Kings County Water District

Esajian Basin Project

Kings County, California
June, 2019

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Kings County Water District
Kings County

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Acronyms and Abbreviations

ACOE ..... United States Army Corps of Engineers
AF ..... Acre Feet/Foot
AG-20 ..... General Agriculture
ARB ..... Air Resources Board
BMPs ..... Best Management Practices
BPS ..... Best Performance Standards
CalEEMod ..... California Emissions Estimator Model
CalEPA ..... California Environmental Protection Agency
Caltrans ..... California Department of Transportation
CARB ..... California Air Resources Board
CAAQS ..... California Ambient Air Quality Standards
CCAA ..... California Clean Air Act
CCR ..... California Code of Regulations
CDFW ..... California Department of Fish and Wildlife
CEC ..... California Energy Commission
CEQA ..... California Environmental Quality Act
CFR ..... U.S. Code of Federal Regulations
CH4 ..... Methane
CNDDB ..... California Department of Fish and Wildlife Natural Diversity Database
CNEL ..... Community Noise Equivalent Level
CNPS ..... California Native Plant Service
CO ..... Carbon Monoxide
CRHR ..... California Register of Historical Resources
CUP ..... Conditional Use Permit
CUPA ..... Certified Unified Program Agency
CVP ..... Central Valley Project
CWA ..... Clean Water Act
District ..... Kings County Water District
DOC ..... California Department of Conservations
DPM ..... Diesel Particulate Matter
EIR ..... Environmental Impact Report
EPA ..... United States Environmental Protection Agency

FEMA ..... Federal Emergency Management Agency
FIRM ..... Flood Insurance Rate Maps
FMMP ..... Farmland Mapping and Monitoring Program
FRA ..... Federal Railway Administration
FTA ..... Federal Transit Administration
GAMAQI ..... Guide for Assessing and Mitigating Air Quality Impacts
GHGs ..... Greenhouse Gases
H2S ..... Hydrogen Sulfide
IS ..... Initial Study
IS/MND ..... Initial Study/Mitigated Negative Declaration
Lv ..... Vibration Velocity Level
MMRP ..... Mitigation Monitoring & Reporting Program
MND ..... Mitigated Negative Declaration
NAHC ..... Native American Heritage Commission
NAAQS ..... National Ambient Air Quality Standards
ND ..... Negative Declaration
NO2 ..... Nitrogen Dioxide
NOX ..... Nitrogen Oxide
NPDES ..... National Pollutant Discharge Elimination System
O3 ..... Ozone
OSHA ..... Occupational and Safety Health Act
Pb ..... Lead
PG&E ..... Pacific Gas & Electric
PM10 ..... Particulate Matter less than 10 microns in diameter
PPV ..... Peak Particle Velocity
Project ..... Kings County Water District Esajian Basin Project
RCRA ..... Resource Conservation and Recovery Act
Reclamation ..... United States Department of the Interior, Bureau of Reclamation
RMA ..... Resources Management Agency
RMS ..... Root Mean Squared
RWQCB ..... Regional Water Quality Control Board, Region 5, Central Valley Region
SB ..... Senate Bill
SCADA ..... Supervisory Control and Data Acquisition
SJVAPCD ..... San Joaquin Valley Air Pollution Control District

SMARA ..... Surface Mining and Reclamation Act
SO2 ..... Sulfur Dioxide
SR ..... State Route
SSJVIC ..... Southern San Joaquin Valley Information Center
SWRCB ..... State Water Resources Control Board
SWPPP ..... Storm Water Pollution Prevention Plan
USACE ..... United States Army Corps of Engineers
USFWS ..... United States Fish and Wildlife Service
VdB ..... Vibration Velocity Levels in Decibels

1 Introduction

The Kings County Water District has prepared this Initial Study/Mitigated Negative Declaration (IS/MND) to address the environmental effects of the Kings County Water District's Esajian Basin Project (Project). This document has been prepared in accordance with the California Environmental Quality Act (CEQA), Public Resources Code §21000 et.seq. The Kings County Water District (District) is the CEQA lead agency for this proposed Project.

1.1 Regulatory Information

In accordance with the California Code of Regulations Title 14, Chapter 3, Section 15000 et seq.-- also known as the CEQA Guidelines, an *Initial Study* (IS) is a document prepared by a lead agency to determine if a project may have a significant effect on the environment. If the Lead Agency's Initial Study finds that there is *no* substantial evidence, in light of the whole record, that the proposed project under review will not result in significant impacts requiring mitigation measures, a *Negative Declaration* (ND) may be prepared. 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 environmental impact report.

If an Initial Study finds that the proposed project may result in significant effects on the environment, either an Environmental Impact Report or a Mitigated Negative Declaration must be prepared.

If an IS finds that the proposed project may result in significant impacts on the environment, the Guidelines Section 15064 (a)(1) states an *Environmental Impact Report* (EIR) must be prepared to further analyze the extent and intensity of the impacts and determine mitigation measures or project alternatives that might avoid or reduce potentially significant impacts to less than significant.

However, Section 15070(b), states that if an IS identifies potentially significant effects, a *Mitigated Negative Declaration* (MND) is prepared if:

1. Revisions in the project plans or proposals made by, or agreed to by the applicant before the proposed mitigated negative declaration and initial study are released for public review would avoid the effects or mitigate the effects to a point where clearly no significant effects would occur, 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 four chapters and four appendices. **Chapter 1, Introduction**, provides an overview of the proposed Project and the CEQA process. **Chapter 2, Project Description**, provides a detailed description of proposed Project components and objectives. **Chapter 3, Impact Analysis**, presents the CEQA checklist and environmental analysis for all impact areas, mandatory findings of significance, and feasible mitigation measures. If the proposed Project does not have the potential to significantly impact a given issue area, the relevant section provides a brief discussion of the reasons why no impacts are expected. If the proposed Project could have a potentially significant impact on a resource, the issue 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 4, Mitigation Monitoring and**

Reporting Program (MMRP), provides the proposed mitigation measures, implementation timelines, and the entity/agency responsible for ensuring implementation.

The CalEEMod Output Files, Biological Evaluation Report, and Cultural Resources Information are provided as technical **Appendix A, Appendix B**, and **Appendix C**, respectively, at the end of this document.

The analyses of environmental impacts in **Chapter** Error! Reference source not found. are separated into the following categories:

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 After 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.)

2 Project Description

2.1 Project Background and Objectives

2.1.1 Project Title

Esajian Basin Project

2.1.2 Lead Agency Name and Address

Kings County Water District
200 N. Campus Drive
Hanford, CA 93230

2.1.3 Contact Person and Phone Number

Lead Agency Contact
Dennis Mills, General Manager
(559) 584-6412

CEQA Consultant
Provost & Pritchard Consulting Group
Dawn E. Marple, Project Manager
(559) 636-1166

2.1.4 Project Location

The Project is located in northern Kings County, central California, approximately 197 miles southeast of Sacramento and 87 miles northwest of Bakersfield (see **Figure 2-1**). The Project site is located east of California State Route 43 and north of California State Route 198 and more specifically, southwest of the corner of Dover Ave and 7th Ave on Assessor's Parcel Number 002-190-003.

2.1.5 Latitude and Longitude

The centroid of the parcels is 36°24' N 119°35' W

2.1.6 General Plan Designation

General Agriculture 20 acres

2.1.7 Zoning

General Agricultural-20 District (AG-20)

2.1.8 Description of Project

2.1.8.1 Project Background and Components

The Project area is 80 acres on the west side of 7th Avenue, between Dover and Excelsior Avenues in Kings County, CA. Peoples Ditch currently runs from northeast to southwest through the eastern side of the property. The Kings County Water District (District) is a stockholder in Peoples Ditch Company and has access to surface water (Kings River and surplus Friant Division CVP supplies) through this facility. The Project area, outside of Peoples Ditch, has been an active orchard for several years and has been used for farming activities for many decades. There are two active wells in use and one non-active well on the Project site. There are also electrical service facilities for the two active wells on the east side of the area, and electrical transmission towers along the west edge of the Project site.

As a County Water District, Kings CWD has broad authorities to manage, monitor and recharge the groundwater aquifers in its 143,000-acre service area. The District currently owns and/or operates roughly 1,100 acres of recharge basins and a groundwater bank. The Project will include the development of a new 75-acre recharge basin and would realign Peoples Ditch in order to make the basin area more productive and manageable. The realignment of Peoples Ditch would require developing several associated control structures. SCADA may be involved in the modified control structures in Peoples Ditch as well as other operational improvements. The new recharge basin will be developed with up to four cells that could be submerged to a depth of 5 to 15 feet. Each basin cell would have an earthen perimeter road with a top width of at least 15 feet. New turnout facilities from Peoples Ditch will be developed to deliver water to the basin cells. The turnouts would include metal trash racks, concrete structures, canal gates, flow meters, PVC or concrete piping, and concrete riprap for slope protection. The District plans to develop facilities capable of nearly filling the basin complex in roughly seven days while also being able to maintain the much lower long-term recharge rate of the facility.

The construction of the basin cells would require the use of scrapers, graders, compacters, trenchers, backhoes, front end loaders, water trucks, and materials and equipment hauling trucks. The aforementioned vehicles are diesel and gasoline-powered equipment. The intent is to keep the existing orchard productive until the District is ready to begin excavation. Prior to basin excavation, the almond and persimmon orchards on the Project site will be removed along with their associated irrigation system. The majority of the excavated material from the new basin cells would be used on site to develop two to four foot raised levees.

Several groundwater monitoring facilities would be developed at the Project site. In order for the District to monitor shallow groundwater conditions immediately adjacent to the new basin, eight piezometers will be installed around the perimeter of the facility. These piezometers will consist of perforated metal pipe and will provide depth to groundwater information down to a maximum of 30 feet below ground surface. A dedicated groundwater monitoring well is also planned to be developed on the site. This dedicated monitoring well would allow for monitoring of the aquifer below the Corcoran Clay, and above the Corcoran Clay at the same location (nested monitor well) with data loggers. SCADA may be involved through remote sensing of this facility. Additionally, the monitoring well would be used to take regular groundwater quality samples in connection with the Mid-Kings River Groundwater Sustainability Agency (MKR GSA). The Project site is in the Tulare Lake Subbasin and the MKR GSA is currently developing a Groundwater Sustainability Plan (GSP) which will include a Monitoring Plan related to groundwater sustainability.

2.1.8.2 Construction

Construction activity for the recharge basin are planned to begin in the fall of 2019. This initial phase of construction is anticipated to last approximately 10 months. Construction of the Project is estimated to require a maximum of 20 workers who would work in single shifts, five days per week.

The Project construction would require the use of scrapers, graders, compacters, trenchers, backhoes, front end loaders, water trucks, and materials and equipment hauling trucks. The aforementioned vehicles are diesel and gasoline-powered equipment.

2.1.8.3 Operation and Maintenance

The groundwater recharge basins and inlet facilities would be equipped with SCADA equipment that would allow the District, if they so desire, to remotely operate and monitor facilities. Water conveyed to this basin may be floodwater captured during wet periods or spill water generated when the irrigation system becomes unbalanced. On average, the District this able to recharge water approximately 30 days per year with recharge rates varying from 0.5 to 4.0 acre-feet per acre per day. Water would percolate from this recharge basin into the underlying aquifer. Occasional service employees may be on-site for scheduled, preventive maintenance as well as unscheduled service. Site maintenance would include levee maintenance, weed abatement, trash removal, periodic sediment removal and water control structure adjustments and maintenance.

2.1.9 Surrounding Land Uses and Setting:

The proposed Project is located approximately 9.2 miles northeast of the City of Hanford. It is surrounded by developed agriculture and agricultural support facilities and the Peoples Ditch. The Project site has been an active orchard for several years.

2.1.10 Other Public Agencies Whose Approval May Be Required:

Discretionary approvals that may be required:

- State Water Resources Control Board – NPDES Construction General Permit
- San Joaquin Valley Air Pollution Control District – rules and regulations (Regulation VIII, Rule 9510, Rule 4641)

2.1.11 Consultation with California Native American Tribes

Assembly Bill 52 (AB 52; codified at Public Resources Code Section 21080.3.1, et seq.) 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.

The District has not received any written correspondence from a Tribe pursuant to Public Resources Code Section 21080.3.1 requesting notification of proposed projects. All Tribal correspondence is discussed in further detail in sections **3.5** and **3.18** of **Chapter 3**.

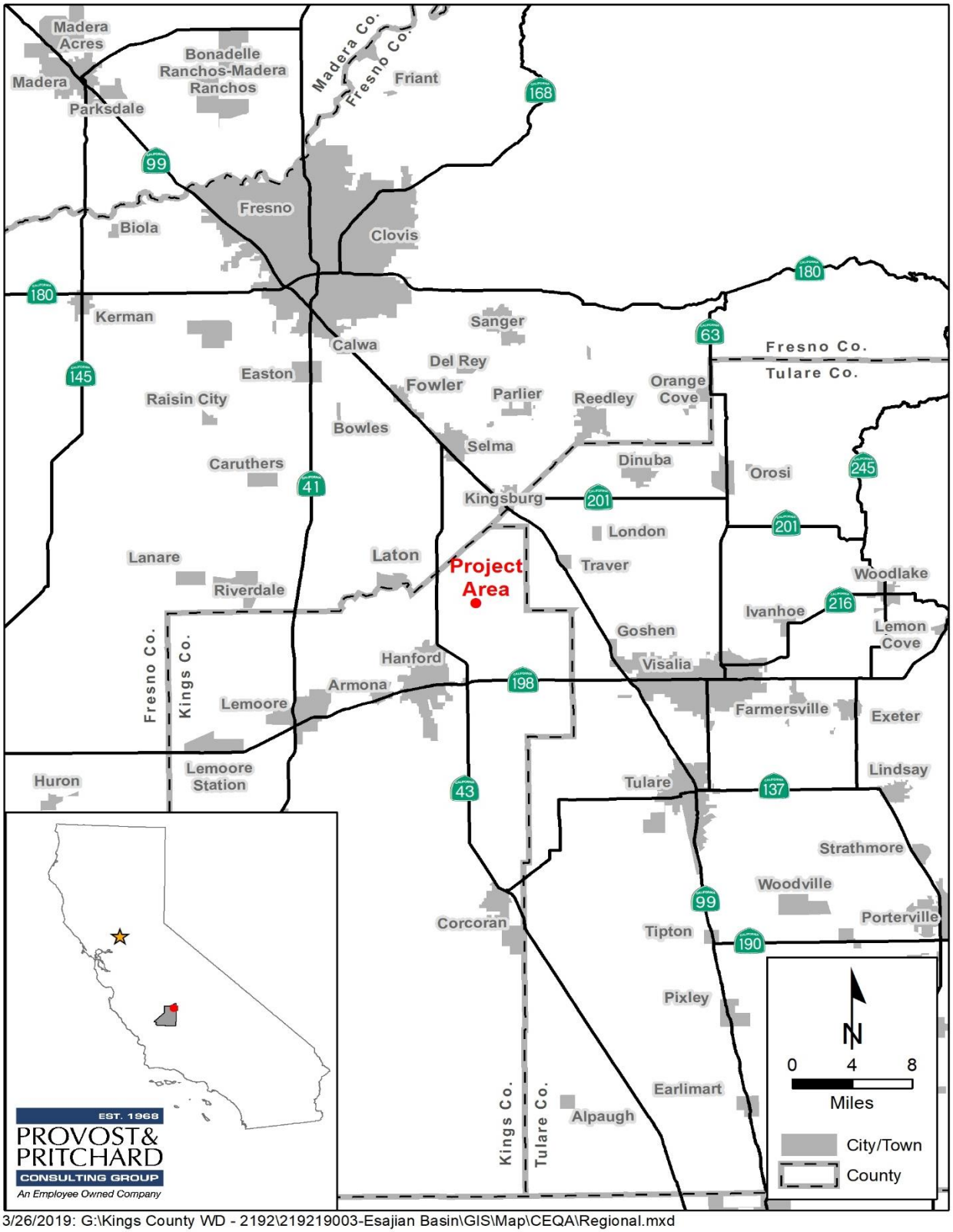

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Figure 2-1. Regional Location

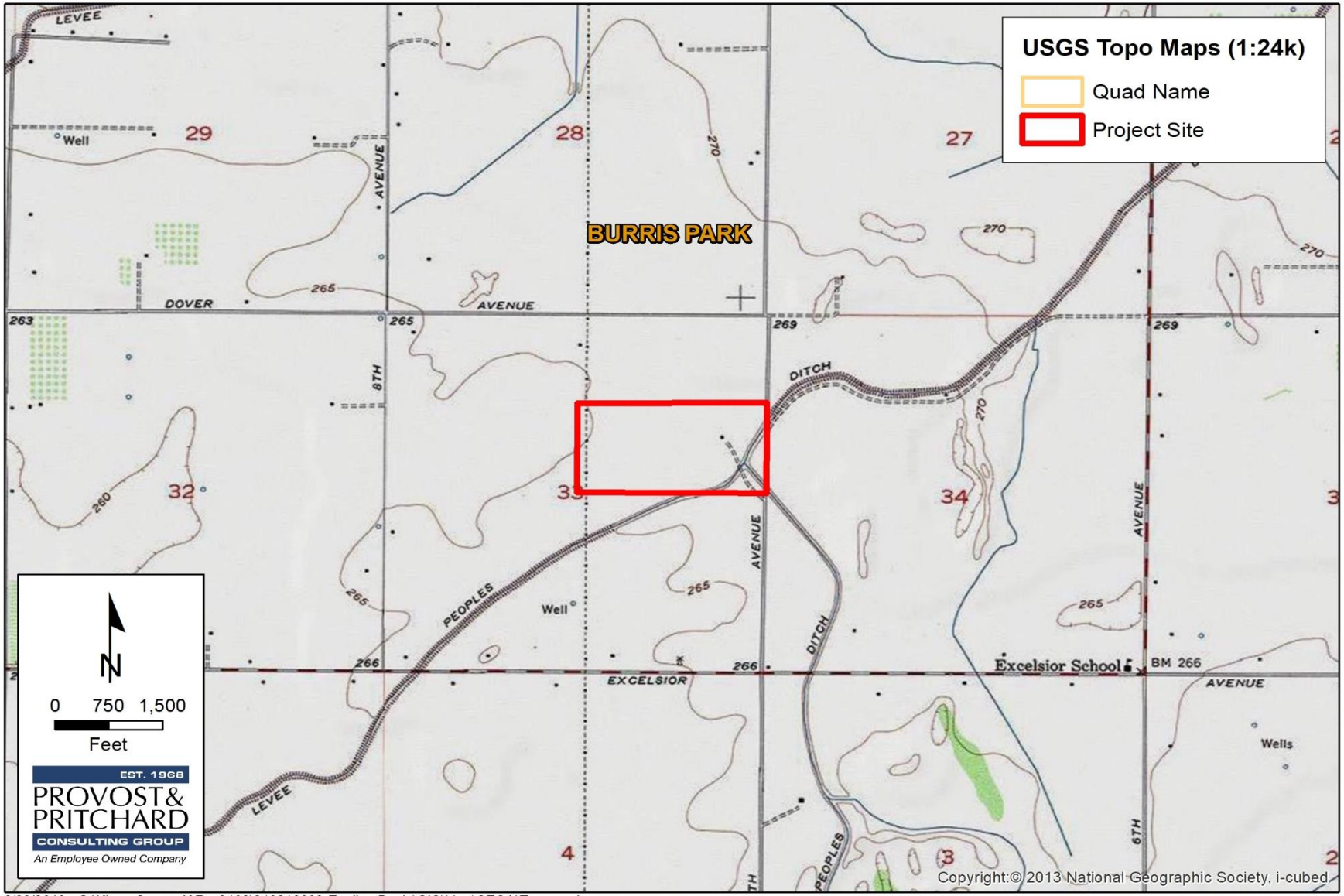

Figure 2-2. Topographic Map

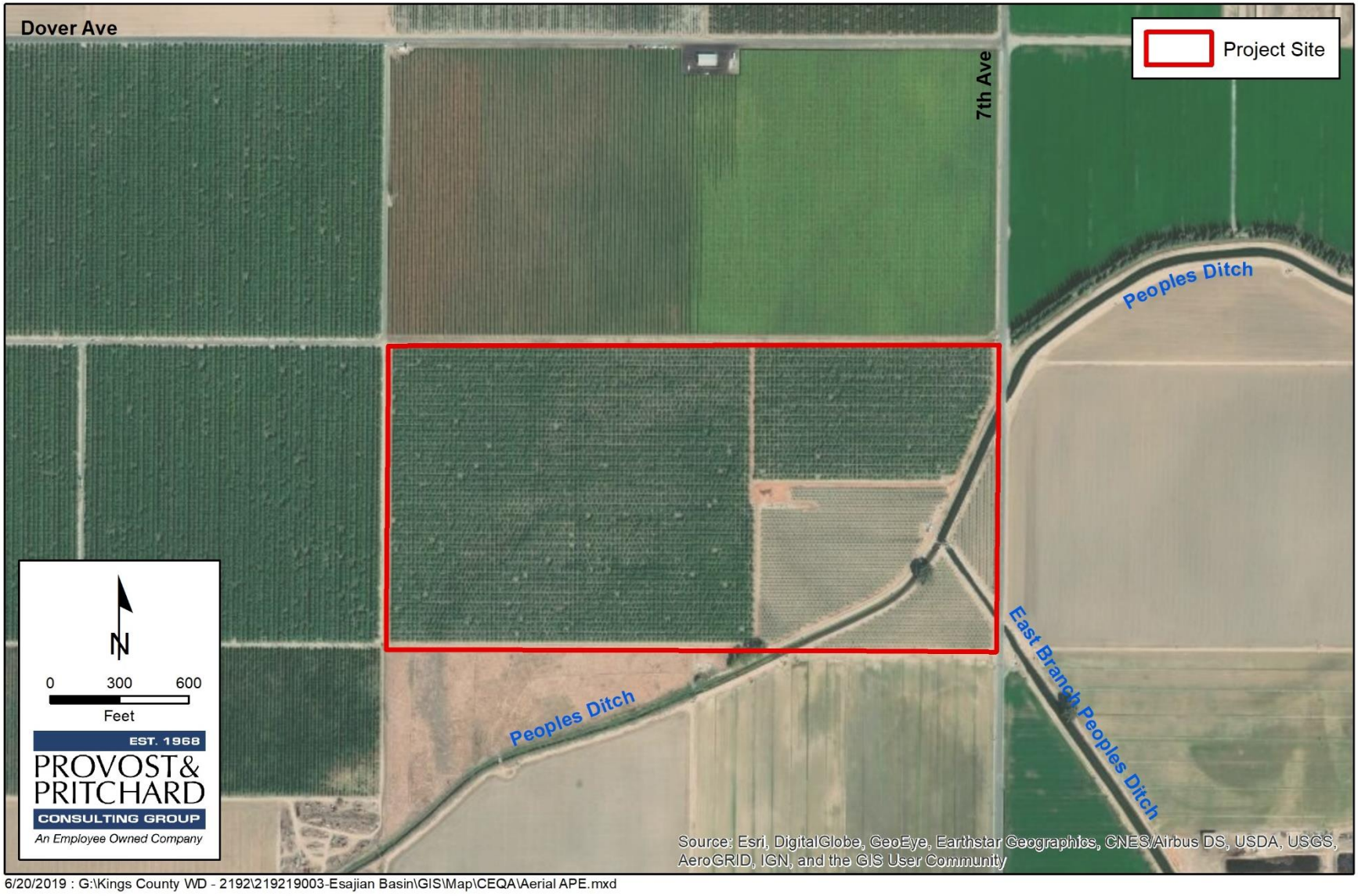

Figure 2-3. Aerial Map

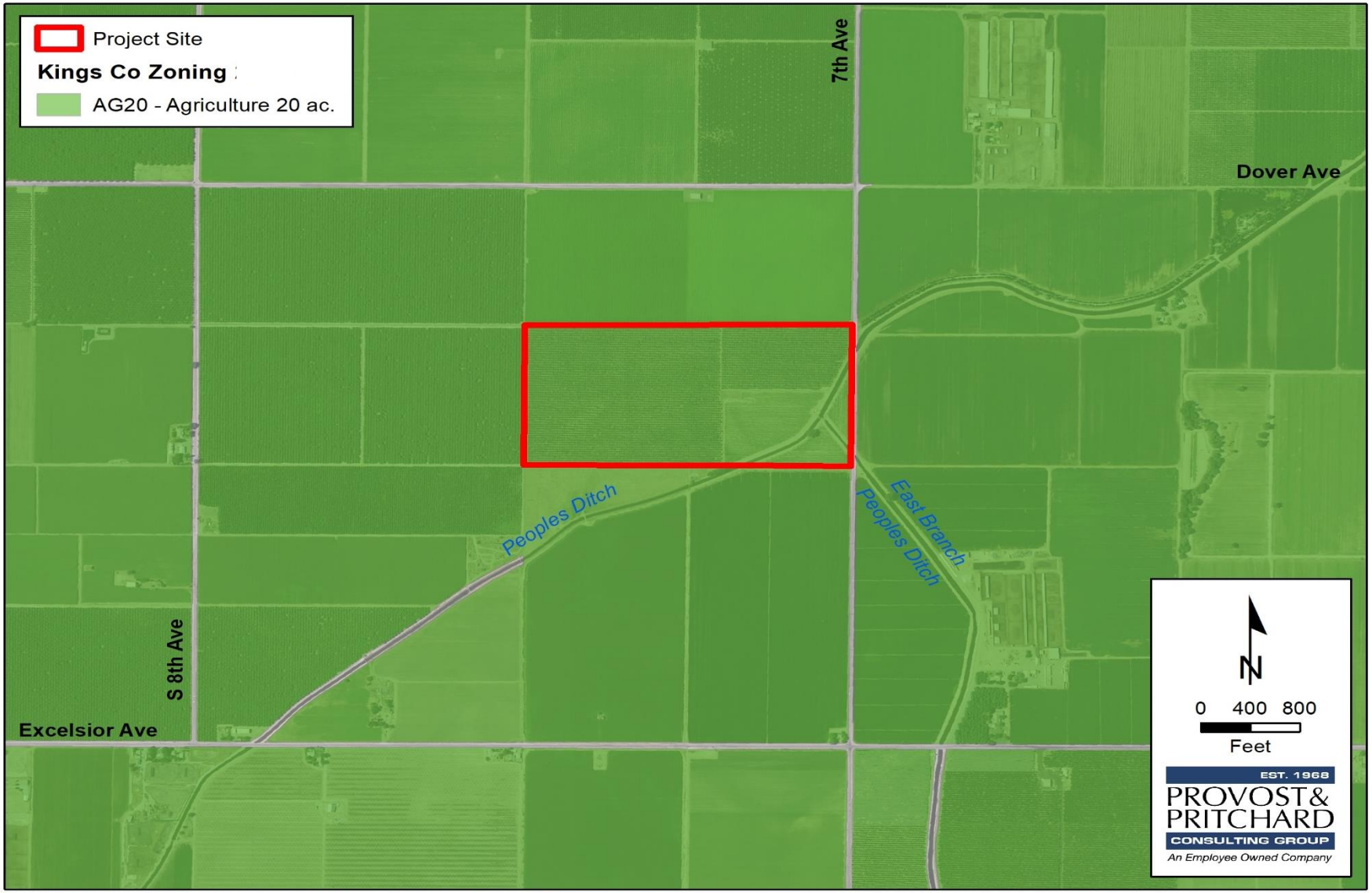

Figure 2-4. Kings County Zoning Map

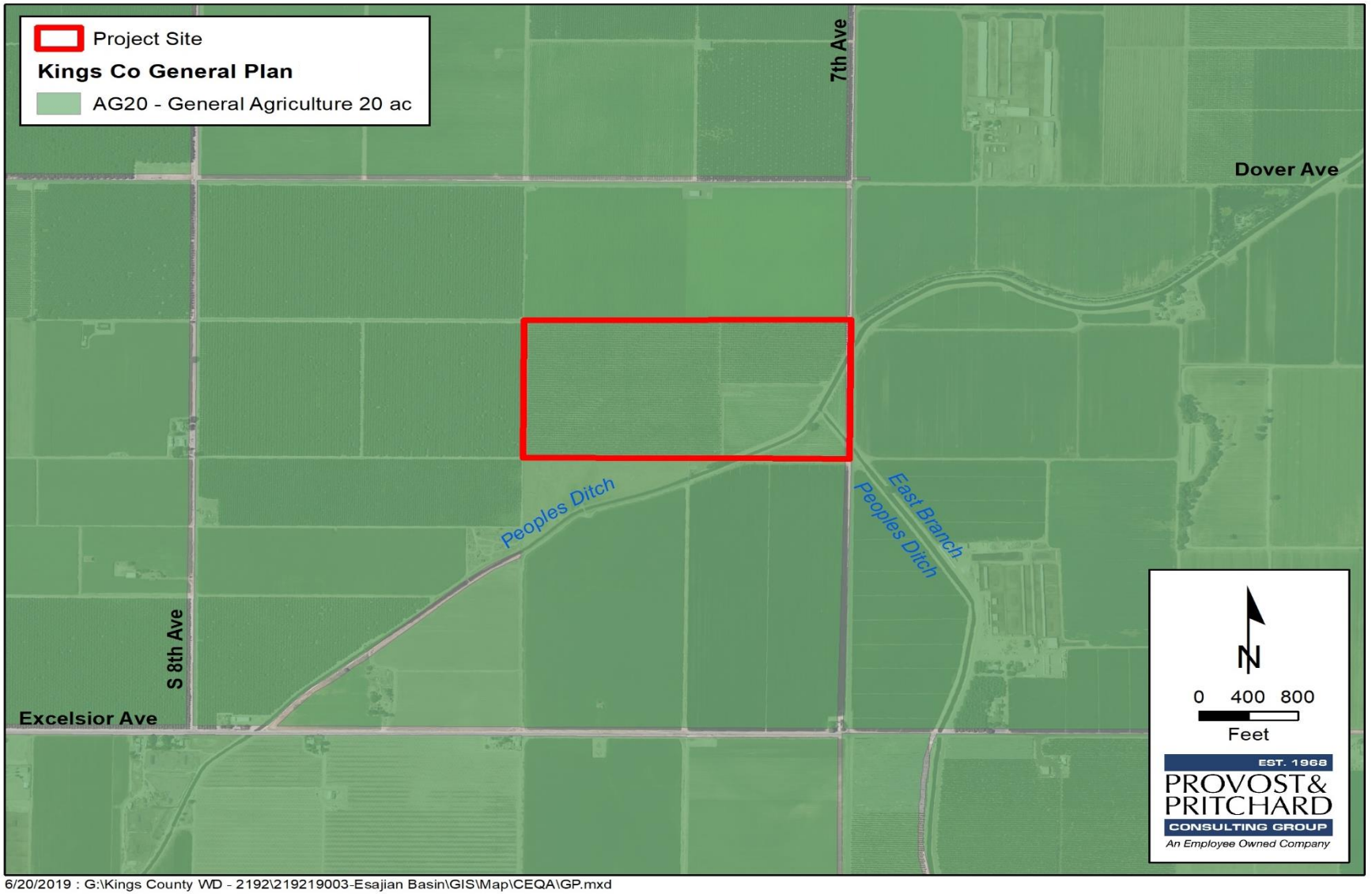

Figure 2-5. Kings County General Plan 2035 Map

Environmental Factors Potentially Affected

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

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

DETERMINATION: (To be completed by the Lead Agency)

On the basis of this initial evaluation:

☐ I find that the proposed project COULD NOT have a significant effect on the environment, and a NEGATIVE DECLARATION will be prepared.

☒ I find that although the proposed project could have a significant effect on the environment, there will not be a significant effect in this case because revisions in the project have been made by or agreed to by the project proponent. A MITIGATED NEGATIVE DECLARATION will be prepared.

☐ I find that the proposed project MAY have a significant effect on the environment, and an ENVIRONMENTAL IMPACT REPORT is required.

☐ I find that the proposed project MAY have a "potentially significant impact" or "potentially significant unless mitigated" impact on the environment, but at least one effect 1) has been adequately analyzed in an earlier document pursuant to applicable legal standards, and 2) has been addressed by mitigation measures based on the earlier analysis as described on attached sheets. An ENVIRONMENTAL IMPACT REPORT is required, but it must analyze only the effects that remain to be addressed.

☐ I find that although the proposed project could have a significant effect on the environment, because all potentially significant effects (a) have been analyzed adequately in an earlier EIR or NEGATIVE DECLARATION pursuant to applicable standards, and (b) have been avoided or mitigated pursuant to that earlier EIR or NEGATIVE DECLARATION, including revisions or mitigation measures that are imposed upon the proposed project, nothing further is required.

Dennis Mills
Signature

6/27/19
Date

Dennis Mills
Printed Name/Position

3 Impact Analysis

3.1 Aesthetics

Table 3-1. Aesthetics Impacts

Aesthetics				
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 a substantial adverse effect on a scenic vista?	☐	☐	☒	☐
b) Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?	☐	☐	☐	☒
c) In non-urbanized areas, substantially degrade the existing visual character or quality of public views of the site and its surroundings? (Public views are those that are experienced from publicly accessible vantage point). If the project is in an urbanized area, would the project conflict with applicable zoning and other regulations governing scenic quality?	☐	☐	☒	☐
d) Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?	☐	☐	☐	☒

3.1.1 Environmental Setting

Within Kings County, agricultural land is the predominant open space landscape, representing approximately 91 percent of all unincorporated land within the County[1]. The Kings River is the closest scenic resource to the Project site and is over two miles to the north. Land in the vicinity consist of relatively flat irrigated farmland. Agricultural practices in the vicinity consist of row crop, field crop, and orchard cultivation. Rural roadways and local water distribution canals are in the immediate vicinity. The proposed Project would be consistent with the aesthetics of the area.

3.1.2 Regulatory Setting

3.1.2.1 Federal

There are no federal regulations, plans, programs, or guidelines associated with aesthetics that are applicable to the proposed Project.

3.1.2.2 State

Scenic Highway Program: California's Scenic Highway Program was created by the Legislature in 1963. Its purpose is to preserve and protect scenic highway corridors from change which would diminish the aesthetic value of lands adjacent to highways. The State laws governing the Scenic Highway Program are found in the Streets and Highway Code (SHC) Section 260, *et seq*. A highway may be officially designated "scenic" depending upon how much of the natural landscape can be seen by travelers, the scenic quality of the

[1] 2035 Kings County General Plan, 2010 (SCH#2008121020)

landscape, and the extent to which development intrudes upon the traveler's enjoyment of the view. The State Scenic Highway System includes a list of highways that are either eligible for designation as scenic highways or have been so designated. These highways are identified in SHC Section 263. A list of California's scenic highways and map showing their locations may be obtained from Caltrans' Scenic Highway Coordinators.[2]

3.1.2.3 Local

2035 Kings County General Plan Policies: The Open Space Element of the 2035 Kings County General Plan describes scenic resources within the county. This element identifies portions of the Kings River as a scenic natural asset and the Coast Ranges of the county's southwest edges as a distinctive visual backdrop, which are visible along State Route 41 from the northern county line to Kettleman City. The Kings River is located over two miles north of the project site.

As one of the agricultural Counties in the Central San Joaquin Valley, Kings County's agricultural land serves a significant role in the County's agriculturally based economy, and production of food and fiber for the rest of the Country. In addition to their economic value and commodity production, the vast stretches of green field crops, orchards and vineyards are also valued for their scenic beauty and representation of Kings County's identity.

General Plan goals, objectives, and policies pertaining to aesthetics:

- RC OBJECTIVE D3.1: Ensure that, in development decisions affecting riparian environments, the conservation of fish and wildlife habitat and the protection of scenic qualities are balanced with other purposes representing basic health, safety, and economic needs.
- OS GOAL B1: Maintain and protect the scenic beauty of Kings County.
- OS OBJECTIVE B1.1: Protect and enhance views from roadways which cross scenic areas or serve as scenic entranceways to cities and communities.
- OS Policy B1.1.1: Coordinate with the Kings County Association of Governments to explore designation of State Route 41, between State Route 33 and the Kern County line, as an Official State Scenic Highway through the Caltrans Transportation Enhancement program.
- OS OBJECTIVE B1.3: Protect the scenic qualities of human-made and natural landscapes and prominent view sheds.
- OS Policy B1.3.2: Protect the visual access to Kings River and other prominent watercourses by locating and designing new development to minimize visual impacts and obstruction of views of scenic watercourses from public lands and rights-of-way.

3.1.3 Impact Assessment

I-a) Would the project have a substantial adverse effect on a scenic vista?

a) Less Than Significant Impact. Scenic features in the area may include the Kings River and even the vast expanse of agricultural uses. The Project site is not within the viewshed of these features and the site does not stand out from its surroundings in any remarkable fashion. Impacts are less than significant.

[2] Streets and Highways Code. https://leginfo.legislature.ca.gov/faces/codes_displayexpandedbranch.xhtml?tocCode=SHC&division=1.&title=&part=&chapter=&article= Accessed 22 October 2018.

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

b) No Impact. The Scenic Highway Program[3] was created to preserve and protect scenic highway corridors from change would diminish the aesthetic value of lands adjacent to highways. A highway may be officially designated "scenic" depending upon how much of the natural landscape can be seen by travelers, the scenic quality of the landscape, and the extent to which development intrudes upon the traveler's enjoyment of the view.

There are no trees, rock outcroppings, or historical buildings near a designated state scenic highway that would be substantially damaged by the Project. The nearest highway that is eligible for listing as a state scenic highway is a portion of SR 41, from its intersection with SR 33 through to the San Luis Obispo County line. At the closest point, this is approximately 54 miles southwest from the Project site. There would be no impact.

I-c) Would the project, in non-urbanized areas, substantially degrade the existing visual character or quality of public views of the site and its surroundings? (Public view 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?

c) Less Than Significant Impact. The Project site is primarily surrounded by agricultural uses and water infrastructure and is located amid lands zoned for agriculture. The new facilities will blend in with existing uses and the proposed Project will not substantially degrade the visual character of the area. The impact will be less than significant.

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

d) No Impact. There would be no nighttime construction; therefore, there would be no vehicular traffic on site during nighttime hours when vehicle headlights have the potential to create glare, and once construction is completed there would be no daytime vehicular traffic relevant to the Project. Accordingly, the Project will not create a new source of substantial light or glare that would adversely affect day or nighttime views in the area. There would be no impact.

[3] State Scenic Highways
https://leginfo.legislature.ca.gov/faces/codes_displayexpandedbranch.xhtml?tocCode=SHC&division=1.&title=&part=&chapter=&article=
Accessed March 29, 2019.

3.2 Agriculture and Forestry Resources

Table 3-2. Agriculture and Forest Resources Impacts

Agriculture and Forest Resources				
Would the project:	**Potentially Significant Impact**	**Less than Significant With Mitigation Incorporated**	**Less than Significant Impact**	**No Impact**
a) Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?	☐	☐	☒	☐
b) Conflict with existing zoning for agricultural use, or a Williamson Act contract?	☐	☐	☐	☒
c) Conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code section 12220(g)), timberland (as defined by Public Resources Code section 4526), or timberland zoned Timberland Production (as defined by Government Code section 51104(g))?	☐	☐	☐	☒
d) Result in the loss of forest land or conversion of forest land to non-forest use?	☐	☐	☐	☒
e) Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland, to non-agricultural use or conversion of forest land to non-forest use?	☐	☐	☐	☒

3.2.1 Environmental Setting

In 2017, Kings County was ranked 10th among California counties in agricultural production, with its top commodity being milk. The County is ranked 1st among California counties in cotton lint and cotton seed production; 3rd in the production of milk and cream, apricots, and tomatoes (processing); and is ranked 5th among California counties in the production of the following commodities: silage, pistachios, and peaches.[4]

A review of the "Important Farmlands" mapping by the California Department of Conservation's (DOC's) Farmland Mapping and Monitoring Program (FMMP) shows that the proposed Project site is designated as "Prime Farmland," "Unique Farmland," and "Farmland of State Importance". The FMMP provides statistics on conversion of farmland to nonagricultural uses. Of the total land area that was inventoried (890,798 acres), in 2016, Kings County had approximately 479,839 acres of Important Farmlands (including Prime Farmland, Farmland of Statewide Importance, Unique Farmland, and Farmland of Local Importance) and an additional 338,243 acres of grazing land. The remaining 72,654 acres of land were Urban and Built-up Land, Other Land, and Water Area. In the period between 2014 and 2016, Important Farmlands showed a net decrease of

[4] Kings County Agricultural Report, 2018. https://www.countyofkings.com/home/showdocument?id=19239. Site accessed 6/5/2019.

27,694 acres within the County.[5] Pursuant to Kings County's Priority Agricultural Land Model,[6] the Project site is identified as being within designated classifications of Med-High Priority and High Priority Agricultural Land.

3.2.2 Regulatory Setting

3.2.2.1 Federal

There are no federal regulations, plans, programs, or guidelines associated with agriculture and forestry resources that are applicable to the proposed Project.

3.2.2.2 State

Farmland Conservancy Program: The Department of Conservation's (DOC) Farmland Conservancy Program (FCP) seeks to encourage the long-term, private stewardship of agricultural lands through the voluntary use of agricultural conservation easements. The FCP provides grant funding for easements and planning projects that support statewide agricultural land conservation.

Farmland Mapping and Monitoring Program (FMMP): The 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 DOC's 2012 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, unique farmland, farmland of local importance, and grazing land – rated according to soil quality and irrigation status. Each is summarized below[7]:

• 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.

[5] Kings County Agricultural Report, 2018. https://www.countyofkings.com/home/showdocument?id=19239. Site accessed 6/5/2019.
[6] 2035 Kings County General Plan, Resource Conservation Element, Figure RC-13
[7] California Department of Conservation. FMMP – Report and Statistics. http://www.conservation.ca.gov/dlrp/fmmp/products/Pages/ReportsStatistics.aspx. Accessed 24 October 2018.

• 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 nonagricultural 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 3-1**, the FMMP for Kings County designates the Project site as Prime Farmland, Unique Farmland, and Farmland of State Importance. In addition to these designations, the surrounding areas also contain Grazing Land.

3.2.2.3 Local

2035 Kings County General Plan: The Resource Conservation Element of the 2035 Kings County General Plan describes how agricultural resources continue to remain one of the highest valued assets within Kings County. Since 1969, the County has implemented several programs, ordinances, and policies to sustain agriculture. Recently, Kings County has developed the "Priority Agricultural Land Model" by using geographic information system (GIS) data and other relevant information resources to evaluate farmland resources throughout the County. The model established a "highest to lowest" priority designation of all agricultural growing areas[8].

Kings County Development Code: The Kings County Development Code establishes the basic regulations under which land within the county unincorporated areas is developed. This includes allowable or conditional uses, building setback requirements, and development standards. Pursuant to State law[9], the zoning ordinance must be consistent with the Kings County General Plan. The basic intent of the Kings County Development Code is to preserve, promote and protect the public health, safety, comfort, convenience, prosperity and general welfare via the orderly regulation of land uses throughout the unincorporated area of the County.

Zoning Districts:
General Agricultural-20 District (AG-20)

The purpose of the AG-20 zone is to designate areas suitable for extensive or intensive agricultural uses, in rural areas generally north of Kansas Avenue where farm sizes have historically been smaller than in other areas of the County. Permitted land uses include agriculture, residential uses (one-family dwelling per legal parcel), agricultural commercial uses, public utility and service structures, institutional uses, and miscellaneous accessory structures related to permitted uses. The proposed Project is consistent with agricultural uses. Implementation of the Project would increase the District's ability to recharge wet year surface water and improve groundwater resource sustainability, especially during times of a drought.

[8] 2035 Kings County General Plan, Resource Conservation Element. Page RC-19
[9] Government Code Section 65860
, http://leginfo.legislature.ca.gov/faces/codes_displaySection.xhtml?lawCode=GOV&sectionNum=65860

3.2.3 Impact Assessment

II-a) Would the project convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?

a) Less Than Significant Impact. The proposed Project site is designated as Prime Farmland, Unique Farmland, and Farmland of Statewide Importance. See **Figure 3-1**. The proposed Project would allow the construction of a recharge basin to replenish groundwater, ultimately benefitting water resources that may be used for agricultural wells in the vicinity. Therefore, the impact would be less than significant.

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

b) No Impact. There are no Williamson Act contracts present on the Project site; however, parcels adjacent to the east and to the south are subject to Williamson Act contracts. The recharge basin will facilitate sustainability of groundwater resources for District growers, inherently promoting the agricultural zoning and nearby Williamson Act intentions. Therefore, there would be no impact.

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

c) No Impact. The Project site is not zoned for forest land, timberland, or timberland production. The Project site does not contain forestland or timberland. No impact would occur.

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

d) No Impact. As discussed in impact analysis II-c, there are no forests or timberland within the Project vicinity. Therefore, there would be no impact.

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

e) No Impact. As discussed in impact analysis II-a, the proposed Project would not convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance to non-agricultural use. As discussed in impact analysis II-c, the Project site is not located on or in the vicinity of forestland, and therefore would not convert forest land to non-forest use. No impact would occur.

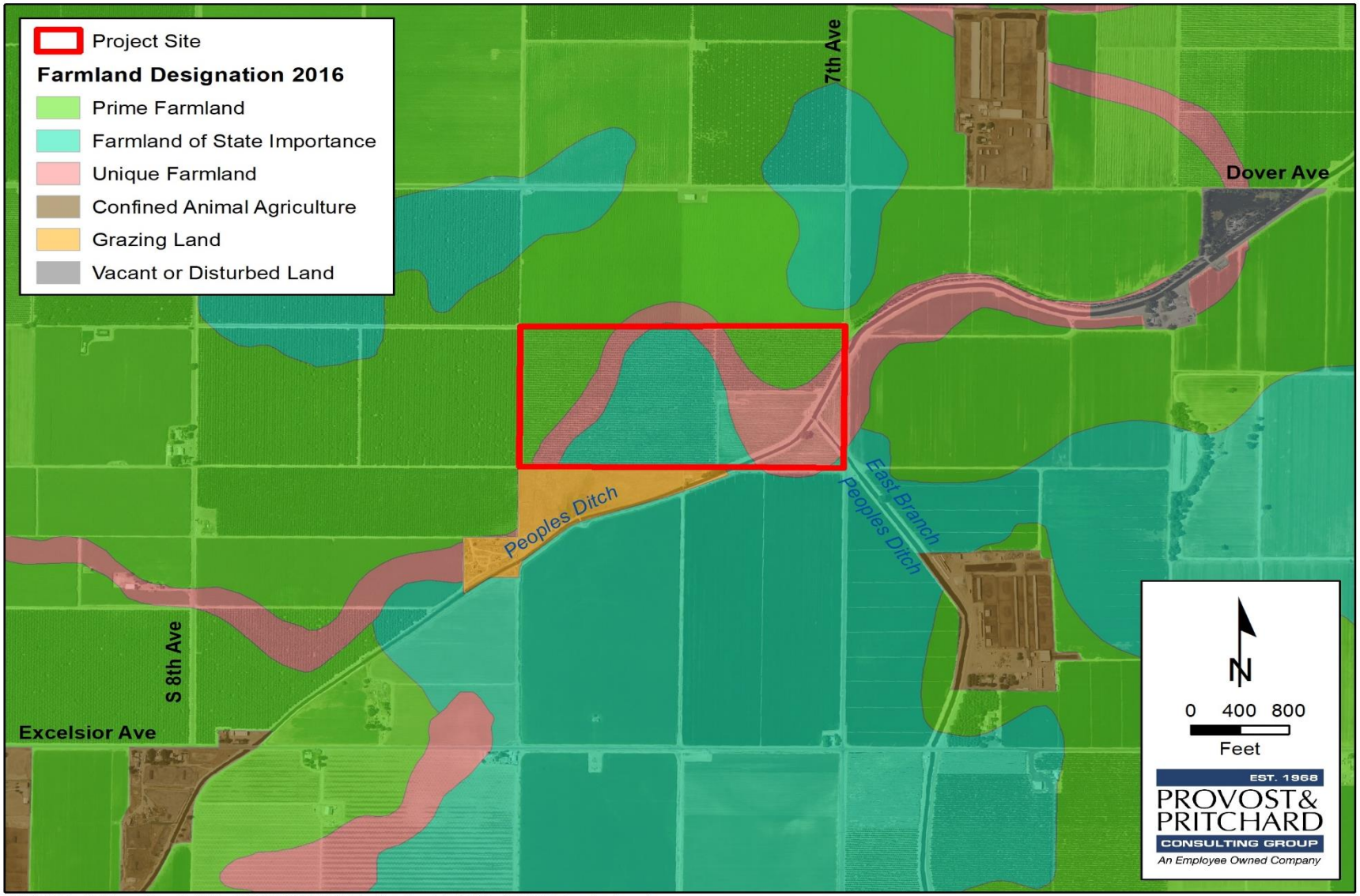

Figure 3-1. Farmland Designation Map

3.3 Air Quality

Table 3-3. Air Quality Impacts

Air Quality					
Where available, the significance criteria established by the applicable air quality management district or air pollution control district may be relied upon to make the following determinations. Would the project:		**Potentially Significant Impact**	**Less than Significant With Mitigation Incorporated**	**Less than Significant Impact**	**No Impact**
a)	Conflict with or obstruct implementation of the applicable air quality plan?	☐	☐	☐	☒
b)	Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard?	☐	☐	☒	☐
c)	Expose sensitive receptors to substantial pollutant concentrations?	☐	☐	☒	☐
d)	Result in other emissions (such as those leading to odors adversely affecting a substantial number of people?	☐	☐	☒	☐

3.3.1 Environmental Setting

The proposed Project lies within the eight-county San Joaquin Valley Air Basin (SJVAB), which is managed by the San Joaquin Valley Air Pollution Control District (SJVAPCD). Air quality in the SJVAB is influenced by a variety of factors, including topography, local and regional meteorology. National Ambient Air Quality Standards (NAAQS) and California Ambient Air Quality Standards (CAAQS) have been established for the following criteria pollutants: carbon monoxide (CO), ozone (O_3), sulfur dioxide (SO_2), nitrogen dioxide (NO_2), particulate matter (PM_{10} and $PM_{2.5}$), and lead (Pb). The CAAQS also set standards for sulfates (SO_4), hydrogen sulfide (H_2S), vinyl chloride (C_2H_3Cl) and visibility.

Air quality plans or attainment plans are used to bring the applicable air basin into attainment with all State and Federal ambient air quality standards designed to protect the health and safety of residents within that air basin. Areas are classified under the Federal Clean Air Act as either "attainment", "nonattainment", or "extreme nonattainment" areas for each criteria pollutant based on whether the NAAQS have been achieved or not. Attainment relative to the State standards is determined by the California Air Resources Board (CARB). The San Joaquin Valley is designated as a State and Federal nonattainment area for O_3, a State and Federal nonattainment area for $PM_{2.5}$, a State nonattainment area for PM_{10}, a Federal and State attainment area for CO, SO_2, and NO_2, and a State attainment area for sulfates, vinyl chloride and Pb[10].

[10] San Joaquin Valley Air Pollution Control District. Ambient Air Quality Standards and Valley Attainment Status. http://www.valleyair.org/aqinfo/attainment.htm.

3.3.2 Methodology

An Air Quality and Greenhouse Gas Emissions Evaluation Report (**Appendix A**) was prepared using CalEEmod, Version 2016.3.2 for the proposed Project in June 2019. The sections below detail the methodology of the air quality and greenhouse gas emissions report and its conclusions.

3.3.2.1 Short-Term Construction-Generated Emissions

Short-term construction emissions associated with the Project were calculated using CalEEmod, Version 2016.3.2. 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 construction equipment requirements provided by the Project applicant. All remaining assumptions were based on 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**.

3.3.2.2 Long-Term Operational Emissions

Long-term operational emissions associated with the Project are estimated to be minimal in nature. Maintenance will be provided on an as needed basis by District staff, and the water management equipment, such as automated gates, these would either be manual or electric which results in negligible emissions. Modeling assumptions and output files are included in **Appendix A**.

3.3.2.3 Thresholds of Significance

To assist local jurisdictions in the evaluation of air quality impacts, the SJVAPCD has published the *Guide for Assessing and Mitigating Air Quality Impacts*. This guidance document includes recommended thresholds of significance to be used for the evaluation of short-term construction, long-term operational, odor, toxic air contaminant, and cumulative air quality impacts. Accordingly, the SJVAPCD-recommended thresholds of significance are used to determine whether implementation of the proposed Project would result in a significant air quality impact. Projects that exceed these recommended thresholds would be considered to have a potentially significant impact to human health and welfare. The thresholds of significance are summarized, as follows:

Short-Term Emissions of Particulate Matter (PM_{10}): Construction impacts associated with the proposed Project would be considered significant if the feasible control measures for construction in compliance with Regulation VIII as listed in the SJVAPCD guidelines are not incorporated or implemented, or if project-generated emissions would exceed 15 tons per year (TPY).

Short-Term Emissions of Ozone Precursors (ROG and NOx): Construction impacts associated with the proposed Project would be considered significant if the project generates emissions of Reactive Organic Gases (ROG) or NO_X that exceeds 10 TPY.

Long-Term Emissions of Particulate Matter (PM10): Operational impacts associated with the proposed Project would be considered significant if the project generates emissions of PM_{10} that exceed 15 TPY.

Long-Term Emissions of Ozone Precursors (ROG and NOx): Operational impacts associated with the proposed Project would be considered significant if the project generates emissions of ROG or NO_X that exceeds 10 TPY.

Conflict with or Obstruct Implementation of Applicable Air Quality Plan: Due to the region's nonattainment status for ozone, $PM_{2.5}$, and PM_{10}, if the project-generated emissions of either of the ozone precursor pollutants (i.e., ROG and NO_x) or PM_{10} would exceed the SJVAPCD's significance thresholds, then the

project would be considered to conflict with the attainment plans. In addition, if the project would result in a change in land use and corresponding increases in vehicle miles traveled, the project may result in an increase in vehicle miles traveled that is unaccounted for in regional emissions inventories contained in regional air quality control plans.

Local Mobile-Source CO Concentrations: Local mobile source impacts associated with the proposed Project would be considered significant if the project contributes to CO concentrations at receptor locations in excess of the CAAQS (i.e. 9.0 ppm for 8 hours or 20 ppm for 1 hour).

Exposure to toxic air contaminants (TAC) would be considered significant if the probability of contracting cancer for the Maximally Exposed Individual (i.e., maximum individual risk) would exceed 10 in 1 million or would result in a Hazard Index greater than 1.

Odor impacts associated with the proposed Project would be considered significant if the project has the potential to frequently expose members of the public to objectionable odors.

3.3.3 Regulatory Setting

3.3.3.1 Federal

There are no federal regulations, plans, programs, or guidelines associated with air quality that are applicable to the proposed Project.

3.3.3.2 State

California Air Resources Board: The CARB is the agency responsible for coordination and oversight of State and local air pollution control programs in California and for implementing the California Clean Air Act of 1988. Other CARB duties include monitoring air quality (in conjunction with air monitoring networks maintained by air pollution control districts and air quality management districts, establishing California Ambient Air Quality Standards (CAAQS), which in many cases are more stringent than the NAAQS, and setting emissions standards for new motor vehicles. The emission standards established for motor vehicles differ depending on various factors including the model year, and the type of vehicle, fuel and engine used.

California Clean Air Act: The CCAA requires that all air districts in the State endeavor to achieve and maintain CAAQS for ozone, CO, SO_2, and NO_2 by the earliest practical date. The CCAA specifies that districts focus particular attention on reducing the emissions from transportation and area-wide emission sources, and the act provides districts with authority to regulate indirect sources. Each district plan is required to either (1) achieve a five percent annual reduction, averaged over consecutive 3-year periods, in district-wide emissions of each nonattainment pollutant or its precursors, or (2) to provide for implementation of all feasible measures to reduce emissions. Any planning effort for air quality attainment would thus need to consider both State and Federal planning requirements.

Table 3-4. Summary of Ambient Air Quality Standards and Attainment Designation

Summary of Ambient Air Quality Standards & Attainment Designation					
Pollutant	**Averaging Time**	**California Standards***		**National Standards***	
		Concentration*	**Attainment Status**	**Primary**	**Attainment Status**
Ozone (O_3)	1-hour	0.09 ppm	Nonattainment/ Severe	–	No Federal Standard
	8-hour	0.070 ppm	Nonattainment	0.075 ppm	Nonattainment (Extreme)**
Particulate Matter (PM_{10})	AAM	20 µg/m^3	Nonattainment	–	Attainment
	24-hour	50 µg/m^3		150 µg/m^3	
Fine Particulate Matter ($PM_{2.5}$)	AAM	12 µg/m^3	Nonattainment	12 µg/m^3	Nonattainment
	24-hour	No Standard		35 µg/m^3	
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_2)	AAM	0.030 ppm	Attainment	53 ppb	Attainment/ Unclassified
	1-hour	0.18 ppm		100 ppb	
Sulfur Dioxide (SO_2)	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^3	Attainment	–	No Designation/ Classification
	Calendar Quarter	–		--	
	Rolling 3-Month Average	–		0.15 µg/m^3	
Sulfates (SO_4)	24-hour	25 µg/m^3	Attainment	No Federal Standards	
Hydrogen Sulfide (H_2S)	1-hour	0.03 ppm (42 µg/m^3)	Unclassified		
Vinyl Chloride (C_2H_3Cl)	24-hour	0.01 ppm (26 µg/m^3)	Attainment		
Visibility-Reducing Particle Matter	8-hour	Extinction coefficient: 0.23/km-visibility of 10 miles or more due to particles when the relative humidity is less than 70%.	Unclassified		

** For more information on standards visit: http//www.arb.ca.gov.research/aaqs/aaqs2.pdf*
*** No Federal 1-hour standard. Reclassified extreme nonattainment for the Federal 8-hour standard May 5, 2010.*
****Secondary Standard*
Source: CARB 2015; SJVAPCD 2015

California Assembly Bill 170: Assembly Bill 170, Reyes (AB 170), was adopted by State lawmakers in 2003 creating Government Code Section 65302.1 which requires cities and counties in the San Joaquin Valley to amend their general plans to include data and analysis, comprehensive goals, policies and feasible implementation strategies designed to improve air quality.

Assembly Bills 1807 & 2588 - Toxic Air Contaminants: Within California, TACs are regulated primarily through AB 1807 (Tanner Air Toxics Act) and AB 2588 (Air Toxics Hot Spots Information and Assessment Act of 1987). The Tanner Air Toxics Act sets forth a formal procedure for CARB to designate substances as TACs. This includes research, public participation, and scientific peer review before CARB designates a substance as a TAC. Existing sources of TACs that are subject to the Air Toxics Hot Spots Information and Assessment Act are required to: (1) prepare a toxic emissions inventory; (2) prepare a risk assessment if emissions are significant; (3) notify the public of significant risk levels; and (4) prepare and implement risk reduction measures.

3.3.3.3 Local

Kings County General Plan: California State Law requires every city and county to adopt a comprehensive General Plan to guide its future development. The General Plan essentially serves as a "constitution for development"— the document that serves as the foundation for all land use decisions. The 2035 Kings County General Plan includes various elements, including air quality and greenhouse gases, that address local concerns and provides goals and policies to achieve its development goals. The following objectives and policies that address air quality:

AQ OBJECTIVE C1.1: Accurately assess and mitigate potentially significant local and regional air quality and climate change impacts from proposed projects within the County.

AQ Policy C1.1.1: Assess and mitigate project air quality impacts using analysis methods and significance thresholds recommended by the SJVAPCD and require that projects do not exceed established SJVAPCD thresholds.

AQ Policy C1.1.3: Ensure that air quality and climate change impacts identified during CEQA review are minimized and consistently and fairly mitigated at a minimum, to levels as required by CEQA.

AQ OBJECTIVE E1.1: Increase the use of energy conservation features, renewable sources of energy, and low-emissions equipment in new and existing development projects within the County.

San Joaquin Valley Air Pollution Control District: The SJVAPCD is the agency primarily responsible for ensuring that NAAQS and CAAQS are not exceeded and that air quality conditions are maintained in the SJVAB, within which the proposed Project is located. Responsibilities of the SJVAPCD include, but are not limited to, preparing plans for the attainment of ambient air quality standards, adopting and enforcing rules and regulations concerning sources of air pollution, issuing permits for stationary sources of air pollution, inspecting stationary sources of air pollution and responding to citizen complaints, monitoring ambient air quality and meteorological conditions, and implementing programs and regulations required by the CAA and the CCAA.

The SJVAPCD Rules and Regulations that are applicable to the proposed Project include, but are not limited to, the following:

Regulation VIII (Fugitive Dust Prohibitions), Regulation VIII (Rules 8011-8081): This regulation is a series of rules designed to reduce particulate emissions generated by human activity, including construction and demolition activities, carryout and trackout, paved and unpaved roads, bulk material handling and storage, unpaved vehicle/traffic areas, open space areas, etc. If a non-residential area is 5.0 or more acres in area, a

Dust Control Plan must be submitted as specified in Section 6.3.1 of Rule 8021. Additional requirements may apply, depending on total area of disturbance.

San Joaquin Valley Air Pollution Control District Thresholds of Significance. Projects that produce emissions that exceed thresholds shall be considered significant for a project level and/or cumulatively considerable impact to air quality. The thresholds are defined for purposes of determining cumulative effects as the baseline for "considerable". Projects located within the SJVAPCD will be subject to the significance thresholds identified in Section 3.3.2.3 above.

3.3.3.4 Regulatory Attainment Designations

Under the CCAA, the 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 EPA designates areas for ozone, CO, and NO_2 as "does not meet the primary standards," "cannot be classified," or "better than national standards." For SO_2, areas are designated as "does not meet the primary standards," "does not meet the secondary standards," "cannot be classified," or "better than national standards." However, the CARB terminology of attainment, nonattainment, and unclassified is more frequently used. The EPA uses the same sub-categories for nonattainment status: serious, severe, and extreme. In 1991, EPA assigned new nonattainment designations to areas that had previously been classified as Group I, II, or III for PM_{10} based on the likelihood that they would violate national PM_{10} standards. All other areas are designated "unclassified."

The State and national attainment status designations pertaining to the SJVAB are summarized in **Table 3-4**. The SJVAB is currently designated as a nonattainment area with respect to the State PM_{10} standard, ozone, and $PM_{2.5}$ standards. The SJVAB is designated nonattainment for the NAAQS 8-hour ozone and $PM_{2.5}$ standards. On September 25, 2008, the EPA re-designated the San Joaquin Valley to attainment status for the PM_{10} NAAQS and approved the PM_{10} Maintenance Plan.

3.3.4 Impact Assessment

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

a) No Impact. As noted in Impact Assessments III-b and III-c below, implementation of the Project would not result in short-term or long-term increases in emissions that would exceed applicable thresholds of significance. Projects that do not exceed the recommended thresholds would not be considered to conflict with or obstruct the implementation of any applicable air quality plans. Therefore, there would be no impact.

III-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?

b) Less Than Significant Impact.

Short-Term Construction-Generated Emissions

Construction-generated emissions are temporary in duration, taking place over ten months, during times when water is not running. Work will include site preparation, grading, trenching, connection to Peoples Ditch, and development of nine groundwater monitoring facilities, eight with piezometers and one with a groundwater monitoring well. The construction of the Project would result in the temporary generation of emissions associated with construction activities, motor vehicle exhaust associated with construction equipment and worker trips, as well as the movement of construction equipment on unpaved surfaces.

Estimated construction-generated emissions and operational emissions are summarized in **Table 3-5** and **Table 3-6**, respectively.

Table 3-5. Unmitigated Short-Term Construction-Generated Emissions of Criteria Air Pollutants

Short-Term Construction-Generated Emissions of Criteria Air Pollutants					
	Annual Emissions (Tons/Year) (1)				
Source	ROG	NO_X	CO	PM_{10}	$PM_{2.5}$
2019	0.2083	2.3303	1.4269	0.3481	0.1870
2020	0.3472	3.8454	2.4945	0.4785	0.2803
Maximum Annual Proposed Project Emissions:	0.3472	3.8454	2.4945	0.4785	0.2803
SJVAPCD Significance Thresholds:	*10*	*10*	*100*	*15*	*15*
Exceed SJVAPCD Thresholds?	*No*	*No*	*No*	*No*	*No*

1. *Emissions were quantified using CalEEmod Output Files Version 2016.3.2. Refer to Appendix A for modeling results and assumptions. Totals may not sum due to rounding.*

Table 3-6. Unmitigated Long-Term Operational Emissions

Long-Term Operational Emissions of Criteria Air Pollutants					
	Annual Emissions (Tons/Year) (1)				
Source	ROG	NO_X	CO	PM_{10}	$PM_{2.5}$
Maximum Annual Project Emissions:	0.2980	0.00001	0.00074	0	0
SJVAPCD Significance Thresholds:	*10*	*10*	*100*	*15*	*15*
Exceed SJVAPCD Thresholds?	*No*	*No*	*No*	*No*	*No*

1. *Emissions were quantified using CalEEmod Output Files Version 2016.3.2. Refer to Appendix A for modeling results and assumptions. Totals may not sum due to rounding.*

It is important to note that the proposed Project would be required to comply with SJVAPCD Regulation VIII (Fugitive PM_{10} Prohibitions). Mandatory compliance with SJVAPCD Regulation VIII would further reduce emissions of fugitive dust from the Project site, and adequately minimize the proposed Project's potential to adversely affect nearby sensitive receptors to localized PM impacts.

Given that project-generated emissions would not exceed applicable SJVAPCD significance thresholds and the proposed Project would be required to comply with SJVAPCD Regulation VIII, construction-generated emissions of criteria pollutants would be considered less than significant.

Long-Term Operational Emissions

Long-term operational emissions associated with the Project will be minimal. Maintenance will continue to be provided on an as needed basis. Therefore, no impacts are anticipated for operational Project-related impacts to air quality.

As a whole, any 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 would be considered less than significant

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

c) Less Than Significant Impact. The Guide for Assessing and Mitigating Air Quality Impacts (GAMAQI), published by the SJVAPCD, defines a sensitive receptor as people that have an increased sensitivity to air pollution or environmental contaminates. Sensitive receptors locations include schools, parks, and playgrounds, daycare centers, nursing homes, hospitals, and residential dwelling unit(s).[11] Via an aerial search, there are four single-family residences within the Project's vicinity. The nearest single-family residence is approximately 0.4 miles southeast of the Project site. Nearby land uses are agricultural in nature.

Toxic Air Contaminants:

Toxic Air Contaminants, in California, are regulated primarily by AB 1807 (Tanner Air Toxics Act) and AB 2588 (Air Toxics Hot Spots Information and Assessment Act of 1987). The Tanner Air Toxics Act sets forth a formal procedure for CARB to designate substances as TACs. This includes research, public participation, and scientific peer review before CARB designates a substance as a TAC.

Implementation of the Project would not result in the long-term operation of any major onsite stationary sources of TACs, nor would Project implementation result in a substantial increase in vehicle trips along area roadways, in comparison to existing conditions. However, construction of the Project may result in temporary increases in emissions of diesel-exhaust particulate matter (DPM) associated with the use of off-road diesel equipment. More than 90% of DPM is less than one μm in diameter, and thus is a subset of $PM_{2.5}$.[12] Health-related risks associated with diesel-exhaust emissions are primarily associated with long-term exposure and associated risk of contracting cancer. As such, the calculation of cancer risk associated with exposure of to TACs are typically calculated based on a long-term (e.g., 70-year) period of exposure. The use of diesel-powered construction equipment, however, would be temporary and episodic. Construction activities would occur over an approximate ten-month period, which would be approximately 1.19 percent of the typical 70-year exposure period. As a result, exposure to construction generated DPM would not be anticipated to exceed applicable thresholds (i.e. incremental increase in cancer risk of 10 in one million).

Construction of the Project is not anticipated to result in a substantial increase in DPM or other TACs. As indicated in **Table 3-5**, construction of the Project would generate maximum unmitigated annual emissions of approximately 0.2803 tons/year of $PM_{2.5}$, which includes DPM. During operation, the Project is not anticipated to generate any $PM_{2.5}$, as illustrated in **Table 3-6**. Project-related impacts to sensitive receptors would be less than significant.

Naturally Occurring Asbestos

Naturally occurring asbestos, which was identified by CARB as a TAC in 1986, is located in many parts of California and is commonly associated with ultramafic rock. The Project site is not located near any areas that are likely to contain ultramafic rock[13]. As a result, risk of exposure to asbestos during the construction process would be considered less than significant.

[11] Guide for Assessing and Mitigating Air Quality impacts, Page 10, http://www.valleyair.org/transportation/GAMAQI_3-19-15.pdf Accessed April 1, 2019

[12] CARB. Inhalable Particulate Matter. https://www.arb.ca.gov/research/aaqs/common-pollutants/pm/pm.htm Accessed April 1, 2019.

[13] Van Gosen, B.S. and J.P. Clinkenbeard. 2011. Reported Historic Asbestos Mines, Historic Asbestos Prospects, and Other Natural Occurrences of Asbestos in California – California Geological Survey map Sheet 59. United States Geological Survey.

Fugitive Dust

Construction of the Project would include ground-disturbing activities which could result in increased emissions of airborne particulate matter. The Project would be required to comply with SJVAPCD Regulation VIII (Fugitive PM_{10} Prohibitions). Mandatory compliance with SJVAPCD Regulation VIII would reduce emissions of fugitive dust from the Project site.

Construction of the Project is not anticipated to result in a substantial increase in particulate matter. As indicated in **Table 3-5** and **Table 3-6**, respectively, construction of the Project would generate maximum unmitigated annual emissions of approximately 0.4785 tons/year of PM_{10}, while operation of the Project is not anticipated to generate any PM_{10}, both of which are substantially less than SJVAPCD's threshold of significance of 15 tons/year. Project-related impacts to sensitive receptors would be less than significant

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

d) Less Than Significant Impact. Implementation of the Project would not result in long-term emissions of odors. However, construction would temporarily involve the use of a variety of gasoline- or diesel-powered equipment that would emit exhaust fumes. Exhaust fumes, particularly diesel exhaust, may be considered objectionable by some people. The Project is located within an area dominated by agricultural production, which includes the use of diesel-powered equipment and various odorous chemicals. Construction activities would be short-term in nature. Conditions created by Project-related activities would not vary substantially from the baseline conditions routinely experienced onsite and in the vicinity. Any impacts would be less than significant.

3.4 Biological Resources

Table 3-7. Biological Resources Impacts

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

3.4.1 Environmental Setting

The Project site is located within the lower San Joaquin Valley, part of the Great Valley of California. The Valley is bordered by the Sierra Nevada Mountain Ranges to the east, the Coast Ranges to the west, the Klamath Mountains and Cascade Range to the north, and the Transverse Ranges and Mojave Desert to the south.

Like most of California, the San Joaquin Valley experiences a Mediterranean climate. Warm, dry summers are followed by cool, moist winters. Summer temperatures often reach above 90 degrees Fahrenheit, and the humidity is generally low. Winter temperatures are often below 60 degrees Fahrenheit during the day and rarely exceed 70 degrees. 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.

The Project is located within the Jacobs Slough watershed; Hydrologic Unit Code (HUC): 180300122004 and the Sand Slough watershed; HUC: 180300122002[14].

The Project lies entirely within the Tulare Lake Groundwater Subbasin of the San Joaquin Valley Groundwater Basin[15]. The principal drainage in the vicinity of the Project is Peoples Ditch, which receives water from the Kings River. Kings River water is typically delivered into Peoples Ditch in the form of controlled releases from Pine Flat Dam during periods of high flows. Most of this water is diverted for direct delivery of surface water for agricultural production, but some is also conveyed into recharge basins which partially sustain groundwater resources.

The Project proposes development of approximately 75-acres of recharge basins adjacent to the Peoples Ditch where it crosses 7th Avenue in Kings County. The parcel affected by the Project is directly west of 7th Avenue, approximately 0.25 mile south of Dover Avenue, and 0.5 mile north of Excelsior Avenue. The Project site is accessed by an existing paved road (7th Avenue) and several compacted dirt access roads.

3.4.2 Methodology

A reconnaissance-level field survey of the Project site and surrounding area was conducted on April 18, 2019 by Brooke Fletcher, biologist. The survey consisted of walking through the Project area while identifying and noting land uses, biological habitats and communities, and plant and animal species encountered. Furthermore, the site and surrounding areas were assessed for suitable habitats of various wildlife species.

Mrs. Fletcher 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 Project site and surrounding areas. Sources of information used in preparation of this analysis included: the California Department of Fish and Wildlife (CDFW) California Natural Diversity Database (CNDDB); the U.S. Fish and Wildlife Service (USFWS) Information for Planning and Consultation (IPaC) system; 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); USFWS Environmental Conservation Online System (ECOS); the NatureServe Explorer online database; the United States Department of Agriculture (USDA) Natural Resources Conservation Service (NRCS) Plants Database; the CDFW California Wildlife Habitat Relationships (CWHR) database; the California Herps online database; and various manuals, reports, and references related to plants and animals of the San Joaquin Valley region.

The field investigation did not include a wetland delineation or focused surveys for special status species. The field survey conducted included an appropriate level of detail to assess the significance of potential impacts to sensitive biological resources resulting from the Project. Furthermore, the field survey was sufficient to generally describe those features of the Project that could be subject to the jurisdiction of federal and/or State agencies, such as the U.S. Army Corps of Engineers (USACE), CDFW, and the Regional Water Quality Control Board (RWQCB).

A thorough search of the CNDDB for published accounts of special status plant and animal species was conducted for the *Burris Park* 7.5-minute quadrangle that contains the Project site in its entirety, and for the eight surrounding quadrangles: *Conejo, Selma, Reedley, Laton, Traver, Hanford, Remnoy, and Goshen*. An official species list was obtained using the USFWS IPaC system for federally listed species with potential to be affected by the Project. These species, and their potential to occur within the Project area are listed in **Table 3-8** and **Table 3-9** on the following pages.

[14] EPA Waters GeoViewer. https://epa.maps.arcgis.com/apps/webappviewer/index.html?id=ada349b90c26496ea52aab66a092593b Accessed 17 June 2019.
[15] DWR Groundwater Basin Boundary Assessment Tool (BBAT) https://gis.water.ca.gov/app/bbat/ Accessed 17 June 2019.

Table 3-8. List of Special Status Animals with Potential to Occur Onsite and/or in the Vicinity

Species	Status	Habitat	Occurrence on Project Site
blunt-nosed leopard lizard (*Gambelia sila*)	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 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.	**Unlikely.** The disturbed habitats onsite and in the surrounding areas are unsuitable for this species. There are no CNDDB recorded observations of this species in the vicinity of the Project.
burrowing owl (*Athene cunicularia*)	CSC	Resides in open, dry annual or perennial grasslands, deserts, and scrublands with low growing vegetation. Nests underground in existing burrows created by burrowing mammals, most often ground squirrels.	**Unlikely.** The presence of large trees and raptor perches makes this site unsuitable for burrowing owl. Ground squirrels and suitable burrows were scarce and no owl sign was observed during the field survey. The nearest observation of this species was recorded within grassland habitat approximately 3 miles southeast of the Project.
California red-legged frog (*Rana draytonii*)	FT	Inhabits perennial rivers, creeks, and stock ponds with vegetative cover within the Coast Range and northern Sierra foothills.	**Absent.** The Project area does not provide suitable habitat for this species and is outside of its current known range.
California tiger salamander (*Ambystoma californiense*)	FT, CT, CWL	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.	**Absent.** Vernal pools are absent from the Project areas. The frequently disturbed habitats onsite are unsuitable for this species. The nearest observation of this species was recorded within vernal pools in grassland habitat approximately 3 miles southeast of the Project.
conservancy fairy shrimp (*Branchinecta conservatio*)	FE	Endemic to the grasslands of the northern two-thirds of the Central Valley. Found in large, turbid pools.	**Absent.** Vernal pools are absent from the Project areas. The Project area is subject to frequent disturbance associated with agricultural production and therefore generally unsuitable for this species. There have been no recorded observations of this species in the vicinity of the Project.
Delta smelt (*Hypomesus transpacificus*)	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.	**Absent.** Suitable perennial aquatic habitat for this species is absent from the Project area and surrounding lands.

Species	Status	Habitat	Occurrence on Project Site
Fresno kangaroo rat (*Dipodomys nitratoides exilis*)	FE, CE	An inhabitant of alkali sink open grassland environments in western Fresno County. Prefers bare, alkaline, clay-based soils subject to seasonal inundation with more friable soil mounds around shrubs and grasses.	**Absent.** The highly disturbed habitats of the Project area and surrounding lands are unsuitable for this species. The Project area is outside of the historical range of this species. This species is thought to be extirpated because no populations have been recovered since 1998.
giant gartersnake (*Thamnophis gigas*)	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.	**Absent.** Habitats required by this species are absent from the Project area and surrounding lands. The Project is outside of the known current range of this species.
loggerhead shrike (*Lanius ludovicianus*)	CSC	Frequents open habitats with sparse shrubs and trees, other suitable perches, bare ground, and low herbaceous cover. In the Central Valley, nests in riparian areas, desert scrub, and agricultural hedgerows.	**Likely.** Nesting habitat onsite is marginal, at best, but perching and foraging habitat is present. Impaled prey remnants were observed along a barbed-wire fence which indicates the recent presence of this species.
pallid bat (*Antrozous pallidus*)	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.	**Unlikely.** Individuals could potentially roost in trees or crevices of structures near the Project, although frequent disturbance onsite makes roosting habitat marginal, at best. This species could forage on flying arthropods over the orchard or the canal during periods of inundation. The only recorded observation of this species in the vicinity was documented in 2001 over the Kings River, approximately 12 miles northeast of the Project area.

Species	Status	Habitat	Occurrence on Project Site
San Joaquin kit fox (*Vulpes macrotis mutica*)	FE, CT	Underground dens with multiple entrances in alkali sink, valley grassland, and woodland in valleys and adjacent foothills.	**Unlikely.** There are no known core or satellite populations of San Joaquin kit fox in the vicinity of the Project and the Project is not located within a linkage recovery area. The highly disturbed habitats of the Project area and fragmentation of the surrounding lands are unsuitable for this species. Even the fallow field adjacent to the Project appears to be subject to frequent ground disturbance associated with discing. The Project is located approximately 50 miles east of the nearest known core population in Ciervo-Panoche Natural Area. Although some populations of San Joaquin Kit Fox in other parts of California have adapted to an urbanized environment, modern kit fox occurrences are locally scarce. At most, this species could conceivably pass through the Project area during dispersal movements. In the past 20 years, there have only been three observations of this species in the vicinity, and none were within 5 miles of the Project site.
Swainson's hawk (*Buteo swainsoni*)	CT	Nests in large trees in open areas adjacent to grasslands, grain or alfalfa fields, or livestock pastures suitable for supporting rodent populations.	**Possible.** Swainson's hawks are relatively common in this portion of the Central Valley, and there are several recorded observations of this species in the Project's vicinity. The valley oak onsite provides suitable nesting habitat and the fallow field provides suitable foraging habitat.
Tipton kangaroo rat *(Dipodomys nitratoides nitratoides*)	FE, CE	Burrows in soil. Often found in grassland and shrubland.	**Unlikely.** The disturbed habitats of the Project areas are generally unsuitable for this species. No definite burrow precincts or tail drags were observed during the field survey. There are no recorded observations of this species in the vicinity of the Project.
valley elderberry longhorn beetle (*Desmocerus californicus dimorphus*)	FT	Lives in mature elderberry shrubs of the Central Valley and foothills. Adults are active March to June.	**Absent.** Suitable elderberry habitat is absent. The Project is not located within the presumed historical range or presumed current distribution of this species. In 2014 USFWS published findings suggesting that previous CNDDB observations of this species within Tulare and Kings Counties should be discounted. (See expanded discussion in **Appendix B**)

Species	Status	Habitat	Occurrence on Project Site
vernal pool fairy shrimp (*Branchinecta lynchi*)	FT	Occupies vernal pools, clear to tea-colored water, in grass or mud-bottomed swales, and basalt depression pools.	**Absent.** Suitable vernal pool habitat for this species is absent from the Project area and surrounding lands. The Project area is subject to frequent disturbance associated with agricultural production and therefore generally unsuitable for this species.
vernal pool tadpole shrimp (*Lepidurus packardi*)	FE	Occurs in vernal pools, clear to tea-colored water, in grass or mud-bottomed swales, and basalt depression pools.	**Absent.** Suitable vernal pool habitat for this species is absent from the Project area and surrounding lands. The Project area is subject to frequent disturbance associated with agricultural production and therefore generally unsuitable for this species.
western mastiff bat (*Eumops perotis californicus*)	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.	**Unlikely.** Roosting and breeding habitat is absent from the Project area and surrounding lands, but this species may occasionally forage over the Project site. The only recorded observation of this species in the vicinity corresponds to a historic (1899) collection from the general region of "Traver." The exact location is unknown.
western spadefoot (*Spea hammondii*)	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.	**Unlikely.** Vernal pools are absent from the Project area. The disturbed habitats of the Project areas are generally unsuitable for this species. All observations in the vicinity occur within vernal pools in undisturbed grassland habitat near Cross Creek and Cottonwood Creek.
western yellow-billed cuckoo (*Coccyzus americanus occidentalis*)	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.	**Absent.** Suitable nesting habitat for this species is absent from the Project area and surrounding lands. There is one recorded observation of this species in the vicinity. The observation is dated 1898 and the location corresponds to an area in the vicinity of Selma, although the exact location is unknown. The status of this observation has since been updated to "possibly extirpated" with a note stating that suitable habitat has been replaced by agriculture and development.

Table 3-9. List of Special Status Plants with Potential to Occur Onsite and/or in the Vicinity

Species	Status	Habitat	Occurrence on Project Site
brittlescale (*Atriplex depressa*)	CNPS 1B	Found in the San Joaquin Valley and Sacramento Valley in alkali or clay soils in shadescale scrub, valley grassland, alkali sink at elevations below 1050 feet. Rarely associated with riparian, marshes, or vernal pools. Blooms June – October.	**Absent.** The disturbed habitats of the Project site are unsuitable for this species. There have been no observations of this species in the vicinity of the Project in over 50 years. According to CNPS, this species is presumed extirpated from this region.
California alkali grass (*Puccinellia simplex*)	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.	**Absent.** The disturbed habitats of the Project site are unsuitable for this species. There are no recorded observations of this species in the vicinity of the Project in over 50 years.
California satintail (*Imperata brevifolia*)	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.	**Absent.** The disturbed habitats of the Project site are unsuitable for this species. There have been no observations of this species in the vicinity of the Project in over 80 years.
Earlimart orache (*Atriplex cordulata var. erecticaulis*)	CNPS 1B	Found in the San Joaquin Valley in saline or alkaline soils, typically within valley or foothill grassland, at elevations below 325 feet. Blooms August – September.	**Unlikely.** The disturbed habitats of the Project site are unsuitable for this species. The only observation of this species in the vicinity was recorded within undisturbed grassland habitat near Cottonwood Creek. Suitable grassland habitat is absent from the Project area.
heartscale (*Atriplex cordulata var. cordulata*)	CNPS 1B	Found in the San Joaquin Valley and Sacramento Valley in alkaline flats and sandy soils in chenopod scrub, valley and foothill grassland, meadows and seeps at elevations up to 900 feet. Blooms June – July.	**Absent.** The disturbed habitats of the Project site are unsuitable for this species. There is one recorded observation of this species in the vicinity. The observation is attributed to a historic collection from 1938, and the location corresponds to an area in the vicinity of Goshen, although the exact location is unknown.
lesser saltscale (*Atriplex minuscula*)	CNPS 1B	Found in the San Joaquin Valley in playas; sandy, alkaline soils in shadescale scrub, valley grassland, and alkali sink communities at elevations below 300 feet. Blooms April – October.	**Unlikely.** The disturbed habitats of the Project site are unsuitable for this species. This species reportedly occurs in undisturbed grassland habitat along Cross Creek approximately 5 miles southeast of the Project area.

Species	Status	Habitat	Occurrence on Project Site
San Joaquin adobe sunburst (*Pseudobahia peirsonii*)	FT, CE, CNPS 1B	Found in the San Joaquin Valley and the Sierra Nevada Foothills in bare dark clay in valley grassland and foothill woodland communities at elevations between 325 feet and 2950 feet. Blooms March – May.	**Absent.** The disturbed habitats of the Project site are unsuitable for this species. There is one recorded observation of this species in the vicinity. The observation is attributed to a historic collection from 1927, and the location corresponds to an area in the vicinity of Dinuba, although the exact location is unknown. The status of this observation has since been updated to "extirpated." The Project is located outside of the known geographical and latitudinal range of this species.
Sanford's arrowhead (*Sagittaria sanfordii*)	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.	**Unlikely.** The nearest observation of this species was recorded in an irrigation ditch approximately 14 miles northeast of the Project site. People's Ditch could be considered suitable habitat for this species, but frequent disturbance associated with vegetation maintenance makes it unlikely for a population to persist. All Project areas containing suitable habitat for this species were thoroughly inspected during the biological survey, and this species was not observed.
subtle orache (*Atriplex subtilis*)	CNPS 1B	Found in the San Joaquin Valley in saline depressions at elevations below 230 feet. Blooms June – October.	**Absent.** The disturbed habitats of the Project site are unsuitable for this species. There is one recorded observation of this species in the vicinity. The observation is attributed to a historic collection from 1905, and the location corresponds to an area in the vicinity of Goshen, although the exact location is unknown. The status of this observation has since been updated to "possibly extirpated."

EXPLANATION OF OCCURRENCE DESIGNATIONS AND STATUS CODES

Present:	Species observed on the site at time of field surveys or during recent past
Likely:	Species not observed on the site, but it may reasonably be expected to occur there on a regular basis
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
FT	Federally Threatened
FPE	Federally Endangered (Proposed)
FPT	Federally Threatened (Proposed)
FC	Federal Candidate

CE	California Endangered
CT	California Threatened
CCT	California Threatened (Candidate)
CFP	California Fully Protected
CSC	California Species of Concern
CWL	California Watch List
CCE	California Endangered (Candidate)

		CR	California Rare

CNPS LISTING

1A	Plants Presumed Extinct in California	2	Plants Rare, Threatened, or Endangered in California, but more common elsewhere
1B	Plants Rare, Threatened, or Endangered in California and elsewhere		

3.4.3 Impact Assessment

IV-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?

a) Less Than Significant Impact with Mitigation Incorporated.

Project-Related Mortality and/or Disturbance of Nesting Raptors, Migratory Birds, and Special Status Birds (Including Swainson's Hawk and Loggerhead Shrike)

The Project site contains suitable habitat for several avian species, including the special status Swainson's hawk (*Buteo swainsoni*) and Loggerhead shrike (*Tyrannus caudifasciatus*). Various avian species could nest within the orchard, structures, or the valley oak onsite. At the time of the field survey, a red-tailed hawk (*Buteo Jamaicensis*) was observed in incubation posture within a nest on a transmission tower along the western border of the property. An active black phoebe (*Sayornis nigricans*) nest was observed on an irrigation standpipe, and an active nesting colony of cliff swallows (*Petrochelidon pyrrhonota*) were observed under a bridge over Peoples Ditch. At the time of the survey, red-tailed hawks were foraging over the fallow field, and impaled prey remnants were observed along a barbed wire fence, indicating the presence of the special status Loggerhead shrike.

Trees onsite, including the orchard and the valley oak along the bank of Peoples Ditch, include suitable nesting habitat for a variety of avian species. Cavity-nesting birds such as the American kestrel (*Falco sparverius*), barn owl (*Tyto alba*), or acorn woodpecker (*Melanerpes formicivorus*) may also use the large oak tree for shelter or nesting. Common disturbance-tolerant species such as the American robin (*Turdus migratorius*), California scrub jay (*Aphelocoma californica*), and northern mockingbird (*Mimus polyglottos*) would be expected to occur throughout Project areas and killdeer (*Charadrius vociferous*) may construct nests on the bare ground of the access roads onsite.

The Loggerhead shrike is a year-round resident of the San Joaquin Valley. Due to recent population declines, in California the Loggerhead shrike is considered a species of special concern. This species is commonly referred to as the "butcherbird" for its unique preference for impaling prey on sharp objects such as barbed wire or thorns. At the time of the field survey, several sets of prey remnants were observed impaled on the barbed wire fence along the fallow field adjacent to the Project, and therefore, this species is expected to occur onsite.

Swainson's hawks are relatively common in this portion of the Central Valley, and at the time of the field survey, suitable nesting and foraging habitat was present onsite. Specifically, the valley oak represents a potential nest tree for this species.

In the event that a Swainson's hawk, Loggerhead shrike, or other avian species is foraging within the Project site during construction activities, the individual would be expected to fly away from disturbance they encounter, subsequently eliminating the risk of injury or mortality while foraging.

The Project proposes removal of approximately 80 acres of almond and persimmon trees. Birds nesting onsite during construction could be killed or injured by Project activities. Furthermore, construction activities could disturb birds nesting within or adjacent to work areas, resulting in nest abandonment. Project construction

activities that adversely affect the nesting success of raptors and migratory birds or result in the mortality of individual birds constitutes a violation of State and federal laws and is considered a significant impact under CEQA.

The Project does not propose removal of the large oak tree onsite. However, if the oak tree were to be removed, raptors could use the grove of ash trees adjacent to the Project boundary for nesting. There are also several other large oak trees along canal banks and along riparian corridors within five miles of the Project site. While clearing 80-acres of almond and persimmon trees may remove some nesting and foraging habitat, large swaths of other similar suitable habitats occur within the vicinity of the Project site, including expansive fruit and nut tree orchards. Furthermore, as riparian vegetation grows within the proposed basins, the site will again become suitable nesting habitat for several avian species, such as tri-colored blackbird, various species of waterfowl, herons, flycatchers, and other riparian migratory birds. For these reasons, loss of nesting and foraging habitat would be considered a less than significant impact under CEQA.

Nesting bird season is generally accepted as February 1 through August 31; however, Swainson's hawk nesting season is generally accepted as March 1 through September 15. For simplicity, these timeframes have been combined.

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

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

> ***Mitigation Measure BIO-1a (Avoidance):*** The Project's construction activities shall 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-1b (Pre-construction Survey):*** If activities must occur within nesting bird season (February 1 to September 15), a qualified biologist shall conduct pre-construction surveys for active nests within 30 days prior to the start of construction. The survey shall include the proposed work area and surrounding lands within 0.5 mile. If no active nests are observed, no further mitigation is required. Raptor nests are considered "active" upon the nest-building stage. All other nests are considered "active" by the presence of eggs or young.
>
> ***Mitigation Measure BIO-1c (Establish Buffers):*** On discovery of any active nests near work areas, the biologist shall determine appropriate construction setback distances based on applicable CDFW and/or USFWS guidelines and/or the biology of the species in question. Construction buffers shall be identified with flagging, fencing, or other easily visible means, and shall be maintained until the biologist has determined that the nestlings have fledged.

Implementation of Mitigation Measures **BIO-1a** through **BIO-1c** will reduce potential impacts to nesting birds and any other special status avian species to a less than significant level and will ensure compliance with State and federal laws protecting these resources.

Project-Related Impacts to Special Status Plant Species

Nine special status plant species have been documented in the Project vicinity, including brittlescale (*Atriplex depressa*), California alkali grass (*Puccinellia simplex*), California satintail (*Imperata brevifolia*), Earlimart orache (*Atriplex cordulata var. erecticaulis*), heartscale (*Atriplex cordulata var. cordulata*), lesser saltscale (*Atriplex minuscula*), San Joaquin adobe sunburst (*Pseudobahia peirsonii*), Sanford's arrowhead (*Sagittaria sanfordii*), and subtle orache (*Atriplex subtilis*). As explained in **Table 3-9,** all of the aforementioned plant species are absent from the Project area or unlikely to occur onsite, predominantly due to past and ongoing disturbance and/or the

absence of suitable habitat. Therefore, the implementation of the Project will have no effect on individual plants or regional populations of these special status plant species. Mitigation measures are not warranted.

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

Of the 19 regionally occurring special status species, 17 are considered absent or unlikely to occur within the Project area due to past or ongoing disturbance and/or absence of suitable habitat. As explained in **Table 3-8**, the following 10 species were deemed absent from the Project area: California red-legged frog (*Rana draytonii*), California tiger salamander (*Ambystoma californiense*), conservancy fairy shrimp (*Branchinecta conservatio*), Delta smelt (*Hypomesus transpacificus*), Fresno kangaroo rat (*Dipodomys nitratoides exilis*), giant gartersnake (*Thamnophis gigas*), valley elderberry longhorn beetle (*Desmocerus californicus dimorphus*), vernal pool fairy shrimp (*Branchinecta lynchi*), vernal pool tadpole shrimp (*Lepidurus packardi*), and western yellow-billed cuckoo (*Coccyzus americanus occidentalis*); and the following 7 species were deemed unlikely to occur within the Project area: blunt-nosed leopard lizard (*Gambelia sila*), burrowing owl (*Athene cunicularia*), pallid bat (*Antrozous pallidus*), San Joaquin kit fox (*Vulpes macrotis mutica*), Tipton kangaroo rat (*Dipodomys nitratoides nitratoides*), western mastiff bat (*Eumops perotis californicus*), and western spadefoot (*Spea hammondii*). Since it is highly unlikely that these species would occur onsite, implementation of the Project should have no impact on these 17 special status species through construction mortality, disturbance, or loss of habitat. Mitigation measures are not warranted.

IV-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? and

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

b and c) Less Than Significant Impact. Water features onsite include the man-made Peoples Ditch which receives water from the Kings River through controlled release methods. This man-made canal does not appear to be a tributary to a jurisdictional water as nearly all of the water from Peoples Ditch is diverted for irrigation. However, since it receives water from Kings River, Peoples Ditch could potentially be considered a jurisdictional water and subject to permitting requirements of USACE and other regulations discussed in Section 3.2.7 of the biological evaluation report (**Appendix B**). Work will be performed within dry conditions when no water is present. Furthermore, construction will require an NPDES permit and implementation of a SWPPP. Although the Project area does not represent optimal habitat for aquatic species, it could be argued that alterations to unlined portions of the canal require submittal of an LSA Notification to CDFW, and if Peoples Ditch is considered a Water of the State, a Section 401 Water Quality Certification from the RWQCB may be required. If needed, the applicant will secure the proper permits prior to construction. No features consistent with traditional wetlands were observed onsite. Navigable waters and wild and scenic rivers are absent from Project areas. Although disturbed, riparian vegetation is present within unlined portions of the channel of Peoples Ditch. The single large oak tree along the bank of Peoples Ditch is considered riparian habitat, and removal of this tree could be considered a potentially significant impact. However, the Project does not proposal removal of this tree or any riparian habitat onsite. According to CNDDB, there are no recorded natural communities of special concern with potential to occur within the Project area or vicinity. Additionally, no natural communities of special concern were observed during the biological survey. For all of these reasons, Project-related impacts to riparian habitat, sensitive natural communities, and State or federally protected wetlands would be considered less than significant.

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

d) Less Than Significant Impact. The banks of Peoples Ditch could function marginally as a wildlife movement corridor, although intensive agricultural cultivation practices and frequent human disturbance in the vicinity would make that unlikely. As perennial water features are absent, the Project does not provide suitable habitat for fish or other aquatic species. The occurrence of roosting bats in the vicinity would be relatively unlikely given the scarcity of potential roosting sites and the frequent and ongoing disturbance associated with agricultural production onsite. Potential impacts to migratory birds have already been addressed in Impact Assessment IV-a, above. Furthermore, since the Project proposes realignment of Peoples Ditch, any potential impacts to the banks, which could function marginally as wildlife movement corridors, would be temporary. Connectivity features would be restored upon completion of the Project. For all of these reasons, Project-related impacts to wildlife movement corridors would be considered less than significant.

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

e) No Impact. The Project description is in compliance with the goals and policies set forth in the Kings County General Plan. The Project does not propose removal of the native oak tree onsite. Project activities do include the removal of almond and persimmon orchards, which are not protected by any local policies or ordinances. There will be no impact

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

f) No Impact. The Project site is not within a designated Habitat Conservation Plan, Natural Conservation Plan, or any other State or local habitat conservation plan. There would be no impact

3.5 Cultural Resources

Table 3-10. Cultural Resources Impacts

Cultural Resources					
	Would the project:	**Potentially Significant Impact**	**Less than Significant With Mitigation Incorporated**	**Less than Significant Impact**	**No Impact**
a)	Cause a substantial adverse change in the significance of a historical resource pursuant to in §15064.5?	☐	☒	☐	☐
b)	Cause a substantial adverse change in the significance of an archaeological resource pursuant to §15064.5?	☐	☒	☐	☐
c)	Disturb any human remains, including those interred outside of dedicated cemeteries?	☐	☒	☐	☐

3.5.1 Environmental Setting

Kings County is located in the southern San Joaquin Valley in an area known to have been the home of the Tachi tribe of Yokut Native Americans. The Tachi Yokuts lived north of Tulare Lake and westward to the hills near Coalinga. Archaeological evidence indicates that the historic Native American people were "the last in a series of hunting or hunting-gathering populations" to live in the Tulare Lake region. Artifacts collected from archaeological sites in the vicinity of the lake, primarily along a former (lower) lake shoreline, include over 325 Clovis-type lithic Projectile points. Clovis points are typically considered index fossils of an early North American stone tool technology developed 11,000 to 13,000 years ago. Therefore, human occupation of the Tulare Lake margin probably began more than 10,000 years ago[16].

The 2035 Kings County General Plan identifies four sites in the County that are listed on the National Register of Historic Places, and three additional sites that have been designated as California Historical Landmarks. Three of the sites on the National Register are in Hanford: the Taoist Temple; the old County Courthouse; and the Carnegie Library. The fourth site is the Witt archaeological site near Dudley Ridge. The three California Historical Landmarks are the Mussel Slough Tragedy site south of Hardwick; the Kingston Town site north of Hardwick; and the El Adobe de los Robles Rancho west of Lemoore. These sites are located in the unincorporated portions of the County. The 2035 General Plan also identifies 16 additional historic sites of local importance. The sites include seven cemeteries and two churches located in Corcoran, Lemoore, Grangeville, and other rural areas in the northern County. Additional sites include the original site of Lemoore, Avenal Ranch, Kettleman Hills fossil beds, and First High School on the Kings River[17]. The proposed Project site is not located within any of these sites.

3.5.2 Regulatory Setting

3.5.2.1 Federal

There are no federal regulations, plans, programs, or guidelines associated with cultural resources that are applicable to the proposed Project.

[16] Kings County 2035 General Plan EIR, Pg. 4.5-1
[17] Ibid, Pg. 4.5-2

3.5.2.2 State

The proposed Project is subject to CEQA which requires public or private projects financed or approved by public agencies to assess their effects on historical resources. CEQA uses the term "historical resources" to include buildings, sites, structures, objects or districts, each of which may have historical, prehistoric, architectural, archaeological, cultural, or scientific importance. CEQA states that if implementation of a project results in significant effects on historical resources, then alternative plans or mitigation measures must be considered; however, only significant historical resources need to be addressed (CCR 15064.5, 15126.4). For the purposes of this CEQA document, a significant impact would occur if project implementation:

- Causes a substantial change in the significance of a historical resource
- Causes a substantial adverse change in the significance of an archaeological resource
- Disturbs any human remains, including those interred outside of formal cemeteries

Therefore, before impacts and mitigation measures can be identified, the significance of historical resources must be determined. CEQA guidelines define three ways that a property may qualify as a historical resource for the purposes of CEQA review:

- If the resource is listed in or determined eligible for listing in the California Register of Historical Resources (CRHR)
- If the resource is included in a local register of historical resources, as defined in Section 5020.1(k) of the PRC or identified as significant in an historical resource survey meeting the requirements of Section 5024.1(g) of the PRC unless the preponderance of evidence demonstrates that it is not historically or culturally significant
- The lead agency determines the resource to be significant as supported by substantial evidence in light of the whole record (CCR, Title 14, Division 6, Chapter 3, Section 15064.5(a))

Each of these ways of qualifying as a historical resource for the purpose of CEQA is related to the eligibility criteria for inclusion in the CRHR (PRC 5020.1(k), 5024.1, 5024.1(g)).

A historical resource may be eligible for inclusion in the CRHR if it:

- Is associated with events that have made a significant contribution to the broad patterns of California's history and cultural heritage
- Is associated with the lives of persons important in our past
- Embodies the distinctive characteristics of a type, period, region, or method of construction, or represents the work of an important creative individual, or possesses high artistic values
- Has yielded, or may be likely to yield, information important in prehistory or history Properties that area listed in or eligible for listing in the National Register of Historic Places are considered eligible for listing in the CRHR, and thus are significant historical resources for the purpose of CEQA (PRC Section 5024.1(d)(1)).

Public Resources Code §5097.5: California Public Resources Code §5097.5 prohibits excavation or removal of any "vertebrate paleontological site…or any other archaeological, paleontological or historical feature, situated on public lands, except with express permission of the public agency having jurisdiction over such lands." Public lands are defined to include lands owned by or under the jurisdiction of the state or any city, county, district, authority or public corporation, or any agency thereof. Section 5097.5 states that any unauthorized disturbance or removal of archaeological, historical, or paleontological materials or sites located on public lands is a misdemeanor.

Human Remains: Section 7050.5 of the California Health and Safety Code states that in the event of discovery or recognition of any human remains in any location other than a dedicated cemetery, there shall be

no further excavation or disturbance of the site or any nearby area reasonably suspected to overlie adjacent remains until the coroner of the county in which the remains are discovered has determined whether or not the remains are subject to the coroner's authority. If the human remains are of Native American origin, the coroner must notify the Native American Heritage Commission within 24 hours of this identification. The Native American Heritage Commission will identify a Native American Most Likely Descendant (MLD) to inspect the site and provide recommendations for the proper and dignified treatment of the remains and associated grave artifacts.

3.5.2.3 Local

Kings County General Plan Policies: The 2035 Kings County General Plan Resource Conservation Element includes a goal with supporting objectives and policies related to archaeological, cultural, and historical resources. Those policies that are pertinent to the Project are included below:

- RC Policy I1.1.3: Encourage the protection of cultural and archaeological sites with potential for placement on the National Register of Historic Places and/or inclusion in the California Inventory of Historic Resources.

- RC Policy I1.2.1: Participate in and support efforts to identify significant cultural and archaeological resources and protect those resources in accordance with PRC 5097.9 and 5097.993.

- RC Policy I1.2.2: Continue to solicit input from local Native American communities in cases where development may result in disturbance to sites containing evidence of Native American activity and/or to sites of cultural importance.

- RC Policy I1.2.3: Address archaeological and cultural resources in accordance with CEQA for discretionary land use applications[18] .

3.5.3 Impact Assessment

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

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

a-b) Less Than Significant with Mitigation Incorporated. An intensive Phase I survey was conducted for the Kings County Water District, Esajian Recharge Basin Project, Kings County, California. ASM Affiliates, Inc., conducted this study, with David S. Whitley, Ph.D., RPA, serving as principal investigator. The study was undertaken as part of the District's due diligence prior to purchase and has been used to assist with California Environmental Quality Act compliance (**Appendix C**).

A record search of site files and maps was conducted on 19 June 2019 at the Southern San Joaquin Valley Archaeological Information Center, California State University, Bakersfield. A Sacred Lands File Request was also completed by the Native American Heritage Commission (NAHC) on 13 May 2019. These investigations determined that the study area had not been surveyed previously, but that one historic resource was known to exist within it, P-16-000246, the Peoples Ditch. No sacred sites or tribal cultural resources were known in the Project area or vicinity. Outreach letters were sent to tribal organizations (listed below) on the contact list provided by the NAHC.

[18] 2035 Kings County General Plan, p. RC-51

1. *Kings River Choinumni Farm Tribe, Stan Alec*
2. *Santa Rosa Indian Community of the Santa Rosa Rancheria, Rueben Barrios Sr., Chairperson*
3. *Table Mountain Rancheria of California, Leanne Walker-Grant, Chairperson*
4. *Table Mountain Rancheria of California, Bob Pennell, Cultural Resources Director*
5. *Tule River Indian Tribe, Neil Peyron, Chairperson*
6. *Wuksache Indian Tribe/Eshom Valley Band, Kenneth Woodrow, Chairperson*

Follow-up phone calls were also made to the contact list. No concerns or information about tribal cultural resources was obtained as a result of this outreach (**Appendix C**).

The Phase I survey fieldwork was conducted on 20 June 2019, with parallel transects spaced at 15-meter intervals walked across the approximately 75-acres study area. A segment of one historical cultural resource, P-16-000246, the Peoples Ditch, was recorded within the Project area. No other cultural resources of any kind were identified (**Appendix C**).

The Peoples Ditch was constructed as early as 1885. An examination of historical maps indicates this resource has been altered in a number of ways since first created, including the construction of levees alongside the ditch and numerous road crossings/bridges. A portion of Peoples Ditch on the Project site has at some point been concrete lined. In addition, the suburban development of Hanford and other nearby communities, combined with the use of a portion of its right-of-way for the High-Speed Rail project, have changed its setting. Based on these considerations, the Peoples Ditch no longer maintains integrity and is recommended as not significant or unique, and not eligible for the California Register of Historical Resources (**Appendix C**).

The Kings County Water District, Esajian Recharge Basin Project does not have the potential to result in adverse impacts to significant or unique historical resources. No additional cultural resources studies or work are therefore recommended. Although it is unlikely that discovery of archeological resources will occur during construction or operation of the proposed Project implementation of CUL-1 would reduce any potential impacts to less than significant.

> ***Mitigation Measure CUL-1(Archaeological Resources):*** In the event that archaeological resources are encountered at any time during development or ground-moving activities within the entire Project area, all work in the vicinity of the find shall halt until a qualified archaeologist can assess the discovery. The District shall implement all recommendations of the archaeologist necessary to avoid or reduce to a less than significant level potential impacts to cultural resource. Appropriate actions could include a Data Recovery Plan or preservation in place.

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

c) Less than Significant Impact with Mitigation Incorporated. No formal cemeteries or other places of human internment are known to exist on the Project site; however, in accordance with Health and Safety Code Section 7050.5 and Public Resource Code Section 5097.98, if human remains are uncovered, Mitigation Measure CUL-2 would be implemented.

> ***Mitigation Measure CUL-2 (Human Remains):*** If human remains are uncovered, or in any other case when human remains are discovered during construction, the Kings County Coroner and the Santa Rosa Rancheria will be notified to arrange proper treatment and disposition. If the remains are identified—on the basis of archaeological context, age, cultural associations, or biological traits—as those of a Native American, California Health and Safety Code 7050.5 and Public Resource Code 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 determine the manner in which the remains are treated.

3.6 Energy

Table 3-11. Energy Impacts

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

3.6.1 Environmental Setting

PG&E is the primary energy utility purveyor in the Project area. The majority of the energy consumed in Kings County is for non-residential purposes.

Construction equipment and construction worker vehicles operated during Project demolition and construction would use fossil fuels. This increased fuel consumption would be temporary and would cease at the end of the construction activity, and it would not have a large residual requirement for additional energy input. The marginal increases in fossil fuel use resulting from Project construction are not expected to have appreciable impacts on energy resources.

3.6.2 Regulatory Setting

3.6.2.1 Federal

There are no federal regulations, plans, programs, or guidelines associated with energy that are applicable to the proposed Project.

3.6.2.2 State

There are no State regulations, plans, programs, or guidelines associated with energy that are applicable to the proposed Project.

3.6.2.3 Local

There are no local regulations, plans, programs, or guidelines associated with energy that are applicable to the proposed Project.

3.6.3 Impact Assessment

VI-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?

a) No Impact. As discussed in **Section 3.3**, the Project would not exceed any air emission thresholds during construction or operation. The Project would comply with construction best management practices and will

be required to complete a SWPPP as part of construction. Once completed, the Project would be mostly passive in nature and would not use an excessive amount of energy. Therefore, the Project would not result in potentially significant environmental impacts due to wasteful, inefficient, or unnecessary consumption of energy resources during construction or operation.

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

b) No Impact. The proposed Project will be passive in nature once it is completed, and the construction phase will be temporary in nature and will not exceed any thresholds set by the SJVAPCD.

3.7 Geology and Soils

Table 3-12. Geology and Soils Impacts

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

3.7.1 Environmental Setting

3.7.1.1 Geology and Soils

The Project is located in northern Kings 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. Both valleys are watered by

large rivers flowing west from the Sierra Nevada Range, with smaller tributaries flowing east from the Coast Ranges. 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[19].

3.7.1.2 Faults and Seismicity

The proposed Project site is not located within an Alquist-Priolo Earthquake Fault Zone and no known faults cut through the local soil at the site. The nearest mapped principal fault is the San Andreas Fault, located approximately 58.6 miles south-southwest of the proposed Project site. 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 Nunez Fault is approximately 49.3 miles southwest of the site. Two unnamed faults are located approximately 42 and 48.6 miles southeast of the Project site.

3.7.1.3 Liquefaction

The potential for liquefaction, which is the loss of soil strength due to seismic forces, is dependent on soil types and density, depth to groundwater, and the duration and intensity of ground shaking. The portion of Kings County where the Project is located has a low liquefaction risk.

3.7.1.4 Soil Subsidence

Subsidence occurs when a large land area settles due to over-saturation or extensive withdrawal of ground water, oil, or natural gas. These areas are typically composed of open-textured soils, high in silt or clay content, that become saturated. The Project site is dominated by sandy loam, with a low to moderate risk of subsidence.

3.7.1.5 Dam and Levee Failure

Pine Flat Reservoir is located approximately 41 miles northeast, and the Project site lies within the inundation zone for Pine Flat Dam.

3.7.2 Regulatory Setting

3.7.2.1 Federal

There are no federal regulations, plans, programs, or guidelines associated with geology and soils that are applicable to the proposed Project.

3.7.2.2 State

California Alquist-Priolo Earthquake Fault Zoning Act: The Alquist-Priolo Earthquake Fault Zoning Act (originally enacted in 1972 and renamed in 1994) is intended to reduce the risk to life and property from surface fault rupture during earthquakes. The statute prohibits the location of most types of structures intended for human occupancy across the traces of active faults and regulates construction in the corridors along active faults.

California Building Standards Code: The California Code of Regulations (CCR) Title 24 is assigned to the California Building Standards Commission, which, by law, is responsible for coordinating all building standards. The California Building Code incorporates by reference the International Building Code with

[19] Harden, D.R. 1998, California Geology, Prentice Hall, 479 pages

necessary California amendments. The International Building Code is a widely-adopted model building code in the United States published by the International Code Council. About one-third of the text within the California Building Standards Code has been tailored for California earthquake conditions.

3.7.2.3 Local

There are no local regulations, plans, programs, or guidelines associated with geology and soils that are applicable to the proposed Project.

3.7.3 Impact Assessment

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

VI-a-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.

a-i) Less Than Significant Impact. The proposed Project site does not lie within the Alquist-Priolo Earthquake Fault Zone. Kings County has no known major fault systems within its territory. The greatest potential for geologic disaster in Kings County is posed by the San Andreas Fault, which is located approximately four miles west of the Kings County line boundary with Monterey County. Another large fault that may pose potential geologic hazards for Kings County is the White Wolf fault located in Kern County near Arvin and Bakersfield[20]. Additionally, the proposed Project does not construct any structures.

Therefore, the proposed Project would not expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death associated with an unlikely event of a ruptured earthquake fault lines. As such, impacts will be less than significant.

VI-a-ii) Strong seismic ground shaking?

a-ii) Less Than Significant Impact. According to the Kings County Seismic Safety Map[21], the Project site is located in Seismic Zone V-1. The generalized geologic formations in this zone are moderately thick marine and continental sedimentary deposits overlying the granitic basement complex. Amplification of shaking that would affect low to medium-rise structures is relatively high but the distance to either of the fault systems that are expected sources of the shaking is sufficiently great that the effect should be minimal[22]. The risk of adverse effects to the Project from ground shaking from an earthquake on these faults would be less than significant.

VI-a-iii) Seismic-related ground failure, including liquefaction?

a-iii) Less Than Significant Impact. The Project site is not mapped within a liquefaction or subsidence hazard zone on Figure HS-2 of the 2035 Kings County General Plan. The risk of adverse effects to the Project from liquefaction or subsidence would be less than significant.

[20] 2035 Kings County General Plan, Health and Safety Element. Page HS-6.
[21] 2035 Kings County General Plan, Health and Safety Element, Figure HS-2
[22] 2035 Kings County General Plan, Health and Safety Element. Page HS-9.

VI-a-iv) Landslides?

a-iv) No Impact. The Project site is in an area of low landslide potential[23]. In addition, the site is relatively flat; therefore, there is no potential for a landslide to occur and no impacts to the Project from landslides are predicted.

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

b) Less Than Significant Impact. Earthmoving activities associated with the Project would include excavation, grading, and infrastructure 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 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 Construction General Permit requires the development of a Storm Water Pollution Prevention Plan (SWPPP) by a certified Qualified SWPPP Developer (QSD), the impact would be less than significant.

VII-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?

c) Less Than Significant Impact. Most of the proposed Project sites and the immediate surrounding area do not have any substantial grade changes in the topography to the point where the proposed basins would expose people or structures to potential substantial adverse effects on, or offsite, such as landslides, lateral spreading, subsidence, liquefaction or collapse. The Project will help to reduce subsidence in the area by addressing groundwater overdraft and stabilizing groundwater levels. Any impact would be less than significant.

VII -d) Would the project be located on expansive soil, as defined in Table 18-1-B of the most recently adopted Uniform Building Code creating substantial direct or indirect risks to life or property?

d) No Impact. Figure HS-4 on Page 13 of the Health and Safety Element of the 2035 Kings County General Plan, shows that the Project site is not located on expansive soil. There would be no impact.

VII-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?

e) No Impact. The proposed Project does not include the construction of septic tanks or other alternative wastewater disposal systems. There would be no impact.

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

f) No Impact. Paleontological resources are fossilized remains of flora and fauna and associate deposits. 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

[23] 2035 Kings County General Plan, Health and Safety Element, Figure HS-3.

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.

There are no unique paleontological resources or sites or unique geologic features present on the proposed Project site. Therefore, the Project would not directly or indirectly destroy any unique paleontological resources or sites or any unique geologic feature. There would be no impact.

3.8 Greenhouse Gas Emissions

Table 3-13. Greenhouse Gas Emissions Impacts

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

3.8.1 Environmental Setting

The Earth's climate has been warming for the past century. It is believed that this warming trend is related to the release of certain gases into the atmosphere. Greenhouse gases (GHG) absorb infrared energy that would otherwise escape from the Earth. As the infrared energy is absorbed, the air surrounding the Earth is heated. An overall warming trend has been recorded since the late 19th century, with the most rapid warming occurring over the past two decades. The 10 warmest years of the last century all occurred within the last 15 years. It appears that the decade of the 1990s was the warmest in human history (National Oceanic and Atmospheric Administration, 2010). Human activities have been attributed to an increase in the atmospheric abundance of greenhouse gases. The following is a brief description of the most commonly recognized GHGs.

3.8.1.1 Greenhouse Gases

Commonly identified GHG emissions and sources include the following:

Carbon dioxide (CO_2) is an odorless, colorless natural greenhouse gas. CO_2 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_4) is a flammable greenhouse gas. A natural source of methane is the anaerobic decay of organic matter. Geological deposits, known as natural gas fields, also contain methane, which is extracted for fuel. Other sources are from landfills, fermentation of manure, and ruminants such as cattle.

Nitrous oxide (N_2O), 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_3) 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_6) 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.

3.8.1.2 Effects of Climate Change

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_2 to the global atmosphere during the past 20 years are due to fossil fuel burning. Atmospheric concentrations of CO_2, CH_4, and N_2O 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_2e), 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_4 has the same contribution to the greenhouse effect as approximately 21 tons of CO_2. Therefore, CH_4 is a much more potent GHG than CO_2.

3.8.2 Methodology

An Air Quality and Greenhouse Gas Emissions Evaluation Report (Error! Reference source not found.) was prepared in June 2019. The sections below detail the methodology of the report and its conclusions.

3.8.2.1 Short-Term Construction-Generated Emissions

Short-term construction emissions associated with the Project were calculated using CalEEmod, Version 2016.3.2. Emissions' modeling was assumed to occur over an approximate ten-month period and covering a site area of 80 acres. Remaining assumptions were based on the default parameters contained in the model. Modeling assumptions and output files are included in **Appendix A**.

3.8.2.2 Long-Term Operational Emissions

Long-term operational emissions associated with the Project are estimated to be minimal in nature. Maintenance will be provided on an as needed basis by existing staff, and the operational equipment, such as the use of stationary electric pumps, will be similar to the existing system which results in negligible emissions. Modeling assumptions and output files are included in **Appendix A**.

3.8.2.3 Thresholds of Significance

CEQA Guidelines Amendments became effective March 18, 2010. Included in the Amendments are revisions to the Appendix G Initial Study Checklist. In accordance with these Amendments, a project would be considered to have a significant impact to climate change if it would:

a. Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment; or,
b. Conflict with any applicable plan, policy or regulation of an agency adopted for the purpose of reducing the emissions of greenhouse gases.

In accordance with SJVAPCD's *CEQA Greenhouse Gas Guidance for Valley Land-use Agencies in Addressing GHG Emission Impacts for New Projects*[24], 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.

3.8.3 Regulatory Setting

3.8.3.1 Federal

Although climate change and GHG reduction is a concern at the federal level; currently there are no regulations or legislation that have been enacted specifically addressing GHG emissions reductions and climate change at the project level.

3.8.3.2 State

Assembly Bill 32 - California Global Warming Solutions Act of 2006: AB 32 (Health and Safety Code Sections 38500, 38501, 38510, 38530, 38550, 38560, 38561–38565, 38570, 38571, 38574, 38580, 38590, 38592–38599 "et seq.,") requires that Statewide GHG emissions be reduced to 1990 levels by the year 2020. The gases that are regulated by AB 32 include carbon dioxide, methane, nitrous oxide, hydrofluorocarbons, perfluorocarbons, nitrogen trifluoride, and sulfur hexafluoride. The reduction to 1990 levels will be accomplished through an enforceable Statewide cap on GHG emissions that will be phased in starting in 2012. To effectively implement the cap, AB 32 directs CARB to develop and implement regulations to

[24] Guidance for Valley Land-use Agencies in Addressing GHG Emission Impacts for New Projects under CEQA. http://www.valleyair.org/Programs/CCAP/12-17-09/3%20CCAP%20-%20FINAL%20LU%20Guidance%20-%20Dec%2017%202009.pdf Accessed 7 January 2019

reduce Statewide GHG emissions from stationary sources. AB 32 specifies that regulations adopted in response to AB 1493 should be used to address GHG emissions from vehicles. However, AB 32 also includes language stating that if the AB 1493 regulations cannot be implemented, then CARB should develop new regulations to control vehicle GHG emissions under the authorization of AB 32.

AB 32 requires that CARB adopt a quantified cap on GHG emissions representing 1990 emissions levels and disclose how it arrives at the cap, institute a schedule to meet the emissions cap, and develop tracking, reporting, and enforcement mechanisms to ensure that the State achieves reductions in GHG emissions necessary to meet the cap. AB 32 also includes guidance to institute emissions reductions in an economically efficient manner and conditions to ensure that businesses and consumers are not unfairly affected by the reductions.

Senate Bill 97 - CEQA: Greenhouse Gas Emissions: Senate Bill 97, signed in August 2007, acknowledges that climate change is an important environmental issue that requires analysis under CEQA. This bill directs the Governor's Office of Planning and Research to prepare, develop, and transmit to the Resources Agency guidelines for the feasible mitigation of GHG emissions or the effects of GHG emissions, by July 1, 2009. The Resources Agency is required to certify or adopt those guidelines by January 1, 2010. Amendments to the CEQA guidelines took effect March 18, 2010. The revisions include a new section (Sec. 15064.4) that specifically addresses the potential significance of GHG emissions. Section 15064.4 calls for a "good-faith effort" to "describe, calculate or estimate" GHG emissions. Section 15064.4 further States that a lead agency "should" consider several factors when assessing the significance of impacts from GHG emissions on the environment, including: the extent to which the project would increase or reduce GHG emissions; whether project emissions exceed an applicable threshold of significance; and the extent to which the project complies with "regulations or requirements adopted to implement a Statewide, regional, or local plan for the reduction or mitigation of greenhouse gas emissions." The guidelines also State that a lead agency may determine that a project's incremental contribution to a cumulative effect is not cumulatively considerable if the project will comply with the requirements of previously approved plan or mitigation program (Sec. 15064(h)(3)). However, the guidelines do not require or recommend a specific analytical methodology or provide quantitative criteria for determining the significance of GHG emissions.

Cap-and-Trade Regulation: The cap-and-trade regulation is a key element in California's climate plan. It sets a Statewide limit on sources responsible for 85 percent of California's greenhouse gas emissions and establishes a price signal needed to drive long-term investment in cleaner fuels and more efficient use of energy. The cap-and-trade rules came into effect on January 1, 2013 and apply to large electric power plants and large industrial plants. In 2015, they will extend to fuel distributors (including distributors of heating and transportation fuels). At that stage, the program will encompass nearly 85 percent of the State's total greenhouse gas emissions.

GHG emissions addressed by the cap-and-trade regulation are subject to an industry-wide cap on overall GHG emissions. The cap-and-trade regulation sets a firm limit or cap on GHGs, which declines approximately 3 percent each year beginning in 2013. Any growth in emissions must be accounted for under the cap, such that a corresponding and equivalent reduction in emissions must occur to allow any increase. The cap-and-trade regulation will help California achieve its goal of reducing GHG emissions to 1990 levels by the year 2020, and ultimately achieving an 80% reduction from 1990 levels by 2050. As such, the CARB has determined that the cap-and-trade regulation meets the requirements of AB 32.

3.8.3.3 Local

San Joaquin Valley Air Pollution Control District

SJVAPCD Climate Change Action Plan:

On August 21, 2008, the SJVAPCD Governing Board approved the District's Climate Change Action Plan with the following goals and actions:

Goals:

- Assist local land-use agencies with California Environmental Quality Act (CEQA) issues relative to projects with GHG emissions increases.
- Assist Valley businesses in complying with mandates of AB 32.
- Ensure that climate protection measures do not cause increase in toxic or criteria pollutants that adversely impact public health or environmental justice communities.

Actions:

- Authorize the Air Pollution Control Officer to develop GHG significance threshold(s) or other mechanisms to address CEQA projects with GHG emissions increases. Begin the requisite public process, including public workshops, and develop recommendations for Governing Board consideration in the spring of 2009.
- Authorize the Air Pollution Control Officer to develop necessary regulations and instruments for establishment and administration of the San Joaquin Valley Carbon Exchange Bank for voluntary GHG reductions created in the Valley. Begin the requisite public process, including public workshops, and develop recommendations for Governing Board consideration in spring 2009.
- Authorize the Air Pollution Control Officer to enhance the District's existing criteria pollutant emissions inventory reporting system to allow businesses subject to AB 32 emission reporting requirements to submit simultaneous streamlined reports to the District and the State of California with minimal duplication.
- Authorize the Air Pollution Control Officer to develop and administer voluntary GHG emission reduction agreements to mitigate proposed GHG increases from new projects.
- Direct the Air Pollution Control Officer to support climate protection measures that reduce GHG emissions as well as toxic and criteria pollutants. Oppose measures that result in a significant increase in toxic or criteria pollutant emissions in already impacted area.

SJVAPCD CEQA Greenhouse Gas Guidance: On December 17, 2009, the SJVAPCD Governing Board adopted "Guidance for Valley Land-use Agencies in Addressing GHG Emission Impacts for New Projects under CEQA" and the policy, "District Policy—Addressing GHG Emission Impacts for Stationary Source Projects Under CEQA When Serving as the Lead Agency." The SJVAPCD concluded that the existing science is inadequate to support quantification of the impacts that project specific greenhouse gas emissions have on global climatic change. The SJVAPCD found the effects of project-specific emissions to be cumulative, and without mitigation, that their incremental contribution to global climatic change could be considered cumulatively considerable. The SJVAPCD found that this cumulative impact is best addressed by requiring all projects to reduce their greenhouse gas emissions, whether through project design elements or mitigation.

The SJVAPCD's approach is intended to streamline the process of determining if project-specific greenhouse gas emissions would have a significant effect. Projects exempt from the requirements of CEQA, and projects complying with an approved plan or mitigation program would be determined to have a less than significant cumulative impact. Such plans or programs must be specified in law or adopted by the public agency with jurisdiction over the affected resources and have a certified final CEQA document.

Best performance standards (BPS) to address operational emissions of a project would be established according to performance-based determinations. Projects complying with BPS would not require specific quantification of GHG emissions and would be determined to have a less than significant cumulative impact for GHG emissions. Projects not complying with BPS would require quantification of GHG emissions and demonstration that operational greenhouse gas emissions have been reduced or mitigated by 29 percent, as targeted by CARB's AB 32 Scoping Plan. Furthermore, quantification of GHG emissions would be required for all projects for which the lead agency has determined that an Environmental Impact Report is required, regardless of whether the project incorporates BPS.

APR 2025 – CEQA Determinations of Significance for Projects Subject to CARB's Cap-and Trade Regulation: The purpose of this policy is to provide guidance for the determination of significance for increases of GHG emissions associated with projects that are subject to CARB's cap-and-trade regulation. The SJVAPCD recognizes that the CARB's Cap-and-Trade Regulation is an adopted State-wide plan for reducing or mitigating GHG emissions from targeted industries. GHG emissions addressed by the Cap-and-Trade regulation are subject to an industry-wide cap on overall GHG emissions. As such, any growth in emissions must be accounted for under that cap, such that a corresponding and equivalent reduction in emissions must occur to allow any increase. Further, the cap decreases over time, resulting in an overall decrease in GHG emissions. Therefore, the SJVAPCD concluded that GHG emissions increases subject to CARB's Cap-and-Trade regulation would have a less than significant individual and cumulative impact on global climate change. This policy applies to projects for which the SJVAPCD is the lead agency but is also useful for evaluation of other CEQA related projects for which the SJVAPCD may not be the lead agency.

Bay Area Air Quality Management District's Thresholds for Significance: Bay Area Air Quality Management District's approach to developing a threshold of significance for GHG emissions is to identify the emissions level for which a project would not be expected to substantially conflict with existing California legislation adopted to reduce Statewide GHG emissions. If a project would generate GHG emissions above the threshold level, it would be considered to contribute substantially to a cumulative impact and would be considered significant. If mitigation can be applied to lessen the emissions such that the project meets its share of emission reductions needed to address the cumulative impact, the project would normally be considered less than significant. Although the proposed Project is not located in the Bay Area, the Bay Area Air Quality Management District's thresholds for significance are based on the Statewide AB 32 objectives and will be used to quantify potential impacts related to GHG emissions. For land use development projects, the threshold is compliance with a qualified GHG Reduction Strategy or annual emissions less than 1,100 metric tons per year (MT/yr) of CO_2e. For stationary source projects, such as those requiring a permit from a local air district to operate, the threshold is 10,000 MT/yr of CO_2e.

2035 Kings County General Plan: The 2035 Kings County General Plan adopted by the Kings County Board of Supervisors on January 26, 2010 recognizes the problem of air pollution and climate change within the San Joaquin Valley. The Air Quality Element of the General Plan fulfills a number of objectives that are very important to Kings County, including ensuring that growth occurs in ways that protect and enhance county residents' health, and complying with air quality regulations. General Plan Air Quality goals and objectives, with respect to GHGs, that are pertinent to the project include:

- AQ Goal G1: Reduce Kings County's proportionate contribution of GHG emissions and the potential impact that may result on climate change from internal governmental operations and land use activities within its authority.

- AQ Objective G1.1: Identify and achieve GHG emission reduction targets consistent with the County's proportionate fair share as may be allocated by ARB and the Kings County Association of Governments[25].

3.8.4 Impact Assessment

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

a) Less Than Significant Impact.

Short-Term Construction-Generated Emissions

Estimated construction-generated emissions are summarized in **Table 3-14**. As indicated, construction of the Project would generate maximum annual emissions of approximately 430.6072 metric tons of carbon dioxide equivalent ($MTCO_2e$). Construction-related production of GHGs would be temporary and last approximately ten months.

Table 3-14. Short-Term Construction-Generated GHG Emissions

Short-Term Construction-Generated GHG Emissions	
Year	**Emissions (MT CO_2e)(1)**
2019	239.4186
2020	430.6072
*AB 32 Consistency Threshold for Land-Use Development Projects**	*1,100*
*AB 32 Consistency Threshold for Stationary Source Projects**	*10,000*
Exceed Threshold?	No

1. *Emissions were quantified using the CalEEmod, Version 2016.3.2. Refer to Appendix A for modeling results and assumptions. Totals may not sum due to rounding.*

* 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 Accessed 19 June 2019.

Long-Term Operational Emissions

Estimated long-term operational emissions are summarized in **Table 3-15**. As indicated, operation of the Project would generate maximum annual emissions of approximately 0.00153 metric tons of carbon dioxide equivalent ($MTCO_2e$).

[25] 2035 Kings County General Plan. Air Quality Element. Page AQ-30.

Table 3-15. Long-Term Operational GHG Emissions

Long-Term Operational GHG Emissions	
	Emissions (MT CO_2e)(1)
Estimated Total Annual Operational CO_2e Emissions	0.00153
*AB 32 Consistency Threshold for Land-Use Development Projects**	*1,100*
*AB 32 Consistency Threshold for Stationary Source Projects**	*10,000*
Exceed Threshold?	No

1. Emissions were quantified using the CalEEmod, Version 2016.3.2. Refer to Appendix A for modeling results and assumptions. Totals may not sum due to rounding.

* 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 Accessed 12 December 2018.

Long-term operational emissions will consist of maintenance. Maintenance will continue to be provided on an as needed basis by Kings County Water District staff. Furthermore, there is no population growth associated with the Project. Therefore, Project-related emissions of GHGs would be less than significant.

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

b) Less Than Significant Impact. In accordance with SJVAPCD's recommended guidance, Project-generated GHG emissions would be considered less than significant if: (1) the Project complies with applicable BPS; (2) operational GHG emissions would be reduced or mitigated by a minimum of 29 percent in comparison to business-as usual (year 2004) conditions; or (3) project-generated emissions would comply with an approved plan or mitigation program.

The SJVAPCD recognizes that the CARB's Cap-and-Trade regulation is an adopted State-wide plan for reducing or mitigating GHG emissions from targeted industries. In June of 2014, the SJVAPCD issued APR-2025[26]. In this policy document, the SJVAPCD concluded that the combustion of fossil fuels including fuels associated with on- and off-road vehicles, are subject to Cap-and-Trade requirements. The SJVAPCD further concluded that through implementation of the Cap-and-Trade regulation, project specific GHG emissions generated by fossil fuel use would be fully mitigated.

As noted above in **Table 3-14** and **Table 3-15**, Project-generated GHG emissions would be attributable to the consumption of fossil fuels associated with the operation of on- and off-road vehicles. As discussed above, the SJVAPCD has determined that project-generated GHG emissions associated with the use of fossil fuels would be fully mitigated through implementation of CARB's Cap-and-Trade regulation and, therefore, would be considered have a less than significant individual and cumulative impact on the environment.

As discussed earlier in this document, the Cap-and-Trade regulation is a key component in California's AB 32 GHG-reduction goals. On August 21, 2008, the SJVAPCD Governing Board approved the District's Climate Change Action Plan (CCAP). The CCAP includes various recommended measures for the reduction of GHG emissions associated with development projects. However, of the measures recommended, none are applicable to the proposed Project.

The Project complies with the Bay Area Air Quality Management District's GHG emissions thresholds for significance. For the aforementioned reasons, implementation of the Project is not anticipated to conflict

[26] APR 2025 https://www.valleyair.org/policies_per/Policies/APR-2025.pdf Accessed April 10, 2019

with any applicable plan, policy or regulation for reducing the emissions of GHGs, nor will the proposed Project have a significant impact on the environment. The impact would be considered less than significant.

3.9 Hazards and Hazardous Materials

Table 3-16. Hazards and Hazardous Materials Impacts

Hazards and Hazardous Materials					
	Would the project:	Potentially Significant Impact	Less than Significant With Mitigation Incorporated	Less than Significant Impact	No Impact
a)	Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?	☐	☐	☒	☐
b)	Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?	☐	☐	☒	☐
c)	Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?	☐	☐	☒	☐
d)	Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?	☐	☐	☐	☒
e)	For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard or excessive noise for people residing or working in the project area?	☐	☐	☐	☒
f)	Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?	☐	☐	☒	☐
g)	Expose people or structures, either directly or indirectly to a significant risk of loss, injury or death involving wildland fires?	☐	☐	☐	☒

3.9.1 Environmental Setting

3.9.1.1 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 (GC) Section 65962.5 requires the California Environmental Protection Agency (CalEPA) 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 (DTSC, 2010). In addition to the EnviroStor database, the State Water Resources

Control Board (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 (SLIC) sites, Department of Defense (DOD) sites, and Land Disposal program. A search of the DTSC EnviroStor database and the SWRCB Geotracker performed on June 6, 2019 determined that there are no known active hazardous waste generators or hazardous material spill sites within the Project site or immediate surrounding vicinity.

3.9.1.2 Airports

The Hanford Municipal Airport is located approximately 6.2 miles south-southwest and the Visalia Municipal Airport is located approximately 11.6 miles southeast of the Project site.

3.9.1.3 Emergency Response Plan

The Kings County Office of Emergency Management coordinates the development and maintenance of the Kings County Emergency Operations Plan.

3.9.1.4 Sensitive Receptors

Hardwick Elementary School is approximately 2.7 miles southwest of the Project site and Hamilton Elementary School is approximately 4.5 miles south of the Project site.

3.9.2 Regulatory Setting

3.9.2.1 Federal

Hazardous Materials - U.S. Environmental Protection Agency: The U.S. Environmental Protection Agency (EPA) was established in 1970 to consolidate in one agency a variety of Federal research, monitoring, standard-setting and enforcement activities to ensure environmental protection. EPA's mission is to protect human health and to safeguard the natural environment — air, water, and land — upon which life depends. EPA works to develop and enforce regulations that implement environmental laws enacted by Congress, is responsible for researching and setting national standards for a variety of environmental programs, and delegates to States and tribes the responsibility for issuing permits and for monitoring and enforcing compliance. Where national standards are not met, EPA can issue sanctions and take other steps to assist the states and tribes in reaching the desired levels of environmental quality.

Toxic Substances Control Act/Resource Conservation and Recovery Act/Hazardous and Solid Waste Act: The Toxic Substances Control Act (1976) and the Resource Conservation and Recovery Act of 1976 (RCRA) established a program administered by the EPA for the regulation of the generation, transportation, treatment, storage, and disposal of hazardous waste. RCRA was amended in 1984 by the Hazardous and Solid Waste Act (HSWA), which affirmed and extended the "cradle to grave" system of regulating hazardous wastes.

Clean Water Act/SPCC Rule: The Clean Water Act (CWA) (33 U.S.C. Section 1251, *et seq.*, formerly the Water Pollution Control Act of 1972), was enacted with the intent of restoring and maintaining the chemical, physical, and biological integrity of the waters of the United States. As part of the Clean Water Act, the EPA oversees and enforces the Oil Pollution Prevention regulation contained in Title 40 of the CFR, Part 112, which is often referred to as the "SPCC rule" because the regulations describe the requirements for facilities to prepare, amend and implement Spill Prevention, Control, and Countermeasure (SPCC) Plans. A facility is subject to SPCC regulations if a single oil storage tank has a capacity greater than 660 gallons, or the total above ground oil storage capacity exceeds 1,320 gallons, or the underground oil storage capacity exceeds 42,000 gallons, and if, due to its location, the facility could reasonably be expected to discharge oil into or upon the "navigable waters" of the United States. Other federal regulations overseen by the EPA relevant to hazardous materials and environmental contamination include Title 40, CFR, Chapter 1, Subchapter D –

Water Programs and Subchapter I – Solid Wastes. Title 40, CFR, Chapter 1, Subchapter D, Parts 116 and 117 designate hazardous substances under the Water Pollution Control Act. Title 40, CFR, Part 116 sets forth a determination of the reportable quantity for each substance that is designated as hazardous. Title 40, CFR, Part 117 applies to quantities of designated substances equal to or greater than the reportable quantities that may be discharged into waters of the United States.

3.9.2.2 State

California Environmental Protection Agency (CalEPA): CalEPA was created in 1991 by Governor's Executive Order. The California Air Resources Board (CARB), the Department of Pesticide Regulation (DPR), the Department of Resources Recycling and Recovery (CalRecycle), the Department of Toxic Substances Control (DTSC), the Office of Environmental Health Hazard Assessment (OEHHA) and the State Water Resources Control Board (SWRCB) were placed under the CalEPA umbrella to create a cabinet-level voices for the protection of human health and the environment and to assure the coordinated deployment of State resources. The mission of CalEPA is to restore, protect, and enhance the environment to ensure public health, environmental quality, and economic vitality under Title 22 of the CCR.[27]

Department of Toxic Substances Control (DTSC): DTSC is a department of CalEPA and is the primary agency in California that regulates hazardous waste, clean-up of existing contamination, and looks for ways to reduce the hazardous waste produced in California. DTSC regulates hazardous waste in California primarily under the authority of RCRA and the Health and Safety Code. Other laws that affect hazardous waste are specific to handling, storage, transportation, disposal, treatment, reduction, cleanup, and emergency planning. GC Section 65962.5 (commonly referred to as the Cortese List) includes DTSC-listed hazardous waste facilities and sites, SWRCB Division of Drinking Water lists of contaminated drinking water wells, sites listed by the SWRCB as having UST leaks and which have had a discharge of hazardous wastes or materials into the water or groundwater, and lists from local regulatory agencies of sites that have had a known migration of hazardous waste/material.[28]

Unified Program: The Unified Program (CCR Title 27, Division 1, Subdivision 4, Chapter 1, Sections 15100-15620) consolidates, coordinates, and makes consistent the administrative requirements, permits, inspections, and enforcement activities of the following six environmental and emergency response programs.[29]

- Hazardous Waste Generator (HWG) program and Hazardous Waste On-site Treatment activities;
- Aboveground Storage Tank (AST) program Spill Prevention Control and Countermeasure Plan requirements;
- Underground Storage Tank (UST) program;
- Hazardous Materials Release Response Plans and Inventory (HMRRP) program;
- California Accidental Release Prevention (CalARP) program;
- Hazardous Materials Management Plans and Hazardous Materials Inventory Statement (HMMP/HMIS) requirements.

The Secretary of CalEPA is directly responsible for coordinating the administration of the Unified Program. The Unified Program requires all counties to apply to the CalEPA Secretary for the certification of a local unified program agency. Qualified cities are also permitted to apply for certification. The local Certified Unified Program Agency (CUPA) is required to consolidate, coordinate, and make consistent the administrative requirements, permits, fee structures, and inspection and enforcement activities for these six

[27] California Environmental Protection Agency. http://www.calepa.ca.gov Accessed June 6, 2019.
[28] California Department of Toxic Substances Control. http://www.dtsc.ca.gov/ Accessed June 6, 2019.
[29] California Environmental Protection Agency. http://www.calepa.ca.gov/cupa/ Accessed June 6, 2019.

program elements in the county. Most CUPAs have been established as a function of a local environmental health or fire department.

Hazardous Waste Management Program: The Hazardous Waste Management Program (HWMP) regulates hazardous waste through its permitting, enforcement, and Unified Program activities in accordance with HHSC Section 25135, *et seq.* The main focus of HWMP is to ensure the safe storage, treatment, transportation, and disposal of hazardous wastes.

State Water Resources Control Board (SWRCB): The SWRCB was created by the California legislature in 1967. The mission of SWRCB is to ensure the highest reasonable quality for waters of the State, while allocating those waters to achieve the optimum balance of beneficial uses. The joint authority of water allocation and water quality protection enables SWRCB to provide comprehensive protection for California's waters.

California Department of Industrial Relations – Division of Occupational Safety and Health (Cal/OSHA): In California, every employer has a legal obligation to provide and maintain a safe and healthful workplace for employees, according to the California Occupational Safety and Health Act of 1973 (per Title 8 of the CCR). The Division of Occupational Safety and Health (Cal/OSHA) program is responsible for enforcing California laws and regulations pertaining to workplace safety and health and for providing assistance to employers and workers about workplace safety and health issues. Cal/OSHA regulations are administered through Title 8 of the CCR. The regulations require all manufacturers or importers to assess the hazards of substances that they produce or import and all employers to provide information to their employees about the hazardous substances to which they may be exposed.

3.9.2.3 Local

Kings County General Plan Policies: The 2035 Kings County General Plan Health and Safety Element includes an objective and policy related to environmental hazards and hazardous materials. The policy that is pertinent to the Project is included below:

- HS Objective B1.5: Ensure adequate protection of County residents form new generations of toxic or hazardous waste substances.

- HS Policy B1.5.1: Evaluated development applications to determine the potential for hazardous waste generation and be required to provide sufficient financial assurance that is available to the County to cover waste cleanup and/or site restoration in instances where the site has been abandoned or the business operator is unable to remove hazardous materials form the site.

3.9.3 Impact Assessment

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

IX-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-b) Less Than Significant Impact. There are no designated hazardous materials transportation routes in the vicinity of the proposed 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 proposed Project construction are the responsibility of

the contractor to remediate in accordance with industry best management practices and State and County regulations. Any impacts would therefore be less than significant.

IX-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?

c) Less Than Significant Impact: The proposed Project will not emit hazardous emissions or involve the transport or handling of any hazardous materials. The Hardwick Elementary school and Hamilton Elementary school are in the area. Impacts would be less than significant.

IX-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?

d) No Impact. The proposed 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 Department of Toxic Substances Control. Both the State Water Board's Geotracker and Department of Toxic Substances Control EnviroStor websites were checked for contaminated groundwater or sites in the area. There would be no impact.

IX-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?

e) No Impact. The Project is not located within an airport land use plan. The Hanford Municipal Airport is located approximately 6.2 miles south-southwest and the Visalia Municipal Airport is located approximately 11.6 miles southeast of the Project. Construction of the Project would not be a safety hazard for people working in the area. Operation of the basin site would not generate excessive noise, and any construction noise would be temporary. There would be no impact.

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

f) Less Than Significant Impact. The Project includes the construction of an approximately 75-acre of basin. Construction traffic associated with the Project would be minimal and temporary, lasting approximately ten months. Operational traffic would consist of as-needed maintenance trips and would have no effect on roadways or emergency access. Road closures and detours are not anticipated as part of the construction phase of the Project. Therefore, Project-related impacts to emergency evacuation routes or emergency response routes on local roadways would be considered less than significant.

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

g) No Impact. The Project is not located in or near state responsibility areas or lands classified as very high fire hazard severity zones. The nearest state responsibility area is 20 miles northeast of the Project site. The Project does not include any residential components, nor would it require any employees to be stationed permanently at the site on a daily basis. There would be no impact.

3.10 Hydrology and Water Quality

Table 3-17. Hydrology and Water Quality Impacts

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

3.10.1 Environmental Setting

The climate in Kings County can be classified as Mediterranean with average rainfall rates of 7.6 inches annually, occurring primarily between November and April[30].

Hydrology in the Project vicinity is associated with the Tulare Lake Basin, one of three main subareas in the County. The Tulare Lake Basin 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,

[30] 2035 Kings County General Plan, Health and Safety Element, p. HS-2

Tule, and Kern Rivers[31]. 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 north into the San Joaquin River only in years of extreme rainfall.

Peoples Ditch currently cuts across the southeastern corner of the proposed Project site.

3.10.2 Regulatory Setting

3.10.2.1 Federal

Clean Water Act: The Clean Water Act (CWA) is intended to restore and maintain the chemical, physical, and biological integrity of the nation's waters (33 CFR 1251). The regulations implementing the CWA protect waters of the U.S. including streams and wetlands (33 CFR 328.3). The CWA requires States to set standards to protect, maintain, and restore water quality by regulating point source and some non-point source discharges. Under Section 402 of the CWA, the National Pollutant Discharge Elimination System (NPDES) permit process was established to regulate these discharges.

Federal Emergency Management Agency (FEMA) Flood Zones: The National Flood Insurance Act (1968) makes available federally subsidized flood insurance to owners of flood-prone properties. To facilitate identifying areas with flood potential, FEMA has developed Flood Insurance Rate Maps (FIRM) that can be used for planning purposes. Flood hazard areas identified on the Flood Insurance Rate Map are identified as a Special Flood Hazard Area (SFHA). SFHA are defined as the area that will be inundated by the flood event having a 1-percent chance of being equaled or exceeded in any given year. The 1-percent annual chance flood is also referred to as the base flood or 100-year flood. SFHAs are labeled as Zone A, Zone AO, Zone AH, Zones A1-A30, Zone AE, Zone A99, Zone AR, Zone AR/AE, Zone AR/AO, Zone AR/A1-A30, Zone AR/A, Zone V, Zone VE, and Zones V1-V30. Moderate flood hazard areas, labeled Zone B or Zone X (shaded) are also shown on the FIRM, and are the areas between the limits of the base flood and the 0.2-percent-annual-chance (or 500-year) flood. The areas of minimal flood hazard, which are the areas outside the SFHA and higher than the elevation of the 0.2-percent-annual-chance flood, are labeled Zone C or Zone X (un-shaded).

3.10.2.2 State

State Water Resources Control Board: The SWRCB has jurisdiction over water quality issues in California. The SWRCB is governed by the Porter-Cologne Water Quality Act (Division 7 of the Water Code (WC)), which establishes the legal framework for water quality control activities by the SWRCB. The intent of the Porter-Cologne Act is to regulate factors which may affect the quality of waters of the State to attain the highest quality which is reasonable, considering a full range of demands and values. Much of the implementation of the SWRCB's responsibilities is delegated to its nine Regional Boards. The Project site is located within the Central Valley Regional Water Quality Control Board (CVRWQCB). The CVRWQCB administers the NPDES storm water-permitting program in the Central Valley region. Construction activities on one acre or more are subject to the permitting requirements of the NPDES General Permit for Discharges of Storm Water Runoff Associated with Construction Activity (General Construction Permit). Additionally, CVRWQCB is responsible for issuing Waste Discharge Requirements Orders under WC Section 13260, Article 4, Waste Discharge Requirements.

For projects proposing ground disturbance of one acre or greater, the SWRCB requires a Storm Water Pollution Prevention Plan (SWPPP) as a requirement of the NPDES to regulate water quality associated with construction or industrial activities.

[31] California Department of Water Resources. California's Groundwater Bulletin 118. 2004. Tulare Lake Hydrologic Region, San Joaquin Valley Groundwater Basin. http://www.water.ca.gov/pubs/groundwater/bulletin_118/basindescriptions/5-22.11.pdf Site accessed August 2013.

Recycled Water Policy: The Water Recycling Act of 1991 (WC Section 1357,5 *et seq.*) established a Statewide goal to recycle a total of 700,000 acre-feet of water per year (AFY) by the year 2000 and 1,000,000 AFY by the year 2010. In February 2009, the SWRCB adopted its Recycled Water Policy (SWRCB Resolution No. 2009-0011), the purpose of which is to increase the beneficial use of recycled water from municipal wastewater sources in a manner that fully implements State and Federal water quality laws. The policy directs the State to rely less on variable annual precipitation and more on sustainable management of surface waters and groundwater, together with enhanced water conservation, water reuse and the use of stormwater. As a part of the new recycled water policy, the SWRCB adopted the following four goals for California:

1. *Increase the use of recycled water over 2002 levels by at least one million AFY by 2020 and by at least two million AFY by 2030.*
2. *Increase the use of stormwater over use in 2007 by at least 500,000 AFY by 2020 and by at least one million AFY by 2030.*
3. *Increase the amount of water conserved in urban and industrial uses by comparison to 2007 by at least 20 percent by 2020.*
4. *Included in these goals is the substitution of as much recycled water for potable water as possible by 2030.*

In the new policy, the SWRCB also discussed several practical impacts of the greater use of recycled water in the State. Those impacts include the following:

- Groundwater salt and nutrient control: The SWRCB imposed a requirement that consistent salt and nutrient management plans be prepared for each basin and subbasin in California. Such plans must include a significant stormwater use and recharge component.
- Landscape irrigation: The SWRCB discussed issues involving the permitting of landscape irrigation projects that use recycled water, including the control of incidental runoff of recycled water.
- Groundwater recharge: The SWRCB addressed site-specific approvals of groundwater recharge projects using recycled water, emphasizing that such projects must not lower the water quality within a groundwater basin.
- Chemicals of emerging concern: The SWRCB further addressed chemicals of emerging concern (CEC), knowledge of which is currently "incomplete." An advisory panel will advise the Water Board regarding actions involving CECs, as they relate to the use of recycled water.

The wide-ranging ramifications of using recycled water, coupled with the aggressive goals established by the SWRCB for such future use in California, demonstrates that the new Recycled Water Policy will have a significant impact on land use activities within the State for many years to come.

Department of Water Resources (DWR): WC Section 10004, *et seq.* requires that DWR update the State Water Plan every five years. The Plan is currently undergoing its 2018 update; the most recent adopted version is from 2013.

For Update 2013, DWR worked with researchers at the University of California, Davis, to quantify how much growth might occur in the Tulare Lake Hydrologic Region through 2050. The model was used to estimate a year 2050 urban footprint under the scenarios of alternative population growth and development density. Each of the growth scenarios shows a decline in irrigated acreage over existing conditions, but to varying degrees. Irrigated crop acreage declines, on average, by about 90 thousand acres by year 2050 as a result of low population growth and urbanization in Tulare Lake region, while the decline under high population growth was higher by about 200 thousand acres. The change in water demand from 2006 to 2050 is estimated for the Tulare Lake Hydrologic Region for the agriculture and urban sectors under nine growth scenarios and 13 scenarios of future climate change. Urban demand increased under all nine growth scenarios tracking with population growth. Agricultural water demand decreases under all future scenarios due to reduction in irrigated lands as a result of urbanization and background water conservation. Groundwater resources were evaluated for performance under the plausible futures, resulting in 198 scenarios showing the change in groundwater storage

from 2013 to 2050. About 95 percent of the futures lead to groundwater declines in the Tulare Lake Hydrologic Region and about 50 percent of the futures lead to declines greater than 10 percent.[32]

Government Code 65302 (d): A conservation element for the conservation, development, and utilization of natural resources including water and its hydraulic force, forests, soils, river and other waters, harbors, fisheries, wildlife, minerals, and other natural resources. That portion of the conservation element including waters shall be developed in coordination with any County-wide water agency and with all district and city agencies which have developed, served, controlled or conserved water for any purpose for the County or city for which the plan is prepared. Coordination shall include the discussion and evaluation of any water supply and demand information described in Section 65352.5, if that information has been submitted by the water agency to the city or County. The conservation element may also cover:

1. The reclamation of land and waters.
2. Prevention and control of the pollution of streams and other waters.
3. Regulation of the use of land in stream channels and other areas required for the accomplishment of the conservation plan.
4. Prevention, control, and correction of the erosion of soils, beaches, and shores.
5. Protection of watersheds.
6. The location, quantity and quality of the rock, sand and gravel resources.
7. Flood control.

Sustainable Groundwater Management Act: On September 16, 2014 Governor Edmund G. Brown, Jr. signed historic legislation to strengthen local management and monitoring of groundwater basins most critical to the State's water needs. The three bills, SB 1168 (Pavley), SB 1319 (Pavley), and AB 1739 (Dickinson) together makeup the Sustainable Groundwater Management Act (SGMA). SGMA comprehensively reforms groundwater management in California. The intent of the Act is to place management at the local level, although the State may intervene to manage basins when local agencies fail to take appropriate responsibility. The Act provides authority for local agency management of groundwater and requires creation of groundwater sustainability agencies and implementation of plans to achieve groundwater sustainability within basins of high and medium priority including the Tulare Lake Sub-basin. The Act took effect on January 1, 2015 and will be implemented over the course of next several years and decades.

3.10.2.3 Local

Kings County General Plan Policies:

The 2035 Kings County General Plan Health and Safety Element has the following goal and policies related to flood hazards:

- HS GOAL A4: Prevent unnecessary exposure of people and property to flood damage.
- HS Policy A4.1.1: Review new development proposals against current Federal Emergency Management Agency (FEMA) digital flood insurance rate maps and California Department of Water Resource special flood hazard maps to determine project site susceptibility to flood hazard.
- HS Policy A4.1.5: Regulate development, water diversion, vegetation removal, and grading to minimize any increase in flood damage to people and property.
- HS Policy A4.1.7: Consider and identify all areas subject to flooding in the review of all land divisions and development projects.

[32] DWR California Water Plan. https://water.ca.gov/-/media/DWR-Website/Web-Pages/Programs/California-Water-Plan/Docs/Update2013/Regional-Reports/Water-Plan-Update-2013-Tulare-Lake-Regional-Report.pdf Accessed 19 June 2019.

3.10.3 Impact Assessment

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

a) Less than Significant Impact. The State Water Resources Control Board requires a Stormwater Pollution Prevention Plan (SWPPP) be prepared for projects that disturb one (1) or more acres of soil. A SWPPP involves site planning and scheduling, limiting disturbed soil areas, and determining best management practices to minimize the risk of pollution and sediments being discharged from construction sites. Implementation of the SWPPP will minimize the potential for the proposed Project to substantially alter the existing drainage pattern in a manner that will result in substantial erosion or siltation onsite or offsite. Additionally, there will be no discharge to any surface source. However, there will be percolation discharge to groundwater via the proposed recharge/regulation basins. Other than typical weed abatement maintenance, the use of chemicals or surfactants will not be generated through the maintenance or operation of the proposed Project and as such, there will be no discharge directly associated with Project implementation that could impact water quality standards. The proposed Project will not violate any water quality standards and will not impact waste discharge requirements. The impact will be less than significant.

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

b) No Impact. The Mid-Kings River Groundwater Sustainability Agency holds jurisdiction over the proposed Project area and is responsible for developing a Groundwater Sustainability Plan to minimize significant impacts to lowering groundwater levels and promote aquifer replenishment. The proposed Project is intended to increase aquifer replenishment and increase groundwater supplies. No additional groundwater will be required compared to baseline conditions and the Project will increase groundwater recharge; therefore, there would be no impact.

X-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;

(ii) substantially increase the rate or amount of surface runoff in a manner which would result in flooding on or offsite;

(iii) create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff; or

(iv) impede or redirect flood flows?

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

c-d) Less Than Significant Impact. There are no streams or rivers onsite or in the immediate vicinity, and the Project site is a mile away from a 100-Year flood zone (**Figure 3-2**). The basin will be utilized in wet years to take excess flows and floodwater off the Kings River. The Project would consist of excavating to a uniform depth for the purpose of groundwater recharge. In order to minimize erosion and run-off during construction activities, a SWPPP will be implemented, and the contractor will 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. Impacts would be less than significant.

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

e) No Impact. Construction of this project would allow Kings County Water District to divert floodwater that would be lost to the region and put it to beneficial use as groundwater recharge. The Project would also recharge other available surface waters and divert them into the 75-acre basin and recharge the groundwater aquifer whenever possible. The Project would not conflict with or obstruct implementation of any water quality control plan or sustainable groundwater management plan. There would be no impact.

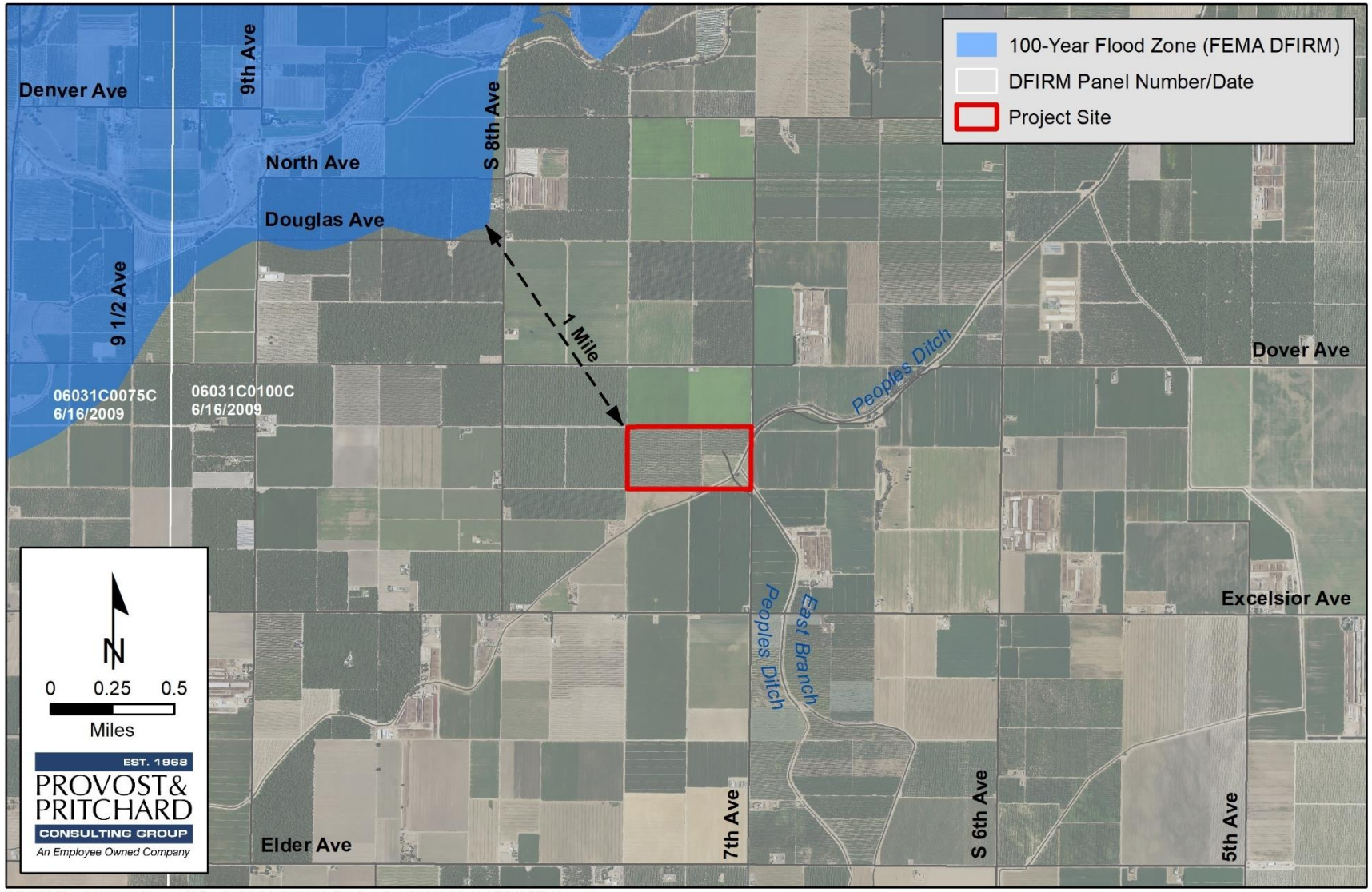

Figure 3-2. FEMA Map

3.11 Land Use and Planning

Table 3-18. Land Use and Planning Impacts

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

3.11.1 Environmental Setting

The Project area is 80 acres on the west side of 7th Avenue, between Dover and Excelsior Avenues in Kings County, CA. Peoples Ditch currently runs from northeast to southwest through the eastern side of the property. The District is a stockholder in Peoples Ditch Company and has access to surface water (Kings River and surplus Friant Division CVP supplies) through this facility. The Project area has been an active orchard for several years and has been used for farming activities for many decades. There are two active wells in use and one non-active well on the Project site. There are also electrical service facilities for the two active wells on the east side of the area, and electrical transmission towers along the west edge of the Project site.

3.11.2 Regulatory Setting

3.11.2.1 Federal

There are no federal regulations, plans, programs or guidelines associated with land use and planning that are applicable to the proposed Project.

3.11.2.2 State

There are no State regulations, plans, programs or guidelines associated with land use and planning that are applicable to the proposed Project.

3.11.2.3 Local

Kings County General Plan: The 2035 Kings County General Plan Land Use Element has the following policy related to land uses within the County:

- LU GOAL B1 Protect agricultural lands throughout the County, and in particular along the edges of community districts and Urban Fringe by maintaining large parcel sizes and preventing the premature development of incompatible urban uses.

3.11.3 Impact Assessment

X-a) Would the project physically divide an established community?

a) No Impact. The proposed Project is located in a rural agricultural area and will not physically divide any established community. There would be no impact.

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

b) No Impact. A groundwater recharge basin is a permitted use within the AG 20 zone district. The proposed Project is intended to promote aquifer replenishment and increase groundwater supplies. There will be no impact.

3.12 Mineral Resources

Table 3-16. Mineral Resources Impacts

Mineral Resources					
	Would the project:	Potentially Significant Impact	Less than Significant With Mitigation Incorporated	Less than Significant Impact	No Impact
a)	Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state?	☐	☐	☐	☒
b)	Result in the loss of availability of a locally important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan?	☐	☐	☐	☒

3.12.1 Environmental Setting

Few commercial mining and mineral extraction activities occur in Kings County. Currently, only limited excavation of soil, sand, and some gravel is excavated for commercial use. In 2009, the County had only one surface mining permit for a non-active grave; operation, and two agricultural reclamation sites that were fully reclaimed. Historical local mines that are now closed include an open pit gypsum mine and a mercury mine in southwestern Kings County. Open pit mining is regulated by the State Mining and Reclamation Act (SMARA).[33] There are no mining sites located on the proposed Project site.

3.12.2 Regulatory Setting

3.12.2.1 Federal

There are no federal regulations, plans, programs or guidelines associated with mineral resources that are applicable to the proposed Project.

3.12.2.2 State

There are no State regulations, plans, programs or guidelines associated with mineral resources that are applicable to the proposed Project.

3.12.2.3 Local

There are no local regulations, plans, programs or guidelines associated with mineral resources that are applicable to the proposed Project.

3.12.3 Impact Assessment

XI-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?

a) No Impact. Mineral resources will generally be located near natural rivers or streams. The Project is more than two miles away from any part of the Kings River, which is located north of the Project area. There are no open mines within Kings County. Therefore, there would be no impacts.

[33] County of Kings 2035 General Plan. Resource Conservation Element, Page RC-33, 34.

XI-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?

b) No Impact. Mentioned in impact assessment XI-a), mineral resources would potentially be located near natural rivers or streams and the Project site is located more than one mile from the Kings River. Furthermore, the proposed Project is not delineated on a local land use plan as a locally important mineral resource recovery site, therefore, the existence of the propose Project will not result in the loss of availability of any mineral resources. There would be no impact.

3.13 Noise

Table 3-19. Noise Impacts

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

3.13.1 Environmental Setting

The Project area is 80 acres on the west side of 7th Avenue, between Dover and Excelsior Avenues in Kings County, CA. Peoples Ditch currently runs from northeast to southwest through the eastern side of the property. The District is a stockholder in Peoples Ditch Company and has access to surface water (Kings River and surplus Friant Division CVP supplies) through this facility. The Project area has been an active orchard for many years and has been used for farming activities for many decades. There are two active wells in use and one non-active well on the Project site. There are also electrical service facilities for the two active wells on the east side of the area, and electrical transmission towers along the west edge of the Project site.

3.13.2 Regulatory Setting

3.13.2.1 Federal

Federal Vibration Policies: The Federal Railway Administration (FRA) and the Federal Transit Administration (FTA) have published guidance relative to vibration impacts. According to the FRA, fragile buildings can be exposed to ground-borne vibration levels of 0.5 PPV without experiencing structural damage[34]. The FTA has identified the human annoyance response to vibration levels as 80 RMS22.

3.13.2.2 State

There are no State regulations, plans, programs or guidelines associated with noise that are applicable to the proposed Project.

[34] U.S. Department of Transportation, Federal Transit Administration. The Noise and Vibration Impact Assessment. June 2019.

3.13.2.3 Local

The Noise Element of the 2035 Kings County General Plan serves as the primary policy statement for the unincorporated areas of the County to maintain and improve the noise environment in the County. It should be noted that the County does not have specific zoning or general plan requirements related to vibration.

Table 3-20 shows the County maximum allowable noise exposure from Transportation Noise Sources. Table 3-21 shows the County maximum allowable noise exposure from Stationary Noise Sources (non-transportation noise). The information presented in **Table 3-20** and **Table 3-21** comes from the Noise element for the Kings County General Plan.[35]

Table 3-20. Noise Standards for New Uses Affected by Transportation Noise Sources

Noise Standards for New Uses Affected by Transportation Noise Sources			
New Land Use	Sensitive[1] Outdoor Area - CNEL, dB	Sensitive Interior[2] Area - CNEL, dB	Notes
Residential	60	45	5
Residence in Ag Zones	65	45	6
Transient lodging	65	45	3,5
Hospitals, Nursing Homes	60	45	3,4,5
Theaters, Auditoriums	--	35	3
Churches, meeting Halls, schools, Libraries, etc.	60	40	3
Office Buildings	65	50	3
Commercial Buildings	65	50	3
Playgrounds, Parks, etc.	70	--	3
Industry	65	50	3

Notes:
1. Sensitive areas are defined in the acoustic terminology section.
2. Interior noise level standards are applied within noise-sensitive areas of the various land uses, with windows and doors in the closed positions.
3. Where there are no sensitive exterior spaces proposed for these uses, only the interior noise level standard shall apply.
4. Hospitals are often noise-generating uses. The exterior noise level standards for hospitals are applicable on it at clearly identified areas designated for outdoor relaxation by either hospital staff or patients.
5. If this use is affected by railroad or aircraft noise, a maximum (Lmax) noise level standard of 70 dB shall be applied to all sleeping rooms with windows closed to reduce the potential for sleep disturbance during nightime noise events.
6. Due to the noise-generating nature of agricultural activities, it is understood that residences constructed on agriculturally designated land uses may be exposed to elevated noise levels. As a result, a 65 dB CNEL exterior noise level standard is applied to noise-sensitive outdoor areas of these uses.
dB= Decibels
CNEL= Community Noise Equivalent Level
Source: Kings County 2035 General Plan

[35] Kings County 2035 General Plan page n-38, accessed June 14, 2019.

Table 3-21. Non-Transportation Noise Standards

Non-Transportation Noise Standards				
Receiving Land Use	Average (Leq)/Maximum (Lmax)[1]			Notes
	Outdoor Area[2]		Interior[3]	
	Daytime	Nighttime	Daytime/Nighttime	
All Residential	55/75	50/70	35/55	
Transient lodging	55/75	--	35/55	5,6
Hospitals, Nursing Homes	55/75	--	35/55	6
Theaters, Auditoriums	--	--	30/50	6
Churches, meeting Halls, schools, Libraries, etc.	55/75	--	35/60	6
Office Buildings	60/75	--	45/65	6
Commercial Buildings	55/75	--	45/65	6
Playgrounds, Parks, etc.	65/75	--	--	6
Industry	60/80	--	50/70	6

Notes:
1. The standards shall be reduced by 5 dB for sounds consisting primarily of speech or music, and for recurring impulsive sounds. If the existing ambient noise level exceeds the standards, then the noise level standards shall be increased at 5 dB increments to encompass the ambient.
2.Sensitive areas are defined in the acoustic terminology section.
3. Interior noise level standards are applied within noise-sensitive areas of the various land uses, with windows and doors in the closed positions.
4. Outdoor activity areas of transient lodging facilities are not commonly used during nighttime hours.
5. Hospitals are often noise-generating uses. The exterior noise level standards for hospitals are applicable only at clearly identified areas designated for outdoor relaxation by either hospital staff or patients.
6. The outdoor activity areas of these uses (if any), are not typically utilized during nightime hours.
Leq= Noise Equivalent Level
Lmax= Maximum noise level recorded during a noise element
Sounce: Kings County 2035 General Plan

3.13.3 Impact Assessment

XII-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?

a) Less Than Significant Impact. Implementation of the Project has the potential to result in short-term construction noise impacts to surrounding land uses due to construction activities. Via an aerial search, there are four single-family residences within the Project's vicinity. The nearest single-family residence is approximately 0.63 miles southwest of the Project site. Construction noise represents a short-term impact on ambient noise levels. Although most of the types of exterior construction activities associated with the Project will not generate continually high noise levels, occasional single-event disturbances from grading and construction activities are possible. Table 3-22 depicts typical construction equipment noise. Construction equipment noise is controlled by the EPA's Noise Control Program (Part 204 of Title 40, Code of Federal Regulations[36]).

During the construction phase of the Project, noise from construction activities will add to the ambient noise environment in the immediate area. Activities involved in construction would generate maximum noise levels,

[36] EPA Noise Control Program. https://www.law.cornell.edu/cfr/text/40/part-204. Site Accessed January 2017.

as indicated in **Table 3-22,** ranging from 77 to 85dB at a distance of 50 feet. Construction activity for the recharge basin would commence in the fall of 2019. This initial phase of construction is anticipated to last approximately 10 months. Construction of the Project is estimated to require a maximum of 20 workers who would work in single shifts, five days per week.

Construction activities are expected to occur during normal daytime working hours in compliance with the County General Plan Noise Element. Based on information provided in **Table 3-22** and the noise attenuation formula from the California Department of Transportation's (Caltrans) Technical Noise Supplement to the Traffic Noise Analysis Protocol, the nearest single-family residence is appromately 0.63 miles southwest of the site may be subject to short-term noise reaching 75 dBA Lmax generated by construction activities. Considering the maximum sound level of 75 dBA Lmax from the Kings County Non-Transportation Noise Standard, construction of the Project is not anticipated to impact neighboring residences. Therefore, noise resulting from short-term, transient construction activity will not result in significant adverse impacts to nearby sensitive receptors. Construction activities associated with the Project will be subject to N Policy B1.1.3 of Kings County's General Plan Noise Element even though the anticipated noise levels at adjacent sensitive receptors will not exceed the maximum sound level from the Kings County Non-Transportation Noise Standard. Therefore, the impact would be less than significant.

XII-b) Generation of excessive groundborne vibration or groundborne noise levels?

b) Less Than Significant Impact. Ambient vibration levels in residential areas are typically 50 VdB, which is well below human perception. The operation of heating/air conditioning systems and slamming of doors produce typical indoor vibrations that are noticeable to humans but not considered adverse or significant.

Construction activity can result in ground vibration, depending upon the types of equipment used and proximity to receptors. Operation of construction equipment causes ground vibrations, which spread through the ground and diminish in strength with distance from the source generating the vibration. Building structures that are founded on the soil in the vicinity of the construction site respond to these vibrations, with varied results. Ground vibrations as a result of typical construction activities very rarely reach vibration levels that will damage structures but can cause low rumbling sounds and detectable vibrations for buildings very close to the site. Construction activities that generally create the most severe vibrations are blasting and impact pile driving. Neither of these activities will be needed to construct the Project.

Vibration levels from various types of construction equipment are shown in **Table 3-22**. The primary concern with construction vibration is building damage. Therefore, construction vibration is generally assessed in terms of PPV. Using the highest vibration level shown in **Table 3-22** (Lv 87), the anticipated vibration level at 100 feet, 150 feet, and 200 feet is 75, 71, and 69 VdB, respectively.

Construction activities associated with the Project would likely require the use of various types of equipment including bulldozers and dump trucks. Based on the vibration levels provided in **Table 3-22,** ground vibration generated by common construction equipment would be 75 VdB or less at a distance of 100 feet or more. The nearest rural single-family residence to the Project site is located approximately 0.63 miles southwest of the Project site and wouldn't be impacted by ground vibrations generated by the construction phase of the Project. As a result, the anticipated vibration levels at the nearest off-site structures will not exceed vibration levels greater than 75 VdB. Therefore, no mitigation measures are needed. Any impacts would be less than significant.

Table 3-22. Vibration Source Levels for Construction Equipment

Vibration Source Levels for Construction Equipment		
Equipment	**PVV 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 inch/second

XII-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?

c) No Impact. The Project is not located within the vicinity of a private airstrip or of a public airport or public use airport. The Hanford Municipal Airport is the closest public airport and is located approximately 9.3 miles east of the Project site. The Stone Airstrip is the closest private airstrip and is located approximately 5.25 miles northwest of the Project site. Therefore, there will be no impact.

3.14 Population and Housing

Table 3-23. Population and Housing Impacts

Population and Housing					
	Would the project:	Potentially Significant Impact	Less than Significant With Mitigation Incorporated	Less than Significant Impact	No Impact
a)	Induce substantial unplanned population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)?	☐	☐	☐	☒
b)	Displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere?	☐	☐	☐	☒

3.14.1 Environmental Setting

Since 1980, Kings County's population has increased at an annual average growth rate of 3.8 percent. However, much of the increase is inflated due to the opening of Avenal State Prison (1987), Corcoran State Prison I and II (1988), the California Substance Abuse Treatment Facility (1997), and expansion of Naval Air Station Lemoore (NAS Lemoore). Discounting military and correctional institutions, Countywide population still increased at a rate of approximately two percent annually since 1980[37].

3.14.2 Regulatory Setting

3.14.2.1 Federal

There are no federal regulations, plans, programs, and guidelines associated with population or housing that are applicable to the proposed Project.

3.14.2.2 State

California Housing Element Law: State law requires each city and county to adopt a general plan for future growth. This plan must include a Housing Element that identifies housing needs for all economic segments and provides opportunities for housing development to meet that need. At the State level, the California Department of Housing and Community Development estimates the relative share of California's projected population growth that could occur in each county in the State based on Department of Finance population projections and historic growth trends. Where there is a regional council of governments, as in Kern County, the California Department of Housing and Community Development provides the regional housing need to the council. The council then assigns a share of the regional housing need to each of its cities and counties. The process of assigning shares provides cities and counties the opportunity to comment on the proposed allocations.

The California Department of Housing and Community Development oversees the process to ensure that the councils of governments distribute their share of the State's projected housing need. Each city and county must update its general plan housing element on a regular basis (typically, every five to eight years). Among other things, including incorporating policies, the housing element must identify potential sites that

[37] County of Kings 2035 General Plan. Introduction, Page I-4.

could accommodate the city's share of the regional housing need. Before adopting an update to its housing element, the city or county must submit a draft to the California Department of Housing and Community Development for review. The department advises the local jurisdiction as to whether its housing element complies with the provisions of California housing element law.

The councils of governments are required to assign regional housing shares to the cities and counties within their regions on a similar five-year schedule. At the beginning of each cycle, the California Department of Housing and Community Development provides population projections to the councils of governments, which then allocate shares to their cities and counties. The shares of the regional need are allocated before the end of the cycle so that the cities and counties can amend their housing elements by the deadline.

3.14.2.3 Local

There are no local regulations, plans, programs, or guidelines associated with population or housing that are applicable to the proposed Project.

3.14.3 Impact Assessment

XIII-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)?

a) No Impact. The proposed Project will construct a 75-acre recharge basin. The proposed Project would not directly induce population growth because it proposes no new housing or land use changes; there would be no impact.

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

b) No Impact. No housing would be removed, and no new housing is proposed as part of the Project. There would be no impact as a result of Project implementation

3.15 Public Services

Table 3-24. Public Services Impacts

Public Services					
	Would the project:	Potentially Significant Impact	Less than Significant With Mitigation Incorporated	Less than Significant Impact	No Impact
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?	☐	☐	☒	☐

3.15.1 Environmental Setting

Kings County Water District services the entire Project site.

Fire Protection: The nearest fire station is Kings County Fire Department Station 1 Burris Park, which is 2.6 miles northeast of Project site.

Police Protection: The closest law enforcement agency is Kings County Sherriff's office which is 6.9 miles southwest of the Project site.

School: The closest school is Kings River – Hardwick Elementary School which is 2.7 miles southwest of the Project site.

Parks: There are two parks within the vicinity of the Project. Kings County Burris Park is 2.5 miles north and Kingston Park is 5.4 miles northwest of the Project site.

Other Public Facilities: The closest active landfill site is Kings Waste and Recycling Authority which is approximately 7.4 miles south of the Project site.

3.15.2 Regulatory Setting

3.15.2.1 Federal

There are no federal regulations, plans, programs or guidelines associated with public services that are applicable to the proposed Project.

3.15.2.2 State

There are no State regulations, plans, programs or guidelines associated with recreation that are applicable to the proposed Project.

3.15.2.3 Local

Kings County General Plan Policies: The 2035 Kings County General Plan Health and Safety Element has the following goal related to public services:

- HS GOAL C2: Support Countywide safety through adequate law enforcement, quality fire protection, emergency preparedness, and accessibility in times of emergency.

3.15.3 Impact Assessment

XIV-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:

a) Less Than Significant Impact. The proposed Project will not rely on the addition or alteration of any public services from fire, law enforcement, schools, and parks. The proposed Project is located in Kings County and will continue to receive services from the County. The Project will include the development of a new 75-acre recharge basin and would realign Peoples Ditch in order to make the basin area more productive and manageable. Any impacts would be less than significant impact.

3.16 Recreation

Table 3-25. Recreation Impacts

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

3.16.1 Environmental Setting

Kings County currently owns and maintains three parks (Burris, Hickey, and Kingston) which are located in the northern portions of the County and surrounded by agricultural areas. Two community parks also exist within the County but are supported and maintained by the Community Service Districts of Kettleman City and Armona for each respective park.[38]

The two nearest parks are Kingston and Burris Park both of which are less than 6 miles from the Project site.

3.16.2 Regulatory Setting

3.16.2.1 Federal

There are no federal regulations, plans, programs or guidelines associated with recreation that are applicable to the proposed Project.

3.16.2.2 State

There are no State regulations, plans, programs or guidelines associated with recreation that are applicable to the proposed Project.

3.16.2.3 Local

There are no local regulations, plans, programs or guidelines associated with recreation that are applicable to the proposed Project.

[38] County of Kings 2035 General Plan Open Space Element

3.16.3 Impact Assessment

XV-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?

a) No Impact. The proposed Project will not increase the use of existing neighborhood and regional parks or other recreational facilities. The Project will include the development of a new 75-acre recharge basin and would realign Peoples Ditch in order to make the basin area more productive and manageable. Therefore, there would be no impact.

XV-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?

b) No Impact. The proposed Project does not include recreational facilities and there is no population growth resulting directly from Project implementation. Therefore, construction or expansion of nearby recreational facilities will not be necessary. There would be no impact.

3.17 Transportation/Traffic

Table 3-26. Transportation/Traffic Impacts

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

3.17.1 Environmental Setting

The Project area is 80 acres on the west side of 7th Avenue, between Dover and Excelsior Avenues in Kings County, CA. Peoples Ditch currently runs from northeast to southwest through the eastern side of the property. The Kings County Water District (District) is a stockholder in Peoples Ditch Company and has access to surface water (Kings River and surplus Friant Division CVP supplies) through this facility. The Project area has been an active orchard for many years and has been used for farming activities for many decades. There are two active wells in use and one non-active well on the Project site. There are also electrical service facilities for the two active wells on the east side of the area, and electrical transmission towers along the west edge of the Project site.

The nearest airport to the Project Site is Hanford Municipal which is located approximately 6.2 miles southwest of the Project site.

3.17.2 Regulatory Setting

3.17.2.1 Federal

Federal Clean Air Act: The Federal Clean Air Act, coupled with TEA 21, and foreseeable legislation, requires that the RTP integrate transportation and air quality during the planning process. The 1990 California Clean Air Act (CCAA) Amendment requires the following stipulations in order to receive federal funding:

- Establish a permitting program that achieves no net increase in stationary source emissions;
- Develop a strategy to reduce vehicle trips, use and miles traveled;
- Increase average vehicle ridership to 1.5 persons per vehicle during commute hours;
- Establish Best Available Retrofit Control Technology (BARCT) requirements for all permitted sources; and
- Development of indirect and area source programs.

Several federal regulations govern transportation issues. They include:

- Title 49, CFR, Sections 171-177 (49 CFR 171-177), governs the transportation of hazardous materials, the types of materials defined as hazardous, and the marking of the transportation vehicles.
- 49 CFR 350-399, and Appendices A-G, Federal Motor Carrier Safety Regulations, address safety considerations for the transport of goods, materials, and substances over public highways.

49 CFR 397.9, the Hazardous Materials Transportation Act of 1974, directs the U.S. Department of Transportation to establish criteria and regulations for the safe transportation of hazardous materials.

3.17.2.2 State

State of California Transportation Department Transportation Concept Reports: Each District of the State of California Transportation Department (Caltrans) prepares a Transportation Concept Report (TCR) for every state highway or portion thereof in its jurisdiction. The TCR usually represents the first step in Caltrans' long-range corridor planning process. The purpose of the TCR is to determine how a highway will be developed and managed so that it delivers the targeted LOS and quality of operations that are feasible to attain over a 20-year period, otherwise known as the "route concept" or beyond 20 years, for what is known as the "ultimate concept".

SR 41 is designated as Segment 5 in the vicinity of the Project site and has a route concept rationale of LOS C with this portion of the route being primarily rural. Two-lane portions within this segment are planned to be improved to 4 lanes within the next 20 years[39].

SR 43 is designated as Segment 17 in the vicinity of the Project site and has a route concept rationale of LOS D assigned to all of the rural portions of Route 43. A LOS D route concept rationale is due to the interregional importance of this route and the anticipated traffic volumes[40]. It is anticipated to be improved for operational and safety purposes only under the route concept. Under the ultimate viable concept within 25 years, operational and safety improvements are proposed for Segment 17 of SR 43.

State Route 99 is designated as Segments 17 and 19 in the vicinity of the Project site. The route concept for SR 99 is a minimum six-lane freeway, which is consistent with District policy to complete a 6-lane system and also with the Interregional Transportation Strategic Improvement Plan for Route 99. The ultimate concept is for a six-lane freeway plus auxiliary lane; however, it can be up to eight lanes plus auxiliary lanes[41]. An example of the concept is predominant in the Bakersfield area where there are already eight lanes or adequate right-of-way already exists to accommodate lane expansion.

State Route 198 is designated as Segments 7 and 8 in the Project vicinity which operates between LOS B and LOS C for the majority of its length.

3.17.2.3 Local

Kings County General Plan Policies: The 2035 Kings County General Plan has the following goals and objectives for traffic and circulation:

- C GOAL A1: Provide a coordinated countywide circulation system with a variety of safe and efficient transportation alternatives and modes that interconnect cities, community districts, adult education facilities, and adjoining cities in neighboring counties, and meets the growing needs of residents, visitors, and businesses.

[39] Caltrans Traffic Concept Report, http://www.dot.ca.gov/dist6/planning/tcrs/index.htm
[40] Ibid.
[41] Caltrans Traffic Concept Report, http://www.dot.ca.gov/dist6/planning/tcrs/index.htm.

- C OBJECTIVE A1.3: Maintain an adequate LOS for County roadways and ensure proper maintenance occurs along critical routes for emergency response vehicles.

- C GOAL C1: Integrate through the County's regional transportation system, an efficient and coordinated goods and people moving network of highways, railroads, public transit, and non-motorized options that reduce overall fuel consumption and associated air emissions.

3.17.3 Impact Assessment

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

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

a-b) Less Than Significant Impact. The proposed Project would consist of the construction of a recharge basin. Construction traffic associated with the proposed Project would be temporary, lasting approximately 10 months for demolition of the orchard, excavation of soil, grading, site preparation, and construction of the basins. Operational traffic consists of as-needed maintenance trips. There would not be a significant adverse effect to existing roadways in the area.

There are no pedestrian or bicycle facilities in the vicinity of the site. Therefore, the proposed Project would not conflict with any congestion management plan or any other applicable plan, ordinance, or policy establishing measures of effectiveness for the performance of the circulation system.

XVI-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)?

c) No Impact. No new roadway design features are associated with the proposed Project. Therefore, there will be no impact.

XVI-d) Would the project result in inadequate emergency access? a change in air traffic patterns, including either an increase in traffic levels or a change in location that result in substantial safety risks?

d) No Impact. The Project does not propose new roadway design features or permanent alterations to roadways. No construction or maintenance vehicles would obstruct the existing roadways. Therefore, there would be no impacts to emergency access on local roadways.

3.18 Tribal Cultural Resources

Table 3-27. Tribal Cultural Resources Impacts

Tribal Cultural Resources				
Would the project:	**Potentially Significant Impact**	**Less than Significant With Mitigation Incorporated**	**Less than Significant Impact**	**No Impact**
a) Cause a substantial adverse change in the significance of a tribal cultural resource, defined in Public Resources Code section 21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe, and that is:	☐	☒	☐	☐
i. Listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in Public Resources Code section 5020.1(k), or	☐	☒	☐	☐
ii. A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Public Resources Code Section 5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe.	☐	☒	☐	☐

3.18.1 Environmental Setting

The Project lies within the homeland of the Southern Valley Yokuts. At the time of first contact with the Spanish missionaries, the Yokuts people, which also includes northern valley and foothill groups, collectively inhabited the San Joaquin Valley as well as the eastern foothills of the Sierra Nevada from the Fresno River southward to the Kern River.

The serial incursion of Spanish, Mexican, and finally northern European settlers irrevocably changed the lifeways of the Yokuts and ultimately led to the complete displacement of native peoples from the valley. With the founding of Mission San Juan Bautista in 1797, Indians inhabiting the western portion of the San Joaquin Valley were forcibly recruited to serve at the mission. It appears that natives were replaced by Spanish settlers. The village was renamed Poza Chana, which combined the Spanish word for pool (poza) with the supposed name of its indigenous inhabitants (the Chana Indians).

The proposed Project area has been intensively farmed for over a century and little (if any) natural vegetation remains at the three basin sites.

3.18.2 Regulatory Setting

3.18.2.1 Federal

There are no federal regulations, plans, programs, and guidelines associated with tribal cultural resources that are applicable to the proposed Project.

3.18.2.2 State

California Environmental Quality Act and the CEQA Guidelines (PRC 21000, *et seq.*; CCR Title 14, Chapter 3, Section 15000. *et seq.*): CEQA is applicable to discretionary actions by State or local lead agencies. Under CEQA, lead agencies must analyze impacts to cultural resources, generally (**see Section** Error! Reference source not found. and Tribal Cultural Resources, specifically. This section discusses impacts to cultural resources directly related to Native American Tribes of the Project area. The distinction for Tribal Cultural Resources is that they are described as a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American Tribe.

3.18.2.3 Local

No local policies regarding tribal cultural resources apply to the proposed Project.

3.18.3 Impact Assessment

XVIII-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:

XVIII-a-i) Listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in Public Resources Code section 5020.1(k)

XVIII-a-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, the lead agency shall consider the significance of the resource to a California Native American tribe.

a-i - a-ii) Less than Significant Impact with Mitigation Incorporated. The District, as a public lead agency has not received any formal requests for notification from any State tribes, pursuant to AB52.
An intensive Phase I survey was conducted for the Kings County Water District, Esajian Recharge Basin Project, Kings County, California. ASM Affiliates, Inc., conducted this study, with David S. Whitley, Ph.D., RPA, serving as principal investigator. The study was undertaken to assist with the regulatory requirements for compliance with the California Environmental Quality Act (**Appendix C**).

A record search of site files and maps was conducted on 19 June 2019 at the Southern San Joaquin Valley Archaeological Information Center, California State University, Bakersfield. A Sacred Lands File Request was also completed by the Native American Heritage Commission (NAHC) on 13 May 2019. These investigations determined that the study area had not been surveyed previously, but that one historic resource was known to exist within it, P-16-000246, the Peoples Ditch. No sacred sites or tribal cultural resources were known in the Project area or vicinity. Outreach letters were sent to tribal organizations (listed below) on the contact list was provided by the NAHC.

1. *Kings River Choinumni Farm Tribe, Stan Alec*
2. *Santa Rosa Indian Community of the Santa Rosa Rancheria, Rueben Barrios Sr., Chairperson*

3. *Table Mountain Rancheria of California, Leanne Walker-Grant, Chairperson*
4. *Table Mountain Rancheria of California, Bob Pennell, Cultural Resources Director*
5. *Tule River Indian Tribe, Neil Peyron, Chairperson*
6. *Wuksache Indian Tribe/Eshom Valley Band, Kenneth Woodrow, Chairperson*

Follow-up phone calls were also made to the contact list. No concerns or information about tribal cultural resources was obtained as a result of this outreach (**Appendix C**).

It is concluded, barring evidence to the contrary, that there is little or no chance the Project will cause a substantial adverse change to the significance of a tribal cultural resource as defined. Nonetheless, Mitigation Measures CUL-1 and CUL-2, described above in **Section 3.5**, are recommended in the event cultural materials or human remains are unearthed during excavation or construction.

3.19 Utilities and Service Systems

Table 3-28. Utilities and Service Systems Impacts

Utilities and Service Systems					
	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?	☐	☐	☒	☐
b)	Have sufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry and multiple dry years?	☐	☐	☒	☐
c)	Result in a determination by the wastewater treatment provider which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?	☐	☐	☐	☒
d)	Generate solid waste in excess of State or local standards, or in excess of the capacity of local infrastructure, or otherwise impair the attainment of solid waste reductions goals?	☐	☐	☒	☐
e)	Comply with federal, state, and local management and reduction statutes and regulations related to solid waste?	☐	☐	☐	☒

3.19.1 Environmental Setting

3.19.1.1 Water Supply

Wastewater Services / Facilities: Wastewater collection and treatment is not provided in the rural parts of Kings County, such as where the Project site is located. Instead, development outside of incorporated cities and community service districts typically relies on individual septic systems for wastewater disposal and treatment.

Water: Surface water is provided in Kings County by a network of rivers, creeks, canals, reservoirs, and the aqueduct. Principal among these features are the Kings River, Cross Creek, and the California Aqueduct. The natural water source is from snow and watershed runoff in the Sierra Nevada Mountain Range to the east. The construction of Pine Flat, Success, Terminus, and Isabella Dams in the Sierra Nevada Mountains have helped to control flooding within the Central Valley. The dams also help in timing the release of surface water to valley water users. The rivers supply much of the surface water used for irrigation and serve to assist in ground water recharge efforts that support ground water pumping for agriculture, domestic and industrial uses.

Agricultural water supplies are typically provided by irrigation canals and supplemented by groundwater wells. In the rural parts of Kings County, potable water is typically provided by individual groundwater wells.

Solid Waste: The Kings Waste and Recycling Authority (KWRA) was formed in September 1989 by agreement between the cities of Lemoore, Hanford, Corcoran, and the County of Kings to provide a regional approach to all waste management activities in Kings County. Solid waste is first directed to the KWRA facility and then transferred to Chemical Waste Management, Inc.'s Kettleman Hills Facility, which operates both municipal waste and hazardous waste landfills at their site west of Interstate 5 along SR 41.

Non-recyclable materials are transferred to the B-17 Landfill Unit at the Chemical Waste Management, Inc. (CWMI) Kettleman Hills Facility located on SR-41 in Kettleman Hills. The B-17 Landfill Unit has a maximum disposal rate of 2,000 tons per day, and currently accepts an average of 1,350 tons per day (http://kettlemanhillslandfill.wm.com/fact-sheets/2011/facility-overview.jsp).

The total permitted capacity of B-17 Landfill Unit is 18.4 million cubic yards according to Page 2-3 in Section 2.3 of the Draft Subsequent Environmental Impact Report (DSEIR) for Conditional Use Permit (CUP) No. 04-01 for the B-17 Landfill Project. The Waste Management Kettleman Hills B-17 Landfill 2016 Airspace Report (www.calrecycle.ca.gov/SWFacilities/Directory/16-AA-0021/Document/306996) lists a remaining capacity of approximately 15,843,300 cubic yards for B-17.

Page 2-3 in Section 2.3 of the DSEIR for CUP No. 04-01 for the B-17 Landfill Project also states that the facility will be permitted to receive up to 2,000 tons per day of non-hazardous waste (municipal solid waste and designated waste) for disposal, 6 days per week (except Sundays) from 8:00 a.m. until 6:00 p.m. There is no limit on Class II soils that are received for beneficial use, such as daily or intermediate cover, or wastes received for use alternative daily cover (ADC).

3.19.2 Regulatory Setting

3.19.2.1 Federal

Clean Water Act-Section 404: The federal Clean Water Act (CWA, 33 USC 1251-1376), as amended by the Water Quality Act of 1987, is the major federal legislation governing water quality. The objective of the CWA is "to restore and maintain the chemical, physical, and biological integrity of the Nation's water." Important applicable sections of the Act are as follows:

- Sections 303 and 304 provide for water quality standards, criteria, and guidelines.
- Section 401 requires an applicant for any federal permit that proposes an activity which may result in a discharge to "waters of the United States" to obtain certification from the state that the discharge will comply with other provisions of the Act. The Regional Water Quality Control Board (RWQCB) provides certification.
- Section 402 establishes the National Pollutant Discharge Elimination System (NPDES), a permitting system for the discharge of any pollutant (except for dredge or fill material) into waters of the United States. This permit program is administered by the RWQCB.
- Section 404 establishes a permit program for the discharge of dredge or fill material into waters of the United States. The U.S. Army Corps of Engineers (ACOE) administers this permit program.

Wetlands and other waters of the U.S. are subject to the jurisdiction of the ACOE and Environmental Protection Agency (EPA) under Section 404 of the Clean Water Act. Wet areas that are not regulated by this Act do not have a hydrologic link to other waters of the U.S., either through surface or subsurface flow. The ACOE has the authority to issue a permit for any discharge, fill, or dredge of wetlands on a case-by-case basis, or by a general permit. General permits are handled through a Nationwide Permit (NWP) process. These permits allow specific activities that generally create minimal environmental effects. Projects that qualify under the NWP program must fulfill several general and specific conditions under each applicable NWP. If a proposed project cannot meet the conditions of each applicable, an individual permit would likely be required from the ACOE (EPA 2004).

National Pollutant Discharge Elimination System: Discharge of treated wastewater to surface water(s) of the U.S., including wetlands, requires an NPDES permit. In California, the RWQCB administers the issuance of these federal permits.

Obtaining a NPDES permit requires preparation of detailed information, including characterization of wastewater sources, treatment processes, and effluent quality. Any future development that exceeds one acre in size would be required to comply with NPDES criteria, including preparation of a Stormwater Pollution Prevention Plan (SWPPP) and the inclusion of BMPs to control erosion and offsite transport of soils.

3.19.2.2 State

State Water Resources Control Board (SWRCB): Waste Discharge Requirements Program. State regulations pertaining to the treatment, storage, processing, or disposal of solid waste are found in Title 27, CCR, Section 20005 et seq. (hereafter Title 27). I n general, the Waste Discharge Requirements (WDRs) Program (sometimes also referred to as the "Non-Chapter 15 (Non-15) Program") regulates point discharges that are exempt pursuant to Subsection 20090 of Title 27 and not subject to the Federal Water Pollution Control Act. Exemptions from Title 27 may be granted for nine categories of discharges (e.g., sewage, wastewater, etc.) that meet, and continue to meet, the preconditions listed for each specific exemption. The scope of the WDRs Program also includes the discharge of wastes classified as inert, pursuant to Section 20230 of Title 27. Several programs are administered under the WDR Program, including the Sanitary Sewer Order and recycled water programs.

Regional Water Quality Control Boards: The primary responsibility for the protection of water quality in California rests with the State Water Resources Control Board (State Board) and nine Regional Water Quality Control Boards. The State Board sets statewide policy for the implementation of state and federal laws and regulations. The Regional Boards adopt and implement Water Quality Control Plans (Basin Plans) which recognize regional differences in natural water quality, actual and potential beneficial uses, and water quality problems associated with human activities.

National Pollutant Discharge Elimination System (NPDES) Permit. As authorized by the Clean Water Act (CWA), the National Pollutant Discharge Elimination System (NPDES) Permit Program controls water pollution by regulating point sources that discharge pollutants into water of the United States. In California, it is the responsibility of Regional Water Quality Control Boards (RWQCB) to preserve and enhance the quality of the state's waters through the development of water quality control plans and the issuance of waste discharge requirements (WDRs). WDRs for discharges to surface waters also serve as NPDES permits[42]

California Department of Water Resources: The California Department of Water Resources (DWR) is a department within the California Resources Agency. The DWR is responsible for the State of California's management and regulation of water usage.

3.19.2.3 Local

AB 939: The California Integrated Waste Management Act of 1989 (also known as AB 939) required each city and county in California to prepare plans for solid waste management that demonstrate a reduction in the amount of solid waste sent to landfill, as well as a long-term plan to ensure implementation of diversion programs and adequate disposal capacity. The Countywide Integrated Waste Management Plan (Kings County 1995) contains goals, objectives, and policies designed to protect public health, safety, and well-being; preserve the environment; and provide for the maximum feasible conservation of natural resources and energy. The county has established a hierarchy (listed from most to least desirable) of waste prevention (source reduction), reuse, recycling, composting, and disposal. The Countywide Integrated Waste Management Plan includes a

[42] California State Water Resources Control Board. National Pollutant Discharge Elimination System (NPDES). Site Available: http://www.waterboards.ca.gov/water_issues/programs/npdes/.

mandatory Source Reduction and Recycling Element as required by AB 939, as well as a Household Hazardous Waste Element.

3.19.3 Impact Assessment

XIX-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?

a) No Impact. The proposed Project involves the construction of a recharge basin for the purpose of promoting aquifer replenishment and increasing groundwater supplies. The Project will not generate wastewater and will not require the construction of new or expanded services. There would be no impact.

XIX-b) Have sufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry and multiple dry years?

b) No Impact. Implementation of the Project will allow as much as 120 AF of water to be recharged over thirty days. There is no anticipated increase in water demand resulting from implementation of the Project. The Project will not impede sustainable groundwater management of the Tulare Lake subbasin, nor will it substantially decrease ground water supplies. There will be no impact.

XIX-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?

c) No Impact. The Project will not create a wastewater demand on any wastewater treatment provider, nor will it require any wastewater treatment facilities at the Project site, there will be no need for any capacity determination by a wastewater treatment provider. There would be no impact.

XIX-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?

d) Less Than Significant Impact. The proposed Project will not generate any additional solid waste from operation. proposed Project construction will generate minimal amounts of solid waste. Any construction debris that is not recycled will be received at the Kings Waste and Recycling Authority (KWRA). The KWRA facility is approximately nine miles southeast of the Project site. Any impacts will be less than significant.

XIX-e) Comply with federal, state, and local management and reduction statutes and regulations related to solid waste?

e) No Impact. Implementation of the Project involves the construction of a new water recharge basin and is not anticipated to produce any solid waste. Furthermore, the Project would continue to comply with any federal, State, and local regulations regarding solid waste. There would be no impact.

3.20 Wildfire

Table 3-29. Wildfire Impacts

Wildfire					
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?	☐	☐	☐	☒
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?	☐	☐	☐	☒
c)	Require the installation or maintenance of associated infrastructure (such as roads, fuel breaks, emergency water sources, power lines or other utilities) that may exacerbate fire risk or that may result in temporary or ongoing impacts to the environment?	☐	☐	☐	☒
d)	Expose people or structures to significant risks, including downslope or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes?	☐	☐	☐	☒

3.20.1 Environmental Setting

The proposed Project is located in unincorporated Kings County. The Project area has been an active orchard for many years and has been used for farming activities for many decades. The Project does not involve the construction of any habitable structures and is not considered to be population growth inducing.

3.20.2 Regulatory Setting

3.20.2.1 Federal

There are no federal regulations, plans, programs, or guidelines associated with wildfire that are applicable to the proposed Project.

3.20.2.2 State

There are no State regulations, plans, programs, or guidelines associated with wildfire that are applicable to the proposed Project.

3.20.2.3 Local

There are no Local regulations, plans, programs, or guidelines associated with wildfire that are applicable to the proposed Project.

XX-a) Would the project substantially impair an adopted emergency response plan or emergency evacuation plan?

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

XX-c) Would the project Require the installation or maintenance of associated infrastructure (such as roads, fuel breaks, emergency water sources, power lines or other utilities) that may exacerbate fire risk or that may result in temporary or ongoing impacts to the environment?

XX-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?

a-d) No Impact. The proposed Project is not located in or near state responsibility areas or lands classified as very high fire hazard severity zones. The nearest State Responsibility Area (SRA) is approximately 20 miles to the northeast of the Project site. Additionally, the site is approximately 21 miles from the nearest Very High classification of Fire Hazard Severity Zone (FHSZ). Therefore, further analysis of the Projects potential impacts to wildfire are not warranted. There would be no impacts.

3.21 CEQA Mandatory Findings of Significance

Table 3-30. Mandatory Findings of Significance Impacts

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

3.21.1 Impact Assessment

XXI-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?

a) Less than Significant Impact with Mitigation Incorporated: The analysis conducted in this Initial Study/Mitigated Negative Declaration results in a determination that the Project, with incorporation of mitigation measures, will have a less than significant effect on the environment. The potential for impacts to biological resources, cultural resources and tribal cultural resources from the implementation of the Project will be less than significant with the incorporation of the mitigation measures discussed in **Chapter 4, Mitigation Monitoring and Reporting Program**. Accordingly, the Project will 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.

XXI-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)?

b) Less Than Significant Impact with Mitigation Incorporated: CEQA Guidelines Section 15064(i) States that a Lead Agency shall consider whether the cumulative impact of a project is significant and whether the effects of the project are cumulatively considerable. The assessment of the significance of cumulative effects of a project must be conducted in connection with the effects of past projects, other current projects, and probable future projects. The Project will include the development of a new 75-acre recharge basin and would realign Peoples Ditch in order to make the basin area more productive and manageable. The realignment of Peoples Ditch would require developing several associated control structures. SCADA may be involved in the modified control structures in Peoples Ditch as well as other operation improvements. Additionally, several groundwater monitoring facilities would be developed at the Project site.

The proposed Project is intended to promote aquifer replenishment and increase groundwater supplies. The Project would not result in direct or indirect population growth. Therefore, implementation of the Project would not result in significant cumulative impacts and all potential impacts would be reduced to less than significant through the implementation of mitigation measures and basic regulatory requirements incorporated into future Project design.

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

c) Less Than Significant Impact with Mitigation Incorporated: The proposed Project will not result in substantial adverse effects on human beings, either directly or indirectly. With implementation of the mitigation measures discussed in **Chapter 4, Mitigation Monitoring and Reporting Program,** and the implementation of Best Management Practices and general safety protocols during construction and maintenance of the proposed Project, impacts will be less than significant.

4 Mitigation Monitoring and Reporting Program

This Mitigation Monitoring and Reporting Program (MMRP) has been formulated based upon the findings of the Initial Study/Mitigated Negative Declaration (IS/MND) for the Kings County Water District Desalination Project (proposed Project) in Kings County (County). The MMRP lists mitigation measures recommended in the IS/MND for the proposed Project and identifies monitoring and reporting requirements.

Table 4-1 presents the mitigation measures identified for the proposed 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 4-1** 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 County to ensure that individual mitigation measures have been complied with and monitored.

Table 4-1. Mitigation Monitoring and Reporting Program

Mitigation Monitoring and Reporting Program					
Mitigation Measure/Condition of Approval	**When Monitoring is to Occur**	**Frequency of Monitoring**	**Agency Responsible for Monitoring**	**Method to Verify Compliance**	**Verification of Compliance**
Biological Resources					
Nesting Birds					
Mitigation Measure BIO-1a: Avoidance:					
The Project's construction activities shall occur, if feasible, between September 16 and January 31 (outside of nesting bird season) in an effort to avoid impacts to nesting birds.	Prior to the start of construction and during construction	N/A	Kings County Water District		
Mitigation Measure BIO-1b: Pre-construction Survey					
If activities must occur within nesting bird season (February 1 to September 15), a qualified biologist shall conduct pre-construction surveys for active nests within 30 days prior to the start of construction. The survey shall include the proposed work area and surrounding lands within 0.5 mile. If no active nests are observed, no further mitigation is required. Raptor nests are considered "active" upon the nest-building stage. All other nests are considered "active" by the presence of eggs or young.	Prior to the start of construction	Once, prior to the start of construction	Kings County Water District		
Mitigation Measure BIO-1c: Establish Buffers					
On discovery of any active nests near work areas, the biologist shall determine appropriate construction setback distances based on applicable CDFW and/or USFWS guidelines and/or the biology of the species in question. Construction buffers shall be identified with flagging, fencing, or other easily visible means, and shall be maintained until the biologist has determined that the nestlings have fledged.	Prior to the start of construction and during construction	Once, prior to the start of construction or as determined by biologist	Kings County Water District		
Cultural Resources					
Mitigation Measure CUL-1: Archaeological Resources					
In the event that archaeological resources are encountered at any time during development or ground-moving activities within the entire project area, all work in the vicinity of the find shall halt until a qualified archaeologist can assess the discovery. The District shall implement all recommendations of the archaeologist necessary to avoid or reduce to a less than significant level potential impacts to cultural resource. Appropriate actions could include a Data Recovery Plan or preservation in place.	In the event archaeological resources are uncovered	During excavation	Kings County Water District		

Mitigation Monitoring and Reporting Program					
Mitigation Measure/Condition of Approval	**When Monitoring is to Occur**	**Frequency of Monitoring**	**Agency Responsible for Monitoring**	**Method to Verify Compliance**	**Verification of Compliance**
Mitigation Measure CUL-2: Human Remains					
If human remains are uncovered, or in any other case when human remains are discovered during construction, the Kings County Coroner and the Santa Rosa Rancheria will be notified to arrange proper treatment and disposition. If the remains are identified—on the basis of archaeological context, age, cultural associations, or biological traits—as those of a Native American, California Health and Safety Code 7050.5 and Public Resource Code 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 determine the manner in which the remains are treated.	In the event human remains are uncovered	During excavation	Kings County Water District		

Appendix A

Air Quality and Greenhouse Gas Emissions Evaluation Report

Esajian Basin

Kings County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Other Non-Asphalt Surfaces	80.00	Acre	80.00	3,484,800.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	37
Climate Zone	3			**Operational Year**	2020
Utility Company	Pacific Gas & Electric Company				
CO2 Intensity (lb/MWhr)	641.35	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use - The entire basin project will take place within an 80-acre parcel

Construction Phase - construction would take place over approximately 10 months

Construction Off-road Equipment Mitigation -

Table Name	Column Name	Default Value	New Value
tblConstructionPhase	NumDays	155.00	230.00
tblConstructionPhase	NumDays	60.00	10.00
tblConstructionPhase	PhaseEndDate	8/26/2020	7/31/2020
tblConstructionPhase	PhaseEndDate	1/22/2020	9/13/2019
tblConstructionPhase	PhaseStartDate	1/23/2020	9/14/2019
tblConstructionPhase	PhaseStartDate	10/31/2019	9/1/2019
tblGrading	AcresOfGrading	575.00	387.50

2.0 Emissions Summary

2.1 Overall Construction

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2019	0.2083	2.3303	1.4269	2.6400e-003	0.5346	0.1037	0.6383	0.2011	0.0954	0.2966	0.0000	237.5813	237.5813	0.0735	0.0000	239.4189
2020	0.3472	3.8454	2.4945	4.8600e-003	0.6785	0.1664	0.8448	0.2787	0.1531	0.4318	0.0000	427.2279	427.2279	0.1352	0.0000	430.6077
Maximum	**0.3472**	**3.8454**	**2.4945**	**4.8600e-003**	**0.6785**	**0.1664**	**0.8448**	**0.2787**	**0.1531**	**0.4318**	**0.0000**	**427.2279**	**427.2279**	**0.1352**	**0.0000**	**430.6077**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2019	0.2083	2.3303	1.4269	2.6400e-003	0.2444	0.1037	0.3481	0.0915	0.0954	0.1870	0.0000	237.5810	237.5810	0.0735	0.0000	239.4186
2020	0.3472	3.8454	2.4945	4.8600e-003	0.3121	0.1664	0.4785	0.1272	0.1531	0.2803	0.0000	427.2274	427.2274	0.1352	0.0000	430.6072
Maximum	**0.3472**	**3.8454**	**2.4945**	**4.8600e-003**	**0.3121**	**0.1664**	**0.4785**	**0.1272**	**0.1531**	**0.2803**	**0.0000**	**427.2274**	**427.2274**	**0.1352**	**0.0000**	**430.6072**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**54.13**	**0.00**	**44.27**	**54.42**	**0.00**	**35.85**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

Quarter	Start Date	End Date	Maximum Unmitigated ROG + NOX (tons/quarter)	Maximum Mitigated ROG + NOX (tons/quarter)
1	6-13-2019	9-12-2019	0.2146	0.2146
2	9-13-2019	12-12-2019	1.9287	1.9287
3	12-13-2019	3-12-2020	1.8130	1.8130
4	3-13-2020	6-12-2020	1.8010	1.8010
5	6-13-2020	9-12-2020	0.9592	0.9592
		Highest	1.9287	1.9287

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	0.2980	1.0000e-005	7.4000e-004	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	1.4300e-003	1.4300e-003	0.0000	0.0000	1.5300e-003
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Mobile	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Waste						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Water						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.2980**	**1.0000e-005**	**7.4000e-004**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**1.4300e-003**	**1.4300e-003**	**0.0000**	**0.0000**	**1.5300e-003**

2.2 Overall Operational

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	0.2980	1.0000e-005	7.4000e-004	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	1.4300e-003	1.4300e-003	0.0000	0.0000	1.5300e-003
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Mobile	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Waste						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Water						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.2980**	**1.0000e-005**	**7.4000e-004**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**1.4300e-003**	**1.4300e-003**	**0.0000**	**0.0000**	**1.5300e-003**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Site Preparation	Site Preparation	9/1/2019	9/13/2019	5	10	
2	Grading	Grading	9/14/2019	7/31/2020	5	230	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 387.5

Acres of Paving: 80

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 0; Non-Residential Outdoor: 0; Striped Parking Area: 0 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Grading	Excavators	2	8.00	158	0.38
Grading	Rubber Tired Dozers	1	8.00	247	0.40
Grading	Graders	1	8.00	187	0.41
Grading	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Site Preparation	Tractors/Loaders/Backhoes	4	8.00	97	0.37
Site Preparation	Rubber Tired Dozers	3	8.00	247	0.40
Grading	Scrapers	2	8.00	367	0.48

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Site Preparation	7	18.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Grading	8	20.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Water Exposed Area

3.2 Site Preparation - 2019

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0903	0.0000	0.0903	0.0497	0.0000	0.0497	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0217	0.2279	0.1103	1.9000e-004		0.0120	0.0120		0.0110	0.0110	0.0000	17.0843	17.0843	5.4100e-003	0.0000	17.2195
Total	**0.0217**	**0.2279**	**0.1103**	**1.9000e-004**	**0.0903**	**0.0120**	**0.1023**	**0.0497**	**0.0110**	**0.0607**	**0.0000**	**17.0843**	**17.0843**	**5.4100e-003**	**0.0000**	**17.2195**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	4.4000e-004	3.5000e-004	3.3100e-003	1.0000e-005	7.2000e-004	1.0000e-005	7.3000e-004	1.9000e-004	0.0000	2.0000e-004	0.0000	0.6328	0.6328	3.0000e-005	0.0000	0.6335
Total	**4.4000e-004**	**3.5000e-004**	**3.3100e-003**	**1.0000e-005**	**7.2000e-004**	**1.0000e-005**	**7.3000e-004**	**1.9000e-004**	**0.0000**	**2.0000e-004**	**0.0000**	**0.6328**	**0.6328**	**3.0000e-005**	**0.0000**	**0.6335**

3.2 Site Preparation - 2019

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0407	0.0000	0.0407	0.0223	0.0000	0.0223	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0217	0.2279	0.1103	1.9000e-004		0.0120	0.0120		0.0110	0.0110	0.0000	17.0843	17.0843	5.4100e-003	0.0000	17.2195
Total	**0.0217**	**0.2279**	**0.1103**	**1.9000e-004**	**0.0407**	**0.0120**	**0.0526**	**0.0223**	**0.0110**	**0.0333**	**0.0000**	**17.0843**	**17.0843**	**5.4100e-003**	**0.0000**	**17.2195**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	4.4000e-004	3.5000e-004	3.3100e-003	1.0000e-005	7.2000e-004	1.0000e-005	7.3000e-004	1.9000e-004	0.0000	2.0000e-004	0.0000	0.6328	0.6328	3.0000e-005	0.0000	0.6335
Total	**4.4000e-004**	**3.5000e-004**	**3.3100e-003**	**1.0000e-005**	**7.2000e-004**	**1.0000e-005**	**7.3000e-004**	**1.9000e-004**	**0.0000**	**2.0000e-004**	**0.0000**	**0.6328**	**0.6328**	**3.0000e-005**	**0.0000**	**0.6335**

3.3 Grading - 2019

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.4373	0.0000	0.4373	0.1496	0.0000	0.1496	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.1825	2.0990	1.2850	2.3900e-003		0.0917	0.0917		0.0844	0.0844	0.0000	214.4501	214.4501	0.0679	0.0000	216.1463
Total	**0.1825**	**2.0990**	**1.2850**	**2.3900e-003**	**0.4373**	**0.0917**	**0.5291**	**0.1496**	**0.0844**	**0.2340**	**0.0000**	**214.4501**	**214.4501**	**0.0679**	**0.0000**	**216.1463**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	3.7600e-003	3.0300e-003	0.0283	6.0000e-005	6.1900e-003	4.0000e-005	6.2300e-003	1.6400e-003	4.0000e-005	1.6800e-003	0.0000	5.4140	5.4140	2.3000e-004	0.0000	5.4197
Total	**3.7600e-003**	**3.0300e-003**	**0.0283**	**6.0000e-005**	**6.1900e-003**	**4.0000e-005**	**6.2300e-003**	**1.6400e-003**	**4.0000e-005**	**1.6800e-003**	**0.0000**	**5.4140**	**5.4140**	**2.3000e-004**	**0.0000**	**5.4197**

3.3 Grading - 2019

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.1968	0.0000	0.1968	0.0673	0.0000	0.0673	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.1825	2.0990	1.2850	2.3900e-003		0.0917	0.0917		0.0844	0.0844	0.0000	214.4498	214.4498	0.0679	0.0000	216.1461
Total	**0.1825**	**2.0990**	**1.2850**	**2.3900e-003**	**0.1968**	**0.0917**	**0.2885**	**0.0673**	**0.0844**	**0.1517**	**0.0000**	**214.4498**	**214.4498**	**0.0679**	**0.0000**	**216.1461**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	3.7600e-003	3.0300e-003	0.0283	6.0000e-005	6.1900e-003	4.0000e-005	6.2300e-003	1.6400e-003	4.0000e-005	1.6800e-003	0.0000	5.4140	5.4140	2.3000e-004	0.0000	5.4197
Total	**3.7600e-003**	**3.0300e-003**	**0.0283**	**6.0000e-005**	**6.1900e-003**	**4.0000e-005**	**6.2300e-003**	**1.6400e-003**	**4.0000e-005**	**1.6800e-003**	**0.0000**	**5.4140**	**5.4140**	**2.3000e-004**	**0.0000**	**5.4197**

3.3 Grading - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.6662	0.0000	0.6662	0.2754	0.0000	0.2754	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.3404	3.8401	2.4448	4.7400e-003		0.1663	0.1663		0.1530	0.1530	0.0000	416.8048	416.8048	0.1348	0.0000	420.1749
Total	**0.3404**	**3.8401**	**2.4448**	**4.7400e-003**	**0.6662**	**0.1663**	**0.8325**	**0.2754**	**0.1530**	**0.4284**	**0.0000**	**416.8048**	**416.8048**	**0.1348**	**0.0000**	**420.1749**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	6.7700e-003	5.2900e-003	0.0497	1.2000e-004	0.0123	8.0000e-005	0.0124	3.2700e-003	8.0000e-005	3.3400e-003	0.0000	10.4231	10.4231	3.9000e-004	0.0000	10.4327
Total	**6.7700e-003**	**5.2900e-003**	**0.0497**	**1.2000e-004**	**0.0123**	**8.0000e-005**	**0.0124**	**3.2700e-003**	**8.0000e-005**	**3.3400e-003**	**0.0000**	**10.4231**	**10.4231**	**3.9000e-004**	**0.0000**	**10.4327**

3.3 Grading - 2020

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.2998	0.0000	0.2998	0.1239	0.0000	0.1239	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.3404	3.8401	2.4448	4.7400e-003		0.1663	0.1663		0.1530	0.1530	0.0000	416.8044	416.8044	0.1348	0.0000	420.1744
Total	**0.3404**	**3.8401**	**2.4448**	**4.7400e-003**	**0.2998**	**0.1663**	**0.4661**	**0.1239**	**0.1530**	**0.2769**	**0.0000**	**416.8044**	**416.8044**	**0.1348**	**0.0000**	**420.1744**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	6.7700e-003	5.2900e-003	0.0497	1.2000e-004	0.0123	8.0000e-005	0.0124	3.2700e-003	8.0000e-005	3.3400e-003	0.0000	10.4231	10.4231	3.9000e-004	0.0000	10.4327
Total	**6.7700e-003**	**5.2900e-003**	**0.0497**	**1.2000e-004**	**0.0123**	**8.0000e-005**	**0.0124**	**3.2700e-003**	**8.0000e-005**	**3.3400e-003**	**0.0000**	**10.4231**	**10.4231**	**3.9000e-004**	**0.0000**	**10.4327**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Unmitigated	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Other Non-Asphalt Surfaces	0.00	0.00	0.00		
Total	0.00	0.00	0.00		

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Other Non-Asphalt Surfaces	9.50	7.30	7.30	0.00	0.00	0.00	0	0	0

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Other Non-Asphalt Surfaces	0.487262	0.029057	0.146825	0.126841	0.021860	0.004787	0.012229	0.159772	0.001758	0.001914	0.005918	0.000991	0.000785

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Electricity Mitigated						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
NaturalGas Mitigated	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
NaturalGas Unmitigated	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

6.0 Area Detail

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	0.2980	1.0000e-005	7.4000e-004	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	1.4300e-003	1.4300e-003	0.0000	0.0000	1.5300e-003
Unmitigated	0.2980	1.0000e-005	7.4000e-004	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	1.4300e-003	1.4300e-003	0.0000	0.0000	1.5300e-003

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.0727					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.2253					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	7.0000e-005	1.0000e-005	7.4000e-004	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	1.4300e-003	1.4300e-003	0.0000	0.0000	1.5300e-003
Total	**0.2980**	**1.0000e-005**	**7.4000e-004**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**1.4300e-003**	**1.4300e-003**	**0.0000**	**0.0000**	**1.5300e-003**

6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.0727					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.2253					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	7.0000e-005	1.0000e-005	7.4000e-004	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	1.4300e-003	1.4300e-003	0.0000	0.0000	1.5300e-003
Total	**0.2980**	**1.0000e-005**	**7.4000e-004**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**1.4300e-003**	**1.4300e-003**	**0.0000**	**0.0000**	**1.5300e-003**

7.0 Water Detail

7.1 Mitigation Measures Water

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	0.0000	0.0000	0.0000	0.0000
Unmitigated	0.0000	0.0000	0.0000	0.0000

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Other Non-Asphalt Surfaces	0 / 0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

7.2 Water by Land Use

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Other Non-Asphalt Surfaces	0 / 0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	0.0000	0.0000	0.0000	0.0000
Unmitigated	0.0000	0.0000	0.0000	0.0000

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

Equipment Type	Number	Hours/Day	Hours/Year	Horse Power	Load Factor	Fuel Type

Boilers

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type

User Defined Equipment

Equipment Type	Number

11.0 Vegetation

Appendix B

Biological Resources Report

Kings County Water District: Esajian Basin Project

Biological Evaluation

Prepared by:

Brooke Fletcher, Wildlife Biologist

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June 2019

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1 Introduction

Kings County Water District (District) intends to develop an approximately 75-acre recharge basin (Esajian Basin) approximately five miles northeast of the City of Hanford in the northeastern portion of Kings County. The Project would allow the District to provide for sustainable management of surface and groundwater. The intent of the Project is to augment the District's historic practices of limiting groundwater overdraft in the area by recharging the aquifer with available wet-year surface water supplies.

The following technical report is prepared in compliance with the California Environmental Quality Act (CEQA) and the National Environmental Policy Act (NEPA), and includes a description of the biological resources present or with potential to occur within the Project site and surrounding areas and evaluates potential Project-related impacts to those resources.

1.1 Project Description

Kings County Water District is proposing the development of a 75-acre recharge basin on the west side of 7th Avenue between Dover and Excelsior Avenues in Kings County on land historically used for agricultural production. Construction of the Project will involve the realignment of People's Ditch as it passes through the Project area, development of associated control structures and infrastructure, and excavation of a recharge basin comprised of multiple cells. Each of the turnouts from People's Ditch will include metal trash racks, concrete structures, canal gates, flow meters, piping, and rip-rap for bank stabilization.

Prior to excavation, the almond and persimmon orchards onsite will be removed, along with the associated irrigation system. Most of the excavated material will remain onsite and will be recontoured to form levees around each basin cell. Excess material will be hauled off-site. Construction activities would likely require the use of the following diesel- and/or gasoline-powered equipment: generator, scrapers, graders, compacters, trenchers, backhoes, front-end loaders, water trucks, concrete trucks, concrete pumper, water trucks, and hauling trucks.

Additional elements of the Project include the placement of eight piezometers around the perimeter which will provide depth-to-groundwater information and the development of a groundwater monitoring well onsite that will be used to take regular groundwater quality samples.

1.2 Report Objectives

Construction activities such as those proposed by the District 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, subject to provisions of CEQA, and/or NEPA, 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 Project.
4) Identify and discuss Project impacts to biological resources likely to occur onsite within the context of CEQA 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.

1.3 Study Methodology

A reconnaissance-level field survey of the Project site and surrounding area was conducted on April 18, 2019 by Brooke Fletcher, biologist. The survey consisted of walking through the Project area while identifying and noting land uses, biological habitats and communities, and plant and animal species encountered. Furthermore, the site and surrounding areas were assessed for suitable habitats of various wildlife species.

Mrs. Fletcher 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 Project site and surrounding areas. Sources of information used in preparation of this analysis included: the California Department of Fish and Wildlife (CDFW) California Natural Diversity Database (CNDDB); the U.S. Fish and Wildlife Service (USFWS) Information for Planning and Consultation (IPaC) system; 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); USFWS Environmental Conservation Online System (ECOS); the NatureServe Explorer online database; the United States Department of Agriculture (USDA) Natural Resources Conservation Service (NRCS) Plants Database; the CDFW California Wildlife Habitat Relationships (CWHR) database; the California Herps online database; and various manuals, reports, and references related to plants and animals of the San Joaquin Valley region.

The field investigation did not include a wetland delineation or focused surveys for special status species. The field survey conducted included an appropriate level of detail to assess the significance of potential impacts to sensitive biological resources resulting from the Project. Furthermore, the field survey was sufficient to generally describe those features of the Project that could be subject to the jurisdiction of federal and/or State agencies, such as the U.S. Army Corps of Engineers (USACE), CDFW, and the Regional Water Quality Control Board (RWQCB).

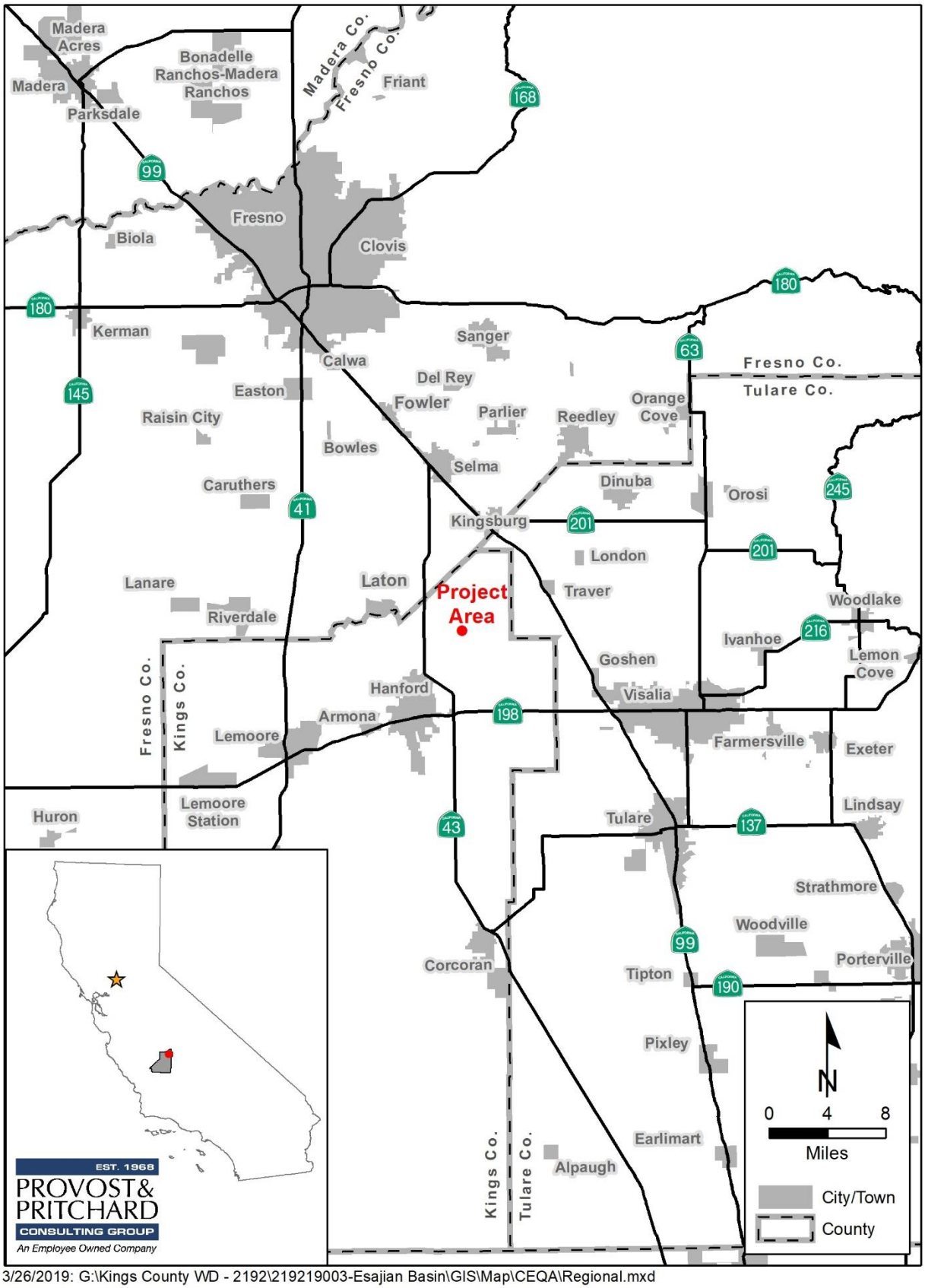

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Figure 1. Regional Location Map

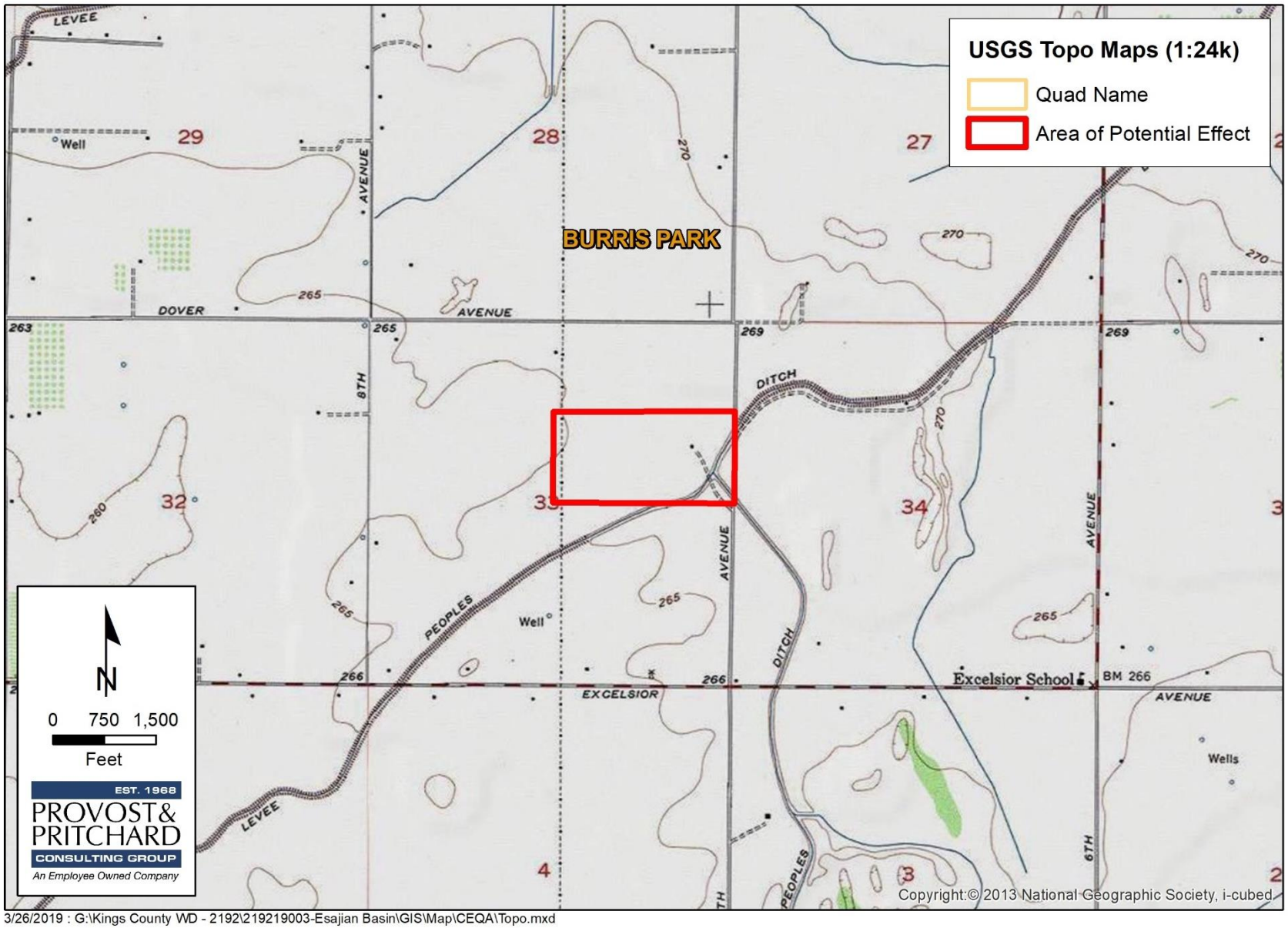

Figure 2. Topographic Quadrangle Map

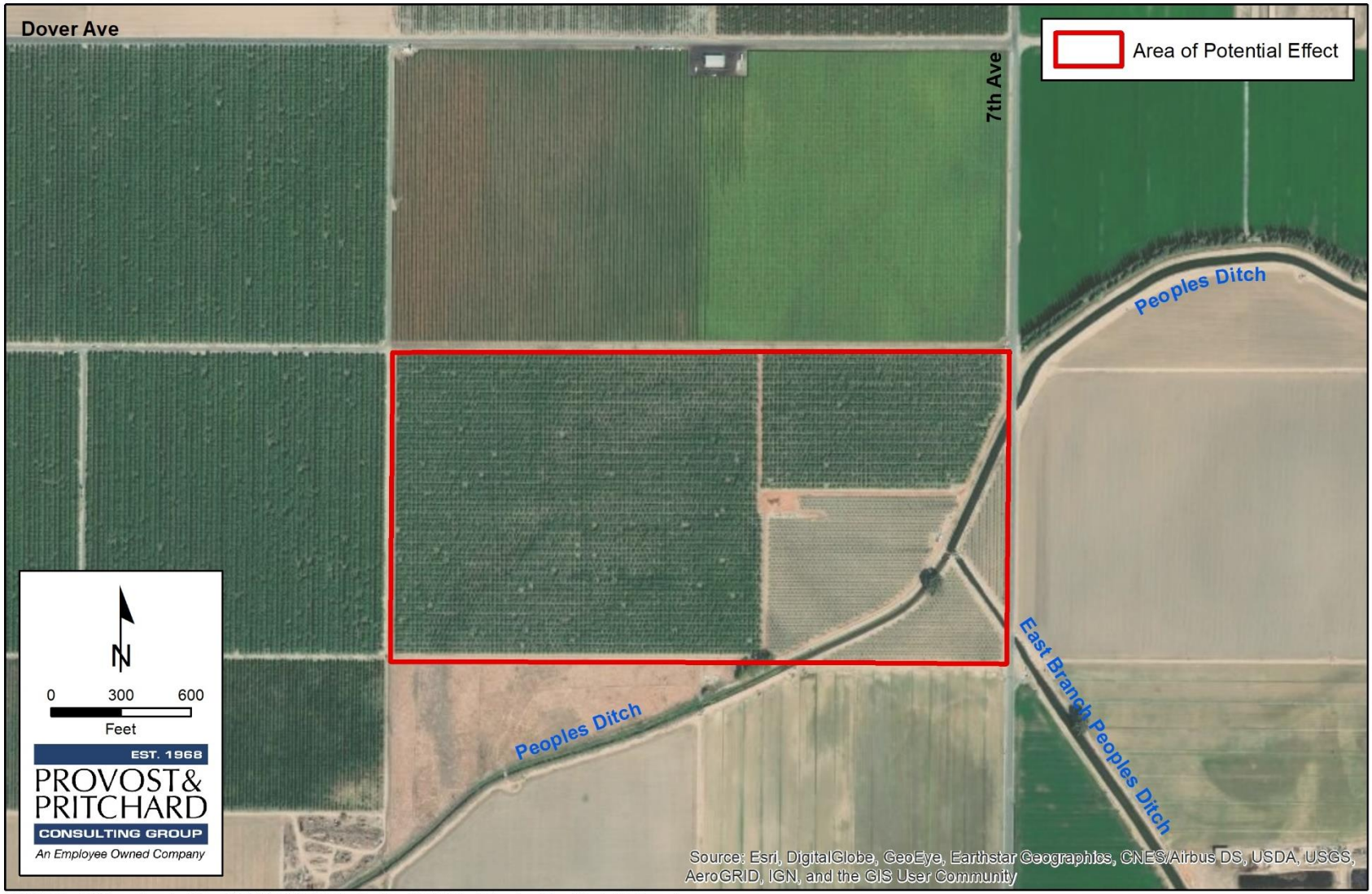

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Figure 3. Area of Potential Effect (APE) Map

2 Existing Conditions

2.1 Regional Setting

The Project site is located within the lower San Joaquin Valley, part of the Great Valley of California (See **Figure 1**). The Valley is bordered by the Sierra Nevada Mountain Ranges to the east, the Coast Ranges to the west, the Klamath Mountains and Cascade Range to the north, and the Transverse Ranges and Mojave Desert to the south.

Like most of California, the San Joaquin Valley experiences a Mediterranean climate. Warm, dry summers are followed by cool, moist winters. Summer temperatures often reach above 90 degrees Fahrenheit, and the humidity is generally low. Winter temperatures are often below 60 degrees Fahrenheit during the day and rarely exceed 70 degrees. 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.

The Project is located within the Jacobs Slough watershed; Hydrologic Unit Code (HUC): 180300122004 and the Sand Slough watershed; HUC: 180300122002 (EPA, 2019).

The Project lies entirely within the Tulare Lake Groundwater Subbasin of the San Joaquin Valley Groundwater Basin. (DWR, 2019). The principal drainage in the vicinity of the Project is People's Ditch, which receives water from the Kings River. Kings River water is typically delivered into People's Ditch in the form of controlled releases from Pine Flat Dam during periods of high flows. Some of this water is diverted for direct delivery of surface water for agricultural production, but the majority is conveyed into recharge basins which provide an ongoing source of water through a groundwater banking process.

The Project proposes development of approximately 75-acres of recharge basins adjacent to the People's Ditch where it crosses 7th Avenue in Kings County. The parcel affected by the Project is directly west of 7th Avenue, approximately 0.25 mile south of Dover Avenue, and 0.5 mile north of Excelsior Avenue. The Project site is accessed by an existing paved road (7th Avenue) and several compacted dirt access roads.

2.2 Project Site

The Project area and Area of Potential Effect is a rectangular 80-acre parcel west of 7th Avenue and approximately 0.25 mile south of Dover Avenue in Kings County. People's Ditch runs through the eastern portion of the site. Approximately 75% of the parcel is currently planted in almonds and the remaining 25% is planted in persimmons, although at the time of the field survey, it appeared the persimmon crops were in the process of being removed. Several compacted dirt roads bisect the site and run along the canal banks. Most of the surrounding lands are currently in agricultural production, including the parcel to the north which is planted in vineyard crops and the parcels to the northwest, west, and southwest, which are all planted in orchard crops. Lands to the east, across 7th Avenue include recently-diced fallow fields, ruderal, compacted dirt roads, and ornamental landscaping associated with rural residential development. Lands to the south are comprised of a dairy forage field east of People's Ditch and a recently-disced fallow field west of People's Ditch. There is a small grove of Oregon ash (*Fraxinus latifolia*) along the bank of People's Ditch, just south of the Project's southern boundary between the fallow field and the dairy forage field.

2.3 Biological Communities

Three biological communities were identified within the Project area: excavated canal/ditch, ruderal, and deciduous orchard. Surrounding land uses primarily consist of fallow field, orchard, dairy forage field, and ruderal.

2.3.1 Excavated Canal/Ditch

Excavated canal/ditch habitat is present onsite in the form of People's Ditch, which intersects the site. People's Ditch receives water from the Kings River and delivers water supplies through a series of distribution canals which are primarily used for irrigation of agricultural crops. Channels are commonly dry from fall through spring, and all surveyed channels were dry at the time of the field survey, with the exception of one standing pool of water in the vicinity of the Project. Most of the channels were modified and lined with concrete or rip rap, and barren of vegetation, therefore offering limited value to wildlife. In an unlined portion of canal, one large valley oak (*Quercus lobata*) was present along top of bank of People's Ditch within the Project area. In this unlined portion of canal, the substrate was comprised of compacted dirt covered with a variety of weedy invasive grasses. The banks in this area were lined with knotweed (*Persicaria lapathifolia*), curly dock (*Rumex crispus*), and yellow monkey flower (*Mimulus guttata*).

Although it is located in an area frequently disturbed by human activities, the valley oak onsite serves as suitable nesting, foraging, and perching habitat for wildlife. California scrub jays (*Aphelocoma californica*), American robins (*Turdus migratorius*), and other passerines may build cup nests within the branches, and the sturdy canopy could support a large stick nest suitable for native raptor species such as the red-tailed hawk (*Buteo jamaicensis*), Cooper's hawk (*Accipiter cooperii*), red-shouldered hawk (*Buteo lineatus*), or the special status Swainson's hawk (*Buteo swainsoni*). Cavity-nesting birds, such as the American kestrel (*Falco sparverius*), great-horned owl (*Bubo virginianus*), barn owl (*Tyto alba*), or acorn woodpecker (*Melanerpes formicivorus*) may seek refuge in cavities of the large oak. At the time of the field survey, the following avian species were observed within the valley oak onsite: mourning dove (*Zenaida macroura*), California scrub jay (*Aphelocoma californica*), American robin (*Turdus migratorius)*, northern mockingbird (*Mimus polyglottos*), and Bullock's oriole (*Icterus bullockii*).

A nesting colony of cliff swallows (*Petrochelidon pyrrhonota*) was observed on the 7th Avenue bridge over People's Ditch in the northeast corner of the parcel. Inspection of the 7th Avenue bridge in the southeast corner of the parcel revealed old mud nest remnants from previous seasons, but no signs of recent colonization or nesting were observed.

Although none of the structures within the Project area contained projections, crevices, or potential roosts large enough to house a western mastiff bat (*Eumops perotis*), a variety of smaller native bat species, such as the special status pallid bat (*Antrozous pallidus*) could potentially roost within the present structures or the large oak tree onsite. However, no bat individuals or bat sign was observed during the biological survey.

At the time of the biological survey, one standing pool of water was observed within the otherwise dry channel. Upon inspection, the pool was found to contain an abundance of freshwater gastropods and California toad (*Anaxyrus boreas halophilus*) tadpoles. The presence of standing pools of water with freshwater invertebrates and/or tadpoles would likely attract foraging waders or shorebirds, and other opportunistic feeders, such as the opossum (*Didelphis virginiana*), raccoon (*Procyon lotor*), or the striped skunk (*Mephitis mephitis*). Other amphibian species expected to occur within excavated canal/ditch habitat onsite include the non-native American bullfrog (*Lithobates catesbeianus*) and the native Sierran treefrog *(Pseudacris sierra).*

Portions of the channel lined with rip rap contained an abundance of San Joaquin fence lizards (*Sceloporus occidentalis biseriatus*) and burrows indicative of a California ground squirrel (*Otospermophilus beecheyi*) population, although surprisingly few ground squirrels were observed during the field survey. Several burrows large enough to house a fox were observed along the interior banks of the excavated channel. One of the burrows

lead into an exposed pipe and recent claw marks suggestive of a striped skunk (*Mephitis mephitis*) were observed. This potential refuge was inspected but was found to be empty. The carcass of a striped skunk was detected approximately 20 feet from the burrow along a compacted dirt access road.

Many of the animal species occurring within adjacent communities would also be expected to use the aquatic habitat to drink water or forage on other aquatic species. The following mammals are relatively tolerant of human disturbance and are likely to pass through the excavated canal/ditch habitat of the Project site: coyote (*Canis latrans*), opossum (*Didelphis virginiana*), raccoon (*Procyon lotor*), striped skunk (*Mephitis mephitis*), California ground squirrel (*Otospermophilus beecheyi*), and gray fox (*Urocyon cinereoargenteus).*

2.3.2 Ruderal

Ruderal habitats are characterized by a high level of human disturbance and absence of vegetation or dominated by non-native plant species. Ruderal, compacted dirt access roads were present along the canal banks, surrounding the parcel, and intersecting the parcel's various orchards. Several irrigation standpipes and water distribution infrastructure were present throughout the site, and all of these facilities were accessed by compacted dirt roads. Barren, compacted dirt generally provides little-to-no habitat or foraging value to wildlife. Frequent vehicle traffic along these agricultural access roads makes these areas unsuitable for wildlife. However, since all other habitats in Project areas are bisected by barren dirt roads, some wildlife species undoubtedly occur within, or at least pass through, these areas.

Reptiles, such as San Joaquin fence lizard (*Sceloporus occidentalis biseriatus*), western side-blotched lizard (*Uta stansburiana elegans*), Pacific gophersnake (*Pituophis catenifer catenifer*), or the California kingsnake (*Lampropeltis californiae*) may seek refuge in adjacent fields and emerge to bask along the dirt roads. Killdeer (*Charadrius vociferous*) are notorious for nesting on bare ground of compacted dirt agricultural access roads. Common lagamorphs (*Lepus californicus* and *Sylvilagus audubonii*), striped skunks (*Mephitis mephitis*), and opossums (*Didelphis virginiana)* are expected to traverse these roads while foraging or seeking shelter, and they often fall victim to vehicle strikes.

At the time of the field survey, a black phoebe (*Sayornis nigricans*) was observed nesting on an irrigation standpipe. A pair of western kingbirds (*Tyrannus verticalis*) were observed perched on a power pole along 7th Avenue. This species is notorious for building nests on power poles, telephone poles, fence posts, and other vertical man-made structures. Other disturbance tolerant species, such as the mourning dove *(Zenaida macroura*) or American robin (*Turdus migratorius)* could also nest on stationary infrastructure onsite.

A red-tailed hawk (*Buteo jamaicensis)* was observed nesting on a transmission tower west of the Project area between two almond orchards. One adult remained in the nest in incubation posture during the entire observation period, and another adult was perched and foraging in the vicinity.

Many of the ruderal, compacted dirt areas consisted of dirt roads which contained few small burrows along the margins. Ground squirrel individuals and associated sign was surprisingly scarce throughout the surveyed areas. All of the ground squirrel burrows observed appeared to be either inactive or occupied by a population of fence lizards, and the majority of the burrows observed within the ruderal habitat appeared to be of murid rodent origin. Several of these small rodent burrows were observed along the fence line which comprises the northern border of the parcel. No definite burrow precincts indicative of kangaroo rat was observed, and no kangaroo rat sign or tail drags were observed.

2.3.3 Deciduous Orchard

Orchards are composed of single-species trees planted in rows. The majority of the parcel proposed for basin development is comprised of deciduous orchard. Approximately 75% of the rectangular site was planted in almonds, and the southeastern 25% of the site was planted in persimmons. At the time of the field survey, the persimmon trees were in the process of being removed, and the almond trees had been freshly-pruned. The well-manicured understory of the almond orchards was comprised of moist soil, completely lacking any

grasses or herbaceous vegetation. Pooling was present at the base of several rows of trees ongoing flood irrigation practices. Intensive agricultural practices in the orchards likely limit their value to wildlife; however, some avian and mammalian species have adapted to vineyard habitats. For example, mourning doves (*Zenaida macroura*), American robins (*Turdus migratorius*), killdeer (*Charadrius vociferous*), invasive European starlings (*Sturnus vulgaris*), house finches (*Haemorhous mexicanus*), yellow-rumped warblers (*Setophaga coronata*), and black phoebes (*Sayornis nigricans*) are all known to frequent orchard and vineyard habitats in the Central Valley, some for nesting and others for foraging. Common lagamorphs (*Lepus californicus* and *Sylvilagus audubonii*), Botta's pocket gophers (*Thomomys bottae*), and California ground squirrels (*Otospermophilus beecheyi*) are often considered "agricultural pests" due to their prevalence in orchard and vineyard habitats.

While rodent burrows were scarce within the orchards surveyed, a few gopher mounds, indicative of Botta's pocket gopher (*Thomomys bottae)* were observed. Use of flood irrigation practices, rodenticides and other ag pest-control techniques, and frequent disturbance makes orchard habitat of generally low quality for habitation by burrowing mammals; however, these species may use these sites as foraging habitat. Several disturbance-tolerant avian species may nest within the trees during breeding season. Although no active nests were observed within orchard habitat, the following native species were observed foraging and/or exhibiting nest-building behavior within the orchards surveyed: American robin (*Turdus migratorius*), California scrub jay (*Aphelocoma californica*), mourning dove (*Zenaida macroura*), and house sparrow (*Passer domesticus).*

Native amphibians with the potential to use orchards of the surrounding sites include the Sierran treefrog (*Pseudacris sierra*) and the California toad (*Anaxyrus boreas halophilus*), both of which may breed in seasonal irrigation basins or nearby canals and subsequently disperse through the farmlands. It is not uncommon to find these species far from water outside of breeding season.

Additional wildlife expected to occur within orchard communities include San Joaquin fence lizard (*Sceloporus occidentalis biseriatus*), western side-blotched lizard (*Uta stansburiana elegans*), Pacific gophersnake (*Pituophis catenifer catenifer*), California kingsnake (*Lampropeltis californiae*), raccoons (*Procyon lotor*), coyotes (*Canis latrans*), striped skunks (*Mephitis mephitis*), and gray foxes (*Urocyon cinereoargenteus*). Raptors and various species of bats, such as those species mentioned above in **Section** Error! Reference source not found. may also forage over t he orchard habitat within Project areas.

2.3.4 Surrounding Habitats Requiring Additional Discussion

The dairy forage field located south of the Project site could serve as suitable nesting and foraging habitat for the special status tricolored blackbird (*Agelaius tricolor*). At the time of the field survey, several large colonies of native red-winged blackbirds (*Agelaius phoeniceus*) were observed within the dairy forage fields. Although none were observed during the survey, the red-winged blackbird's close relative, the tricolored blackbird is known to frequently use dairy forage fields for nesting and foraging, as well. In California, the tri-colored blackbird is a candidate for endangered status and a species of special concern due to loss of habitat and a significant decline in population. Tricolored blackbird colonies are not uncommon in the Central Valley, but current populations are confined primarily to Tulare, Kern, and Merced Counties. Although the Project is located within the historic range of this species, there are no known breeding or wintering colonies currently in Kings County.

The small grove of Oregon ash (*Fraxinus latifolia*) along the bank of People's Ditch, just south of the Project area could serve as nesting and foraging habitat for avian species or refugia for other terrestrial wildlife. The understory was comprised of thick leaf litter, detritus, and weedy invasive vegetation. The following species were dominant: ripgut brome (*Bromus diandrus*), milk thistle (*Silybum marianum*), and cheeseweed (*Malva parviflora*). The leaf litter could serve as suitable habitat for a variety of reptile species, and numerous San Joaquin fence lizards (*Sceloporus occidentalis biseriatus*) were observed in this area at the time of the field survey.

At the time of the field survey, a recently-disced fallow field was observed south of the Project area, west of the Oregon ash grove and People's Ditch. A barbed-wire fence separated the Project's parcel from the fallow field. Several large ground squirrel burrows were observed along the margins of this field, although many of

the entrances were covered in cobwebs and deemed inactive. Countless San Joaquin fence lizards (*Sceloporus occidentalis biseriatus*) were observed within piles of old wood and debris. Power lines and transmission towers were present to the west, overlooking the fallow field. At the time of the field survey, a red-tailed hawk (*Buteo jamaicensis)* was observed perched atop one of the transmission towers and hunting over the fallow field. The presence of large trees and raptor perches makes this site unsuitable for burrowing owl (*Athene cunicularia*), and no owl sign was observed during the survey. This fallow field is obviously utilized as foraging habitat for a variety of raptors including red-tailed hawks (*Buteo jamaicensis)* and American kestrels (*Falco sparverius*), both of which were observed at the time of the field survey. Additionally, survey of the perimeter of the fallow field included inspection of the barbed-wire fence which revealed impaled prey remnants, indicative of the special status loggerhead shrike (*Lanius ludovicianus*).

A pair of red-tailed hawks (*Buteo jamaicensis*) were observed foraging in the fallow field east of 7th Avenue and appeared to be building a nest in the canopy of a valley oak (*Quercus lobata*) along the bank of People's Ditch approximately 500 feet southeast of the Project area.

2.4 Soils

Four soil mapping units, representing three soil series were identified within the Project area: Kinberlina fine sandy loam, saline-alkali; Kimberlina fine sandy loam, sandy substratum; Nord complex; and Whitewolf coarse sandy loam. None of these soils are classified as hydric soils. 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 is supported.

Kimberlina fine sandy loam, saline-alkali comprises 37.4% of the mapped Project area, and Kimberlina fine sandy loam, sandy substratum comprises 27.9% of the mapped Project area. The Kimberlina soil series consists of deep, well-drained soils on flood plains and alluvial fans. It is found in the southern San Joaquin valley and is used for growing irrigated field, forage, and row crops.

Nord complex comprises 1.1% of the mapped Project area. The Nord series consists of deep, well-drained soils on flood plains and alluvial fans. These soils are found in the San Joaquin valley and are used for a variety of agricultural crops, such as irrigated alfalfa, cotton, corn, milo, barley, wheat, sugar beets, tomatoes, grapes, walnuts, peaches and other fruit and nut trees.

Whitewolf coarse sandy loam comprises 33.7% of the mapped Project area. The Whitewolf series consists of deep, somewhat excessively drained soils that formed in mixed alluvium. They are found on the southeastern edge of the San Joaquin valley and western edge of the Mojave Desert. These soils are used mainly for production of irrigated field crops, row crops, grapes, and orchards, but the soils tend to be droughty and need frequent irrigation.

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

2.5 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 like the special status plant and animal species, these natural communities of special concern can be found within the CNDDB.

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

2.6 Designated Critical Habitat

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 CNDDB and IPaC, designated critical habitat is absent from the Project area and vicinity.

2.7 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.

The banks of People's Ditch could conceivably be used as a movement corridor for wildlife during dispersal or migratory activities, but the Project's location in a region often disturbed by intensive agricultural cultivation practices and human disturbance would make that unlikely.

2.8 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, resulting in urban expansion which encroaches on the already limited suitable habitat, these sensitive species become 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 California Native Plant Society (CNPS) has its list of native plants considered rare, threatened, or endangered. Collectively these plants and animals are referred to as "special status species."

A thorough search of the CNDDB for published accounts of special status plant and animal species was conducted for the *Burris Park* 7.5-minute quadrangle that contains the Project site in its entirety, and for the eight surrounding quadrangles: *Conejo, Selma, Reedley, Laton, Traver, Hanford, Remnoy, and Goshen*. An official species list was obtained using the USFWS IPaC system for federally listed species with potential to be affected by the Project. These species, and their potential to occur within the Project area are listed in **Table 1** and **Table 2** on the following pages. Additionally, Section 7 determinations are made in **Table 3** in **Section 3.5**. Raw data obtained from CNDDB and IPaC are available in **Appendix B** and **Appendix C** respectively, at the end of this document. Other sources of information utilized in the preparation of this analysis included the 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), USFWS Environmental Conservation Online System (ECOS), the NatureServe Explorer online database, the United States Department of Agriculture (USDA) Natural Resources Conservation Service (NRCS) Plants Database, the

CDFW California Wildlife Habitat Relationships (CWHR) database, ebird.org, and the California Herps online database. **Figure 2** shows the Project's 7.5-minute quadrangle, according to USGS Topographic Maps.

Table 1. List of Special Status Animals with Potential to Occur Onsite and/or in the Vicinity

Species	Status	Habitat	Occurrence on Project Site
blunt-nosed leopard lizard (*Gambelia sila*)	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 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.	**Unlikely.** The disturbed habitats onsite and in the surrounding areas are unsuitable for this species. There are no CNDDB recorded observations of this species in the vicinity of the Project.
burrowing owl (*Athene cunicularia*)	CSC	Resides in open, dry annual or perennial grasslands, deserts, and scrublands with low growing vegetation. Nests underground in existing burrows created by burrowing mammals, most often ground squirrels.	**Unlikely.** The presence of large trees and raptor perches makes this site unsuitable for burrowing owl. Ground squirrels and suitable burrows were scarce and no owl sign was observed during the field survey. The nearest observation of this species was recorded within grassland habitat approximately 3 miles southeast of the Project.
California red-legged frog (*Rana draytonii*)	FT	Inhabits perennial rivers, creeks, and stock ponds with vegetative cover within the Coast Range and northern Sierra foothills.	**Absent.** The Project area does not provide suitable habitat for this species and is outside of its current known range.
California tiger salamander (*Ambystoma californiense*)	FT, CT, CWL	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.	**Absent.** Vernal pools are absent from the Project areas. The frequently disturbed habitats onsite are unsuitable for this species. The nearest observation of this species was recorded within vernal pools in grassland habitat approximately 3 miles southeast of the Project.
conservancy fairy shrimp (*Branchinecta conservatio*)	FE	Endemic to the grasslands of the northern two-thirds of the Central Valley. Found in large, turbid pools.	**Absent.** Vernal pools are absent from the Project areas. The Project area is subject to frequent disturbance associated with agricultural production and therefore generally unsuitable for this species. There have been no recorded observations of this species in the vicinity of the Project.
Delta smelt (*Hypomesus transpacificus*)	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.	**Absent.** Suitable perennial aquatic habitat for this species is absent from the Project area and surrounding lands.

Species	Status	Habitat	Occurrence on Project Site
Fresno kangaroo rat (*Dipodomys nitratoides exilis*)	FE, CE	An inhabitant of alkali sink open grassland environments in western Fresno County. Prefers bare, alkaline, clay-based soils subject to seasonal inundation with more friable soil mounds around shrubs and grasses.	**Absent.** The highly disturbed habitats of the Project area and surrounding lands are unsuitable for this species. The Project area is outside of the historical range of this species. This species is thought to be extirpated because no populations have been recovered since 1998.
giant gartersnake (*Thamnophis gigas*)	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.	**Absent.** Habitats required by this species are absent from the Project area and surrounding lands. The Project is outside of the known current range of this species.
loggerhead shrike (*Lanius ludovicianus*)	CSC	Frequents open habitats with sparse shrubs and trees, other suitable perches, bare ground, and low herbaceous cover. In the Central Valley, nests in riparian areas, desert scrub, and agricultural hedgerows.	**Likely.** Nesting habitat onsite is marginal, at best, but perching and foraging habitat is present. Impaled prey remnants were observed along a barbed-wire fence which indicates the recent presence of this species.
pallid bat (*Antrozous pallidus*)	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.	**Unlikely.** Individuals could potentially roost in trees or crevices of structures near the Project, although frequent disturbance onsite makes roosting habitat marginal, at best. This species could forage on flying arthropods over the orchard or the canal during periods of inundation. The only recorded observation of this species in the vicinity was documented in 2001 over the Kings River, approximately 12 miles northeast of the Project area.
San Joaquin kit fox (*Vulpes macrotis mutica*)	FE, CT	Underground dens with multiple entrances in alkali sink, valley grassland, and woodland in valleys and adjacent foothills.	**Unlikely.** There are no known core or satellite populations of San Joaquin kit fox in the vicinity of the Project and the Project is not located within a linkage recovery area. The highly disturbed habitats of the Project area and fragmentation of the surrounding lands are unsuitable for this species. Even the fallow field adjacent to the Project appears to be subject to frequent ground disturbance associated with discing. The Project is located approximately 50 miles east of the nearest known core population in Ciervo-Panoche Natural Area. Although some populations of San Joaquin Kit Fox in other parts of California have adapted to an urbanized environment, modern kit fox occurrences are locally scarce. At most, this species could conceivably pass through the Project area during dispersal movements. In the past 20 years, there have only been three observations of this species in the vicinity, and none were within 5 miles of the Project site.

Species	Status	Habitat	Occurrence on Project Site
Swainson's hawk (*Buteo swainsoni*)	CT	Nests in large trees in open areas adjacent to grasslands, grain or alfalfa fields, or livestock pastures suitable for supporting rodent populations.	**Possible.** Swainson's hawks are relatively common in this portion of the Central Valley, and there are several recorded observations of this species in the Project's vicinity. The valley oak onsite provides suitable nesting habitat and the fallow field provides suitable foraging habitat.
Tipton kangaroo rat *(Dipodomys nitratoides nitratoides*)	FE, CE	Burrows in soil. Often found in grassland and shrubland.	**Unlikely.** The disturbed habitats of the Project areas are generally unsuitable for this species. No definite burrow precincts or tail drags were observed during the field survey. There are no recorded observations of this species in the vicinity of the Project.
valley elderberry longhorn beetle (*Desmocerus californicus dimorphus*)	FT	Lives in mature elderberry shrubs of the Central Valley and foothills. Adults are active March to June.	**Absent.** Suitable elderberry habitat is absent. The Project is not located within the presumed historical range or presumed current distribution of this species. In 2014 USFWS published findings suggesting that previous CNDDB observations of this species within Tulare and Kings Counties should be discounted. (See expanded discussion in **Section 3.4.2**)
vernal pool fairy shrimp (*Branchinecta lynchi*)	FT	Occupies vernal pools, clear to tea-colored water, in grass or mud-bottomed swales, and basalt depression pools.	**Absent.** Suitable vernal pool habitat for this species is absent from the Project area and surrounding lands. The Project area is subject to frequent disturbance associated with agricultural production and therefore generally unsuitable for this species.
vernal pool tadpole shrimp (*Lepidurus packardi*)	FE	Occurs in vernal pools, clear to tea-colored water, in grass or mud-bottomed swales, and basalt depression pools.	**Absent.** Suitable vernal pool habitat for this species is absent from the Project area and surrounding lands. The Project area is subject to frequent disturbance associated with agricultural production and therefore generally unsuitable for this species.
western mastiff bat (*Eumops perotis californicus*)	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.	**Unlikely.** Roosting and breeding habitat is absent from the Project area and surrounding lands, but this species may occasionally forage over the Project site. The only recorded observation of this species in the vicinity corresponds to a historic (1899) collection from the general region of "Traver." The exact location is unknown.
western spadefoot (*Spea hammondii*)	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.	**Unlikely.** Vernal pools are absent from the Project area. The disturbed habitats of the Project areas are generally unsuitable for this species. All observations in the vicinity occur within vernal pools in undisturbed grassland habitat near Cross Creek and Cottonwood Creek.

Species	Status	Habitat	Occurrence on Project Site
western yellow-billed cuckoo (*Coccyzus americanus occidentalis*)	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.	**Absent.** Suitable nesting habitat for this species is absent from the Project area and surrounding lands. There is one recorded observation of this species in the vicinity. The observation is dated 1898 and the location corresponds to an area in the vicinity of Selma, although the exact location is unknown. The status of this observation has since been updated to "possibly extirpated" with a note stating that suitable habitat has been replaced by agriculture and development.

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

Species	Status	Habitat	Occurrence on Project Site
brittlescale (*Atriplex depressa*)	CNPS 1B	Found in the San Joaquin Valley and Sacramento Valley in alkali or clay soils in shadescale scrub, valley grassland, alkali sink at elevations below 1050 feet. Rarely associated with riparian, marshes, or vernal pools. Blooms June – October.	**Absent.** The disturbed habitats of the Project site are unsuitable for this species. There have been no observations of this species in the vicinity of the Project in over 50 years. According to CNPS, this species is presumed extirpated from this region.
California alkali grass (*Puccinellia simplex*)	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.	**Absent.** The disturbed habitats of the Project site are unsuitable for this species. There are no recorded observations of this species in the vicinity of the Project in over 50 years.
California satintail (*Imperata brevifolia*)	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.	**Absent.** The disturbed habitats of the Project site are unsuitable for this species. There have been no observations of this species in the vicinity of the Project in over 80 years.
Earlimart orache (*Atriplex cordulata var. erecticaulis*)	CNPS 1B	Found in the San Joaquin Valley in saline or alkaline soils, typically within valley or foothill grassland, at elevations below 325 feet. Blooms August – September.	**Unlikely.** The disturbed habitats of the Project site are unsuitable for this species. The only observation of this species in the vicinity was recorded within undisturbed grassland habitat near Cottonwood Creek. Suitable grassland habitat is absent from the Project area.
heartscale (*Atriplex cordulata var. cordulata*)	CNPS 1B	Found in the San Joaquin Valley and Sacramento Valley in alkaline flats and sandy soils in chenopod scrub, valley and foothill grassland, meadows and seeps at elevations up to 900 feet. Blooms June – July.	**Absent.** The disturbed habitats of the Project site are unsuitable for this species. There is one recorded observation of this species in the vicinity. The observation is attributed to a historic collection from 1938, and the location corresponds to an area in the vicinity of Goshen, although the exact location is unknown.
lesser saltscale (*Atriplex minuscula*)	CNPS 1B	Found in the San Joaquin Valley in playas; sandy, alkaline soils in shadescale scrub, valley grassland, and alkali sink communities at elevations below 300 feet. Blooms April – October.	**Unlikely.** The disturbed habitats of the Project site are unsuitable for this species. This species reportedly occurs in undisturbed grassland habitat along Cross Creek approximately 5 miles southeast of the Project area.

Species	Status	Habitat	Occurrence on Project Site
San Joaquin adobe sunburst (*Pseudobahia peirsonii*)	FT, CE, CNPS 1B	Found in the San Joaquin Valley and the Sierra Nevada Foothills in bare dark clay in valley grassland and foothill woodland communities at elevations between 325 feet and 2950 feet. Blooms March – May.	**Absent.** The disturbed habitats of the Project site are unsuitable for this species. There is one recorded observation of this species in the vicinity. The observation is attributed to a historic collection from 1927, and the location corresponds to an area in the vicinity of Dinuba, although the exact location is unknown. The status of this observation has since been updated to "extirpated." The Project is located outside of the known geographical and latitudinal range of this species.
Sanford's arrowhead (*Sagittaria sanfordii*)	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.	**Unlikely.** The nearest observation of this species was recorded in an irrigation ditch approximately 14 miles northeast of the Project site. People's Ditch could be considered suitable habitat for this species, but frequent disturbance associated with vegetation maintenance makes it unlikely for a population to persist. All Project areas containing suitable habitat for this species were thoroughly inspected during the biological survey, and this species was not observed.
subtle orache (*Atriplex subtilis*)	CNPS 1B	Found in the San Joaquin Valley in saline depressions at elevations below 230 feet. Blooms June – October.	**Absent.** The disturbed habitats of the Project site are unsuitable for this species. There is one recorded observation of this species in the vicinity. The observation is attributed to a historic collection from 1905, and the location corresponds to an area in the vicinity of Goshen, although the exact location is unknown. The status of this observation has since been updated to "possibly extirpated."

EXPLANATION OF OCCURRENCE DESIGNATIONS AND STATUS CODES

Present:	Species observed on the site at time of field surveys or during recent past
Likely:	Species not observed on the site, but it may reasonably be expected to occur there on a regular basis
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
FT	Federally Threatened
FPE	Federally Endangered (Proposed)
FPT	Federally Threatened (Proposed)
FC	Federal Candidate
CE	California Endangered
CT	California Threatened
CCT	California Threatened (Candidate)
CFP	California Fully Protected
CSC	California Species of Concern
CWL	California Watch List
CCE	California Endangered (Candidate)

CR California Rare

CNPS LISTING

1A Plants Presumed Extinct in California
1B Plants Rare, Threatened, or Endangered in California and elsewhere
2 Plants Rare, Threatened, or Endangered in California, but more common elsewhere

3 Impacts and Mitigation

3.1 Significance Criteria

3.1.1 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 *California Environmental Quality Act, 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."

3.1.2 NEPA

Federal projects are subject to the provisions of NEPA. The purpose of NEPA is to assess the effects of a proposed action on the human environment, assess the significance of those effects, and recommend measures that if implemented would mitigate those effects. As used in NEPA, a determination that certain effects on the human environment are "significant" requires considerations of both context and intensity (CFR 1508.27).

Context means that the significance of an action must be analyzed in terms of the affected environment in which a proposed action would occur. For the purposes of assessing effects of an action on biological resources, the relevant context is often local, which means the analysis requires a comparison of the action area's biological resources to the biological resources of the local area. However, the analysis may also require a comparison of the action area's biological resources with the biological resources of an entire region.

Intensity refers to the severity of impact. In considering intensity of impact to biological resources, it is necessary to address the unique qualities of wetlands and ecologically critical areas that may be affected, the degree to which the action will be controversial, the degree to which the effects will be controversial, the degree to which the effects will be uncertain, the degree to which the action will establish a precedent for future actions with potentially significant effects, and the potential for the action to result in cumulatively significant effects.

The effects of an action on some biological resources are generally considered to be "significant." An action that adversely affects federally listed threatened or endangered species, waters of the United States, or migratory movements of fish and wildlife are some examples of significant effects.

NEPA requires disclosure of feasible mitigation measures for the effects of an action on the environment. Suitable measures include the following:

a) Avoidance of the effect by not taking a certain action or parts of an action.
b) Mitigation of the effect by limiting the degree or magnitude of the action and its implementation.
c) Rectifying the effect by repairing, rehabilitating, or restoring the affected environment.
d) Reducing or eliminating the effect over time by preservation and maintenance operations throughout the life of the action.
e) Compensating for the effect by replacing or providing substitute resources or environments.

This report identifies likely effects of an action, identifies those that may be considered significant pursuant to the provisions of NEPA, and provides mitigation measures to avoid adverse effects to biological resources.

3.2 Relevant Goals, Policies, and Laws

3.2.1 Kings County General Plan

The 2035 Kings County General Plan sets forth the following goals and policies that protect biological resources and which have potential relevance to the Project:

- Preserve land that contains important natural plant and animal habitats.
- Require that development in or adjacent to important natural plant and animal habitats minimize the disruption of such habitats.
- Ensure that, in development decisions affecting riparian environments, the conservation of fish and wildlife habitat and the protection of scenic qualities are balanced with other purposes representing basic health, safety, and economic needs.
- Balance the protection of the County's diverse plant and animal communities with the County's economic needs.
- Require mitigation measures to protect important plant and wildlife habitats.
- Require as a primary objective in the review of development projects the preservation of healthy native oaks and other healthy native trees.
- Maintain to the maximum extent practical the natural plant communities utilized as habitat by threatened and endangered species.

3.2.2 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). The CDFW and the USFWS are responding agencies under CEQA. Both agencies review CEQA documents in order to determine the adequacy of their treatment of endangered species issues and to make project-specific recommendations for their conservation.

3.2.3 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.

3.2.4 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).

3.2.5 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.

3.2.6 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.

3.2.7 Wetlands and other "Jurisdictional Waters"

The U.S. Army Corps of Engineers (USACE) regulates the filling or grading of Waters of the United States (Waters of the U.S.) under the authority of Section 404 of the Clean Water Act. Natural drainage channels and adjacent wetlands may be considered Waters of the U.S. or "jurisdictional waters" subject to the jurisdiction of the USACE. The extent of jurisdiction has been defined in the Code of Federal Regulations (CFR) and clarified by federal courts.

On June 29, 2015 the U.S. Environmental Protection Agency (EPA) and USACE jointly issued the Clean Water Rule (33 CFR 328.3) as a synthesis of statute, science, and U.S. Supreme Court decisions. The Clean Water Rule (33 CFR 328.3) defines Waters of the U.S. to include the following:

1) All waters used in interstate or foreign commerce (also known as "traditional navigable waters"), including all waters subject to the ebb and flow of the tide;
2) All interstate waters including interstate wetlands;
3) The territorial seas;
4) All impoundments of Waters of the U.S.;
5) All tributaries of waters defined in Nos. 1 through 4 above, where "tributary" refers to a water (natural or constructed) that contributes flow to another water and is characterized by the physical indicators of a bed and bank and an Ordinary High Water Mark (OHWM);
6) Adjacent waters, defined as either (a) located in whole or in part within 100 feet of the OHWM of waters defined in Nos. 1 through 5 above, or (b) located in whole or in part within the 100-year floodplain and within 1,500 feet of the OHWM of waters defined in Nos. 1 through 5 above;
7) Western vernal pools, prairie potholes, Carolina bays and Delmarva bays, pocosins, and Texas coastal prairie wetlands, if determined on a case-specific basis to have a significant nexus to waters defined in Nos. 1 through 3 above;
8) Waters that do not meet the definition of adjacency, but are determined on a case-specific basis to have a significant nexus to waters defined in Nos. 1 through 3 above, and are either (a) located in whole or in part within the 100-year floodplain of waters defined in Nos. 1 through 3 above, or (b) located within 4,000 feet of the OHWM of waters defined in Nos. 1 through 5 above.

The 2015 rule also redefines exclusions from jurisdiction, which include:

1) Waste treatment systems;
2) Prior converted cropland;
3) Artificially irrigated areas that would revert to dry land should application of irrigation water to the area cease;

4) Groundwater;
5) Stormwater control features constructed to convey treat or store stormwater created in dry land; and
6) Three types of ditches: (a) ditches with ephemeral flow that are not a relocated or excavated tributary, (b) ditches with intermittent flow that are not a relocated or excavated tributary or that do not drain wetlands, and (c) ditches that do not flow, either directly or through another water, to a traditional navigable water.

A ditch may be a Water of the U.S. only it if meets the definition of "tributary" and is not otherwise excluded under the provision.

As determined by the United States Supreme Court in its 2001 *Solid Waste Agency of Northern Cook County v. U.S. Army Corps of Engineers* (*SWANCC*) decision, 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 U.S. Supreme Court ruled that a significant nexus between a wetland and other navigable waters must exist for the wetland itself to be considered a navigable and therefore jurisdictional water. Furthermore, the Supreme Court clarified that the Environmental Protection Agency (EPA) and the USACE will not assert jurisdiction over ditches excavated wholly in and draining only uplands and that do not carry a relatively permanent flow of water.

The USACE regulates the filling or grading of Waters of the U.S. under the authority of Section 404 of the Clean Water Act. 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 U.S. 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 result 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 State Water Resources Control Board has regulatory authority to protect the water quality of all surface water and groundwater in the State of 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 Waters of the U.S. 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 Waters of the U.S., 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 or more acres 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 Water of the U.S. may require a 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 of any material from their bed or bank, or the deposition of debris require a Notification of 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 measures will be implemented to protect the habitat values of the lake or drainage in question.

3.3 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 the USFWS that have the potential to be impacted by the Proposed Project are identified below with corresponding mitigation measures.

3.3.1 Project-Related Mortality and/or Disturbance of Nesting Raptors, Migratory Birds, and Special Status Birds (Including Swainson's Hawk and Loggerhead Shrike)

The Project site contains suitable habitat for several avian species, including the special status Swainson's hawk (*Buteo swainsoni*) and Loggerhead shrike (*Tyrannus caudifasciatus*). Various avian species could nest within the orchard, structures, or the valley oak onsite. At the time of the field survey, a red-tailed hawk (*Buteo Jamaicensis*) was observed in incubation posture within a nest on a transmission tower along the western border of the property. An active black phoebe (*Sayornis nigricans*) nest was observed on an irrigation standpipe, and an active nesting colony of cliff swallows (*Petrochelidon pyrrhonota*) were observed under a bridge over People's Ditch. At the time of the survey, red-tailed hawks were foraging over the fallow field, and impaled prey remnants were observed along a barbed wire fence, indicating the presence of the special status Loggerhead shrike.

Trees onsite, including the orchard and the valley oak along the bank of People's Ditch, include suitable nesting habitat for a variety of avian species. Cavity-nesting birds such as the American kestrel (*Falco sparverius*), barn owl (*Tyto alba*), or acorn woodpecker (*Melanerpes formicivorus*) may also use the large oak tree for shelter or nesting. Common disturbance-tolerant species such as the American robin (*Turdus migratorius*), California scrub jay (*Aphelocoma californica*), and northern mockingbird (*Mimus polyglottos*) would be expected to occur throughout Project areas and killdeer (*Charadrius vociferous*) may construct nests on the bare ground of the access roads onsite.

The Loggerhead shrike is a year-round resident of the San Joaquin Valley. Due to recent population declines, in California the Loggerhead shrike is considered a species of special concern. This species is commonly referred to as the "butcherbird" for its unique preference for impaling prey on sharp objects such as barbed wire or thorns. At the time of the field survey, several sets of prey remnants were observed impaled on the barbed wire fence along the fallow field adjacent to the Project, and therefore, this species is expected to occur onsite.

Swainson's hawks are relatively common in this portion of the Central Valley, and at the time of the field survey, suitable nesting and foraging habitat was present onsite. Specifically, the valley oak represents a potential nest tree for this species.
In the event that a Swainson's hawk, Loggerhead shrike, or other avian species is foraging within the Project site during construction activities, the individual would be expected to fly away from disturbance they encounter, subsequently eliminating the risk of injury or mortality while foraging.

The Project proposes removal of approximately 80 acres of almond and persimmon trees. Birds nesting onsite during construction could be killed or injured by Project activities. Furthermore, construction activities could disturb birds nesting within or adjacent to work areas, resulting in nest abandonment. Project construction activities that adversely affect the nesting success of raptors and migratory birds or result in the mortality of individual birds constitutes a violation of State and federal laws and is considered a significant impact under CEQA and NEPA.

The Project does not propose removal of the large oak tree onsite. However, if the oak tree were to be removed, raptors could use the grove of ash trees adjacent to the Project boundary for nesting. There are also several other large oak trees along canal banks and along riparian corridors within five miles of the Project site. While clearing 80-acres of almond and persimmon trees may remove some nesting and foraging habitat,

large swaths of other similar suitable habitats occur within the vicinity of the Project site, including expansive fruit and nut tree orchards. Furthermore, as riparian vegetation grows within the proposed basins, the site will again become suitable nesting habitat for several avian species, such as tri-colored blackbird, various species of waterfowl, herons, flycatchers, and other riparian migratory birds. For these reasons, loss of nesting and foraging habitat would be considered a less than significant impact under CEQA and NEPA.

Nesting bird season is generally accepted as February 1 through August 31; however, Swainson's hawk nesting season is generally accepted as March 1 through September 15. For simplicity, these timeframes have been combined.

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

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

> ***Mitigation Measure 3.3.1a (Avoidance):*** The Project's construction activities shall 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 3.3.1b (Pre-construction Survey):*** If activities must occur within nesting bird season (February 1 to September 15), a qualified biologist shall conduct pre-construction surveys for active nests within 30 days prior to the start of construction. The survey shall include the proposed work area and surrounding lands within 0.5 mile. If no active nests are observed, no further mitigation is required. Raptor nests are considered "active" upon the nest-building stage. All other nests are considered "active" by the presence of eggs or young.
>
> ***Mitigation Measure 3.3.1c (Establish Buffers):*** On discovery of any active nests near work areas, the biologist shall determine appropriate construction setback distances based on applicable CDFW and/or USFWS guidelines and/or the biology of the species in question. Construction buffers shall be identified with flagging, fencing, or other easily visible means, and shall be maintained until the biologist has determined that the nestlings have fledged.

3.4 Less Than Significant Project-Related Impacts

3.4.1 Project-Related Impacts to Special Status Plant Species

9 special status plant species have been documented in the Project vicinity, including brittlescale (*Atriplex depressa*), California alkali grass (*Puccinellia simplex*), California satintail (*Imperata brevifolia*), Earlimart orache (*Atriplex cordulata var. erecticaulis*), heartscale (*Atriplex cordulata var. cordulata*), lesser saltscale (*Atriplex minuscula*), San Joaquin adobe sunburst (*Pseudobahia peirsonii*), Sanford's arrowhead (*Sagittaria sanfordii*), and subtle orache (*Atriplex subtilis*). As explained in **Table 2**, all of the aforementioned plant species are absent from the Project area or unlikely to occur onsite, predominantly due to past and ongoing disturbance and/or the absence of suitable habitat. Therefore, the implementation of the Project will have no effect on individual plants or regional populations of these special status plant species. Mitigation measures are not warranted.

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

After completing a biological survey, 10 of the 19 published accounts of special status animal species were declared absent from the Project area, one of which is the valley elderberry longhorn beetle (*Desmocerus californicus dimorphus*).

In 2014, USFWS published *Withdrawal of the Proposed Rule To Remove the Valley Elderberry Longhorn Beetle From the Federal List of Endangered and Threatened Wildlife*, in which the presumed historical range and the presumed extant range of the valley elderberry longhorn beetle is redefined. Very few of the records involve observation of an adult valley elderberry longhorn beetle; the majority are based exclusively on observation of exit holes, which may not be an accurate depiction of occupancy. There are several problems with recording an observation of a sensitive species based on an ambiguous sign, such as an exit hole. Two subspecies of elderberry longhorn beetle exist: the valley elderberry longhorn beetle and the California elderberry longhorn beetle. These two subspecies are so similar that experts are only able to distinguish between the two with certainty by adult male coloration. Thus, species accounts may be unreliable in areas where range overlaps and the sex of the subject is not specified. The document further states that all observations within Tulare and Kings Counties should be discounted as they likely represent the California elderberry longhorn beetle.

Of the 19 regionally occurring special status species, 17 are considered absent or unlikely to occur within the Project area due to past or ongoing disturbance and/or absence of suitable habitat. As explained in **Table 1**, the following 10 species were deemed absent from the Project area: California red-legged frog (*Rana draytonii*), California tiger salamander (*Ambystoma californiense*), conservancy fairy shrimp (*Branchinecta conservatio*), Delta smelt (*Hypomesus transpacificus*), Fresno kangaroo rat (*Dipodomys nitratoides exilis*), giant gartersnake (*Thamnophis gigas*), valley elderberry longhorn beetle (*Desmocerus californicus dimorphus*), vernal pool fairy shrimp (*Branchinecta lynchi*), vernal pool tadpole shrimp (*Lepidurus packardi*), and western yellow-billed cuckoo (*Coccyzus americanus occidentalis*); and the following 7 species were deemed unlikely to occur within the Project area: blunt-nosed leopard lizard (*Gambelia sila*), burrowing owl (*Athene cunicularia*), pallid bat (*Antrozous pallidus*), San Joaquin kit fox (*Vulpes macrotis mutica*), Tipton kangaroo rat (*Dipodomys nitratoides nitratoides*), western mastiff bat (*Eumops perotis californicus*), and western spadefoot (*Spea hammondii*). Since it is highly unlikely that these species would occur onsite, implementation of the Project should have no impact on these 17 special status species through construction mortality, disturbance, or loss of habitat. Mitigation measures are not warranted.

3.4.3 Project-Related Impacts to Jurisdictional Waters, Wetlands, Navigable Waters, Wild and Scenic Rivers, or other Water Features, and Riparian Habitat

Water features onsite include the man-made People's Ditch which receives water from the Kings River through controlled release methods. This man-made canal does not appear to be a tributary to a jurisdictional water as nearly all of the water from People's Ditch is diverted for irrigation. However, since it receives water from Kings River, People's Ditch could potentially be considered a jurisdictional water and subject to permitting requirements of USACE and other regulations discussed in **Section 3.2.7**. Work will be performed within dry conditions when no water is present. Furthermore, construction will require an NPDES permit and implementation of a SWPPP. Although the Project area does not represent optimal habitat for aquatic species, it could be argued that alterations to unlined portions of the canal require submittal of an LSA Notification to CDFW, and if People's Ditch is considered a Water of the State, a Section 401 Water Quality Certification from the RWQCB may be required. If needed, the applicant will secure the proper permits prior to construction. No features consistent with traditional wetlands were observed onsite, and navigable water and wild and scenic rivers are absent from project areas.

Although disturbed, riparian vegetation is present within unlined portions of the channel of People's Ditch. The single large oak tree along the bank of People's Ditch is considered riparian habitat, and removal of this tree could be considered a potentially significant impact to riparian habitat if there were no other suitable nesting habitat in the vicinity. However, the Project does not proposal removal of this tree or any riparian vegetation onsite. Therefore, impacts to riparian habitat would be less than significant. Mitigation measures are not warranted.

3.4.4 Project-Related Impacts to Wildlife Movement Corridors

As discussed in **Section 2.7**, portions of the Project site could function marginally as a wildlife movement corridor, although frequent human disturbance in the vicinity would make that unlikely. Construction activities could temporarily disrupt movement along this potential corridor; however, construction will be

temporary, short-term in duration, and limited to daylight hours. After the construction phase of the Project is complete, potential movement corridors along Project areas will function normally. Therefore, Project-related impacts to wildlife movement corridors would be considered less than significant under CEQA and NEPA. Mitigation is not warranted.

3.4.5 Project-Related Impacts to Critical Habitat

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

3.4.6 Local Policies or Habitat Conservation Plans

Proposed Project design appears to be consistent with the goals and policies of the Kings County General Plan. There are no known habitat conservation plans in the Project vicinity. Mitigation is not warranted.

3.4.7 Coastal Zone and Coastal Barriers Resources Act

The Project is not located within the coastal zone. The Project will not impact or be located within or near the Coastal Barrier Resources System or its adjacent wetlands, marshes, estuaries, inlets, and near-shore waters. Mitigation is not warranted.

3.4.8 Project-Related Impact to Essential Fish Habitat

Essential Fish Habitat (EFH) and Habitat Areas of Particular Concern (HAPC) are absent from the Project area and surrounding lands, and consultation with the National Marine Fisheries (NMFS) Service will not be required. Query results of the NMFS EHF Mapper can be found in **Appendix D** at the end of this document.
Mitigation is not warranted.

3.5 Section 7 Determination

In addition to the effects analysis performed in Sections 2 and 3 of this document, **Table 3** summarizes Project effect determinations for Federally Listed Species found on the USFWS IPaC list generated on April 16, 2019 (**Appendix C)**, in accordance with Section 7 of the Endangered Species Act.

Table 3. Section 7 Determinations

Species	Determination	Rationale for Determination
San Joaquin kit fox (*Vulpes macrotis mutica*)	**No effect**	Habitat is marginal, at best. No observations within 5 miles of the Project site.
Fresno kangaroo rat (*Dipodomys nitratoides exilis*)	**No effect**	Habitat absent. No recorded observations in the vicinity.
Tipton kangaroo rat *(Dipodomys nitratoides nitratoides*)	**No effect**	Habitat absent. No recorded observations in the vicinity.
blunt-nosed leopard lizard (*Gambelia sila*)	**No effect**	Habitat absent. No recorded observations in the vicinity.
giant gartersnake (*Thamnophis gigas*)	**No effect**	Habitat absent. No recorded observations in the vicinity. Project area is outside of the known distribution range of this species.
California red-legged frog (*Rana draytonii*)	**No effect**	Habitat absent. No recorded observations in the vicinity. Project area is outside of the known distribution range of this species.
California tiger salamander (*Ambystoma californiense*)	**No effect**	Habitat absent.
Delta smelt (*Hypomesus transpacificus*)	**No effect**	Habitat absent. Project area is outside of the known distribution range of this species. Perennial water features absent from the Project site and People's Ditch is not a distributary to any water feature which could contain this species. Therefore, there is no potential for indirect downstream effects.
vernal pool fairy shrimp (*Branchinecta lynchi*)	**No effect**	Habitat absent.
conservancy fairy shrimp (*Branchinecta conservatio*)	**No effect**	Habitat absent.
vernal pool tadpole shrimp (*Lepidurus packardi*)	**No effect**	Habitat absent.

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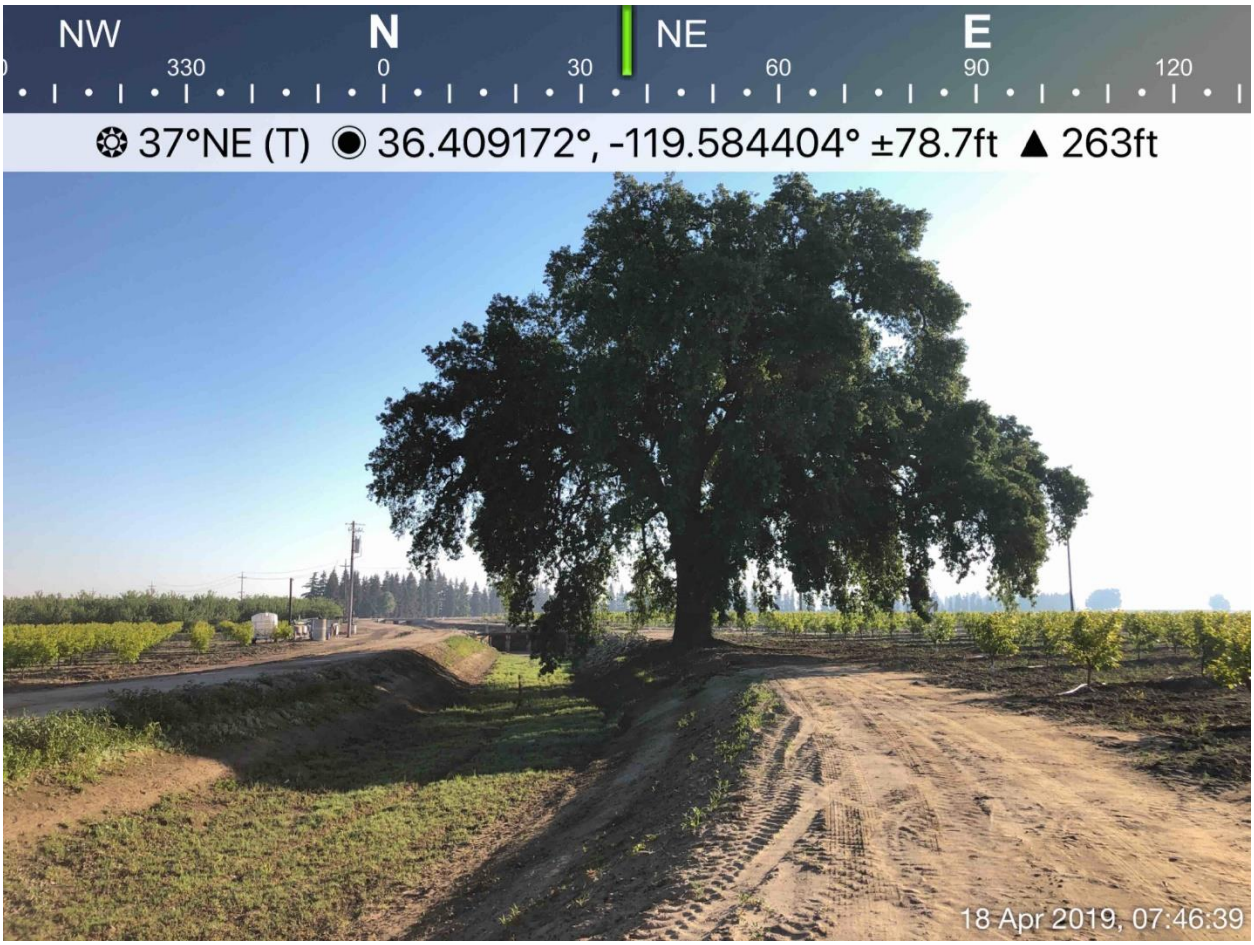
Appendix A. Selected Photographs of the Project Site

Photograph 1: Active cliff swallow colony nesting beneath People's Ditch bridge onsite.

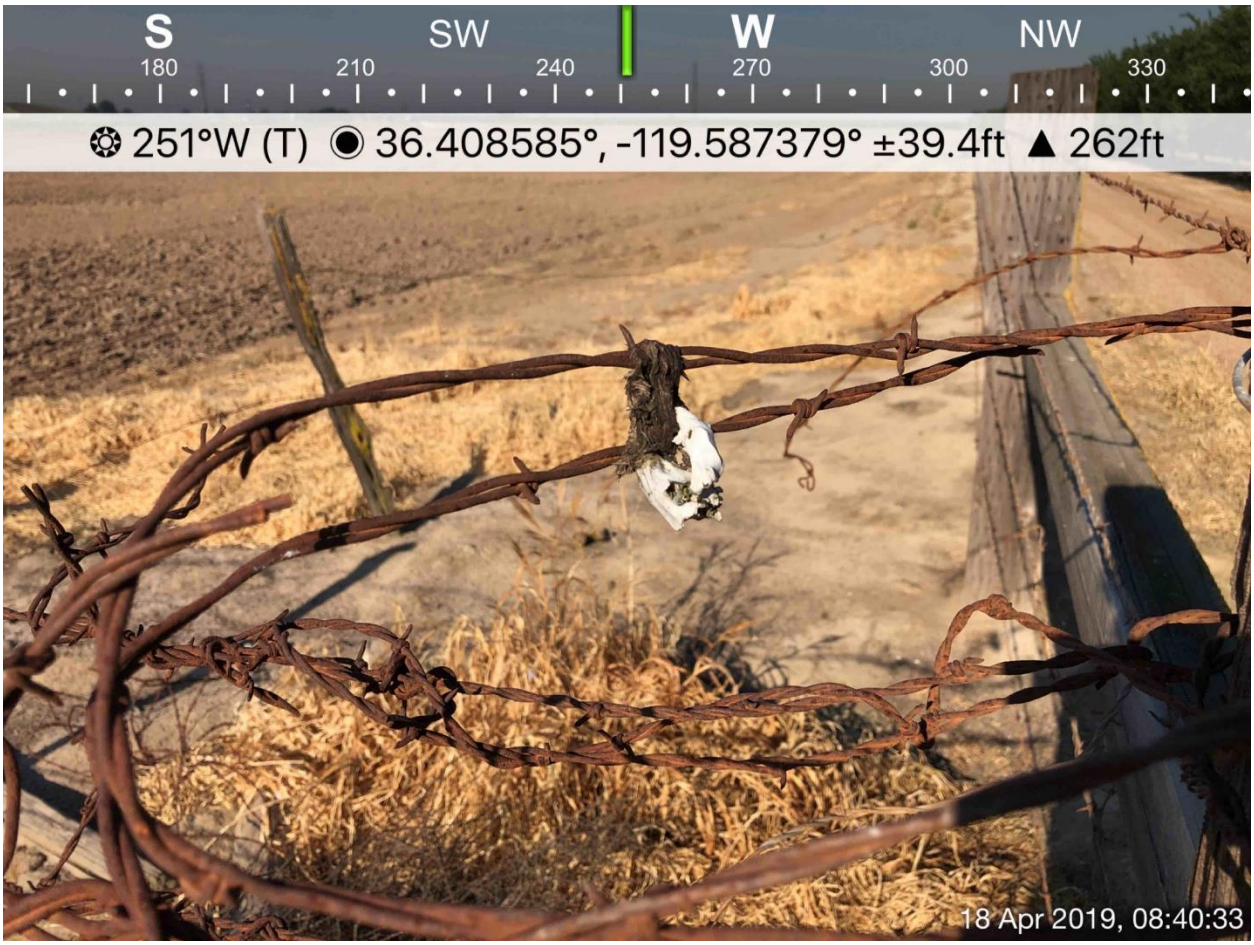
Photograph 2: Lined portion of the channel of People's Ditch. Rip-rap is present along the banks.



Photograph 3: Large valley oak along top of bank of an unlined portion of People's Ditch.

Photograph 4: Oregon ash grove, south of Project area. The recently-disced fallow field is visible in the background.

Photograph 5: Barbed wire fence delineating the southern site boundary. Red-tailed hawks were observed perched on the tower in the background and foraging over this recently-disced fallow field. Impaled prey remnants, indicative of Loggerhead shrike were observed along this barbed wire fence.



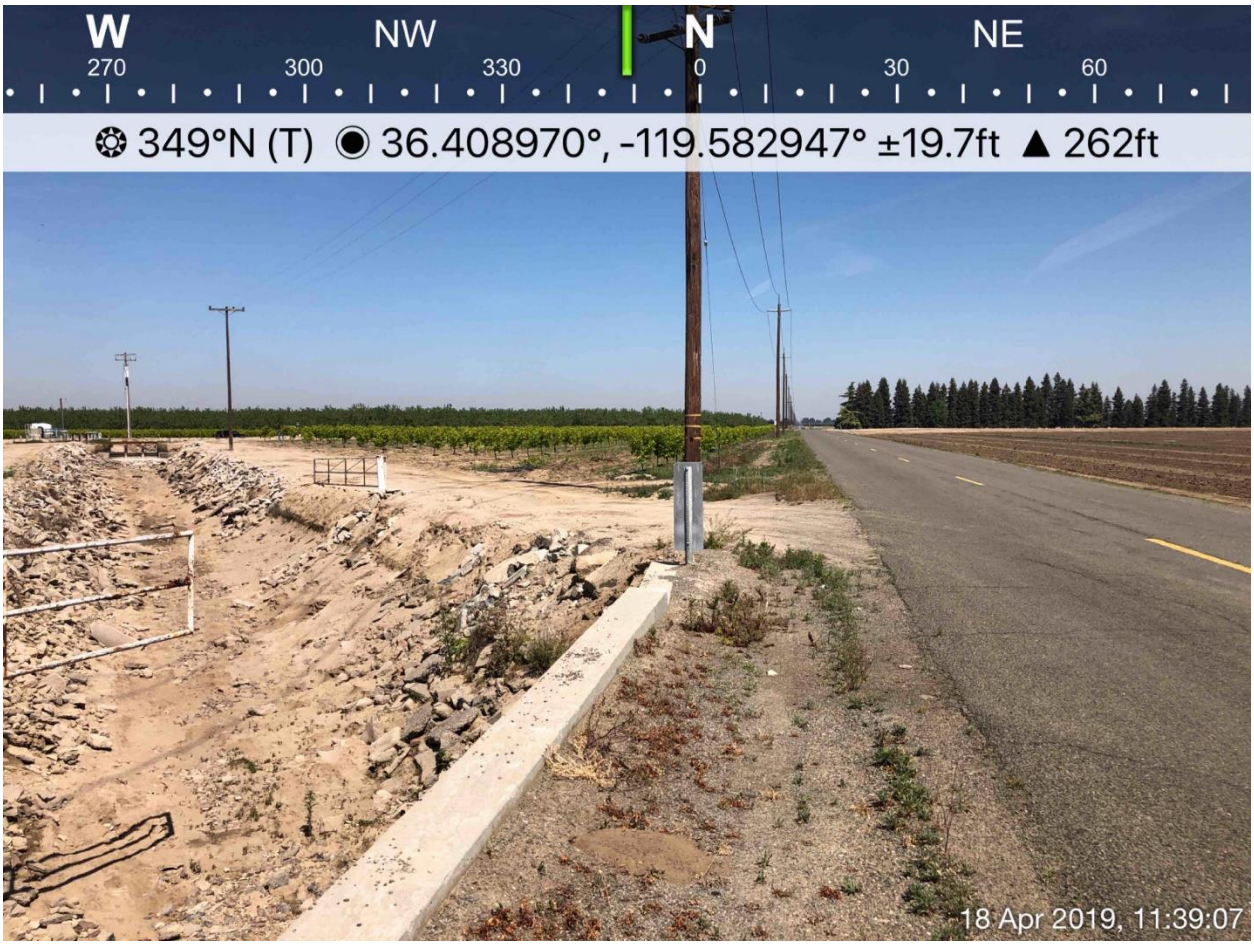
Photograph 6: Impaled prey remnants (Loggerhead shrike sign).

Photograph 7: Overview of the eastern site boundary. An active red-tailed hawk nest was observed within the transmission tower in this photo.

Photograph 8: Active red-tailed hawk nest.

Photograph 9: Overview of the northern site boundary.

Photograph 10: Piles of debris within ruderal and barren portions of the site.



Photograph 11: Overview of the eastern site boundary along 7th Avenue. The east branch of People's Ditch is visible on the left.

Appendix B. CNDDB Query Results

Selected Elements by Common Name

California Department of Fish and Wildlife

California Natural Diversity Database

Query Criteria: Quad IS (Burris Park (3611945) OR Conejo (3611956) OR Selma (3611955) OR Reedley (3611954) OR Laton (3611946) OR Traver (3611944) OR Hanford (3611936) OR Remnoy (3611935) OR Goshen (3611934))

Species	Element Code	Federal Status	State Status	Global Rank	State Rank	Rare Plant Rank/CDFW SSC or FP
brittlescale *Atriplex depressa*	PDCHE042L0	None	None	G2	S2	1B.2
burrowing owl *Athene cunicularia*	ABNSB10010	None	None	G4	S3	SSC
California alkali grass *Puccinellia simplex*	PMPOA53110	None	None	G3	S2	1B.2
California satintail *Imperata brevifolia*	PMPOA3D020	None	None	G4	S3	2B.1
California tiger salamander *Ambystoma californiense*	AAAAA01180	Threatened	Threatened	G2G3	S2S3	WL
Earlimart orache *Atriplex cordulata var. erecticaulis*	PDCHE042V0	None	None	G3T1	S1	1B.2
heartscale *Atriplex cordulata var. cordulata*	PDCHE040B0	None	None	G3T2	S2	1B.2
hoary bat *Lasiurus cinereus*	AMACC05030	None	None	G5	S4	
lesser saltscale *Atriplex minuscula*	PDCHE042M0	None	None	G2	S2	1B.1
loggerhead shrike *Lanius ludovicianus*	ABPBR01030	None	None	G4	S4	SSC
Morrison bumble bee *Bombus morrisoni*	IIHYM24460	None	None	G4G5	S1S2	
Northern Claypan Vernal Pool *Northern Claypan Vernal Pool*	CTT44120CA	None	None	G1	S1.1	
pallid bat *Antrozous pallidus*	AMACC10010	None	None	G5	S3	SSC
San Joaquin adobe sunburst *Pseudobahia peirsonii*	PDAST7P030	Threatened	Endangered	G1	S1	1B.1
San Joaquin kit fox *Vulpes macrotis mutica*	AMAJA03041	Endangered	Threatened	G4T2	S2	
Sanford's arrowhead *Sagittaria sanfordii*	PMALI040Q0	None	None	G3	S3	1B.2
subtle orache *Atriplex subtilis*	PDCHE042T0	None	None	G1	S1	1B.2
Swainson's hawk *Buteo swainsoni*	ABNKC19070	None	Threatened	G5	S3	
valley elderberry longhorn beetle *Desmocerus californicus dimorphus*	IICOL48011	Threatened	None	G3T2	S2	

Selected Elements by Common 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
Valley Sacaton Grassland *Valley Sacaton Grassland*	CTT42120CA	None	None	G1	S1.1	
vernal pool fairy shrimp *Branchinecta lynchi*	ICBRA03030	Threatened	None	G3	S3	
vernal pool tadpole shrimp *Lepidurus packardi*	ICBRA10010	Endangered	None	G4	S3S4	
western mastiff bat *Eumops perotis californicus*	AMACD02011	None	None	G5T4	S3S4	SSC
western spadefoot *Spea hammondii*	AAABF02020	None	None	G3	S3	SSC
western yellow-billed cuckoo *Coccyzus americanus occidentalis*	ABNRB02022	Threatened	Endangered	G5T2T3	S1	

Record Count: 25

Appendix C. USFWS Species List

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:
Consultation Code: 08ESMF00-2019-SLI-1686
Event Code: 08ESMF00-2019-E-05369
Project Name: KCWD- Esajian Basin Project

April 16, 2019

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

To Whom It May Concern:

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

Please follow the link below to see if your proposed project has the potential to affect other species or their habitats under the jurisdiction of the National Marine Fisheries Service:

http://www.nwr.noaa.gov/protected_species/species_list/species_lists.html

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

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

A Biological Assessment is required for construction projects (or other undertakings having similar physical impacts) that are major Federal actions significantly affecting the quality of the human environment as defined in the National Environmental Policy Act (42 U.S.C. 4332(2)(c)). For projects other than major construction activities, the Service suggests that a biological evaluation similar to a Biological Assessment be prepared to determine whether the project may affect listed or proposed species and/or designated or proposed critical habitat. Recommended contents of a Biological Assessment are described at 50 CFR 402.12.

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

http://www.fws.gov/endangered/esa-library/pdf/TOC-GLOS.PDF

Please be aware that bald and golden eagles are protected under the Bald and Golden Eagle Protection Act (16 U.S.C. 668 *et seq.*), and projects affecting these species may require development of an eagle conservation plan (http://www.fws.gov/windenergy/eagle_guidance.html). Additionally, wind energy projects should follow the wind energy guidelines (http://www.fws.gov/windenergy/) for minimizing impacts to migratory birds and bats.

Guidance for minimizing impacts to migratory birds for projects including communications towers (e.g., cellular, digital television, radio, and emergency broadcast) can be found at: http://www.fws.gov/migratorybirds/CurrentBirdIssues/Hazards/towers/towers.htm; http://www.towerkill.com; and http://www.fws.gov/migratorybirds/CurrentBirdIssues/Hazards/towers/comtow.html.

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

Attachment(s):

- Official Species List

Official Species List

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

This species list is provided by:

Sacramento Fish And Wildlife Office
Federal Building
2800 Cottage Way, Room W-2605
Sacramento, CA 95825-1846
(916) 414-6600

Project Summary

Consultation Code: 08ESMF00-2019-SLI-1686

Event Code: 08ESMF00-2019-E-05369

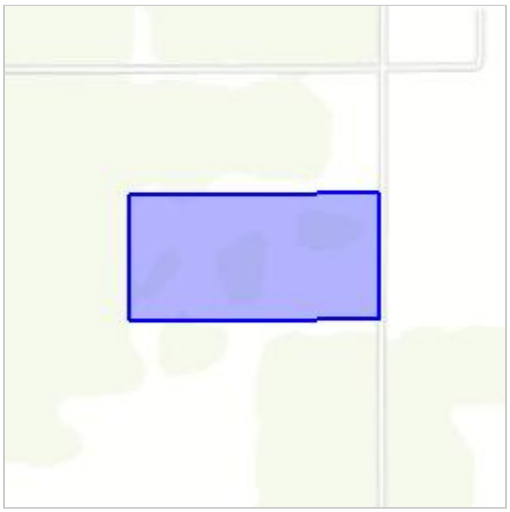
Project Name: KCWD- Esajian Basin Project

Project Type: WATER SUPPLY / DELIVERY

Project Description: The Project includes the construction and operation of an 80-acre groundwater recharge basin and accessory project actions such as 1) installation of Supervisory Control and Data Acquisition (SCADA) equipment, and 2) construction of five groundwater monitoring wells within the District. Collectively, these actions would allow KCWD to expand groundwater recharge efforts and improve monitoring of groundwater levels.

Project Location:

Approximate location of the project can be viewed in Google Maps: https://www.google.com/maps/place/36.41043234982652N119.58744320690762W



Counties: Kings, CA

Endangered Species Act Species

There is a total of 11 threatened, endangered, or candidate species on this species list.

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

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

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

---

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

Mammals

NAME	STATUS
Fresno Kangaroo Rat *Dipodomys nitratoides exilis* There is **final** critical habitat for this species. Your location is outside the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/5150 Species survey guidelines: https://ecos.fws.gov/ipac/guideline/survey/population/37/office/11420.pdf	Endangered
San Joaquin Kit Fox *Vulpes macrotis mutica* No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/2873	Endangered
Tipton Kangaroo Rat *Dipodomys nitratoides nitratoides* No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/7247 Species survey guidelines: https://ecos.fws.gov/ipac/guideline/survey/population/40/office/11420.pdf	Endangered

Reptiles

NAME	STATUS
Blunt-nosed Leopard Lizard *Gambelia silus* No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/625	Endangered
Giant Garter Snake *Thamnophis gigas* No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/4482	Threatened

Amphibians

NAME	STATUS
California Red-legged Frog *Rana draytonii* There is **final** critical habitat for this species. Your location is outside the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/2891	Threatened
California Tiger Salamander *Ambystoma californiense* Population: U.S.A. (Central CA DPS) There is **final** critical habitat for this species. Your location is outside the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/2076	Threatened

Fishes

NAME	STATUS
Delta Smelt *Hypomesus transpacificus* There is **final** critical habitat for this species. Your location is outside the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/321	Threatened

Crustaceans

NAME	STATUS
Conservancy Fairy Shrimp *Branchinecta conservatio* There is **final** critical habitat for this species. Your location is outside the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/8246	Endangered
Vernal Pool Fairy Shrimp *Branchinecta lynchi* There is **final** critical habitat for this species. Your location is outside the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/498	Threatened
Vernal Pool Tadpole Shrimp *Lepidurus packardi* There is **final** critical habitat for this species. Your location is outside the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/2246	Endangered

Critical habitats

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

Appendix D. NOAA EFH Mapping Query Results

EFH Data Notice: Essential Fish Habitat (EFH) is defined by textual descriptions contained in the fishery management plans developed by the regional Fishery Management Councils. In most cases mapping data can not fully represent the complexity of the habitats that make up EFH. This report should be used for general interest queries only and should not be interpreted as a definitive evaluation of EFH at this location. A location-specific evaluation of EFH for any official purposes must be performed by a regional expert. Please refer to the following links for the appropriate regional resources.

West Coast Regional Office
Alaska Regional Office

Query Results

Degrees, Minutes, Seconds: Latitude = 36°24'59" N, Longitude = 120°33'21" W
Decimal Degrees: Latitude = 36.42, Longitude = -119.44

The query location intersects with spatial data representing EFH and/or HAPCs for the following species/management units.

HAPCs

No Habitat Areas of Particular Concern (HAPC) were identified at the report location.

EFH Areas Protected from Fishing

No EFH Areas Protected from Fishing (EFHA) were identified at the report location.

Spatial data does not currently exist for all the managed species in this area. The following is a list of species or management units for which there is no spatial data. **For links to all EFH text descriptions see the complete data inventory: open data inventory -->
Pacific Coastal Pelagic Species, Jack Mackerel, Pacific (Chub) Mackerel, Pacific Sardine, Northern Anchovy - Central Subpopulation, Northern Anchovy - Northern Subpopulation, **Pacific Highly Migratory Species**, Bigeye Thresher Shark - North Pacific, Bluefin Tuna - Pacific, Dolphinfish (Dorado or Mahimahi) - Pacific, Pelagic Thresher Shark - North Pacific,

Spatial data does not currently exist for all the managed species in this area. The following is a list of species or management units for which there is no spatial data. **For links to all EFH text descriptions see the complete data inventory: open data inventory -->
Swordfish - North Pacific, **West Coast Salmon**, All species and stocks

NOAA HABITAT CONSERVATION | NATIONAL MARINE FISHERIES SERVICE | HABITAT PROTECTION

EFH View Tool | Data Query Tool

Activate Location Query

Print This Report

EFH Data Notice: Essential Fish Habitat (EFH) is defined by textual descriptions contained in the fishery management plans developed by the regional Fishery Management Councils. In most cases mapping data can not fully represent the complexity of the habitats that make up EFH. This report should be used for general interest queries only and should not be interpreted as a definitive evaluation of EFH at this location. A location-specific evaluation of EFH for any official purposes must be performed by a regional expert. Please refer to the following links for the appropriate regional resources.

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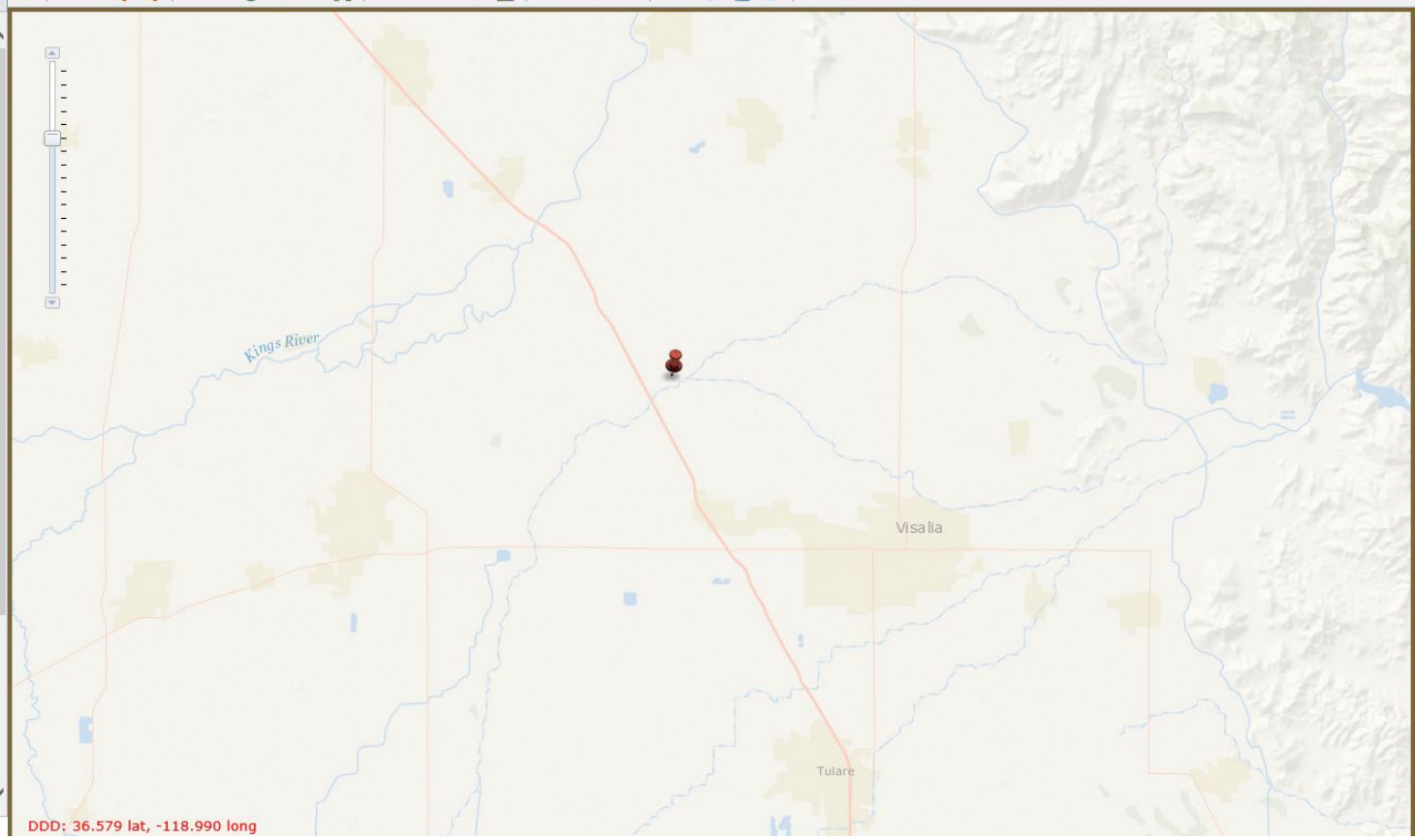
****For links to all EFH text descriptions see the complete data inventory: open data inventory -->**

Pacific Coastal Pelagic Species,

Zoom: | Extent: | Location Query: | 10 Min sq.: | Help:



Appendix E. Soils Report

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 Kings County, California

Kings County Water District-Esajian Basin Project

April 17, 2019

Preface

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).

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

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

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

Map Scale: 1:4,420 if printed on A landscape (11" x 8.5") sheet.

N

Meters: 0 50 100 200 300

Feet: 0 200 400 800 1200

Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 11N WGS84

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: Kings County, California
Survey Area Data: Version 14, Sep 12, 2018

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

Date(s) aerial images were photographed: Jul 24, 2016—Oct 23, 2017

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
130	Kimberlina fine sandy loam, saline-alkali	30.1	37.4%
131	Kimberlina fine sandy loam, sandy substratum	22.5	27.9%
149	Nord complex	0.9	1.1%
179	Whitewolf coarse sandy loam	27.1	33.7%
Totals for Area of Interest		**80.5**	**100.0%**

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 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.

Kings County, California

130—Kimberlina fine sandy loam, saline-alkali

Map Unit Setting

National map unit symbol: hhjh
Elevation: 190 to 3,500 feet
Mean annual precipitation: 4 to 8 inches
Mean annual air temperature: 61 to 64 degrees F
Frost-free period: 210 to 300 days
Farmland classification: Farmland of statewide importance

Map Unit Composition

Kimberlina and similar soils: 85 percent
Minor components: 15 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Kimberlina

Setting

Landform: Alluvial fans
Landform position (two-dimensional): Footslope
Landform position (three-dimensional): Tread
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Alluvium derived from igneous and sedimentary rock

Typical profile

Ap - 0 to 8 inches: fine sandy loam
C - 8 to 60 inches: fine sandy loam

Properties and qualities

Slope: 0 to 2 percent
Depth to restrictive feature: More than 80 inches
Natural drainage class: Well drained
Runoff class: Medium
Capacity of the most limiting layer to transmit water (Ksat): Moderately high (0.20 to 0.57 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum in profile: 5 percent
Salinity, maximum in profile: Slightly saline to moderately saline (4.0 to 8.0 mmhos/cm)
Sodium adsorption ratio, maximum in profile: 25.0
Available water storage in profile: Very low (about 3.0 inches)

Interpretive groups

Land capability classification (irrigated): 2s
Land capability classification (nonirrigated): 7s
Hydrologic Soil Group: C
Hydric soil rating: No

Minor Components

Kimberlina, sandy substratum
Percent of map unit: 2 percent
Hydric soil rating: No

Nord
Percent of map unit: 2 percent
Hydric soil rating: No

Wasco
Percent of map unit: 2 percent
Hydric soil rating: No

Excelsior
Percent of map unit: 2 percent
Hydric soil rating: No

Unnamed, rare flooding
Percent of map unit: 1 percent
Landform: Sloughs
Hydric soil rating: Yes

Cajon
Percent of map unit: 1 percent
Hydric soil rating: No

Garces
Percent of map unit: 1 percent
Hydric soil rating: No

Melga
Percent of map unit: 1 percent
Hydric soil rating: No

Remnoy
Percent of map unit: 1 percent
Hydric soil rating: No

Yound
Percent of map unit: 1 percent
Hydric soil rating: No

Unnamed, rare flooding
Percent of map unit: 1 percent
Hydric soil rating: No

131—Kimberlina fine sandy loam, sandy substratum

Map Unit Setting
National map unit symbol: hhjj
Elevation: 250 to 3,500 feet
Mean annual precipitation: 7 inches

Mean annual air temperature: 63 degrees F
Frost-free period: 255 days
Farmland classification: Prime farmland if irrigated

Map Unit Composition

Kimberlina and similar soils: 85 percent
Minor components: 15 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Kimberlina

Setting

Landform: Alluvial fans
Landform position (two-dimensional): Footslope
Landform position (three-dimensional): Tread
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Alluvium derived from igneous and sedimentary rock

Typical profile

Ap - 0 to 8 inches: fine sandy loam
C - 8 to 41 inches: fine sandy loam
2C - 41 to 60 inches: loamy fine sand

Properties and qualities

Slope: 0 to 2 percent
Depth to restrictive feature: More than 80 inches
Natural drainage class: Well drained
Runoff class: Very low
Capacity of the most limiting layer to transmit water (Ksat): High (1.98 to 5.95 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum in profile: 5 percent
Salinity, maximum in profile: Nonsaline to slightly saline (0.0 to 4.0 mmhos/cm)
Available water storage in profile: Moderate (about 6.6 inches)

Interpretive groups

Land capability classification (irrigated): 2s
Land capability classification (nonirrigated): 7s
Hydrologic Soil Group: A
Hydric soil rating: No

Minor Components

Cajon

Percent of map unit: 3 percent
Hydric soil rating: No

Excelsior

Percent of map unit: 3 percent
Hydric soil rating: No

Kimberlina, saline alkali

Percent of map unit: 3 percent
Hydric soil rating: No

Nord
Percent of map unit: 3 percent
Hydric soil rating: No

Unnamed, rare flooding
Percent of map unit: 1 percent
Landform: Sloughs
Hydric soil rating: Yes

Wasco
Percent of map unit: 1 percent
Hydric soil rating: No

Unnamed, rare flooding
Percent of map unit: 1 percent
Hydric soil rating: No

149—Nord complex

Map Unit Setting
National map unit symbol: hhk3
Elevation: 190 to 600 feet
Mean annual precipitation: 8 to 12 inches
Mean annual air temperature: 61 to 64 degrees F
Frost-free period: 250 to 275 days
Farmland classification: Prime farmland if irrigated

Map Unit Composition
Nord and similar soils: 50 percent
Nord and similar soils: 40 percent
Minor components: 10 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Nord

Setting
Landform: Alluvial fans
Landform position (two-dimensional): Footslope
Landform position (three-dimensional): Tread
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Alluvium derived from igneous rock

Typical profile
A - 0 to 18 inches: fine sandy loam
C - 18 to 72 inches: stratified sandy loam to loam

Properties and qualities
Slope: 0 to 2 percent
Depth to restrictive feature: More than 80 inches
Natural drainage class: Well drained

Runoff class: Low
Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high (0.57 to 1.98 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum in profile: 5 percent
Salinity, maximum in profile: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)
Available water storage in profile: Moderate (about 7.6 inches)

Interpretive groups
Land capability classification (irrigated): 2s
Land capability classification (nonirrigated): 4s
Hydrologic Soil Group: B
Hydric soil rating: No

Description of Nord

Setting
Landform: Alluvial fans
Landform position (two-dimensional): Footslope
Landform position (three-dimensional): Tread
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Alluvium derived from igneous rock

Typical profile
A - 0 to 18 inches: fine sandy loam
C - 18 to 72 inches: stratified sandy loam to loam

Properties and qualities
Slope: 0 to 2 percent
Depth to restrictive feature: More than 80 inches
Natural drainage class: Well drained
Runoff class: Medium
Capacity of the most limiting layer to transmit water (Ksat): Moderately high (0.20 to 0.57 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum in profile: 5 percent
Salinity, maximum in profile: Slightly saline to moderately saline (4.0 to 8.0 mmhos/cm)
Available water storage in profile: Low (about 5.8 inches)

Interpretive groups
Land capability classification (irrigated): 2s
Land capability classification (nonirrigated): 4s
Hydrologic Soil Group: C
Hydric soil rating: No

Minor Components

Grangeville
Percent of map unit: 2 percent
Landform: Alluvial fans

Hydric soil rating: Yes

Lakeside
Percent of map unit: 2 percent
Landform: Rims
Hydric soil rating: Yes

Kimberlina
Percent of map unit: 2 percent
Hydric soil rating: No

Unnamed, rare flooding
Percent of map unit: 1 percent
Landform: Sloughs
Hydric soil rating: Yes

Whitewolf
Percent of map unit: 1 percent
Hydric soil rating: No

Cajon
Percent of map unit: 1 percent
Hydric soil rating: No

Unnamed, rare flooding
Percent of map unit: 1 percent
Hydric soil rating: No

179—Whitewolf coarse sandy loam

Map Unit Setting

National map unit symbol: hhl2
Elevation: 200 to 4,000 feet
Mean annual precipitation: 6 to 9 inches
Mean annual air temperature: 64 degrees F
Frost-free period: 200 to 300 days
Farmland classification: Not prime farmland

Map Unit Composition

Whitewolf and similar soils: 85 percent
Minor components: 15 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Whitewolf

Setting

Landform: Flood plains
Landform position (two-dimensional): Toeslope
Landform position (three-dimensional): Tread
Down-slope shape: Linear
Across-slope shape: Linear

Parent material: Alluvium derived from igneous and sedimentary rock

Typical profile

Ap - 0 to 10 inches: coarse sandy loam
C - 10 to 60 inches: sand

Properties and qualities

Slope: 0 to 1 percent
Depth to restrictive feature: More than 80 inches
Natural drainage class: Somewhat excessively drained
Runoff class: Very low
Capacity of the most limiting layer to transmit water (Ksat): High (1.98 to 5.95 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Salinity, maximum in profile: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)
Available water storage in profile: Low (about 4.0 inches)

Interpretive groups

Land capability classification (irrigated): 3s
Land capability classification (nonirrigated): 7s
Hydrologic Soil Group: A
Hydric soil rating: No

Minor Components

Cajon

Percent of map unit: 4 percent
Hydric soil rating: No

Kimberlina

Percent of map unit: 4 percent
Hydric soil rating: No

Wasco

Percent of map unit: 4 percent
Hydric soil rating: No

Unnamed, rare flooding

Percent of map unit: 3 percent
Landform: Sloughs
Hydric soil rating: Yes

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Appendix C

Cultural Management Summary

MANAGEMENT SUMMARY

An intensive Phase I survey was conducted for the Kings County Water District, Esajian Recharge Basin Project, Kings County, California. ASM Affiliates, Inc., conducted this study, with David S. Whitley, Ph.D., RPA, serving as principal investigator. The study was undertaken to assist with the regulatory requirements for compliance with the California Environmental Quality Act.

A record search of site files and maps was conducted on 19 June 2019 at the Southern San Joaquin Valley Archaeological Information Center, California State University, Bakersfield. A Sacred Lands File Request was also completed by the Native American Heritage Commission (NAHC) on 13 May 2019. These investigations determined that the study area had not been surveyed previously, but that one historic resource was known to exist within it, P-16-000246, the Peoples Ditch. No sacred sites or tribal cultural resources were known in the Project area or vicinity. Outreach letters were sent to tribal organizations on the contact list provided by the NAHC. Follow-up phone calls were also made to the contact list. No concerns or information about tribal cultural resources was obtained as a result of this outreach.

The Phase I survey fieldwork was conducted on 20 June 2019, with parallel transects spaced at 15-meter intervals walked across the approximately 75-acres study area. A segment of one historical cultural resource, P-16-000246, the Peoples Ditch, was recorded within the Project area. No other cultural resources of any kind were identified.

The Peoples Ditch was constructed in 1875 by the Consolidated Peoples Ditch Company to provide water for irrigation from the Kaweah River. Different segments of this resource were recorded in 2001, 2009 and 2017. An examination of historical maps indicates this resource has been altered in a number of ways since first created, including the construction of levees alongside the ditch and numerous highway and road crossings/bridges. In addition, the suburban development of Hanford and other nearby communities, combined with the use of a portion of its right-of-way for the High-Speed Rail project, have changed its setting. Based on these considerations, the Peoples Ditch no longer maintains integrity and is recommended as not significant or unique, and not eligible for the California Register of Historical Resources.

The Kings County Water District, Esajian Recharge Basin Project does not have the potential to result in adverse impacts to significant or unique historical resources. No additional cultural resources studies or work are therefore recommended. In the unlikely event that cultural resources are identified during the project, it is recommended that a qualified archaeologist also be contacted to evaluate the newly discovered resource.

California Historical Resources Information System

Fresno
Kern
Kings
Madera
Tulare

Southern San Joaquin Valley Information Center
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(661) 654-2289
E-mail: ssjvic@csub.edu
Website: www.csub.edu/ssjvic

To: Mary Beth Bourne
Provost & Pritchard Consulting Group
286 W. Cromwell Ave.
Fresno, CA 93711

Record Search 19-229

Date: June 10, 2019

Re: Esajian Basin Project APN 002-190-003

County: Kings

Map(s): Burris Park 7.5'

CULTURAL RESOURCES RECORDS SEARCH

The California Office of Historic Preservation (OHP) contracts with the California Historical Resources Information System's (CHRIS) regional Information Centers (ICs) to maintain information in the CHRIS inventory and make it available to local, state, and federal agencies, cultural resource professionals, Native American tribes, researchers, and the public. Recommendations made by IC coordinators or their staff regarding the interpretation and application of this information are advisory only. Such recommendations do not necessarily represent the evaluation or opinion of the State Historic Preservation Officer in carrying out the OHP's regulatory authority under federal and state law.

The following are the results of a search of the cultural resource files at the Southern San Joaquin Valley Information Center. These files include known and recorded cultural resources sites, inventory and excavation reports filed with this office, and resources listed on the National Register of Historic Places, Historic Property Directory, California State Historical Landmarks, California Register of Historical Resources, California Inventory of Historic Resources, and California Points of Historical Interest. 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.

PRIOR CULTURAL RESOURCE STUDIES CONDUCTED WITHIN THE PROJECT AREA AND THE ONE-HALF MILE RADIUS

According to the information in our files, there have been no previous cultural resource studies conducted within the project area or within the one-half mile radius.

KNOWN/RECORDED CULTURAL RESOURCES WITHIN THE PROJECT AREA AND THE ONE-HALF MILE RADIUS

There is one recorded cultural resource within the project area, P-16-000246. This resource is the People's Ditch. It is not known if any other resources exist there. There are no recorded resources within the one-half mile radius.

There are no recorded cultural resources within the project area that are listed in the National Register of Historic Places, the California Register of Historical Resources, the California Points of Historical Interest, California Inventory of Historic Resources, or the California State Historic Landmarks.

COMMENTS AND RECOMMENDATIONS

We understand this project consists of development of a 75-acre recharge basin on land that has been historically used for agriculture. Please note that agriculture does not constitute previous development, as it does not destroy cultural resources, but merely moves them around within the plow zone. Because a cultural resource study has not been conducted on this property, it is unknown if any other cultural resources are present. Therefore, prior to any ground disturbance activities, we recommend the property be surveyed for cultural resources by a qualified, professional consultant. A list of qualified consultants can be found at www.chrisinfo.org.

We also recommend that you contact the Native American Heritage Commission in Sacramento. They will provide you with a current list of Native American individuals/organizations that can assist you with information regarding cultural resources that may not be included in the CHRIS Inventory and that may be of concern to the Native groups in the area. The Commission can consult their "Sacred Lands Inventory" file in order to determine what sacred resources, if any, exist within this project area and the way in which these resources might be managed. Finally, please consult with the lead agency on this project to determine if any other cultural resource investigation is required. If you need any additional information or have any questions or concerns, please contact our office at (661) 654-2289.

By:

Celeste M. Thomson, Coordinator **Date:** June 10, 2019

Please note that invoices for Information Center services will be sent under separate cover from the California State University, Bakersfield Accounting Office.

Native American Heritage Commission
Native American Contacts List
6/11/2019

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Yokuts

This list is current as of the date of this document and is based on the information available to the Commission on the date it was produced.

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, or Section 5097.98 of the Public Resources Code.

This list is only applicable for contacting local Native Americans Tribes for the proposed: Esajian Basin Project, Kings County.