Monitoring	Method to Verify Compliance	Verification of Compliance
<b>Biological Resources</b>						
<b>General Project-Related Impacts</b>						
<b>BIO-1</b>	(WEAP Training): Prior to initiating construction activities (including staging and mobilization), all personnel associated with project construction will attend a mandatory Worker Environmental Awareness Program (WEAP) training, conducted by a qualified biologist, to aid workers in identifying special status resources that may occur within the Project site. The specifics of this program will include identification of the sensitive species and suitable habitats, a description of the regulatory status and general ecological characteristics of sensitive resources, and review of the limits of construction and mitigation measures required to reduce impacts to biological resources within the work area. This training will discuss special status species, describe the laws and regulations in place to provide protection of these species, identify the penalties for violation of applicable environmental laws and regulations, and include a list of required protective measures to avoid “take.” A fact sheet summarizing this information, along with photographs or illustrations of sensitive species and sensitive habitats such as wetlands with potential to occur onsite, will also be prepared for distribution to all contractors, their employees, and all other personnel involved with construction of the project. All trainees will sign a form documenting that they have attended WEAP training and understand the information presented to them.	Prior to the start of any construction activities	As needed for any new construction personnel during construction activities	KDWCD with assistance of a qualified biological subconsultant	Report	
<b>BIO-2</b>	(BMPs): The Project proponent will ensure that all workers employ the following BMPs in order to avoid and minimize potential impacts to special status species: <ul style="list-style-type: none"> <li>Vehicles will observe a 15-mph speed limit while on unpaved access routes.</li> <li>Workers will inspect areas beneath parked vehicles prior to mobilization. If special status species are detected beneath vehicles, the individual will either be allowed to leave of its own volition or will be captured by the qualified biologist (must possess appropriate collecting/handling permits) and relocated out of harm’s way to the nearest suitable habitat beyond the influence of the Project work area. “Take” of a</li> </ul>	During Construction Activities	Daily	KDWCD with assistance of a qualified biological subconsultant	Report	

Mitigation, Monitoring, and Reporting Program						
Item	Mitigation Measure	When Monitoring is to Occur	Frequency of Monitoring	Agency Responsible for Monitoring	Method to Verify Compliance	Verification of Compliance
	<p>listed (rare, threatened, or endangered) species is prohibited.</p> <ul style="list-style-type: none"> <li>The presence of any special status species and/or any wildlife mortalities will be reported to the Project's designated biologist and the appropriate regulatory agencies.</li> </ul>					
<b>Project-Related Mortality and/or Nest Abandonment of Migratory Birds, Raptors, and Special Status Birds</b>						
<b>BIO-3</b>	(Avoidance): The Project's construction activities will occur, if feasible, between September 16 and January 31 (outside of the nesting bird season) in an effort to avoid impacts to nesting birds.	Prior to construction activities	Prior to construction activities	KDWCD with assistance of a qualified biological subconsultant	Report	
<b>BIO-4</b>	(Pre-construction Surveys): If activities must occur within the nesting bird season (February 1 to September 14), qualified biologist would conduct a pre-construction survey for Swainson's hawk nests onsite and within a 0.5-mile radius. This survey would be conducted in accordance with the Recommended Timing and Methodology for Swainson's Hawk Nesting Surveys in California's Central Valley (Swainson's Hawk Technical Advisory Committee, 2000) or current guidance. The pre-construction survey would also provide a presence/absence survey for all other nesting birds within the APE and an additional 50 feet, no more than 7 days prior to the start of construction. All raptor nests would be considered "active" upon the nest-building stage.	Prior to construction activities	Prior to construction activities	KDWCD with assistance of a qualified biological subconsultant	Report	
<b>BIO-5</b>	(Avoidance Buffers): On discovery of any active nests or breeding colonies near work areas, the biologist will determine appropriate construction setback distances based on applicable CDFW and/or USFWS guidelines and/or the biology of the species in question. Construction buffers will be identified with flagging, fencing, or other easily visible means, and will be maintained until the biologist has determined that the nestlings have fledged.	Prior to construction activities	Prior to construction activities	KDWCD with assistance of a qualified biological subconsultant	Report	
<b>Project-Related Mortality and/or Disturbance to Burrowing Owl</b>						
<b>BIO-6</b>	(Pre-construction Take Avoidance Survey): A qualified biologist will conduct a pre-construction take avoidance survey for BUOWs in accordance with CDFW's Staff Report on Burrowing Owl Mitigation (2012) within 30 days prior to the start of construction activities. The survey will include the proposed work area and surrounding lands	Prior to construction activities	Prior to construction activities	KDWCD with assistance of a qualified biological subconsultant	Report	

Mitigation, Monitoring, and Reporting Program										
Item	Mitigation Measure				When Monitoring is to Occur	Frequency of Monitoring	Agency Responsible for Monitoring	Method to Verify Compliance	Verification of Compliance	
	within 500 feet. If no BUOW individuals or suitable burrows are observed, no further mitigation is required.									
BIO-7	(Avoidance): If an active BUOW burrow is detected, the occurrence will be reported to the local CDFW office and the CNDDDB, and disturbance-free buffers will be implemented in accordance with CDFW’s 2012 Staff Report on Burrowing Owl Mitigation, as outlined in the table below:				Prior to construction activities	Prior to construction activities	KDWCD with assistance of a qualified biological subconsultant	Report		
	Location	Time of Year	Level of Disturbance							
			Low	Medium						High
	Nesting sites	April 1 – August 15	200 meters	500 meters						500 meters
	Nesting sites	August 16 – October 15	200 meters	200 meters						500 meters
Nesting sites	October 16 – March 31	50 meters	100 meters	500 meters						
BIO-8	(Consultation with CDFW and Passive Relocation): If avoidance of an active BUOW burrow is not feasible, CDFW will be immediately consulted to determine the best course of action, which may include passive relocation during non-breeding season. Passive relocation and/or burrow exclusion will not take place without coordination with CDFW and preparation of an approved exclusion and relocation plan.				Prior to construction activities	Prior to construction activities	KDWCD with assistance of a qualified biological subconsultant	Report		
Project-Related Mortality and/or Disturbance of Bats										
BIO-9	(Avoidance): The Project’s construction activities will occur, if feasible, between November 1 and February 28 (outside of bat maternity season) in an effort to avoid impacts to maternity roosts.				Prior to construction activities	Prior to construction activities	KDWCD with assistance of a qualified biological subconsultant	Report		
BIO-10	(Pre-Construction Survey): A pre-construction survey for bats will be performed if construction activities fall between March 1 and September 30 (bat maternity season) and if the Project includes tree removal. A qualified biologist will conduct the survey within (7) seven days prior to construction to identify potential roosting habitat within the APE and an additional 100-foot survey area around the designated APE. If no individuals, roosts, or suitable habitat is observed, no further mitigation is required.				Prior to construction activities	Prior to construction activities	KDWCD with assistance of a qualified biological subconsultant	Report		

Mitigation, Monitoring, and Reporting Program						
Item	Mitigation Measure	When Monitoring is to Occur	Frequency of Monitoring	Agency Responsible for Monitoring	Method to Verify Compliance	Verification of Compliance
<b>BIO-11</b>	(Establish Buffers): On discovery of any bat roosts near work areas, a qualified biologist will determine appropriate construction setback distances (buffer zones) based on applicable CDFW and/or USFWS guidelines, if appropriate. Construction buffers will be identified with flagging, fencing, or other easily visible means, and will be maintained until the biologist has determined that the roost will no longer be impacted by construction.	Prior to construction activities	Prior to construction activities	KDWCD with assistance of a qualified biological subconsultant	Report	
<b>BIO-12</b>	(Operational Hours): Construction activities will be limited to daylight hours to reduce potential impacts to special status bats that could be foraging onsite.	During Construction Activities	During Construction Activities	KDWCD with assistance of a qualified biological subconsultant	Report	
<b>Project-Related Mortality and/or Disturbance of Special Status Fossorial Mammals</b>						
<b>BIO-13</b>	(Pre-construction Survey): A qualified biologist will conduct a pre-construction survey of Project areas within 30 days prior to vegetation clearing or ground disturbing activities. Goals of this survey include a search for potentially active badger dens and suitable habitat within Project areas for American badger. Environmentally sensitive areas will be flagged for avoidance. If no American badger individuals or suitable burrows are observed, no further mitigation is required.	Prior to construction activities	Prior to construction activities	KDWCD with assistance of a qualified biological subconsultant	Report	
<b>BIO-14</b>	(Camera Station): If potential dens with dimensions suitable for American badger (diameter of four (4) inches or greater) are detected during pre-construction surveys, each potential den will be monitored by a qualified biologist with remote camera stations for a period of three consecutive nights. If there is no activity at the den location recorded for three consecutive nights, the den can be deemed "inactive" or "unoccupied" and will be sealed or destroyed within 24 hours of the inactive findings.	Prior to construction activities	Prior to construction activities	KDWCD with assistance of a qualified biological subconsultant	Report	
<b>BIO-15</b>	(Den Avoidance/Buffers): If an American badger is denning on or within 100 feet of the Project site, the Project proponent will avoid the den by a minimum 100-foot buffer. If the 100-foot buffer cannot be maintained, the Project proponent will contact CDFW for guidance on how to proceed.	During Construction Activities	During Construction Activities	KDWCD with assistance of a qualified biological subconsultant	Report	
<b>BIO-16</b>	(Consultation/ITP): Badgers will not be evicted from dens without CDFW consultation/coordination. In the event an active den is detected during surveys and cannot be avoided, consultation with CDFW is warranted to discuss how to implement the Project and avoid	During Construction Activities	During Construction Activities	KDWCD with assistance of a qualified	Report	



Mitigation, Monitoring, and Reporting Program						
Item	Mitigation Measure	When Monitoring is to Occur	Frequency of Monitoring	Agency Responsible for Monitoring	Method to Verify Compliance	Verification of Compliance
	take. If take cannot be avoided, take authorization through the acquisition of an ITP pursuant to Fish and Game Code section 2081, subdivision (b) is necessary to comply with CESA.			biological subconsultant		
<b>Project-Related Impacts to Monarch Butterflies</b>						
<b>BIO-17</b>	(Avoidance): The Project's construction activities will occur, if feasible between December and February (outside the monarch migration) in an effort to avoid impacts to monarch butterflies.	Prior to construction activities	Prior to construction activities	KDWCD with assistance of a qualified biological subconsultant	Report	
<b>BIO-18</b>	(Pre-construction Surveys): If activities must occur within monarch butterfly migration season (March- November) a qualified biologist (someone who is familiar with the species ecology and habitat use) will conduct a pre-construction survey within 48 hours of the start of construction. The survey area will include the APE and all trees which overhang across the boundary of the APE. The goal of this survey is to search for roosting monarchs.	Prior to construction activities	Prior to construction activities	KDWCD with assistance of a qualified biological subconsultant	Report	
<b>BIO-19</b>	(Avoidance Buffer): If a closed-winged monarch butterfly or cluster is discovered during a morning pre-construction survey it can be assumed the monarch butterfly(s) spent the night at the location. Therefore, a qualified biologist will set up the appropriate visual setback buffer which will remain in place until the qualified biologist has determined the buffer is no longer warranted.	During Construction Activities	During Construction Activities	KDWCD with assistance of a qualified biological subconsultant	Report	
<b>Project-Related Impacts to Wildlife Movement Corridors</b>						
<b>BIO-20</b>	(Wildlife Access): Access on both sides of the channel should not be blocked outside of construction hours or during overnight hours or weekends. If construction must block both sides of the channel an alternative route through the construction area should be identified by a qualified biologist and maintained throughout the construction schedule timeframe.	Prior to construction activities	Prior to construction activities	KDWCD with assistance of a qualified biological subconsultant	Report	
<b>BIO-21</b>	(Cover Excavations): Pipeline/culvert/siphon excavations and vertical pipes should be covered each night to prevent wildlife from falling in and becoming trapped or injured during migratory or dispersal movements.	Prior to construction activities	Prior to construction activities	KDWCD with assistance of a qualified biological subconsultant	Report	

Mitigation, Monitoring, and Reporting Program						
Item	Mitigation Measure	When Monitoring is to Occur	Frequency of Monitoring	Agency Responsible for Monitoring	Method to Verify Compliance	Verification of Compliance
<b>Cultural Resources</b>						
<b>CUL-1</b>	In the event that previously unidentified archaeological remains are encountered during development or ground-moving activities in the APE, all work should be halted until a qualified archaeologist can identify the discovery and assess its significance. In the event of accidental discovery of unidentified archaeological remains during development or ground-moving activities in the APE, all work shall be halted in the immediate vicinity until a qualified archaeologist can identify the discovery and assess its significance.	During Construction Activities	Daily	KDWCD	Report	
<b>CUL-2</b>	If human remains are uncovered during construction, the Tulare County Coroner is to be notified to investigate the remains and arrange proper treatment and disposition. If the remains are identified on the basis of archaeological context, age, cultural associations, or biological traits to be those of a Native American, California Health and Safety Code 7050.5 and PRC 5097.98 require that the coroner notify the NAHC within 24 hours of discovery. The NAHC will then identify the Most Likely Descendent who will be afforded an opportunity to make recommendations regarding the treatment and disposition of the remains	During Construction Activities	Daily	KDWCD	Report	
<b>Tribal Cultural Resources</b>						
See CUL-1 and CUL-2 above.						

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# APPENDICES

## Appendix A. CalEEMod Output Files



# Johnson Slough Basin Custom Report

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# 1. Basic Project Information

## 1.1. Basic Project Information

Data Field	Value
Project Name	Johnson Slough Basin
Construction Start Date	1/1/2025
Lead Agency	Kaweah Delta Water Conservation District
Land Use Scale	Project/site
Analysis Level for Defaults	County
Windspeed (m/s)	1.90
Precipitation (days)	31.0
Location	36.33294117557428, -119.16371365621296
County	Tulare
City	Unincorporated
Air District	San Joaquin Valley APCD
Air Basin	San Joaquin Valley
TAZ	2719
EDFZ	9
Electric Utility	Eastside Power Authority
Gas Utility	Southern California Gas
App Version	2022.1.1.29

## 1.2. Land Use Types

Land Use Subtype	Size	Unit	Lot Acreage	Building Area (sq ft)	Landscape Area (sq ft)	Special Landscape Area (sq ft)	Population	Description
Other Non-Asphalt Surfaces	18.0	Acre	18.0	0.00	0.00	—	—	—

## 2. Emissions Summary

### 2.2. Construction Emissions by Year, Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Year	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily - Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2025	1.35	1.13	10.4	13.0	0.02	0.43	0.00	0.43	0.40	0.00	0.40	—	2,398	2,398	0.10	0.02	0.00	2,406
2026	1.28	1.07	9.85	13.0	0.02	0.38	0.08	0.40	0.35	0.02	0.35	—	2,397	2,397	0.10	0.02	0.32	2,405
Daily - Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2025	4.03	3.39	31.7	30.8	0.06	1.37	7.76	9.13	1.26	3.96	5.22	—	6,706	6,706	0.28	0.06	0.01	6,730
2026	1.28	1.07	9.85	13.0	0.02	0.38	0.00	0.38	0.35	0.00	0.35	—	2,397	2,397	0.10	0.02	0.00	2,405
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2025	1.16	0.98	9.00	10.3	0.02	0.37	0.52	0.89	0.34	0.23	0.57	—	2,004	2,004	0.08	0.02	0.02	2,011
2026	0.42	0.35	3.20	4.26	0.01	0.12	< 0.005	0.13	0.11	< 0.005	0.12	—	765	765	0.03	0.01	0.01	768
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2025	0.21	0.18	1.64	1.89	< 0.005	0.07	0.09	0.16	0.06	0.04	0.10	—	332	332	0.01	< 0.005	< 0.005	333
2026	0.08	0.06	0.58	0.78	< 0.005	0.02	< 0.005	0.02	0.02	< 0.005	0.02	—	127	127	0.01	< 0.005	< 0.005	127

## 3. Construction Emissions Details

### 3.1. Site Preparation (2025) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	3.94	3.31	31.6	30.2	0.05	1.37	—	1.37	1.26	—	1.26	—	5,295	5,295	0.21	0.04	—	5,314
Dust From Material Movement	—	—	—	—	—	—	7.67	7.67	—	3.94	3.94	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.11	0.09	0.87	0.83	< 0.005	0.04	—	0.04	0.03	—	0.03	—	145	145	0.01	< 0.005	—	146
Dust From Material Movement	—	—	—	—	—	—	0.21	0.21	—	0.11	0.11	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.02	0.02	0.16	0.15	< 0.005	0.01	—	0.01	0.01	—	0.01	—	24.0	24.0	< 0.005	< 0.005	—	24.1
Dust From Material Movement	—	—	—	—	—	—	0.04	0.04	—	0.02	0.02	—	—	—	—	—	—	—

Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.09	0.08	0.06	0.65	0.00	0.00	0.10	0.10	0.00	0.02	0.02	—	93.4	93.4	0.01	< 0.005	0.01	95.0
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.02	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	2.65	2.65	< 0.005	< 0.005	< 0.005	2.70
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	0.44	0.44	< 0.005	< 0.005	< 0.005	0.45
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

### 3.3. Grading (2025) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—



Off-Road Equipment	3.80	3.20	29.7	28.3	0.06	1.23	—	1.23	1.14	—	1.14	—	6,599	6,599	0.27	0.05	—	6,622
Dust From Material Movement	—	—	—	—	—	—	3.59	3.59	—	1.42	1.42	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.31	0.26	2.44	2.33	0.01	0.10	—	0.10	0.09	—	0.09	—	542	542	0.02	< 0.005	—	544
Dust From Material Movement	—	—	—	—	—	—	0.30	0.30	—	0.12	0.12	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.06	0.05	0.45	0.42	< 0.005	0.02	—	0.02	0.02	—	0.02	—	89.8	89.8	< 0.005	< 0.005	—	90.1
Dust From Material Movement	—	—	—	—	—	—	0.05	0.05	—	0.02	0.02	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.10	0.09	0.07	0.75	0.00	0.00	0.11	0.11	0.00	0.03	0.03	—	107	107	0.01	0.01	0.01	109
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.01	0.06	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	9.10	9.10	< 0.005	< 0.005	0.02	9.26
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.01	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	1.51	1.51	< 0.005	< 0.005	< 0.005	1.53
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

### 3.5. Building Construction (2025) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.35	1.13	10.4	13.0	0.02	0.43	—	0.43	0.40	—	0.40	—	2,398	2,398	0.10	0.02	—	2,406
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Off-Road Equipment	1.35	1.13	10.4	13.0	0.02	0.43	—	0.43	0.40	—	0.40	—	2,398	2,398	0.10	0.02	—	2,406
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.73	0.61	5.68	7.09	0.01	0.23	—	0.23	0.22	—	0.22	—	1,304	1,304	0.05	0.01	—	1,309
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.13	0.11	1.04	1.29	< 0.005	0.04	—	0.04	0.04	—	0.04	—	216	216	0.01	< 0.005	—	217
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Worker	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

### 3.7. Building Construction (2026) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.28	1.07	9.85	13.0	0.02	0.38	—	0.38	0.35	—	0.35	—	2,397	2,397	0.10	0.02	—	2,405
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.28	1.07	9.85	13.0	0.02	0.38	—	0.38	0.35	—	0.35	—	2,397	2,397	0.10	0.02	—	2,405
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Off-Road	0.36	0.30	2.76	3.63	0.01	0.11	—	0.11	0.10	—	0.10	—	671	671	0.03	0.01	—	673
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.07	0.05	0.50	0.66	< 0.005	0.02	—	0.02	0.02	—	0.02	—	111	111	< 0.005	< 0.005	—	111
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
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### 3.9. Paving (2026) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.91	0.76	7.12	9.94	0.01	0.32	—	0.32	0.29	—	0.29	—	1,511	1,511	0.06	0.01	—	1,516
Paving	0.00	0.00	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.05	0.04	0.39	0.54	< 0.005	0.02	—	0.02	0.02	—	0.02	—	82.8	82.8	< 0.005	< 0.005	—	83.1
Paving	0.00	0.00	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.01	0.01	0.07	0.10	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	13.7	13.7	< 0.005	< 0.005	—	13.8
Paving	0.00	0.00	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.08	0.08	0.04	0.66	0.00	0.00	0.08	0.08	0.00	0.02	0.02	—	88.6	88.6	0.01	< 0.005	0.32	90.2
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.03	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	4.46	4.46	< 0.005	< 0.005	0.01	4.53
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.01	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	0.74	0.74	< 0.005	< 0.005	< 0.005	0.75
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

### 3.11. Architectural Coating (2026) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—



Off-Road Equipment	0.15	0.12	0.86	1.13	< 0.005	0.02	—	0.02	0.02	—	0.02	—	134	134	0.01	< 0.005	—	134
Architectural Coatings	0.00	0.00	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.01	0.01	0.05	0.06	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	7.32	7.32	< 0.005	< 0.005	—	7.34
Architectural Coatings	0.00	0.00	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	1.21	1.21	< 0.005	< 0.005	—	1.22
Architectural Coatings	0.00	0.00	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

5. Activity Data

5.1. Construction Schedule

Phase Name	Phase Type	Start Date	End Date	Days Per Week	Work Days per Phase	Phase Description
Site Preparation	Site Preparation	1/30/2025	2/13/2025	5.00	10.0	—
Grading	Grading	2/14/2025	3/28/2025	5.00	30.0	—
Building Construction	Building Construction	3/29/2025	5/23/2026	5.00	300	—
Paving	Paving	5/24/2026	6/21/2026	5.00	20.0	—
Architectural Coating	Architectural Coating	6/22/2026	7/20/2026	5.00	20.0	—

## 5.2. Off-Road Equipment

### 5.2.1. Unmitigated

Phase Name	Equipment Type	Fuel Type	Engine Tier	Number per Day	Hours Per Day	Horsepower	Load Factor
Site Preparation	Rubber Tired Dozers	Diesel	Average	3.00	8.00	367	0.40
Site Preparation	Tractors/Loaders/Back hoes	Diesel	Average	4.00	8.00	84.0	0.37
Grading	Excavators	Diesel	Average	2.00	8.00	36.0	0.38
Grading	Graders	Diesel	Average	1.00	8.00	148	0.41
Grading	Rubber Tired Dozers	Diesel	Average	1.00	8.00	367	0.40
Grading	Scrapers	Diesel	Average	2.00	8.00	423	0.48
Grading	Tractors/Loaders/Back hoes	Diesel	Average	2.00	8.00	84.0	0.37
Building Construction	Cranes	Diesel	Average	1.00	7.00	367	0.29
Building Construction	Forklifts	Diesel	Average	3.00	8.00	82.0	0.20
Building Construction	Generator Sets	Diesel	Average	1.00	8.00	14.0	0.74
Building Construction	Tractors/Loaders/Back hoes	Diesel	Average	3.00	7.00	84.0	0.37
Building Construction	Welders	Diesel	Average	1.00	8.00	46.0	0.45
Paving	Pavers	Diesel	Average	2.00	8.00	81.0	0.42
Paving	Paving Equipment	Diesel	Average	2.00	8.00	89.0	0.36
Paving	Rollers	Diesel	Average	2.00	8.00	36.0	0.38
Architectural Coating	Air Compressors	Diesel	Average	1.00	6.00	37.0	0.48

## 5.3. Construction Vehicles

### 5.3.1. Unmitigated

Phase Name	Trip Type	One-Way Trips per Day	Miles per Trip	Vehicle Mix
Site Preparation	—	—	—	—

Site Preparation	Worker	17.5	7.70	LDA,LDT1,LDT2
Site Preparation	Vendor	—	6.80	HHDT,MHDT
Site Preparation	Hauling	0.00	20.0	HHDT
Site Preparation	Onsite truck	—	—	HHDT
Grading	—	—	—	—
Grading	Worker	20.0	7.70	LDA,LDT1,LDT2
Grading	Vendor	—	6.80	HHDT,MHDT
Grading	Hauling	0.00	20.0	HHDT
Grading	Onsite truck	—	—	HHDT
Building Construction	—	—	—	—
Building Construction	Worker	0.00	7.70	LDA,LDT1,LDT2
Building Construction	Vendor	0.00	6.80	HHDT,MHDT
Building Construction	Hauling	0.00	20.0	HHDT
Building Construction	Onsite truck	—	—	HHDT
Paving	—	—	—	—
Paving	Worker	15.0	7.70	LDA,LDT1,LDT2
Paving	Vendor	—	6.80	HHDT,MHDT
Paving	Hauling	0.00	20.0	HHDT
Paving	Onsite truck	—	—	HHDT
Architectural Coating	—	—	—	—
Architectural Coating	Worker	0.00	7.70	LDA,LDT1,LDT2
Architectural Coating	Vendor	—	6.80	HHDT,MHDT
Architectural Coating	Hauling	0.00	20.0	HHDT
Architectural Coating	Onsite truck	—	—	HHDT

## 5.5. Architectural Coatings

Phase Name	Residential Interior Area Coated (sq ft)	Residential Exterior Area Coated (sq ft)	Non-Residential Interior Area Coated (sq ft)	Non-Residential Exterior Area Coated (sq ft)	Parking Area Coated (sq ft)
------------	--	--	--	--	-----------------------------

Architectural Coating	0.00	0.00	0.00	0.00	0.00
-----------------------	------	------	------	------	------

5.6. Dust Mitigation

5.6.1. Construction Earthmoving Activities

Phase Name	Material Imported (Cubic Yards)	Material Exported (Cubic Yards)	Acres Graded (acres)	Material Demolished (sq. ft.)	Acres Paved (acres)
Site Preparation	0.00	0.00	15.0	0.00	—
Grading	0.00	0.00	90.0	0.00	—
Paving	0.00	0.00	0.00	0.00	18.0

5.6.2. Construction Earthmoving Control Strategies

Control Strategies Applied	Frequency (per day)	PM10 Reduction	PM2.5 Reduction
Water Exposed Area	2	61%	61%

5.7. Construction Paving

Land Use	Area Paved (acres)	% Asphalt
Other Non-Asphalt Surfaces	18.0	0%

8. User Changes to Default Data

Screen	Justification
Construction: Construction Phases	No demolition
Construction: Architectural Coatings	No parking lot

[illegible]

## Appendix B. Biological Resources Evaluation



# Biological Evaluation

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CONSOLIDATED PEOPLES DITCH COMPANY

JOHNSON SLOUGH BASIN PROJECT

JANUARY 2025

Mary Beth Bourne, Biologist

Jenny McCarthy, Biologist

PROVOST & PRITCHARD CONSULTING GROUP | 455 W. FIR AVE, CLOVIS CA 93611



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# I. Introduction

The following technical report, prepared by Provost & Pritchard Consulting Group, in compliance with the California Environmental Quality Act (CEQA), includes a description of the biological resources present or with potential to occur within the proposed Johnson Slough Project (Project) and surrounding areas, and evaluates potential Project-related impacts to those resources.

## Project Description

The Consolidated People's Ditch Company (Company) is proposing the development of a recharge basin on a property north of the Johnson Slough east of the Kaweah Oaks Preserve along Road 182, north of Highway 198. The Project is anticipated to include approximately 22-acre basin that is incorporated into the Johnson Slough as a "running cell" that would allow water to continue downstream in Johnson Slough through the control of an overshot gate. The Consolidated People's Ditch canal runs parallel to Johnson Slough along the Project's southern boundary. The Project is located east of Visalia in the north-central portion of Tulare County, California (see **Figure 1** and **Figure 2**). The Project's Area of Potential Effect (APE) includes a fallow field and Johnson Slough with additional 50-foot buffer surrounding the Project site for a total of 41.1 acres (see **Figure 3**).

## Report Objectives

Construction activities such as that proposed by the Project could potentially damage biological resources or modify habitats that are crucial for sensitive plant and wildlife species. In cases such as these, development may be regulated by State or federal agencies, and/or addressed by local regulatory agencies.

This report addresses issues related to the following:

1. The presence of sensitive biological resources onsite, or with the potential to occur onsite.
2. The federal, State, and local regulations regarding these resources.
3. Mitigation measures that may be required to reduce the magnitude of anticipated impacts and/or comply with permit requirements of state and federal resource agencies.

Therefore, the objectives of this report are:

1. Summarize all site-specific information related to existing biological resources.
2. Make reasonable inferences about the biological resources that could occur onsite based on habitat suitability and the proximity of the site to a species' known range.
3. Summarize all State and federal natural resource protection laws that may be relevant to the APE.
4. Identify and discuss Project impacts to biological resources likely to occur onsite within the context of CEQA and/or State or federal laws.
5. Identify and publish a set of avoidance and mitigation measures that would reduce impacts to a less-than-significant level (as identified by CEQA) and are generally consistent with recommendations of the resource agencies for affected biological resources.

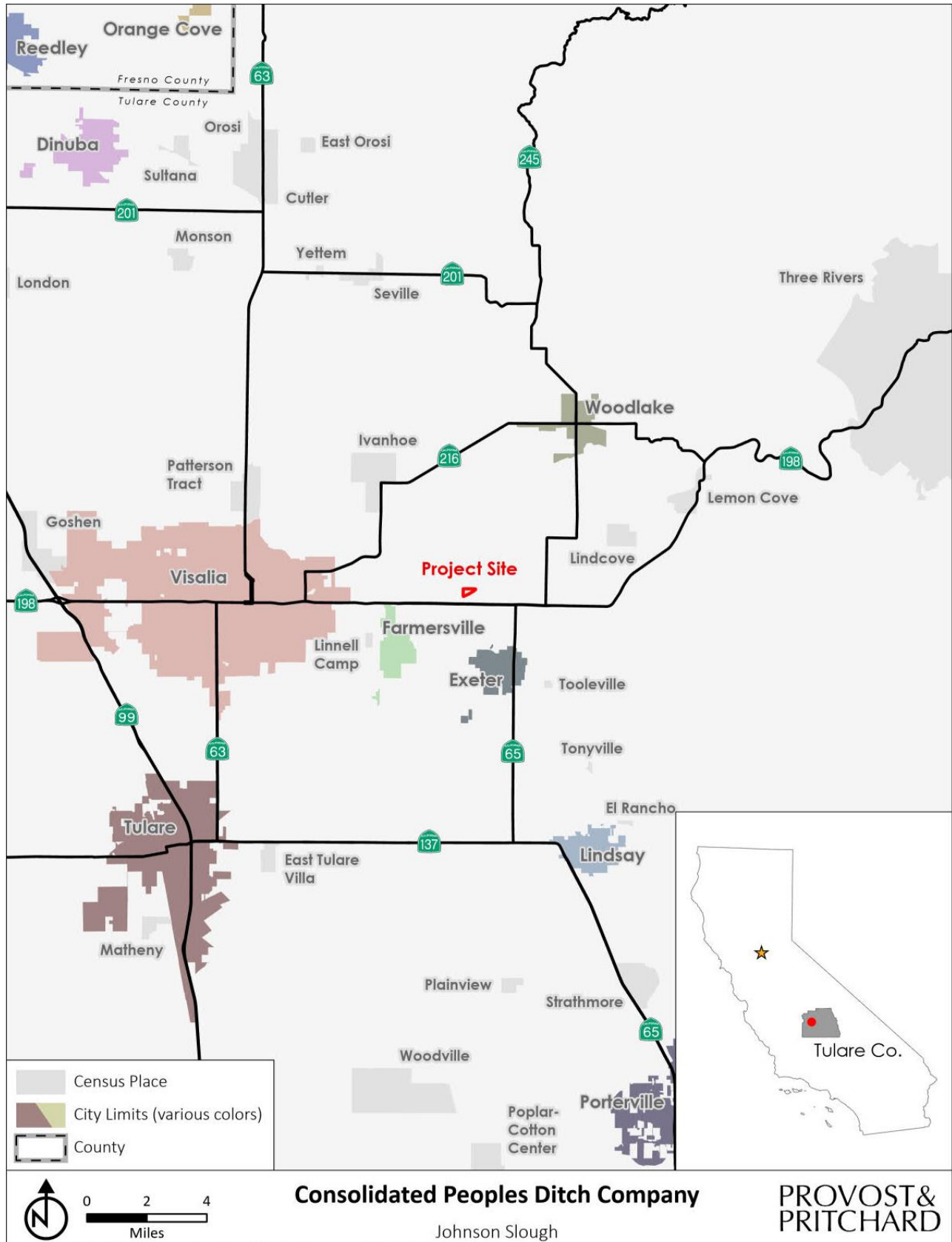
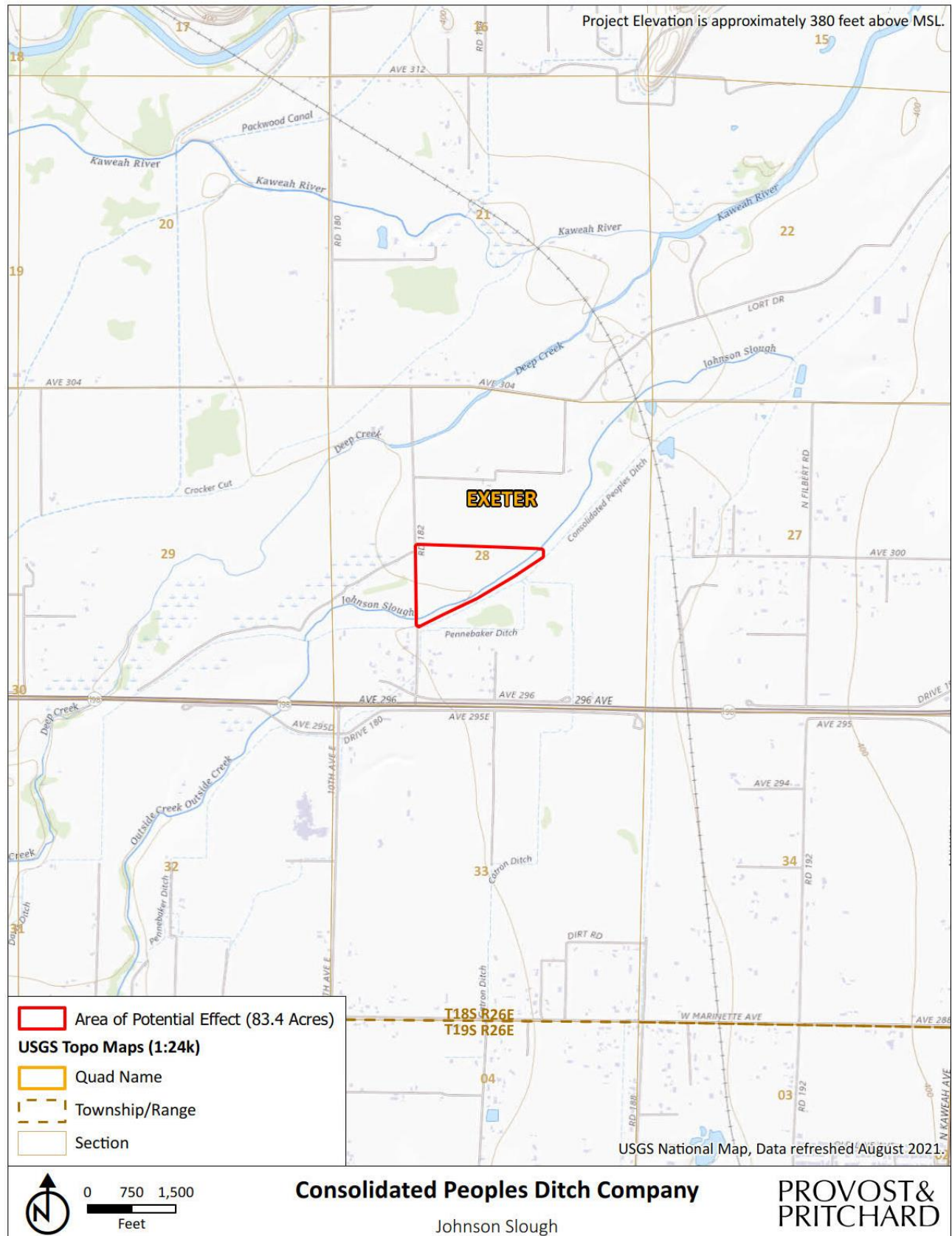


Figure 1. Regional Location



**Figure 2. Topographic Quadrangle Map**





**Figure 3. Area of Potential Effect**



## Study Methodology

A reconnaissance-level field survey of the APE (**Figure 3**) was conducted on June 24, 2022, by Provost & Pritchard biologists, Mary Beth Bourne and Roman Endicott. A second survey was completed by Provost & Pritchard biologist, Jenny McCarthy on December 17, 2024. The survey consisted of walking thoroughly through the APE while identifying and noting land uses, biological habitats and communities, plant and animal species encountered and assessed for suitable habitats of various wildlife species.

The biologist conducted an analysis of potential Project-related impacts to biological resources based on the resources known to exist or with potential to exist within the APE. Sources of information used in preparation of this analysis included: the California Department of Fish and Wildlife (CDFW) California Natural Diversity Database (CNDDB); the California Native Plant Society (CNPS) Online Inventory of Rare and Endangered Vascular Plants of California; CalFlora's online database of California native plants; the Jepson Herbarium online database (Jepson eFlora); United States Fish and Wildlife Service (USFWS) Environmental Conservation Online System (ECOS); Information for Planning and Consultation (IPaC) system; the NatureServe Explorer online database; the United States Department of Agriculture (USDA) Natural Resources Conservation Service (NRCS) Plants Database; CDFW California Wildlife Habitat Relationships (CWHR) database; the California Herps online database; the National Wetland Inventory (NWI); and various manuals, reports, and references related to plants and animals of the San Joaquin Valley region.

The field survey conducted included the appropriate level of detail to assess the significance of potential impacts to sensitive biological resources resulting from the Project.

## II. Existing Conditions

### Regional Setting

#### Topography

The APE is located in Tulare County within the San Joaquin Valley, east of Visalia, California and north of Exeter, California (see **Figure 1** and **Figure 2**). This area lies within the foothills of the Sierra Nevada Mountain Range adjacent to the San Joaquin Valley. The topography is relatively flat with elevations ranging from approximately 380 to 390 feet.

#### Climate

Like most of California, the APE experiences a Mediterranean climate. Warm, dry summers are followed by cool, moist winters. Summer temperatures often reach above 90 degrees Fahrenheit (°F), and the humidity is generally low. Winter minimum temperatures are near 40 °F. On average, the Central Valley receives approximately 12 inches of precipitation in the form of rainfall yearly, most of which occurs between October and March.

#### Hydrology

A watershed is the topographic region that drains into a stream, river, or lake. Watersheds are made up of many smaller subwatersheds that drain into a particular stream, river, or lake. The Foothill Ditch-Outside Creek watershed is comprised of stormwater or snowmelt collected in upland areas which flows down into Lion Lake where Lone Pine Creek exits and flows into Tamarack Lake. Hamilton Creek flows from Precipice Lake downstream before it combines with Lone Pine Creek to become the Middle Fork Kaweah River. Farther downstream the Middle Fork Kaweah River combines with the Marble Fork Kaweah River and forms the start of the Kaweah River. Elk Creek and Salt Creek flows into the Kaweah River which then goes into Kaweah Lake which exits as Kaweah River. The Kaweah River then flows into an unnamed canal that connects with Outside Creek which flows through and past the APE. Outside Creek then turns into Elk Bayou which later flows into the Tule River.

Wetlands are absent from the APE, according to the NWI, though wetlands are present within the Kaweah Oaks Preserve (United States Fish and Wildlife Service, 2022). Wetlands, including vernal pools, are historically abundant in the region, however, significant disturbance from irrigated agriculture and hydrologic infrastructure has significantly reduced the abundance of these habitats.

The Project site lies within the Foothill Ditch-Outside Creek watershed; Hydrologic Unit Code (HUC): 1803000606 and a single subwatershed: Inside Creek-Outside Creek subwatershed; HUC: 180300060603.

#### Soils

Two soil mapping units representing two soil types were identified within the APE are listed in **Table 1**. The soils are displayed with their core properties, according to the Major Land Resource Area of California (MLRA) 19 map area. Both soils are primarily used for irrigated cropland or dairy and cattle production.

**Table 1. List of Soils Located Onsite and Their Basic**

Soil	Soil Map Unit	Percent of APE	Hydric Unit	Hydric Minor Units	Drainage	Permeability	Runoff
<b>Akers</b>	Saline-Sodic, 0 to 2 percent slopes	31.7%	No	Yes	Well drained	Moderately slow	Negligible Runoff
<b>Grangeville</b>	Sandy loam, 0 to 2 percent slopes	68.3%	Yes	Yes	Poorly drained	Moderately rapid	Negligible to very low runoff

One of the major soil mapping units and some of the minor soil mapping units were identified as hydric. The major and minor soils which are hydric make up 88.73% of the soil in the APE (NRCS, 2022). Hydric soils are defined as soils that are saturated, flooded, or ponded long enough during the growing season to develop anaerobic conditions such that under sufficiently wet conditions, hydrophytic vegetation can be supported.

The complete Natural Resources Conservation Service (NRCS) Web Soil Survey report is available in [Appendix D](#) at the end of this document.

## Biotic Habitats

### Ruderal/Agricultural

The APE is primarily composed of a fallow field which had previously been used for agricultural production. The field is bordered by Johnson Slough to the southeast and agricultural orchards to the northeast. The Kaweah Oaks Preserve, a 344 acre preserve containing valley grassland and oak riparian woodlands is located directly west of the APE across Road 182. At the time of the survey the field appeared to be heavily disturbed from recent discing. Vegetation was almost entirely absent from the field beyond patches of annual weeds. The ruderal/agricultural habitat was further disturbed during the second survey, due to trench digging in the southwest portion of the APE and ground clearing and dirt roads development within the entire south side of the APE south of the People's Ditch. Vegetation growing along the margins next to the adjacent orchard and Road 182 included horseweed (*Erigeron canadensis*), sacred datura (*Datura wrightii*), Indian tobacco (*Nicotiana quadrivalvis*), goat's head (*Tribulus terrestris*), white horehound (*Marrubium vulgare*), and pappose tarweed (*Centromadia parryi*). Vegetation was densest in the margin between the field and Johnson Slough. This area also contained several small stands of pomegranate trees (*Punica granatum*) which appear to have been intentionally planted. Songbirds were present within both the adjacent orchards and within the vegetation in the slough margin. Bird species identified during the survey include Ash-throated Flycatcher (*Myiarchus cinerascens*), Mourning Dove (*Zenaidura macroura*), California Scrub Jay (*Aphelocoma californica*), House Finch (*Haemorhous mexicanus*), European Starling (*Sturnus vulgaris*), Northern Flicker (*Colaptes auratus*), Black Phoebe (*Sayornis nigricans*), American Robin (*Turdus migratorius*), and California Quail (*Callipepla californica*). Additionally, several Red-tailed Hawks (*Buteo jamaicensis*) and one Turkey Vulture (*Cathartes aura*) were seen perching on utilities poles on the northern border of the field. The northern bank of Johnson Slough adjacent to the field contained several burrows. These burrows all appeared to be either inactive or occupied by desert cottontails (*Sylvilagus auduboni*). No whitewash, feathers, or owl pellets were observed in the vicinity of the burrows. The area surrounding the fallow field is also suitable habitat for other mammals, including striped skunks (*Mephitis mephitis*), coyote (*Canis latrans*), and California ground squirrel (*Otospermophilus beecheyi*).

The second survey resulted in the observation of the following wildlife and plant species, horseweed (*Erigeron canadensis*), salt heliotrope (*Heliotropium curassavicum*), telegraph weed (*Heterotheca grandiflora*), pomegranate (*Punica granatum*), white horehound (*Marrubium vulgare*), common cocklebur (*Xanthium orientale*), Russian thistle (*Salsola tragus*), common knotgrass (*Polygonum aviculare*), red-tail hawk (*Buteo jamaicensis*), and California ground squirrel burrows.

## Slough

Johnson Slough was dry at the time of the survey. Aerial imagery suggests that the canal remains dry throughout the year and only flows in response to agricultural water deliveries. This is also true of the Consolidated People's Ditch canal which runs parallel to Johnson Slough adjacent to the APE. At the time of the second survey, the Johnson slough was already disturbed with dirt roads leading to and from and across the slough. The banks of the Slough contained several mature valley oak trees (*Quercus lobata*) as well as dense stands of invasive lamb's quarters (*Chenopodium album*) and scattered tree tobacco (*Nicotiana glauca*), a facultative species known to grow in both upland and wetland habitats. Bird species observed adjacent to the Slough which were not seen along the fallow field include Acorn Woodpecker (*Melanerpes formicivorus*), Anna's Hummingbird (*Calypte anna*), Brewer's Blackbird (*Euphagus cyanocephalus*), Cliff Swallow (*Petrochelidon pyrrhonota*), Common Raven (*Corvus corax*), Lesser goldfinch (*Spinus psaltria*), and Western kingbird (*Tyrannus verticalis*). Several Red-tailed hawks were identified in the valley oak trees adjacent to the Slough, and a single active Red-tailed Hawk nest was observed in one such tree overhanging the Slough. A common side-blotched (*Uta stansburiana*) lizard was observed on the trunk of a valley oak, and the carcass of a raccoon (*Procyon lotor*) was identified within the dry channel of the Consolidated People's Ditch canal. Muddy raccoon prints were also identified on infrastructure near the canal. The area overall appeared to be of moderate value to wildlife, which is likely increased due to the proximity of the Kaweah Oaks Preserve. The Slough and canal both run along the southern border of the preserve, therefore providing a protected connection between the APE and high-quality habitat at times when the water bodies are dry.

The second survey resulted in the observation of the following plant and animal species; Johnson grass (*Sorghum halepense*), narrow leaf willow (*Salix exigua*), blue elderberry (*Sambucus cerulea*), valley oak (*Quercus lobata*), mourning dove (*Zenaida macroura*), common raven (*Corvus corax*), Anna's hummingbird (*Calypte anna*), California scrub jay (*Apelocoma californica*), Steller's jay (*Cyanocitta stelleri*), white crown sparrow (*Zonotrichia leucophrys*), acorn woodpecker (*Melanerpes formicivorus*), northern mockingbird (*Mimus polyglottos*), house finch (*Haemorrhous mexicanus*), desert cotton tail (*Sylvilagus audubonii*), northern raccoon (*Procyon lotor*) tracks, bobcat (*Lynx rufus*) tracks, coyote (*Canis latrans*) tracks, striped skunk (*Mephitis mephitis*) tracks, domestic dog (*Canis familiaris*) tracks, and California ground squirrel (*Otospermophilus beecheyi*) burrows.

Representative photographs of the site at the time of the survey are available in [Appendix A](#) at the end of this document.

## Natural Communities of Special Concern

Natural communities of special concern are those that are of limited distribution, distinguished by significant biological diversity, or home to special status species. CDFW is responsible for the classification and mapping of all-natural communities in California. Just as the special status plant and animal species, these natural communities of special concern can be found within the CNDDDB.

According to CNDDDB, there are no recorded observations of natural communities of special concern with potential to occur within the APE or vicinity. Additionally, no natural communities of special concern were observed during the biological survey.

## Designated Critical Habitat of the APE

The USFWS often designates areas of "Critical Habitat" when it lists species as threatened or endangered. Critical Habitat is a specific geographic area that contains features essential for the conservation of a threatened or endangered species and that may require special management and protection. According to CNDDDB and IPaC, designated critical habitat is absent from the APE and vicinity.

## Wildlife Movement Corridors

Wildlife movement corridors are routes that animals regularly and predictably follow during seasonal migration, dispersal from native ranges, daily travel within home ranges, and inter-population movements. Movement corridors in California are typically associated with valleys, ridgelines, and rivers and creeks supporting riparian vegetation. Both Johnson Slough and the Consolidated People's Ditch canal likely act as movement corridors for local wildlife to move through areas with high agricultural disturbance. The raccoon carcass and prints within the Consolidated People's Ditch canal provides evidence for this theory. Project disturbance, however, would not impact both waterways, therefore allowing wildlife passage through the area during construction activities.

## Special Status Plants and Animals

California contains several "rare" plant and animal species. In this context, rare is defined as species known to have low populations or limited distributions. As the human population grows, urban expansion encroaches on the already-limited suitable habitat. This results in sensitive species becoming increasingly more vulnerable to extirpation. State and federal regulations have provided the CDFW and the USFWS with a mechanism for conserving and protecting the diversity of plant and animal species native to California. Numerous native plants and animals have been formally designated as "threatened" or "endangered" under State and federal endangered species legislation. Other formal designations include "candidate" for listing or "species of special concern" by CDFW. The CNPS has its list of native plants considered rare, threatened, or endangered. Collectively these plants and animals are referred to as "special status species." This survey was conducted outside of the blooming season for most plants. Further investigation of special status plants is recommended to occur inside the plants' blooming seasons.

A thorough search of the CNDDDB for published accounts of special status plant and animal species was conducted for the *Exeter* 7.5-minute quadrangles that contain the APE in its entirety, and for the eight surrounding quadrangles: *Monson*, *Ivanhoe*, *Woodlake*, *Rocky Hill*, *Lindsay*, *Cairns Corner*, *Tulare*, and *Visalia*. These species, and their potential to occur within the APE, are listed in **Table 2** and

**Table 3** on the following pages. Raw data obtained from CNDDDB is available in **Appendix B** at the end of this document. All relevant sources of information, as discussed in the *Study Methodology* section of this report, as well as field observations, were used to determine if any special status species are known to be within the APE. **Figure 2** shows the Project's 7.5-minute quadrangle, according to United States Geological Survey Topographic Maps.

**Table 2. List of Special Status Animals with Potential to Occur Onsite and/or in the Vicinity**

Species	Status	Habitat	Occurrence within Project Site
<b>American badger</b> ( <i>Taxidea taxus</i> )	CSC	Grasslands, savannas, and mountain meadows near timberline are preferred. Most abundant in drier open spaces of shrub and grassland. Burrows in soil.	<b>Possible.</b> The APE along the ditch habitat and within the ruderal field habitat can provide suitable denning habitat for this species. The nearest observation occurred a little over one mile west of the APE in 1994.
<b>Blunt-nosed leopard lizard</b> ( <i>Gambelia sila</i> )	FE, CE, CFP	Inhabits semi-arid grasslands, alkali flats, low foothills, canyon floors, large washes, and arroyos, usually on sandy, gravelly, or loamy substrate, sometimes on hardpan. Often found where there are abundant rodent burrows in dense vegetation or tall grass. Cannot survive on lands under cultivation. Known to bask on kangaroo rat mounds and	<b>Absent.</b> The required habitat and soil for this species were not observed within the APE.



Species	Status	Habitat	Occurrence within Project Site
		often seeks shelter at the base of shrubs, in small mammal burrows, or in rock piles. Adults may excavate shallow burrows but rely on deeper pre-existing rodent burrows for hibernation and reproduction.	
<b>Buena Vista Lake ornate shrew</b> ( <i>Sorex ornatus relictus</i> )	FE, CSSC	Prefers moist soils, inhabiting marshes, swamps, and riparian shrublands in the Tulare Basin. Uses stumps, logs, and leaf litter for cover.	<b>Absent.</b> While the APE reaches the northern extent of the accepted range for this species, the range does not overlap with the required habitat for this species.
<b>Burrowing Owl</b> ( <i>Athene cunicularia</i> )	CC	Resides in open, dry annual or perennial grasslands, deserts, and scrublands with low growing vegetation. Nests underground in existing burrows created by mammals, most often ground squirrels.	<b>Possible.</b> Numerous California ground squirrel burrows were observed throughout the entire APE that this species could use for burrowing and nesting during the breeding and non-breeding season. The most recent recorded observation occurred 7.5 miles southwest of the APE in 2022 via iNaturalist.
<b>California condor</b> ( <i>Gymnogyps californianus</i> )	FE, CE, CFP	Typically nests in cavities in canyon or cliff faces but has also been recorded nesting in giant sequoias in Tulare County. Requires vast expanses of open savannah, grassland, and/or foothill chaparral in mountain ranges of moderate altitude. Forages for carrion up to 100 miles from their roost/nest sites	<b>Unlikely.</b> The species could forage within the APE but there is no suitable nesting habitat within the APE. The most recent recorded observation occurred 10 miles east of the APE in 1976.
<b>California tiger salamander</b> ( <i>Ambystoma californiense</i> )	FT, CT	Requires vernal pools or seasonal ponds for breeding and small mammal burrows for aestivation. Generally found in grassland and oak savannah plant communities in central California from sea level to 1500 feet in elevation.	<b>Absent.</b> No suitable vernal pool habitat is within range of the APE. Agricultural activities in the area would make potential upland habitat less than marginal for this species. The most recent recorded observation of this species was approximately 9 miles northeast of the APE in 2013 in vernal pool habitat.
<b>Crotch bumble bee</b> ( <i>Bombus crotchii</i> )	CCE	Occurs throughout coastal California, as well as east to the Sierra-Cascade crest, and south into Mexico. Food plant genera include <i>Antirrhinum</i> , <i>Phacelia</i> , <i>Clarkia</i> , <i>Dendromecon</i> , <i>Eschscholzia</i> , and <i>Eriogonum</i> .	<b>Unlikely.</b> No food plants were observed within the APE. The most recent recorded observation occurred less than two miles north-northwest of the APE in 2022 via iNaturalist.org.
<b>Delta smelt</b> ( <i>Hypomesus transpacificus</i> )	FT, CE	This pelagic and euryhaline species is Endemic to the Sacramento-San Joaquin River Delta, upstream through Contra Costa, Sacramento, San Joaquin, and Solano Counties.	<b>Absent.</b> No perennial aquatic habitat was present within the APE for this species. There are no recorded observations of this species within the 9-quad search on CNDDB.
<b>Foothill yellow-legged frog</b> ( <i>Rana boylei</i> )	CCT, CSC	Frequents rocky streams and rivers with rocky substrate and open, sunny banks in forests, chaparral, and woodlands. Occasionally found in isolated pools, vegetated backwaters, and deep, shaded, spring-fed pools.	<b>Absent.</b> The APE and surrounding areas are marginal for this species. The APE is located near or below the lower elevational range for this species. The only recorded observation of this species was approximately 7.5 miles

Species	Status	Habitat	Occurrence within Project Site
			northeast of the APE in 1941 and is listed as extirpated.
<b>Giant gartersnake</b> ( <i>Thamnophis gigas</i> )	FT, CT	Occurs in marshes, sloughs, drainage canals, irrigation ditches, rice fields, and adjacent uplands. Prefers locations with emergent vegetation for cover and open areas for basking. This species uses small mammal burrows adjacent to aquatic habitats for hibernation in the winter and to escape from excessive heat in the summer.	<b>Absent.</b> The APE is well outside the known range of the species. There are no recorded observations of this species within the 9-quad search on CNDDDB.
<b>Monarch Butterfly</b> ( <i>Danaus plexippus</i> )	FPT	Roosts located in wind-protected tree groves (eucalyptus, Monterey pine, cypress), with nectar and water sources nearby. Larval host plants consist of milkweeds ( <i>Asclepias</i> sp.). Winter roost sites extend along the coast from northern Mendocino to Baja California, Mexico.	<b>Possible.</b> Valley oak trees along Johnson Slough could provide suitable roosting habitat for this species during migration. However, no milkweed larval host plants were observed. Multiple observations over several years have been made at the Kaweah Oaks Preserve, which was adjacent to the APE, via iNaturalist.org.
<b>Northern California legless lizard</b> ( <i>Anniella pulchra</i> )	CSC	Found primarily underground, burrowing in loose, sandy soil. Forages in loose soil and leaf litter during the day. Occasionally observed on the surface at dusk and night.	<b>Unlikely.</b> Nearby observations of this species occurred in the Kaweah Oaks Preserve. However, suitable habitat for this species was absent from the APE at the time of the second survey. The most recent recorded observation of this species was approximately 5.5 miles southeast of the APE in 2021. The nearest recorded observation of this species was approximately 0.5 mile west of the APE in 2015.
<b>Northern leopard frog</b> ( <i>Lithobates pipiens</i> )	CSC	Inhabits grassland, wet meadows, potholes, forests, woodland, brushlands, springs, canals, bogs, marshes, and reservoirs. Generally prefers permanent water with abundant riparian vegetation.	<b>Absent.</b> The Johnson Slough does not contain water regularly to be able to support this species.
<b>Pallid bat</b> ( <i>Antrozous pallidus</i> )	CSC	Found in grasslands, chaparral, and woodlands, where it feeds on ground- and vegetation-dwelling arthropods, and occasionally takes insects in flight. Prefers to roost in rock crevices, but may also use tree cavities, caves, bridges, and other man-made structures.	<b>Possible.</b> This species could potentially roost in trees or crevices of structures near the APE. The only recorded observation of this species was approximately 3 miles northwest of the APE in 2004.
<b>San Joaquin kit fox</b> ( <i>Vulpes macrotis mutica</i> )	FE, CT	Underground dens with multiple entrances in alkali sink, valley grassland, and woodland in valleys and adjacent foothills.	<b>Unlikely.</b> The APE has suboptimal quality for habitat for this which is also in an isolated location surrounded by agriculture fields. The nearest recorded observation occurred two miles west in 1975. This observation was made when the United States Fish and Wildlife Service mailed leaflets asking for citizen's kit fox observations.
<b>Swainson's Hawk</b> ( <i>Buteo swainsoni</i> )	CT	Nests in large trees in open areas adjacent to grasslands, grain or alfalfa	<b>Possible.</b> Valley oak trees along Johnson Slough are large enough for



Species	Status	Habitat	Occurrence within Project Site
		fields, or livestock pastures suitable for supporting rodent populations.	this species to use during the nesting season. Additionally, multiple unoccupied stick nests were observed during both recon surveys. The most recent recorded observation occurred 9 miles south of the APE in 2017.
<b>Tipton kangaroo rat</b> ( <i>Dipodomys nitratoides nitratoides</i> )	FE, CE	Burrows in soil. Often found in grassland and shrubland.	<b>Absent.</b> The required habitat for this species was not observed within the APE.
<b>Tricolored Blackbird</b> ( <i>Agelaius tricolor</i> )	CT, CSC	Nests colonially near fresh water in dense cattails or tules, or in thickets of riparian shrubs. Forages in grassland and cropland. Large colonies are often found on dairy farm forage fields.	<b>Absent.</b> The Johnson Slough lacks the den vegetation that would be required to support this species during the breeding season.
<b>Valley elderberry longhorn beetle</b> ( <i>Desmocerus californicus dimorphus</i> )	FT	Lives in mature elderberry shrubs of the Central Valley and foothills. Adults are active March to June.	<b>Unlikely.</b> While an elderberry shrub was found in the slough habitat within the APE, in 2014 USFWS published findings suggesting that previous CNDDDB observations of this species within Tulare County should be discounted as they likely represent the California elderberry longhorn beetle, which is not a protected subspecies (United States Fish and Wildlife Service, 2014). The most recent recorded observation occurred 2.5 miles north-northeast of the APE in 1991.
<b>Vernal pool fairy shrimp</b> ( <i>Branchinecta lynchi</i> )	FT	Occupies vernal pools, clear to tea-colored water, in grass or mud-bottomed swales, and basalt depression pools.	<b>Absent.</b> Vernal pools and seasonal pools were not observed within the APE.
<b>Vernal pool tadpole shrimp</b> ( <i>Lepidurus packardii</i> )	FE	Occurs in vernal pools, clear to tea-colored water, in grass or mud-bottomed swales, and basalt depression pools.	<b>Absent.</b> Vernal pools and seasonal pools were not observed within the APE.
<b>Western mastiff bat</b> ( <i>Eumops perotis californicus</i> )	CSC	Found in open, arid to semi-arid habitats, including dry desert washes, flood plains, chaparral, oak woodland, open ponderosa pine forest, grassland, and agricultural areas, where it feeds on insects in flight. Roosts most commonly in crevices in cliff faces but may also use high buildings and tunnels.	<b>Unlikely.</b> Cliffs, tunnels, and high buildings are absent from the immediate area around the APE. The most recent recorded observation of this species was approximately 9 miles west of the APE in 2002. The nearest recorded observation of this species was approximately 4.5 miles west of the APE in 1994 adjacent to Lake Kaweah where cliff faces are abundant.
<b>Western pond turtle</b> ( <i>Emys marmorata</i> )	FPT, CSSC	An aquatic turtle of ponds, marshes, slow-moving rivers, streams, and irrigation ditches with riparian vegetation. Requires adequate basking sites and sandy banks or grassy open fields to deposit eggs.	<b>Unlikely.</b> This species has recently been recognized as two separate species: southwestern pond turtle ( <i>Actinemys pallida</i> ) and northwestern pond turtle ( <i>Actinemys marmorata</i> ). The APE is only within the known range of the northwestern pond turtle, therefore

Species	Status	Habitat	Occurrence within Project Site
			all analyses within this report are in reference to northwestern pond turtles. This species is known to utilize agricultural canals in this region of the San Joaquin Valley. Even though water is primarily present during agricultural deliveries in the summer, this species can aestivate for extended periods of time. Habitats within the adjacent Kaweah oaks Preserve are highly suitable for this species and the APE is within dispersal range from the preserve. However, habitat features suitable for this species were absent from the APE at the time of the second survey.
<b>Western spadefoot</b> <i>(Spea hammondi)</i>	CSC	Prefers open areas with sandy or gravelly soils, in a variety of habitats including mixed woodlands, grasslands, coastal sage scrub, chaparral, sandy washes, lowlands, river floodplains, alluvial fans, playas, alkali flats, foothills, and mountains. Vernal pools or temporary wetlands, lasting a minimum of three weeks, which do not contain bullfrogs, fish, or crayfish are necessary for breeding.	<b>Unlikely.</b> Habitats within the APE are less than marginal due to the lack of wetlands. Aquatic habitats within the adjacent Kaweah Oaks Preserve could serve as suitable breeding habitat for this species, though dispersal from that site would be difficult due to land uses in the surrounding area. Additionally, no observations of this species have occurred within the preserve, though American Bullfrogs are documented within the preserve. The most recent recorded observation of this species was approximately 11 miles northwest of the APE in 2019. The nearest recorded observation of this species was approximately 5 miles east of the APE in 1991.
<b>Western Yellow-billed Cuckoo</b> <i>(Coccyzus americanus occidentalis)</i>	FT, CE	Suitable nesting habitat in California includes dense riparian willow-cottonwood and mesquite habitats along a perennial river. Once a common breeding species in riparian habitats of lowland California, this species currently breeds consistently in only two locations in the State: along the Sacramento and South Fork Kern Rivers.	<b>Absent.</b> The APE is outside the current range of these species.

Table 3. List of Special Status Plants with Potential to Occur Onsite and/or in the Vicinity

Species	Status	Habitat	Occurrence within Project Site
<b>Alkali-sink goldfields</b> <i>(Lasthenia chrysantha)</i>	CNPS 1B	Found in vernal pool and wet saline flat habitats. Occurrences documented in the San Joaquin and Sacramento Valleys at elevations below 656 feet. Blooms February - April.	<b>Absent.</b> The required habitat and soils were not observed within the APE.

Species	Status	Habitat	Occurrence within Project Site
<b>Brittlescale</b> ( <i>Atriplex depressa</i> )	CNPS 1B	Found in the San Joaquin Valley and Sacramento Valley in alkaline or clay soils, typically in meadows or annual grassland in at elevations below 1050 feet. Sometimes associated with vernal pools. Blooms June–October.	<b>Absent.</b> The required habitat and soils were not observed within the APE.
<b>Calico monkeyflower</b> ( <i>Diplacus pictus</i> / <i>Mimulus pictus</i> / <i>Eunanus pictus</i> )	CNPS 1B	Found in the Sierra Nevada foothills and the Tehachapi mountains in bare, sunny, shrubby areas, and around granite outcrops within foothill woodland communities at elevations between 450 feet and 4100 feet. Blooms March – May.	<b>Absent.</b> The APE is outside this species elevational range.
<b>California alkali grass</b> ( <i>Puccinellia simplex</i> )	CNPS 1B	Found in the San Joaquin Valley and other parts of California in saline flats and mineral springs within valley grassland and wetland-riparian communities at elevations below 3000 feet. Blooms March–May.	<b>Absent.</b> The required habitat and soils were not observed within the APE.
<b>California jewelflower</b> ( <i>Caulanthus californicus</i> )	FE, CE, CNPS 1B	Found in the San Joaquin Valley and Western Transverse Ranges in sandy soils. Occurs on flats and slopes, generally in non-alkaline grassland at elevations between 230 feet and 6100 feet. Blooms February–April.	<b>Absent.</b> The required habitat and soils were not observed within the APE.
<b>California satintail</b> ( <i>Imperata brevifolia</i> )	CNPS 2B	Although this facultative species is equally likely to occur in wetlands and non-wetlands, it is often found in wet springs, meadows, streambanks, and floodplains at elevations below 1600 feet. Blooms September – May.	<b>Absent.</b> The required habitat and soils were not observed within the APE.
<b>Coulter’s goldfields</b> ( <i>Lasthenia glabrata</i> ssp. <i>coulteri</i> )	CNPS 1B	Found on alkaline or saline soils in vernal pools and playas in grassland at elevations below 4500 feet. Blooms April–May.	<b>Absent.</b> The required habitat and soils were not observed within the APE.
<b>Earlimart orache</b> ( <i>Atriplex cordulata</i> var. <i>erecticaulis</i> )	CNPS 1B	Found in the San Joaquin Valley in saline or alkaline soils, typically within valley and foothill grassland at elevations below 375 feet. Blooms August–September.	<b>Absent.</b> The required habitat and soils were not observed within the APE.
<b>Greene’s tuctoria</b> ( <i>Tuctoria greenei</i> )	FE, CR, CNPS 1B	Found in the San Joaquin Valley and other parts of California in vernal pools within valley grassland, wetland, and riparian communities at elevations below 3500 feet. Blooms May – September.	<b>Absent.</b> The required habitat and soils were not observed within the APE.

Species	Status	Habitat	Occurrence within Project Site
<b>Hoover's spurge</b> ( <i>Euphorbia hooveri</i> )	FT, CNPS 1B	Found in the San Joaquin Valley and Sacramento Valley in vernal pools within valley grassland, freshwater wetland, and riparian communities at elevations below 800 feet. Blooms July – September.	<b>Absent.</b> Vernal pools were not observed within the APE.
<b>Kaweah brodiaea</b> ( <i>Brodiaea insignis</i> )	CE, CNPS 1B	Found in the Sierra Nevada foothills in foothill woodland and valley grassland communities at elevations between 650 feet and 1650 feet. Blooms May – June.	<b>Absent.</b> The APE is outside of this species elevational range.
<b>Lesser saltscale</b> ( <i>Atriplex minuscula</i> )	CNPS 1B	Found in the San Joaquin Valley in sandy, alkaline soils in alkali scrub, valley and foothill grassland, and alkali sink communities at elevations below 750 feet. Blooms April–October.	<b>Absent.</b> The required habitat and soils were not observed within the APE.
<b>Recurved larkspur</b> ( <i>Delphinium recurvatum</i> )	CNPS 1B	Occurs in poorly drained, fine, alkaline soils in grassland and alkali scrub communities at elevations between 100 feet and 2600 feet. Blooms March–June.	<b>Absent.</b> The required habitat and soils were not observed within the APE.
<b>San Joaquin adobe sunburst</b> ( <i>Pseudobahia peirsonii</i> )	FT, CE, CNPS 1B	Found in the San Joaquin Valley and the Sierra Nevada Foothills in bare dark clay soils in valley and foothill grassland and cismontane woodland communities at elevations between 325 feet and 2950 feet. Blooms March–May.	<b>Absent.</b> The required habitat and soils were not observed within the APE.
<b>San Joaquin Valley Orcutt grass</b> ( <i>Orcuttia inaequalis</i> )	FT, CE, CNPS 1B	Found in the eastern San Joaquin Valley and the Sierra Nevada foothills in vernal pools within valley grassland, freshwater wetland, and wetland-riparian communities at elevations below 2600 feet. Blooms April – September.	<b>Absent.</b> No vernal pools were observed within the APE.
<b>Sanford's arrowhead</b> ( <i>Sagittaria sanfordii</i> )	CNPS 1B	Found in the San Joaquin Valley and other parts of California in freshwater-marsh, primarily ponds and ditches, at elevations below 1000 feet. Blooms May–October.	<b>Absent.</b> Johnson Slough does not contain water regularly to be able to support this species.
<b>Spiny-sepaed button-celery</b> ( <i>Eryngium spinosepalum</i> )	CNPS 1B	Found in the Sierra Nevada Foothills and the San Joaquin Valley. Occurs in vernal pools, swales, and roadside ditches. Often associated with clay soils in vernal pools within grassland communities. Occurs at elevations between 50 feet and 4160 feet. Blooms April–July.	<b>Absent.</b> The required habitat and soils were not observed within the APE.

Species	Status	Habitat	Occurrence within Project Site
<b>Striped adobe-lily</b> ( <i>Fritillaria striata</i> )	CT, CNPS 1B	Found in the Sierra Nevada foothills in adobe soil within valley grassland and foothill woodland communities at elevations below 3300 feet. Blooms February – April.	<b>Unlikely.</b> The required soils for this species were not observed within the APE. The most recent recorded observation occurred seven miles southeast of the APE in an undetermined location in 1983.
<b>Subtle orache</b> ( <i>Atriplex subtilis</i> )	CNPS 1B	Found in the San Joaquin Valley in saline depressions in alkaline soils within valley and foothill grassland communities at elevations below 330 feet. Blooms June–October.	<b>Absent.</b> The APE is outside this species elevational range
<b>Vernal pool smallscale</b> ( <i>Atriplex persistens</i> )	CNPS 1B	Occurs in the San Joaquin Valley and Sacramento Valley in alkaline vernal pools at elevations below 375 feet. Blooms June–September.	<b>Absent.</b> No vernal pools were observed within the APE.
<b>Watershield</b> ( <i>Brasenia schreberi</i> )	CNPS 2B	Found in marshes and swamps, as well as near artificial waterbodies at elevations below 2,200 feet. Blooms April – October.	<b>Absent.</b> Johnson Slough does not contain water regularly to be able to support this species.
<b>Winter's sunflower</b> ( <i>Helianthus winteri</i> )	CNPS 1B	Found in the Sierra Nevada foothills on steep, south-facing grassy slopes, rock outcrops, and road-cuts at elevations ranging from 600 feet to 1500 feet. Blooms year-round.	<b>Absent.</b> The APE is outside the elevational ranger for this species. Additionally, disturbed habitats onsite would be less than marginal for this species.

### EXPLANATION OF OCCURRENCE DESIGNATIONS AND STATUS CODES

Possible:	Species not observed on the site, but it could occur there from time to time.
Unlikely:	Species not observed on the site, and would not be expected to occur there except, perhaps, as a transient.
Absent:	Species not observed on the site and precluded from occurring there due to absence of suitable habitat.

### STATUS CODES

FE	Federally Endangered	CE	California Endangered
FT	Federally Threatened	CT	California Threatened
FC	Federal Candidate	CFP	California Fully Protected
		CSC	California Species of Concern
		CC	California Candidate
		CR	California Rare

### CNPS LISTING

1B	Plants Rare, Threatened, or Endangered in California and elsewhere	2B	Plants Rare, Threatened, or Endangered in California, but more common elsewhere
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## III. Impacts and Mitigation

### Significance Criteria

#### CEQA

General plans, area plans, and specific projects are subject to the provisions of CEQA. The purpose of CEQA is to assess the impacts of proposed projects on the environment prior to project implementation. Impacts to biological resources are just one type of environmental impact assessed under CEQA and vary from project to project in terms of scope and magnitude. Projects requiring removal of vegetation may result in the mortality or displacement of animals associated with this vegetation. Animals adapted to humans, roads, buildings, and pets may replace those species formerly occurring on a site. Plants and animals that are State and/or federally listed as threatened or endangered may be destroyed or displaced. Sensitive habitats such as wetlands and riparian woodlands may be altered or destroyed. Such impacts may be considered either “significant” or “less than significant” under CEQA. According to CEQA, Statute and Guidelines (AEP 2012), “significant effect on the environment” means a substantial, or potentially substantial, adverse change in any of the physical conditions within the area affected by the project including land, air, water, minerals, flora, fauna, ambient noise, and objects of historic or aesthetic interest. Specific project impacts to biological resources may be considered “significant” if they would:

- 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 CDFW or USFWS;
- 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 CDFW or USFWS;
- Have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means;
- Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors or impede the use of native wildlife nursery sites.
- Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance; or
- Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or State habitat conservation plan.

Furthermore, CEQA Guidelines Section 15065(a) states that a project may trigger the requirement to make a “mandatory finding of significance” if the project has 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, reduce the number or restrict the range of an endangered, rare or threatened species, or eliminate important examples of the major periods of California history or prehistory.”



## Relevant Goals, Policies, and Laws

### *Tulare County General Plan*

The Tulare County General Plan Policy Document contain the following goals and policies related to the Project:

#### Water Resources

**Goal COS-1:** To preserve and enhance surface waterways and aquifers.

**Policy COS-P1.1:** Regional Groundwater Protection. The City shall work with Tulare County and special districts to help protect groundwater resources from overdraft by promoting water conservation and groundwater recharge efforts.

#### Biological Resources

**Goal COS-2:** To preserve and protect sensitive significant habitats, enhance biodiversity, and promote healthy ecosystems throughout the Urban Development Boundary (UDB).

**Policy COS-P2.1:** Protection of Rare and Endangered Species. The City shall support preservation, restoration, and enhancement of designated habitats of State or federally listed rare, threatened, endangered and/or other sensitive and special status species.

**Policy COS-P2.2:** Protection of Natural Areas. The City shall support preservation, maintenance, restoration, and enhancement of natural systems, waterways, and open space.

**Policy COS-P2.3:** Development in Environmentally Sensitive Areas. The City shall require careful planning of new development in environmentally sensitive habitat areas and to avoid or otherwise mitigate potential significant impacts whenever feasible. The focus of efforts shall be on Project design to avoid impacts whenever feasible. Environmentally sensitive habitat shall include, at a minimum, the following:

- ◆ Any habitat for a federally- or State-listed rare, threatened, or endangered animal or plant; and
- ◆ Identifiable wildlife movement corridors, including, but not limited to, non-fragmented stream environment zones, and avian and mammalian migratory routes.

### Threatened and Endangered Species

Permits may be required from the USFWS and/or CDFW if activities associated with a project have the potential to result in the “take” of a species listed as threatened or endangered under the federal and/or state Endangered Species Acts. Take is defined by the State of California as “to hunt, pursue, catch, capture, or kill, or attempt to hunt, pursue, catch, capture or kill” (California Fish and Game Code, Section 86). Take is more broadly defined by the federal Endangered Species Act to include “harm” (16 USC, Section 1532(19), 50 CFR, Section 17.3). CDFW and USFWS are responsible agencies under CEQA and National Environmental Policy Act (NEPA). Both agencies review CEQA and NEPA documents in order to determine the adequacy of their treatment of endangered species issues and to make project-specific recommendations for their conservation.

### Designated Critical Habitat

When species are listed as threatened or endangered, the USFWS often designates areas of “Critical Habitat” as defined by section 3(5)(A) of the federal Endangered Species Act (ESA). Critical Habitat is a term defined in the ESA as a specific geographic area that contains features essential for the conservation of a threatened or endangered species and that may require special management and protection. Critical Habitat is a tool that supports the continued conservation of imperiled species by guiding cooperation with the federal government. Designations only affect federal agency actions or federally funded or permitted activities. Critical Habitat does

not prevent activities that occur within the designated area. Only activities that involve a federal permit, license, or funding and are likely to destroy or adversely modify Critical Habitat will be affected.

## Migratory Birds

The Federal Migratory Bird Treaty Act (MBTA: 16 USC 703-712) prohibits killing, possessing, or trading in any bird species covered in one of four international conventions to which the United States is a party, except in accordance with regulations prescribed by the Secretary of the Interior. The name of the act is misleading, as it actually covers almost all bird's native to the United States, even those that are non-migratory. The MBTA encompasses whole birds, parts of birds, and bird nests and eggs. Additionally, California Fish and Game Code makes it unlawful to take or possess any non-game bird covered by the MBTA (Section 3513), as well as any other native non-game bird (Section 3800).

## Birds of Prey

Birds of prey are protected in California under provisions of Fish and Game Code (Section 3503.5), which states that it is unlawful to take, possess, or destroy any birds in the order Falconiformes (hawks and eagles) or Strigiformes (owls), as well as their nests and eggs. The bald eagle and golden eagle are afforded additional protection under the federal Bald and Golden Eagle Protection Act (16 USC 668), which makes it unlawful to kill birds or their eggs.

## Nesting Birds

In California, protection is afforded to the nests and eggs of all birds. California Fish and Game Code (Section 3503) states that it is "unlawful to take, possess, or needlessly destroy the nest or eggs of any bird except as otherwise provided by this code or any regulation adopted pursuant thereto." Breeding-season disturbance that causes nest abandonment and/or loss of reproductive effort is considered a form of "take" by the CDFW.

## Wetlands and other "Jurisdictional Waters"

The definition of "waters of the United States" (WOTUS) often changes from one presidential administration to the next and can also be affected by the outcomes of court cases involving federal jurisdiction of waters. The current definition (i.e., "Conforming Rule") was adopted under the Biden Administration in early 2023 and was subsequently revised in September 2023 to incorporate the U.S. Supreme Court's May 25, 2023, decision in the case of *Sackett v. Environmental Protection Agency* (EPA). The Conforming Rule has adopted much of the same WOTUS designations as the pre-2015 rules but has incorporated the most recent science and court case rulings. The extent of jurisdiction has been defined in the Code of Federal Regulations (CFR) but is also subject to interpretation by the federal courts. Jurisdictional waters generally include the following categories:

- 1) *Traditional Navigable Waters, the territorial seas, or interstate waters (not including interstate wetlands);*
- 2) *Impoundments of waters of the United States;*
- 3) *Tributaries of:*
  - a. *Traditional Navigable Waters, territorial seas, or interstate waters (not including interstate wetlands); or*
  - b. *Impoundments of water of the United States when the tributaries meet the relatively permanent standard.*
- 4) *Wetlands:*
  - a. *Adjacent to Traditional Navigable Waters, the territorial seas, or interstate waters;*



- b. Adjacent to and with a continuous surface connection to relatively permanent impoundments of waters of the United States*
  - c. Adjacent to and with a continuous surface connection to relatively permanent jurisdictional tributaries.*
- 5) Intrastate lakes and ponds not identified in items 1 through 4 of this section that are relatively permanent, standing or continuously flowing bodies of water with a continuous surface connection to the waters identified in items 1 or 3 above.*

Exclusions under the new definition include the following:

- 1) Waste treatment systems, including treatment ponds or lagoons, designed to meet the requirements of the CWA;*
- 2) Prior converted cropland designated by the Secretary of Agriculture. The exclusion would cease upon a change of use, which means that the area is no longer available for the production of agricultural commodities. Notwithstanding the determination of an area's status as prior converted cropland by any other Federal agency, for the purposes of the CWA, the final authority regarding CWA jurisdiction remains with USEPA;*
- 3) Ditches (including roadside ditches) excavated wholly in and draining only dry land and that do not carry a relatively permanent flow of water;*
- 4) Artificially irrigated areas that would revert to dry land if the irrigation ceased;*
- 5) Artificial lakes or ponds created by excavating or diking dry land to collect and retain water and which are used exclusively for such purposes as stock watering, irrigation, settling basins, or rice growing;*
- 6) Artificial reflecting or swimming pools or other small ornamental bodies of water created by excavating or diking dry land to retain water for primarily aesthetic reasons;*
- 7) Waterfilled depressions created in dry land incidental to construction activity and pits excavated in dry land for the purpose of obtaining fill, sand, or gravel unless and until the construction or excavation operation is abandoned and the resulting body of water meets the definition of waters of the United States; and*
- 8) Swales and erosional features (e.g., gullies, small washes) characterized by low volume, infrequent, or short duration flow.*

The Conforming Rule has incorporated the best available science, relevant supreme court cases, public comment, technical expertise, and experience gained from more than 45 years of implementing the pre-2015 “waters of the United States” framework to inform jurisdictional limits. One significant court case involves the U.S. Supreme Court in its 2001 *Solid Waste Agency of Northern Cook County v. United States Army Corps of Engineers (SWANCC)* decision. It was determined that channels and wetlands isolated from other jurisdictional waters cannot be considered jurisdictional on the basis of their use, hypothetical or observed, by migratory birds.

Similarly, in its 2006 consolidated *Carabell/Rapanos* decision, the United States Supreme Court ruled that a significant nexus between a wetland and other navigable waters must exist for the wetland itself to be considered a jurisdictional water. The Supreme Court heard *Sackett v. United States EPA* in May 2023, to determine governing standards of a significant nexus between waters of the United States and adjacent wetlands. The court decided that adjacent wetlands would be protected under the CWA only if it maintained a continuous surface water connection with a federal water body. This decision has limited protection for networks of wetlands connected to navigable waters through subsurface flow. The final decision was enacted in September 2023.

The USACE regulates the filling or grading of waters of the United States. under the authority of Section 404 of the CWA. The extent of jurisdiction within drainage channels is defined by “ordinary high-water marks” on opposing channel banks. All activities that involve the discharge of dredge or fill material into waters of the United States are subject to the permit requirements of the USACE. Such permits are typically issued on the condition that the applicant agrees to provide mitigation that results in no net loss of wetland functions or values. No permit can be issued until the RWQCB issues a Section 401 Water Quality Certification (or waiver of such certification) verifying that the proposed activity will meet state water quality standards.

Under the Porter-Cologne Water Quality Control Act of 1969, the SWRCB has regulatory authority to protect the water quality of all surface water and groundwater in California (“waters of the state”). Nine RWQCBs oversee water quality at the local and regional level. The RWQCB for a given region regulates discharges of fill or pollutants into waters of the state through the issuance of various permits and orders. Discharges into Waters of the State that are also WOTUS require a Section 401 Water Quality Certification from the RWQCB as a prerequisite to obtaining certain federal permits, such as a Section 404 Clean Water Act permit. Discharges into all Waters of the State, even those that are not also WOTUS, require waste discharge requirements (WDRs), or waivers of WDRs, from the RWQCB. The RWQCB also administers the Construction Storm Water Program and the federal National Pollution Discharge Elimination System (NPDES) program. Projects that disturb one acre or more of soil must obtain a Construction General Permit under the Construction Storm Water Program. A prerequisite for this permit is the development of a Storm Water Pollution Prevention Plan (SWPPP) by a certified Qualified SWPPP Developer. Projects that discharge wastewater, storm water, or other pollutants into a WOTUS may require an NPDES permit.

CDFW has jurisdiction over the bed and bank of natural drainages and lakes according to provisions of Section 1601 and 1602 of the California Fish and Game Code. Activities that may substantially modify such waters through the diversion or obstruction of their natural flow, change or use any material from their bed or bank, or deposits debris within them require a notification of a Lake or Streambed Alteration. If CDFW determines that the activity may adversely affect fish and wildlife resources, a Lake or Streambed Alteration Agreement will be prepared. Such an agreement typically stipulates that certain avoidance and minimization measures will be implemented to protect the habitat values of the lake or drainage in question and the plant, fish, and wildlife species that may be present within these resources.

## **Potentially Significant Project-Related Impacts and Mitigation**

Species identified as candidate, sensitive, or special status species in local or regional plans, policies, or regulations by CDFW or USFWS that have the potential to be impacted by the Project are identified below with corresponding mitigation measures. Special status species and biological resources identified as having the potential to occur within the APE and potentially be impacted by construction activities include Swainson’s hawk, burrowing owl, monarch butterfly, American badger, pallid bat, and wildlife movement corridors.

### **General Mitigation Measures**

Prior to the start of construction, all personnel associated with construction of the Project will be trained to be able to identify these candidate, sensitive, or special status species in order to prevent impacts to sensitive resources; therefore, the following general mitigation measures will be implemented:

**Mitigation Measure BIO-1a (*WEAP Training*):** Prior to initiating construction activities (including staging and mobilization), all personnel associated with Project construction will attend mandatory Worker Environmental Awareness Program (WEAP) training, conducted by a qualified biologist (someone who is familiar with the species on the handout) to aid workers in identifying special status resources that may occur in the APE. The specifics of this program will include identification of the sensitive species and suitable habitats, a description of the regulatory status and general ecological characteristics of sensitive resources, and review of the limits of construction and mitigation measures required to reduce impacts to biological resources within the work area. This training will discuss special status species, describe the laws and regulations in place to provide protection of these species, identify the penalties for violation of applicable environmental laws and regulations, and a list of required protective measures to avoid “take.” A fact sheet conveying this information, along with photographs or illustrations of sensitive species with potential to occur onsite, will also be prepared for distribution to all contractors, their employees, and all other personnel involved with construction of the Project. All employees will sign a form documenting that they have attended WEAP training and understand the information presented to them.

**Mitigation Measure BIO-1b (*BMPs*):** The Project proponent will ensure that all workers employ the following best management practices (BMPs) in order to avoid and minimize potential impacts to special status species:

- Vehicles will observe a 15-mph speed limit while on unpaved access routes.
- Workers will inspect areas beneath parked vehicles prior to mobilization. If special status species are detected beneath vehicles, the individual will either be allowed to leave of its own volition or will be captured by the qualified biologist (must possess appropriate collecting/handling permits) and relocated out of harm’s way to the nearest suitable habitat beyond the influence of the Project work area. “Take” of a listed (rare, threatened, or endangered) species is prohibited.
- The presence of any special status species and/or any wildlife mortalities will be reported to the Project’s designated biologist and the appropriate regulatory agencies.

### Project-Related Mortality and/or Disturbance of Nesting Raptors, Migratory Birds, and Special Status Birds

The APE contains suitable nesting and/or foraging habitat for a variety of avian species. The survey was conducted within nesting bird season and resulted in the identification of an active Red-tailed Hawk nest located in an oak tree over the south bank of Johnson Slough. Though outside the APE, Cliff Swallow’s nests appeared to be present underneath the Consolidated People’s Ditch bridge under Road 182. The oak trees along the Slough provide high quality habitat for nesting birds, potentially including Swainson’s Hawk. Habitats on the margins of the Slough and canal could provide habitat for ground-nesting birds, such as Killdeer (*Charadrius vociferus*). Birds nesting within the APE during construction have the potential to be injured or killed by Project-related activities. In addition to the direct “take” of nesting birds, nesting birds within the APE or adjacent areas could be disturbed by Project-related activities resulting in nest abandonment. Projects that adversely affect the nesting success of raptors and migratory birds or result in the mortality of individual birds is considered a violation of State and federal laws and are considered a potentially significant impact under CEQA.

Implementation of the following measures will reduce potential impacts to nesting raptors, migratory birds, and special status birds to a less than significant level under CEQA and will ensure compliance with State and federal laws protecting these avian species.

**Mitigation.** The following measures would be implemented prior to the start of construction:

**Mitigation Measure BIO-2a (*Avoidance*):** The Project's construction activities will occur, if feasible, between September 16 and January 31 (outside of nesting bird season) in an effort to avoid impacts to nesting birds.

**Mitigation Measure BIO-2b (*Pre-construction Surveys*):** If activities must occur within nesting bird season (February 1 to September 15), a qualified biologist (someone who has completed nesting bird surveys) will conduct a one-time pre-construction take avoidance survey for Swainson's hawk nests onsite and within a 0.5-mile radius. This survey would be conducted in accordance with the *Recommended Timing and Methodology for Swainson's Hawk Nesting Surveys in California's Central Valley* (Swainson's Hawk Technical Advisory Committee, 2000) or current guidance. The pre-construction survey will also include a presence/absence survey for all other nesting birds within the APE and an additional 50-foot buffer, no more than 7 days prior to the start of construction. All raptor nests would be considered "active" upon the nest-building stage.

**Mitigation Measure BIO-2c (*Establish Buffers*):** On discovery of any active nests or breeding colonies near work areas, the biologist will determine appropriate construction setback distances based on applicable CDFW and/or USFWS guidelines and/or the biology of the species in question. Construction buffers will be identified with flagging, fencing, or other easily visible means, and will be maintained until the biologist has determined that the nestlings have fledged.

## Project-Related Mortality and/or Disturbance of Burrowing Owls

**Mitigation.** The following measures would be implemented prior to the start of construction:

**BIO-3a (*Pre-construction Take Avoidance Survey*):** A qualified biologist (someone who can identify the species and their sign) will conduct a pre-construction take avoidance survey for burrowing owls in accordance with CDFW's *Staff Report on Burrowing Owl Mitigation* (California Department of Fish and Wildlife, 2012), within 7 days prior to the start of construction activities. The survey will include the proposed work area and surrounding lands within 500 feet. If construction is halted for seven consecutive days a follow-up preconstruction survey shall be completed before work can resume.

**BIO-3b (*Avoidance*):** If an active burrowing owl burrow is detected, the occurrence will be reported to the local CDFW office and the CNDDDB, and disturbance-free buffers will be implemented in accordance with CDFW's 2012 Staff Report on Burrowing Owl Mitigation, as outlined in the table below:

Location	Time of Year	Level of Disturbance		
		Low	Medium	High
Nesting sites	April 1 – August 15	200 meters	500 meters	500 meters
Nesting sites	August 16 – October 15	200 meters	200 meters	500 meters
Nesting sites	October 16 – March 31	50 meters	100 meters	500 meters

**BIO-3c (*ITP and Passive Relocation*):** If an active BUOW burrow is detected within the proposed work area and cannot be avoided, it is recommended the Project obtain an Incidental Take Permit (ITP) in order to implement a passive relocation plan.

### Project-Related Mortality and/or Disturbance of Bats

In reviewing the CNDDB, pallid bat, a California Species of Special Concern, was identified as having the potential to occur within or adjacent to the APE due to the abundance of oak trees within the APE and surrounding area. Additionally, fallow agricultural fields onsite and throughout the region provide suitable foraging habitat for multiple species of bats. Bats foraging within the APE during construction have the potential to be injured or killed by Project-related activities. In addition to the direct “take” of bats, roosting bats within the APE or adjacent areas could be disturbed by Project-related activities resulting in roost abandonment. Roosting habitat becomes especially sensitive to bat populations during the maternity season (March 1 to September 30) while pups are maturing. Projects that adversely affect the roosting bats or result in the mortality of individual bats is considered a potentially significant impact under CEQA.

**Mitigation.** The following measures will be implemented prior to the start of construction:

**BIO-4a (Avoidance):** The Project’s construction activities will occur, if feasible, between November 1 and February 28 (outside of bat maternity season) in an effort to avoid impacts to maternity roosts.

**BIO-4b (Pre-Construction Survey):** A pre-construction survey for bats will be performed if construction activities fall between March 1 and September 30 (bat maternity season) or if the Project includes tree removal. A qualified biologist will conduct the survey within (7) seven days prior to construction to identify potential roosting habitat within the APE and an additional 100-foot survey area around the designated APE. If no individuals, roosts, or suitable habitat is observed, no further mitigation is required.

**BIO-4c (Establish Buffers):** On discovery of any bat roosts near work areas, a qualified biologist will determine appropriate construction setback distances (buffer zones) based on applicable CDFW and/or USFWS guidelines, if appropriate. Construction buffers will be identified with flagging, fencing, or other easily visible means, and will be maintained until the biologist has determined that the roost will no longer be impacted by construction.

**BIO-4d (Operational Hours):** Construction activities will be limited to daylight hours to reduce potential impacts to special status bats that could be foraging onsite.

### Project-Related Mortality and/or Disturbance of Special Status Fossorial Mammals

American badger has been documented in the Project vicinity, and the uncultivated grasslands of Kaweah Oaks Preserve could serve as suitable denning or foraging habitat for this species. If an American badger were present onsite during ground-disturbance, it could be injured or killed by construction activities. Projects that result in the mortality of special status species are considered a violation of State and federal laws and are considered a potentially significant impact under CEQA.

**Mitigation.** The following measures would be implemented prior to the start of construction:

Implementation of the following measures will reduce potential impacts to American badgers to a less than significant level under CEQA. The following measures will be implemented prior to the start of construction:

**Mitigation Measure BIO-5a (Pre-construction Take Avoidance Survey):** A qualified biologist (someone familiar with the identification and sign of this species) will conduct a pre-construction survey of project areas within seven (7) days prior to vegetation clearing or ground disturbing activities. The goal of this survey is to search for potentially active badger dens.



**Mitigation Measure BIO-5b (*Remote Cameras*):** If potential American badger dens are detected during the pre-construction survey, each potential den will be monitored with a remote camera for a period of at least three consecutive nights. If there is no activity recorded at the den location, the den can be deemed “inactive” or “unoccupied” and closed or excavated the same day as determining the den inactive.

**Mitigation Measure BIO-5c (*Den Avoidance*):** If an American badger is denning on or within 50 feet of the site, the project proponent will avoid the den by a minimum 50-foot buffer.

**Mitigation Measure BIO-5d (*Timed Den Excavation*):** If an American badger is denning on or within 50 feet of the site and it cannot be avoided, the den may be excavated outside of the natal season (generally March 15 – June 15) or if it is determined that there are no kits in the den. Prior to den excavation a remote camera will be placed at the den entrance for a minimum of three consecutive nights to record the general time when the badger leaves the den. Once this time has been determined and it is confirmed the badger left the den to forage the den will be excavated by hand, with the assistance of machinery. Scopes should be used to survey sections of the den prior to excavation. Should any cubs be discovered during the excavation the work will stop and the crew will leave the site immediately so the female can rescue her kits and relocate them.

### Project related impacts to Monarch butterflies

Implementation of the following measures would reduce potential impacts to wildlife movement corridors to a less than significant level under CEQA and ensure compliance with state and federal laws protecting this avian species.

**BIO-6a (*Avoidance*)** The Project’s construction activities will occur, if feasible between December and February (outside the monarch migration) in an effort to avoid impacts to monarch butterflies.

**BIO-6b (*Pre-construction Survey*)** If activities must occur within monarch butterfly migration season (March- November) a qualified biologist (someone who is familiar with the species ecology and habitat use) will conduct a pre-construction survey within 48 hours of the start of construction. The survey area will include the APE and all trees which overhang across the boundary of the APE. The goal of this survey is to search for roosting monarchs.

**BIO-6c (*Avoidance Buffer*)** If a closed-winged monarch butterfly or cluster is discovered during a morning pre-construction survey it can be assumed the monarch butterfly(s) spent the night at the location. Therefore, a qualified biologist will set up the appropriate visual setback buffer which will remain in place until the qualified biologist has determined the buffer is no longer warranted.

### Project-Related Impacts to Wildlife Movement Corridors

There were a number of different species trails within Johnsons Slough which suggest wildlife use the slough as a movement corridor to pass through areas within the project site due to activities or from the level of disturbed habitat within the project site.

Implementation of the following measures would reduce potential impacts to wildlife movement corridors to a less than significant level under CEQA and ensure compliance with state and federal laws protecting this avian species.

**BIO-7a (*Wildlife Access*):** Access on both sides of the channel should not be blocked outside of construction hours or during overnight hours or weekends. If construction must block both sides of the channel an alternative route through the construction area should be identified by a qualified biologist and maintained throughout the construction schedule timeframe.

**BIO-7b (Cover Excavations):** Pipeline/culvert/siphon excavations and vertical pipes should be covered each night to prevent wildlife from falling in and becoming trapped or injured during migratory or dispersal movements.

## Less than Significant Project-Related Impacts

### Project-Related Impacts to Special Status Animal Species Absent From, or Unlikely to Occur on, the Project Site

Of the 25 regionally occurring special status animal species, 19 are considered absent from or unlikely to occur within the APE due to past or ongoing disturbance and/or the absence of suitable habitat. These species include: blunt-nosed leopard lizard, Buena Vista Lake ornate shrew, California condor, California tiger salamander, Crotch bumble bee, delta smelt, foothill yellow-legged frog, giant gartersnake, northern leopard frog, northwestern pond turtle, northern California legless lizard, San Joaquin kit fox, Tipton kangaroo rat, Tricolored Blackbird, Valley elderberry longhorn beetle, vernal pool fairy shrimp, vernal pool tadpole shrimp, western mastiff bat, western spadefoot, and Western Yellow-billed Cuckoo.

Since it is unlikely that these species would occur onsite, implementation of the Project should have no impact on these 19 special status species through construction mortality, disturbance, or loss of habitat. Mitigation measures are not warranted.

### Project-Related Impacts to Special Status Plant Species Absent From, or Unlikely to Occur on, the Project Site

All of the 21 regionally occurring special status plant species are considered absent from or unlikely to occur within the APE due to past or ongoing disturbance and/or the absence of suitable habitat. These species include: alkali-sink goldfields, brittlescale, Calico monkeyflower, California alkali grass, California jewelflower, California satintail, Coulter's goldfields, Earlimart orache, Greene's tuctoria, Hoover's spurge, Kaweah brodiaea, lesser satscale, recurved larkspur, San Joaquin adobe sunburst, San Joaquin Valley Orcutt grass, Sanford's arrowhead, spiny-sealed button-celery, striped adobe lily, subtle orache, vernal pool smallscale, and Winter's sunflower.

Since it is unlikely that these species would occur onsite, implementation of the Project should have no impact on these 21 special status species through construction mortality, disturbance, or loss of habitat. Mitigation measures are not warranted.

### Project-Related Impacts to Riparian Habitat and Natural Communities of Special Concern

There are no CNDDB-designated "natural communities of special concern" recorded within the APE or surrounding lands. Mitigation is not warranted.

### Project-Related Impacts to Regulated Waters, Wetlands, and Water Quality

The Slough within the APE, below the ordinary high-water mark, would most likely fall under the jurisdiction of USACE as a waters of the United States and construction activities in this area would be subject to USACE permit requirements pursuant to Section 404 of the CWA. This Project may be authorized under a Nationwide Permit but could require an individual permit if Nationwide Permit limits are exceeded. In addition, a Section 401 of the CWA Water Quality Certification from the RWQCB is required for dredge and fill of waters of the State and activities must meet State water quality standards. These permits and certifications are typically issued on the condition that the applicant agrees to provide mitigation that result in no net loss of wetland functions, jurisdictional waters or beneficial uses.

If the Project's construction work would result in impacts to waters of the United States, the Project proponent would be required to secure permits from USACE and RWQCB. Compliance with each permit requires avoidance, minimization, and mitigation measures to ensure that Project-related impacts to these potentially jurisdictional waters are less-than-significant in nature or are fully mitigated.

Project activities with potential to alter the Slough including the bed, bank, floodplain and associated riparian habitat, would be within CDFW's jurisdiction, pursuant to Section 1602 of the California Fish and Game Code. The Project proponent would be required to notify CDFW if the Project's activities have potential to impact rivers, streams, or the riparian corridor of any aquatic features onsite that may be beneficial to fish or wildlife resources. If CDFW determines that the Project could potentially adversely affect fish and wildlife resources and/or riparian habitat, a Lake or Streambed Alteration (LSA) Agreement would be issued prior to construction. LSA Agreements are typically issued with mandatory avoidance and minimization measures, protective measures for special status species, and required compensatory mitigation for removal of riparian trees, shrubs, and herbaceous cover along the banks. Compliance with measures of the LSA Agreement would ensure that the Project's impacts to aquatic features and riparian habitat within CDFW's jurisdiction remain less-than-significant or are fully mitigated.

There are no designated wild and scenic rivers within the Project area; therefore, the Project would not result in direct impacts to wild and scenic rivers. Compliance with USACE, RWQCB, and CDFW permits, certifications, and agreements would ensure there are no indirect downstream effects to jurisdictional waters. Since construction would involve ground disturbance over an area greater than one acre, the Project would also be required to obtain a Construction General Permit under the Construction Storm Water Program administered by the RWQCB. A prerequisite for this permit is the development of a Storm Water Pollution Prevention Plan (SWPPP) to ensure construction activities do not adversely affect water quality.

### **Project-Related Impacts to Critical Habitat**

Designated critical habitat is absent from the APE and surrounding lands. Therefore, there would be no impact to critical habitat, and mitigation is not warranted.

### **Local Policies or Habitat Conservation Plans**

The Project appears to be consistent with the goals and policies of the Tulare County General Plan. There are no known habitat conservation plans (HCPs) or a Natural Community Conservation Plan (NCCP) in the Project vicinity. Mitigation measures are not warranted.



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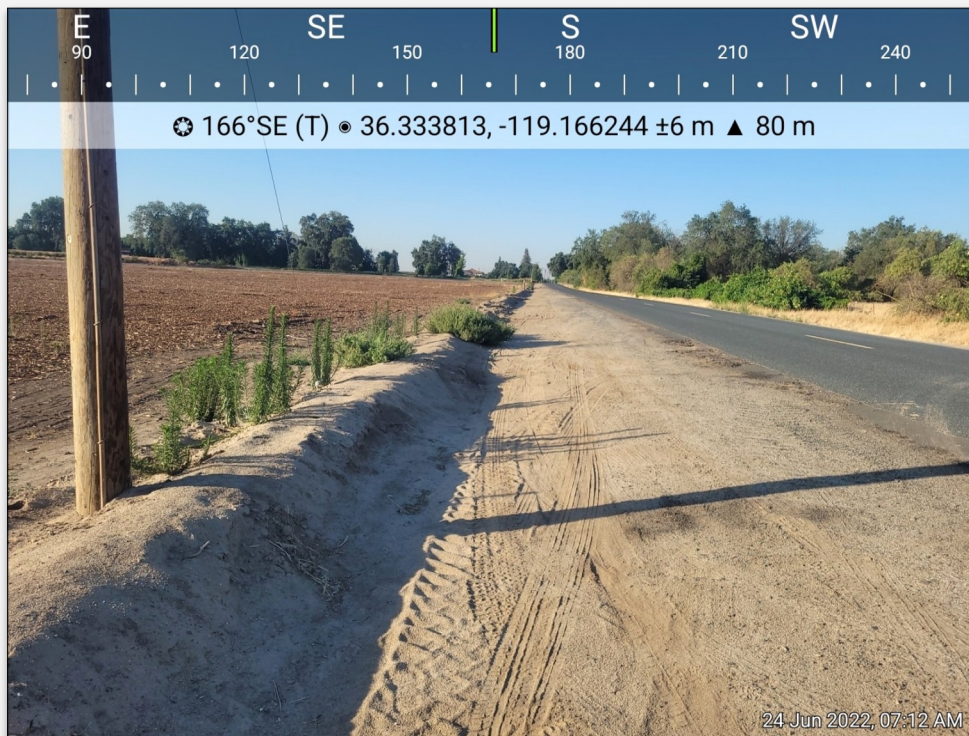
# Appendix A: Photos of the Project Area

CONSOLIDATED PEOPLES DITCH COMPANY  
JOHNSON SLOUGH BASIN PROJECT



**Photograph 1**

*Overview of the APE from the northwest corner facing east.*



**Photograph 2**

*Overview of the APE from the northwest corner facing south.*





**Photograph 3**

*Overview of the surrounding area from the northwest corner of the APE facing north. The Kaweah oaks Preserve is visible to the left.*



**Photograph 4**

*Overview of mammal burrows located within the APE.*





**Photograph 5**

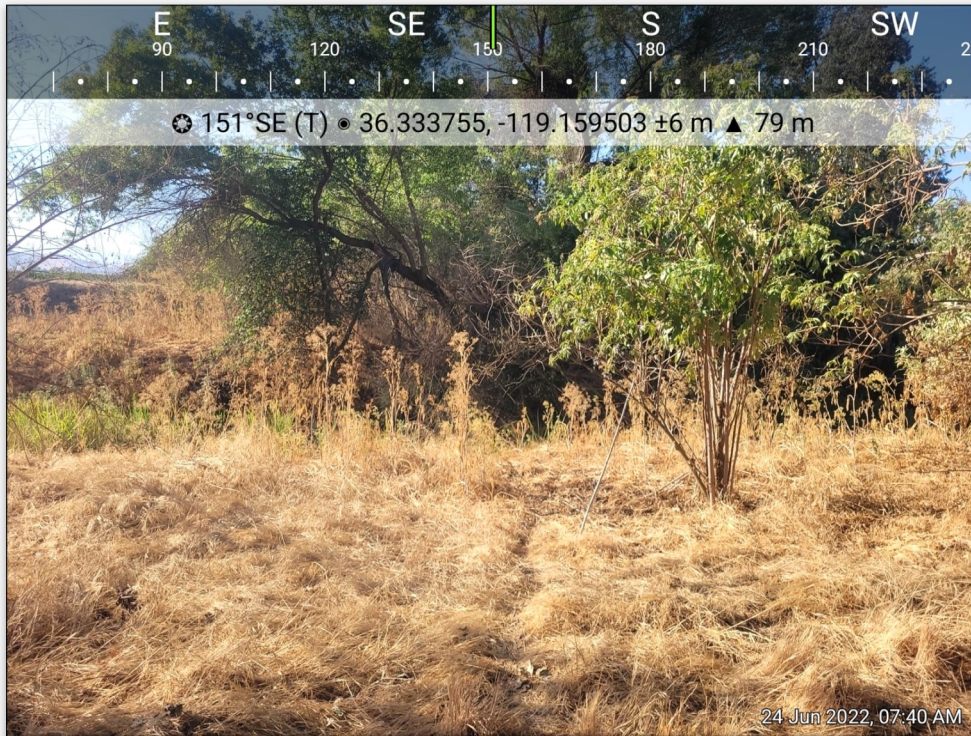
*Overview of agricultural field which was recently cleared. Woodchips from the orchard currently cover the field.*



**Photograph 6**

*Overview of the pomegranate trees along the margin between the agricultural field and the slough bank.*





**Photograph 7**

*Overview of weedy annual vegetation present along the slough bank.*



**Photograph 8**

*Overview of the south edge of the cleared agricultural field.*





**Photograph 9**

*Overview of an animal burrow present within the APE.*



**Photograph 10**

*Overview of vegetation present within the APE.*





**Photograph 11**

*Overview of vegetation within the APE. Large valley oak trees can be seen in the background along the slough bank.*



**Photograph 12**

*Overview of a mammal burrow present within the APE.*





**Photograph 13**

*Overview of a mammal burrow present within the APE.*



**Photograph 14**

*Overview of the cleared field from the southwest corner of the APE.*





**Photograph 15**

*Overview of the access road which runs between the cleared field and Johnson Slough.*



**Photograph 16**

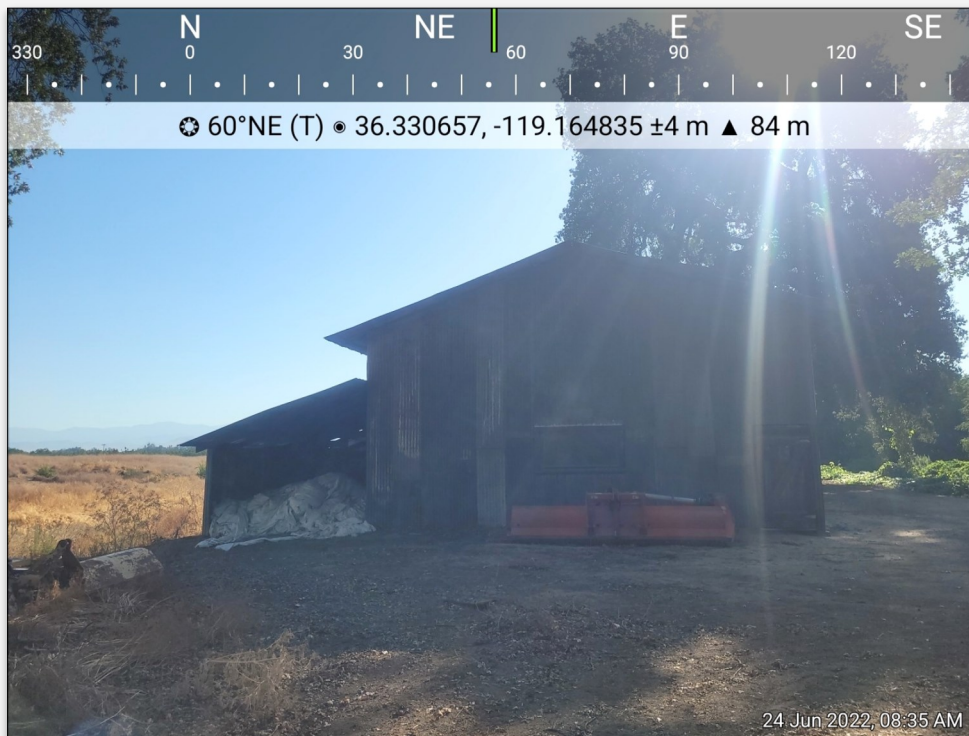
*Overview of the surrounding area along the west boundary of the APE facing north.*





**Photograph 17**

*Overview of the vegetation along the bank of Johnson Slough.*



**Photograph 18**

*Overview of the storage structure located between Johnson Slough and Consolidated People's Ditch.*





**Photograph 19**

*Overview of Consolidated Peoples Ditch.*



**Photograph 20**

*Overview of a decomposing raccoon carcass found in the bed of Consolidated Peoples Ditch.*





**Photograph 21**

*Overview of the ruderal/agricultural habitat within the APE.*



**Photograph 22**

*Another overview of the ruderal/agricultural habitat within the APE.*





**Photograph 23**

*Overview of the water way within the slough habitat within the APE.*



**Photograph 24**

*Another overview of the waterway within the slough habitat within the APE.*





**Photograph 25**

*Overview of the slough habitat within the APE.*



**Photograph 26**

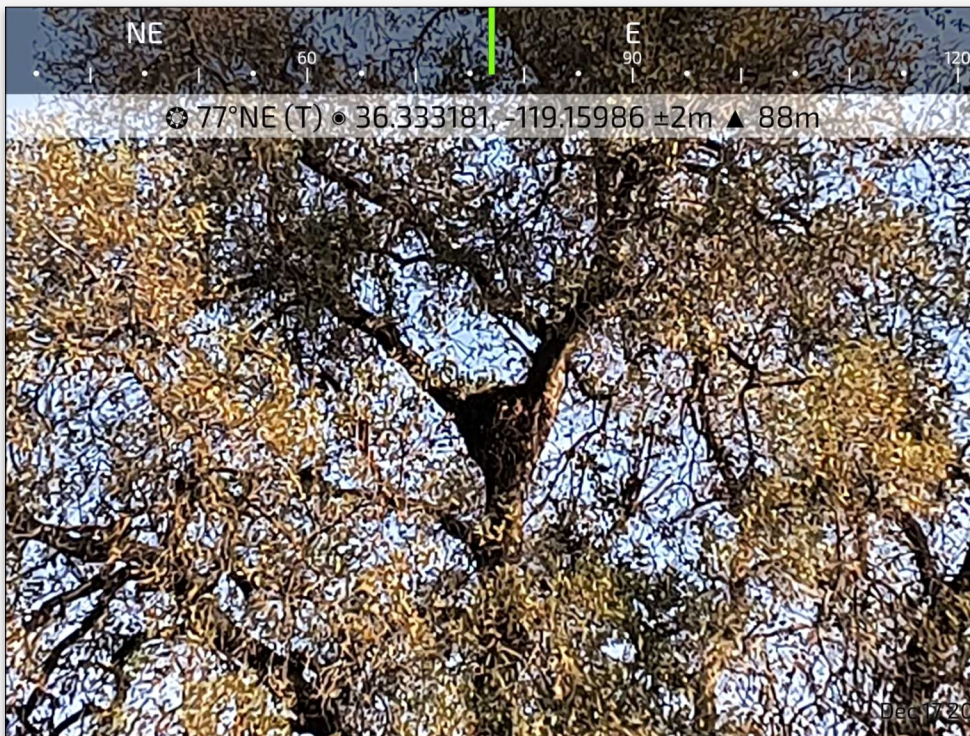
*Another overview of the slough habitat within the APE.*





**Photograph 27**

*Overview of valley oaks on the southside of the slough habitat within the APE.*



**Photograph 28**

*Overview of an unoccupied stick nest that was observed in the southeast corner of the slough habitat within the APE.*





**Photograph 29**

*Overview of Road 182 crossing Johnson Slough..*



**Photograph 30**

*Another overview of Road 182.*





**Photograph 31**

*Red-tailed hawk flying overhead in the ruderal habitat.*



**Photograph 32**

*Bobcat tracts that were observed within the slough habitat of the APE.*



**Photograph 33**

*Striped skunk track that was observed within the slough habitat of the APE.*



**Photograph 34**

*Ground squirrel burrow that was observed in the slough habitat of the APE.*



# Appendix B: CNDDDB 9- Quad Search

CONSOLIDATED PEOPLES DITCH COMPANY  
JOHNSON SLOUGH BASIN PROJECT



## Selected Elements by Scientific Name

### California Department of Fish and Wildlife

#### California Natural Diversity Database



**Query Criteria:** Quad<span style='color:Red'> IS </span>(Exeter (3611932)<span style='color:Red'> OR </span>Monson (3611943)<span style='color:Red'> OR </span>Ivanhoe (3611942)<span style='color:Red'> OR </span>Woodlake (3611941)<span style='color:Red'> OR </span>Rocky Hill (3611931)<span style='color:Red'> OR </span>Lindsay (3611921)<span style='color:Red'> OR </span>Cairns Corner (3611922)<span style='color:Red'> OR </span>Tulare (3611923)<span style='color:Red'> OR </span>Visalia (3611933))

Species	Element Code	Federal Status	State Status	Global Rank	State Rank	Rare Plant Rank/CDFW SSC or FP
<b><i>Actinemys marmorata</i></b> northwestern pond turtle	ARAAD02031	Proposed Threatened	None	G2	SNR	SSC
<b><i>Agelaius tricolor</i></b> tricolored blackbird	ABPBXB0020	None	Threatened	G1G2	S2	SSC
<b><i>Ambystoma californiense pop. 1</i></b> California tiger salamander - central California DPS	AAAAA01181	Threatened	Threatened	G2G3T3	S3	WL
<b><i>Andrena macswaini</i></b> An andrenid bee	IIHYM35130	None	None	G2	S2	
<b><i>Anniella pulchra</i></b> Northern California legless lizard	ARACC01020	None	None	G3	S2S3	SSC
<b><i>Antrozous pallidus</i></b> pallid bat	AMACC10010	None	None	G4	S3	SSC
<b><i>Ardea herodias</i></b> great blue heron	ABNGA04010	None	None	G5	S4	
<b><i>Athene cunicularia</i></b> burrowing owl	ABNSB10010	None	Candidate Endangered	G4	S2	SSC
<b><i>Atriplex cordulata var. erecticaulis</i></b> Earlimart orache	PDCHE042V0	None	None	G3T1	S1	1B.2
<b><i>Atriplex depressa</i></b> brittlescale	PDCHE042L0	None	None	G2	S2	1B.2
<b><i>Atriplex minuscula</i></b> lesser saltscale	PDCHE042M0	None	None	G2	S2	1B.1
<b><i>Atriplex persistens</i></b> vernal pool smallscale	PDCHE042P0	None	None	G2	S2	1B.2
<b><i>Atriplex subtilis</i></b> subtle orache	PDCHE042T0	None	None	G1	S1	1B.2
<b><i>Bombus crotchii</i></b> Crotch's bumble bee	IIHYM24480	None	Candidate Endangered	G2	S2	
<b><i>Bombus pensylvanicus</i></b> American bumble bee	IIHYM24260	None	None	G3G4	S2	
<b><i>Branchinecta lynchi</i></b> vernal pool fairy shrimp	ICBRA03030	Threatened	None	G3	S3	
<b><i>Brodiaea insignis</i></b> Kaweah brodiaea	PMLIL0C060	None	Endangered	G1	S1	1B.2
<b><i>Buteo swainsoni</i></b> Swainson's hawk	ABNKC19070	None	Threatened	G5	S4	
<b><i>Caulanthus californicus</i></b> California jewelflower	PDBRA31010	Endangered	Endangered	G1	S1	1B.1



Selected Elements by Scientific Name  
California Department of Fish and Wildlife  
California Natural Diversity Database



Species	Element Code	Federal Status	State Status	Global Rank	State Rank	Rare Plant Rank/CDFW SSC or FP
<b><i>Chrysus tularensis</i></b> Tulare cuckoo wasp	IIHYM72010	None	None	G1G2	S2	
<b><i>Coccyzus americanus occidentalis</i></b> western yellow-billed cuckoo	ABNRB02022	Threatened	Endangered	G5T2T3	S1	
<b><i>Delphinium recurvatum</i></b> recurved larkspur	PDRAN0B1J0	None	None	G2?	S2	1B.2
<b><i>Desmocerus californicus dimorphus</i></b> valley elderberry longhorn beetle	IICOL48011	Threatened	None	G3T3	S3	
<b><i>Diplacus pictus</i></b> calico monkeyflower	PDSCR1B240	None	None	G2	S2	1B.2
<b><i>Dipodomys nitratoide nitratoide</i></b> Tipton kangaroo rat	AMAFD03152	Endangered	Endangered	G2T1T2	S2	
<b><i>Eryngium spinosepalum</i></b> spiny-sepaled button-celery	PDAP10Z0Y0	None	None	G2	S2	1B.2
<b><i>Eumops perotis californicus</i></b> western mastiff bat	AMACD02011	None	None	G4G5T4	S3S4	SSC
<b><i>Euphorbia hooveri</i></b> Hoover's spurge	PDEUP0D150	Threatened	None	G1	S1	1B.2
<b><i>Fritillaria striata</i></b> striped adobe-lily	PML1L0V0K0	None	Threatened	G1	S1	1B.1
<b>Great Valley Valley Oak Riparian Forest</b> Great Valley Valley Oak Riparian Forest	CTT61430CA	None	None	G1	S1.1	
<b><i>Helianthus winteri</i></b> Winter's sunflower	PDAST4N260	None	None	G2?	S2?	1B.2
<b><i>Imperata brevifolia</i></b> California satintail	PMPOA3D020	None	None	G3	S3	2B.1
<b><i>Lasthenia chrysantha</i></b> alkali-sink goldfields	PDAST5L030	None	None	G2	S2	1B.1
<b><i>Lasthenia glabrata ssp. coulteri</i></b> Coulter's goldfields	PDAST5L0A1	None	None	G4T2	S2	1B.1
<b><i>Lepidurus packardii</i></b> vernal pool tadpole shrimp	ICBRA10010	Endangered	None	G3	S3	
<b><i>Linderiella occidentalis</i></b> California linderiella	ICBRA06010	None	None	G2G3	S2S3	
<b><i>Lithobates pipiens</i></b> northern leopard frog	AAABH01170	None	None	G5	S2	SSC
<b><i>Lytta hoppingi</i></b> Hopping's blister beetle	IICOL4C010	None	None	G1G2	S2	
<b><i>Lytta molesta</i></b> molestan blister beetle	IICOL4C030	None	None	G2	S2	
<b>Northern Claypan Vernal Pool</b> Northern Claypan Vernal Pool	CTT44120CA	None	None	G1	S1.1	



Selected Elements by Scientific Name  
California Department of Fish and Wildlife  
California Natural Diversity Database



Species	Element Code	Federal Status	State Status	Global Rank	State Rank	Rare Plant Rank/CDFW SSC or FP
<b>Northern Hardpan Vernal Pool</b> Northern Hardpan Vernal Pool	CTT44110CA	None	None	G3	S3.1	
<b>Orcuttia inaequalis</b> San Joaquin Valley Orcutt grass	PMPOA4G060	Threatened	Endangered	G1	S1	1B.1
<b>Pseudobahia peirsonii</b> San Joaquin adobe sunburst	PDAST7P030	Threatened	Endangered	G1	S1	1B.1
<b>Puccinellia simplex</b> California alkali grass	PMPOA53110	None	None	G2	S2	1B.2
<b>Rana boylei pop. 5</b> foothill yellow-legged frog - south Sierra DPS	AAABH01055	Endangered	Endangered	G3T2	S2	
<b>Rhaphiomidas trochilus</b> San Joaquin Valley giant flower-loving fly	IIDIP05010	None	None	G1	S1	
<b>Sagittaria sanfordii</b> Sanford's arrowhead	PMALI040Q0	None	None	G3	S3	1B.2
<b>Spea hammondi</b> western spadefoot	AAABF02020	Proposed Threatened	None	G2G3	S3S4	SSC
<b>Sycamore Alluvial Woodland</b> Sycamore Alluvial Woodland	CTT62100CA	None	None	G1	S1.1	
<b>Talanites moodyae</b> Moody's gnaphosid spider	ILARA98020	None	None	G2G3	S2S3	
<b>Taxidea taxus</b> American badger	AMAJF04010	None	None	G5	S3	SSC
<b>Tuctoria greenei</b> Greene's tuctoria	PMPOA6N010	Endangered	Rare	G1	S1	1B.1
<b>Valley Sacaton Grassland</b> Valley Sacaton Grassland	CTT42120CA	None	None	G1	S1.1	
<b>Vulpes macrotis mutica</b> San Joaquin kit fox	AMAJA03041	Endangered	Threatened	G4T2	S3	

Record Count: 54

# Appendix C: IPaC Search

CONSOLIDATED PEOPLES DITCH COMPANY  
JOHNSON SLOUGH BASIN PROJECT



# United States Department of the Interior

## FISH AND WILDLIFE SERVICE

Sacramento Fish And Wildlife Office

Federal Building

2800 Cottage Way, Room W-2605

Sacramento, CA 95825-1846

Phone: (916) 414-6600 Fax: (916) 414-6713



In Reply Refer To:

12/18/2024 21:37:39 UTC

Project Code: 2025-0033398

Project Name: Johnson Slough Basin Project

Subject: List of threatened and endangered species that may occur in your proposed project location or may be affected by your proposed project

To Whom It May Concern:

The enclosed species list identifies threatened, endangered, proposed and candidate species, as well as proposed and final designated critical habitat, that may occur within the boundary of your proposed project and/or may be affected by your proposed project. The species list fulfills the requirements of the U.S. Fish and Wildlife Service (Service) under section 7(c) of the Endangered Species Act (Act) of 1973, as amended (16 U.S.C. 1531 *et seq.*).

New information based on updated surveys, changes in the abundance and distribution of species, changed habitat conditions, or other factors could change this list. Please feel free to contact us if you need more current information or assistance regarding the potential impacts to federally proposed, listed, and candidate species and federally designated and proposed critical habitat. Please note that under 50 CFR 402.12(e) of the regulations implementing section 7 of the Act, the accuracy of this species list should be verified after 90 days. This verification can be completed formally or informally as desired. The Service recommends that verification be completed by visiting the IPaC website at regular intervals during project planning and implementation for updates to species lists and information. An updated list may be requested through the IPaC system by completing the same process used to receive the enclosed list.

The purpose of the Act is to provide a means whereby threatened and endangered species and the ecosystems upon which they depend may be conserved. Under sections 7(a)(1) and 7(a)(2) of the Act and its implementing regulations (50 CFR 402 *et seq.*), Federal agencies are required to utilize their authorities to carry out programs for the conservation of threatened and endangered species and to determine whether projects may affect threatened and endangered species and/or designated critical habitat.

A Biological Assessment is required for construction projects (or other undertakings having similar physical impacts) that are major Federal actions significantly affecting the quality of the human environment as defined in the National Environmental Policy Act (42 U.S.C. 4332(2))

(c)). For projects other than major construction activities, the Service suggests that a biological evaluation similar to a Biological Assessment be prepared to determine whether the project may affect listed or proposed species and/or designated or proposed critical habitat. Recommended contents of a Biological Assessment are described at 50 CFR 402.12.

If a Federal agency determines, based on the Biological Assessment or biological evaluation, that listed species and/or designated critical habitat may be affected by the proposed project, the agency is required to consult with the Service pursuant to 50 CFR 402. In addition, the Service recommends that candidate species, proposed species and proposed critical habitat be addressed within the consultation. More information on the regulations and procedures for section 7 consultation, including the role of permit or license applicants, can be found in the "Endangered Species Consultation Handbook" at:

<https://www.fws.gov/sites/default/files/documents/endangered-species-consultation-handbook.pdf>

**Migratory Birds:** In addition to responsibilities to protect threatened and endangered species under the Endangered Species Act (ESA), there are additional responsibilities under the Migratory Bird Treaty Act (MBTA) and the Bald and Golden Eagle Protection Act (BGEPA) to protect native birds from project-related impacts. Any activity, intentional or unintentional, resulting in take of migratory birds, including eagles, is prohibited unless otherwise permitted by the U.S. Fish and Wildlife Service (50 C.F.R. Sec. 10.12 and 16 U.S.C. Sec. 668(a)). For more information regarding these Acts, see <https://www.fws.gov/program/migratory-bird-permit/what-we-do>.

The MBTA has no provision for allowing take of migratory birds that may be unintentionally killed or injured by otherwise lawful activities. It is the responsibility of the project proponent to comply with these Acts by identifying potential impacts to migratory birds and eagles within applicable NEPA documents (when there is a federal nexus) or a Bird/Eagle Conservation Plan (when there is no federal nexus). Proponents should implement conservation measures to avoid or minimize the production of project-related stressors or minimize the exposure of birds and their resources to the project-related stressors. For more information on avian stressors and recommended conservation measures, see <https://www.fws.gov/library/collections/threats-birds>.

In addition to MBTA and BGEPA, Executive Order 13186: *Responsibilities of Federal Agencies to Protect Migratory Birds*, obligates all Federal agencies that engage in or authorize activities that might affect migratory birds, to minimize those effects and encourage conservation measures that will improve bird populations. Executive Order 13186 provides for the protection of both migratory birds and migratory bird habitat. For information regarding the implementation of Executive Order 13186, please visit <https://www.fws.gov/partner/council-conservation-migratory-birds>.

We appreciate your concern for threatened and endangered species. The Service encourages Federal agencies to include conservation of threatened and endangered species into their project planning to further the purposes of the Act. Please include the Consultation Code in the header of this letter with any request for consultation or correspondence about your project that you submit to our office.



Attachment(s):

- Official Species List

## OFFICIAL SPECIES LIST

This list is provided pursuant to Section 7 of the Endangered Species Act, and fulfills the requirement for Federal agencies to "request of the Secretary of the Interior information whether any species which is listed or proposed to be listed may be present in the area of a proposed action".

This species list is provided by:

**Sacramento Fish And Wildlife Office**

Federal Building

2800 Cottage Way, Room W-2605

Sacramento, CA 95825-1846

(916) 414-6600

## PROJECT SUMMARY

Project Code: 2025-0033398

Project Name: Johnson Slough Basin Project

Project Type: Water Supply Facility - Diversions

Project Description: The Consolidated People's Ditch Company (Company) is proposing the development of a recharge basin on a property north of the Johnson Slough east of the Kaweah Oaks Preserve along Road 182, north of Highway 198. The Project is anticipated to include approximately 22-acre basin that is incorporated into the Johnson Slough as a "running cell" that would allow water to continue downstream in Johnson Slough through the control of an overshot gate. The Consolidated People's Ditch canal runs parallel to Johnson Slough along the Project's southern boundary. The Project is located east of Visalia in the north-central portion of Tulare County, California

Project Location:

The approximate location of the project can be viewed in Google Maps: <https://www.google.com/maps/@36.33205695,-119.16391516850365,14z>



Counties: Tulare County, California

## ENDANGERED SPECIES ACT SPECIES

There is a total of 8 threatened, endangered, or candidate species on this species list.

Species on this list should be considered in an effects analysis for your project and could include species that exist in another geographic area. For example, certain fish may appear on the species list because a project could affect downstream species.

IPaC does not display listed species or critical habitats under the sole jurisdiction of NOAA Fisheries<sup>1</sup>, as USFWS does not have the authority to speak on behalf of NOAA and the Department of Commerce.

See the "Critical habitats" section below for those critical habitats that lie wholly or partially within your project area under this office's jurisdiction. Please contact the designated FWS office if you have questions.

- 
1. [NOAA Fisheries](#), also known as the National Marine Fisheries Service (NMFS), is an office of the National Oceanic and Atmospheric Administration within the Department of Commerce.

## MAMMALS

NAME	STATUS
Buena Vista Lake Ornate Shrew <i>Sorex ornatus relictus</i> There is <b>final</b> critical habitat for this species. Your location does not overlap the critical habitat. Species profile: <a href="https://ecos.fws.gov/ecp/species/1610">https://ecos.fws.gov/ecp/species/1610</a>	Endangered
San Joaquin Kit Fox <i>Vulpes macrotis mutica</i> No critical habitat has been designated for this species. Species profile: <a href="https://ecos.fws.gov/ecp/species/2873">https://ecos.fws.gov/ecp/species/2873</a>	Endangered
Tipton Kangaroo Rat <i>Dipodomys nitratoide nitratoide</i> No critical habitat has been designated for this species. Species profile: <a href="https://ecos.fws.gov/ecp/species/7247">https://ecos.fws.gov/ecp/species/7247</a>	Endangered

## BIRDS

NAME	STATUS
California Condor <i>Gymnogyps californianus</i> Population: Wherever found, except where listed as an experimental population There is <b>final</b> critical habitat for this species. Your location does not overlap the critical habitat. Species profile: <a href="https://ecos.fws.gov/ecp/species/8193">https://ecos.fws.gov/ecp/species/8193</a>	Endangered

## REPTILES

NAME	STATUS
Northwestern Pond Turtle <i>Actinemys marmorata</i> No critical habitat has been designated for this species. Species profile: <a href="https://ecos.fws.gov/ecp/species/1111">https://ecos.fws.gov/ecp/species/1111</a>	Proposed Threatened

## AMPHIBIANS

NAME	STATUS
Western Spadefoot <i>Spea hammondi</i> No critical habitat has been designated for this species. Species profile: <a href="https://ecos.fws.gov/ecp/species/5425">https://ecos.fws.gov/ecp/species/5425</a>	Proposed Threatened

## INSECTS

NAME	STATUS
Monarch Butterfly <i>Danaus plexippus</i> There is <b>proposed</b> critical habitat for this species. Species profile: <a href="https://ecos.fws.gov/ecp/species/9743">https://ecos.fws.gov/ecp/species/9743</a>	Proposed Threatened

## CRUSTACEANS

NAME	STATUS
Vernal Pool Fairy Shrimp <i>Branchinecta lynchi</i>	Threatened

NAME

STATUS

There is **final** critical habitat for this species. Your location does not overlap the critical habitat.  
Species profile: <https://ecos.fws.gov/ecp/species/498>

## CRITICAL HABITATS

THERE ARE NO CRITICAL HABITATS WITHIN YOUR PROJECT AREA UNDER THIS OFFICE'S JURISDICTION.

YOU ARE STILL REQUIRED TO DETERMINE IF YOUR PROJECT(S) MAY HAVE EFFECTS ON ALL ABOVE LISTED SPECIES.



## IPAC USER CONTACT INFORMATION

Agency: Private Entity  
Name: Mary Beth Bourne  
Address: 455 W Fir Ave  
City: Clovis  
State: CA  
Zip: 93611  
Email: marybbourne@gmail.com  
Phone: 5594492700

# Appendix D: NRCS Soils Report

CONSOLIDATED PEOPLES DITCH COMPANY  
JOHNSON SLOUGH BASIN PROJECT



United States  
Department of  
Agriculture

**NRCS**

Natural  
Resources  
Conservation  
Service

A product of the National  
Cooperative Soil Survey,  
a joint effort of the United  
States Department of  
Agriculture and other  
Federal agencies, State  
agencies including the  
Agricultural Experiment  
Stations, and local  
participants

# Custom Soil Resource Report for Tulare County, Western Part, California

## Johnson Slough



June 22, 2022

# Preface

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Soil surveys contain information that affects land use planning in survey areas. They highlight soil limitations that affect various land uses and provide information about the properties of the soils in the survey areas. Soil surveys are designed for many different users, including farmers, ranchers, foresters, agronomists, urban planners, community officials, engineers, developers, builders, and home buyers. Also, conservationists, teachers, students, and specialists in recreation, waste disposal, and pollution control can use the surveys to help them understand, protect, or enhance the environment.

Various land use regulations of Federal, State, and local governments may impose special restrictions on land use or land treatment. Soil surveys identify soil properties that are used in making various land use or land treatment decisions. The information is intended to help the land users identify and reduce the effects of soil limitations on various land uses. The landowner or user is responsible for identifying and complying with existing laws and regulations.

Although soil survey information can be used for general farm, local, and wider area planning, onsite investigation is needed to supplement this information in some cases. Examples include soil quality assessments (<http://www.nrcs.usda.gov/wps/portal/nrcs/main/soils/health/>) and certain conservation and engineering applications. For more detailed information, contact your local USDA Service Center (<https://offices.sc.egov.usda.gov/locator/app?agency=nrcs>) or your NRCS State Soil Scientist ([http://www.nrcs.usda.gov/wps/portal/nrcs/detail/soils/contactus/?cid=nrcs142p2\\_053951](http://www.nrcs.usda.gov/wps/portal/nrcs/detail/soils/contactus/?cid=nrcs142p2_053951)).

Great differences in soil properties can occur within short distances. Some soils are seasonally wet or subject to flooding. Some are too unstable to be used as a foundation for buildings or roads. Clayey or wet soils are poorly suited to use as septic tank absorption fields. A high water table makes a soil poorly suited to basements or underground installations.

The National Cooperative Soil Survey is a joint effort of the United States Department of Agriculture and other Federal agencies, State agencies including the Agricultural Experiment Stations, and local agencies. The Natural Resources Conservation Service (NRCS) has leadership for the Federal part of the National Cooperative Soil Survey.

Information about soils is updated periodically. Updated information is available through the NRCS Web Soil Survey, the site for official soil survey information.

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# How Soil Surveys Are Made

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Soil surveys are made to provide information about the soils and miscellaneous areas in a specific area. They include a description of the soils and miscellaneous areas and their location on the landscape and tables that show soil properties and limitations affecting various uses. Soil scientists observed the steepness, length, and shape of the slopes; the general pattern of drainage; the kinds of crops and native plants; and the kinds of bedrock. They observed and described many soil profiles. A soil profile is the sequence of natural layers, or horizons, in a soil. The profile extends from the surface down into the unconsolidated material in which the soil formed or from the surface down to bedrock. The unconsolidated material is devoid of roots and other living organisms and has not been changed by other biological activity.

Currently, soils are mapped according to the boundaries of major land resource areas (MLRAs). MLRAs are geographically associated land resource units that share common characteristics related to physiography, geology, climate, water resources, soils, biological resources, and land uses (USDA, 2006). Soil survey areas typically consist of parts of one or more MLRA.

The soils and miscellaneous areas in a survey area occur in an orderly pattern that is related to the geology, landforms, relief, climate, and natural vegetation of the area. Each kind of soil and miscellaneous area is associated with a particular kind of landform or with a segment of the landform. By observing the soils and miscellaneous areas in the survey area and relating their position to specific segments of the landform, a soil scientist develops a concept, or model, of how they were formed. Thus, during mapping, this model enables the soil scientist to predict with a considerable degree of accuracy the kind of soil or miscellaneous area at a specific location on the landscape.

Commonly, individual soils on the landscape merge into one another as their characteristics gradually change. To construct an accurate soil map, however, soil scientists must determine the boundaries between the soils. They can observe only a limited number of soil profiles. Nevertheless, these observations, supplemented by an understanding of the soil-vegetation-landscape relationship, are sufficient to verify predictions of the kinds of soil in an area and to determine the boundaries.

Soil scientists recorded the characteristics of the soil profiles that they studied. They noted soil color, texture, size and shape of soil aggregates, kind and amount of rock fragments, distribution of plant roots, reaction, and other features that enable them to identify soils. After describing the soils in the survey area and determining their properties, the soil scientists assigned the soils to taxonomic classes (units). Taxonomic classes are concepts. Each taxonomic class has a set of soil characteristics with precisely defined limits. The classes are used as a basis for comparison to classify soils systematically. Soil taxonomy, the system of taxonomic classification used in the United States, is based mainly on the kind and character of soil properties and the arrangement of horizons within the profile. After the soil

scientists classified and named the soils in the survey area, they compared the individual soils with similar soils in the same taxonomic class in other areas so that they could confirm data and assemble additional data based on experience and research.

The objective of soil mapping is not to delineate pure map unit components; the objective is to separate the landscape into landforms or landform segments that have similar use and management requirements. Each map unit is defined by a unique combination of soil components and/or miscellaneous areas in predictable proportions. Some components may be highly contrasting to the other components of the map unit. The presence of minor components in a map unit in no way diminishes the usefulness or accuracy of the data. The delineation of such landforms and landform segments on the map provides sufficient information for the development of resource plans. If intensive use of small areas is planned, onsite investigation is needed to define and locate the soils and miscellaneous areas.

Soil scientists make many field observations in the process of producing a soil map. The frequency of observation is dependent upon several factors, including scale of mapping, intensity of mapping, design of map units, complexity of the landscape, and experience of the soil scientist. Observations are made to test and refine the soil-landscape model and predictions and to verify the classification of the soils at specific locations. Once the soil-landscape model is refined, a significantly smaller number of measurements of individual soil properties are made and recorded. These measurements may include field measurements, such as those for color, depth to bedrock, and texture, and laboratory measurements, such as those for content of sand, silt, clay, salt, and other components. Properties of each soil typically vary from one point to another across the landscape.

Observations for map unit components are aggregated to develop ranges of characteristics for the components. The aggregated values are presented. Direct measurements do not exist for every property presented for every map unit component. Values for some properties are estimated from combinations of other properties.

While a soil survey is in progress, samples of some of the soils in the area generally are collected for laboratory analyses and for engineering tests. Soil scientists interpret the data from these analyses and tests as well as the field-observed characteristics and the soil properties to determine the expected behavior of the soils under different uses. Interpretations for all of the soils are field tested through observation of the soils in different uses and under different levels of management. Some interpretations are modified to fit local conditions, and some new interpretations are developed to meet local needs. Data are assembled from other sources, such as research information, production records, and field experience of specialists. For example, data on crop yields under defined levels of management are assembled from farm records and from field or plot experiments on the same kinds of soil.

Predictions about soil behavior are based not only on soil properties but also on such variables as climate and biological activity. Soil conditions are predictable over long periods of time, but they are not predictable from year to year. For example, soil scientists can predict with a fairly high degree of accuracy that a given soil will have a high water table within certain depths in most years, but they cannot predict that a high water table will always be at a specific level in the soil on a specific date.

After soil scientists located and identified the significant natural bodies of soil in the survey area, they drew the boundaries of these bodies on aerial photographs and

## Custom Soil Resource Report

identified each as a specific map unit. Aerial photographs show trees, buildings, fields, roads, and rivers, all of which help in locating boundaries accurately.

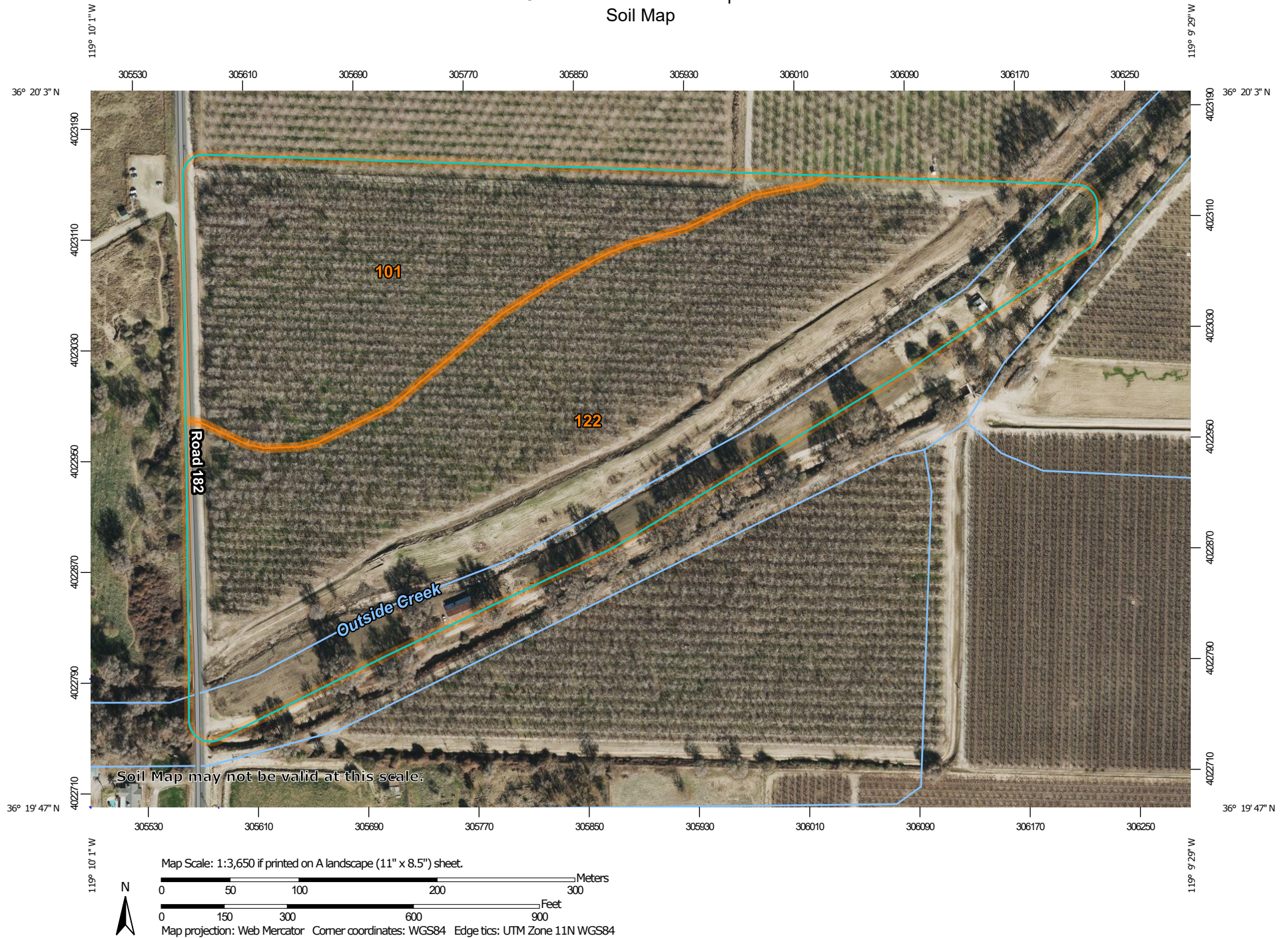
# Soil Map

---

The soil map section includes the soil map for the defined area of interest, a list of soil map units on the map and extent of each map unit, and cartographic symbols displayed on the map. Also presented are various metadata about data used to produce the map, and a description of each soil map unit.



# Custom Soil Resource Report Soil Map





# Custom Soil Resource Report

## MAP LEGEND

### Area of Interest (AOI)

 Area of Interest (AOI)

### Soils

 Soil Map Unit Polygons

 Soil Map Unit Lines

 Soil Map Unit Points

### Special Point Features

 Blowout

 Borrow Pit

 Clay Spot

 Closed Depression

 Gravel Pit

 Gravelly Spot

 Landfill

 Lava Flow

 Marsh or swamp

 Mine or Quarry

 Miscellaneous Water

 Perennial Water

 Rock Outcrop

 Saline Spot

 Sandy Spot

 Severely Eroded Spot

 Sinkhole

 Slide or Slip

 Sodic Spot

 Spoil Area

 Stony Spot

 Very Stony Spot

 Wet Spot

 Other

 Special Line Features

### Water Features

 Streams and Canals

### Transportation

 Rails

 Interstate Highways

 US Routes

 Major Roads

 Local Roads

### Background

 Aerial Photography

## MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:24,000.

Warning: Soil Map may not be valid at this scale.

Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service  
Web Soil Survey URL:  
Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Tulare County, Western Part, California  
Survey Area Data: Version 15, Sep 3, 2021

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: Jan 30, 2021—Feb 6, 2021

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

## Map Unit Legend

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
101	Akers-Akers, saline-Sodic, complex, 0 to 2 percent slopes	13.1	31.7%
122	Grangeville sandy loam, drained, 0 to 2 percent slopes	28.1	68.3%
<b>Totals for Area of Interest</b>		<b>41.1</b>	<b>100.0%</b>

## Map Unit Descriptions

The map units delineated on the detailed soil maps in a soil survey represent the soils or miscellaneous areas in the survey area. The map unit descriptions, along with the maps, can be used to determine the composition and properties of a unit.

A map unit delineation on a soil map represents an area dominated by one or more major kinds of soil or miscellaneous areas. A map unit is identified and named according to the taxonomic classification of the dominant soils. Within a taxonomic class there are precisely defined limits for the properties of the soils. On the landscape, however, the soils are natural phenomena, and they have the characteristic variability of all natural phenomena. Thus, the range of some observed properties may extend beyond the limits defined for a taxonomic class. Areas of soils of a single taxonomic class rarely, if ever, can be mapped without including areas of other taxonomic classes. Consequently, every map unit is made up of the soils or miscellaneous areas for which it is named and some minor components that belong to taxonomic classes other than those of the major soils.

Most minor soils have properties similar to those of the dominant soil or soils in the map unit, and thus they do not affect use and management. These are called noncontrasting, or similar, components. They may or may not be mentioned in a particular map unit description. Other minor components, however, have properties and behavioral characteristics divergent enough to affect use or to require different management. These are called contrasting, or dissimilar, components. They generally are in small areas and could not be mapped separately because of the scale used. Some small areas of strongly contrasting soils or miscellaneous areas are identified by a special symbol on the maps. If included in the database for a given area, the contrasting minor components are identified in the map unit descriptions along with some characteristics of each. A few areas of minor components may not have been observed, and consequently they are not mentioned in the descriptions, especially where the pattern was so complex that it was impractical to make enough observations to identify all the soils and miscellaneous areas on the landscape.

The presence of minor components in a map unit in no way diminishes the usefulness or accuracy of the data. The objective of mapping is not to delineate pure taxonomic classes but rather to separate the landscape into landforms or landform segments that have similar use and management requirements. The delineation of such segments on the map provides sufficient information for the

## Custom Soil Resource Report

development of resource plans. If intensive use of small areas is planned, however, onsite investigation is needed to define and locate the soils and miscellaneous areas.

An identifying symbol precedes the map unit name in the map unit descriptions. Each description includes general facts about the unit and gives important soil properties and qualities.

Soils that have profiles that are almost alike make up a *soil series*. Except for differences in texture of the surface layer, all the soils of a series have major horizons that are similar in composition, thickness, and arrangement.

Soils of one series can differ in texture of the surface layer, slope, stoniness, salinity, degree of erosion, and other characteristics that affect their use. On the basis of such differences, a soil series is divided into *soil phases*. Most of the areas shown on the detailed soil maps are phases of soil series. The name of a soil phase commonly indicates a feature that affects use or management. For example, Alpha silt loam, 0 to 2 percent slopes, is a phase of the Alpha series.

Some map units are made up of two or more major soils or miscellaneous areas. These map units are complexes, associations, or undifferentiated groups.

A *complex* consists of two or more soils or miscellaneous areas in such an intricate pattern or in such small areas that they cannot be shown separately on the maps. The pattern and proportion of the soils or miscellaneous areas are somewhat similar in all areas. Alpha-Beta complex, 0 to 6 percent slopes, is an example.

An *association* is made up of two or more geographically associated soils or miscellaneous areas that are shown as one unit on the maps. Because of present or anticipated uses of the map units in the survey area, it was not considered practical or necessary to map the soils or miscellaneous areas separately. The pattern and relative proportion of the soils or miscellaneous areas are somewhat similar. Alpha-Beta association, 0 to 2 percent slopes, is an example.

An *undifferentiated group* is made up of two or more soils or miscellaneous areas that could be mapped individually but are mapped as one unit because similar interpretations can be made for use and management. The pattern and proportion of the soils or miscellaneous areas in a mapped area are not uniform. An area can be made up of only one of the major soils or miscellaneous areas, or it can be made up of all of them. Alpha and Beta soils, 0 to 2 percent slopes, is an example.

Some surveys include *miscellaneous areas*. Such areas have little or no soil material and support little or no vegetation. Rock outcrop is an example.

## Tulare County, Western Part, California

### 101—Akers-Akers, saline-Sodic, complex, 0 to 2 percent slopes

#### Map Unit Setting

*National map unit symbol:* hp6z

*Elevation:* 230 to 350 feet

*Mean annual precipitation:* 8 to 12 inches

*Mean annual air temperature:* 63 to 64 degrees F

*Frost-free period:* 225 to 300 days

*Farmland classification:* Prime farmland if irrigated and either protected from flooding or not frequently flooded during the growing season

#### Map Unit Composition

*Akers and similar soils:* 60 percent

*Akers, saline-sodic, and similar soils:* 25 percent

*Minor components:* 15 percent

*Estimates are based on observations, descriptions, and transects of the mapunit.*

#### Description of Akers

##### Setting

*Landform:* Fan remnants

*Landform position (two-dimensional):* Shoulder

*Landform position (three-dimensional):* Side slope

*Down-slope shape:* Linear

*Across-slope shape:* Linear

*Parent material:* Alluvium derived from granitic rock sources

##### Typical profile

*Ap - 0 to 16 inches:* fine sandy loam

*Bk - 16 to 60 inches:* fine sandy loam

##### Properties and qualities

*Slope:* 0 to 2 percent

*Depth to restrictive feature:* More than 80 inches

*Drainage class:* Well drained

*Runoff class:* Negligible

*Capacity of the most limiting layer to transmit water (Ksat):* Moderately high to high  
(0.60 to 2.00 in/hr)

*Depth to water table:* More than 80 inches

*Frequency of flooding:* Very rare

*Frequency of ponding:* None

*Calcium carbonate, maximum content:* 10 percent

*Gypsum, maximum content:* 2 percent

*Maximum salinity:* Nonsaline to slightly saline (0.0 to 4.0 mmhos/cm)

*Sodium adsorption ratio, maximum:* 12.0

*Available water supply, 0 to 60 inches:* High (about 9.7 inches)

##### Interpretive groups

*Land capability classification (irrigated):* 1

*Land capability classification (nonirrigated):* 4c

*Hydrologic Soil Group:* B

*Ecological site:* R017XY907CA - Aridic Alkali Desert

*Hydric soil rating:* No



## Description of Akers, Saline-sodic

### Setting

*Landform:* Fan remnants  
*Landform position (two-dimensional):* Shoulder  
*Landform position (three-dimensional):* Side slope  
*Down-slope shape:* Linear  
*Across-slope shape:* Linear  
*Parent material:* Alluvium derived from granitic rock sources

### Typical profile

*Ap - 0 to 15 inches:* fine sandy loam  
*Bk - 15 to 60 inches:* fine sandy loam

### Properties and qualities

*Slope:* 0 to 2 percent  
*Depth to restrictive feature:* More than 80 inches  
*Drainage class:* Well drained  
*Runoff class:* Negligible  
*Capacity of the most limiting layer to transmit water (Ksat):* Moderately high (0.20 to 0.60 in/hr)  
*Depth to water table:* More than 80 inches  
*Frequency of flooding:* Very rare  
*Frequency of ponding:* None  
*Calcium carbonate, maximum content:* 10 percent  
*Gypsum, maximum content:* 2 percent  
*Maximum salinity:* Slightly saline to moderately saline (4.0 to 8.0 mmhos/cm)  
*Sodium adsorption ratio, maximum:* 30.0  
*Available water supply, 0 to 60 inches:* High (about 9.1 inches)

### Interpretive groups

*Land capability classification (irrigated):* 2s  
*Land capability classification (nonirrigated):* 4s  
*Hydrologic Soil Group:* C  
*Ecological site:* R017XY907CA - Aridic Alkali Desert  
*Hydric soil rating:* No

## Minor Components

### Colpien

*Percent of map unit:* 3 percent  
*Landform:* Fan remnants  
*Ecological site:* R017XY907CA - Aridic Alkali Desert  
*Hydric soil rating:* No

### Tujunga

*Percent of map unit:* 3 percent  
*Landform:* Flood plains  
*Ecological site:* R017XY907CA - Aridic Alkali Desert  
*Hydric soil rating:* No

### Tagus

*Percent of map unit:* 2 percent  
*Landform:* Fan remnants  
*Ecological site:* R017XY907CA - Aridic Alkali Desert  
*Hydric soil rating:* No

**Hanford**

*Percent of map unit:* 2 percent  
*Landform:* Alluvial fans, flood plains  
*Ecological site:* R017XY907CA - Aridic Alkali Desert  
*Hydric soil rating:* No

**Yettem**

*Percent of map unit:* 2 percent  
*Landform:* Alluvial fans, flood plains  
*Ecological site:* R017XY907CA - Aridic Alkali Desert  
*Hydric soil rating:* No

**Grangeville**

*Percent of map unit:* 2 percent  
*Landform:* Alluvial fans, flood plains  
*Ecological site:* R017XY907CA - Aridic Alkali Desert  
*Hydric soil rating:* No

**Unnamed, ponded**

*Percent of map unit:* 1 percent  
*Landform:* Depressions  
*Ecological site:* R017XY907CA - Aridic Alkali Desert  
*Hydric soil rating:* Yes

**122—Grangeville sandy loam, drained, 0 to 2 percent slopes**

**Map Unit Setting**

*National map unit symbol:* hp4s  
*Elevation:* 190 to 400 feet  
*Mean annual precipitation:* 8 to 12 inches  
*Mean annual air temperature:* 63 to 64 degrees F  
*Frost-free period:* 250 to 275 days  
*Farmland classification:* Prime farmland if irrigated and either protected from flooding or not frequently flooded during the growing season

**Map Unit Composition**

*Grangeville and similar soils:* 90 percent  
*Minor components:* 10 percent  
*Estimates are based on observations, descriptions, and transects of the mapunit.*

**Description of Grangeville**

**Setting**

*Landform:* Alluvial fans, flood plains  
*Landform position (two-dimensional):* Footslope, toeslope  
*Landform position (three-dimensional):* Base slope  
*Down-slope shape:* Linear  
*Across-slope shape:* Convex, linear  
*Parent material:* Alluvium derived from granitic rock sources

## Custom Soil Resource Report

### Typical profile

*Ap - 0 to 16 inches:* sandy loam  
*Bg - 16 to 27 inches:* sandy loam  
*2C - 27 to 67 inches:* stratified loamy sand to silt loam

### Properties and qualities

*Slope:* 0 to 2 percent  
*Depth to restrictive feature:* More than 80 inches  
*Drainage class:* Somewhat poorly drained  
*Runoff class:* Negligible  
*Capacity of the most limiting layer to transmit water (Ksat):* High (2.00 to 6.00 in/hr)  
*Depth to water table:* More than 80 inches  
*Frequency of flooding:* Rare  
*Frequency of ponding:* None  
*Calcium carbonate, maximum content:* 5 percent  
*Gypsum, maximum content:* 1 percent  
*Maximum salinity:* Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)  
*Sodium adsorption ratio, maximum:* 4.0  
*Available water supply, 0 to 60 inches:* Moderate (about 6.6 inches)

### Interpretive groups

*Land capability classification (irrigated):* 1  
*Land capability classification (nonirrigated):* 4c  
*Hydrologic Soil Group:* A  
*Ecological site:* R017XY906CA - Non-Alkali San Joaquin Valley Desert  
*Hydric soil rating:* Yes

### Minor Components

#### Yetter

*Percent of map unit:* 3 percent  
*Landform:* Flood plains, alluvial fans  
*Ecological site:* R017XY904CA - Subirrigated Deep Alluvial Fans  
*Hydric soil rating:* No

#### Tujunga

*Percent of map unit:* 3 percent  
*Landform:* Flood plains  
*Ecological site:* R017XY904CA - Subirrigated Deep Alluvial Fans  
*Hydric soil rating:* No

#### Grangeville, saline-sodic

*Percent of map unit:* 2 percent  
*Landform:* Alluvial fans, flood plains  
*Ecological site:* R017XY904CA - Subirrigated Deep Alluvial Fans  
*Hydric soil rating:* Yes

#### Nord

*Percent of map unit:* 1 percent  
*Landform:* Alluvial fans, flood plains  
*Ecological site:* R017XY904CA - Subirrigated Deep Alluvial Fans  
*Hydric soil rating:* No

#### Hanford

*Percent of map unit:* 1 percent  
*Landform:* Alluvial fans, flood plains

## Custom Soil Resource Report

*Ecological site:* R017XY904CA - Subirrigated Deep Alluvial Fans  
*Hydric soil rating:* No

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## Custom Soil Resource Report

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## Appendix C. Phase I Cultural Resources Assessment

# Phase I Cultural Resources Assessment for the John Slough Recharge Basin Project, Tulare County, California

Consuelo Y. Sauls, M.A., RPA

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November 2024

## EXECUTIVE SUMMARY

Taylor Archaeology completed a Phase I Cultural Resources Assessment Report for the Johnson Slough Recharge Basin Project (Project) in Tulare County, California. The Project involves developing a recharge basin with a diversion structure to pump water from the Johnson Slough. The project requires a permit from the U.S. Army Corps of Engineers. The Project thus requires compliance with Section 106 of the National Historic Preservation Act (NHPA). The Project is also subject to the California Environmental Quality Act (CEQA), with the East Kaweah Groundwater Sustainability Agency serving as the CEQA lead agency.

To meet federal and state standards, Taylor Archaeology completed a cultural resources assessment under contract to Provost & Pritchard Consulting Group to identify potential historic properties within the 34.3-acre Area of Potential Effects (APE). The investigation consisted of (1) a records search from the Southern San Joaquin Valley Information Center (SSJVIC) of the California Historical Resources Information System (CHRIS), (2) archival research, (3) a search of the Native American Heritage Commission's (NAHC) Sacred Lands File, a request for Native American local contact information, and nongovernmental Native American outreach; and (4) an archaeological pedestrian survey of the APE.

The SSJVIC records search reported no prior cultural resources studies conducted, and no cultural resources previously recorded, within the APE. Additionally, the records search results also identified 10 previous cultural resources studies conducted, and five cultural resources (one prehistoric/historic site and four historic structures) recorded within a 1.0-mile radius of the APE. None of these resources will be impacted by the proposed undertaking.

The NAHC's Sacred Lands File search did not result in the identification of sacred places within the APE. Outreach to the Native American representatives resulted in two comments. Chairperson Ron Goode of North Fork Mono Tribe responded that the tribe has no comment. Chairperson Kenneth Woodrow of the Wukachi Indian Tribe/Eshom Valley Band requested tribal monitoring of all ground disturbing activities in the APE due to the cultural sensitivity of the area. No additional responses were received to the letters or emails.

Taylor Archaeology's pedestrian survey resulted in no evidence of prehistoric or historic cultural resources on the ground surface within the APE. The absence of cultural material on the ground surface does not, however, preclude the possibility of Project construction unearthing buried archaeological deposits. As discussed in Section 4.4.1, there is a high possibility of encountering buried cultural resources within the APE during Project ground disturbing activities, which supports the Wukachi Indian Tribe/Eshom Valley Band's request for tribal monitoring of all ground disturbing activities during construction.

Based on the results of this investigation, including the high sensitivity for buried sites within the APE and the request of the Wukachi Indian Tribe/Eshom Valley Band for an archaeological monitor, Taylor Archaeology therefore recommends the following:

- An archaeological monitor shall be present on the Project site during ground disturbing activities within the APE.
- In the event that previously unidentified archaeological resources are encountered during development or ground-moving activities in the APE, all work should be halted until a qualified archaeologist can identify the discovery and assess its significance. In the event of accidental discovery of unidentified archaeological remains during development or ground-moving activities in the APE, all work shall be halted in the immediate vicinity until a qualified archaeologist can identify the discovery and assess its significance.
- If human remains are uncovered during construction, the Tulare County Coroner is to be notified to investigate the remains and arrange proper treatment and disposition. If the remains are identified on the basis of archaeological context, age, cultural associations, or biological traits to be those of a Native American, California Health and Safety Code 7050.5 and PRC 5097.98 require that the coroner notify the NAHC within 24 hours of discovery. The NAHC will then identify the Most Likely Descendent who will be afforded an opportunity to make recommendations regarding the treatment and disposition of the remains.

A copy of this report will be submitted to the SSJVIC for entry into the CHRIS database.



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# 1

## INTRODUCTION

Taylored Archaeology conducted a Phase I Cultural Resources Assessment for the Johnson Slough Basin Project (Project) in Tulare County, California under contract to Provost & Pritchard Consulting Group. As part of the development approval process, this report has been prepared in compliance with the California Environmental Quality Act (CEQA) and documents the results of the cultural resources survey.

As part of the development approval process, the East Kaweah Groundwater Sustainability Agency as the local lead agency must comply with the California Environmental Quality Act (CEQA). Public Resources Code [PRC] 21000 [g] mandates that government agencies consider the impacts of a project on the environment, including cultural resources. The Project would also affect Waters of the United States; therefore, the Project proponent must meet requirements of Section 404 of the Clean Water Act. The proponent is therefore seeking authorization from the U.S. Army Corps of Engineers. Thus, the Project must also comply with Section 106 of the National Historic Preservation Act (NHPA). The U.S. Army Corps of Engineers is the lead federal agency for compliance with Section 106 of the NHPA.

### 1.1 PROJECT LOCATION AND DESCRIPTION

The Project is north of the Johnson Slough, east of the Kaweah Oaks Preserve along Road 182, north of Highway 198, and approximately 2 miles north of the community of Exeter in Tulare County (Figure 1-1). The Project site is on the U.S. Geological Survey (USGS) 7.5-minute Exeter, California, topographic quadrangle in Section 28 of Township 18 South, Range 26 East, Mount Diablo Base and Meridian (Figure 1-2). The Project is proposing to develop an approximately 18-acre basin that is an off-stream groundwater recharge basin diverting from the Johnson Slough. It would include a turnout structure that would connect to an inlet structure approximately 150 linear feet from Johnson Slough in a proposed distribution channel through reinforced concrete piping, equipped with a metered connection. The proposed turnout facility would allow surface water being diverted from Johnson Slough to be diverted to the proposed basin.

The Area of Potential Effects (APE) of an undertaking is defined in 36 CFR 800.16 (d) as the “geographic area or areas within an undertaking may directly or indirectly cause changes dimensional (depth, length, width) and includes all areas directly and indirectly affected by the proposed construction.” The total horizontal APE is estimated to be 34 acres (Figure 1-3) and encompasses the footprint of the basin, the turnout/pump structure, and associated construction footprint. The maximum vertical APE is anticipated to be up to 15 feet below ground surface.

## 1.2 REGULATORY SETTING

In this report “cultural resources” are defined as prehistoric or historical archaeological sites as well as historical objects, buildings, or structures. In accordance with 30 Code of Federal Regulations (CFR) §60.4, “historical” in this report applies to cultural resources which are at least 50 years old. The significance or importance of a cultural resource is dependent upon whether the resource qualifies for inclusion at the local or state level in the California Register of Historical Resources (CRHR), or at the federal level in the National Register of Historic Places (NRHP). Cultural resources that are determined to be eligible for inclusion in the CRHR are called “historical resources” (California Code of Regulations [CCR] 15064.5[a]). Under this statute the determination of eligibility is partially based on the consideration of the criteria of significance as defined in 14 CCR 15064.5(a)(3). Cultural resources eligible for inclusion in the NRHP are deemed “historic properties”.

### 1.2.1 NATIONAL HISTORIC PRESERVATION ACT OF 1966

The National Historic Preservation Act (NHPA) (16 U.S.C. 470 ET SEQ.) was enacted in 1966 and created a national policy of historic preservation. The law established several programs, administered by the Secretary of the Interior, to encourage the achievement of preservation goals at local, state, and federal levels. The NHPA authorized the creation and expansion of the National Register of Historic Places (NRHP), formed the position of State Historic Preservation Officer (SHPO), allowed for the creation of State Review Boards to set up methods for local governments to enact the NHPA at a local level, assisted Native American tribes with preserving their heritage, and established the Advisory Council on Historic Preservation (ACHP).

The NHPA established criteria for determining if a historic property is eligible for inclusion in the NRHP. These criteria are set forth in 36 CFR 60.4 as follows:

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

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

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

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

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

### 1.2.2 SECTION 106 NHPA

Section 106 of the NHPA states that any federal agency with direct or indirect jurisdiction over federally assisted or proposed federal action will take into account the effect the action will have on any historic property that is on, or eligible to be included in, the NRHP. The NHPA provides the Advisory Council on Historic Preservation and the relevant SHPO the opportunity to provide comments on the federal action in regard to potential impacts to historic properties.

### 1.2.3 CALIFORNIA ENVIRONMENTAL QUALITY ACT

Pursuant to CEQA, a historical resource is a resource listed in, or determined to be eligible for listing in, the CRHR. Historical resources may include, but are not limited to, “any object, building, structure, site, area, place, record, or manuscript which a lead agency determines to be historically or archaeologically significant” (PRC §5020.1[j]). In addition, a resource included in a local register of historical resources or identified as significant in a local survey conducted in accordance with the state guidelines are also considered historic resources under California Public Resources Code (PRC) Section 5020.1.

CEQA details appropriate measures for the evaluation and protection of cultural resources in §15064.5 of the CEQA Guidelines. According to CEQA guidelines §15064.5 (a)(3), criteria for listing on the CRHR includes the following:

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

According to CEQA guidelines §21074 (a)(1), criteria for tribal cultural resources includes the following:

- (1) Sites, features, places, cultural landscapes, sacred places, and objects with cultural value to a California Native American tribe that are either of the following:*
  - (A) included or determined to be eligible for inclusion in the California Register of Historical Resources.*
  - (B) included in a local register of historical resources as defined in subdivision (k) of Section 5020.1.*

Protection of cultural resources within California is additionally regulated by PRC §5097.5, which prohibits destruction, defacing, or removal of any historic or prehistoric cultural features on land under the jurisdiction of State or local authorities.



### **1.3 PROFESSIONAL QUALIFICATIONS**

Archaeologist Consuelo Y. Sauls (M.A.), a Registered Professional Archaeologist (RPA 41591505), managed the assessment and compiled this report for the Project. Ms. Sauls also conducted the records search, literature review, requested a Sacred Lands File search, and performed the pedestrian field survey of the APE. Ms. Sauls meets the Secretary of the Interior's Standards for Professional Qualifications in Archaeology. Statement of Qualifications for key personnel is provided in Appendix A.



**Figure 1-1 Project vicinity in Tulare County, California.**



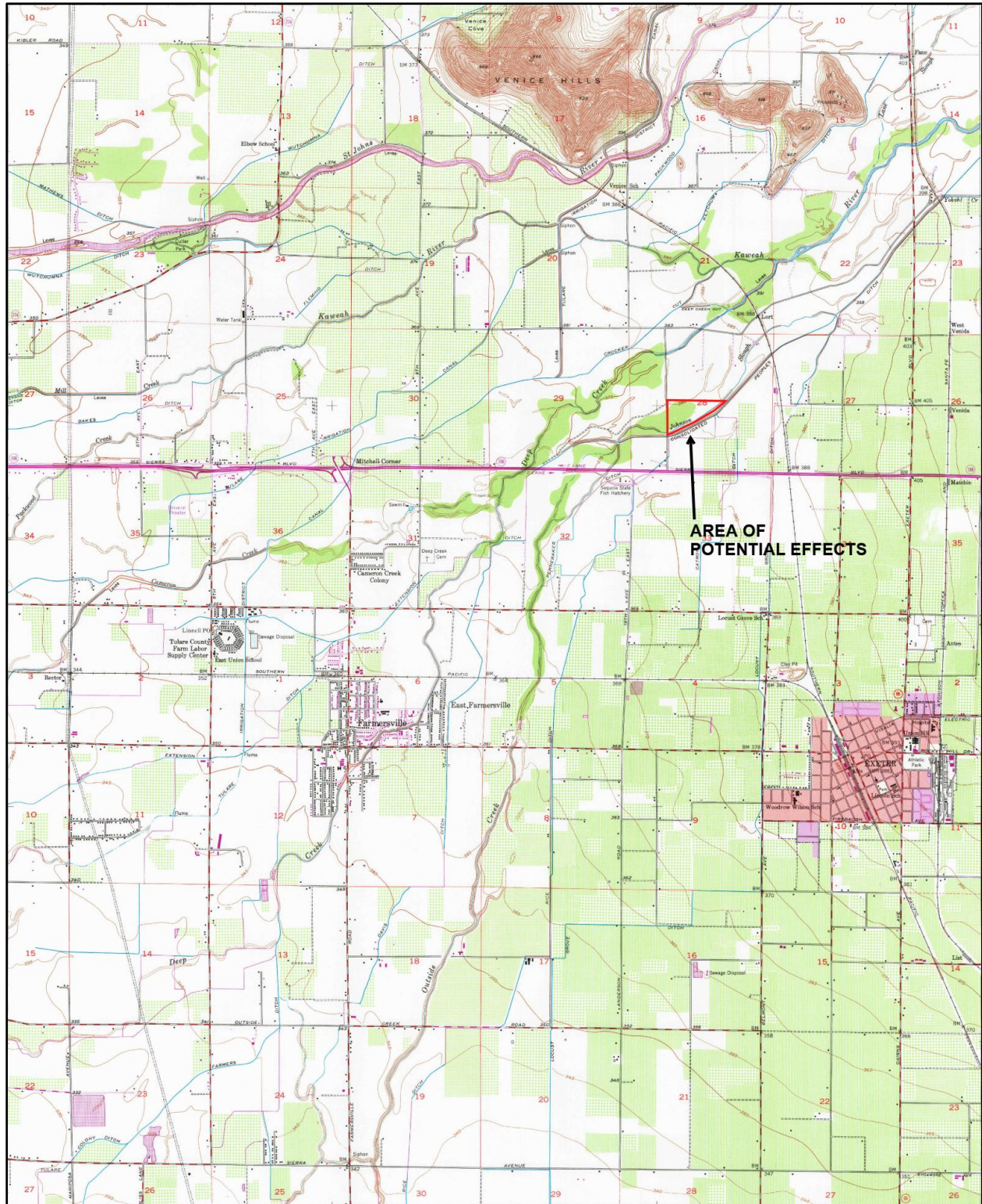


Figure 1-2 Project location on the USGS Exeter, CA 7.5-minute quadrangle.





Figure 1-3 Aerial view of the APE.

## **1.4 REPORT STRUCTURE**

This report documents the results of a cultural resource assessment of the proposed Project area. In order to comply with California regulations for CEQA, the following specific tasks were completed: (1) requesting a records search from the Southern San Joaquin Information Center (SSJVIC) of the California Historical Resources Information System (CHRIS), at California State University, Bakersfield; (2) a review of site archives (3) requesting a Sacred Lands File Search and list of interested parties from the Native American Heritage Commission (NAHC) and initiating outreach to local Native American individuals and tribal representatives; (4) conducting an archaeological pedestrian survey, and (5) preparing this technical report.

Taylor Archaeology prepared this report following the California Office of Historic Preservation standards in the 1990 Archaeological Resources Management Report Recommended Contents and Format. Chapter 1 describes the introduction of the Project and its location, and identifies the key personnel involved in this report. Chapter 2 summarizes the Project setting, including the natural, prehistoric ethnography, and historic background for the Project area and surrounding area. Chapter 3 details the methods used for cultural records searches, archival research, local Native American outreach, and archaeological pedestrian survey. Chapter 4 summarizes the results of the cultural resource investigation. Chapter 5 discusses the Project findings and offers management recommendations. Chapter 6 is a bibliography of references cited within this report. The report also contains the following appendices: qualifications of key personnel (Appendix A), the CHRIS records search results (Appendix B), Taylor Archaeology's nongovernmental Native American outreach (Appendix C).

## 2 PROJECT SETTING

### 2.1 NATURAL ENVIRONMENT

The Project area lies in the Central Valley of California, which is approximately 450 miles from north to south, and ranges in width east to west from 40 to 60 miles (Prothero 2017). The Central Valley is divided into two subunits, the Sacramento Valley in the north and the San Joaquin Valley in the south, which are each named after the primary rivers within each valley (Madden 2020). The Project is located approximately 360 feet above sea level on the open flat plains of the Southern San Joaquin Valley. Climate within the San Joaquin valley is classified as a 'hot Mediterranean climate', with hot and dry summers, and cool damp winters characterized by periods of dense fog known as 'tule fog' (Prothero 2017).

The San Joaquin Valley is comprised of a structural trough created approximately 65 million years ago and is filled with nearly six miles of sediment (Bull 1964). The San Joaquin Valley ranges from Stockton and the San Joaquin-Sacramento River Delta in the north to Wheeler Ridge to the south, ranging nearly 60 miles wide at its widest (Zack 2017). It is split by late Pleistocene alluvial fans between the San Joaquin River hydrologic area in the north and the Tulare Lake Drainage Basin in the south (Rosenthal et al 2007). The Project site is located within the latter of the two hydrologic units. The Kaweah, Tule, Kern, and Kings rivers flowed into large inland lakes with no outflow except in high flood events, in which the lakes would flow through the Fresno Slough into the San Joaquin River. The largest of these inland lakes was Tulare Lake, which occupied a vast area of Tulare and Kings Counties and was the largest freshwater lake west of the Mississippi. These four rivers in the Tulare Lake Drainage Basin accounted for more than 95 percent of water discharged into Tulare Lake, with the remaining five percent sourced from small drainages originating in the Coast Ranges to the west (Adams et al. 2015).

The Project is in central western Tulare County on the valley floor of the San Joaquin Valley within the greater Kaweah River Delta alluvial fan. Specifically, the Project is located on the southern bank of Cottonwood Creek.

Before the appearance of agriculture in the nineteenth century, the general Project location would have been comprised of prairie grasslands with scattered oak tree savannas near the foothills, and riparian forest along the various streams and drainages (Preston 1981).

Riparian environments would also have been present along various waterways, including drainages and marshes. Riparian forest vegetation would have been comprised of multiple layers of dense undergrowth. The upper canopy species would have consisted of Western sycamore (*Platanus racemosa*), willow (*Salix* spp.), valley oak (*Quercus lobata*), and Fremont cottonwood (*Populus fremonti*) (Katibah 1984). Intermediate layers were likely dominated by Oregon ash (*Fraxinus latifolia*), willow (*Salix* spp.), and California box elder (*Acer negundo* subsp. *californicum*), while riparian forest undergrowth would have included California wild grape (*Vitis californica*), poison oak (*Rhus diversiloba*), California mugwort (*Artemisia douglasiana*), California wild rose (*Rosa californica*), and blackberry (*Rubus* spp.) Drier portions of the southern end of the



San Joaquin Valley would have been dominated by saltbrush (*Atriplex* spp.) desert. (Katibah 1984).

The region around the Project site was largely dominated by annual grasslands in drier upland habitat, and riparian forest, rivers and marshland near creeks and rivers. Historically, these habitats provided a lush environment for a variety of animals, including rodents, insects, reptiles, birds and other waterfowl, California grizzly bear (*Ursus arctos californicus*), tule elk (*Cervus canadensis nannodes*), pronghorn (*Antilocapra americana*), mule deer (*Odocoileus hemionus*), American black bear (*Ursus americanus*), and mountain lion (*Puma concolor*) (Preston 1981). Native trees and plants observed in the Project vicinity include various blue, live, and white oaks (*Quercus* spp.), cottonwood (*Populus* spp.), and willow (*Salix* spp.). The introduction of agriculture to the region resulted in large animals being forced out of their habitat. Common land mammals now include coyote (*Canis latrans*), bobcat (*Lynx rufus*), gray fox (*Urocyon cinereoargenteus*), kit fox (*Vulpes macrotis*), and rabbits (*Leporidae* spp.).

Rivers and lakes throughout the valley provide habitat for freshwater fish, including rainbow trout (*Oncorhynchus mykiss*), Sacramento sucker (*Catostomus occidentalis*), and Sacramento perch (*Archoplites interruptus*) (Preston 1981). Chinook salmon (*Oncorhynchus tshawytscha*) were also found throughout the valley, including as far south as the San Joaquin River, and occasionally the Kings River, though it is estimated that chinook salmon have lost as much as 72 percent of their original habitat throughout the Central Valley (Yoshiyama et al. 2001).

## 2.2 PREHISTORIC SETTING

Research into San Joaquin Valley prehistory began in the early 1900s with several archaeological investigations (Rosenthal et al. 2007). The Southern San Joaquin Valley is one of the least understood areas within California due to a lack of well-grounded chronologies for large segments of the valley (Rosenthal et al. 2007). This is largely due to the valley floor being filled with thick alluvial deposits, and from human activity largely disturbing much of the valley floor due to a century and a half of agricultural use (Dillon 2002; Siefken 1999). Mound sites may have occurred as frequently as one every two or three miles along major waterways but studying such mounded occupations sites is difficult as most surface sites have been destroyed (Schenck and Dawson 1929). Much of the early to middle Holocene archaeological sites may be buried as deep as 10 meters due to millennia of erosion and alluvial deposits from the western Sierras (Moratto 1984).

Mass agricultural development has heavily disturbed and changed the landscape of the Southern San Joaquin Valley, from the draining of marshes and the vanishing of the extensive Tulare Lake, known as “Pa’ashi” meaning “Big Water” in the Yokut language, to grading nearly the entire valley for agricultural operations (Garone 2011). These activities have impacted or scattered much of the shallow surface deposits and mounds throughout the valley (Rosenthal et al 2007). Some researchers have suggested that potentially as much as 90 percent of all Central California archaeological sites have been destroyed from these activities (Riddell 2002).

The cultural traits and chronologies which are summarized below are largely based upon information discussed in multiple sources, including Fredrickson (1973, 1974), Garfinkel (2015), McGuire and Garfinkel (1980), Moratto (1984), and Rosenthal et al. (2007). The most recent comprehensive approach to compiling a chronology of the Southern San Joaquin Valley prehistory is by Garfinkel in 2015, which builds off Rosenthal's 2007 previous work. Both Garfinkel's and Rosenthal's chronologies are calculated in years B.C. In the interest of maintaining cohesiveness with modern anthropological research, the dates of these chronologies have been adapted into years before present (B.P.).

The Paleo-Indian Period (13,500-10,600 cal B.P.) was largely represented by ephemeral lake sites which were characterized by atlatl and spear projectile points. Around 14,000 years ago, California was largely a cooler and wetter place, but with the retreat of continental Pleistocene glaciers, California largely experienced a warming and drying period. Lakes filled with glacial meltwater were located in the valley floor and used by populations of now extinct large game animals. A few prehistoric sites were discovered near the southwestern shore of Tulare Lake (Garfinkel 2015). Foragers appear to have operated in small groups which migrated on a regular basis.

During the Lower Archaic Period (10,500-7450 cal B.P.), climate change created a largely different environment which led to the creation of larger alluvial fans and flood plains. Most of the archaeological records of the prior period wound up being buried by geological processes. During this time, cultural patterns appear to have emerged between the foothill and valley populations of the local people. The foothill sites were often categorized by dense flaked and ground stone assemblages, while the valley sites were instead characterized by a predominance of crescents and stemmed projectile points. Occupation within the area is represented mostly by isolated discoveries and along the former shoreline of Tulare Lake. Archaeological finds are typically characterized by chipped stone crescents, stemmed points, and other distinctive flakes stone artifacts (Rosenthal et al. 2007). Variations in consumption patterns emerged as well, with the valley sites more marked by consumption of waterfowl, mussels, and freshwater fish, while the foothills sites saw an increase in nuts, seeds, and a more narrowly focused diet than the valley sites.

The Middle Archaic (7450-2500 cal B.P.) saw an increase in semi-permanent villages along river and creek settings, with more permanent sites located along lakes with a more stable supply of water and wildlife. Due to the warmer and drier weather of this period, many lakes within the valley dramatically reduced in size, while some vanished completely (Garone 2011). Cultural patterns during this time saw an increase in stone tools, while a growth in shell beads, ornaments, and obsidian evidence an extensive and ever-growing long-distance trade network. Little is known of cultural patterns in the valley during the Upper Archaic (2500-850 B.P.), but large village structures appeared to be more common around local rivers. An overall reduction of projectile point size suggests changing bow and arrow technologies. Finally, the Emergent Period (850 cal B.P. - Historic Era) was generally marked by an ever-increasing specialization in tools, and the bow and arrow generally replaced the dominance of the dart and atlatl. Cultural traditions ancestral to those recorded during ethnographic research in the early 1900s are identifiable.

## 2.3 ETHNOGRAPHY

The Project's APE is in the Southern Valley Yokuts ethnographic territory of the San Joaquin Valley. Within California, the Yokuts were generally divided into three major groups, the Northern Valley Yokuts, the Southern Valley Yokuts, and the Foothill Yokuts. Linguistically, the Yokuts are a sub-group of the Penutian language that covers much of coastal and central California and Oregon (Callaghan 1958). The Yokuts language contained multiple dialects spoken throughout the region, though many of them were mutually understandable (Merriam 1904).

For the past 150 years Yokuts have been extensively researched and recorded by ethnographers, including Powers (1877), Kroeber (1925), Gifford and Schenck (1926, 1929), Gayton (1930, 1945), Driver (1937), Harrington (1957), Latta (1977), and Wallace (1978). Much of the research from these ethnographers focuses on the central Yokuts tribes due to the northernmost tribes being impacted by Euro-Americans during the California Gold Rush of the mid 1800s, and by the southernmost tribes often being removed and relocated by the Spanish to various Bay Area or coastal missions. The central Yokuts tribes, and especially the western Sierra Nevada foothill tribes, were the most intact at the time of ethnographic study.

The most detailed ethnographic information gathered regarding Native American group territories in Central California is located within maps prepared by Kroeber. The information presented in Kroeber's map of Southern and Central Yokuts shows the proposed Project APE is within the Yokodo Yokuts territory (1925: Plate 47). The main ethnographic village for this area was *Yokodo*, which was approximately 2.5 miles to the northeast of the APE along the Kaweah River (Kroeber 1925). Primary Yokuts villages were typically located along lakeshores and major stream courses, with scattered secondary or temporary camps and settlements located near gathering areas in the foothills. Yokuts were organized into local tribes, with one or more linked villages and smaller settlements within a territory (Kroeber 1925).

Each local tribe was a land-owning group that was organized around a central village and shared common territory and ancestry. Most local tribe populations ranged from 150 to 500 people (Kroeber 1925). These local tribes were often led by a chief, who was often advised by a variety of assistants including the winatum, who served as a messenger and assistant chief (Gayton 1930). Early studies by Kroeber (1925), Gifford and Schenck (1926), and Gayton (1930) concluded that social and political authority within local tribes was derived from male lineage and patriarchy. However, more recent reexaminations (Dick-Bissonnette 1998) argue that this assumption of patriarchal organization was based on male bias by early 20<sup>th</sup> century researchers, and instead Yokuts sociopolitical authority was matriarchal in nature and centered around matrilineal use-rights and women's work groups.

Prior to Euro-American contact, there was abundance of natural resources within the greater Tulare Lake area. Due to these resources, Yokuts maintained some of the largest populations in North America west of the continental divide (Cook 1955a).

## **2.4 HISTORIC SETTING**

### **2.4.1 California History**

European contact in modern-day California first occurred in 1542 with the arrival of a Spanish expedition lead by Juan Rodríguez Cabrillo into San Diego Bay (Engstrand 1997). Expeditions along the California coast continued throughout the sixteenth century and primarily focused on finding favorable harbors for further expansion and trade across the Pacific. However, rocky shorelines, unfavorable currents, and wind conditions made traveling north from New Spain to the upper California coast a difficult and time-consuming journey (Eifler 2017). The topography of California, with high mountains, large deserts, and few natural harbors lead to European expansion into California only starting in the 1760s. As British and Russian expansion through fur trading encroached on California from the north, Spain established a system of presidios, pueblos, and missions along the California coast to defend its claim, starting with Mission San Diego de Alcalá in 1769 (Engstrand 1997).

### **2.4.2 Central California History**

The San Joaquin Valley did not experience contact with Europeans until the late 1700s (Starr 2007). Life at the California missions was hard and brutal for Native Americans, with many dying of disease, poor conditions, and many fleeing to areas not under direct Spanish control (Jackson and Castillo 1995). The earliest exploration of the San Joaquin Valley by Europeans was likely by the Spaniards when in the fall of 1772 a group known as the Catalanian Volunteers entered the valley through Tejon Pass in search of deserters from the Southern California Missions (Zack 2017). However, the group only made it as far north as Buena Vista Lake in modern day Kern County before turning around due to the extensive swamps. Additional excursions to the valley were for exploration such as those led by Lieutenant Bariel Moraga in 1806, but also to find sites for suitable mission sites and to track down Native Americans fleeing the coastal missions (Cook 1958).

Subsequent expeditions were also sent to pursue outlaws from the coast who would often flee to the valley for safety. One of the subsequent explorations was an expedition in 1814 to 1815 with Sargent Juan Ortega and Father Juan Cabot, who left the Mission San Miguel with a company of approximately 30 Spanish soldiers and explored the San Joaquin Valley (Smith 2004). This expedition passed through the Kaweah Delta and modern-day Visalia and made a recommendation to establish a mission near modern-day Visalia. However, with European contact also came European disease. Malaria and other new diseases were brought by Europeans, and in 1833 an epidemic of unknown origin traveled throughout the Central Valley. Some estimates place the Native American mortality of the epidemic as high as 75 percent (Cook 1955b). Combined with the rapid expansion of Americans into California in 1848 during the Gold Rush, Native American populations within the valley never fully recovered (Eifler 2017).

Initial settlement within the valley by Europeans in the 1830s was largely either by trappers or horse thieves (Clough and Secrest 1984). In fact, horse and other livestock theft was so rampant that ranching operations on the Rancho Laguna de Tache by the Kings River and Rancho del San

Joaquin Rancho along the San Joaquin River could not be properly established (Cook 1962). With the end of the Mexican American War and the beginning of the gold rush in 1848, the San Joaquin Valley became more populated with ranchers and prospectors. Most prospectors traveled by sea to San Francisco and used rivers ranging from the Sacramento River to the San Joaquin River to access the California interior (Eifler 2017). Most areas south of the San Joaquin River were less settled simply because those rivers did not connect to the San Francisco Bay area except in wet flood years. By 1850, California became a state and Tulare County was established in 1853.

### **2.4.3 Local History**

The first county seat for Tulare County was Wood's Cabin but in 1852 the county seat relocated to the town of Visalia. In 1852 a group of settlers from Iowa and Texas located a few miles to the southwest of Woods Cabin. They erected a log fort on the north bank of Mill Creek and named it "Fort Visalia," probably after Visalia, Kentucky. Visalia was incorporated in 1874 and claims to be the oldest town in California between Stockton and Los Angeles (Hoover et al. 1990).

By the late 1850s the town of Visalia was a major station along the Butterfield Overland Mail stage route as it traveled north from Los Angeles to Stockton (Helmich 2008). During the first few decades, Visalia was a supply center for nearby gold rushes, served as the regional population center of Tulare County, and had an agricultural economy based on livestock and some agriculture (Dyett and Bhatia 2014). During the 1850s and 1860s roughly made earthen ditches and dams diverted stream water for irrigation, with the earliest ditches in the San Joaquin Valley being constructed in Visalia between 1852 to 1853 (Caltrans 2000).

The Southern Pacific Railroad was extended from Fresno into Tulare County in the early 1870s but bypassed the City of Visalia as it was located six miles to the east of the rail line (Small 1926). The construction of the rail line also brought an increase in agriculture and farms, which clashed with existing ranching operations in the local area. Escalating conflicts and livestock disputes between ranchers and farmers lead to the "No Fence Law" in 1874, which forced ranchers to pay for crop and property damage caused by their cattle (Ludeke 1980). With the passage of this law and the expansion of irrigation systems, predominant land use in the 1870s switched from grazing to farming (Mitchell 1974). This led to the beginning of the vast change of the San Joaquin Valley from native vegetation and grasslands to irrigated crops (Varner and Stuart 1975).

Water rights within California originally arose from the 'first come first serve' policy of the Gold Rush era. Diverting surface water to farms became big business but was a convoluted mess of customs, traditions, and conflicting claims (Zack 2017). Fed up with the situation, small farmers gathered behind Modesto lawyer C.C. Wright, who was elected to the California legislature in 1887 on the platform of taking water rights from large estates and putting it in the power of community-controlled irrigation districts (Hundley 1992). To solve this mess, the Wright Act of 1887 was passed that allowed residents to petition a local county board of supervisors to create irrigation districts that had the power to issue bonds, and tax land within the district boundaries to pay for the creation and maintenance of canals and ditches for irrigation purposes.

At the same time as the Wright Act, an important step forward was made in ditch-digging technology that allowed irrigation systems to be built at a faster pace. From the 1840s to 1890s, farm ditches and canals were largely constructed through the use of buckboards and slip-scoops, which involved the use of a board pulled by horses in an uprights position in order to level ground (Bulls 2010). One of these irrigation channels was the Consolidated People's Ditch construction by the Consolidated People's Ditch Company in 1875 (Menefee and Doge 1913). Between 1883 and 1885, Scottish immigrant James Porteous had moved to Fresno and made significant improvements to the buckboard style scraper that allowed the new scraper to be pulled by two horses and scrape and move soil while dumping it at a controlled depth. This new design was patented and sold as the "Fresno Scraper", which lead to an explosion of ditch digging efforts within the San Joaquin Valley (Zack 2017).

In 1888, the Southern Pacific Railroad established a branch line running along the eastern side of the San Joaquin Valley, and the town of Exeter was established in the grain field of John W. Firebaugh (Menefee and Dodge 1913). The town slowly expanded over the years and served as the local produce transportation hub for citrus fruits and other crops.



## **3 METHODS**

### **3.1 RECORDS SEARCH**

On September 17, 2024, Taylored Archaeology requested a cultural resource records search from the SSJVIC of the CHRIS at California State University in Bakersfield, California. The purpose of this request was to identify and review prior cultural resource studies and previously recorded cultural resources on or near the APE. The records search included prior cultural resources investigation reports conducted, previously recorded resources within the APE and the 1.0-mile radius around the APE (Appendix B). Also included in research were cultural resource records (DPR forms) as well as the Historic Properties Directory of the Office of Historic Preservation list, General Land Office Maps, Archaeological Determinations of Eligibility list, and the California Inventory of Historic Resources list.

### **3.2 ARCHIVAL RESEARCH**

As part of the cultural resources assessment, Taylored Archaeology examined historical aerial photographs, historical USGS topographic maps, Google Street View photos, books, scholarly articles, and other records to obtain information on the history of land use and to identify potential historical structures or buildings within the Project boundary. Research data was used from California State University, Fresno's database (<http://malt.lib.csufresno.edu/MALT/>), Google Earth and [historicaerials.com](http://historicaerials.com). The results of this research are presented in Chapter 4.

### **3.3 NATIVE AMERICAN OUTREACH**

Taylored Archaeology requested a Sacred Lands File (SLF) search from the NAHC on September 17, 2024. The SLF search was requested to identify whether there are sensitive or sacred tribal cultural resources in the vicinity of the APE that could be affected by the proposed Project. The NAHC also included contact information of local Native American representatives who may have knowledge or interest in sharing information of resources of sacred significance present in or near the APE. Each representative was sent a nongovernmental outreach letter, and a map were sent via email notifying them of the Project and asking if they had any knowledge of the Project area or surrounding vicinity. Follow-up communication was performed via email as appropriate. The SLF results are provided in Chapter 4.

### **3.4 ARCHAEOLOGICAL PEDESTRIAN SURVEY**

On October 12, 2024, Archaeologist Consuelo Sauls conducted an archaeological pedestrian survey of the entire Project's APE. Ms. Sauls walked a 10-meter intervals by walking north to south transects. The whole area in the Project boundary was accessible and surveyed to identify any archaeological deposits that may be present on the ground surface. Ground disturbances, such as burrows, and exposed areas, were visually inspected. A plan map of the APE was used to see vegetation, structures, and map out transects. Field survey observations were documented

on field notes and collected locational data on a Gaia Global Positioning System application. Photographs documenting the APE using an iPhone 11 Pro digital camera.

## 4 FINDINGS

### 4.1 RECORDS SEARCH

The SSJVIC provided the records search results in a letter dated September 30, 2024 (Appendix B). According to the records search results, there are no prior cultural resources studies conducted within the APE. Ten additional cultural resources studies were completed within a 1.0-mile radius of the APE as shown in Table 4-1. Eight of the previous studies resulted in negative findings (TU-00134, -00514, -01020, -01484, -01499, -01575, -01680 and -01834. TU-01929 and -01680 resulted in positive findings. TU-01929 recorded numerous prehistoric and historic cultural resources from a significant habitation and burial site along the Kaweah River approximately 2.2 miles northeast of the APE. TU-01680 recorded a historic bridge over Deep Creek. None of these studies intersected the APE.

The SSJVIC reported no records of cultural resources previously recorded within the APE. The SSJVIC search also reported five cultural resources documented within a 1.0-mile radius of the APE (Table 4-2). P-54-004886, Consolidated Peoples Ditch, is adjacent to the Johnson Slough and the APE, but is not within the APE. P-54-000329 is a prehistoric and historic site including prior prehistoric occupation, in which the site was very disturbed, with one skeleton intact that was removed, as well as one metate, one mano, five hair rings from one burial and fire stones. Additionally, it was also reported that there were up to 18 burials, most uncovered by grading and visitors removed skulls. All the recorded cultural resources are outside of the APE.

No previously recorded cultural resources will be affected by the proposed undertaking.

**Table 4-1 Previous Cultural Resources Studies within 1.0-mile of the Project APE**

Report Number	Author(s)	Date	Report Title	Study
<b>TU-00134</b>	Robert E. Parr and Mark Q. Sutton	1998	Archaeological Assessment of the Tulare Irrigation District Main Canal Lining Project, Tulare County, California	Archaeological Field Survey
<b>TU-00514</b>	Sharynn-Marie Valdez	1992	An Archaeological Assessment of 33 Acres of Land APN 111-08-12 East of Visalia, Tulare County, California	Archaeological Field Survey
<b>TU-01020</b>	Lisa Nishimura and Philip Chick	2000	Negative Archaeological Survey Report to Rehabilitate the Existing Pavement of the Four-Lane Divided Freeway/Expressway On Route 198	Archaeological Field Survey

Report Number	Author(s)	Date	Report Title	Study
<b>TU-01484</b>	Hubert Switalski	2010	Archaeological Survey Report for the Southern California Edison Company's Replacement of One Deteriorated Pole Structure on the Rector-Venice Hill-Venida 66kV Transmission Line (4205-0610), Exeter, Tulare County, California	Archaeological Field Survey
<b>TU-01499</b>	Rebecca S. Orfila	2010	Re: Archaeological Survey for the Southern California Edison Company: Replacement of Fourteen Deteriorated Power Poles on the Garcia 12 kV, Gill 12 kV, Linnell 12 kV, Merryman 12 kV, Mississippi 12 kV, Roeding 12 kV, Tarusa 12 kV, Viento 12 kV, Virgil 12 kV, and Wells 12 kV Circuits In Kern and Tulare Counties, California	Archaeological Field Survey
<b>TU-01575</b>	James J. Schmidt	2011	Archaeological Letter Report: El Mirador, Orange Blossom, Delta, and Iona 12kV Deteriorated Pole Replacement Project (WO 6051-4800; s-4827 TD50504776; R-4858 TD496332; T4822 TD510588) Tulare and Kings Counties, California	Archaeological Field Survey
<b>TU-01680</b>	Kristina C. Roper	2012	A Cultural Resources Survey of the Deep Creek Bridge Rehabilitation Project, Road 182, 0.2 Miles South of Avenue 204, Tulare County, California  Historic Property Survey Report for the Deep Creek Bridge Rehabilitation Project, Road 182, 0.2 Miles South of Avenue 204, Tulare County, California	Archaeological Field Survey  Architectural/Historic Field Survey
<b>TU-01834</b>	Brian A. Rueger	2018	An Archaeological Survey Report for the Kaweah Oaks Preserve CFIP Project Tulare County, California	Archaeological Field Survey

Report Number	Author(s)	Date	Report Title	Study
<b>TU-01929</b>	Nick Shew and Denise Ruzicka	2020	An Archaeological Survey Report for the Gill Range Improvement Burn, Tulare County, California	Archaeological and Architectural field survey
<b>TU-01984</b>	Raymond Gutierrez	2022	An Archaeological Survey Report for the Kaweah Oaks Preserve Ecological Restoration and Training, Tulare County, California	Archaeological Field Survey

**Table 4-2 Previous Recorded Cultural Resources within 1.0-mile radius of the Project APE**

Resource Number	Age Association	Resource Type	NRHP/CRHR Eligibility Status	Year Recorded	Distance from APE
<b>P-54-000329</b>	Prehistoric and historic	Site; burial	Not evaluated (destroyed)	1961 (JCVW)	0.39 miles northwest
<b>P-54-004626</b>	Historic	Site; railroad grade	Not eligible for NRHP or CRHR	2020 (ASM Affiliates, Inc.)	0.40 miles east
<b>P-54-004886</b>	Historic	Structure; canal (Consolidated People's Ditch)	Eligible for CRHR	2022 (CAL FIRE)	Adjacent to APE
<b>P-54-005296</b>	Historic	Structure; canal (Tulare Irrigation Canal)	Eligible for CRHR	2022 (Karana Hattersley-Drayton)	0.76 miles west
<b>Bridge 46-24</b>	Historic	Structure; bridge	Not eligible for NRHP	Caltrans	0.47 miles southwest

## 4.2 ARCHIVAL RESEARCH

Available topographic map coverage of the APE begins in 1926. The USGS topographic map of the APE depicts the APE bordered by Johnson Slough to the southeast, and an unnamed road to the west in the same configuration as present-day Road 182 respectively (NETROnline 2024). No other changes are noted in topographic maps through 2021 (NETROnline 2024).

Aerial photography of the APE begins in 1946 and depicts the APE as riparian oak woodland with Johnson Slough in the southern portion of the APE (USAAA). Road 182 forms the western boundary of the APE, and the People Consolidated Ditch is seen adjacent to the south of the APE. The APE appears similar in a 1956 aerial photograph, but in 1969 the riparian oak woodland appears to have been cleared for agricultural purposes. No changes of note appear between 1969



and 1994, but by 2005 the APE was converted to an orchard (Google Earth 2024, NETROnline 2024). The orchard appears to have been 2021 and 2023 (Google Earth 2024).

Outreach to the Consolidated People's Ditch Company determined the levee within the APE adjacent to the Johnson Slough dates to the 1990s (Silva 2024).

#### **4.3 NATIVE AMERICAN OUTREACH**

The NAHC responded on September 24, 2024, via email with a letter regarding Taylored Archaeology's request. The SLF search did not identify the presence of tribal cultural resources in the proposed Project APE. The NAHC supplied a list of Native American representatives to contact for information or knowledge of cultural resources in the APE and the surrounding area (Appendix C).

The following Native American organizations/individuals were contacted from the list provided by NAHC below:

1. Vice Chairperson Joel Marvin of Big Sandy Rancheria of Western Mono Indians
2. Tribal Administrator Tom Zizzo of Big Sandy Rancheria of Western Mono Indians
3. Chairperson Elizabeth Kipp of Big Sandy Rancheria of Western Mono Indians
4. Chairperson Shane Ratchford of Cold Springs Rancheria of Mono Indians of California
5. Tribal Administrator Desiree Lewis of Cold Springs Rancheria of Mono Indians of California
6. Chairperson Robert Ledger of the Dumna Wo-Wah Tribal Government
7. Chairperson Delia Dominguez of Kitanemuk and Yowlumne Tejon Indians
8. Chairperson Charlotte Lange of Mono Lake Kutzadika Tribe
9. Chairperson Ron Goode of the North Fork Mono Tribe
10. Tribal Secretary Anna Phipps of the North Fork Mono Tribe
11. Council Member - Archaeological Director Jesse Valdez of the North Fork Mono Tribe
12. Tribal Historic Preservation Officer Shana Powers of the Santa Rosa Rancheria Tachi Yokut Tribe
13. Cultural Specialist I Nichole Escalon of the Santa Rosa Rancheria Tachi Yokut Tribe
14. Cultural Specialist II Samantha McCarty of the Santa Rosa Rancheria Tachi Yokut Tribe
15. Chairperson Michelle Heredia-Cordova of Table Mountain Rancheria
16. Cultural Resource Director Bob Pennell of Table Mountain Rancheria
17. Chairperson David Alvarez of Traditional Choinumni Tribe
18. Environmental Department Director Kerri Vera of the Tule River Tribe
19. Tribal Archaeologist Joey Garfield of the Tule River Indian Tribe
20. Chairperson Neil Peyron of the Tule River Indian Tribe
21. Chairperson Kenneth Woodrow of the Wuksachi Indian Tribe/Eshom Valley Band

According to prior communication with the Santa Rosa Rancheria, Tribal Historic Preservation Officer (THPO) Shana Powers is no longer with the Santa Rosa Rancheria Tachi Yokut Tribe and Nichole Escalon of the Santa Rosa Rancheria Tachi Tribe is now THPO.

The outreach letters were sent via certified mail to each individual on the contact list on October 24, 2024 (Appendix C). The letters included a description of the proposed Project and a topographic map and aerial map of the location. Follow-up by emails were sent on November 5, 2024. Chairperson Ron Goode of North Fork Mono Tribe responded to the letter via email on October 27, 2024, that the tribe has no comment. Chairperson Kenneth Woodrow of the Wuksachi Indian Tribe/Eshom Valley Band responded by telephone on November 8, 2024, stating the Project area is in a culturally sensitive area and sent an official statement via email on November 12, 2024, requesting cultural monitoring of all ground disturbing activity in the APE.

As of the date of this report, no other responses have been received. Responses received by Native American individuals at the time of writing may be found in Appendix C.

#### **4.4 ARCHAEOLOGICAL PEDESTRIAN SURVEY RESULTS**

Results of the survey indicate that the APE consists of a fallowed agricultural field with no noted development (Figure 4-1). Visibility was generally excellent (80 to 100 percent), though small portions of the ground surface were obscured by shrubs, pomegranate trees and annual grasses. Visibility in those areas was greater near rodent burrows and in dirt patches (Figure 4-2). Johnson Slough was dry and able to be surveyed (Figure 4-3). In addition to evidence of discing and plowing from past agricultural use, other noted disturbances include approximately 3.6 acres of grading and digging from construction, including approximately a 0.4-acre excavation up to 12 feet deep below ground surface (Figures 4-4 and 4-5).

The topography in the APE was relatively flat, with a levee at least 4 feet in height along the John Slough (Figure 4-6). The natural topography of the area has been altered by agricultural practices and much of the land was graded, plowed, planted and/or harvested over the past one hundred plus years, which caused additional disturbance to the soil. Surface sediments were observed to be grayish-brown sandy loam with abundant silt with many angular shaped pebbles and gravel (Figure 4-7). Soils observed in the APE consisted of a grayish brown sandy loam consistent with Akers-Akers and Grangeville soil series as reported by the Natural Resources Conservation Service Web Soil Survey to be within the APE (NRCS 2024).

Taylor Archaeology's intensive pedestrian survey of the APE covered a total of 34.3 acres that were not obstructed by trees, shrubs or grass (Figure 4-8).

No prehistoric or historic cultural resources were encountered within the APE during the survey. While past agricultural and development activities may have potentially destroyed or obscured ground surface evidence of archaeological resources within the APE, intact archaeological resources may potentially exist below the ground surface.





**Figure 4-1**      **Southwestern portion of APE, view north**



**Figure 4-2**      **Vegetation covered levee in southern portion of APE, view south.**





**Figure 4-3** Johnson Slough in eastern portion of APE in orchard, facing southwest.



**Figure 4-4** Heavily disturbed area in northeastern portion of APE.





**Figure 4-5** Extensive excavation in northeast portion of APE. 1.6-meter archaeologist for scale.



**Figure 4-6** Northeast portion of APE with levee on left.





**Figure 4-7 Silty soils within the APE.**



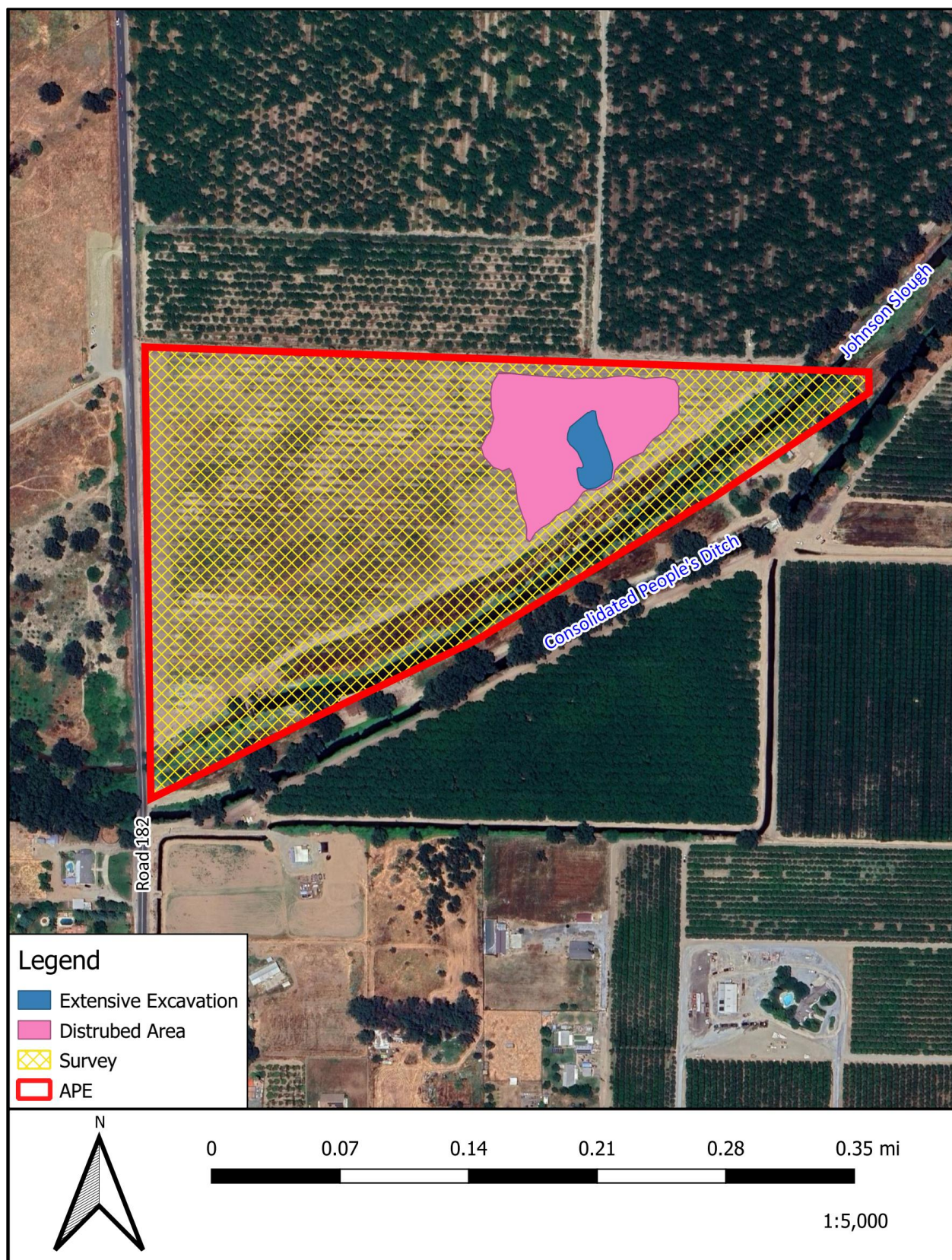


Figure 4-8 Survey coverage within the APE.

#### 4.4.1 Potential for Buried Sites

As discussed in Section 2.1, Natural Environment, of this report, much of the archaeological record in the San Joaquin Valley is buried from floodplains, lake sediments, and alluvial fans and cultural resources are not always visible on the ground surface. Therefore, it is important that archaeological investigations consider the sensitivity of the vertical Project impact to contain potential intact buried cultural resources. By understanding changes in the history of the landscape and natural hydrology, as well as the age of the soil, depositional setting, and general environmental conditions, predictions regarding the potential for the Project to impact cultural resources lying below the ground surface can be made.

The Project site is located within the central portion of the southern San Joaquin Valley adjacent to the Kaweah River alluvial fan, which is part of a series of alluvial fans formed by erosion from the main hydrological systems originating in the Sierra Nevada mountains. The Kaweah River alluvial fan is a stream-dominated fan covering more than 400 square miles and lies within the general vicinity of Visalia, the City of Tulare, and Hanford (Weissmann et al. 2002; White 2016). The fan has a low gradient due to the flat valley topography, with stream flow trending towards the west and southwest. The lower Kaweah River fan surrounding the general Project area is comprised of Holocene era deposits as indicated by the presence of well-developed soils (Meyer and Brandy 2019). As discussed in Section 4.2, Archival Research, detailed USGS topographic maps from 1926 to 2021 depict the Project site as located within the lower Kaweah River alluvial fan (USGS 1926-2021).

A previous geoarchaeological sensitivity model for the San Joaquin Valley was conducted by Far Western Anthropological Research Group in 2019, which analyzed sensitivity based on various geographic factors such as water proximity, slope, soil type, and landform (Meyer and Brandy 2019). According to this model, the Project site is located within an area of very high sensitivity for the potential presence of buried prehistoric archaeological deposits. Additionally, as discussed in Section 2.3, Ethnography, the closest documented village was approximately two miles northeast of the APE (Kroeber 1925, Latta 1977). As discussed in Section 4.1, Records Search, up to 18 burials were found within 0.39 miles of the APE.

Based upon ethnographic data, historical maps, and archaeological sensitivity models, the Project area was adjacent to a natural watercourse and potentially contained a high supply of natural resources for indigenous populations. Thus, there is a very high possibility of encountering buried cultural resources during Project ground disturbing activities.



## 5

### CONCLUSIONS AND RECOMMENDATION

Taylor Archaeology performed a Phase I Cultural Resources Assessment for the Johnson Slough Recharge Basin Project. The Project involves developing a recharge basin with a diversion structure to pump water from Johnson Slough. A review of SSJVIC records revealed no prior cultural resources studies were conducted, and no cultural resources were recorded previously within the APE. Further review of SSJVIC records show five previously recorded resources within a 1.0-mile radius of the APE, but none of these resources will be affected by the proposed undertaking. Furthermore, an examination of historical and modern aerial images and topographic maps indicates that the APE has largely been used for agricultural purposes.

The NAHC's Sacred Lands File results search of the APE was negative. Outreach was conducted to local Native American representatives. As of the date of this report, only two responses were received. Ron Goode of North Fork Mono Tribe responded that the tribe has no comment. Kenneth Woodrow of the Wuksachi Indian Tribe/Eshom Valley Band requested tribal monitoring of all ground disturbing activities in the APE. No additional responses were received to the letters or emails.

The pedestrian survey resulted in negative findings with no prehistoric or historic-period cultural resources within the APE. The absence of cultural material on the ground surface does not, however, preclude the possibility of Project construction unearthing buried archaeological deposits. As discussed in Section 4.4.1, there is a high possibility of encountering buried cultural resources within the APE during Project ground disturbing activities, which supports the Wuksachi Indian Tribe/Eshom Valley Band's request for tribal monitoring of all ground disturbing activities during construction.

Based on the results of this investigation, including the high sensitivity for buried sites within the APE and the request of the Wuksachi Indian Tribe/Eshom Valley Band for a tribal monitor, Taylor Archaeology therefore recommends the following:

- An archaeological monitor shall be present on the Project site during ground disturbing activities within the APE.
- In the event that previously unidentified archaeological resources are encountered during development or ground-moving activities in the APE, all work should be halted until a qualified archaeologist can identify the discovery and assess its significance. In the event of accidental discovery of unidentified archaeological remains during development or ground-moving activities in the APE, all work shall be halted in the immediate vicinity until a qualified archaeologist can identify the discovery and assess its significance.
- If human remains are uncovered during construction, the Tulare County Coroner is to be notified to investigate the remains and arrange proper treatment and disposition. If the

remains are identified on the basis of archaeological context, age, cultural associations, or biological traits to be those of a Native American, California Health and Safety Code 7050.5 and PRC 5097.98 require that the coroner notify the NAHC within 24 hours of discovery. The NAHC will then identify the Most Likely Descendent who will be afforded an opportunity to make recommendations regarding the treatment and disposition of the remains.



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## **APPENDIX A**

### **Personnel Qualifications**

### Areas of Expertise

- Cultural Resource Management
- CEQA and Federal regulations
- Prehistoric Archaeology
- Laboratory Management
- Technical Writing
- Phase I Assessments

### Years of Experience

- 16

### Education

- M.A., Archaeology, University of Durham, 2014
- B.A., Anthropology, California State University, Fresno, 2009

### Registrations/Certifications

- Registered Professional Archaeologist 41591505

### Professional Affiliations

- Coalition for Diversity in California Archaeology
- Society for American Archaeology
- Society for California Archaeology
- Society of Black Archaeologists

### Professional Experience

- 2019 – Present Principal Investigator, Taylored Archaeology, Fresno, California
- 2018 – 2019 Staff Archaeologist, Applied EarthWorks, Inc., Fresno, California
- 2016 – 2018 Principal Investigator, Soar Environmental Consulting, Inc., Fresno, California
- 2015 Archivist/Database Technician, Development and Conservation Management, Inc., Laguna Beach, California
- 2013 Laboratory Research Assistant, Durham University Archaeology Department and Archaeology Museum, Durham, England, UK
- 2011 – 2012 Laboratory Technician, University of Pennsylvania Museum of Archaeology and Anthropology, Philadelphia, Pennsylvania
- 2008 – 2009 Laboratory Technician, California State University, Fresno
- 2008 Field School, California State University, Fresno

### Technical Qualifications

Ms. Sauls meets the Secretary of the Interior's Professional Qualification Standards as an archaeologist. She has conducted pedestrian surveys, supervised Extended Phase I survey, authored technical reports, and completed the Section 106 process with the State Historic Preservation Officer and Tribal Historic Preservation Officer. Her experience includes data recovery excavation at Western Mono sites and processing recovered artifacts in the laboratory as well as conducting archival research about prehistory and ethnography of Central California. Ms. Sauls has authored and contributed to technical and letter reports in compliance with of the National Historical Preservation Act (NHPA) Section 106 and the California Environmental Quality Act (CEQA). She also has supported NHPA tribal consultation and responded to Assembly Bill 52 tribal comments. Ms. Sauls also has an extensive background supervising laboratory processing, cataloging, and conservation of prehistoric and historical archaeological collections. In addition, she worked with the Rock Art Heritage Group in the management, preservation, and presentation of rock art in museums throughout England, including a thorough analysis of the British Museum's rock art collections. At Durham University Archaeology Museum, Ms. Sauls processed the excavated skeletal remains of 30 individuals from the seventeenth century.

## **APPENDIX B**

### **Records Search Results**





9/30/2024

Consuelo Sauls  
Taylored Archaeology  
6083 N. Figarden Drive, Suite 616  
Fresno, CA 93722

Re: Johnson Slough  
Records Search File No.: 24-429

The Southern San Joaquin Valley Information Center received your record search request for the project area referenced above, located on Exeter USGS 7.5' quads. The following reflects the results of the records search for the project area and the 1.0 mile radius:

As indicated on the data request form, the locations of archaeological resources and reports are provided in the following format: ☒ custom GIS maps ☐ GIS data

Resources within project area:	None
Resources within 1.0 mile radius:	P-54-000329, 004626, 004886, 005296, Bridge 46-24
Reports within project area:	None
Reports within 1.0 mile radius:	TU-00134, 00514, 01020, 01484, 01499, 01575, 01680, 01834, 01929, 01984

**Resource Database Printout (list):**

☒ enclosed ☐ not requested ☐ nothing listed

**Resource Database Printout (details):**

☒ enclosed ☐ not requested ☐ nothing listed

**Resource Digital Database Records:**

☒ enclosed ☐ not requested ☐ nothing listed

**Report Database Printout (list):**

☒ enclosed ☐ not requested ☐ nothing listed

**Report Database Printout (details):**

☒ enclosed ☐ not requested ☐ nothing listed

**Report Digital Database Records:**

☒ enclosed ☐ not requested ☐ nothing listed

**Resource Record Copies:**

☒ enclosed ☐ not requested ☐ nothing listed

**Report Copies:**

☒ enclosed ☐ not requested ☐ nothing listed

**OHP Built Environment Resources Directory:**

☐ enclosed ☐ not requested ☒ nothing listed

**Archaeological Determinations of Eligibility:**

☒ enclosed ☐ not requested ☐ nothing listed

**CA Inventory of Historic Resources (1976):**

☐ enclosed ☐ not requested ☒ nothing listed

**Caltrans Bridge Survey:** Not available at SSJVIC; please see  
<https://dot.ca.gov/programs/environmental-analysis/cultural-studies/california-historical-bridges-tunnels>

**Ethnographic Information:** Not available at SSJVIC

**Historical Literature:** Not available at SSJVIC

**Historical Maps:** Not available at SSJVIC; please see  
<https://livingatlas.arcgis.com/topomapexplorer>

**Local Inventories:** Not available at SSJVIC

**GLO and/or Rancho Plat Maps:** Not available at SSJVIC; please see  
<http://www.glorerecords.blm.gov/search/default.aspx#searchTabIndex=0&searchByTypeIndex=1> and/or  
<http://www.oac.cdlib.org/view?docId=hb8489p15p;developer=local;style=oac4;doc.view=items>

**Shipwreck Inventory:** Not available at SSJVIC; please see  
<https://www.slc.ca.gov/shipwrecks/>

**Soil Survey Maps:** Not available at SSJVIC; please see  
<http://websoilsurvey.nrcs.usda.gov/app/WebSoilSurvey.aspx>

Please forward a copy of any resulting reports from this project to the office as soon as possible. Due to the sensitive nature of archaeological site location data, we ask that you do not include resource location maps and resource location descriptions in your report if the report is for public distribution. If you have any questions regarding the results presented herein, please contact the office at the phone number listed above.

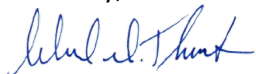
The provision of CHRIS Data via this records search response does not in any way constitute public disclosure of records otherwise exempt from disclosure under the California Public Records Act or any other law, including, but not limited to, records related to archeological site information maintained by or on behalf of, or in the possession of, the State of California, Department of Parks and Recreation, State Historic Preservation Officer, Office of Historic Preservation, or the State Historical Resources Commission.

Due to processing delays and other factors, not all of the historical resource reports and resource records that have been submitted to the Office of Historic Preservation are available via this records search. Additional information may be available through the federal, state, and local agencies that produced or paid for historical resource management work in the search area. Additionally, Native American tribes have historical resource information not in the CHRIS Inventory, and you should contact the California Native American Heritage Commission for information on local/regional tribal contacts.

Should you require any additional information for the above referenced project, reference the record search number listed above when making inquiries. Invoices for Information Center services will be sent under separate cover from the California State University, Bakersfield Accounting Office.

Thank you for using the California Historical Resources Information System (CHRIS).

Sincerely,



Celeste M. Thomson  
Coordinator

## **APPENDIX C**

### **Native American Outreach**



## NATIVE AMERICAN HERITAGE COMMISSION

September 24, 2024

Consuelo Sauls  
Taylored ArchaeologyVia Email to: [csaulsarchaeo@gmail.com](mailto:csaulsarchaeo@gmail.com)

Re: Johnson Slough Project, Tulare County

Dear Mr. Sauls:

A record search of the Native American Heritage Commission (NAHC) Sacred Lands File (SLF) was completed for the information you have submitted for the above referenced project. The results were negative. However, the absence of specific site information in the SLF does not indicate the absence of cultural resources in any project area. Other sources of cultural resources should also be contacted for information regarding known and recorded sites.

Attached is a list of Native American tribes who may also have knowledge of cultural resources in the project area. This list should provide a starting place in locating areas of potential adverse impact within the proposed project area. I suggest you contact all of those indicated; if they cannot supply information, they might recommend others with specific knowledge. By contacting all those listed, your organization will be better able to respond to claims of failure to consult with the appropriate tribe. If a response has not been received within two weeks of notification, the Commission requests that you follow-up with a telephone call or email to ensure that the project information has been received.

If you receive notification of change of addresses and phone numbers from tribes, please notify me. With your assistance, we can assure that our lists contain current information.

If you have any questions or need additional information, please contact me at my email address: [Cameron.vela@nahc.ca.gov](mailto:Cameron.vela@nahc.ca.gov).

Sincerely,

*Cameron Vela*Cameron Vela  
Cultural Resources Analyst

Attachment

CHAIRPERSON  
**Reginald Pagaling**  
ChumashVICE-CHAIRPERSON  
**Buffy McQuillen**  
Yokayo Pomo, Yuki,  
NomlakiSECRETARY  
**Sara Dutschke**  
MiwokPARLIAMENTARIAN  
**Wayne Nelson**  
LuiseñoCOMMISSIONER  
**Isaac Bojorquez**  
Ohlone-CostanoanCOMMISSIONER  
**Stanley Rodriguez**  
KumeyaayCOMMISSIONER  
**Laurena Bolden**  
SerranoCOMMISSIONER  
**Reid Milanovich**  
CahuillaCOMMISSIONER  
**Bennae Calac**  
Pauma-Yuima Band of  
Luiseño IndiansEXECUTIVE SECRETARY  
**Raymond C.  
Hitchcock**  
Miwok, NisenanNAHC HEADQUARTERS  
1550 Harbor Boulevard  
Suite 100  
West Sacramento,  
California 95691  
(916) 373-3710

**Native American Heritage Commission  
Native American Contact List  
Tulare County  
9/24/2024**

County	Tribe Name	Fed (F) Non-Fed (N)	Contact Person	Contact Address	Phone #	Fax #	Email Address	Cultural Affiliation	Counties	Last Updated
Tulare	Big Sandy Rancheria of Western Mono Indians	F	Joel Marvin, Vice Chairperson	P.O. Box 337 37387 Auberry Mission Road Auberry, CA, 93602	(559) 374-0066		Jmarvin@bsrnation.com	Western Mono	Fresno, Inyo, Madera, Mono, Tulare	5/25/2023
	Big Sandy Rancheria of Western Mono Indians	F	Tom Zizzo, Tribal Administrator	P.O. Box 337 37387 Auberry Mission Road Auberry, CA, 93602	(559) 374-0066		Tzizzo@bsrnation.com	Western Mono	Fresno, Inyo, Madera, Mono, Tulare	5/25/2023
	Big Sandy Rancheria of Western Mono Indians	F	Elizabeth Kipp, Chairperson	P.O. Box 337 37387 Auberry Mission Road Auberry, CA, 93602	(559) 374-0066	(559) 374-0055	Lkipp@bsrnation.com	Western Mono	Fresno, Inyo, Madera, Mono, Tulare	5/25/2023
	Cold Springs Rancheria of Mono Indians of California	F	Shane Ratchford, Chairperson	Cold Springs Rancheria PO Box 209 Tollhouse, CA, 93667	(559) 214-1738		shane.ratchford@coldspringsrancheria.gov	Mono	Fresno, Madera, Tulare	10/4/2023
	Cold Springs Rancheria of Mono Indians of California	F	Desiree Lewis, Tribal Administrator	Cold Springs Rancheria PO Box 209 Tollhouse, CA, 93667	(559) 214-1738		desiree.lewis@coldspringsrancheria.gov	Mono	Fresno, Madera, Tulare	10/4/2023
	Dumna Wo-Wah Tribal Government	N	Robert Ledger, Chairperson	2191 West Pico Ave. Fresno, CA, 93705	(559) 540-6346		ledgerrobert@ymail.com	Foothill Yokut Mono	Fresno, Kern, Madera, Tulare	
	Kitanemuk & Yowlumne Tejon Indians	N	Delia Dominguez, Chairperson	115 Radio Street Bakersfield, CA, 93305	(626) 339-6785		2deedominguez@gmail.com	Kitanemuk Southern Valley Yokut	Fresno, Kern, Kings, Los Angeles, Madera, Mont	
	Mono Lake Kutzadika Tribe	N	Charlotte Lange, Chairperson	P.O. Box 237 Lee Vining, CA, 93541	(760) 709-1273		chair@monolaketribe.us	Mono Paiute	Fresno, Lassen, Madera, Modoc, Mono, Tulare, Tuolumne	
	North Fork Mono Tribe	N	Ron Goode, Chairperson	13396 Tollhouse Road Clovis, CA, 93619	(559) 355-1774		rwgoode911@hotmail.com	Mono	Fresno, Madera, Tulare	5/25/2023
	North Fork Mono Tribe	N	Anna Phipps, Tribal Secretary	6051 Bear Creek Rd. Garden Valley, CA, 95633	(916) 765-4784		aphipps01@att.net	Mono	Fresno, Madera, Tulare	5/25/2023



**Native American Heritage Commission  
Native American Contact List  
Tulare County  
9/24/2024**

County	Tribe Name	Fed (F) Non-Fed (N)	Contact Person	Contact Address	Phone #	Fax #	Email Address	Cultural Affiliation	Counties	Last Updated
	North Fork Mono Tribe	N	Jesse Valdez, Council Member - Archaeological Dir.	120 Monte Vista St. Lindsey, CA, 93247	(559) 350-9113		ariesgoathead@gmail.co m	Mono	Fresno,Madera,Tulare	5/25/2023
	Santa Rosa Rancheria Tachi Yokut Tribe	F	Shana Powers, THPO	P.O. Box 8 Lemoore, CA, 93245	(559) 423-3900		spowers@tachi-yokut- nsn.gov	Southern Valley Yokut	Fresno,Kern,Kings,Me rced,Monterey,San Benito,San Luis	10/3/2023
	Santa Rosa Rancheria Tachi Yokut Tribe	F	Nichole Escalon, Cultural Specialist I	P.O. Box 8 Lemoore, CA, 93245	(559) 924-1278		nescalone@tachi-yokut- nsn.gov	Southern Valley Yokut	Fresno,Kern,Kings,Me rced,Monterey,San Benito,San Luis	10/3/2023
	Santa Rosa Rancheria Tachi Yokut Tribe	F	Samantha McCarty, Cultural Specialist II	P.O. Box 8 Lemoore, CA, 93245	(559) 633-3440		smccarty@tachi-yokut- nsn.gov	Southern Valley Yokut	Fresno,Kern,Kings,Me rced,Monterey,San Benito,San Luis	10/3/2023
	Table Mountain Rancheria	F	Michelle Heredia-Cordova, Chairperson	P.O. Box 410 Friant, CA, 93626	(559) 822-2587	(559) 822-2693	mhcordova@tmr.org	Yokut	Fresno,Kern,Kings,Ma dera,Monterey,San Benito,San Luis	12/21/2023
	Table Mountain Rancheria	F	Bob Pennell, Cultural Resource Director	P.O. Box 410 Friant, CA, 93626	(559) 325-0351	(559) 325-0394	rpennell@tmr.org	Yokut	Fresno,Kern,Kings,Ma dera,Monterey,San Benito,San Luis	
	Traditional Choinumni Tribe	N	David Alvarez, Chairperson	2415 E. Houston Avenue Fresno, CA, 93720	(559) 217-0396	(559) 292-5057	davealvarez@sbcglobal.n et	Foothill Yokut	Fresno,Kern,Madera,T ulare	
	Tule River Indian Tribe	F	Kerri Vera, Environmental Department	P. O. Box 589 Porterville, CA, 93258	(559) 783-8892	(559) 783-8932	kerri.vera@tulerivertribe- nsn.gov	Yokut	Alameda,Amador,Cala veras,Contra Costa,Fresno,Inyo,Ker	7/22/2016
	Tule River Indian Tribe	F	Joey Garfield, Tribal Archaeologist	P. O. Box 589 Porterville, CA, 93258	(559) 783-8892	(559) 783-8932	joey.garfield@tulerivertribe- nsn.gov	Yokut	Alameda,Amador,Cala veras,Contra Costa,Fresno,Inyo,Ker	7/22/2016
	Tule River Indian Tribe	F	Neil Peyron, Chairperson	P.O. Box 589 Porterville, CA, 93258	(559) 781-4271	(559) 781-4610	neil.peyron@tulerivertribe- nsn.gov	Yokut	Alameda,Amador,Cala veras,Contra Costa,Fresno,Inyo,Ker	
	Wuksachi Indian Tribe/Eshom Valley Band	N	Kenneth Woodrow, Chairperson	1179 Rock Haven Ct. Salinas, CA, 93906	(831) 443-9702		kwood8934@aol.com	Foothill Yokut Mono	Alameda,Calaveras,C ontra Costa,Fresno,Inyo,Kin	6/19/2023

Native American Heritage Commission  
Native American Contact List  
Tulare County  
9/24/2024

County	Tribe Name	Fed (F) Non-Fed (N)	Contact Person	Contact Address	Phone #	Fax #	Email Address	Cultural Affiliation	Counties	Last Updated
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This list is current only as of the date of this document. Distribution of this list does not relieve any person of statutory responsibility as defined in Section 7050.5 of the Health and Safety Code, Section 5097.94 of the Public Resources Code and Section 5097.98 of the Public Resources Code.

This list is only applicable for contacting local Native Americans with regard to cultural resources assessment for the proposed Johnson Slough Project, Tulare County.

Record: PROJ-2024-004956  
Report Type: List of Tribes  
Counties: Tulare  
NAHC Group: All

## Native American Outreach Log

Johnson Slough Recharge Basin Project, Tulare County, California

Organization	Name	Position	Address	Phone Number	Email Address	Letter	E-Mail	Summary of Contact
Native American Heritage Commission	Cameron Vela	Cultural Resources Analyst	1550 Harbor Boulevard Suite 100 West Sacramento, California 95691	(916) 373-3710	nahc@nahc.ca.gov		9/17/2024	In a letter dated September 24, 2024, the NAHC stated that the results of the SLF results were negative and suggested to contact the local Native American representatives on the list provided.
Big Sandy Rancheria of Western Mono Indians	Joel Marvin	Vice Chairperson	P.O. Box 337 37387 Auberry, CA 93602	(559) 374-0066	Jmarvin@bsrnation.com	10/24/2024	11/5/2024	No response.
Big Sandy Rancheria of Western Mono Indians	Tom Zizzo	Tribal Administrator	P.O. Box 337 37387 Auberry, CA 93602	(559) 374-0066	Tzizzo@bsrnation.com	10/24/2024	11/5/2024	No response.
Big Sandy Rancheria of Western Mono Indians	Elizabeth Kipp	Chairperson	P.O. Box 337 37387 Auberry, CA 93602	(559) 374-0066	Lkipp@bsrnation.com	10/24/2024	11/5/2024	No response.
Cold Springs Rancheria of Mono Indians of California	Shane Ratchford	Chairperson	Cold Springs Rancheria PO Box 209 Tollhouse, CA, 93667	(559) 214-1738	shane.ratchford@coldspringsrancheria.gov	10/24/2024	11/5/2024	No response.
Cold Springs Rancheria of Mono Indians of California	Desiree Lewis	Tribal Administrator	Cold Springs Rancheria PO Box 209 Tollhouse, CA, 93667	(559) 214-1738	desiree.lewis@coldspringsrancheria.gov	10/24/2024	11/5/2024	No response.
Dumna Wo-Wah Tribal Government	Robert Ledger	Chairperson	2191 West Pico Ave. Fresno, CA, 93705	(559) 540-6346	ledgerrobert@ymail.com	10/24/2024	11/5/2024	No response.
Kitanemuk & Yowlumne Tejon Indians	Delia Dominguez	Chairperson	115 Radio Street Bakersfield, CA 93305	(626) 339-6785	2deedominguez@gmail.com	10/24/2024	11/5/2024	No response.
Mono Lake Kutzadika Tribe	Charlotte Lange	Chairperson	P.O. Box 237 Lee Vining, CA, 93541	(760) 709-1273	chair@monolaketribe.us	10/24/2024	11/5/2024	No response.
North Fork Mono Tribe	Ron Goode	Chairperson	13396 Tollhouse Road Clovis, CA, 93619	(559) 355-1774	rwgoode911@hotmail.com	10/24/2024	11/5/2024	Received response from Ron Goode via email on October 27, 2024 stating no comment.
North Fork Mono Tribe	Anna Phipps	Tribal Secretary	6051 Bear Creek Rd. Garden Valley, CA, 95633	(916) 765-4784	aphipps01@att.net	10/24/2024	11/5/2024	Ron Goode spoke on behalf on the North Fork Mono Tribe.
North Fork Mono Tribe	Jesse Valdez	Council Member-Archaeological Director	120 Monte Vista St. Lindsey, CA, 93247	(559) 350-9113	ariesgoathead@gmail.com	10/24/2024	11/5/2024	Ron Goode spoke on behalf on the North Fork Mono Tribe.
Santa Rosa Rancheria Tachi Yokut Tribe	Shana Powers	THPO	P.O. Box 8 Lemoore, CA 93245	(559) 423-3900	spowers@tachi-yokut-nsn.gov	N/A	N/A	No longer with Santa Rosa Rancheria Tachi Yokut Tribe.

Santa Rosa Rancheria Tachi Yokut Tribe	Nichole Escalon	THPO	P.O. Box 8 Lemoore, CA 93245	(559) 423-3900	nescalone@tachi-yokut-nsn.gov	10/24/2024	11/5/2024	No response.
Santa Rosa Rancheria Tachi Yokut Tribe	Samantha McCarty	Cultural Specialist II	P.O. Box 8 Lemoore, CA 93245	(559) 633-3440	smccarty@tachi-yokut-nsn.gov	10/24/2024	11/5/2024	No response.
Table Mountain Rancheria	Michelle Heredia-Cordova	Chairperson	P.O. Box 410 Friant, CA 93626	(559) 822-2587	mhcordova@tmr.org	10/24/2024	11/5/2024	No response.
Table Mountain Rancheria	Bob Pennell	Cultural Resource Director	P.O. Box 410 Friant, CA, 93626	(559) 325-0351	rpennell@tmr.org	10/24/2024	11/5/2024	No response.
Traditional Choinumni Tribe	David Alvarez	Chairperson	2415 E. Houston Avenue Fresno, CA 93720	(559) 217-0396	davealvarez@sbcglobal.net	10/24/2024	11/5/2024	No response.
Tule River Indian Tribe	Kerri Vera	Environmental Department Director	P.O. Box 589 Porterville, CA 93258	(559) 783-8892	kerri.vera@tulerivertribe-nsn.gov	10/24/2024	11/5/2024	No response.
Tule River Indian Tribe	Joey Garfield	Tribal Archaeologist	P.O. Box 589 Porterville, CA 93258	(559) 783-8892	joey.garfield@tulerivertribe-nsn.gov	10/24/2024	11/5/2024	No response.
Tule River Indian Tribe	Neil Peyron	Chairperson	P.O. Box 589 Porterville, CA 93258	(559) 781-4271	neil.peyron@tulrivertribe-nsn.gov	10/24/2024	11/5/2024	No response.
Wuksache Indian Tribe/Eshom Valley Band	Kenneth Woodrow	Chairperson	1179 Rock Haven Ct. Salinas, CA 93906	(831) 443-9702	kwood8934@aol.com	10/24/2024	11/5/2024	Spoke with Kenneth Woodrow on the phone. He said the project area is sensitive and is concern about the project. He followed up with recommendations by email on November 12, 2024.



EXAMPLE

October 24, 2024

Kenneth Woodrow, Chairperson  
Wuksache Indian Tribe/Eshom Valley Band  
1179 Rock Haven Ct.  
Salinas, CA 93906

**RE: Johnson Slough Recharge Basin Project, Tulare County, California**

Dear Kenneth Woodrow,

Taylored Archaeology, under contract to Provost & Pritchard Consulting Group, is providing cultural resource services for the proposed Johnson Slough Recharge Basin Project (Project) in Tulare County, California. The Project is proposing to construct a 22-acre recharge basin in addition to a connection to the Johnson Slough. The Project's Area of Potential Effects (APE) is currently agricultural land with orchards. The APE consists of the 34.3-acre Assessor's Parcel Number 111-140-073. It is located on the east side of Road 182 approximately 0.25 miles north of the intersection of Road 182 and State Route 198. This project is seeking a permit under Section 404 of the Clean Water Act from the US Army Corps of Engineers and is therefore subject to Section 106 of the National Historic Preservation Act (NHPA). The APE is in Section 28, Township 18 South, Range 26 East, Mount Diablo Meridian of the Exeter, California 7.5-minute USGS quadrangle. Please see the attached maps.

A search of the Native American Heritage Commission's (NAHC) Sacred Lands File did not indicate the presence of tribal or cultural resources in the immediate Project area. Taylored Archaeology also requested a records search of the APE at the California Historic Resources Information System (CHRIS), Southern San Joaquin Valley Information Center (SSJVIC) located at the California State University, Bakersfield. The records search results did not identify any recorded prehistoric archaeological or historic resources within the APE, nor any prior survey reports within the APE. The SSJVIC identified five cultural resources within a 1.0-mile radius (1 prehistoric resource and 4 historic resources). 10 survey reports were previously conducted within the surrounding 1.0-mile search radius. On October 24, 2024, Taylored Archaeology completed an intensive pedestrian survey of the Project boundary to identify and record cultural resources present at the ground surface level. No prehistoric archaeological resources were encountered during the survey. An existing levee of unknown age is present in the APE.

The NAHC provided your name and address as someone who may have interest in sharing information regarding sacred sites, tribal cultural resources, or other resources of importance in the Project area. Please note this outreach letter is research for a cultural resources investigation and is not government-to-government consultation under Assembly Bill 52 or Section 106. Taylored Archaeology understands and takes measures to protect the confidentiality of archaeological site locations, cemeteries, or sacred places, as required by law. Taylored Archaeology will not disclose locational information in any document available to the general public.





If you have information that you would like to share, have questions, or would like more information about the project, please contact me by email at [csaulsarchaeo@gmail.com](mailto:csaulsarchaeo@gmail.com), or send a letter to my attention at 6083 N. Figarden Dr., Ste. 616, Fresno, CA 93722. Any response by November 8, 2024, would be greatly appreciated.

Sincerely,

A handwritten signature in blue ink that reads "Consuelo Y. Sauls".

Consuelo Y. Sauls, M.A., RPA # 41591505  
Archaeologist



Consuelo Sauls <[csaulsarchaeo@gmail.com](mailto:csaulsarchaeo@gmail.com)>

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## Native American Outreach - Johnson Slough Recharge Basin Project, Tulare County

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**Ron W. Goode** <[rwgoode911@hotmail.com](mailto:rwgoode911@hotmail.com)>  
To: Consuelo Sauls <[csaulsarchaeo@gmail.com](mailto:csaulsarchaeo@gmail.com)>

Sun, Oct 27, 2024 at 3:28 PM

No Comment  
Chairman Goode

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**From:** Consuelo Sauls <[csaulsarchaeo@gmail.com](mailto:csaulsarchaeo@gmail.com)>  
**Sent:** Thursday, October 24, 2024 1:58 PM  
**To:** Ron W. Goode <[rwgoode911@hotmail.com](mailto:rwgoode911@hotmail.com)>  
**Subject:** Native American Outreach - Johnson Slough Recharge Basin Project, Tulare County

[Quoted text hidden]



Consuelo Sauls &lt;csaulsarchaeo@gmail.com&gt;

**Native American Outreach - Johnson Slough Recharge Basin Project, Tulare County**

5 messages

**Consuelo Sauls** <csaulsarchaeo@gmail.com>  
To: kwood8934@aol.com

Thu, Oct 24, 2024 at 1:12 PM

Dear Kenneth Woodrow,

Please find attached a letter and maps addressed to the Wuksachi Indian Tribe/Eshom Valley Band for Native American outreach regarding the Johnson Slough Recharge Basin Project in Tulare County.

The NAHC provided your name and address as someone who may have interest in sharing information regarding sacred sites, tribal cultural resources, or other resources of importance in the project area. Taylored Archaeology is conducting this outreach for research as part of the cultural resources investigation. Your response is greatly appreciated.

Respectively,

Consuelo Sauls

--

**Consuelo Sauls, M.A., RPA 41591505**  
**Archaeologist**  
**Taylored Archaeology**  
**6083 N. Figarden Dr., Ste. 616**  
**Fresno, CA 93722**  
[csaulsarchaeo@gmail.com](mailto:csaulsarchaeo@gmail.com)  
559.797.1572

**3 attachments**

**Kenneth Woodrow Outreach Letter- Johnson Slough Recharge Basin Project.pdf**  
112K



**Johnson Slough Topo Map.pdf**  
2508K



**Johnson Slough Aerial Map.pdf**  
8924K

**Consuelo Sauls** <csaulsarchaeo@gmail.com>  
To: kwood8934@aol.com

Thu, Nov 7, 2024 at 8:00 AM

Dear Kenneth Woodrow,

This email is a follow-up to the letter previously sent by email on October 24, 2024. I am conducting a cultural resources assessment for Johnson Slough Recharge Basin Project in Tulare County, California.

I want to confirm my letter was received and to offer you the opportunity to share any information regarding the presence of sensitive cultural resources within the project area. If you have any questions, please don't hesitate to contact me. Your response is greatly appreciated. Thank you for your time.

Sincerely,  
Consuelo Sauls  
[Quoted text hidden]

**Consuelo Sauls** <csaulsarchaeo@gmail.com>  
To: kwood8934@aol.com

Tue, Nov 12, 2024 at 8:00 AM

Hi Kenneth,

Thank you again for talking with me on the phone last week about the Johnson Slough Recharge Basin Project. If you have any specific comments or recommendations you would like me to include in my report, please let me know.

Thank you,  
Consuelo Sauls

[Quoted text hidden]

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**kwood8934@aol.com** <kwood8934@aol.com>  
Reply-To: "kwood8934@aol.com" <kwood8934@aol.com>  
To: Consuelo Sauls <csaulsarchaeo@gmail.com>

Tue, Nov 12, 2024 at 2:29 PM

The Wuksachi indian tribe is requested a cultural monitor to be present.

Sent from AOL on Android

[Quoted text hidden]

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**Consuelo Sauls** <csaulsarchaeo@gmail.com>  
To: "kwood8934@aol.com" <kwood8934@aol.com>

Tue, Nov 12, 2024 at 2:48 PM

Hi Kenneth,

Thank you for your response. I will include your request in my report.

Kind regards,  
Consuelo Sauls

[Quoted text hidden]

## Appendix D. Kaweah MLRP Vegetation Outline



# Kaweah MLRP Vegetation Outline

To be used and adapted for all sites

This document was created by Valley Eco to be a vegetation guide for projects under the Kaweah Multi-Benefit Land Repurposing Program (MLRP). This guide is broken down by recommended tree species, seeded species, and what species are recommended to be plug planted, as well as what habitat types they should be used in. These species were chosen due to their habitat benefits. It should be noted that a few species have a “preferred” or “to be discussed” status, these species should be carefully considered for each individual project to determine if their use is appropriate. The recommended PLS lbs/Acre and plugs per linear foot will be determined project by project based on availability, cost, and funding.

## 1. Recommended Tree Species (Table 1) <sup>1</sup>

- i. Cottonwoods
  - 1. Fremont cottonwood (*Poplar fremontii*)
  - 2. Shed limbs - keep in Conservation area
- ii. Willows
  - 1. *Salix gooddingii* (Goodding’s Willow)
  - 2. *Salix laevigata*
  - 3. *Salix exigua* (*Salix hendersoniana*, potential sub-species)
- iii. *Rosa californica* (California wildrose)
- iv. *Acer negundo* (Box Elder)
- v. *Fraxinus latifolia* (Oregon Ash)
- vi. Valley Oak (*Quercus lobata*, if possible) \*Preferred\*
  - 1. *Toxicodendron diversilobum* (Poison Oak) should be planted with it \*To be discussed\*
  - 2. *Vitis californica* (Wild Grape)
- vii. Blue Oak (*Quercus douglasii*)
  - 1. Only if necessary

## 2. Recommended Vegetation Species and Density (Table 2)

- i. Seeded Species
  - 1. *Elymus Triticoides* (Creeping Wildrye)
    - a. Erosion control and stability of levees
    - b. Will help with weed competition
    - c. Focus mainly on edges of levees
  - 2. *Achillea millefolium* (Common Yarrow)
    - a. Flowering perennial

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<sup>1</sup> All tree species plans will be subject to availability, irrigation capabilities during the implementation and planning processes.



- b. Pollinator benefits
- 3. *Grindelia camporum* (Great Valley Gumplant)
  - a. Flowering perennial
  - b. Strong establishment, will help with non-native weed competition
- 4. *Eschscholzia californica* (California Poppy)
  - a. Early emerging annual
  - b. Will help with establishment of the site
  - c. Beneficial for pollinators
- 5. *Salvia columbariae* (Chia sage)
  - a. Early season annual that will help with establishment
  - b. Many flowers present for pollinators
  - c. Produces many seeds that will aid in continued recruitment year to year
- 6. *Clarkia unguiculata* (Elegant Clarkia)
  - a. Mid-season annual that provides pollinator benefits
- 7. *Frankenia salina* (Alkali Heath)
  - a. If we can find seed with high enough quality.
  - b. Based on previous experience it may be mixed with pickle weed.
- 8. *Sporobolus airoides* (Alkali Sacaton)
  - a. Tolerates alkaline soils well, prefers wetter areas
  - b. Perennial Bunch grass that will provide habitat protection for smaller species that need habitat more sporadically
- 9. *Poa secunda* (One-sided Bluegrass)
  - a. Native perennial grass
- 10. *Urtica dioica* (Common Stinging nettle)
  - a. Benefits to pollinators
  - b. Riparian understory plant
- 11. *Toxicodendron diversilobum* (Poison Oak)
  - a. Restoration “nurse” plant
  - b. Densely planted adjacent to valley oak saplings
- ii. Plugs/treeband transplants<sup>2</sup>
  - 1. *Asclepias fas.* (Narrowleaf Milkweed)
    - a. Monarch host
    - b. Status Review listing decision posted for public comment Dec 2024
  - 2. *Baccharis glutinosa* (Saltmarsh Baccharis)
    - a. Smaller shrub, does well in riparian areas, perennial so plant will remain over many years
    - b. Late flowering season providing flowers for insects late into the year
  - 3. *Baccharis salicifolia* (Mulefat)
    - a. Large shrub, provides protection for terrestrial animals, long bloom window allowing for insect forage

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<sup>2</sup> All plugs and transplant vegetation plans will be subject to availability, irrigation capabilities during the implementation and planning processes.



- b. Should be focused around the “Escapement areas” for animals to leave the islands
- 4. *Atriplex polycarpa* (Allscale Saltbrush)
  - a. Shrub species
  - b. Tolerates alkali soils
- 5. *Eleocharis macrostachya* (Spikerush)
  - a. Planted densely in sections
  - b. Perennial sedge species that should promote strong wetland establishment
- 6. *Dipterostemon capitatus* (Blue dicks)
  - a. Bulbous species that will attract pollinators
  - b. Will likely establish well after construction disturbance
  - c. Establishment will likely be in pockets around the parent plant - spread by corm and/or seed.

### 3. Marsh/Wetland Areas

- i. Recommended Vegetation Species & Density (x to be determined on a site-by-site basis; PLS = Pure Live Seed, ac = acres, LF = linear feet)
  - 1. *Elymus Triticoides* (X PLS/ac)
  - 2. *Sporobolus airoides* (X PLS/ac)
  - 3. *Eleocharis macrostachya* (X plugs/LF)
    - a. Planted in patches
  - 4. *Dipterostemon captatus* (X plugs/LF)
    - a. Planted in patches

### 4. Wetland Seasonal Riparian Areas

- i. Recommended Vegetation Species and Density
  - 1. *Elymus triticoides* (X PLS/ac)
  - 2. *Sporobolus airoides* (X PLS/ac)
  - 3. *Dipterostemon capitatus* (X plugs/LF)
    - a. Planted in patches
  - 4. *Baccharis salicifolia* (X plugs/LF)
    - a. Planted in patches
  - 5. *Baccharis glutinosa* (X plugs/LF)
  - 6. *Asclepias fascicularis* (X PLS/ac & X plugs/LF)
  - 7. *Frankenia salina* (X PLS/ac)
    - a. Not at Flying Dragon
  - 8. *Utica diocia* (X PLS/ac)

### 5. Dry Seasonal Riparian Areas

- i. Recommended Vegetation Species and Density
  - 1. *Elymus triticoides* (X PLS/ac)
  - 2. *Baccharis glutinosa* (X plugs/LF)
  - 3. *Achillea millefolium* (X PLS/ac)



4. *Eschscholzia californica* (X PLS/ac)
5. *Salvia columbariae* (X PLS/ac)
6. *Asclepias fascicularis* (X PLS/ac & X plugs/LF)
7. *Clarkia unguiculata* (X PLS/ac)
8. *Acer negundo* (Gallon size, X stems/ac)
9. *Fraxinus latifolia* (Gallon size, X stems/ac)

## 6. Upland

### i. Recommended Vegetation Species and Density

1. *Asclepias fascicularis* (X PLS/ac)
2. *Poa secunda* (X PLS/ac)
3. *Eschscholzia californica* (X PLS/ac)
4. *Achillea millefolium* (X PLS/ac)
5. *Savia columbariae* (X PLS/ac)
6. *Clarkia unguiculata* (X PLS/ac)
7. *Atriplex polycarpa* (X PLS/ac)
8. *Acer negundo* (Gallon size, X stems/ac)
  - a. Prefers slight shade
9. *Fraxinus latifolia* (Gallon size, X stems/ac)
  - a. Prefers slight shade
10. *Sambucus mexicana* (Blue Elderberry)
  - a. Discuss inclusion for each project individually (Beetle presence)

## 7. Pollinator Friendly Erosion Mix

### i. Recommended Vegetation Species Density

1. *Elymus triticoides* (X PLS/ac)
2. *Asclepias fascicularis* (X PLS/ac)
3. *Grindelia camporum* (X PLS/ac)

## 8. Inappropriate Species for Regional or Local Habitat

1. *Atriplex lentiformis* (Big saltbush)
2. *Juglans hindsii* (Black walnut)



Table 1: Tree Heights

Species	Common Name	Max Height (ft)**	Powerline approved (Small Zone)***	Powerline approved (Medium Zone)***
Populus fremontii	Fremont Cottonwood	115	N/A	
Salix gooddingii	Black Willow	40	N/A	<b>X</b>
Salix lasiolepis	Arroyo Willow	35	N/A	<b>X</b>
Salix laevigata	Red Willow	50	N/A	
Salix exigua	Sandbar Willow	23	N/A	<b>X</b>
Rosa californica	California Wildrose	10	<b>X</b>	<b>X</b>
Acer negundo	Box Elder	66	N/A	
Fraxinus latifolia	Oregon Ash	82	N/A	
Quercus lobata*	Valley Oak	100	N/A	
Vitis californica	California Grape	40	N/A	<b>X</b>
Quercus douglasii	Blue Oak	82	N/A	

\*Preferred Oak Species

\*\*Heights from Calscape

\*\*\*PG&E Tree and shrubs for powerline-friendly landscaping (small zone = up to 10' within 15' of wires, medium zone = up to 15' within 15-50')

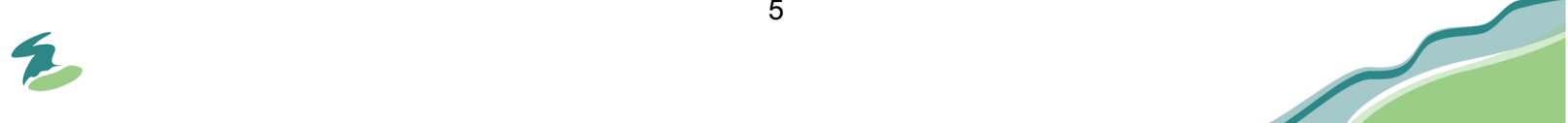


Table 2: Bloom Windows

Species <sup>3</sup>	Common Name	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Atriplex polycarpa	Allscale saltbrush												
Sporobolus airoides	Alkali Sacaton												
Clarkia unguiculata	elegant clarkia												
Elymus triticoides	Creeping Wildrye												
Baccharis glutinosa	Saltmarsh baccharis												
Asclepias fascicularis	Narrowleaf Milkweed												
Eleocharis macrostachya	Spike rush												
Poa secunda	One-sided Bluegrass												
Urtica dioica	Stinging Nettle												
Frankenia salina	Alkali Heath												
Achillea millefolium	yarrow												
Grindelia camporum	gumplant												
Phacelia tanacetifolia	Lacy phacelia												
Toxicodendron diversilobum	Poison Oak												
Salvia columbariae	Chia sage												
Eschscholzia californica	California poppy												
Dipterostemmon capitatus	Blue Dicks												
Baccharis salicifolia	Mule fat												

<sup>3</sup> Bloom windows for each species were pulled from the CalFlora database (<https://www.calflora.org/search.html>)

