City of Huron

Arroyo Pasajero Mutual Water Company Groundwater Recharge Project

Draft Initial Study/ Mitigated Negative Declaration

November 2019

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Acronyms and Abbreviations

AB ..... Assembly Bill
CAA ..... Clean Air Act
CalEEMod ..... California Emissions Estimator Model
CalEPA ..... California Environmental Protection Agency
Cal/OSHA ..... California Division of Occupational Safety and Health
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
CH_4 ..... Methane
CNDDB ..... California Department of Fish and Wildlife Natural Diversity Database
CNPS ..... California Native Plant Society
CO ..... Carbon Monoxide
CO_2e ..... Carbon Dioxide Equivalent
District ..... Consolidated Irrigation District
DPM ..... Diesel Particulate Matter
DTSC ..... Department of Toxic Substance Control
DWR ..... Department of Water Resources
EIR ..... Environmental Impact Report
EPA ..... U.S. Environmental Protection Agency
FEMA ..... Federal Emergency Management Agency
FMMP ..... Farmland Mapping and Monitoring Program
GC ..... Government Code
GHG ..... Greenhouse Gas
GIS ..... Geographic Information System
IPaC ..... U.S. Fish and Wildlife Service's Information for Planning and Consultation system
IS ..... Initial Study

IS/MND ..... Initial Study/Mitigated Negative Declaration
MMRP ..... Mitigation Monitoring & Reporting Program
MND ..... Mitigated Negative Declaration
MRZ ..... Mineral Resource Zones
MT CO_2e ..... Metric Tons of Carbon Dioxide Equivalent
NAAQS ..... National Ambient Air Quality Standards
ND ..... Negative Declaration
NO_2 ..... Nitrogen Dioxide
NOX ..... Nitrogen Oxide
NPDES ..... National Pollutant Discharge Elimination System
NRCS ..... Natural Resources Conservation Service
O_3 ..... Ozone
Pb ..... Lead
PM_{10} ..... Particulate Matter less than 10 microns in diameter
Project ..... Adams and Academy Basin
SHC ..... Streets and Highways Code
SIP ..... State Implementation Plan
SJVAB ..... San Joaquin Valley Air Basin
SJVAPCD ..... San Joaquin Valley Air Pollution Control District
SO_2 ..... Sulfur Dioxide
SR ..... State Route
SWRCB ..... State Water Resources Control Board
SWPPP ..... Storm Water Pollution Prevention Plan
TAC ..... Toxic Air Contaminants
TPY ..... Tons Per Year
USDA ..... U. S. Department of Agriculture
USFWS ..... U. S. Fish and Wildlife Service
USGS ..... U. S. Geological Survey

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Chapter 1 Introduction

Provost & Pritchard Consulting Group (Provost & Pritchard) has prepared this Initial Study/Mitigated Negative Declaration (IS/MND) on behalf of the City of Huron (City) to address the environmental effects of the Arroyo Pasajero Mutual Water Company Groundwater Recharge Project (Project or proposed Project). This document has been prepared in accordance with the California Environmental Quality Act (CEQA), Public Resources Code Section 21000 *et.seq*. The City is the CEQA lead agency for this proposed Project.

The site and the proposed Project are described in detail in the **Chapter 2 Project Description**.

1.1 Regulatory Information

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

a. The IS shows there is no substantial evidence, in light of the whole record before the agency, that the proposed Project may have a significant effect on the environment, or

b. The IS identified potentially significant effects, but:

    1. Revisions in the project plans or proposals made by or agreed to by the applicant before the proposed MND and IS is released for public review would avoid the effects or mitigate the effects to a point where clearly no significant effects would occur is prepared, and

    2. There is no substantial evidence, in light of the whole record before the agency, that the proposed Project *as revised* may have a significant effect on the environment.

1.2 Document Format

This IS/MND contains six chapters 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, Cultural Resources Inventory and NRCS Soils Report 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 3** Impact Analysis 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 with Mitigation Incorporated. This category applies where the incorporation of mitigation measures would reduce an effect from a "Potentially Significant Impact" to a "Less Than Significant Impact." The lead agency must describe the mitigation measure(s), and briefly explain how they would reduce the effect to a less than significant level (mitigation measures from earlier analyses may be cross-referenced).

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

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

Chapter 2 Project Description

2.1 Project Background and Objectives

2.1.1 Project Title

Arroyo Pasajero/Westside Detention Basin Groundwater Recharge Project

2.1.2 Lead Agency Name and Address

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36311 S. Lassen Ave
Huron, CA 93234
(559) 945-2241

2.1.3 Contact Person and Phone Number

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2.1.4 Project Location

The Project is located in south-western portion of Fresno County, central California, approximately 182 miles southeast of Sacramento and 82 miles northwest of Bakersfield (see **Figure 2-1).** The proposed project site is located approximately 2 miles east of State Route 269 (SR 269), 2.8 miles south of SR 198, and 6 miles northeast of Interstate 5 (I-5) and more specifically, on Assessor's Parcel Numbers 075-380-10ST, 078-020-54S, 078-041-01S, 078-041-02S, 078-130-29S, 078-130-24ST, 078-130-28ST. See **Figure 2-3.**

2.1.5 Latitude and Longitude

The approximate location of each Project component are as follows: Pump #1: 36.196125, -120.057209, Pump #2: 36.184526, -120.057094, Pump #3: 36.210829, -120.068031.

2.1.6 General Plan Designation

The Fresno County General Plan Land Use Designation is Agriculture. The City of Huron General Plan Land Use Designation is Public Facility.

2.1.7 Zoning

The Fresno County Zoning designation is AE-20 (Exclusive Agriculture, 20-Acre Minimum). The City of Huron Zoning designation is P-F (Public Facilities).

2.1.8 Description of Project

2.1.8.1 Project Description

The applicant, Arroyo Pasajero Mutual Water Company proposes to divert water which reaches the Westside Detention Basin (WSDB) ponding area along the Aqueduct adjacent to Gale Avenue for the benefit of the Arroyo Pasajero Mutual Water Company and the City of Huron for irrigated agriculture, municipal water supply, and flood relief by direct diversion and underground storage. Runoff from the Arroyo Pasajero Watershed an area of approximately 529 square miles which consists of Los Gatos, Warthan, Jacalitos, and Zapato Chino Creeks of drains into the Arroyo Pasajero and then ponds at the WSDB along the westerly embankment of the California Aqueduct (Aqueduct or San Luis Canal), north and east of the City of Huron.

The existing facilities are owned by the US Bureau of Reclamation (Reclamation), the City of Huron, and private landowners. Water builds up against the Aqueduct and in the WSDB and then onto the private property in Sections 1, 6, 7, and 18 and during large rain events can possibly overflow at Gale Avenue into Section 19 (Township 20 South, Range 18 East, M.D.B. & M.). The landowners will manage the water that ponds and infiltrates on their property and propose to install up to four portable temporary pumps (totaling 20 cfs maximum) at the three points of diversion (each approximately 400 square feet) for the distribution of water to percolate over additional existing bermed ponding areas. In addition to the pumps, approximately 6,100 linear feet of temporary, surface pipeline will be used to transport the water. With a 3-foot buffer will equate to an approximate 18,300 square feet. The total area will be approximately 0.447 acres. The infiltration area is approximately 538 acres and includes agricultural land and the City of Huron percolation ponds. Recovery of stored water will be from existing agricultural irrigation wells near the ponded areas for beneficial use of irrigated agriculture and municipal water supply with Place of Use of 6,664 acres. See Exhibit for the location of facilities and diversion points.

The temporary diversion facilities include a booster pump with a flow rate between 3 and 7 cfs, the pipeline will be 10" diameter aluminum pipe, a flow meter meeting the SB88 requirements for reporting under the water right. The suction end will have a screen and a float assembly.

Flooding occurs at the Arroyo Pasajero Creek and Lassen Avenue, and once the WSDB fills, an under extremely wet years, the excess water spills over Gale Avenue. The proposed diversion will relieve pressure on the WSDB and therefore potentially reducing flooding and associated impacts at main roads used by City of Huron residents.

2.1.8.1 Construction, Operation and Maintenance

There is no excavation of dirt or construction associated with the project. There are three pump locations where temporary portable pumps and pipelines will be placed. There may be minor vegetation removal as required.

2.1.9 Surrounding Land Uses and Setting

The Project site is surrounded by agricultural lands, most of which is currently in production and percolation ponds owned by the City of Huron. The Project will take place at three points of diversion (See Figure 2.3). Points 1 and 2 are located on privately owned property. Point 3 will be located on property owned by the City of Huron. Directly east of the three points is the Westside Detention Basin (WSDB). Beyond the WSDB is the California Aqueduct. West of the Project is the City of Huron. The distance of which varies between Points 1 and 2 (approximately 1.58 miles), however, Point 3 is within the City's boundary. North of the Project is the Union Pacific Railroad. South of the Project is W. Gale Avenue.

The Project site is zoned as AE-20 (Exclusive Agriculture, 20-Acre Minimum) by Fresno County and P-F (Public Facilities) designated by the City of Huron. The Project is planned as Agriculture by the Fresno County General Plan and Public Facilities by the City of Huron General Plan. The majority of neighboring properties are also designated Agriculture by Fresno County.

2.1.10 Other Public Agencies Whose Approval May Be Required

- Unites States Bureau of Reclamation
- City of Huron

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 will undertake a project, must notify in writing any California Native American Tribe traditionally and culturally affiliated with the geographic area of the project if that Tribe has previously requested notification about projects in that geographic area. The notice must briefly describe the project and inquire whether the Tribe wishes to initiate request formal consultation. Tribes have 30 days from receipt of notification to request formal consultation. The lead agency then has 30 days to initiate the consultation, which then continues until the parties come to an agreement regarding necessary mitigation or agree that no mitigation is needed, or one or both parties determine that negotiation occurred in good faith, but no agreement will be made.

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

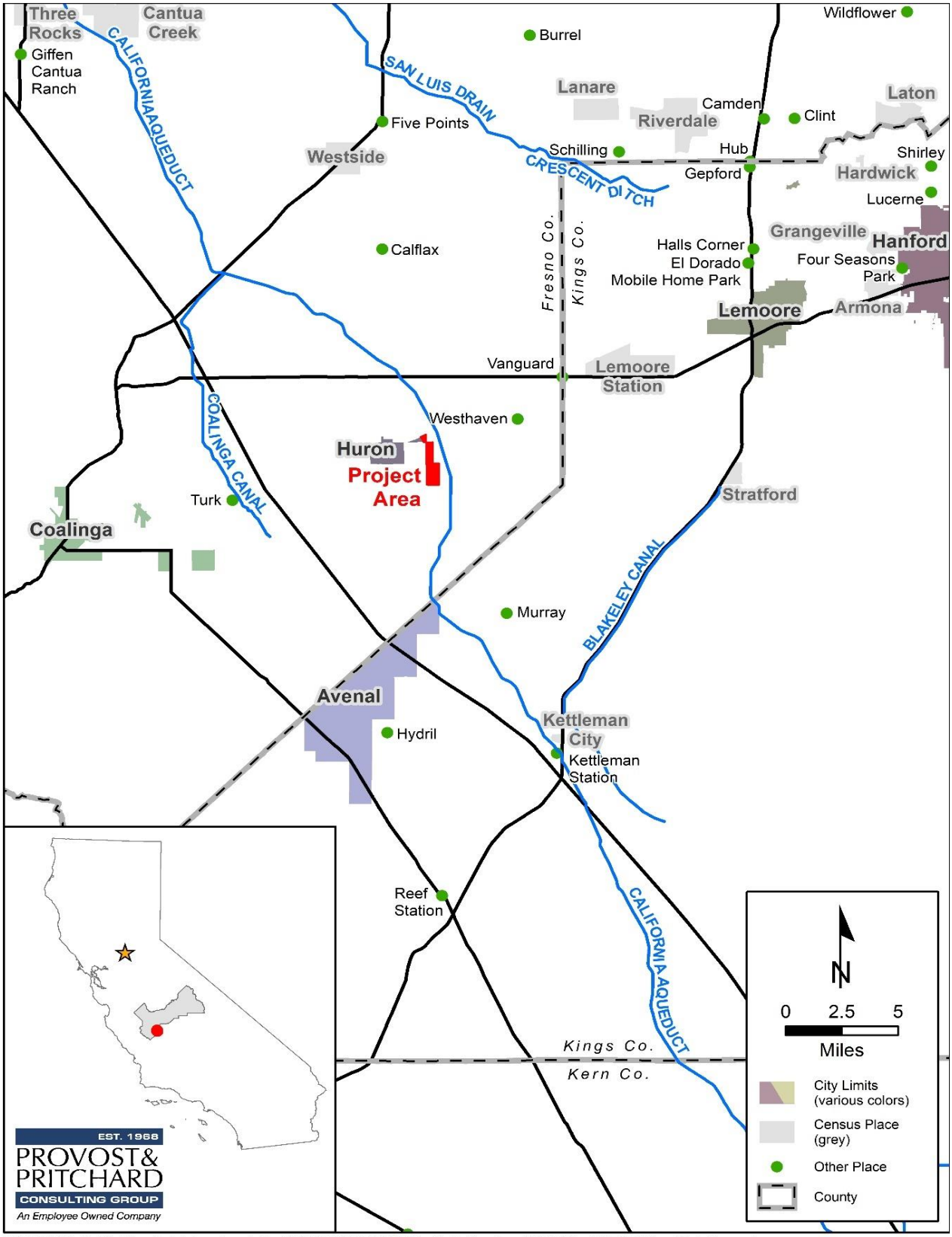

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Figure 2-1. Regional Vicinity Map

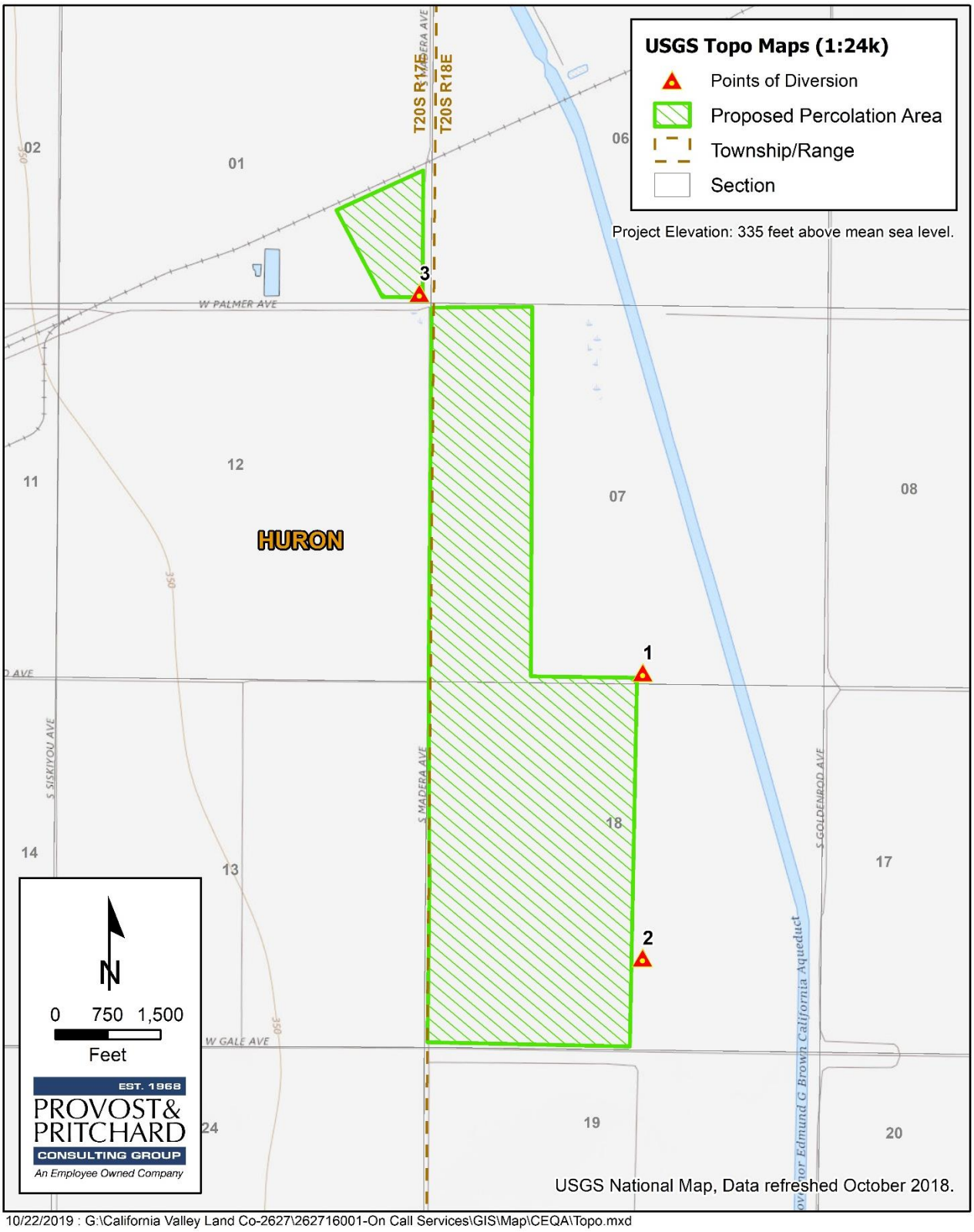

Figure 2-2. Topographic Quadrangle Map

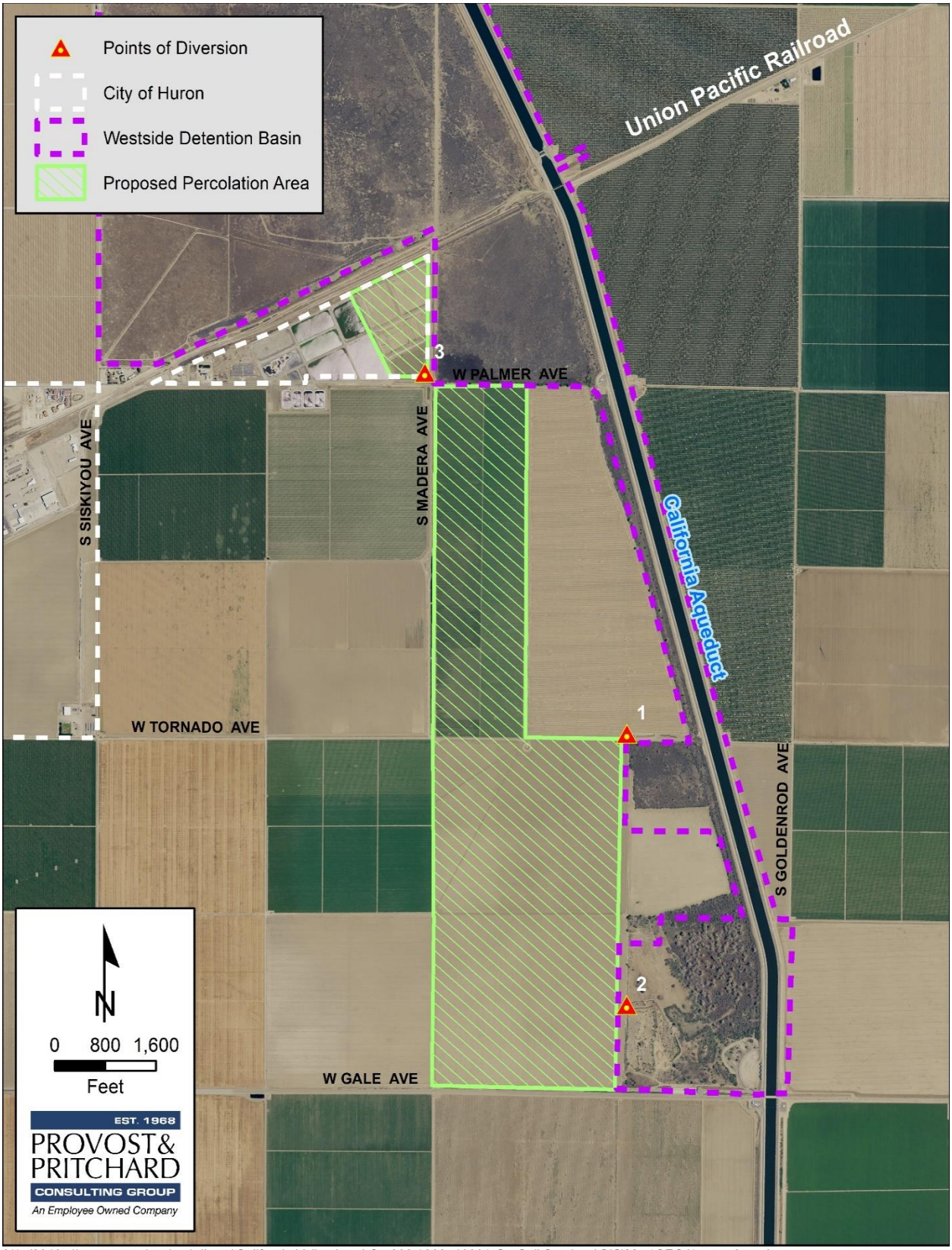

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Figure 2-3. Area of Potential Effect.

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

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.

Signature

11/12/19
Date

CITY MANAGER
Printed Name/Position

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Chapter 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 Significa nt 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

The Project is located in the southwestern portion of Fresno County in the Central San Joaquin Valley. Lands in the vicinity consist of relatively flat irrigated agricultural land and percolation ponds owned by the City of Huron. In Fresno County, a portion of State Route 180 (SR 180) has been officially identified by Caltrans as a "designated State Scenic Highway;" however, that segment is approximately 54 miles northeast of the site. The Project site is located approximately 11 miles east of the Coastal Range and approximately 52 miles west of the foothills of the Sierra Nevada. Neither of these foothills or mountain ranges are typically visible from the vantage point of the Project site. Rural roadways, agricultural lands, and regional water distribution canals are in the immediate vicinity. The Project will be consistent with the aesthetics of the area.

3.1.1.1 Local

City of Huron General Plan[1]: The City of Huron General Plan sets forth goals and policies that protect the visual character of the City; none of which have potential relevance to the Project's CEQA review.

3.1.2 Impact Assessment

I-a) Have a substantial adverse effect on a scenic vista?

a) No Impact. The primary scenic vistas in the region is the Coastal Range to the west or the vast expanse of agricultural land. The Project will not interfere with public views of either scenic vista during implementation or operation as all Project related activity will be restricted to the Project site (**Figure 2-3**). The Project will

[1] City of Huron General Plan. http://cityofhuron.com/wp-content/uploads/2014/08/City-of-Huron-General-Plan-2025-Policies-Statement1.pdf Accessed April 30, 2019.

consist of the installation of four portable temporary pumps and 6,100 linear feet of pipeline (totaling 20 cfs maximum) at the three points of diversion for the distribution of water to percolate over additional existing bermed ponding areas and percolation ponds (**Figure 2-3**). Furthermore, the Project site does not stand out from its surroundings in any remarkable fashion because the three points of diversion will be approximately 1,200 square feet and 18,300 square feet of ground disturbance for the temporary above ground pipeline, for a total of 19,500 square feet (or 0.45 acres) of ground disturbance. The pumps and above ground pipeline will not be permanent. Impacts would be less than significant.

I-b) 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[2] 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.

In Fresno County, a 24-mile segment of State Route 180 located in the eastern portion of Fresno County has been officially identified by Caltrans as "designated State Scenic Highway".[3] However, the Project site is located approximately 54 miles southwest. Therefore, Project activities would not have the potential to affect the scenic highway. 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 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?

c) No Impact. The Project site is primarily surrounded by agricultural land and water infrastructure in a non-urbanized setting. The current visual character of the Project site is primarily agricultural land and percolation ponds. The Project will not affect the visual characteristics of the area. Additionally, the Project does not conflict with the onsite zoning designation. There will be no impact.

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

d) No Impact. The Project site is primarily surrounded by agriculture lands. Lighting impacts will be negligible because there is no construction proposed. The temporary pumps will be brought to each point of diversion and pipes going from the WSDB into the proposed percolation area. If maintenance is to occur, vehicular traffic will be limited to on an as-needed basis which will be performed during daylight hours, except in an unforeseen emergency situation. Therefore, the Project will not create a new source of substantial light or glare that would adversely affect day or nighttime views in the area or be inconsistent with existing conditions.

[2] State Scenic Highways
https://leginfo.legislature.ca.gov/faces/codes_displayexpandedbranch.xhtml?tocCode=SHC&division=1.&title=&part=&chapter=&article= Accessed April 30, 2019.
[3] Department of Transportation State Scenic Highway Designation for Fresno County
http://www.dot.ca.gov/hq/LandArch/16_livability/scenic_highways/ Accessed April 30, 2019.

3.2 Agriculture and Forestry Resources

Table 3-2. Agriculture and Forestry 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

The Project is located in the California's Central San Joaquin Valley. Specifically, within an unincorporated area in Fresno County. Fresno County is located within California's agricultural heartland. For crop year 2016-2017, Fresno County ranked third for the top agricultural counties in the State in the annual market value of farm products.[4]

A wide range of commodities are grown in the county, with major production of milk, poultry, livestock, and other animal commodities, row crops, nuts and fruit tree crops, and vegetables. Rich soil, irrigation water, Mediterranean climate and steady access to local, national and global markets make this possible.

City of Huron General Plan[5]: The City of Huron General Plan sets forth goals and policies that pertain to agricultural and forestry resources of the City; none of which have potential relevance to the Project's CEQA review.

[4] USDA. California County Agricultural Commissioners' Reports 2016-2017. https://www.nass.usda.gov/Statistics_by_State/California/Publications/AgComm/2017/2017cropyearcactb00.pdf Accessed April 30, 2019

[5] City of Huron General Plan. http://cityofhuron.com/wp-content/uploads/2014/08/City-of-Huron-General-Plan-2025-Policies-Statement1.pdf Accessed April 30, 2019.

3.2.2 Impact Assessment

II-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?

a) No Impact. The Farmland Mapping and Monitoring Program produces maps and statistical data used for analyzing impacts to California's agriculture resources. These maps are updated on a biennial basis with the use of a computer mapping system, aerial imagery, public review, and field reconnaissance. The farmland maps identify eight land use categories, five of which are agriculture related: prime agriculture, farmland of statewide importance, unique farmland, farmland of local importance, and grazing land. The land use categories onsite and in the proximity of the Project are summarized below:

- *PRIME FARMLAND (P): Farmland with the best combination of physical and chemical features able to sustain long term agricultural production. This land has the soil quality, growing season, and moisture supply needed to produce sustained high yields. Land must have been used for irrigated agricultural production at some time during the four years prior to the mapping date.*
- *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.*
- *OTHER LAND (VACANT OR DISTURBED LAND (V): 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 forty acres. Vacant and nonagricultural land surrounded on all sides by urban development and greater than 40 acres is mapped as Other Land.*

As demonstrated in **Figure 3-1**, the FMMP for Fresno County designates the site of the Project as Prime Farmland, Unique Farmland, and Vacant or Disturbed Land. The intent of the Project will not convert the existing agricultural uses that are taking place within the proposed percolation area. Implementation of the Project will benefit the nearby agriculture lands by diverting water that has built up within the WSDB into an existing bermed ponding areas. Recovery of stored water will be from existing agricultural irrigation wells in the vicinity to be used to further irrigate agricultural land and municipal water supply. Also, the Project will assist in meeting existing agriculture irrigation demands during the irrigation season when limited surface water is available, especially during times of a drought. Please see **Figure 3-1** for adjacent properties' Farmland Designations. The Project has been zoned AE-20 (Exclusive Agriculture, 20-acre minimum) and P-F (Public Facilities) by the City of Huron. It is designated for Agriculture uses by the Fresno County General Plan and Public Facility and Agriculture by the City of Huron General Plan. There will be no impact.

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

b) No Impact. The Project has been zoned AE-20 (Exclusive Agriculture, 20-acre minimum) by Fresno County and P-F (Public Facilities) by the City of Huron. The Project is located within seven parcels. One of the three have a Williamson Act contract. Point of diversion 1 is within the Williamson Act Parcel. The footprint will be approximately 400 square feet, which will include the temporary portable pump, temporary pipeline (approximately 2,900 linear feet), and appurtenance devices. The Project will not conflict with the existing use of the parcel. Implementation of the Project will not result in a conflict with existing zoning for the AE-20 zone district or with a Williamson Act contract. There will be no impact.

II-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))?

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

c and d) No Impact. There are no forest lands or timberlands within the Project site or vicinity. There will be no impact.

II-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?

e) No Impact. The Project involves the diverting of excess water built up within the WSDB into existing bermed ponding areas. The Project includes a maximum of four portable temporary pumps (totaling 20 cfs max), temporary above ground aluminum pipelines will be 10 inches in diameter. Pipelines vary from 300 feet to 2,900 feet. The approximate area of ground disturbance will be 400 square feet for each pump and 18,300 square feet for the temporary pipelines. Ground disturbance will be very minimal and only involve placing the equipment on the ground, with no grading or digging. The Project will not result in land use conversion of farmland or forest land, either directly or indirectly. There will be no impact.

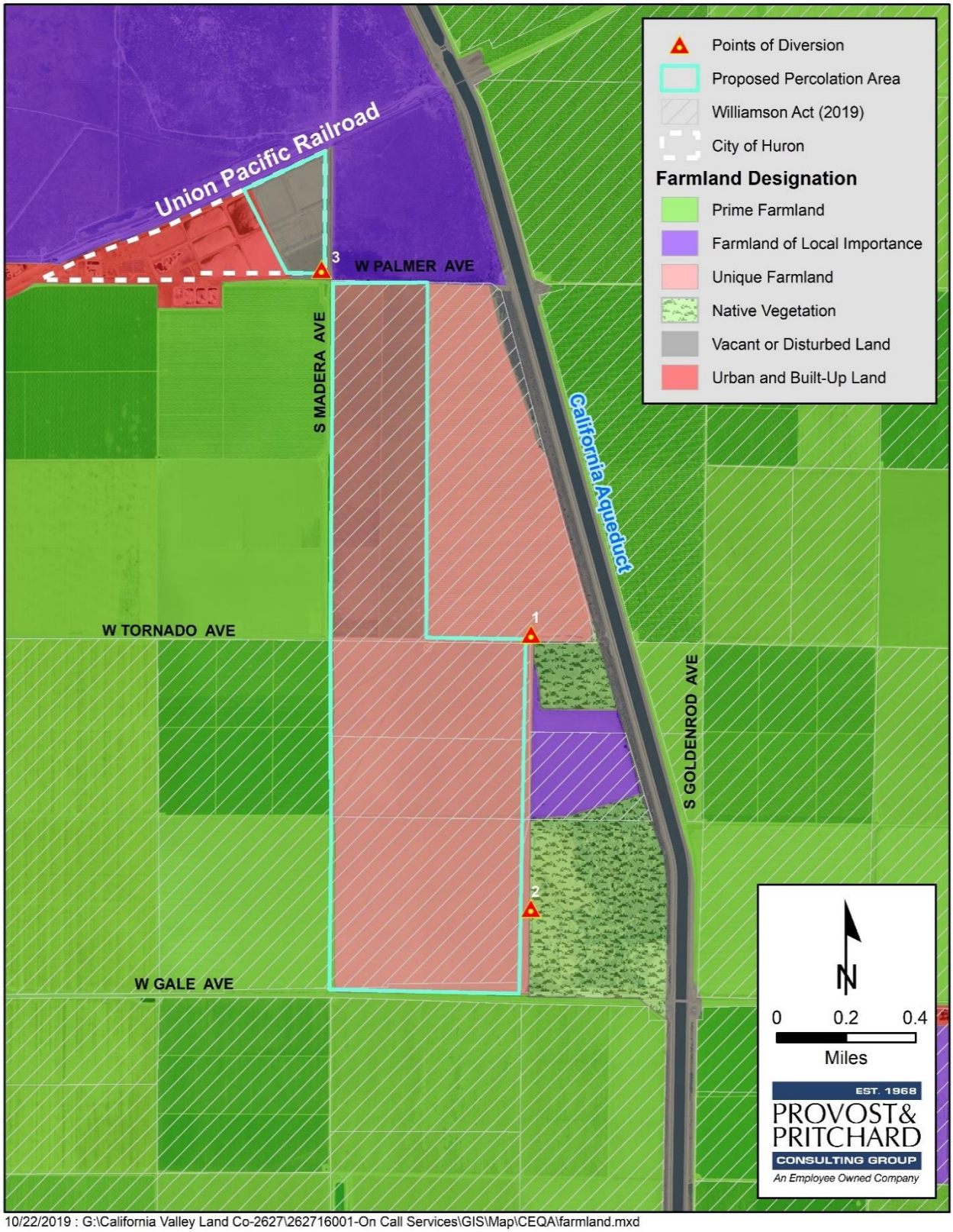


Figure 3-1. Farmland Designation Map

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 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[6].

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 Project on May 28, 2019. The sections below detail the methodology of the air quality and greenhouse gas emissions report and its conclusions.

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

3.3.2.1 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 used to haul the pumps and pipes into place and worker commute trips. Emissions were quantified based on anticipated implementation schedules provided by the Project applicant (approximately one week). 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 negligible to minimal in nature. Maintenance will be provided on an as needed basis by existing property owners, and the operational equipment, up to four temporary portable diesel pumps, are assumed to be permitted already by the Air District. Any operational emissions would be negligible. 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 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 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 Project would be considered significant if the project has the potential to frequently expose members of the public to objectionable odors.

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	0.070 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		

Summary of Ambient Air Quality Standards & Attainment Designation					
Pollutant	Averaging Time	California Standards*		National Standards*	
		Concentration*	Attainment Status	Primary	Attainment Status
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 2016; SJVAPCD 2016

3.3.2.4 Local

City of Huron General Plan[7]: The City of Huron General Plan sets forth the following goals and policies regarding air quality of the City and which have potential relevance to the Project's CEQA review:

- *Policy AQ-3.4: To assist the City in meeting the clean air quality requirements of the federal and state Clean air Acts, the San Joaquin Valley Air Pollution Control District will be consulted to provide community planning guidance to help reduce potential air quality impacts. In conformance with State legislation.*
-

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:

San Joaquin Valley Air Pollution Control District Thresholds of Significance. Projects that produce emissions that exceed the following thresholds shall be considered significant for a project level and/or cumulatively considerable impact to air quality. The following 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 Impact Assessment

III-a) 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

[7] City of Huron General Plan. http://cityofhuron.com/wp-content/uploads/2014/08/City-of-Huron-General-Plan-2025-Policies-Statement1.pdf Accessed April 30, 2019.

significance. Projects that do not exceed the recommended thresholds would not be considered to conflict with or obstruct the implementation of applicable air quality plans.

III-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?

b) Less Than Significant Impact.

Short-Term Construction-Generated Emissions

Construction-generated emissions are temporary in duration, lasting less than one year for site preparation and implementation of the Project. Project development includes mobilization, site preparation, and placement of the pumps and above ground pipeline. The implementation of the Project would result in the temporary generation of emissions associated with motor vehicle exhaust associated with delivery equipment and worker trips, as well as the movement of delivery 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}	$PM_{2.5}$
2020	0.0017	0.0211	0.0102	0.0011	0.0008
Maximum Annual Proposed Project Emissions:	0.0017	0.0211	0.0102	0.0011	0.0008
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:	0.0012	0	0	0.0	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 Project would be required to comply with SJVAPCD Regulation IV, Rule 4702 Internal Combustion Engines. This rule requires a permit for a stationary internal combustion engine rated at least 25 brake horsepower. Mandatory compliance with SJVAPCD Regulation VIII would further

reduce emissions of fugitive dust from the Project site, and adequately minimize the 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 and IV, 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 as the Project is temporary in nature and is anticipated to last approximately six months each year. Maintenance will be provided on an as needed basis and the operational equipment, up to four temporary portable diesel pumps (which should already be permitted), will result in negligible emissions. Therefore, Project-related impacts to air quality would be considered less than significant.

III-c) Expose sensitive receptors to substantial pollutant concentrations?

c) Less Than Significant Impact.

Toxic Air Contaminants

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 gasoline or diesel-exhaust particulate matter (DPM) associated with the use of off-road vehicles towing the pumps into place. More than 90% of DPM is less than one μm in diameter, and thus is a subset of $PM_{2.5}$.[8] 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 intermittent. Construction activities would consist of towing the pumps with off-road diesel or gasoline equipment over an approximate 24-hour period., which would constitute less than 1 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).

The Project is located in the unincorporated area of Fresno County and within the City of Huron. Nearby land uses primarily consist of agriculture and percolation ponds owned by the City of Huron. Placement of equipment for 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 0.0008 tons/year of $PM_{2.5}$, which includes DPM. Operational impacts will be minimal due to the temporary timeframe associated with the operation of the pumps. Operation of the Project would last approximately six months each year. The Project would only generate emissions from the temporary pumps, which are already permitted through the air district. As shown in **Table 3-6,** there would be no other $PM_{2.5}$ emissions from the operation of this Project. Any 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[9]. As a result, risk of exposure to asbestos during the construction process would be considered less than significant.

[8] CARB. Inhalable Particulate Matter. https://www.arb.ca.gov/research/aaqs/common-pollutants/pm/pm.htm Accessed April 30, 2019.
[9] Van Gosen, B.S. and J.P. Clinkenbeard. 2011. Report 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

Placement of the Project equipment would include very minimal ground-disturbing activities which may have potential to increased emissions of airborne particulate matter. The Project does not exceed the ground disturbance acreage threshold for Regulation VIII (Fugitive Dust Prohibitions). However, the Project will implement Best Management Practices 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.

The Project is located within the unincorporated Fresno County and a portion of the City of Huron. 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 0.0011 tons/year of PM_{10}, while operation of the Project would generate maximum unmitigated annual emissions of approximately 0.0 tons/year of PM_{10}, both of which are below the 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 involve primarily the use of gasoline or diesel vehicles, that would emit exhaust fumes, to tow the pumps into place. 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 on a regular basis. Furthermore, there are no sensitive receptors within the vicinity of the proposed Project. 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. The temporary portable pumps will be operational for a six-month timeframe each year. The operational timeframe may be reduced due to the pumps relying on rain and water pooling in the WSDB in order to operate. 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 in southwest Fresno County 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 10 inches of precipitation in the form of rainfall yearly, most of which occurs between October and March.

The Project's APE spans three watersheds. The northern portion of the percolation area and diversion point No. 3 is located within the Town of Huron-Kings River watershed, Hydrologic Unit Code (HUC): 180300120702; the middle portion of the percolation area and diversion point No. 1 is located within the Town of Lemoore-Kings River watershed, HUC: 180300120704; and the southern portion of the percolation area and diversion point No. 2 is located within the Frontal Tulare Lake Bed watershed, HUC: 180300122303 (EPA, 2019).

The Project area is located approximately 0.75 miles west of the California Aqueduct and approximately 3 miles southeast of Los Gatos Creek (formerly known as Arroyo Pasajero) where it empties into Reclamation's Westside Detention Basin. Los Gatos Creek is a naturally flowing stream which originates in the Diablo Mountain Range and flows in eastern direction passing the cities of Coalinga and Huron. Downstream of Huron, the incised channel of Los Gatos Creek fans out and enters Westside Detention Basin and then the California Aqueduct. There are three main tributaries to the eastern portion of Los Gatos Creek in the vicinity of the Project: Warthan Creek, Jacalitos Creek, and Zapato Chino Creek.

The Project lies entirely within the Westside Groundwater Subbasin of the San Joaquin Valley Groundwater Basin (DWR, 2019) and within Westlands Water District's boundaries. Project areas are predominantly surrounded by agricultural lands, ruderal compacted dirt access roads, various excavated canals, basins, and dairy lagoons. The northernmost portion of the Project's APE is bordered by the City of Huron's wastewater treatment facility and associated infrastructure, including various processing ponds.

Pump No. 2 will be located within Westside Detention Basin. The locations of Pumps No. 1 and No. 3 and the majority of the proposed percolation areas are composed of various types and stages of agricultural land operations. The northernmost proposed percolation area consists of excavated basins associated with the adjacent wastewater treatment plant. At the time of the field surveys, these basins were dry and are best described as ruderal, non-native grassland. For a complete description of habitats, methodology, list of references, and photographs of the Project area, refer to the biological evaluation report in **Appendix B**.

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 U.S. Fish and Wildlife Service (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 *Huron* 7.5-minute quadrangle that contains the Project site in its entirety, and for the 8 surrounding quadrangles: *Harris Ranch, Calflax, Vanguard, Guijarral Hills, Westhaven, Avenal, La Cima*, and *Kettleman City*. 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. Additionally, Section 7 determinations are made in **Appendix B** which also contains raw data obtained from CNDDB and IPaC.

Table 3-8: Special Status Animals with Potential to Occur Onsite or in the Vicinity

Species	*Status*	*Habitat*	*Occurrence on Project Site*
American badger (*Taxidea taxus*)	CSC	Grasslands, savannas, and mountain meadows near timberline are preferred. Most abundant in drier open spaces of shrub and grassland. Burrows in soil.	**Unlikely.** The disturbed habitats of the Project area are generally unsuitable for this species. No suitable burrows or American badger sign (claw marks, tracks, or scat) were observed during the field survey. The nearest recorded observation of this species corresponds to an undated historic collection from an unknown location in the vicinity of Huron, approximately 1 mile west of the Project area.
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 of the Project area are generally unsuitable for this species. The nearest observation of this species was recorded within undisturbed grassland habitat approximately 10 miles west of the Project site.
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.	**Possible.** The agricultural fields are unsuitable given the absence of burrows and the frequent ground disturbance associated with disking. Although some ground squirrel burrows were observed along the banks of the detention basin, the presence of large trees and raptor perches makes the site generally unsuitable for breeding. However, foraging and breeding habitat was observed in the vicinity of the Project, and therefore a burrowing owl individual could conceivably pass through the Project area or use burrows along the banks of Westside Detention Basin as a satellite burrow or as wintering habitat.

Species	*Status*	*Habitat*	*Occurrence on Project Site*
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 glossy snake (*Arizona elegans occidentalis*)	CSC	Inhabits arid scrub, rocky washes, grasslands, and chaparral. Prefers open areas with loose soil for easy burrowing.	**Unlikely.** The disturbed habitats of the Project area are unsuitable for this species, and the site is outside of the known distribution range. The nearest known occurrence was recorded approximately 11.5 miles northwest of the Project area in 1946.
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. The Project is outside of the current distribution range of this species.
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. There is one recorded observation of this species reported in 1992, approximately 12 miles northeast of the Project site at Lemoore Naval Air Station. This record corresponds to a known population of kangaroo rats initially identified as Fresno kangaroo rats, but later thought to be Tipton kangaroo rats (USFWS, 2010). Despite significant efforts, a Fresno kangaroo rat has not been trapped since 1992, and this species may be extirpated due to loss of habitat and fragmentation.
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.** The Project is outside of the accepted distribution range of this species. Suitable habitat is absent and there have been no recorded observations of this species in the Project's vicinity.
giant kangaroo rat (*Dipodomys ingens*)	FE, CE	Inhabits annual grassland communities with few or no shrubs and well-drained, sandy-loam soils on gentle slopes.	**Absent.** The highly disturbed habitats of the Project area and surrounding lands are unsuitable for this species. The Project site is outside of the known current distribution range of this species (USFWS,

Species	*Status*	*Habitat*	*Occurrence on Project Site*
			2010), and there have been no recorded observations of this species in the vicinity (CNDDB, 2019).
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.	**Possible.** Nesting habitat onsite is marginal, at best, but suitable perching and foraging habitat is present throughout the Project site. The nearest recorded observation of this species was reported approximately 7 miles south of the Project site in an area with water storage ponds and similar riparian vegetation.
long-eared owl (*Asio otus*)	CSC	Frequents dense, riparian and live oak thickets near meadow edges, and nearby woodland and forest habitats. Also found in dense conifer stands at higher elevations. Riparian or other thickets with small, densely canopied trees are required for roosting and nesting. Feeds primarily on small rodents.	**Possible.** Nesting habitat onsite is marginal within and along the banks of the Westside Detention Basin. Foraging habitat in the form of agricultural lands is present and numerous rodent burrows were observed. The nearest recorded observation of this species was reported approximately 11 miles away in the Pleasant Valley Ecological Reserve.
Merlin (*Falco columbarius*)	CWL	Frequents open habitats at low elevation near water and tree stands. Feeds primarily on small birds. Favors coastlines, lakeshores, and wetlands. Dense tree stands close to bodies of water are needed for cover. This species does not breed in California.	**Likely.** There is a recorded observation of this species in the Westside Detention Basin adjacent to the Project area. While the species does not breed in California, the Project site and surrounding area could serve as suitable foraging habitat.
Nelson's antelope squirrel (*Ammospermophilus nelsoni*)	CT	Found in the western San Joaquin Valley on dry, sparsely vegetated loamy soils. Relies heavily on existing small mammal burrows.	**Unlikely.** The nearest known observation of this species corresponds to a historic (1893) collection mapped in the general vicinity of Huron. A recent (1993) observation of this species is mapped in annual grassland habitat approximately 10 miles southwest of the project site in the Guijarral Hills area. Although the Project is located within its historic range, this species has been nearly eliminated from the floor of the Tulare Basin. The habitats of the Project area are frequently disturbed by agricultural practices, which likely also involve the use of rodenticides. Ground squirrel burrows were abundant throughout most of the surveyed areas. California ground squirrels have a propensity to inhabit disturbed lands and displace smaller fossorial species, such as the giant kangaroo rat

Species	*Status*	*Habitat*	*Occurrence on Project Site*
			and antelope squirrel. Harris and Stearns (1991) concluded that "on small habitat fragments surrounded by disturbed or agricultural lands, the potential for California ground squirrels to have a negative impact on antelope squirrels may be significant."
San Joaquin coachwhip (*Masticophis flagellum ruddocki*)	CSC	Found in open dry habitats with little or no tree cover in valley grassland and saltbush scrub communities in the San Joaquin Valley. Relies on mammal burrows for refuge and oviposition sites.	**Unlikely.** This species was observed in 2008 within the Westside Detention Basin, approximately 3 miles northwest of the Project area. Small mammal burrows are abundant throughout the site. However, according to californiaherps.com (2019), this species is thought to be sensitive to disturbance and does not persist in cultivated areas. Therefore, the Project areas, which are frequently disturbed by intensive agricultural practices, are generally unsuitable for this species.
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.	**Possible.** In the past 25 years, there have only been two recorded observations of this species in the vicinity of the Project. One of these observations was reported 10 miles west of the Project site and the other was recorded 15 miles south of the site. There are several historic (pre-1994) recorded observations of this species in the vicinity of the Project, especially along the California Aqueduct. The California Aqueduct runs along the east side of the Westside Detention Basin adjacent to the project site, and special status mammals, such as the San Joaquin kit fox, could use the aqueduct as a movement corridor. Portions of the Project area contained ground squirrels and burrows; however, frequent disturbance onsite would likely discourage habitation within the Project area. This species is highly mobile, and a kit fox individual could pass through the Project area during dispersal or mating movements or use the site for nocturnal foraging. The Project site is approximately 30 miles south-southeast of the nearest Core population in the Ciervo-Panoche Natural Area.

Species	*Status*	*Habitat*	*Occurrence on Project Site*
short-nosed kangaroo rat (*Dipodomys nitratoides brevinasus*)	CSC	Burrows in soil. Often found in grassland and shrubland.	**Absent.** The highly disturbed habitats of the Project area are generally unsuitable for this species. The nearest recorded observation occurred approximately 9 miles southwest from the Project site in grassland habitat of the Guijarral Hills area. Brylski (1998) noted that extensive loss of habitat in the San Joaquin Valley has been primarily attributed to agricultural production. Therefore, a population of this species is unlikely to persist on cultivated lands.
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.	**Present.** Swainson's Hawks were observed onsite during field visits conducted in April, May, and July of 2019. Several inactive raptor nests were observed adjacent to the Project area in cottonwood trees along the Westside Detention Basin. Foraging habitat is present throughout the surveyed Project areas in the form of agricultural lands, and there are several recorded nest trees in the vicinity.
Temblor legless lizard (*Anniella alexanderae*)	CSC	Found primarily underground, burrowing in loose, sandy soil. Forages in loose soil and leaf litter during the day. Occasionally observed on the surface at dusk and night.	**Unlikely.** The disturbed habitats onsite are generally unsuitable for this species. The agricultural parcels are disked at least twice per year for weed abatement. However, the moist soils associated with the Westside Detention Basin may provide marginal habitat for this species. An observation of this species occurred in 2017 in a decommissioned oil field 11 miles west-southwest of the Project site.
Tipton kangaroo rat (*Dipodomys nitratoides nitratoides*)	FE, CE	Burrows in soil. Often found in grassland and shrubland.	**Absent.** The disturbed habitats of the Project area are generally unsuitable for this species. The Project site is outside of the known current distribution range of this species (USFWS, 2010). The only observation of this species in the vicinity corresponds to a 1951 collection and is mapped approximately 13 miles south of the Project site. Portions of the Project area contained rodent burrows, most of which appeared to be of murid origin. No typical burrow precincts or mounds indicative of kangaroo rats were observed and no tracks or tail drags were observed.

Species	*Status*	*Habitat*	*Occurrence on Project Site*
tricolored blackbird (*Agelaius tricolor*)	CCE, CSC	Nests colonially near fresh water in dense cattails or tules, or in thickets of riparian shrubs. Forages in grassland and cropland. Large colonies are often found on dairy farm forage fields.	**Possible.** Suitable nesting habitat was absent from the Project area at the time of the field surveys; however, foraging habitat was present in the form of agricultural lands. Furthermore, one of the agricultural parcels within the Project's APE could be considered suitable nesting habitat if it were planted in triticale or another forage crop.
Tulare grasshopper mouse (*Onychomys torridus tularensis*)	CSC	Typically inhabit arid shrubland communities in hot, arid grassland and shrubland associations. Diet consists almost exclusively of arthropods.	**Absent.** There have been no recorded observations of this species in the last 80 years in the vicinity of the Project. Although the Project is located within the historic range of this species, the Tulare grasshopper mouse is thought have been extirpated from the Valley floor.
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 ground disturbance and therefore generally unsuitable for this species. There are no recorded observations of this species in the Project area or the Westside Detention Basin.
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.	**Possible.** Roosting habitat is absent from the Project area and surrounding lands; however, the Project area could be used for nocturnal foraging. The nearest recorded observation of this species was reported approximately 4 miles west of the Project site.
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.	**Possible.** Vernal pools and suitable breeding habitat were absent from the Project area at the time of the field survey. Portions of the Project area contained rodent burrows which could potentially be used for aestivation; however, the agricultural lands are frequently disked and subject to disturbance which makes the site generally unsuitable for this species. There are several recent observations of this species reported within the northernmost portion of the Westside Detention Basin, and seasonal pools created

Species	*Status*	*Habitat*	*Occurrence on Project Site*
			by uneven topography in the basin may provide suitable breeding habitat.
yellow-headed blackbird (*Xanthocephalus xanthocephalus*)	CSC	Nests colonially in dense emergent wetland thickets (often cattails or tules; rarely willows) over water. Nests, roosts, and forages in fresh emergent wetland. Also forages in open fields but prefers moist ground.	**Possible.** Suitable nesting habitat was not observed during the field surveys; however, marginal foraging was present in the form of agricultural fields, and higher quality habitat may exist when detention basins are full.

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
CWL California Watch List

CE California Endangered
CT California Threatened
CCT California Threatened (Candidate)
CFP California Fully Protected
CSC California Species of Special Concern

CCE California Endangered (Candidate)
CR California Rare

CNPS Listing

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

Table 3-9: Special Status Plants with Potential to Occur Onsite 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, and riparian communities at elevations below 1050 feet. Equally likely to occur in wetlands and non-wetlands. Blooms June – October.	**Absent.** The disturbed habitats of the Project areas are unsuitable for this species. One observation of these species occurred 19 years ago approximately 9 miles southwest of the project site in the annual grassland habitat of the Guijarral Hills area.
California jewelflower (*Caulanthus californicus*)	FE, CE, CNPS 1B	Found in the San Joaquin Valley and Western Traverse Ranges. Occurs on flats and slopes, generally in non-alkaline grassland at elevations between 230 feet and 3280 feet. Blooms February – April.	**Absent.** Suitable habitat required by this species is absent from the Project area. All of the recorded occurrences of this species in the vicinity of the Project have been updated to extirpated or possibly extirpated due to conversion of land to agriculture.
Kern mallow (*Eremalche parryi ssp. kernensis*)	FE, CNPS 1B	Found on open, dry, sandy to clay soils, usually within valley saltbush scrub at elevations between 325 – 3300 feet. Blooms March – May.	**Absent.** The disturbed habitats of the Project areas are unsuitable for this species. The Project is near or outside of the elevational range for this species. There have been no observations of this species in the vicinity in over 30 years.
Lemmon's jewelflower (*Caulanthus lemmonii*)	CNPS 1B	Found in the San Joaquin Valley, San Francisco Bay Area, and the South Coast Ranges in pinyon and juniper woodland and valley and foothill grassland habitats at elevations between 250 feet and 5000 feet. Blooms March – May.	**Absent.** The disturbed habitats of the Project areas are unsuitable for this species. Average precipitation and temperature ranges in the area are outside the preferred conditions of the species. There have been no observations of this species in 50 years.
San Joaquin woollythreads (*Monolopia congdonii*)	FE, CNPS 1B	Occurs in the San Joaquin Valley in sandy soils in shadescale shrub and grasslands at elevations between 300 feet and 2300 feet. Found primarily in non-wetlands, but occasionally found in wetlands. Blooms February – May.	**Absent.** Habitats required by this species are absent from the Project area and surrounding lands. The Project site is near or outside of the elevational range for this species. The nearest observation of this species corresponds to a historic (1893) collection. The status of this observation has been updated to "possibly extirpated" due to urbanization and agriculture. The observation notes that no suitable habitat remains in the vicinity of Huron.

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	CE	California Endangered
FT	Federally Threatened	CT	California Threatened
FPE	Federally Endangered (Proposed)	CCT	California Threatened (Candidate)
FPT	Federally Threatened (Proposed)	CFP	California Fully Protected
FC	Federal Candidate	CSC	California Species of Special Concern
CWL	California Watch List	CCE	California Endangered (Candidate)
CR	California Rare		

CNPS Listing

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

3.4.1.1 Local

City of Huron General Plan[10]: The City of Huron General Plan sets forth the following goals and policies that protect biological resources of the City; none of which have potential relevance to the Project's CEQA review:

- *Protect natural resources including wildlife natural habitats and ecosystems, natural-pristine vegetation areas, groundwater, soils, and air quality to meet the needs of present and future generations.*
- *Promote biological diversity and the use of plant species compatible with the bio-region.*
- *Areas that have unusually high value for fish and wildlife propagation should be preserved in a natural state to the maximum possible extent.*

3.4.2 Impact Assessment

IV-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?

a) Less Than Significant Impact with Mitigation Incorporated.

[10] City of Huron General Plan. http://cityofhuron.com/wp-content/uploads/2014/08/City-of-Huron-General-Plan-2025-Policies-Statement1.pdf Accessed April 30, 2019.

Species identified as candidate, sensitive, or special status species in local or regional plans, policies, or regulations by CDFW or USFWS that have the potential to be impacted by the Project are identified below with corresponding mitigation measures.

For the purposes of this Project and implementation of mitigation measures, the term "construction" or "construction activities" refers to staging, mobilization, vegetation removal or trimming, pump placement, pipeline placement, pump removal, and pipeline removal. For example, a "pre-construction survey" would refer to a survey conducted prior to the placement of the pump and again prior to the removal of the pump and pipeline. In addition to surveying the areas directly adjacent to the pumps and pipelines, the first survey would also cover the proposed percolation areas in order to reduce the Project's potential flood-related impacts to species that could be inhabiting the agricultural fields.

Project-Related Impacts to Nesting Raptors, Migratory Birds, and Special Status Birds

The biological evaluation determined that the Project area contains suitable nesting and/or foraging habitat for a variety of avian species. The Project involves minor vegetation management activities over an area of approximately 100 square feet for the installation of Pump No. 2 and the associated pipeline which will run from the interior of Westside Detention Basin over the berm and into the fields to the west. The Project does not involve the removal of any trees. Some shrubs and herbaceous vegetation may be cut back to make room for the placement of one of the pumps and some herbaceous vegetation may be flattened by pipeline placement. Vegetation impacts will likely be temporary given the weedy nature of the majority of the plant species observed onsite. Flooded fields could potentially be considered a temporary reduction in nesting or foraging habitat. However, the site is already subject to seasonal flooding, and therefore conditions created by implementation of the Project would be unchanged from existing conditions. For these reasons, loss of nesting and/or foraging habitat would not be considered a potentially significant impact.

The biological evaluation lists several avian species with potential to nest onsite, including the special status Swainson's hawk. Refer to the biological evaluation report in **Appendix B** for a complete list of findings and an explanation of occurrence determinations. Although activities related to the placement of the pumps and pipelines would represent a low level of disturbance when compared to intensive agricultural practices regularly occurring onsite, the Project does have potential to disturb or disrupt nesting birds in the vicinity. In addition, water diversion activities could potentially food nests of ground nesting birds, resulting in reproductive failure. Project 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.

Swainson's hawks were observed onsite and in the vicinity from April through July of 2019; therefore, it can be assumed that this species breeds and forages in the vicinity, presumably within the Westside Detention Basin. Several inactive large stick nests were observed within cottonwood trees, and this species is known to exhibit nest site fidelity. Although focused surveys for this species were not conducted according to the *Swainson Hawk Technical Advisory Committee's Recommended Timing and Methodology for Swainson's Hawk Nesting Surveys in California's Central Valley* (2000), it can be concluded that the site and adjacent lands contain potential nest trees. Swainson's hawks have adapted to urban and agricultural environments and have subsequently become relatively tolerant of human disturbance in these areas. However, it has been noted that individuals of this species remain sensitive to changes in typical activity patterns, such as a new commotion in a previously undisturbed location. Since the Project does not include "intensive new disturbances" or propose activities involving "disturbance that is greater than or significantly different from the daily norm," according to CDFW guidance in *Staff Report Regarding Mitigation for Impacts to Swainson's Hawks (Buteo swainsoni) in the Central Valley of California* (1994) and the *Swainson Hawk Technical Advisory Committee's Recommended Timing and Methodology for Swainson's Hawk Nesting Surveys in California's Central Valley* (2000), the Project has low potential to cause nest abandonment or forced fledging. Regardless, at least one survey should be conducted by a qualified biologist for nesting birds, including Swainson's hawks prior to pump and pipeline placement and removal activities if these activities must occur in the nesting season. As these activities do not involve

ground disturbance or the use of heavy equipment, even if an active nest is located in the vicinity, the probability of the Project resulting in significant disturbance to nesting birds is generally low; however, this probability increases as the distance from the activity to the nest location decreases. When complete avoidance is not feasible, nest monitoring during construction activities may be beneficial in ensuring reproductive success.

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 most special status birds, including Swainson's hawk to a less than significant level, and will ensure compliance with State and federal laws protecting these avian species. These mitigation measures were derived and adapted from CDFW's *Staff Guidance Regarding Avoidance of Impacts to Tricolored Blackbird Breeding Colonies on Agricultural Fields* (2015), CDFW's *Staff Report Regarding Mitigation for Impacts to Swainson's Hawks (Buteo swainsoni) in the Central Valley of California* (1994), and the *Swainson Hawk Technical Advisory Committee's Recommended Timing and Methodology for Swainson's Hawk Nesting Surveys in California's Central Valley* (2000). Potential Project-related impacts to burrowing owl will be discussed separately, below.

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 (Nesting Bird 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 and breeding colonies within 30 days prior to the start of construction. The survey shall include the diversion points, pipeline locations, and proposed percolation areas, as well as surrounding lands within 0.5 mile. If no active nests or breeding colonies are observed, no further mitigation is required. Raptor nests are considered "active" upon the nest-building stage.

Mitigation Measure BIO-1c (Establish Buffers): On discovery of any active nests or breeding colonies 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. Specifically, a 300-foot disturbance-free buffer shall be implemented around breeding colonies of tricolored blackbird, and a 0.5-mile disturbance-free buffer shall be implemented around active Swainson's hawk nests, if feasible. 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.

Mitigation Measure BIO-1d (Nest Monitoring): If an active Swainson's hawk nest is observed within 0.5 mile of the work area and avoidance is not feasible, a qualified biologist shall be present onsite during construction activities to monitor the bird and nest site for signs of disturbance. If any signs of disturbance are observed, the biological monitor shall stop construction and contact the local CDFW office.

Project-Related Impacts to Burrowing Owl

The biological evaluation determined that the Project area provides suitable wintering habitat for the special status burrowing owl, and this species has been observed in the vicinity. Water diversion activities could potentially flood ground nests or burrows, adversely impacting reproductive success. Mitigation Measures BIO-1a through BIO-1c will help to ensure reproductive success and reduce impacts to most avian species, including ground-nesting birds, to a less than significant level. However, given their semi-fossorial nature, extra care should be taken to ensure protection of burrowing owls prior to water diversion activities.

Implementation of the following measures, derived from the CDFW 2012 Staff Report on Burrowing Owl Mitigation, will reduce potential impacts to burrowing owls to a less than significant level, and will ensure compliance with State and federal laws protecting this species.

Mitigation Measure BIO-1e (Pre-construction Take Avoidance Survey): A qualified biologist shall conduct a pre-construction take avoidance survey for burrowing owls and suitable burrows, in accordance with CDFW's Staff Report on Burrowing Owl Mitigation (2012), within 30 days prior to the start of construction activities. The survey shall include the diversion points, pipeline locations, and proposed percolation areas containing suitable habitat, as well as surrounding lands within 500 feet. If no burrowing owl individuals or suitable burrows are observed, no further mitigation is required.

Mitigation Measure BIO-1f (Avoidance): If an active burrowing owl burrow is detected, the occurrence shall be reported to the local CDFW office and the CNDDB, and disturbance-free buffers shall be implemented in accordance with CDFW's 2012 Staff Report on Burrowing Owl Mitigation, as outlined in the table below:

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

Mitigation Measure BIO-1g (Consultation with CDFW and Passive Relocation): If avoidance of an active burrowing owl burrow is not feasible, CDFW shall be immediately consulted to determine the best course of action, which may include passive relocation during non-breeding season. Passive relocation and/or burrow exclusion shall not take place without coordination with CDFW and preparation of an approved exclusion and relocation plan.

Project-Related Impacts to Western Spadefoot

Although typical vernal pool breeding habitat was not observed within Project areas during the field survey or any of the site visits, western spadefoot breeding pools reportedly occur within the northern portion of the Westside Detention Basin, and portions of the Project area provide limited marginal upland habitat for this species. In the spring months, as the detention basin dries out, shallow pools suitable for breeding likely form in the uneven topography. The proposed percolation area consists of agricultural fields that are disked and cultivated several times per year, making them generally unsuitable for this species. However, rodent burrows were observed along some portions of the banks of the Westside Detention Basin which could potentially be used for aestivation; although, it seems unlikely that a rodent or a western spadefoot would inhabit a burrow in an area already subject to seasonal inundation. Furthermore, Project activities would typically be expected to occur when the detention basin is full of water and would be unsuitable as breeding habitat for this species. Although it seems unlikely, western spadefoot individuals could be injured or killed by vehicles or equipment onsite and a population could be directly impacted by Project activities if a pump were placed in a breeding pool.

Implementation of the following measure will reduce potential impacts to western spadefoot to a less than significant level and will ensure compliance with State and federal laws protecting this species.

Mitigation Measure BIO-2 (Pre-construction Survey): A qualified biologist shall conduct a pre-construction take avoidance survey for western spadefoot within 30 days prior to the start of construction activities. The survey shall include the diversion points, pipeline locations, and surrounding areas within 500 feet in order to ensure the Project does not directly impact western

spadefoot individuals or breeding pools. If western spadefoot individuals or occupied breeding pools are detected, the biologist will contact te local CDFW office for information on how to proceed.

Project-Related Impacts to San Joaquin Kit Fox

The majority of the Project area consists of frequently disked and cultivated agricultural lands, which are generally unsuitable for occupation by San Joaquin kit foxes. However, portions of the site, particularly the berms along Westside Detention Basin could be used as a movement corridor between fragmented patches of marginally suitable habitat and foraging grounds.

Although the Project does not involve grading, excavation, or other activities typically associated with ground disturbance, kit fox individuals could be injured or killed by Project vehicles while passing through the site. Furthermore, in the unlikely event that a kit fox den was located within the proposed percolation area during diversion activities, a natal pupping den could be flooded. Projects that result in the injury or mortality of special status species are considered a violation of State and federal laws and are considered a potentially significant impact.

Implementation of the following measures will reduce potential impacts to the San Joaquin kit fox to a less than significant level and will ensure compliance with State and federal laws protecting this species by avoiding any form of "take." These measures were derived from guidance provided in the USFWS 2011 *Standardized Recommendations for Protection of the San Joaquin Kit Fox Prior to or During Ground Disturbance*. However, many of the Standardized Recommendations were edited and revised in order to remove those irrelevant to the Project and to make measures more feasible and enforceable prior to inclusion in this document as mitigation measure BIO-3b below. Implementation of the following site- and Project-specific mitigation measures will ensure adequate protection of this species from Project-related impacts.

Mitigation Measure BIO-3a (Pre-Construction Survey): A qualified biologist shall conduct a pre-construction take avoidance survey for San Joaquin kit fox within 30 days prior to the start of construction activities. The survey shall include the diversion points, pipeline locations, and proposed percolation areas containing suitable habitat, as well as surrounding lands within 200 feet. If an active kit fox den is detected within or adjacent to the Project area, construction will be delayed, and CDFW and USFWS shall be consulted to determine the best course of action.

Mitigation Measure BIO-3b (Avoidance and Minimization): The Project shall observe the following avoidance and minimization measures:

- Construction activities and routine maintenance traffic shall be limited to daylight hours.
- Project-related vehicles shall observe a 20-mph speed limit in all Project areas.
- Pipes, culverts, or similar structures with a diameter of 4-inches or greater that are stored overnight shall be thoroughly inspected for kit foxes before the pipe is subsequently capped, used or moved. Alternatively, pipes with a diameter of 4-inches or greater that are left onsite shall be immediately capped or covered with a mesh or wire barrier to exclude kit foxes from entering the pipes.
- During construction activities, all food-related trash items such as wrappers, cans, bottles, and food scraps shall be disposed of in closed containers and removed from the site daily.
- Project-related personnel shall be prohibited from carrying firearms onsite.
- Project-related personnel shall be prohibited from bringing pets (domestic dogs and cats) onsite.
- Prior to construction activities, construction personnel shall be given an educational pamphlet which they are required to read. The pamphlet will be prepared by a qualified biologist and will include, at a minimum, the following information: 1) a description and

photograph of the San Joaquin kit fox; 2) a discussion of habitat requirements and reported occurrences of this species in the Project's vicinity; 3) a description of the various State and federal regulations protecting this species and the potential penalties for violation; 4) a list of measures being taken to reduce the Project's potential impacts to this species; and 5) the name and contact information for the Project's representative who will handle reporting of inadvertent injury or mortality of this species to the appropriate regulatory agencies.

Mitigation Measure BIO-3c (Mortality Reporting): The Sacramento Field Office of USFWS and the Fresno Field Office of CDFW will be notified in writing within three working days in the case of the accidental death or injury to a San Joaquin kit fox during construction. Notification must include the date, time, and location of the incident and any other pertinent information.

Project-Related Impacts to Roosting Bats and/or Special Status Bat Species

The cottonwood trees along the banks of Westside Detention Basin could serve as suitable roosting habitat for a variety of small bat species. Project-related impacts to roosting bats could be deemed a potentially significant impact as it may be considered impeding the use of native wildlife nursery sites. However, the Project does not involve the removal of any trees and the construction activities consist of the seasonal placement of pumps and pipeline. The Project does not involve any ground disturbance or use of heavy equipment. Project-related activities are temporary in nature and the potential for disturbance to wildlife is low. The Project is located in an area frequently disturbed by activities related to agricultural production. The pumps and pipelines have been in use for at least the past two years, and implementation of this Project would not be expected to result in an increase in disturbance onsite. Furthermore, although Project timing is dependent on seasonal rainfall, activities generally occur during the winter or early-spring months outside of the typical reproductive season for breeding bats. Therefore, impacts to roosting bats would be considered less than significant.

The riparian habitat and agricultural fields onsite could serve as nocturnal foraging habitat for a variety of bat species, including regionally occurring special status bats such as the western mastiff bat (*Eumops perotis californicus*). If a western mastiff bat were foraging onsite during construction, an individual could be injured or killed by vehicles or equipment onsite. However, implementation of mitigation measure BIO-3b which requires construction activities be restricted to daylight hours and imposes a 20-mph speed limit, would reduce potential impacts to foraging bats to a less than significant level. No additional mitigation measures are necessary.

IV-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?

b) Less Than Significant Impact. Riparian habitat is present within the Westside Detention Basin. There are no CNDDB-mapped "natural communities of special concern," however, if the Project were to result in a loss of riparian habitat, it would be considered a significant impact. The Project does not involve the removal of any trees or shrubs, although an area of approximately 100 square feet of rough cocklebur (*Xanthium strumarium*) will be trimmed to facilitate placement of Pump No. 2. Vegetation will likely re-generate rather quickly given the weedy nature of the ground cover onsite and would not constitute a substantial loss of breeding or foraging habitat for native wildlife. Therefore, impacts to riparian vegetation will be temporary and less than significant in nature.

The Project does involve the diversion of excess floodwater from the Westside Detention Basin onto adjacent farmland at a greater rate than what occurs naturally each year. However, the rate at which the water is diverted, and the total amount allowed to be diverted from the riparian detention basin is set by the State Water Resources Control Board. Furthermore, the Project proponent will notify CDFW of the proposed diversion activities pursuant to Section 1602 of the California Fish and Game Code. If CDFW determines

that the activity may adversely affect fish and wildlife resources, including riparian habitat, 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. This ensures that the Project will not result in a significant impact to riparian habitat.

IV-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?

c) Less Than Significant Impact. The Project involves the controlled diversion of excess floodwater water from Westside Detention Basin onto adjacent agricultural lands. Although Westside Detention Basin does not appear to be a naturally occurring river, lake, or stream, it receives water from Los Gatos Creek. Historically, CDFW has claimed jurisdiction over activities occurring within Westside Detention Basin, including the diversion of water. In accordance with Sections 1601 and 1602 of the California Fish and Game Code, the Project proponent is currently in the process of submitting a Notification of Lake or Streambed Alteration (LSA) to CDFW. 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.

The Project does not propose activities anticipated to affect water quality. As previously discussed, the Project has been diverting water at the same locations for the past two years under temporary permits provided by the State Water Resources Control Board. Water Quality Certifications and USACE permits have not been required for the Project in the past, and therefore, it can be assumed that a Water Quality Certification and USACE permit would also not be required for the ongoing diversion of water. Although significant impacts are not anticipated, if it is determined that the Project requires additional permits regarding potential impacts to jurisdictional waters or water quality, the Project proponent will be required to obtain the appropriate permits from applicable regulatory agencies and abide by conditions contained within said permits.

IV-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?

d) Less Than Significant Impact with Mitigation Incorporated. As discussed above, potential Project-related impacts to bat nursery sites were determined to be unlikely and less than significant in nature, and implementation of mitigation measures BIO-1a through BIO-1g would reduce potential Project-related impacts to migratory birds and nesting birds to a less than significant level.

Since the percolation areas already experience seasonal inundation and a significant amount of ground disturbance year-round related to agriculture, semi-fossorial mammals, like the San Joaquin kit fox or common lagomorphs would be deterred from denning in these areas. Therefore, the Project would not be expected to impede the use of native wildlife nursery sites in the form of potential dens or burrows. However, in the unlikely event a San Joaquin kit fox were denning within the Project area, potential Project-related impacts would be avoided by implementing mitigation measures BIO-3a and BIO-3b listed above.

Perennial water features are absent from the Project area; therefore, implementation of the Project will not interfere with the movement of native or migratory fish. The percolation areas are subject to frequent ground disturbance related to agricultural production and seasonal inundation, and consequently are not likely to serve as an important link or provide connectivity between patches of habitat for breeding, foraging, or migration. However, the banks of the Westside Detention Basin and the associated riparian habitat could function marginally as a movement corridor for some native wildlife species.

As mentioned above, the Project involves the placement of temporary pumps and the controlled diversion of excess floodwater onto adjacent agricultural lands that are already subject to seasonal inundation. In addition

to being temporary, Project activities are essentially unchanged from baseline conditions onsite. Therefore, implementation of the Project would not impede the use of the banks of the detention basin or any other portion of the site as a movement corridor.

Any Project impacts to the movement of any native resident or migratory fish or wildlife species would be mitigated to a less than significant level with incorporation of mitigation measures BIO-1a through BIO-1g, and BIO-3a and BIO-3b, as detailed in IV-c above.

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

IV-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?

e-f) No Impact. The Project description is in compliance with the goals and policies set forth in the City of Huron General Plan and Fresno County General Plan. There are no known habitat conservation plans in the Project vicinity. Mitigation is not warranted. There will 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 §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

The Proposed Project site lies within the City of Huron and Fresno County, which occupies an archeologically and historically rich part of the San Joaquin Valley. According to the Cutural Report (**Appendix C**) the San Joaquin Valley prehistoric record is among the least understood of all regions in California. Reconstruction of past cultural patterns has been stymied by two key factors: geomorphology and human activity (Appendix C). The valley floor that encompasses the Project area has been inundated with thick alluvial deposits resulting from granitic and sedimentary outflow from the San Joaquin River, particularly during mass flood events. This pattern has continued for millennia and has resulted in the burial of early- to mid-Holocene archaeological sites, estimated to be buried at depths up to 10 meters along the lower stretches of the San Joaquin Valley drainage systems (Appendix C). Thus, compared to other regions in the state, there is a paucity of research and a related lack of data from which to build a complete understanding of past human behavior specific to Fresno County.

In addition, archaeological sites buried in shallow deposits (i.e., less than 6 feet below the ground surface) have been heavily impacted by agricultural, transportation, and urban development since the historic period. Development has effectively removed mounds and shallow subsurface cultural deposits that once existed in great numbers across the valley floor (Appendix C). Most archaeological investigations in the San Joaquin Valley have occurred at mid-elevation sites along the Tulare River and in the vicinities of Tulare and Kaweah lakes as well as to the east in the Sierra Nevada foothills.

3.5.2 Methodology

3.5.2.1 Records Search

At Æ's request, the CHRIS SSJVIC at California State University, Bakersfield, performed a records search on June 6, 2019, to identify previously recorded resources and prior surveys within the APE and surrounding 0.5-mile area. SSJVIC staff completed searches of the Historic Property Data File, National Register of Historic Places, California Register of Historical Resources, California Historical Landmarks, and California Points of Historical Interest databases.

3.5.2.1 Archival Research

The purpose of archival research is to provide information regarding the history of land use and to assess the potential for prehistoric and historic-era archaeological deposits to be located within the APE. Æ's investigation compiled information from several sources, including:

- Resources for historical maps and documents (see also Appendix B) such as the Map Aerial Locator Tool (MALT), Fresno County Property Atlases, United States Geological Survey TopoView (https://ngmdb.usgs.gov/topoview); California Electric Transmission Line (https://cecgis-caenergy.com);
- Fresno County Assessor's Office; and
- Æ's in-house library, which includes maps and local histories. The results of archival research, both online and in-person, were primarily used in writing the historic context (Chapter 3) and evaluations (Chapter 6), although a history of parcel land ownership within the APE is presented in Chapter 5.

3.5.2.2 Archaeological Survey

3.5.2.2.1 Fieldwork Authorization

The USBR must grant permission for a cultural resource survey on land managed by the agency. Æ prepared and submitted a U.S. Department of the Interior Application for Permit for Archeological Investigations under the authority of the Archeological Resources Protection Act of 1979. The USBR approved the application and issued a fieldwork authorization for Æ to conduct the pedestrian survey (Reference Number 19-SCAO-156) (Appendix E).

3.5.2.2.2 Survey

On July 11–15, 2019, Æ archaeologists Randy Ottenhoff, Christa Torres, and Tony Torres, conducted an intensive archaeological pedestrian survey of the southernmost section of the APE. On August 21–23, 2019, Ottenhoff returned to the APE with archaeologists Sairy Tobin and Isaac Sandoval to complete survey in the central portion of the APE. Æ surveyed the northernmost portion of the APE in 2016 for the City of Huron Recycled Wastewater Project (Asselin and Baloian 2017), and while the ground was not surveyed again for this Project, the results of the 2016 survey are included in this report. The APE was surveyed using parallel and meandering transects spaced no more than 15–20 meters apart, exclusive of areas inundated with water at the time of the surveyed. Æ staff photographed survey areas using an Olympus TG-860 digital camera. Methods and observations were recorded on Æ Survey Field Record forms and a Trimble Global Positioning System (GPS) unit was used to collect geospatial data. All photographs and field notes are on file at Æ's Fresno office.

3.5.2.3 Built Environment Survey

On July 23, 2019, Æ architectural historian Annie McCausland conducted a built environment survey of the APE. Buildings and/or structures that are 50 years of age or older (i.e., constructed in or before 1969) within the APE were identified, photographed, and documented on California Department of Parks and Recreation (DPR) Primary Record and Building, Structure, and Object Record forms. Results of both the field study and archival research were used to compile a historic context for the APE and to assess the changes that have occurred in the physical characteristics of the existing historic built environment over time.

3.5.2.4 Buried Site Sensitivity Assessment

Æ conducted a geologic and hydrologic review of the APE to identify the potential for paleosols that may contain intact prehistoric cultural deposits in the APE. Æ consulted geological maps, historical maps, the U.S. Department of Agriculture Natural Resources Conservation Service Web Soil Survey online database, and regional geoarchaeological studies. These sources provided information regarding the natural watercourses in the area as well as data about local soils and sediments, parent rock formations, and historical vegetation. This information was used to estimate the age of the sediments surrounding the APE, consider the hydrologic and geologic forces that created and placed these sediments, and assess the likelihood of encountering buried

cultural resources within the vertical APE during Project activities should any ground disturbance such as grading or ground surface levelling occur.

3.5.3 Regulatory Setting

City of Huron General Plan[11]: The City of Huron General Plan sets forth goals and policies that protect cultural resources of the City; none of which have potential relevance to the Project's CEQA review:

3.5.4 Impact Assessment

V-a) Cause a substantial adverse change in the significance of a historical resource as defined in §15064.5?

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

a-b) Less than Significant Impact. Æ provided cultural resource services for the Project. The applicant, Arroyo Pasajero Mutual Water Company, is seeking permits from the City of Huron to divert water overflow from the Westside Detention Basin to several adjacent properties owned and managed by private citizens, the City of Huron, and held as easements by the USBR. The Project has potential to benefit local agriculture and the municipal water supply as well as prevent roadway flooding during times of heavy precipitation. As a subconsultant to Provost & Pritchard Consulting Group, Æ conducted a cultural resource inventory to determine if significant archaeological or historic era-built environment resources are present within the APE. Accordingly, Æ performed background research, obtained records searches from the SSJVIC and NAHC, completed a buried site sensitivity assessment of the APE, conducted intensive pedestrian archaeological and built environment surveys of the APE, and evaluated the eligibility of a segment of the Henrietta/Huron/Gates 60 kV transmission line for listing in the NRHP and CRHR (**Appendix C**).

The SSJVIC records search for the APE and surrounding 0.5-mile area identified three previous investigations intersecting the APE (FR-00135, -02052, -02027) and five additional studies in the surrounding 0.5-mile area. In addition, Æ has completed two other technical studies in areas that intersect the APE (Asselin and Baloian 2016; Baloian and Lloyd 2016). There are no previously recorded resources in the APE. Three built environment resources have been identified in the surrounding 0.5-mile area: Gale Avenue Bridge (P-10-006237), a segment of the historic-era Southern Pacific Railroad (P-10-003930), and the California Aqueduct/San Luis Drain (P-10-006207). A search of the Native American Heritage Commission Sacred Lands File and outreach to local tribal representatives did not reveal the presence of sacred sites in the APE. The buried site sensitivity assessment concluded there is a low probability for soils in the APE to contain intact or well-preserved archaeological deposits (**Appendix C**).

No prehistoric or historic-era archaeological sites were discovered during pedestrian survey of the APE; however, Æ identified two historic-era built environment resources: the Henrietta/Huron/Gates 60 kV transmission line (AE-4046-001) and a historic-era pump (AE-4046-ISO-001). The electric pump was once part of a larger system that is no longer extant and is considered an isolated remnant of a cultural landscape. It is not, in itself, eligible for the NRHP or CRHR. Æ evaluated the Henrietta/Huron/Gates 60 kV transmission line and recommends it ineligible for inclusion in the NRHP and CRHR (**Appendix C**).

V-c) 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

[11] City of Huron General Plan. http://cityofhuron.com/wp-content/uploads/2014/08/City-of-Huron-General-Plan-2025-Policies-Statement1.pdf Accessed April 30, 2019.

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-1 (Human remains)

If human remains are uncovered during construction, the USBR Mid-Pacific Regional Cultural Resources Officer and Reclamation NAGPRA Specialist must be notified immediately and the Fresno County Coroner is to be notified to arrange for proper treatment and disposition of the remains. If the remains are identified on the basis of archaeological context, age, cultural associations, or biological traits to be those of a Native American, California Health and Safety Code 7050.5 requires that the county coroner notify the NAHC within 24 hours of discovery. The NAHC will then identify the Most Likely Descendant, who will be afforded the opportunity to recommend means for treatment of the human remains following protocols in California Public Resources Code 5097.98.

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 within Fresno County. PG&E has sufficient energy supplies to supply the growth that has occurred in Fresno County. Much of the energy consumed in the region is for residential, commercial, and transportation purposes.

There will be no construction phase for the Project. The temporary portable pumps will be towed to each point of diversion and temporary pipelines will be put into place to allow for overflow water to be pumped from WSDB into the existing bermed percolation ponding areas (See Figure 2-3). Maintenance will be on an as-needed basis, therefore worker vehicles operated during the Project will use fossil fuels minimally. The temporary pumps will be diesel operated and are rated at 50 horsepower. This increased fuel consumption would be temporary, lasting approximately six months, and it would not have a residual requirement for additional energy input. The marginal increases in fossil fuel use resulting from Project construction are not expected to have considerable impacts on energy resources.

3.6.1.1 Local

City of Huron General Plan[12]: The City of Huron General Plan sets forth goals and policies regarding the energy services of the City, none of which have potential relevance to the Project's CEQA review:

3.6.2 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 will not exceed any air emission thresholds during construction or operation. During project implementation, ground disturbance will be limited to a total of approximately 1,200 square feet at three points of diversion and approximately 18,300 square feet for the temporary surface pipeline, the Project will not be required to complete a SWPPP. However, the Project will employ best management practices when handling the pumps or other equipment. The portable diesel-

[12] City of Huron General Plan. http://cityofhuron.com/wp-content/uploads/2014/08/City-of-Huron-General-Plan-2025-Policies-Statement1.pdf Accessed April 30, 2019.

powered pumps are rated at 50 horsepower and are already permitted with the Air District. The Project will be mostly passive in nature and will not use an excessive amount of energy. Therefore, the Project will 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 Project will be passive in nature once it is completed, and 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

There are a number of active and potentially active faults within and adjacent to Fresno County. Although most of Fresno County is situated within an area of relatively low seismic activity by comparison to other areas of the state, the faults and fault systems that lie along the eastern and western boundaries of the county, as well as other regional faults, have the potential to produce high-magnitude earthquakes throughout the county. The principle earthquake hazard is groundshaking. Older buildings constructed before building codes were established and newer buildings constructed before earthquake-resistant provisions were included

in the building codes are the most likely to be damaged during an earthquake. Other geologic hazards in Fresno County include landslides, subsidence, expansive soils and erosion, and volcanic hazards[13].

Using the USDA NRCS soil survey of the Project site, an analysis of the soils onsite was performed (See Appendix D of **Appendix B**Error! Reference source not found.). Soils in the area consist of Westhaven clay l oam, 0 to 2 percent slopes and Excelsior, sandy substratum-westhaven association and sewage disposal pond. (**Table 3-13**).

Table 3-13. Soils of the Project site

Soils of the Study Area					
Soils Series	**Parent Material**	**Drainage Class**	**Hydric?**	**Shrink-swell Capacity**	**Percentage of Project site**
Westhaven clay loam, 0 to 2 percent slopes	Alluvium derived from calcareous sedimentary rock	Well drained	No	Flooding (1.00)/Shrink-swell (0.33)	7.3%
Excelsior, sandy substratum-westhaven association	Alluvium derived from calcareous sedimentary rock	Well drained	No	Ponding (1.00), Flooding (1.00), Ponding (1.00), Flooding (1.00), Shrink-swell (0.03)	92.5%
Sewage disposal pond	N/A	N/A	N/A	N/A	0.2%

3.7.1.1 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. Although, no specific liquefaction hazard areas have been identified in Fresno County, this potential is recognized throughout the San Joaquin Valley where unconsolidated sediments and a high-water table coincide. No structures will be constructed as part of this Project. Liquefaction hazards would be negligible.

3.7.1.2 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 will expect seasonally, a great amount of water. The percolating ponding area is bermed to allow the ponding of water so it can be used for agricultural purposes or groundwater recharge during rain seasons.

3.7.1.3 Dam and Levee Failure

Pine Flat Reservoir is located approximately 60 miles northeast, and the Project site lies 10 miles east of the inundation zone for Pine Flat Dam.

[13] Fresno County General Plan, Health and Safety Element. Page 6-8.

3.7.1.4 Local

City of Huron General Plan[14]: The City of Huron General Plan sets forth goals and policies regarding the geology and soils of the City, none of which have potential relevance to the Project's CEQA review.

3.7.2 Impact Assessment

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

VII-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.

VII-a-ii) Strong seismic ground shaking?

a-i and a-ii) No Impact. The Project site and its vicinity are located in an area traditionally characterized by relatively low seismic activity. The site is not located in an Alquist-Priolo Earthquake Fault Zone as established by the Alquist-Priolo Fault Zoning Act (Section 2622 of Chapter 7.5, Division 2 of the California Public Resources Code). The nearest major fault is the San Andreas Fault, located approximately 28 miles southwest of the Project site. A smaller fault zone, the Nunez Fault is approximately 21 miles west of the site.

The Project involves the implementing four temporary portable pumps and temporary pipeline in order to divert water from the WSDB into adjacent bermed percolating ponding areas. This will not include development of habitable residential, commercial or industrial structures. During the operation the Project would not require permanent staff onsite or an increase in the number of employees required for routine maintenance. Instead, routine maintenance and repairs would be performed infrequently, on an as-needed basis. Therefore, implementation of the Project would not result in an increase of people or habitable structures onsite. There will be no impact.

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

a-iii) No Impact. Liquefaction is a process which involves the temporary transformation of soil from a solid state to a fluid form during intense and prolonged groundshaking. Water-saturated areas with shallow depth to groundwater and uniform sands, loose-to-medium in density, are prone to liquefaction. The Project site is intended to be a bermed percolation pond area, three points of diversion, and percolation ponds. The area will be flooded whenever excess water has built up within the WSDB. No structures are proposed. The Project consists of a maximum of four temporary portable pumps and above ground pipelines that will divert water from the WSDB into the percolation ponding area (See **Figure 2-3**). There will be no impacts if liquefaction were to occur.

VII-a-iv) Landslides?

a-iv) No Impact. As the Project is located on the Valley floor, no major geologic landforms exist on or near the site that could result in a landslide event. According to the Fresno County General Plan Background Report, the Project site is not within or near a region classified with a high landslide potential. The site is approximately 11 miles east of the Coastal Range and 52 miles west of the foothills of the Sierra Nevada and the local topography is essentially flat and level. No structures are being proposed as a part of the Project. There will be no impact.

[14] City of Huron General Plan. http://cityofhuron.com/wp-content/uploads/2014/08/City-of-Huron-General-Plan-2025-Policies-Statement1.pdf Accessed May 1, 2019.

VII-b) Result in substantial soil erosion or the loss of topsoil?

b) Less Than Significant Impact. There are no earthmoving activities associated with the Project. Implementation of the Project would consist of the towing of four temporary portable pumps and pipelines at three points of diversion. Each pump will have a 400 square foot approximate area of ground disturbance, totaling 1,200 square feet. In addition to the pumps, there will be approximately 18,300 square feet of possible ground disturbance for approximately 6,100 linear feet of pipeline. Total Project ground disturbance will be approximately 19,500 square feet or 0.45 acres. Since, the Project's total ground disturbance is less than one acre, a General Permit will not be required for the Project. However, the Project will utilize Best Management Practices (BMPs) and comply with all applicable federal, state, and local requirements pertaining to the protection of water quality, specifically, including those of the State Water Resource Control Board. Since the Project site has relatively flat terrain with a low potential for soil erosion and would comply with the SWRCB requirements, any impact would be less than significant.

VII-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?

VII -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?

c and d) No Impact. Soils onsite consist of the soils depicted on **Table 3-13**, which are classified as well drained, both with a low runoff class (See Appendix D of **Appendix B**). The Project is proposing divert water that has built up within the WSDB with temporary portable pumps and pipeline, then transfer it to existing bermed ponding areas adjacent to the point of diversion. The Project site and surrounding areas do not contain substantial grade changes aside from the elevation change due to it being a ponding area. The Project does not propose a significant change in the local topography that would cause sloping. There is no construction proposed for the Project. Implementation of the Project will involve towing four temporary portable pumps and temporary pipeline to three points of diversion. The Project does not include the development of structures or facilities that could be affected by expansive soils or expose people to substantial risks to life or property. There will be no impact.

VII-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?

e) No Impact. Septic installation or alternative wastewater disposal systems are not necessary for the project. There will be no impact.

VII 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 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 known paleontological resources or unique geological features have been identified at the Project site. In addition, to the lack of any known resources, there is no construction/excavating activities proposed for the Project. There would be no impact.

3.8 Greenhouse Gas Emissions

Table 3-14. 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 35 years, with 16 of the 17 warmest years on record occurring since 2001. Not only was 2016 the warmest year on record, but eight of the 12 months that make up the year – from January through September, with the exception of June – were the warmest on record for those respective months. October, November, and December of 2016 were the second warmest of those months on record – in all three cases, behind records set in 2015[15]. 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

[15] NASA, NOAA Data Show 2016 Warmest Year on Record Globally. https://www.nasa.gov/press-release/nasa-noaa-data-show-2016-warmest-year-on-record-globally. January 18, 2017. Site Accessed September 2019.

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 (**Appendix A**) was prepared in May 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 less than a year period and covering a site area of approximately 0.45 acres, with the bulk of the emissions being generated during the construction phase. 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 and temporary in nature lasting approximately six months out of each year. Maintenance will be provided on an as needed basis by existing property owners, and the operational equipment is all above ground and temporary. The Project does not propose the use of a diesel-powered back-up generator. 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*[16], 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.

3.8.2.4 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:

[16] 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 April 19, 2019

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.

City of Huron General Plan[17]: The City of Huron General Plan sets forth the following goals and policies regarding air quality of the City; none of which have potential relevance to the Project's CEQA review:

- *AQ – 4.6 Implement and enforce State and regional regulations pertaining to greenhouse gas emissions and climate change.*

3.8.3 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 3-15**. As indicated, construction of the Project would generate maximum annual emissions of approximately 2.1571 metric tons of carbon dioxide equivalent ($MTCO_2e$). Construction-related production of GHGs would be temporary and last less than one week.

[17] City of Huron General Plan. http://cityofhuron.com/wp-content/uploads/2014/08/City-of-Huron-General-Plan-2025-Policies-Statement1.pdf Accessed April 30, 2019.

Table 3-15. Short-Term Construction-Generated GHG Emissions

Short-Term Construction-Generated GHG Emissions	
Year	**Emissions (MT CO_2e)[1]**
2020	2.1571
*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 April 19, 2019

Long-Term Operational Emissions

Long-term operational emissions associated with the Project are estimated to be negligible to minimal in nature. Maintenance will be provided on an as needed basis by existing property owners, and the operational equipment, up to four temporary portable diesel pumps, are assumed to be permitted already by the Air District. Any operational emissions of metric tons of carbon dioxide equivalent ($MTCO_{2e}$) would be negligible. Modeling assumptions and output files are included in **Appendix A**. Furthermore, there is no population growth associated with the Project. Therefore, Project-related emissions of GHGs would be less than significant.

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

b) No 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 Project complies with the Bay Area Air Quality Management District's GHG emissions thresholds for significance. GHG emissions will be temporary in nature and the output numbers from the CalEEMod modeling program are negligible. For the aforementioned reasons, implementation of the proposed Project is not anticipated to conflict 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. There would be no impact.

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.[18] 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.[19] 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

[18] CalEPA http://www.calepa.ca.gov/SiteCleanup/CorteseList/ Accessed May 3, 2019.
[19] DTSC https://www.envirostor.dtsc.ca.gov/public/ Accessed May 3, 2019

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.[20] A search of the DTSC EnviroStor database and the SWRCB Geotracker performed on March 20, 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 Fresno Yosemite International Airport is located approximately 43 miles northeast, the New Coalinga Municipal Airport is located approximately 11.8 miles southwest, and the Lemoore Naval Air Station is approximately 8.8 miles northeast of the Project.

3.9.1.3 Emergency Response Plan

The Fresno County Office of Emergency Services (OES) is located within the Department of Public Health and coordinates planning, preparedness, response and recovery efforts for disasters occurring within the unincorporated area of the County.[21]

3.9.1.4 Sensitive Receptors

There are single-family residences within 0.9 miles of the Project area.

3.9.1.5 Local

City of Huron General Plan[22]: The City of Huron General Plan sets forth goals and policies regarding hazards and hazardous materials none of which have potential relevance to the Project's CEQA review.

3.9.2 Impact Assessment

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

IX -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?

IX -c) Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?

a-c) Less Than Significant Impact. Implementation of the Project would involve the placement of temporary portable pumps and pipelines in order to divert water from the WSDB into existing bermed percolation ponding areas. There will be no construction other than towing and setting up the pumps and above ground pipeline for operation. There will be a maximum of four pumps at three points of diversion. The intent of the Project is to divert water ponding in the WSDB away from the California Aqueduct, because the excess water carries naturally occurring asbestos from the Coalinga Hills, in order to reduce the probability of contamination. Hazardous material may be used during Project implementation or maintenance. The materials may include diesel fuel, lubricants, and solvents. However, 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. Any potential accidental hazardous materials spills during construction are the responsibility of the contractor to remediate in accordance with industry best management practices and State

[20] SWRCB, https://geotracker.waterboards.ca.gov/; Accessed May 3, 2019.
[21] Fresno County Office of Emergency Services https://www.co.fresno.ca.us/departments/public-health/office-of-emergency-services-oes Accessed May 3, 2019
[22] City of Huron General Plan. http://cityofhuron.com/wp-content/uploads/2014/08/City-of-Huron-General-Plan-2025-Policies-Statement1.pdf Accessed May 3, 2019.

and county regulations. Lastly, the Project site is 1.5 miles from the nearest school. Any impacts will be less than significant.

IX -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?

d) No Impact. The Project does not involve land that is 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. A search of the DTSC EnviroStor database and the SWRCB Geotracker performed on April 30, 2019 determined that there are no known active hazardous waste generators or hazardous material spill sites within the Project site or immediate surrounding vicinity. There will 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?; and,

e) No Impact. The Project is not located within an airport land use plan. The Lemoore Naval Air Station is approximately 8.8 miles northeast of the Project. The Fresno Yosemite International Airport is located approximately 43 miles northeast of the Project. Construction of the Project would not be a safety hazard for people working in the area. Operation of the temporary portable pumps would not generate excessive noise, and any construction noise would be temporary and minimal. Furthermore, operation of the Project will not require permanent employees or induce population growth in the area. There will be no impact.

IX -f) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?

f) No Impact. Implementation of the Project will include diverting water from the WSDB into existing bermed ponding areas. Traffic resulting from the setting up the portable pumps will be minimal and temporary. Operational traffic will consist of as-needed maintenance trips and will have no effect on roadways or emergency access. Currently, flooding occurs at the Los Gatos Creek (Arroyo Pasajero Creek) and State Route 269 (Lassen Avenue), that water is then travels east towards the WSDB. Once the WSDB fills in, during large rain events, the excess water has spilled over Gale Avenue. With the implementation of the Project, it will lessen the amount of excess water building up and reducing the probability of flooding and associated impacts at main roads used by City of Huron residents and emergency services. Therefore, there will be no Project-related impacts to emergency evacuation routes or emergency response routes on local roadways.

IX -g) 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 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

Fresno County is large and geographically diverse. The mountainous eastern region receives up to 70 inches precipitation annually, mostly in snowfall. Many small mountain lakes and streams and tributaries to the San Joaquin and Kings Rivers which flow into the Central Valley. The valley and western portion of the county, by contrast are very arid, with less than 10 inches of annual rainfall and seasonal streams. The foothills east and northeast of the city of Fresno have areas of vernal pools. The valley trough has large wetlands and wildlife refuge areas of importance to the Pacific Flyway. Additional areas in western Fresno County are being converted to wetland areas from retired agriculture land.

Groundwater conditions vary considerably from eastern to western Fresno County. Aquifers east of the valley trough are generally semi-confined to unconfined. Water quality is good with the exception of some localized areas. Overdraft and recharge conditions vary considerably. Groundwater overdraft is occurring in the

vicinity of the major cities (most notably Clovis and Fresno) and the irrigation and water districts that rely exclusively on groundwater (such as Raisin City Water District and Mid-Valley Irrigation District).[23]

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. The Central Valley receives an average of 12 inches of precipitation in the form of rainfall yearly, most of which occurs between October and March.

The Project's APE spans three watersheds. The northern portion of the percolation area and diversion point No. 3 is located within the Town of Huron-Kings River watershed, Hydrologic Unit Code (HUC): 180300120702; the middle portion of the percolation area and diversion point No. 1 is located within the Town of Lemoore-Kings River watershed, HUC: 180300120704; and the southern portion of the percolation area and diversion point No. 2 is located within the Frontal Tulare Lake Bed watershed, HUC: 180300122303 (EPA, 2019). The Project lies entirely within the Kings Groundwater Subbasin of the San Joaquin Valley Groundwater Basin.[24]

3.10.1.1 Local

City of Huron General Plan[25]: The City of Huron General Plan sets forth the following goals and policies regarding hydrology and water quality and which have potential relevance to the Project's CEQA review:

- *Policy 2.18.a: Evaluate the problem of the seasonal flooding of State Highway 269 (Lassen Avenue).*
- *Policy 2.18.f: Flood-hazard regulations shall apply to all property subject to a 100-year flood. All areas subject to the 100-year flood shall be officially zoned by the County and the City with an appropriate land use designation that will be compatible, such as open space.*
- *Policy 3.7: To protect human health, the City's water resources will be monitored by the Regional Water Quality Control Board on a regular basis to test for bacteriological and toxic chemical components.*

3.10.2 Impact Assessment

X-a) Violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or ground water quality?

a) Less Than Significant Impact. The Project will not create any waste discharge, and no water is being diverted into the California Aqueduct. The implementation of the Project will include towing a maximum of four temporary portable pumps at three points of diversion. No construction or earthmoving activities are proposed. State Water Resources Control Board (SWRCB) requires that a Storm Water Pollution Prevention Plan (SWPPP) be prepared for projects that disturb one or more acres of soil. The maximum amount of ground disturbance will be approximately 0.45 acres A SWPPP will not be required, however, the Project will comply with all applicable federal, state, local requirements, and Best Management Practices, pertaining to the protection of water quality, specifically, including those of the SWRCB.

During the wet season, runoff water from the Los Gatos, Warthan, Jacalitos, and Zapato Chino Creeks with a watershed of approximately 529 square miles drain into the Arroyo Pasajero and then ponds in the Westside Detention Basin along the westerly embankment of the California Aqueduct (See **Figure 2-3**). If left unattended, the runoff water may spill over into the California Aqueduct and can flood Gale Avenue, which is south of the WSDB. The runoff water is known to contain naturally occurring asbestos from the Coalinga Hills and potentially could contaminate the waters of the California Aqueduct. The water ponding in the

[23] Fresno County General Plan Background Report https://www.co.fresno.ca.us/home/showdocument?id=8398 Accessed May 7, 2019
[24] DWR Bulletin 118 Groundwater Basin Boundary Assessment Tool. https://gis.water.ca.gov/app/bbat/ Accessed May 7, 2019
[25] City of Huron General Plan. http://cityofhuron.com/wp-content/uploads/2014/08/City-of-Huron-General-Plan-2025-Policies-Statement1.pdf Accessed May 7, 2019.

WSDB will be diverted onto the adjacent existing bermed ponding areas and percolation ponds. The proposed ponding area is approximately 538 acres and includes agricultural land and ponds owned by the City of Huron. The water will be recovered via existing agricultural irrigation wells near the ponded areas for beneficial use of irrigated agriculture and municipal water supply. This will also assist in meeting existing irrigation demands during the irrigation season when limited surface water is available, especially during times of a drought. Additionally, the project will increase the amount of groundwater recharge into the local underlying aquifer. The Project will not generate any type of process or wastewater, therefore, there will be no discharge of Project water to any surface source. As such, there will be no discharge directly associated with Project implementation that could impact water quality standards of any nearby waters of the United States. The impacts 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. Implementation of the Project will increase groundwater recharge for the underlying aquifer. The Project consists of four temporary portable pumps and pipeline (totaling 20 cfs maximum) at three points of diversion for distribution of water percolation.

There is no anticipated increase in water demand resulting from implementation of the Project. It will not interfere with the production rate of existing wells on neighboring parcels. Rather, during the raining season, water will percolate into the bermed ponding areas. Implementation of the Project will not impede sustainable groundwater management of the San Joaquin Valley Kings subbasin, nor will it substantially decrease ground water supplies. Any impacts will be less than significant.

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, tsunami, or seiche zones, risk release of pollutants due to project inundation?

c-d) No Impact. Sections of the Project are within the 100-year flood zone (**Figure 3-2**). However, the closest natural waterway is Los Gator Creek approximately 2.9 miles northwest of the Project. Furthermore, the California Aqueduct is approximately 0.23 miles east of the Project. There are no streams or rivers onsite or in the immediate vicinity. There are no proposed earthmoving activities associated with the Project. 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 will be less than significant.

X -e) Otherwise substantially degrade water quality?

e) No Impact. As discussed above in Impact Assessments IX-a and IX-c(iii), implementation of the Project would help alleviate pressure on the WSDB and therefore, potentially reducing flooding and associated impacts at main roads used by City of Huron residents. Furthermore, construction activities will require

compliance with all Cal/OSHA regulations in order to reduce the potential for incidental release of pollutants or hazardous substances into surface water or groundwater. There will be no impact.

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

f) No Impact. Implementation of this project would allow Arroyo Pasajero Mutual Water Company to utilize runoff water, that is ponding in the WSDB, and divert the water into existing bermed ponding areas and percolation ponds. The Project will not conflict with or obstruct implementation of any water quality control plan or sustainable groundwater management plan. There will be no impact.

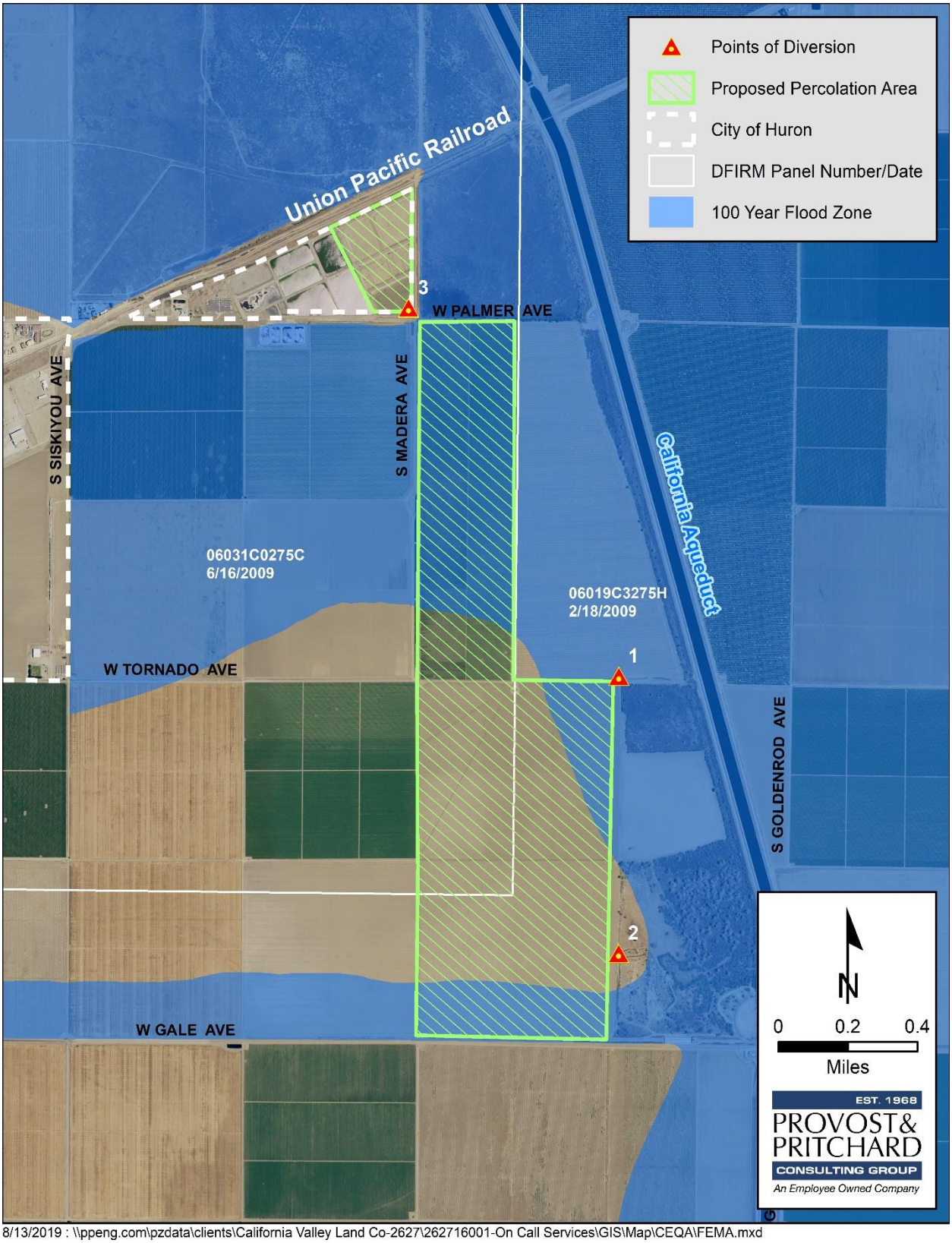


Figure 3-2. FEMA Flood Map

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 site is surrounded by agricultural land and percolation ponds. The Project is located within agricultural land zoned AE-20 (Exclusive Agriculture, 20-Acre minimum) by Fresno County and P-F (Public Facilities) by the City of Huron. The Fresno County General Plan Land Use Map designates the Project site as Agriculture.[26] The City of Huron General Plan Land Use Map designates the Project site as Agriculture and Public Facilities.[27]

3.11.1.1 Local

City of Huron General Plan[28]: The City of Huron General Plan sets forth the following goals and policies regarding land use and planning which have potential relevance to the Project's CEQA review:

- *Policy 2.18.f: Flood-hazard regulations shall apply to all property subject to a 100-year flood. All areas subject to the 100-year flood shall be officially zoned by the County and the City with an appropriate land use designation that will be compatible, such as open space.*

3.11.2 Impact Assessment

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

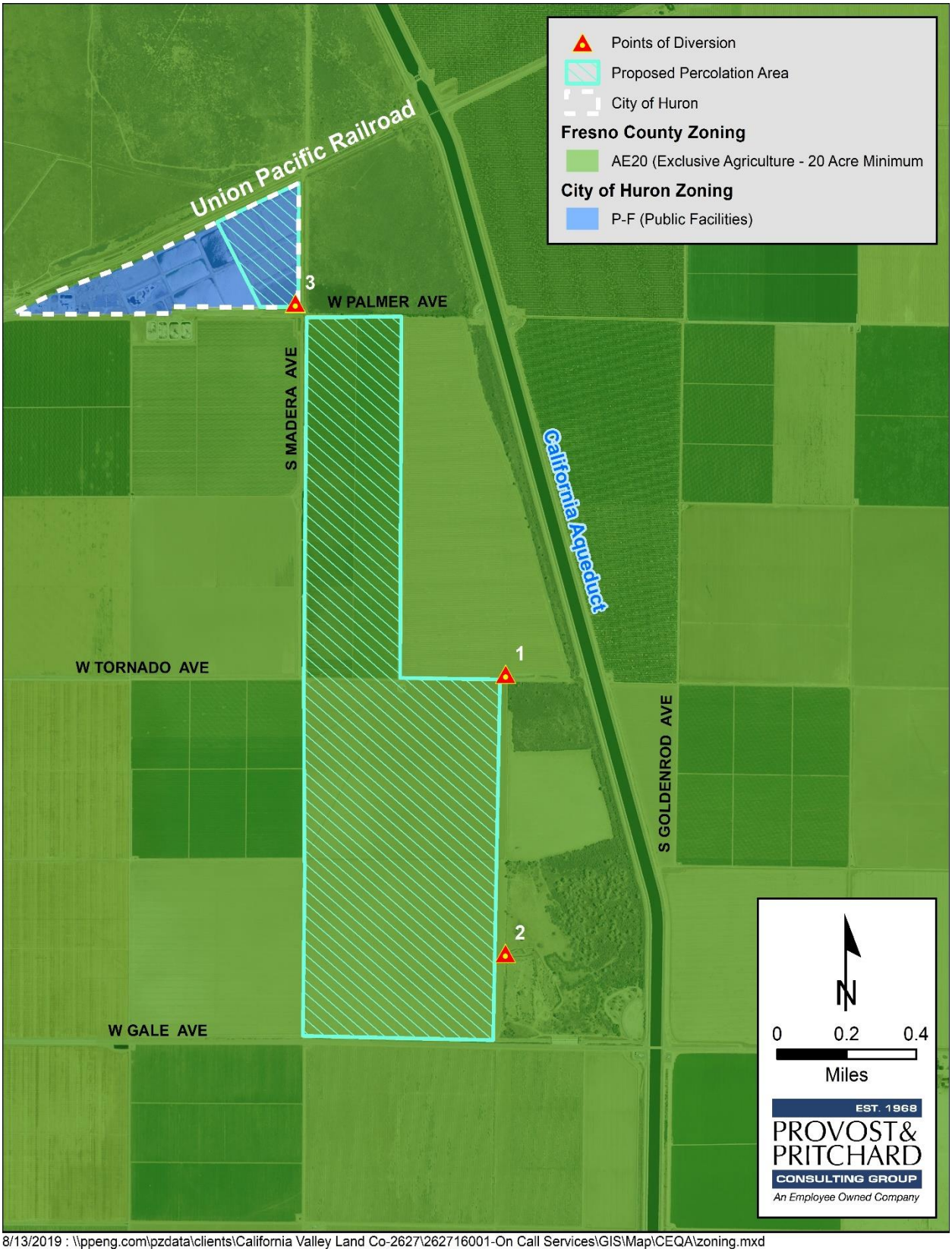
a) No Impact. The majority of the Project is within the unincorporated area of Fresno County, a region primarily consisting of agriculture, while a portion is within the City of Huron, adjacent to the Huron Water Treatment Plant. The Project does not include the alteration of roads, trails, or paths that could be considered a connectivity network. Implementation of the Project will not divide an established community. There would be no impact.

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

b) No Impact. The Project is located on land zoned AE-20 (Exclusive Agriculture, 20-acre minimum) and planned as Agriculture by Fresno County and P-F (Public Facilities) and planned as Public Facilities by the

[26] Fresno County General Plan. https://www.co.fresno.ca.us/departments/public-works-planning/divisions-of-public-works-and-planning/development-services-division/planning-and-land-use/general-plan-maps Accessed May 7, 2019.
[27] City of Huron General Plan. http://cityofhuron.com/wp-content/uploads/2014/08/City-of-Huron-General-Plan-2025-Policies-Statement1.pdf Accessed May 7, 2019.
[28] Ibid

City of Huron. The Project will not propose any development of each parcel. The maximum ground disturbance will be approximately 0.45 acres. The Project does not propose to expand into Fresno County right-of-way or other neighboring parcels. The purpose of the Project is to divert water from the WSDB and transfer it into bermed agricultural land and percolation ponds. No additional permits are required by the City of Huron. There will be no impact.



8/13/2019 : \\ppeng.com\pzdata\clients\California Valley Land Co-2627\262716001-On Call Services\GIS\Map\CEQA\zoning.mxd

Figure 3-3. Zoning Map

3.12 Mineral Resources

Table 3-19. 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

The Project is located in the southwestern portion of Fresno County and a portion of the City of Huron, in the southern section of California's Great Valley Geomorphic Province, or Central Valley. Historically, Fresno County has been a leading producer of a variety of minerals including aggregate, fossil fuels, metals, and other materials used construction or in industrial processes. Currently, aggregate and petroleum are the County's most significant mineral resources. The Coalinga area, in western Fresno County, has been a valuable region for mineral resources as a top producer of commercial asbestos and home to extensive oil recovery operations.[29]

California Department of Conservation's Division of Oil, Gas, and Geothermal Resources maintains a database of oil wells in the Project area (DOGGR).[30] According to the DOGGR Well Finder there is one plugged and abandoned well within two miles of the Project site (Boston Land Co. Well #E). There are no active wells within two miles of the Project site.

There are no known current or historic mineral resource extraction or recovery operations in the Project vicinity nor are there any known significant mineral resources onsite.

3.12.1.1 Local

City of Huron General Plan[31]: The City of Huron General Plan sets forth goals and policies regarding mineral resources none of which have potential relevance to the Project's CEQA review.

3.12.2 Impact Assessment

XII-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?

XII-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?

[29] Fresno County General Plan. Background Report. https://www.co.fresno.ca.us/home/showdocument?id=8398 Accessed May 7, 2019
[30] Division of Oil, gas, and Geothermal Resources https://www.conservation.ca.gov/dog/Pages/Wellfinder.aspx Accessed May 7, 2019
[31] City of Huron General Plan. http://cityofhuron.com/wp-content/uploads/2014/08/City-of-Huron-General-Plan-2025-Policies-Statement1.pdf Accessed May 7, 2019.

a-b) No Impact. According to the Department of Conservation, the Project area has not been delineated with a Mineral Land Classification (MCL)study. [32] The MCL study is produced by the State Geologist as specified by the Surface Mining and Reclamation Act of 1975, to address mineral resource conservation. Furthermore, the Fresno County General Plan Background Report does not designate the Project area with any known mineral resources.[33] Therefore, implementation of the Project would not result in the loss of availability of a known mineral resource since no known mineral resources occur in this area. Furthermore, the Project area has not been designated as a locally important mineral resource recovery site by a general plan, specific plan, or land use plan. There would be no impact.

[32] Department of Conversation Mineral Land Classification https://maps.conservation.ca.gov/cgs/informationwarehouse/index.html?map=mlc Accessed May 7, 2019
[33] Fresno County General Plan Background Report https://www.co.fresno.ca.us/home/showdocument?id=8398 Accessed May 7, 2019

3.13 Noise

Table 3-20. 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 site is primarily located in an unincorporated area of Fresno County and in the City of Huron, dominated by agricultural production. State Route 269 is the nearest highway, which is approximately 2.8 miles west of the Project site. The Project is situated south of Union Pacific Railroad, west of the California Aqueduct, and north of Gale Avenue. Residential development is sparse and will not be affected. The Fresno Yosemite International Airport is located approximately 43 miles northeast, the New Coalinga Municipal Airport is located approximately 11.8 miles west, and the Lemoore Naval Air Station is approximately 8.8 miles northeast of the Project.

3.13.1.1 Local

City of Huron General Plan[34]: The City of Huron General Plan sets forth the following goals and policies regarding noise and none of which have potential relevance to the Project's CEQA review:

- *Policy 1.0.B: Noise created by new proposed stationary noise sources or existing stationary noise sources, which undergo modification that may increase noise levels, shall be mitigated so as not to exceed the noise level standards of Table 3-21 within outdoor activity areas of noise-sensitive land uses.*

[34] City of Huron General Plan. http://cityofhuron.com/wp-content/uploads/2014/08/City-of-Huron-General-Plan-2025-Policies-Statement1.pdf Accessed May 8, 2019.

Table 3-21. Allowable Noise Exposure Stationary Noise Sources

Allowable Noise Exposure Stationary Noise Sources[1]		
	Daytime (7:00 a.m. to 10:00 p.m.)	Nighttime (10:00 p.m. to 7:00 a.m.)
Hourly L_{eq} dB	55	45
Maximum Level, dB	70	65

[1]As determined within the outdoor activity areas of noise-sensitive land use. If outdoor activity area locations are unknown, the allowable noise exposure shall be determined at the property line of the noise-sensitive land uses.

3.13.2 Impact Assessment

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

a) Less Than Significant Impact. During the implementation of the Project, the client will place a maximum of four temporary pumps at three points of diversion in order to divert water from the WSDB onto existing bermed percolation areas. When the pumps are placed, off-road equipment will be used in order to haul the pump to a specific point of diversion. The Project is located outside of the City of Huron limits and adjacent to agricultural lands, that is already accustomed to noises associated with farm equipment. The pumps are diesel powered and would run from November to April. The increase in ambient noise levels will be negligible and temporary. The Project will comply with the Fresno County Noise Control Ordinance and City of Huron General Plan Noise Element. Operational maintenance activities would be on an as-needed basis with routine monitoring performed by existing staff and would not generate significant new noise. Any impacts would be mild and temporary and therefore, less than significant.

XIII-b) Would the project result in generation of excessive groundborne vibration or groundborne noise levels?

b) Less Than Significant Impact. There is no construction proposed other than the placement of the portable temporary pumps and pipeline. During Project operation, the temporary diesel pump is rated at 50 horsepower. The Project is located adjacent to an area dominated by agricultural production. Agricultural production commonly includes the use of off-road equipment and ground-disturbing activities. During construction, Project-related construction activities would not vary substantially from the baseline conditions routinely experienced on neighboring properties. The nearest sensitive receptor is approximately 0.9 miles from the site. Impacts would be less than significant.

XIII-c) For a project located within the vicinity of a private air strip 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 an airport land use plan. No habitable structures are proposed to be constructed. The Fresno Yosemite International Airport is located approximately 43 miles northeast and the New Coalinga Municipal Airport is more than 11.8 miles west and the Lemoore Naval Air Station is approximately 8.8 miles northeast of the Project. The Project does not involve the development of habitable structures or require the presence of permanent staff onsite. There would be no impact.

3.14 Population and Housing

Table 3-22. 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

The Project is located within an unincorporated area in a southwestern portion of Fresno County and a northeastern portion is in the City of Huron. The Project site is surrounded by agricultural lands and the percolating ponds. The Project is located within land zoned AE-20 (Exclusive Agriculture, 20-acre minimum) and planned by as Agriculture by the Fresno County General Plan. The portion within the City of Huron is zoned as P-F (Public Facilities) and planned as Public Facilities.

According to 2010 Census data, City of Huron's population was 6,754 with an estimated percent change from 2000 to 2010 of 7.1%. As of 2013 to 2017, there was an average of 1,751 households with an average of 3.96 persons per house.[35]

3.14.2 Regulatory Setting

3.14.2.1 Local

City of Huron General Plan[36]: The City of Huron General Plan sets forth goals and policies regarding population and housing, none of which have potential relevance to the Project's CEQA review.

3.14.3 Impact Assessment

XIV-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)?

XIV-b) Displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere?

a-b) No Impact. The implementation of the Project involves the placement of a maximum of four temporary pumps and pipelines to divert water from the WSDB into existing bermed percolation ponding areas. The goal of the Project is not to induce population growth, but to capture the runoff water and utilize

[35] U.S. Census Data. https://www.census.gov/quickfacts/huroncitycalifornia Accessed May 7, 2019.
[36] City of Huron General Plan. http://cityofhuron.com/wp-content/uploads/2014/08/City-of-Huron-General-Plan-2025-Policies-Statement1.pdf Accessed May 7, 2019.

it for agricultural purposes and to reduce that severity of flooding near SR 269 and Arroyo Pasajero Creek and Gale Avenue. The Project would not encourage population growth directly or indirectly. No housing or habitable structures would be built, nor will any be removed. Implementation of the Project will not result in displacement of people or existing housing. Therefore, there will be no impact.

3.15 Public Services

Table 3-23. 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

Fire Protection: The City of Huron utilizes Fresno County's fire protection services. The closest station is the Fresno County Fire Protection District Station 93, which is approximately 1.78 miles west of the Project.

Police Protection: The City of Huron's Police Department currently, has 7 sworn officers and several support staff. The nearest Huron Police Department is approximately 1.7 miles west of the Project.

Schools: The nearest school is the Huron Elementary School, approximately 1.5 miles west of the Project.

Parks: The City of Huron has two parks within the city limits, Chestnut Park and Keenan Park. The closest park is approximately 1.3 miles west of Project (Chestnut Park). Fresno County has several regional parks, as well as State and national parks, national forest, wilderness areas, and other resources. Regional recreational facilities within the County include ten developed and three undeveloped park sites, five fishing access areas, and boating facility. There are no nearby Fresno County parks in the vicinity of the Project.

Landfills: Fresno County operates two active solid waste disposal facilities, or landfills: the American Avenue Landfill and the Coalinga Landfill. The nearest landfill is the Avenal City Landfill, which is approximately 12 miles southwest of the Project.[37]

[37] The County of Fresno website. https://www.co.fresno.ca.us/departments/public-works-planning/divisions-of-public-works-and-planning/resources-and-parks-division/landfill-operations. Accessed April 30, 2019.

3.15.1.1 Local

City of Huron General Plan[38]: The City of Huron General Plan sets forth goals and policies regarding public services, none of which have potential relevance to the Project's CEQA review.

3.15.2 Impact Assessment

XV-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) No Impact. The Project would not require the addition or alteration of any public services. No habitable structures are proposed, and no population growth will occur as part of this Project. There would be no impact.

[38] City of Huron General Plan. http://cityofhuron.com/wp-content/uploads/2014/08/City-of-Huron-General-Plan-2025-Policies-Statement1.pdf Accessed April 30, 2019.

3.16 Recreation

Table 3-24. 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

The City of Huron has two parks within the city limits, Chestnut Park and Keenan Park. The closest park is approximately 1.3 miles west of Project. There are no nearby Fresno County parks in the vicinity of the Project.

3.16.1.1 Local

City of Huron General Plan[39]: The City of Huron General Plan sets forth the following goals and policies regarding recreation, none of which have potential relevance to the Project's CEQA review.

3.16.2 Impact Assessment

XVI-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?

XVI-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?

a-b) No Impact. The implementation of the Project will divert water from the WSDB into the existing bermed percolation ponding areas. It would not increase the demand for recreational facilities or put a strain on the existing recreational facilities. No population growth would be associated with the Project or be necessitated by the Project. Furthermore, the Project does not include recreational facilities. No construction or expansion of nearby recreational facilities would not be necessary. There would be no impact.

[39] City of Huron General Plan. http://cityofhuron.com/wp-content/uploads/2014/08/City-of-Huron-General-Plan-2025-Policies-Statement1.pdf Accessed April 30, 2019.

3.17 Transportation

Table 3-25. 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 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 site is within an unincorporated area in southwestern Fresno County, specifically south of the Union Pacific Railroad, west of the California Aqueduct, and north of Gale Avenue. The Project vicinity is dominated by agricultural uses, sparse rural residential, and water infrastructure. State Route 269 is the nearest highway, approximately 2.8 miles west of the Project site. There are no public improvements proposed along the property boundary. Traffic generation after project implementation will be minimal and dedicated to only basin maintenance on an as-needed basis.

3.17.1.1 Local

City of Huron General Plan[40]: The City of Huron General Plan sets forth goals and policies regarding transportation, none of which have potential relevance to the Project's CEQA review.

3.17.2 Impact Assessment

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

XVII-b) Would the project conflict or be inconsistent with CEQA Guidelines section 150643. Subdivision (b)?

a-b) No Impact. The Project proposes to divert water from the WSDB into existing bermed percolating areas and percolation ponds owned by the City of Huron. The Project will consist of placing four temporary portable pumps and pipeline at three points of diversion. The only operational traffic would consist of as-needed maintenance trips. Currently, Flooding occurs at the Arroyo Pasajero Creek and Lassen Avenue (SR 269), and once the WSDB fills in the excess water spills over Gale Avenue. The proposed diversion will relieve pressure on the WSDB and therefore potentially reducing flooding and associated impacts at main

[40] City of Huron General Plan. http://cityofhuron.com/wp-content/uploads/2014/08/City-of-Huron-General-Plan-2025-Policies-Statement1.pdf Accessed April 30, 2019.

roads used by City of Huron residents. No road improvements are proposed as part of the Project. There would not be a significant adverse effect to existing roadways in the area.

There is no population growth associated with the Project, nor will implementation of the Project result in an increase of staff or drivers utilizing roadways in the area. Therefore, implementation of the Project will not increase the demand for any changes to congestion management programs or interfere with existing level of service standards during the operational phase. There will be no impact.

XVII-c) Substantially increase hazards due to a 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 Project. As mentioned in Impact Assessments XVI-a and b above. Therefore, there will be no impact.

XVII-d) Result in inadequate emergency access?

d) No Impact. As mentioned above in Impact Assessments XVI-a, b, and c, the Project does not propose new roadway design features or permanent alterations to roadways. Road closures and detours are not anticipated as part of the construction phase of the Project. Disturbances to traffic patterns, such as a potential lane diversion will be nonexistent. The operational phase of the Project is temporary and will have no effect on roadways or emergency access. Therefore, there will be no overall potential Project-related impacts to emergency access on local roadways.

3.18 Tribal Cultural Resources

Table 3-26. 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 area is in the Southern Valley Yokuts ethnographic territory. The Yokuts are one of eight subgroups of the Penutian linguistic phylum that is present across the western coast and inland regions of North America from Canada to Mexico. The Yokuts had many language subgroups and spoke a variety of dialects across the southern and central San Joaquin Valley as well as the Sierra Nevada. Many groups could converse across dialects with relative ease. The Southern Valley Yokuts populated the shores of Tulare, Buena Vista, and Kern lakes, their connecting sloughs, and the lower portions of the Kings, Kaweah, Tule, and Kern rivers. At the beginning of the historic period, 15 tribelets of Southern Valley Yokuts lived within the Tulare Basin. Kroeber (1939) estimated that Yokuts political units averaged 350 persons each; however, a much higher population figure of 15,700 persons was made by Spanish expeditions exploring the Central Valley and California coastal regions in the early nineteenth century (**Appendix C**).

3.18.1.1 Regional Setting

3.18.1.2 Local

City of Huron General Plan[41]: The City of Huron General Plan sets forth the following goals and policies that protect tribal cultural resources of the City; none of which have potential relevance to the Project's CEQA review:

3.18.2 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. On May 20, 2019, Æ sent an e-mail to the Native American Heritage Commission (NAHC) requesting a search of its Sacred Lands File and contact information for local Native American representatives who may have information about the APE. The NAHC responded on May 28, 2019, with its findings and attached a list of Native American tribes and individuals culturally affiliated with the APE. On October 2, 2019, Æ prepared and mailed an outreach letter to each of the contacts identified by the NAHC and kept a log of all responses. The outreach letter is standard best practices within cultural resource management and is not part of AB 52 or NHPA Section 106 government-to-government consultation. Æ's record of correspondence is included in **Appendix C**.

The NAHC responded to Æ's request on May 28, 2019, with negative findings for the Sacred Lands File search of the APE; however, they caution that the absence of information in the Sacred Lands File does not indicate the absence of Native American cultural resources within the APE. The NAHC provided a list of tribal representatives for outreach to local tribal groups regarding any sites of cultural or spiritual significance in the APE. Contacts recommended by the NAHC include:

- *Chairperson Robert Ledger Sr. of the Dumna Wo-Wah Tribal Government,*
- *Stan Alec of the Kings River Choinumni Tribe,*
- *Chairperson Rueben Barrios Sr. of the Santa Rosa Rancheria Tachi-Yokut Tribe,*
- *Chairperson Leanne Walker-Grant of Table Mountain Rancheria,*
- *Cultural Resources Director Robert Pennell of Table Mountain Rancheria, and*
- *Chairperson Kenneth Woodrow of the Wuksache Indian Tribe/Eshom Valley Band.*

On October 2, 2019, Æ sent a letter to each of the tribal contacts above providing information about the Project and inviting interested tribal representatives to contact Æ with information or questions. A follow-up e-mail was sent on October 4, 2019. No responses from the Native American contacts have been received to date. All Tribal correspondence is included within **Appendix C** to this initial study.

[41] City of Huron General Plan. http://cityofhuron.com/wp-content/uploads/2014/08/City-of-Huron-General-Plan-2025-Policies-Statement1.pdf Accessed April 30, 2019.

Although it is unlikely that archeological remains will occur during construction or operation of the Proposed Project, CUL-1 is to be considered.

3.19 Utilities and Service Systems

Table 3-27. 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

The Project lies entirely within the Westside Groundwater Subbasin of the San Joaquin Valley Groundwater Basin.[42] Declines in groundwater basin storage and increased groundwater overdraft are recurring problems in the Central Valley. Measures for ensuring the continued availability of groundwater for municipal needs have been identified and planned in several areas of Fresno county. The measures include groundwater conservation and recharge, and supplementing or replacing groundwater sources for irrigation with surface water.

3.19.1.2 Wastewater Collection and Treatment

The City of Huron owns and operates a sanitary sewer collection system which consists of approximately 12 miles of sewer mains, ranging in diameter from 4 to 12-inches. The County of Fresno's wastewater treatment facility is the Fresno Wastewater Treatment and Collection System Facility and located approximately 34 miles northeast of the Project.

[42] DWR Bulletin 118 Groundwater Basin Boundary Assessment Tool. https://gis.water.ca.gov/app/bbat/ Accessed March 22, 2019.

3.19.1.3 Landfills

Fresno County operates two active solid waste disposal facilities, or landfills: the American Avenue Landfill and the Coalinga Landfill. The nearest landfill is the Avenal City Landfill, which is approximately 12 miles southwest of the Project.[43]

3.19.1.4 Local

City of Huron General Plan[44]: The City of Huron General Plan sets forth goals and policies regarding utilities and service systems, none of which have potential relevance to the Project's CEQA review.

3.19.2 Impact Assessment

XIX-a) Require or result in the construction of new water or wastewater treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?

a) No Impact. The Project consists of placing four temporary pumps at three points of diversion in order to divert surplus water from the WSDB to nearby agricultural lands and percolating ponds, owned by the City of Huron. The Project will not generate wastewater or require expansion of existing facilities. 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. The Project intends to divert runoff water ponding in the WSDB for the benefit of the Arroyo Pasajero Mutual Water Company and the City of Huron for irrigated agriculture, municipal water supply, and flood relief by direct diversion and underground storage. The amount of water diverted will depend due to its reliance on the probability that the WSDB will have water ponding. Recovery of stored water will be stored and used for existing agricultural lands near the ponded areas. Since the Project is not relying on water supplies and only utilizing excess surface water, 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 does not propose any commercial, industrial, or residential structures. Therefore, it 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 sort of 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) No Impact. There will be no solid waste associated with the operational phase of the Project. Therefore, there would be no impact.

[43] The County of Fresno website. https://www.co.fresno.ca.us/departments/public-works-planning/divisions-of-public-works-and-planning/resources-and-parks-division/landfill-operations. Accessed May 8, 2019.
[44] City of Huron General Plan. http://cityofhuron.com/wp-content/uploads/2014/08/City-of-Huron-General-Plan-2025-Policies-Statement1.pdf Accessed May 8, 2019.

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 will divert surplus water from the WSDB to adjacent agricultural land and percolation ponds owned by the City of Huron. The Project is not anticipated to produce any solid waste. There would be no impact.

3.20 Wildfire

Table 3-28. 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 Project is located within the northeastern portion of the City of Huron (Huron Water Treatment Facility) and in the unincorporated land in Fresno County, east of Huron. The Project site is in a relatively flat agricultural area/detention basin of the Central San Joaquin Valley. No structures are being constructed as part of the Project, and the Project is not considered to be population growth inducing.

3.20.1.1 Local

City of Huron General Plan[45]: The City of Huron General Plan sets forth goals and policies regarding wildfires, none of which have potential relevance to the Project's CEQA review.

3.20.2 Impact Assessment

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?

[45] City of Huron General Plan. http://cityofhuron.com/wp-content/uploads/2014/08/City-of-Huron-General-Plan-2025-Policies-Statement1.pdf Accessed May 8, 2019.

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 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 11.8 miles to the southwest of the Project site and approximately 2.05 miles from the nearest Very High classification of Fire Hazard Severity Zone (FHSZ). Additionally, there are no structures being built as part of this Project, and no population increase because of this Project. 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 3-29. 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 and cultural resources from the implementation of the proposed 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 to fish and wildlife or cultural or tribal resources.

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. 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 the cumulative effects of a project must, therefore, be conducted in connection with the effects of past projects, other current projects, and probable future projects. The Project would include the movement of four temporary portable pumps and above ground temporary pipelines to three points of diversion in order to divert water that has built up in the WSDB. The water will be diverted to the adjacent bermed ponding areas to the west. No additional roads would be constructed as a result of the Project, nor would any additional public services be required. Currently, flooding occurs at the Arroyo Pasajero Creek and Lassen Avenue (SR 269), and once the WSDB fills in, the excess water spills over Gale Avenue. The proposed diversion will relieve pressure on the WSDB and potentially reduce flooding and associated impacts at main roads used by City of Huron residents. 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. The Project would include the movement of four temporary portable pumps and above ground temporary pipelines to three points of diversion in order to divert water that has built up in the WSDB. The Project in and of itself would not create a significant hazard to the public or the environment. On the contrary, the proposed diversion will relieve pressure on the WSDB and potentially reduce flooding and associated impacts at main roads used by City of Huron residents. Therefore, the proposed Project would not have any direct or indirect adverse impacts on humans. This impact would be less than significant.

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Chapter 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 Arroyo Pasajero/Westside Detention Basin Groundwater Recharge Project (Project) in Fresno County. The MMRP lists mitigation measures recommended in the IS/MND for the Project and identifies monitoring and reporting requirements.

For the purposes of this Project and implementation of mitigation measures regarding biological resources, the term "construction" or "construction activities" refers to staging, mobilization, vegetation removal or trimming, pump placement, pipeline placement, pump removal, and pipeline removal. For example, a "pre-construction survey" would refer to a survey conducted prior to the placement of the pump and again prior to the removal of the pump and pipeline. In addition to surveying the areas directly adjacent to the pumps and pipelines, the first survey would also cover the proposed percolation areas in order to reduce the Project's potential flood-related impacts to species that could be inhabiting the agricultural fields.

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 City of Huron to ensure that individual mitigation measures have been complied with and monitored.

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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					
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.	N/A	N/A	City of Huron		
Mitigation Measure BIO-1b (Nesting Bird 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 and breeding colonies within 30 days prior to the start of construction. The survey shall include the diversion points, pipeline locations, and proposed percolation areas, as well as surrounding lands within 0.5 mile. If no active nests or breeding colonies are observed, no further mitigation is required. Raptor nests are considered "active" upon the nest-building stage.	Prior to Construction	Once within 30 days of construction	City of Huron		
Mitigation Measure BIO-1c (Establish Buffers): On discovery of any active nests or breeding colonies 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. Specifically, a 300-foot disturbance-free buffer shall be implemented around breeding colonies of tricolored blackbird, and a 0.5-mile disturbance-free buffer shall be implemented around active Swainson's hawk nests, if feasible. 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.	Upon discovery of active nests	As determined by qualified biologist	City of Huron		
Mitigation Measure BIO-1d (Nest Monitoring): If an active Swainson's hawk nest is observed within 0.5 mile of the work area and avoidance is not feasible, a qualified biologist shall be present onsite during construction activities to monitor the bird and nest site for signs of disturbance. If any signs of disturbance are observed, the biological monitor shall stop construction and contact the local CDFW office.	Upon discovery of active nests	During construction activities at a frequency determined by qualified biologist and regulatory agencies	City of Huron		

<table>
<tr><th colspan="6">Mitigation Monitoring and Reporting Program</th></tr>
<tr><th>Mitigation Measure/Condition of Approval</th><th>When Monitoring is to Occur</th><th>Frequency of Monitoring</th><th>Agency Responsible for Monitoring</th><th>Method to Verify Compliance</th><th>Verification of Compliance</th></tr>
<tr><td>Mitigation Measure BIO-1e (Pre-construction Take Avoidance Survey): A qualified biologist shall conduct a pre-construction take avoidance survey for burrowing owls and suitable burrows, in accordance with CDFW's Staff Report on Burrowing Owl Mitigation (2012), within 30 days prior to the start of construction activities. The survey shall include the diversion points, pipeline locations, and proposed percolation areas containing suitable habitat, as well as surrounding lands within 500 feet. If no burrowing owl individuals or suitable burrows are observed, no further mitigation is required.</td><td>Prior to Construction</td><td>Once within 30 days of construction</td><td>City of Huron</td><td></td><td></td></tr>
<tr><td>Mitigation Measure BIO-1f (Avoidance): If an active burrowing owl burrow is detected, the occurrence shall be reported to the local CDFW office and the CNDDB, and disturbance-free buffers shall be implemented in accordance with CDFW's 2012 Staff Report on Burrowing Owl Mitigation, as outlined in the table below:
<table>
<tr><th>Location</th><th>Time of Year</th><th>Level of Disturbance</th></tr>
<tr><td></td><td></td><td>Low</td></tr>
<tr><td>Nesting sites</td><td>April 1 – August 15</td><td>200 meters</td></tr>
<tr><td>Nesting sites</td><td>August 16 – October 15</td><td>200 meters</td></tr>
<tr><td>Nesting sites</td><td>October 16 – March 31</td><td>50 meters</td></tr>
</table></td><td>Upon Discovery of an Active Burrow</td><td>As determined by qualified biologist</td><td>City of Huron</td><td></td><td></td></tr>
<tr><td>Mitigation Measure BIO-1g (Consultation with CDFW and Passive Relocation): If avoidance of an active burrowing owl burrow is not feasible, CDFW shall be immediately consulted to determine the best course of action, which may include passive relocation during non-breeding season. Passive relocation and/or burrow exclusion shall not take place without coordination with CDFW and preparation of an approved exclusion and relocation plan.</td><td>Upon Discovery of an Active Burrow</td><td>As determined by qualified biologist and CDFW</td><td>City of Huron</td><td></td><td></td></tr>
<tr><td>Mitigation Measure BIO-2 (Pre-construction Survey): A qualified biologist shall conduct a pre-construction take avoidance survey for western spadefoot within 30 days prior to the start of construction activities. The survey shall include the diversion points, pipeline locations, and surrounding areas within 500 feet in order to ensure the Project does not directly impact western spadefoot individuals or breeding pools. If western spadefoot individuals or occupied breeding pools are detected, the biologist will contact te local CDFW office for information on how to proceed.</td><td>Prior to Construction</td><td>Once within 30 days of construction</td><td>City of Huron</td><td></td><td></td></tr>
</table>

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 BIO-3a (Pre-Construction Survey): A qualified biologist shall conduct a pre-construction take avoidance survey for San Joaquin kit fox within 30 days prior to the start of construction activities. The survey shall include the diversion points, pipeline locations, and proposed percolation areas containing suitable habitat, as well as surrounding lands within 200 feet. If an active kit fox den is detected within or adjacent to the Project area, construction will be delayed, and CDFW and USFWS shall be consulted to determine the best course of action.	Prior to Construction	Once within 30 days of construction	City of Huron		
Mitigation Measure BIO-3b (Avoidance and Minimization): The Project shall observe the following avoidance and minimization measures: • Construction activities and routine maintenance traffic shall be limited to daylight hours. • Project-related vehicles shall observe a 20-mph speed limit in all Project areas. • Pipes, culverts, or similar structures with a diameter of 4-inches or greater that are stored overnight shall be thoroughly inspected for kit foxes before the pipe is subsequently capped, used or moved. Alternatively, pipes with a diameter of 4-inches or greater that are left onsite shall be immediately capped or covered with a mesh or wire barrier to exclude kit foxes from entering the pipes. • During construction activities, all food-related trash items such as wrappers, cans, bottles, and food scraps shall be disposed of in closed containers and removed from the site daily. • Project-related personnel shall be prohibited from carrying firearms onsite. • Project-related personnel shall be prohibited from bringing pets (domestic dogs and cats) onsite. • Prior to construction activities, construction personnel shall be given an educational pamphlet which they are required to read. The pamphlet will be prepared by a qualified biologist and will include, at a minimum, the following information: 1) a description and photograph of the San Joaquin kit fox; 2) a discussion of habitat requirements and reported occurrences of this species in the Project's vicinity; 3) a description of the various State and federal regulations protecting this species and the potential penalties for violation; 4) a list of measures being taken to reduce the Project's potential impacts to this species; and 5) the name and contact information for the Project's representative who will handle	Prior to and During Construction	Daily	City of Huron		

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**
reporting of inadvertent injury or mortality of this species to the appropriate regulatory agencies.					
Mitigation Measure BIO-3c (Mortality Reporting): The Sacramento Field Office of USFWS and the Fresno Field Office of CDFW will be notified in writing within three working days in the case of the accidental death or injury to a San Joaquin kit fox during construction. Notification must include the date, time, and location of the incident and any other pertinent information.	Upon discovery of kit fox mortality (within three days)	Upon each discovery (within three days)	City of Huron		
Cultural Resources					
Mitigation Measure CUL-1: If human remains are uncovered during construction, the USBR Mid-Pacific Regional Cultural Resources Officer and Reclamation NAGPRA Specialist must be notified immediately and the Fresno County Coroner is to be notified to arrange for proper treatment and disposition of the remains. If the remains are identified on the basis of archaeological context, age, cultural associations, or biological traits to be those of a Native American, California Health and Safety Code 7050.5 requires that the county coroner notify the NAHC within 24 hours of discovery. The NAHC will then identify the Most Likely Descendant, who will be afforded the opportunity to recommend means for treatment of the human remains following protocols in California Public Resources Code 5097.98.	In the event human remains are uncovered	During excavation	City of Huron		

Appendix A

Air Quality and Greenhouse Gas Emissions Evaluation Report

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Arroyo Pasajero/Westside Detention Basin Groundwater Recharge Project

Fresno County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Other Non-Asphalt Surfaces	19.50	1000sqft	0.45	19,500.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	45
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 - potential ground disturbance will consist of 1,200 square feet total for the temporary pumps and 18,300 square feet for pipelines

Construction Phase - No days for actual construciton. 1 day dedicated to set up 4 pumps. The pumps are permitted and will run for 129 (6 months) days, annually. 5 days total to set up the above ground pipes.

Off-road Equipment - No construction equipment needed.

Table Name	Column Name	Default Value	New Value
tblConstructionPhase	NumDays	1.00	5.00
tblConstructionPhase	PhaseEndDate	1/15/2020	1/21/2020

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					
2020	1.7100e-003	0.0211	0.0102	2.0000e-005	2.7000e-004	8.4000e-004	1.1000e-003	3.0000e-005	7.7000e-004	8.0000e-004	0.0000	2.1398	2.1398	6.9000e-004	0.0000	2.1571
Maximum	**1.7100e-003**	**0.0211**	**0.0102**	**2.0000e-005**	**2.7000e-004**	**8.4000e-004**	**1.1000e-003**	**3.0000e-005**	**7.7000e-004**	**8.0000e-004**	**0.0000**	**2.1398**	**2.1398**	**6.9000e-004**	**0.0000**	**2.1571**

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					
2020	1.7100e-003	0.0211	0.0102	2.0000e-005	2.7000e-004	8.4000e-004	1.1000e-003	3.0000e-005	7.7000e-004	8.0000e-004	0.0000	2.1398	2.1398	6.9000e-004	0.0000	2.1571
Maximum	**1.7100e-003**	**0.0211**	**0.0102**	**2.0000e-005**	**2.7000e-004**	**8.4000e-004**	**1.1000e-003**	**3.0000e-005**	**7.7000e-004**	**8.0000e-004**	**0.0000**	**2.1398**	**2.1398**	**6.9000e-004**	**0.0000**	**2.1571**

Arroyo Pasajero/Westside Detention Basin Groundwater Recharge Project - Fresno County, Annual

	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**

Quarter	Start Date	End Date	Maximum Unmitigated ROG + NOX (tons/quarter)	Maximum Mitigated ROG + NOX (tons/quarter)
1	**1-1-2020**	**3-31-2020**	0.0228	0.0228
		Highest	0.0228	0.0228

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	1.2600e-003					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**1.2600e-003**					**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

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	1.2600e-003					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**1.2600e-003**					**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

	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	1/15/2020	1/21/2020	5	5	

Acres of Grading (Site Preparation Phase): 0.5

Acres of Grading (Grading Phase): 0

Acres of Paving: 0.45

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
Site Preparation	Graders	1	8.00	187	0.41
Site Preparation	Tractors/Loaders/Backhoes	1	8.00	97	0.37

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

3.1 Mitigation Measures Construction

3.2 Site Preparation - 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					2.7000e-004	0.0000	2.7000e-004	3.0000e-005	0.0000	3.0000e-005	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	1.7100e-003	0.0211	0.0102	2.0000e-005		8.4000e-004	8.4000e-004		7.7000e-004	7.7000e-004	0.0000	2.1398	2.1398	6.9000e-004	0.0000	2.1571
Total	**1.7100e-003**	**0.0211**	**0.0102**	**2.0000e-005**	**2.7000e-004**	**8.4000e-004**	**1.1100e-003**	**3.0000e-005**	**7.7000e-004**	**8.0000e-004**	**0.0000**	**2.1398**	**2.1398**	**6.9000e-004**	**0.0000**	**2.1571**

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					2.7000e-004	0.0000	2.7000e-004	3.0000e-005	0.0000	3.0000e-005	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	1.7100e-003	0.0211	0.0102	2.0000e-005		8.4000e-004	8.4000e-004		7.7000e-004	7.7000e-004	0.0000	2.1398	2.1398	6.9000e-004	0.0000	2.1571
Total	**1.7100e-003**	**0.0211**	**0.0102**	**2.0000e-005**	**2.7000e-004**	**8.4000e-004**	**1.1100e-003**	**3.0000e-005**	**7.7000e-004**	**8.0000e-004**	**0.0000**	**2.1398**	**2.1398**	**6.9000e-004**	**0.0000**	**2.1571**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Total					

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

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

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	1.2600e-003					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Unmitigated	1.2600e-003					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

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	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	1.2600e-003					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**1.2600e-003**					**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

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	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	1.2600e-003					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**1.2600e-003**					**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

7.0 Water Detail

7.1 Mitigation Measures Water

8.0 Waste Detail

8.1 Mitigation Measures Waste

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 Evaluation Report

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Biological Evaluation

CITY OF HURON

ARROYO PASAJERO/WESTSIDE DETENTION BASIN PROJECT

OCTOBER 2019

Brooke Fletcher, Biologist
PROVOST & PRITCHARD CONSULTING GROUP | 286 CROMWELL, FRESNO CA 93711

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I. Introduction

Arroyo Pasajero Mutual Water Company proposes to continue their ongoing practice of diverting excess floodwater from the Westside Detention Basin onto an adjacent area composed of approximately 504 acres of privately-owned agricultural lands and approximately 34 acres of City-owned wastewater ponds. The Project area is located approximately 0.75 miles west of the California Aqueduct and approximately 3 miles southeast of Los Gatos Creek (formerly known as Arroyo Pasajero) where it empties into the United States Bureau of Reclamation (Reclamation's) Westside Detention Basin. When the segment of the California Aqueduct near Huron was constructed in 1967, it intercepted Los Gatos Creek, and the agricultural lands to the west of the California Aqueduct flooded. Reclamation subsequently purchased the immediately affected agricultural lands and constructed the Westside Detention Basin with the goal of containing Los Gatos Creek floodwaters and sediment within an approximate 3,800-acre area along the western edge of the California Aqueduct from Highway 198 to Gale Avenue. The detention basin has filled with sediment over the years, depleting the amount of storage available for floodwaters. As a result, each year during winter flows, water from Los Gatos Creek continues to overflow from the detention basin onto adjacent private agricultural lands, and during large rain events this excess floodwater typically floods two main roads: Lassen and Gale Avenues (Julien & Mendelsberg, 2003) (Tulare Basin Wildlife Partners, 2009).

The Project, which consists of the controlled diversion of excess floodwaters will benefit Arroyo Pasajero Mutual Water Company and the City of Huron for the purposes of groundwater recharge, irrigated agriculture, municipal water supply, and flood relief by direct diversion.

The following technical report, prepared by Provost & Pritchard Consulting Group, in compliance with the California Environmental Quality Act (CEQA) and the National Environmental Policy Act (NEPA), 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.

Project Description

As illustrated in **Figure 2**, the Project proposes diversion of water from the Westside Detention Basin at three distinct locations. The northernmost diversion point is referred to as Diversion Point No. 3 and is located directly east of the existing wastewater treatment facility and approximately 0.5 mile west of the California Aqueduct near the intersection of Palmer and Madera Avenues. Diversion Point No. 1 is located along Tornado Avenue, approximately 1 mile southeast of Diversion Point No. 3 and 0.25 mile west of the California Aqueduct. The southernmost diversion point (Diversion Point No. 2) is located approximately 0.25 mile north of Gale Avenue, 0.75 mile south of Diversion Point No. 1, and 0.5 mile west of the California Aqueduct. Pump No. 1 will be placed within the Westside Detention Basin, while Pumps No. 2 and No. 3 will be placed in areas adjacent to the detention basin which seasonally flood with overflow floodwater.

The proposed percolation area consists of approximately 504 acres of agricultural land between Palmer and Gale Avenues and approximately 34 acres of effluent ponding basins within the eastern portion of the wastewater treatment facility directly south of the Southern Pacific Railroad line. Pumps No. 1 and No. 2 will divert water onto adjacent agricultural lands, while Pump No. 3 will divert water from flooded agricultural fields into effluent ponding basins north of Palmer Avenue and south of the railroad line.

Report Objectives

Construction and water diversion activities such as those proposed by Arroyo Pasajero Mutual Water Company and the City of Huron 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 California Environmental Quality Act (CEQA), and/or National

Environmental Policy Act (NEPA), and/or addressed by local regulatory agencies. In the case of City of Huron: Arroyo Pasajero/Westside Detention Basin Project, environmental review under both CEQA and NEPA are required.

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.
4. Therefore, the objectives of this report are:
5. Summarize all site-specific information related to existing biological resources.
6. 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.
7. Summarize all state and federal natural resource protection laws that may be relevant to the Project.
8. Identify and discuss Project impacts to biological resources likely to occur onsite within the context of CEQA or state or federal laws.
9. 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.

Study Methodology

Provost & Pritchard biologist, Brooke Fletcher conducted a reconnaissance-level survey of the Project site and surrounding areas on May 9 and May 14, 2019. After some discussion, the Project's Area of Potential Effect (APE) was revised to more accurately depict the proposed percolation area. This additional area was surveyed July 30, 2019. The surveys consisted of walking through the Project areas 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. Ms. Fletcher also conducted site visits on February 13 and April 8, 2019 which provided additional insight on the Project and the APE.

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); U.S. Fish and Wildlife Service (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 California Department of Fish and Wildlife (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).

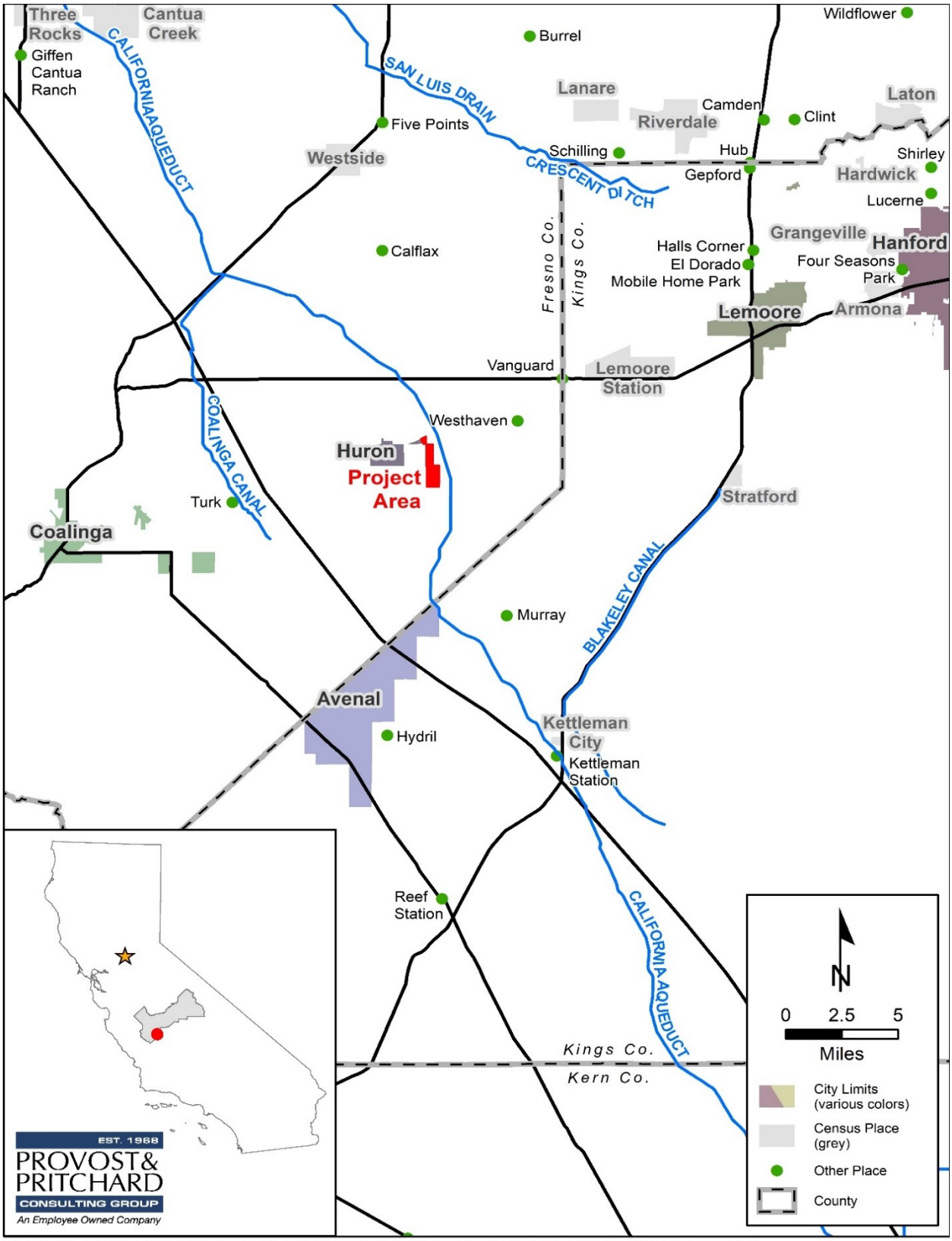

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Figure 1: Regional Location

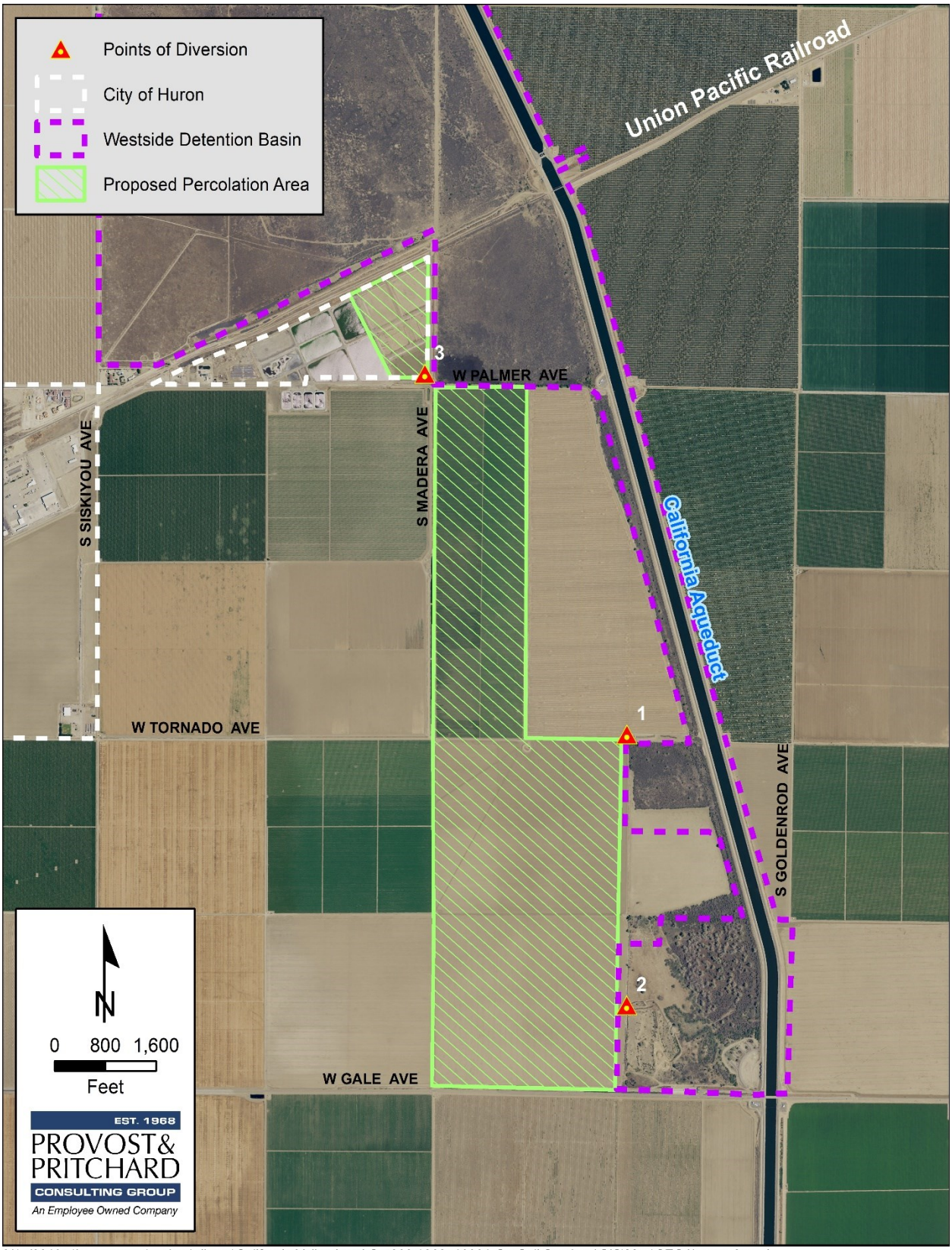

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Figure 2: Project Area of Potential Effect (APE) Map

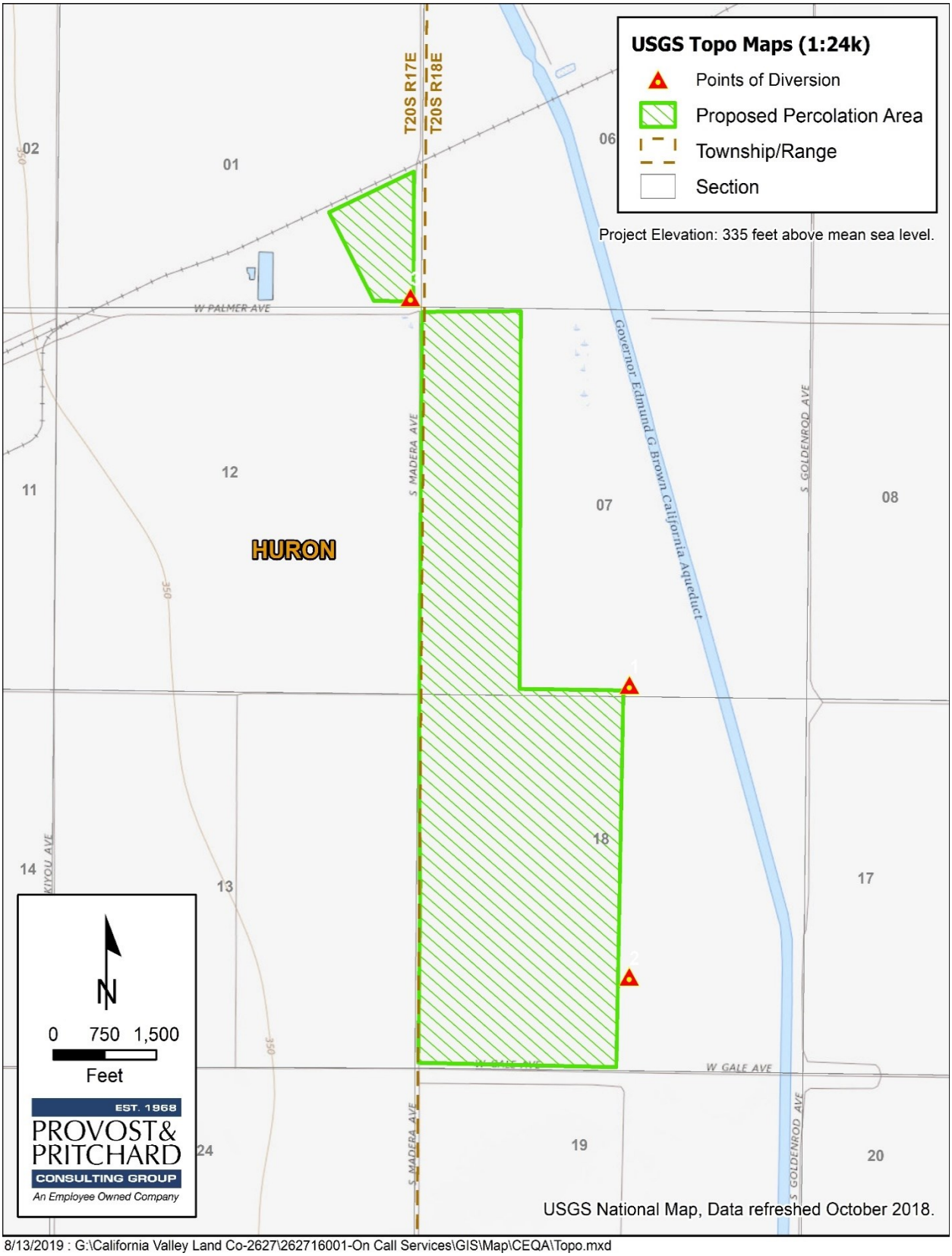

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Figure 3: Topographic Quadrangle Map

II. Existing Conditions

Regional Setting

The Project site is located in southwest Fresno County 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 10 inches of precipitation in the form of rainfall yearly, most of which occurs between October and March.

The Project's APE spans three watersheds. The northern portion of the percolation area and diversion point No. 3 is located within the Town of Huron-Kings River watershed, Hydrologic Unit Code (HUC): 180300120702; the middle portion of the percolation area and diversion point No. 1 is located within the Town of Lemoore-Kings River watershed, HUC: 180300120704; and the southern portion of the percolation area and diversion point No. 2 is located within the Frontal Tulare Lake Bed watershed, HUC: 180300122303 (EPA, 2019).

The Project area is located approximately 0.75 miles west of the California Aqueduct and approximately 3 miles southeast of Los Gatos Creek (formerly known as Arroyo Pasajero) where it empties into Reclamation's Westside Detention Basin. Los Gatos Creek is a naturally flowing stream which originates in the Diablo Mountain Range and flows in eastern direction passing the cities of Coalinga and Huron. Downstream of Huron, the incised channel of Los Gatos Creek fans out and enters Westside Detention Basin and then the California Aqueduct. There are three main tributaries to the eastern portion of Los Gatos Creek in the vicinity of the Project: Warthan Creek, Jacalitos Creek, and Zapato Chino Creek.

The Project lies entirely within the Westside Groundwater Subbasin of the San Joaquin Valley Groundwater Basin (DWR, 2019) and within Westlands Water District's boundaries. Project areas are predominantly surrounded by agricultural lands, ruderal compacted dirt access roads, various excavated canals, basins, and dairy lagoons. The northernmost portion of the Project's APE is bordered by the City of Huron's wastewater treatment facility and associated infrastructure, including various processing ponds.

Photographs of the Project areas and vicinity are available in **Appendix A** at the end of this document.

Project Area and Habitat Discussion

Pump No. 2 will be located within Westside Detention Basin. The locations of Pumps No. 1 and No. 3 and the majority of the proposed percolation areas are composed of various types and stages of agricultural land operations. The northernmost proposed percolation area consists of excavated basins associated with the adjacent wastewater treatment plant. At the time of the field surveys, these basins were dry and are best described as ruderal, non-native grassland.

Westside Detention Basin

At the time of the field surveys, riparian habitat was present within and along the banks of Westside Detention Basin. Vegetation within the basin was dominated by native rough cocklebur (*Xanthium strumarium*), while the following native species lined the banks: Fremont cottonwood (*Populus fremontii*), narrowleaf willow

(*Salix exigua*), sandbar willow (*Salix exigua var. hindsiana*), Gooding's willow *(Salix gooddingii*), alkali heliotrope (*Heliotropium curassavicum var. oculatum*), California dock (*Rumex californicus*), mint leafed vervain (*Verbena menthifolia*), big saltbush (*Atriplex lentiformis*), and common sunflower (*Helianthus annuus*). Invasive saltcedar (*Tamarix ramosissima*) was observed within the basin and along the banks. Other common invasive species observed along the banks include curly dock (*Rumex crispus*), sheep sorrel (*Rumex acetosella*), and field bindweed (*Convolvulus arvensis*).

Large cottonwood trees onsite provide suitable nesting habitat for a variety of avian species, including the special status Swainson's hawk (*Buteo swainsoni*). Several inactive stick nests of suitable size for raptors were observed within cottonwood trees in the Project area and vicinity, and Swainson's hawks were observed foraging over the detention basin during field visits conducted in April, May, and July of 2019. In addition to Swainson's hawks, the following avian species were observed within or adjacent to the riparian detention basin during the various field surveys: Bullock's oriole (*Icterus bullockii*), northern harrier (*Circus cyaneus*), western kingbird (*Tyrannus verticalis*), American kestrel (*Falco sparverius*), blue grosbeak (*Passerina caerulea*), and yellow warbler (*Setophaga petechia*).

Westside Detention Basin could serve as a source of food and water for mammalian species during mating or dispersal movements. The heterogenous topography likely results in seasonal pools within the detention basin that can be used as breeding habitat for a variety of amphibious species. Although none were observed during the field survey, western spadefoot (*Spea hammondii*) breeding pools have been reported within the northern portion of the Westside Detention Basin (California Department of Fish and Wildlife, 2019). An abundance of larger raptors makes the Project area generally unsuitable for breeding burrowing owls, however, portions of the site, particularly the berms along the detention basin, could be used as wintering habitat for this special status species. Burrows of suitable dimensions were observed during the field surveys, although no owl sign was present.

Proposed Percolation Areas

The proposed percolation area consists of approximately 504 acres of agricultural land between Palmer and Gale Avenues and approximately 34 acres of effluent ponding basins within the eastern portion of the wastewater treatment facility directly south of the Southern Pacific Railroad line.

Agricultural Fields

Habitats and conditions of the agricultural fields onsite are highly variable. In February 2019, at the time of a site visit, some of the fields were planted in row crops and some were recently disked, barren of vegetation, and contained strategically placed earthen berms. In April 2019, the fields were overgrown with common agricultural weeds; Russian thistle (*Salsola tragus*) was dominant. The site was observed on two separate days in May 2019. One the first day, several of the fields had recently been disked, and it appeared additional fields were being prepared for ground disturbance as crews were removing sprinkler lines. At this time, earthen berms were observed within several of the fields and a large colony of California horned larks (*Eremophila alpestris actia*) was present. By the second survey day in May 2019, the berms had been flattened and the horned larks were not observed. Communication with farm personnel onsite revealed that these fallow fields are disked two to four times per year. Trenching, building berms, grading, and disking are regular ground-disturbing activities associated with agriculture and would be expected to occur throughout the year independent of Project activities. For example, when the site was re-visited in July 2019, evidence of recent, significant ground disturbance was observed. Several new trenches and irrigation pipes were present, and a large portion of the percolation area had been planted in hemp. Given the frequent ground disturbance associated with the agricultural fields in the proposed percolation area, these disturbed habitats would be generally unsuitable for most wildlife. Burrowing mammals would likely be deterred from denning within the disked and disturbed areas, although, they may inhabit adjacent areas, such as the berms along the Westside Detention Basin or ruderal areas used for trash dumping in the vicinity. For instance, numerous ground

squirrel and murid rodent burrows were observed along the berms and compacted dirt roads onsite. During the field survey in May and July of 2019, California ground squirrels (*Otospermophilus beecheyi*) and deer mice (*Peromyscus maniculatus*) were observed foraging throughout the fields and returning to burrows along the perimeter. Additionally, an abundance of black-tailed jackrabbits (*Lepus californicus*) and a few desert cottontails (*Sylvilagus audobonii*) were observed throughout Project areas. Populations of black-tailed jackrabbits were especially abundant in the northernmost portion of the site. Tracks and/or scat indicative of the following mammalian species were also observed along the perimeter of the agricultural fields: coyote (*Canis latrans*), domestic dog, domestic cat, red fox (*Vulpes vulpes*), and opossum (*Didelphis virginiana*).

Although the disturbed habitats of the agricultural fields onsite represent relatively low-quality nesting habitat, some disturbance tolerant species, such as the killdeer (*Charadrius vociferous*), could nest on the ground in these areas. The only active nest observed onsite during the various field surveys belonged to a covey of California quail (*Callipepla californica*) which were nesting within stands of saltbush and Russian thistle along the perimeter of the fields and detention basin. Additional avian species observed within and adjacent to the agricultural fields include: black-necked stilt (*Himantopus mexicanus*), California horned lark (*Eremophila alpestris actia*), American crow (*Corvus brachyrhynchos*), mourning dove (*Zenaida macroura*), Swainson's hawk (*Buteo swainsoni*), northern harrier (*Circus cyaneus*), western kingbird (*Tyrannus verticalis*), American kestrel (*Falco sparverius*), red-winged blackbird (*Agelaius phoeniceus*), Brewer's blackbird (*Euphagus cyanocephalus*), northern mockingbird (*Mimus polyglottos*), red-tailed hawk (*Buteo jamaicensis*), black phoebe (*Sayornis nigricans*), California scrub jay (*Aphelcoma californica*), and European starling (*Sturnus vulgaris*). An inactive stick nest was observed atop a power pole onsite. Substantial whitewash and feathers were found oat the base of power poles and other suitable perches, and during several of the site visits various raptors were observed foraging over the agricultural fields.

San Joaquin fence lizards (*Scleroporous occidentalis biseriatus*) and western side-blotched lizards (*Uta stansburiana elegans*) were observed along the perimeter of the fields, and an abundance of California toads (*Anaxyrus boreas halophilus*) and American bullfrogs (*Lithobates catesbeianus*) were observed within dairy lagoons and basins along Madera Avenue north of Tornado Avenue. Although not observed onsite during the field surveys, additional species known to frequent agricultural habitats include: Pacific gophersnake (*Pituophis catenifer catenifer*), California kingsnake (*Lampropeltis californiae*), Botta's pocket gopher (*Thomomys bottae*), common gray fox (*Urocyon cinereoargenteus*), striped skunk (*Mephitis mephitis*), and raccoon (*Procyon lotor*).

Like most of the land across the valley floor, if the agricultural fields were abandoned or fallowed for an extended period of time, this area would likely revert to non-native grassland habitat and be of much higher quality to wildlife than it is in its current state. However, for the purpose of this Project, baseline conditions should be considered frequently disturbed agricultural lands as described above.

Photographs in **Appendix A** help to illustrate the variable site conditions observed from February through July of 2019.

Excavated Basins

Lands north of Palmer Avenue and west of Madera Avenue within the Project's APE consist of excavated basins divided into cells by earthen berms. These basins were created as part of the City's wastewater treatment plant, although each basin cell within the proposed percolation area was dry during the field surveys. Similar to the agricultural fields onsite, vegetative cover was consistent with non-native ruderal grassland habitat dominated by Russian thistle (*Salsola tragus*), although the basins appeared to be disked and cleared of vegetation at least twice per year. As mentioned above, populations of black-tailed jackrabbits were especially abundant in the northernmost portion of the site, and several dens were observed within the dry excavated basins and berms associated with the wastewater treatment plant. Inundated dairy lagoons to the south and inundated basin cells to the west contained California toads (*Anaxyrus boreas halophilus*), American bullfrogs

(*Lithobates catesbeianus*), killdeer (*Charadrius vociferous*), cinnamon teal *(Spatula cyanoptera*), black-necked stilts (*Himantopus mexicanus*), mallards (*Anas platyrhynchos*), and great egrets (*Ardea alba*). Additional species expected to occur within the excavated basin portion of the site would be similar to those expected to occur within and adjacent to the Westside Detention Basin and the agricultural fields.

Soils

Three soil mapping units representing two soil series were identified within the Project area: Excelsior, sandy substratum-westhaven association, flooded, 0 to 2 percent slopes and Westhaven clay loam, 0 to 2 percent slopes. The northwest edge of the Project site has 1.4 acres mapped as a sewage disposal pond, comprising 0.2 percent of the mapped Project area. None of the mapped 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.

Westhaven clay loam, 0 to 2 percent slopes comprises 7.3 percent of the mapped Project area. The Westhaven series consists of very deep, well drained soils that formed in stratified mixed alluvium weathered from sedimentary and/or igneous rock. These soils have moderately slow permeability with low runoff class. These soils are considered prime farmland if irrigated and are often used for the production of wheat, lettuce, cotton, tomatoes, almonds, grapes, and peaches. Uncultivated areas typically support a vegetative cover dominated by saltbush (Atriplex ssp.) and other annual grasses and forbs.

Excelsior, sandy substratum-westhaven association, flooded, 0 to 2 percent slopes comprise 92.5 percent of the mapped Project area. The Excelsior series consists of very deep, well-drained soils formed in mixed alluvium derived from igneous and calcareous sedimentary rock. These soils have moderate to slow permeability with a low runoff class. This soil is not considered prime farmland, but is used for irrigated cropland including alfalfa, barley, cotton and grapes. The Westhaven soil series is discussed above.

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

Natural Communities of Special Concern

Natural communities of special concern are those that are of limited distribution, distinguished by significant biological diversity, or home to special status species. CDFW is responsible for the classification and mapping of all-natural communities in California. Just 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. However, it is estimated that 95 percent of the Central Valley's riparian habitat has been lost to human activities (Kaitbah, 1984). Due to significant declines, limited distribution, and the numerous benefits to wildlife and biological resources, riparian habitat would be considered a natural community of special concern. Therefore, significant adverse effects to or the conversion of the riparian habitat of Westside Detention Basin would be considered a significant impact.

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.

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.

There are features on the Project site that could serve as movement corridors for wildlife during dispersal or migratory activities, but the frequent human disturbance associated with agricultural production, vehicle traffic, as well as the train tracks running through the northern portion of the site would make it marginal at best. Specifically, the banks of Westside Detention Basin could function marginally as a wildlife movement corridor. Riparian vegetation is present within the detention basin and along the banks. Westside Detention Basin is located directly west of the California Aqueduct and receives water from Los Gatos Creek (formerly Arroyo Pasajero), which is known to serve as an important wildlife movement corridor (Tulare Basin Wildlife Partners, 2009).

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 U.S. Fish and Wildlife Service (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 *Huron* 7.5-minute quadrangle that contains the Project site in its entirety, and for the eight surrounding quadrangles: *Harris Ranch, Calflax, Vanguard, Guijarral Hills, Westhaven, Avenal, La Cima*, and *Kettleman City*. 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 VI of this document. 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 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), U.S. Fish and Wildlife Service (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 California Department of Fish and Wildlife (CDFW) California Wildlife Habitat Relationships (CWHR) database, ebird.org, and the California Herps online database. **Figure 3** shows the Project's 7.5-minute quadrangle, according to USGS Topographic Maps.

Table 1: Special Status Animals with Potential to Occur Onsite or in the Vicinity

Species	*Status*	*Habitat*	*Occurrence on Project Site*
American badger (*Taxidea taxus*)	CSC	Grasslands, savannas, and mountain meadows near timberline are preferred. Most abundant in drier open spaces of shrub and grassland. Burrows in soil.	**Unlikely.** The disturbed habitats of the Project area are generally unsuitable for this species. No suitable burrows or American badger sign (claw marks, tracks, or scat) were observed during the field survey. The nearest recorded observation of this species corresponds to an undated historic collection from an unknown location in the vicinity of Huron, approximately 1 mile west of the Project area.
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 of the Project area are generally unsuitable for this species. The nearest observation of this species was recorded within undisturbed grassland habitat approximately 10 miles west of the Project site.
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.	**Possible.** The agricultural fields are unsuitable given the absence of burrows and the frequent ground disturbance associated with disking. Although some ground squirrel burrows were observed along the banks of the detention basin, the presence of large trees and raptor perches makes the site generally unsuitable for breeding. However, foraging and breeding habitat was observed in the vicinity of the Project, and therefore a burrowing owl individual could conceivably pass through the Project area or use burrows along the banks of Westside Detention Basin as a satellite burrow or as wintering habitat.

Species	*Status*	*Habitat*	*Occurrence on Project Site*
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 glossy snake (*Arizona elegans occidentalis*)	CSC	Inhabits arid scrub, rocky washes, grasslands, and chaparral. Prefers open areas with loose soil for easy burrowing.	**Unlikely.** The disturbed habitats of the Project area are unsuitable for this species, and the site is outside of the known distribution range. The nearest known occurrence was recorded approximately 11.5 miles northwest of the Project area in 1946.
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. The Project is outside of the current distribution range of this species.
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. There is one recorded observation of this species reported in 1992, approximately 12 miles northeast of the Project site at Lemoore Naval Air Station. This record corresponds to a known population of kangaroo rats initially identified as Fresno kangaroo rats, but later thought to be Tipton kangaroo rats (USFWS, 2010). Despite significant efforts, a Fresno kangaroo rat has not been trapped since 1992, and this species may be extirpated due to loss of habitat and fragmentation.
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.** The Project is outside of the accepted distribution range of this species. Suitable habitat is absent and there have been no recorded observations of this species in the Project's vicinity.
giant kangaroo rat (*Dipodomys ingens*)	FE, CE	Inhabits annual grassland communities with few or no shrubs and well-drained, sandy-loam soils on gentle slopes.	**Absent.** The highly disturbed habitats of the Project area and surrounding lands are unsuitable for this species. The Project site is outside of the known current distribution range of this species (USFWS, 2010), and

Species	*Status*	*Habitat*	*Occurrence on Project Site*
			there have been no recorded observations of this species in the vicinity (CNDDB, 2019).
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.	**Possible.** Nesting habitat onsite is marginal, at best, but suitable perching and foraging habitat is present throughout the Project site. The nearest recorded observation of this species was reported approximately 7 miles south of the Project site in an area with water storage ponds and similar riparian vegetation.
long-eared owl (*Asio otus*)	CSC	Frequents dense, riparian and live oak thickets near meadow edges, and nearby woodland and forest habitats. Also found in dense conifer stands at higher elevations. Riparian or other thickets with small, densely canopied trees are required for roosting and nesting. Feeds primarily on small rodents.	**Possible.** Nesting habitat onsite is marginal within and along the banks of the Westside Detention Basin. Foraging habitat in the form of agricultural lands is present and numerous rodent burrows were observed. The nearest recorded observation of this species was reported approximately 11 miles away in the Pleasant Valley Ecological Reserve.
Merlin (*Falco columbarius*)	CWL	Frequents open habitats at low elevation near water and tree stands. Feeds primarily on small birds. Favors coastlines, lakeshores, and wetlands. Dense tree stands close to bodies of water are needed for cover. This species does not breed in California.	**Likely.** There is a recorded observation of this species in the Westside Detention Basin adjacent to the Project area. While the species does not breed in California, the Project site and surrounding area could serve as suitable foraging habitat.
Nelson's antelope squirrel (*Ammospermophilus nelsoni*)	CT	Found in the western San Joaquin Valley on dry, sparsely vegetated loamy soils. Relies heavily on existing small mammal burrows.	**Unlikely.** The nearest known observation of this species corresponds to a historic (1893) collection mapped in the general vicinity of Huron. A recent (1993) observation of this species is mapped in annual grassland habitat approximately 10 miles southwest of the project site in the Guijarral Hills area. Although the Project is located within its historic range, this species has been nearly eliminated from the floor of the Tulare Basin. The habitats of the Project area are frequently disturbed by agricultural practices, which likely also involve the use of rodenticides. Ground squirrel burrows were abundant throughout most of the surveyed areas. California ground squirrels have a propensity to inhabit disturbed lands and displace smaller fossorial species, such as the giant

Species	*Status*	*Habitat*	*Occurrence on Project Site*
			kangaroo rat and antelope squirrel. Harris and Stearns (1991) concluded that "on small habitat fragments surrounded by disturbed or agricultural lands, the potential for California ground squirrels to have a negative impact on antelope squirrels may be significant."
San Joaquin coachwhip (*Masticophis flagellum ruddocki*)	CSC	Found in open dry habitats with little or no tree cover in valley grassland and saltbush scrub communities in the San Joaquin Valley. Relies on mammal burrows for refuge and oviposition sites.	**Unlikely.** This species was observed in 2008 within the Westside Detention Basin, approximately 3 miles northwest of the Project area. Small mammal burrows are abundant throughout the site. However, according to californiaherps.com (2019), this species is thought to be sensitive to disturbance and does not persist in cultivated areas. Therefore, the Project areas, which are frequently disturbed by intensive agricultural practices, are generally unsuitable for this species.
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.	**Possible.** In the past 25 years, there have only been two recorded observations of this species in the vicinity of the Project. One of these observations was reported 10 miles west of the Project site and the other was recorded 15 miles south of the site. There are several historic (pre-1994) recorded observations of this species in the vicinity of the Project, especially along the California Aqueduct. The California Aqueduct runs along the east side of the Westside Detention Basin adjacent to the project site, and special status mammals, such as the San Joaquin kit fox, could use the aqueduct as a movement corridor. Portions of the Project area contained ground squirrels and burrows; however, frequent disturbance onsite would likely discourage habitation within the Project area. This species is highly mobile, and a kit fox individual could pass through the Project area during dispersal or mating movements or use the site for nocturnal foraging. The Project site is approximately 30 miles south-southeast of the nearest Core population in the Ciervo-Panoche Natural Area.

Species	*Status*	*Habitat*	*Occurrence on Project Site*
short-nosed kangaroo rat (*Dipodomys nitratoides brevinasus*)	CSC	Burrows in soil. Often found in grassland and shrubland.	**Absent.** The highly disturbed habitats of the Project area are generally unsuitable for this species. The nearest recorded observation occurred approximately 9 miles southwest from the Project site in grassland habitat of the Guijarral Hills area. Brylski (1998) noted that extensive loss of habitat in the San Joaquin Valley has been primarily attributed to agricultural production. Therefore, a population of this species is unlikely to persist on cultivated lands.
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.	**Present.** Swainson's Hawks were observed onsite during field visits conducted in April, May, and July of 2019. Several inactive raptor nests were observed adjacent to the Project area in cottonwood trees along the Westside Detention Basin. Foraging habitat is present throughout the surveyed Project areas in the form of agricultural lands, and there are several recorded nest trees in the vicinity.
Temblor legless lizard (*Anniella alexanderae*)	CSC	Found primarily underground, burrowing in loose, sandy soil. Forages in loose soil and leaf litter during the day. Occasionally observed on the surface at dusk and night.	**Unlikely.** The disturbed habitats onsite are generally unsuitable for this species. The agricultural parcels are disked at least twice per year for weed abatement. However, the moist soils associated with the Westside Detention Basin may provide marginal habitat for this species. An observation of this species occurred in 2017 in a decommissioned oil field 11 miles west-southwest of the Project site.
Tipton kangaroo rat (*Dipodomys nitratoides nitratoides*)	FE, CE	Burrows in soil. Often found in grassland and shrubland.	**Absent.** The disturbed habitats of the Project area are generally unsuitable for this species. The Project site is outside of the known current distribution range of this species (USFWS, 2010). The only observation of this species in the vicinity corresponds to a 1951 collection and is mapped approximately 13 miles south of the Project site. Portions of the Project area contained rodent burrows, most of which appeared to be of murid origin. No typical burrow precincts or mounds indicative of

Species	*Status*	*Habitat*	*Occurrence on Project Site*
			kangaroo rats were observed and no tracks or tail drags were observed.
tricolored blackbird (*Agelaius tricolor*)	CCE, CSC	Nests colonially near fresh water in dense cattails or tules, or in thickets of riparian shrubs. Forages in grassland and cropland. Large colonies are often found on dairy farm forage fields.	**Possible.** Suitable nesting habitat was absent from the Project area at the time of the field surveys; however, foraging habitat was present in the form of agricultural lands. Furthermore, one of the agricultural parcels within the Project's APE could be considered suitable nesting habitat if it were planted in triticale or another forage crop.
Tulare grasshopper mouse (*Onychomys torridus tularensis*)	CSC	Typically inhabit arid shrubland communities in hot, arid grassland and shrubland associations. Diet consists almost exclusively of arthropods.	**Absent.** There have been no recorded observations of this species in the last 80 years in the vicinity of the Project. Although the Project is located within the historic range of this species, the Tulare grasshopper mouse is thought have been extirpated from the Valley floor.
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 ground disturbance and therefore generally unsuitable for this species. There are no recorded observations of this species in the Project area or the Westside Detention Basin.
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.	**Possible.** Roosting habitat is absent from the Project area and surrounding lands; however, the Project area could be used for nocturnal foraging. The nearest recorded observation of this species was reported approximately 4 miles west of the Project site.
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	**Possible.** Vernal pools and suitable breeding habitat were absent from the Project area at the time of the field survey. Portions of the Project area contained rodent burrows which could potentially be used for aestivation; however, the agricultural lands are frequently disked and subject to disturbance which makes the site generally unsuitable for this species. There are several recent observations of this species reported within the

Species	*Status*	*Habitat*	*Occurrence on Project Site*
		three weeks, which do not contain bullfrogs, fish, or crayfish are necessary for breeding.	northernmost portion of the Westside Detention Basin, and seasonal pools created by uneven topography in the basin may provide suitable breeding habitat.
yellow-headed blackbird (*Xanthocephalus xanthocephalus*)	CSC	Nests colonially in dense emergent wetland thickets (often cattails or tules; rarely willows) over water. Nests, roosts, and forages in fresh emergent wetland. Also forages in open fields but prefers moist ground.	**Possible.** Suitable nesting habitat was not observed during the field surveys; however, marginal foraging was present in the form of agricultural fields, and higher quality habitat may exist when detention basins are full.

Table 2: Special Status Plants with Potential to Occur Onsite 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, and riparian communities at elevations below 1050 feet. Equally likely to occur in wetlands and non-wetlands. Blooms June – October.	**Absent.** The disturbed habitats of the Project areas are unsuitable for this species. One observation of these species occurred 19 years ago approximately 9 miles southwest of the project site in the annual grassland habitat of the Guijarral Hills area.
California jewelflower (*Caulanthus californicus*)	FE, CE, CNPS 1B	Found in the San Joaquin Valley and Western Traverse Ranges. Occurs on flats and slopes, generally in non-alkaline grassland at elevations between 230 feet and 3280 feet. Blooms February – April.	**Absent.** Suitable habitat required by this species is absent from the Project area. All of the recorded occurrences of this species in the vicinity of the Project have been updated to extirpated or possibly extirpated due to conversion of land to agriculture.
Kern mallow (*Eremalche parryi ssp. kernensis*)	FE, CNPS 1B	Found on open, dry, sandy to clay soils, usually within valley saltbush scrub at elevations between 325 – 3300 feet. Blooms March – May.	**Absent.** The disturbed habitats of the Project areas are unsuitable for this species. The Project is near or outside of the elevational range for this species. There have been no observations of this species in the vicinity in over 30 years.
Lemmon's jewelflower (*Caulanthus lemmonii*)	CNPS 1B	Found in the San Joaquin Valley, San Francisco Bay Area, and the South Coast Ranges in pinyon and juniper woodland and valley and foothill grassland habitats at elevations between 250 feet and 5000 feet. Blooms March – May.	**Absent.** The disturbed habitats of the Project areas are unsuitable for this species. Average precipitation and temperature ranges in the area are outside the preferred conditions of the species. There have been no observations of this species in 50 years.
San Joaquin woollythreads (*Monolopia congdonii*)	FE, CNPS 1B	Occurs in the San Joaquin Valley in sandy soils in shadescale shrub and grasslands at elevations between 300 feet and 2300 feet. Found primarily in non-wetlands, but occasionally found in wetlands. Blooms February – May.	**Absent.** Habitats required by this species are absent from the Project area and surrounding lands. The Project site is near or outside of the elevational range for this species. The nearest observation of this species corresponds to a historic (1893) collection. The status of this observation has been updated to "possibly extirpated" due to urbanization and agriculture. The observation notes that no suitable habitat remains in the vicinity of Huron.

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

CNPS Listing

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

III. Significance Criteria

CEQA

General plans, area plans, and specific projects are subject to the provisions of CEQA. The purpose of CEQA is to assess the impacts of proposed projects on the environment prior to project implementation. Impacts to biological resources are just one type of environmental impact assessed under CEQA and vary from project to project in terms of scope and magnitude. Projects requiring removal of vegetation may result in the mortality or displacement of animals associated with this vegetation. Animals adapted to humans, roads, buildings, and pets may replace those species formerly occurring on a site. Plants and animals that are state and/or federally listed as threatened or endangered may be destroyed or displaced. Sensitive habitats such as wetlands and riparian woodlands may be altered or destroyed. Such impacts may be considered either "significant" or "less than significant" under CEQA. According to 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."

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.

Relevant Goals, Policies, and Laws

City of Huron General Plan 2025

The City of Huron General Plan 2025 sets forth the following goals and policies that protect biological resources and which have potential relevance to the Project:

- *Protect natural resources including wildlife natural habitats and ecosystems, natural-pristine vegetation areas, groundwater, soils, and air quality to meet the needs of present and future generations.*

- *Promote biological diversity and the use of plant species compatible with the bio-region.*

- *Areas that have unusually high value for fish and wildlife propagation should be preserved in a natural state to the maximum possible extent.*

Fresno County General Plan

The Fresno County General Plan sets forth the following goals and policies that protect biological resources and which have potential relevance to the Project's environmental review:

- The County shall require adequate buffer zones between construction activities and significant wildlife resources, including both onsite habitats that are purposely avoided and significant habitats that are adjacent to the project site, in order to avoid the degradation and disruption of

critical life cycle activities such as breeding and feeding. The width of the buffer zone should vary depending on the location, species, etc. A final determination shall be made based on informal consultation with the US Fish and Wildlife Service and/or the California Department of Fish and Wildlife.

- The County shall ensure that landmark trees are preserved and protected whenever possible.

- The County shall establish procedures for identifying and preserving rare, threatened, and endangered plant species that may be adversely affected by public or private development projects. As part of this process, the County shall require, as part of the environmental review process, a biological resources evaluation of the project site by a qualified biologist. The evaluation shall be based on field reconnaissance performed at the appropriate time of year to determine the presence or absence of significant plant resources and/or special-status plant species. Such evaluation shall consider the potential for significant impact on these resources and shall *either identify feasible mitigation measures or indicate why mitigation is not feasible*.

- The County shall require developers to take into account a site's natural topography with respect to the design and siting of all physical improvements in order to minimize grading.

- The County should encourage landowners to maintain natural vegetation or plant suitable vegetation along fence lines, drainage and irrigation ditches, and on unused or marginal land for the benefit of wildlife.

Threatened and Endangered Species

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

Designated Critical Habitat

When species are listed as threatened or endangered, the USFWS often designates areas of "Critical Habitat" as defined by section 3(5)(A) of the federal Endangered Species Act (ESA). Critical Habitat is a term defined in the ESA as a specific geographic area that contains features essential for the conservation of a threatened or endangered species and that may require special management and protection. Critical Habitat is a tool that supports the continued conservation of imperiled species by guiding cooperation with the federal government. Designations only affect federal agency actions or federally funded or permitted activities. Critical Habitat does not prevent activities that occur within the designated area. Only activities that involve a federal permit, license, or funding and are likely to destroy or adversely modify Critical Habitat will be affected.

Migratory Birds

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

makes it unlawful to take or possess any non-game bird covered by the MBTA (Section 3513), as well as any other native non-game bird (Section 3800).

Birds of Prey

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

Nesting Birds

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

Wetlands and other Jurisdictional Waters

The 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.

IV. Potentially Significant Project-Related Impacts and Mitigation

Species identified as candidate, sensitive, or special status species in local or regional plans, policies, or regulations by CDFW or USFWS that have the potential to be impacted by the Project are identified below with corresponding mitigation measures.

For the purposes of this Project and implementation of mitigation measures, the term "construction" or "construction activities" refers to staging, mobilization, vegetation removal or trimming, pump placement, pipeline placement, pump removal, and pipeline removal. For example, a "pre-construction survey" would refer to a survey conducted prior to the placement of the pump and again prior to the removal of the pump and pipeline. In addition to surveying the areas directly adjacent to the pumps and pipelines, the first survey would also cover the proposed percolation areas in order to reduce the Project's potential flood-related impacts to species that could be inhabiting the agricultural fields.

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

The Project site contains suitable nesting and/or foraging habitat for a variety of avian species. Several large stick nests, presumed to be inactive raptor nests, were observed within cottonwood trees along the banks of Westside Detention Basin at the time of the field survey. Various riparian songbirds could nest within trees and shrubs within the Westside Detention Basin, and ground-nesting birds, such as killdeer could nest on the bare ground or dirt roads onsite. Special status avian species observed during the field survey and various site visits include: Swainson hawk (*Buteo swainsoni*), northern harrier (*Circus hudsonius*), Cooper's hawk (*Accipiter cooperii*), and California horned lark (*Eremophilia alpestris actia*). The Swainson's hawk is classified threatened in California, the northern harrier is a California Species of Special Concern, and the Cooper's hawk and California horned lark are on California's watch list.

At the time of the field surveys in May and July, California quail were observed nesting within big saltbush along the banks of the detention basin and within the fields planned to receive diverted water. Swainson's hawks were observed foraging and soaring over Project areas during field visits in April, May, and July of 2019. In May and July, at least two pairs were observed onsite each day. Northern harriers were also observed onsite during field visits in April and May. On May 9, large colonies of California horned larks were observed within the agricultural fields onsite; however, by the next survey day (May 14), the fields had been disked and there was no sign of horned larks remaining. It is unknown if the agricultural activities impacted an active nesting colony or if the field was being used for foraging only. If a colony of horned larks were foraging onsite during construction activities or water diversion, they would be expected to fly away from the disturbance, eliminating the risk of injury or death. However, if a colony of California horned larks were nesting onsite during water diversion activities, nests could be flooded, resulting in nest abandonment and reproductive failure. Other ground-nesting birds, such as the killdeer and California quail, with potential to occur onsite could suffer the same fate. Although ground disturbance associated with the Project would be minimal, ground-nesting birds could also be injured or killed by equipment or vehicles traversing the site or during placement of the pipelines and pumps.

At the time of the field survey, red-winged blackbirds (*Agelaius phoeniceus*) were observed foraging in the vicinity, and the Project area is located within the historic and current distribution range for the special status tricolored blackbird (*Agelaius tricolor*). However, tricolored blackbirds are nearly extirpated from Fresno County and very few sites have recently been occupied by a breeding colony in any given year. Despite

significant survey efforts in the San Joaquin Valley, both the 2017 and the 2018 Tricolored Blackbird Monitoring Report failed to discover any tricolored blackbird breeding colonies in Fresno County. While suitable breeding habitat was not observed at the time of the field survey or during any of the site visits, the agricultural fields onsite are highly versatile and could be utilized for a variety of crops, such as triticale which has become preferred habitat for this species. Although it seems unlikely, if a breeding colony of tricolored blackbirds were present within the fields planned for percolation nests could be flooded during water diversion, resulting in nest abandonment and reproductive failure.

Although not observed during the field survey or any of the site visits, the Project area provides suitable wintering habitat for the special status burrowing owl (*Athene cunicularia*). This species would not be expected to breed onsite due to the presence of raptors, large cottonwood trees, and other raptor perches. However, it should be noted that during a biological reconnaissance survey in December of 2016, five burrowing owl individuals and 11 burrowing owl burrows were observed within Westside Detention Basin, directly north of the Project area (USBR, 2017). Therefore, there is potential for this species to occur onsite. Foraging owls and wintering owls could be disturbed or displaced by Project activities, but they would be expected to fly away from the disturbance and/or occupy one of the many other suitable burrows in the vicinity. Although it seems unlikely, if breeding burrowing owls were present during diversion activities, occupied burrows could be flooded which could result in nest failure or direct mortality of young.

In addition to the species discussed above, a variety of raptors and other birds could nest, forage, or pass through the Project area, including the special status loggerhead shrike (*Lanius ludovicianus*), long-eared owl (*Asio otus*), Merlin (*Falco columbarius*), and yellow-headed blackbird (*Xanthocephalus xanthocephalus*). Although activities related to the placement of the pumps and pipelines would represent a low level of disturbance when compared to intensive agricultural practices regularly occurring onsite, the Project does have potential to disturb or disrupt nesting birds in the vicinity. Project 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 involves minor vegetation management activities over an area of approximately 100 square feet for the installation of Pump No. 2 and the associated pipeline which will run from the interior of Westside Detention Basin over the berm and into the fields to the west. The Project does not involve the removal of any trees. Some shrubs and herbaceous vegetation may be cut back to make room for the placement of one of the pumps and some herbaceous vegetation may be flattened by pipeline placement. Vegetation impacts will likely be temporary given the weedy nature of the majority of the plant species observed onsite. Flooded fields could potentially be considered a temporary reduction in nesting or foraging habitat. However, the site is already subject to seasonal flooding, and therefore conditions created by implementation of the Project would be unchanged from existing conditions. For these reasons, loss of nesting and/or foraging habitat would not be considered a potentially significant impact under CEQA or NEPA.

As previously discussed, several Swainson's hawks were observed onsite and in the vicinity from April through July of 2019; therefore, it can be assumed that this species breeds and forages in the vicinity, presumably within the Westside Detention Basin. Several inactive large stick nests were observed within cottonwood trees, and this species is known to exhibit nest site fidelity. Although focused surveys for this species were not conducted according to the Swainson Hawk Technical Advisory Committee's Recommended Timing and Methodology for Swainson's Hawk Nesting Surveys in California's Central Valley (2000), it can be concluded that the site and adjacent lands contain potential nest trees. Swainson's hawks have adapted to urban and agricultural environments and have subsequently become relatively tolerant of human disturbance in these areas. However, it has been noted that individuals of this species remain sensitive to changes in typical activity patterns, such as a new commotion in a previously undisturbed location. Since the Project does not include "intensive new disturbances" or propose activities involving "disturbance that is greater than or significantly different from the daily norm," according to CDFW guidance in Staff Report Regarding Mitigation for Impacts

to Swainson's Hawks (*Buteo swainsoni*) in the Central Valley of California (1994) and the Swainson Hawk Technical Advisory Committee's Recommended Timing and Methodology for Swainson's Hawk Nesting Surveys in California's Central Valley (2000), the Project has low potential to cause nest abandonment or forced fledging. Regardless, at least one survey should be conducted by a qualified biologist for nesting birds, including Swainson's hawks prior to pump and pipeline placement and removal activities. As these activities do not involve ground disturbance or the use of heavy equipment, even if an active nest is located in the vicinity, the probability of the Project resulting in significant disturbance to nesting birds is generally low; however, this probability increases as the distance from the activity to the nest location decreases. When complete avoidance is not feasible, nest monitoring during construction activities may be beneficial in ensuring reproductive success.

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 most special status birds, including Swainson's hawk to a less than significant level under CEQA and NEPA, and will ensure compliance with State and federal laws protecting these avian species. These mitigation measures were derived and adapted from CDFW's Staff Guidance Regarding Avoidance of Impacts to Tricolored Blackbird Breeding Colonies on Agricultural Fields (2015), CDFW's Staff Report Regarding Mitigation for Impacts to Swainson's Hawks (*Buteo swainsoni*) in the Central Valley of California (1994), and the Swainson Hawk Technical Advisory Committee's Recommended Timing and Methodology for Swainson's Hawk Nesting Surveys in California's Central Valley (2000). Avian species requiring additional protective measures will be discussed in detail in the following sections.

> 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 (Nesting Bird 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 and breeding colonies within 30 days prior to the start of construction. The survey shall include the diversion points, pipeline locations, and proposed percolation areas, as well as surrounding lands within 0.5 mile. If no active nests or breeding colonies are observed, no further mitigation is required. Raptor nests are considered "active" upon the nest-building stage.
>
> Mitigation Measure BIO-1c (Establish Buffers): On discovery of any active nests or breeding colonies 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. Specifically, a 300-foot disturbance-free buffer shall be implemented around breeding colonies of tricolored blackbird, and a 0.5-mile disturbance-free buffer shall be implemented around active Swainson's hawk nests, if feasible. 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.
>
> Mitigation Measure BIO-1d (Nest Monitoring): If an active Swainson's hawk nest is observed within 0.5 mile of the work area and avoidance is not feasible, a qualified biologist shall be present onsite during construction activities to monitor the bird and nest site for signs of disturbance. If any signs of disturbance are observed, the biological monitor shall stop construction and contact the local CDFW office.

Burrowing Owl

As previously discussed, the Project provides suitable wintering habitat for the special status burrowing owl, and this species has been observed in the vicinity. Water diversion activities could potentially flood ground nests or burrows, adversely impacting reproductive success. Mitigation Measures BIO-1a through BIO-1c will help to ensure reproductive success and reduce impacts to most avian species, including ground-nesting birds, to a less than significant level. However, given their semi-fossorial nature, extra care should be taken to ensure protection of burrowing owls prior to water diversion activities.

Implementation of the following measures, derived from the CDFW 2012 Staff Report on Burrowing Owl Mitigation, will reduce potential impacts to burrowing owls to a less than significant level, and will ensure compliance with State and federal laws protecting this species.

Mitigation Measure BIO-1e (Pre-construction Take Avoidance Survey): A qualified biologist shall conduct a pre-construction take avoidance survey for burrowing owls and suitable burrows, in accordance with CDFW's Staff Report on Burrowing Owl Mitigation (2012), within 30 days prior to the start of construction activities. The survey shall include the diversion points, pipeline locations, and proposed percolation areas containing suitable habitat, as well as surrounding lands within 500 feet. If no burrowing owl individuals or suitable burrows are observed, no further mitigation is required.

Mitigation Measure BIO-1f (Avoidance): If an active burrowing owl burrow is detected, the occurrence shall be reported to the local CDFW office and the CNDDB, and disturbance-free buffers shall be implemented in accordance with CDFW's 2012 Staff Report on Burrowing Owl Mitigation, as outlined in the table below:

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

Mitigation Measure BIO-1g (Consultation with CDFW and Passive Relocation): If avoidance of an active burrowing owl burrow is not feasible, CDFW shall be immediately consulted to determine the best course of action, which may include passive relocation during non-breeding season. Passive relocation and/or burrow exclusion shall not take place without coordination with CDFW and preparation of an approved exclusion and relocation plan.

Project-Related Impacts to Western Spadefoot

Although typical vernal pool breeding habitat was not observed within Project areas during the field survey or any of the site visits, western spadefoot breeding pools reportedly occur within the northern portion of the Westside Detention Basin, and portions of the Project area provide limited marginal upland habitat for this species. In the spring months, as the detention basin dries out, shallow pools suitable for breeding likely form in the uneven topography. The proposed percolation area consists of agricultural fields that are disked and cultivated several times per year, making them generally unsuitable for this species. However, rodent burrows were observed along some portions of the banks of the Westside Detention Basin which could potentially be used for aestivation; although, it seems unlikely that a rodent or a western spadefoot would inhabit a burrow in an area already subject to seasonal inundation. Furthermore, Project activities would typically be expected to occur when the detention basin is full of water and would be unsuitable as breeding habitat for this species. Although it seems unlikely, western spadefoot individuals could be injured or killed by vehicles or equipment

onsite and a population could be directly impacted by Project activities if a pump were placed in a breeding pool.

Implementation of the following measure will reduce potential impacts to western spadefoot to a less than significant level and will ensure compliance with State and federal laws protecting this species.

> Mitigation Measure BIO-2 (Pre-construction Survey): A qualified biologist shall conduct a pre-construction take avoidance survey for western spadefoot within 30 days prior to the start of construction activities. The survey shall include the diversion points, pipeline locations, and surrounding areas within 500 feet in order to ensure the Project does not directly impact western spadefoot individuals or breeding pools. If western spadefoot individuals or occupied breeding pools are detected, the biologist will contact te local CDFW office for information on how to proceed.

Project-Related Impacts to San Joaquin Kit Fox

The majority of the Project area consists of frequently disked and cultivated agricultural lands, which are generally unsuitable for occupation by San Joaquin kit foxes. However, portions of the site, particularly the berms along Westside Detention Basin could be used as a movement corridor between fragmented patches of marginally suitable habitat and foraging grounds.

Although the Project does not involve grading, excavation, or other activities typically associated with ground disturbance, kit fox individuals could be injured or killed by Project vehicles while passing through the site. Furthermore, in the unlikely event that a kit fox den was located within the proposed percolation area during diversion activities, a natal pupping den could be flooded. Projects that result in the injury or mortality of special status species are considered a violation of State and federal laws and are considered a potentially significant impact under CEQA and NEPA.

Implementation of the following measures will reduce potential impacts to the San Joaquin kit fox to a less than significant level under CEQA and NEPA and will ensure compliance with State and federal laws protecting this species by avoiding any form of "take." These measures were derived from guidance provided in the USFWS 2011 Standardized Recommendations for Protection of the San Joaquin Kit Fox Prior to or During Ground Disturbance. However, many of the Standardized Recommendations were edited and revised in order to remove those irrelevant to the Project and to make measures more feasible and enforceable prior to inclusion in this document as mitigation measure BIO-3b below. Implementation of the following site- and Project-specific mitigation measures will ensure adequate protection of this species from Project-related impacts.

> Mitigation Measure BIO-3a (Pre-Construction Survey): A qualified biologist shall conduct a pre-construction take avoidance survey for San Joaquin kit fox within 30 days prior to the start of construction activities. The survey shall include the diversion points, pipeline locations, and proposed percolation areas containing suitable habitat, as well as surrounding lands within 200 feet. If an active kit fox den is detected within or adjacent to the Project area, construction will be delayed, and CDFW and USFWS shall be consulted to determine the best course of action.
>
> Mitigation Measure BIO-3b (Avoidance and Minimization): The Project shall observe the following avoidance and minimization measures:
>
> - Construction activities and routine maintenance traffic shall be limited to daylight hours.
> - Project-related vehicles shall observe a 20-mph speed limit in all Project areas.
> - Pipes, culverts, or similar structures with a diameter of 4-inches or greater that are stored overnight shall be thoroughly inspected for kit foxes before the pipe is subsequently capped,

used or moved. Alternatively, pipes with a diameter of 4-inches or greater that are left onsite shall be immediately capped or covered with a mesh or wire barrier to exclude kit foxes from entering the pipes.

- During construction activities, all food-related trash items such as wrappers, cans, bottles, and food scraps shall be disposed of in closed containers and removed from the site daily.
- Project-related personnel shall be prohibited from carrying firearms onsite.
- Project-related personnel shall be prohibited from bringing pets (domestic dogs and cats) onsite.
- Prior to construction activities, construction personnel shall be given an educational pamphlet which they are required to read. The pamphlet will be prepared by a qualified biologist and will include, at a minimum, the following information: 1) a description and photograph of the San Joaquin kit fox; 2) a discussion of habitat requirements and reported occurrences of this species in the Project's vicinity; 3) a description of the various State and federal regulations protecting this species and the potential penalties for violation; 4) a list of measures being taken to reduce the Project's potential impacts to this species; and 5) the name and contact information for the Project's representative who will handle reporting of inadvertent injury or mortality of this species to the appropriate regulatory agencies.

Mitigation Measure BIO-3c (Mortality Reporting): The Sacramento Field Office of USFWS and the Fresno Field Office of CDFW will be notified in writing within three working days in the case of the accidental death or injury to a San Joaquin kit fox during construction. Notification must include the date, time, and location of the incident and any other pertinent information.

Project-Related Impacts to Roosting Bats and/or Special Status Bat Species

The cottonwood trees along the banks of Westside Detention Basin could serve as suitable roosting habitat for a variety of small bat species. Project-related impacts to roosting bats could be deemed a potentially significant impact under CEQA and NEPA as it may be considered impeding the use of native wildlife nursery sites. However, the Project does not involve the removal of any trees and the construction activities consist of the seasonal placement of pumps and pipeline. The Project does not involve any ground disturbance or use of heavy equipment. Project-related activities are temporary in nature and the potential for disturbance to wildlife is low. The Project is located in an area frequently disturbed by activities related agricultural production. The pumps and pipelines have been in use for at least the past two years, and implementation of this Project would not be expected to result in an increase in disturbance onsite. Furthermore, although Project timing is dependent on seasonal rainfall, activities generally occur during the winter or early-spring months outside of the typical reproductive season for breeding bats. Therefore, impacts to roosting bats would be considered less than significant.

The riparian habitat and agricultural fields onsite could serve as nocturnal foraging habitat for a variety of bat species, including regionally occurring special status bats such as the western mastiff bat (*Eumops perotis californicus*). If a western mastiff bat were foraging onsite during construction, an individual could be injured or killed by vehicles or equipment onsite. However, implementation of mitigation measure BIO-3b which requires construction activities be restricted to daylight hours and imposes a 20-mph speed limit, would reduce potential impacts to foraging bats to a less than significant level. No additional mitigation measures are necessary.

V. Less Than Significant Project-Related Impacts

Project-Related Impacts to Special Status Plant Species

Five special status plant species have been documented in the Project vicinity, including brittlescale (*Atriplex depressa*), California jewelflower (*Caulanthus californicus*), Kern mallow (*Eremalche parryi spp. kernensis*), Lemmon's jewelflower (*Caulanthus lemmonii*), and San Joaquin woollythreads (*Monolopia congdonii*). As explained in Table 2, all of the aforementioned plant species are absent from the Project area 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 25 regionally occurring special status species, 14 are considered absent from or unlikely to occur within the Project area due to past or ongoing disturbance and/or the absence of suitable habitat. As explained in Table 1, the following species were deemed absent from the Project site: California red-legged frog (*Rana draytonii*), Delta smelt (*Hypomesus transpacificus*), Fresno kangaroo rat (*Dipodomys nitratoides exilis*), giant gartersnake (*Thamnophis gigas*), giant kangaroo rat (*Dipodomys ingens*), short-nosed kangaroo rat (*Dipodomys nitratoides brevinasus*), Tipton kangaroo rat (*Dipodomys nitratoides nitratoides*), Tulare grasshopper mouse (*Onychomys torridus tularensis*), and vernal pool fairy shrimp (*Branchinecta lynchi*); and the following species were deemed unlikely to occur onsite: American badger (*Taxidea taxus*), blunt-nosed leopard lizard (*Gambelia sila*), California glossy snake (*Arizona elegans occidentalis*), Nelson's antelope squirrel (*Ammospermophilus nelsoni*), San Joaquin coachwhip (*Masticophis flagellum ruddocki*), and Temblor legless lizard *(Anniella alexanderae*). Since there is little to no potential for these species to occur onsite, implementation of the Project will have no impact on these 14 special status species through construction, mortality, disturbance, or loss of habitat. Mitigation measures are not warranted.

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

The Project involves the controlled diversion of excess floodwater water from Westside Detention Basin onto adjacent agricultural lands. Although Westside Detention Basin does not appear to be a naturally occurring river, lake, or stream, it receives water from Los Gatos Creek. Historically, CDFW has claimed jurisdiction over activities occurring within Westside Detention Basin, including the diversion of water. In accordance with Sections 1601 and 1602 of the California Fish and Game Code, the Project proponent plans to submit a Notification of Lake or Streambed Alteration (LSA) to CDFW. 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.

The Project does not propose activities anticipated to affect water quality. As previously discussed, the Project has been diverting water at the same locations for the past two years under temporary permits provided by the State Water Resources Control Board. Apparently, Water Quality Certifications and USACE permits have not been required for the Project in the past, and therefore, it can be assumed that a Water Quality Certification and USACE permit would also not be required for the ongoing diversion of water. Although significant impacts

are not anticipated, if it is determined that the Project requires additional permits regarding potential impacts to jurisdictional waters or water quality, the Project proponent will be required to obtain the appropriate permits from applicable regulatory agencies and abide by conditions contained within said permits.

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

Riparian habitat is present within the Westside Detention Basin. There are no CNDDB-mapped "natural communities of special concern," however, if the Project were to result in a loss of riparian habitat, it would be considered a significant impact. The Project does not involve the removal of any trees or shrubs, although an area of approximately 100 square feet of rough cocklebur (*Xanthium strumarium*) will be trimmed to facilitate placement of Pump No. 2. Vegetation will likely re-generate rather quickly given the weedy nature of the ground cover onsite and would not constitute a substantial loss of breeding or foraging habitat for native wildlife. Therefore, impacts to riparian vegetation will be temporary and less than significant in nature.

The Project does involve the diversion of excess floodwater from the Westside Detention Basin onto adjacent farmland at a greater rate than what occurs naturally each year. However, the rate at which the water is diverted, and the total amount allowed to be diverted from the riparian detention basin is set by the State Water Resources Control Board. Furthermore, the Project proponent will notify CDFW of the proposed diversion activities pursuant to Section 1602 of the California Fish and Game Code. If CDFW determines that the activity may adversely affect fish and wildlife resources, including riparian habitat, 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. This ensures that the Project will not result in a significant impact to riparian habitat.

Project-Related Impacts to Wildlife Movement Corridors and Native Wildlife Nursery Sites

As discussed above, potential Project-related impacts to bat nursery sites were determined to be unlikely and less than significant in nature, and implementation of mitigation measures BIO-1a through BIO-1g would reduce potential Project-related impacts to migratory birds and nesting birds to a less than significant level. Since the percolation areas already experience seasonal inundation and a significant amount of ground disturbance year-round related to agriculture, semi-fossorial mammals, like the San Joaquin kit fox or common lagomorphs would be deterred from denning in these areas. Therefore, the Project would not be expected to impede the use of native wildlife nursery sites in the form of potential dens or burrows. However, in the unlikely event a San Joaquin kit fox were denning within the Project area, potential Project-related impacts would be avoided by implementing mitigation measures BIO-3a and BIO-3b listed above.

Perennial water features are absent from the Project area; therefore, implementation of the Project will not interfere with the movement of native or migratory fish. The percolation areas are subject to frequent ground disturbance related to agricultural production and seasonal inundation, and consequently are not likely to serve as an important link or provide connectivity between patches of habitat for breeding, foraging, or migration. However, the banks of the Westside Detention Basin and the associated riparian habitat could function marginally as a movement corridor for some native wildlife species.

As mentioned above, the Project involves the placement of temporary pumps and the controlled diversion of excess floodwater onto adjacent agricultural lands that are already subject to seasonal inundation. In addition to being temporary, Project activities are essentially unchanged from baseline conditions onsite. Therefore, implementation of the Project would not impede the use of the banks of the detention basin or any other portion of the site as a movement corridor.

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.

Local Policies or Habitat Conservation Plans

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

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.

Project-Related Impacts 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 E** at the end of this document. Mitigation is not warranted.

VI. Section 7 Determinations

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

Table 3: Section 7 Determinations

Species	Determination	Rationale for Determination
Animals from IPaC Species List		
blunt-nosed leopard lizard (*Gambelia sila*)	No effect	Habitat absent. No recorded observations within 10 miles.
California red-legged frog (*Rana draytonii*)	No effect	Habitat absent. The Project is outside of the known distribution range.
Delta smelt (*Hypomesus transpacificus*)	No effect	Habitat absent. The Project does not involve activities that would affect surface water quality, and therefore there is no potential for downstream effects.
giant garter snake (*Thamnophis gigas*)	No effect	Habitat absent. The Project is outside of the known current distribution range.
giant kangaroo rat (*Dipodomys ingens*)	No effect	Habitat absent. The Project is outside of the known current distribution range.
San Joaquin kit fox (*Vulpes macrotis mutica*)	May effect, not likely to adversely affect	Habitat marginal, at best. There have only been two recorded observations in the vicinity in the past 25 years, both of which occurred more than 10 miles from the Project site. This species could potentially pass through the site during dispersal, mating, or foraging movements, but with implementation of the USFWS 1999 *Standardized Recommendations for Protection of the San Joaquin Kit Fox Prior to or During Ground Disturbance,* the Project is not likely to adversely affect this species.
Tipton kangaroo rat (*Dipodomys nitratoides nitratoides*)	No effect	Habitat absent. The Project is outside of the known current distribution range.
vernal pool fairy shrimp (*Branchinecta lynchi*)	No effect	Habitat absent. There have been no recorded observations of this species on the Project site.
Plants from IPaC Species List		
California jewelflower (*Caulanthus californicus*)	No effect	Habitat absent.
San Joaquin woollythreads (*Monolopia congdonii*)	No effect	Habitat absent.
Additional Federally Protected Animals from CNDDB 9-Quad Search		
Fresno kangaroo rat (*Dipodomys nitratoides exilis*)	No effect	Habitat absent. Despite significant efforts, this species has not been trapped since 1992.
Additional Federally Protected Plants from CNDDB 9-Quad Search		
Kern mallow (*Eremalche parryi ssp. kernensis*)	No effect	Habitat absent.

VII. References

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Appendix A

SELECTED PHOTOGRAPHS OF THE PROJECT AREA

CITY OF HURON

ARROYO PASAJER0 MUTUAL WATER COMPANY
GROUNDWATER RECHARGE PROJECT

Photograph 1:

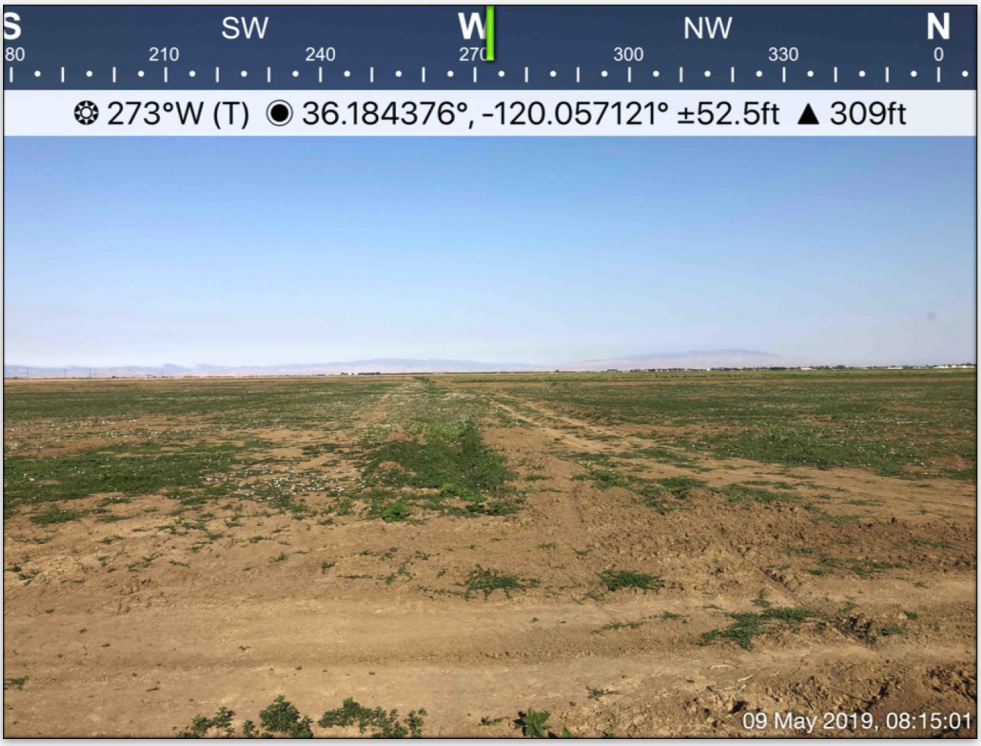
Photograph from inside Westside Detention Basin at the southernmost diversion point (Pump No. 2).

Photograph 2:

View into the Westside Detention Basin from the top of the berm at the southernmost diversion point (Pump No.2). A pipeline will travel from within the basin, over the berm, and connect to the pump on the west side of the berm.

Photograph 3:

This photograph shows the location of Pump No. 2 on the west side of the berm around Westside Detention Basin.



Photograph 4:

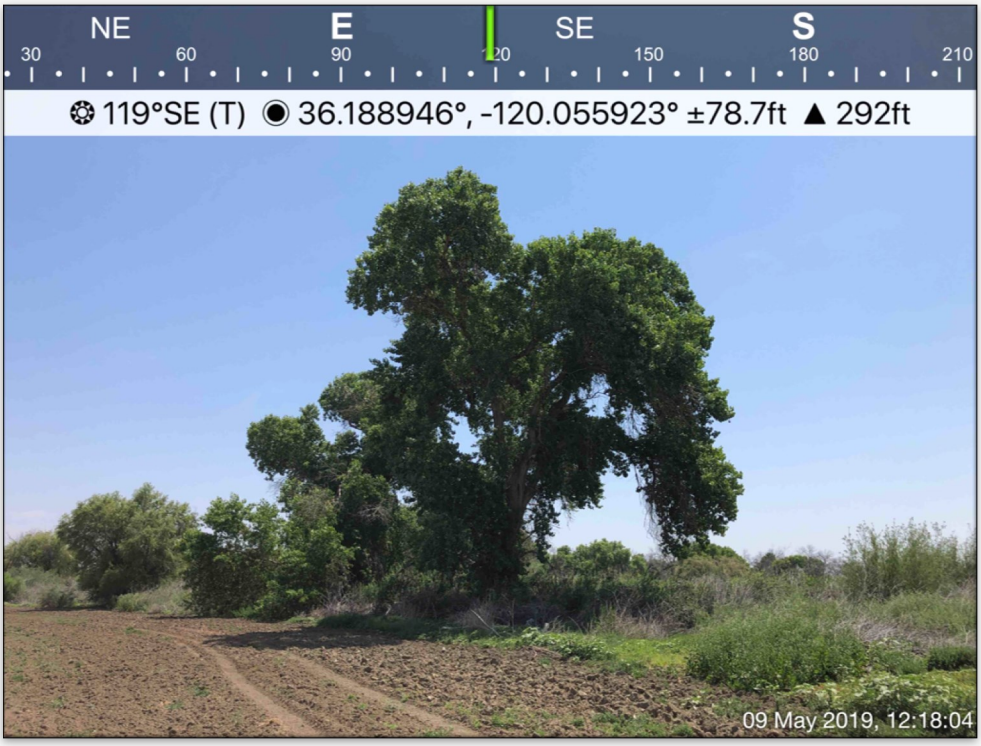
Overview of agricultural fields within the percolation area west of diversion point No. 2.

Photograph 5:

Overview of the agricultural fields within the percolation area. Taken from atop the berm around Westside Detention Basin. Compacted dirt roads are visible in this photograph. The trailer and pipes on the right were left onsite after last year's diversion activities.

Photograph 6:

Evidence of illegal trash dumping onsite. This photo was taken beneath a stand of cottonwood trees along the corridor of Westside Detention Basin, between the locations of Pump No. 2 and Pump No. 1.

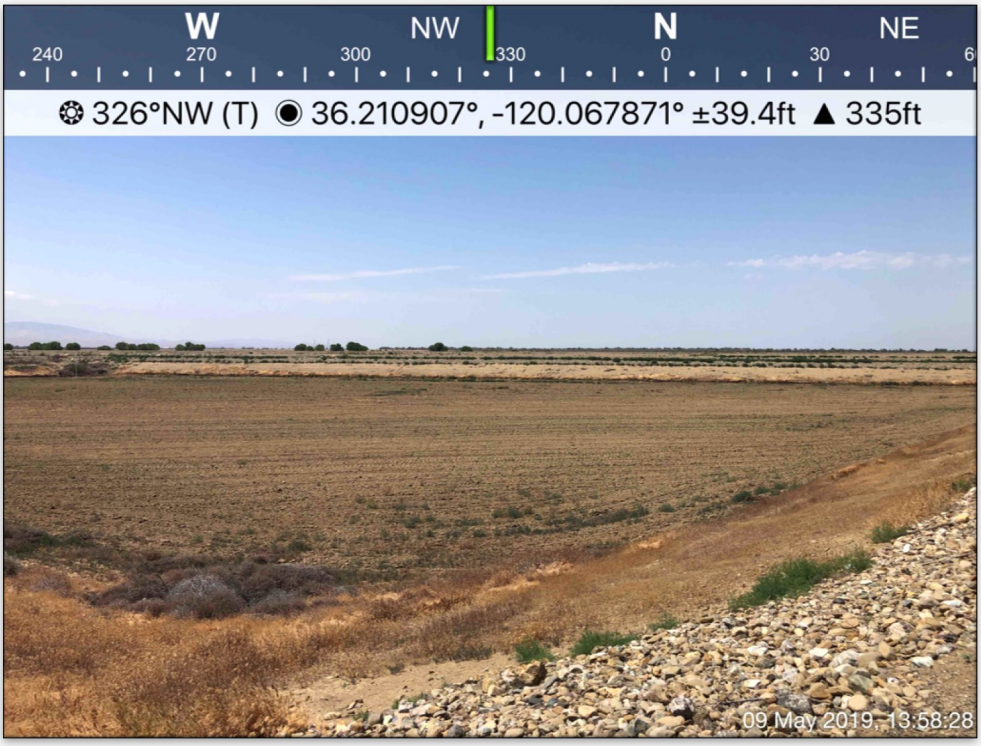


Photograph 7:

Cottonwood trees along top of bank of Westside Detention Basin. Several inactive stick nests were observed within Cottonwood trees onsite and in the vicinity.

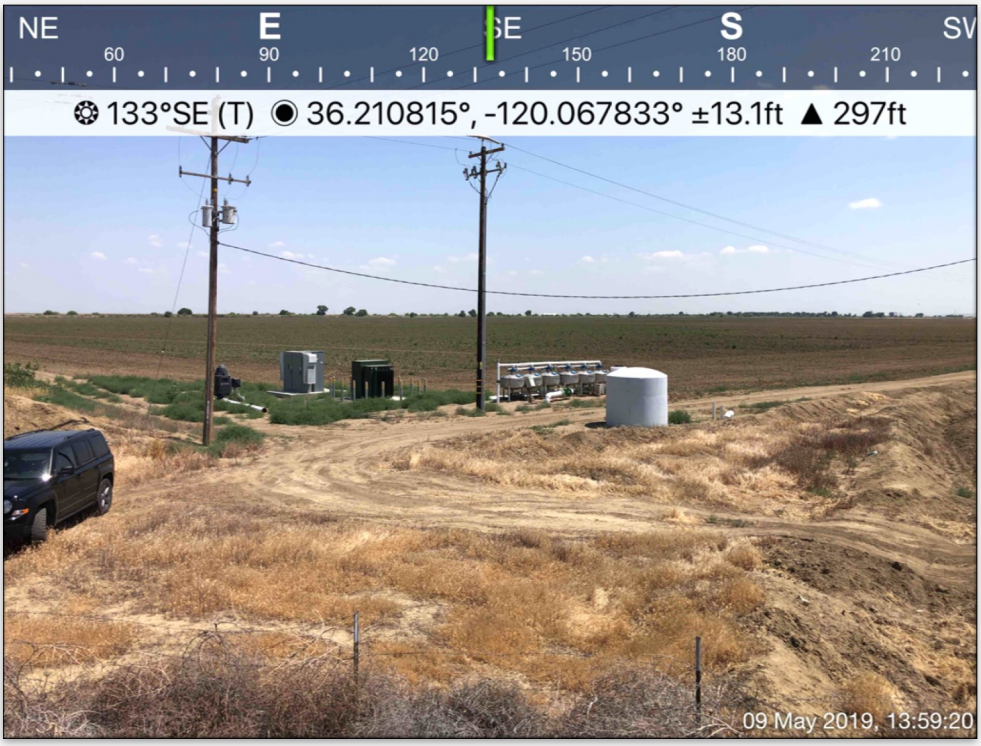
Photograph 8:

Overview of recently-disked agricultural fields within the percolation area. An existing compacted dirt access road is visible in this photograph.



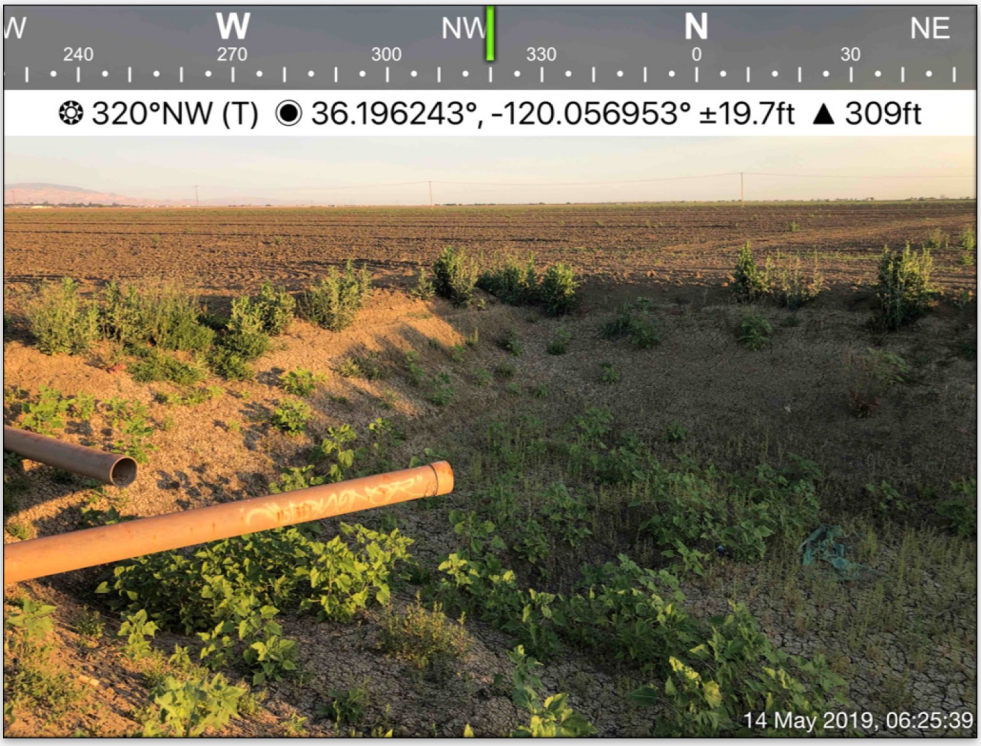
Photograph 9:

Overview of the northern percolation area composed of existing wastewater treatment ponds.



Photograph 10:

Overview of agricultural fields within the percolation area and the location of Pump No. 3.

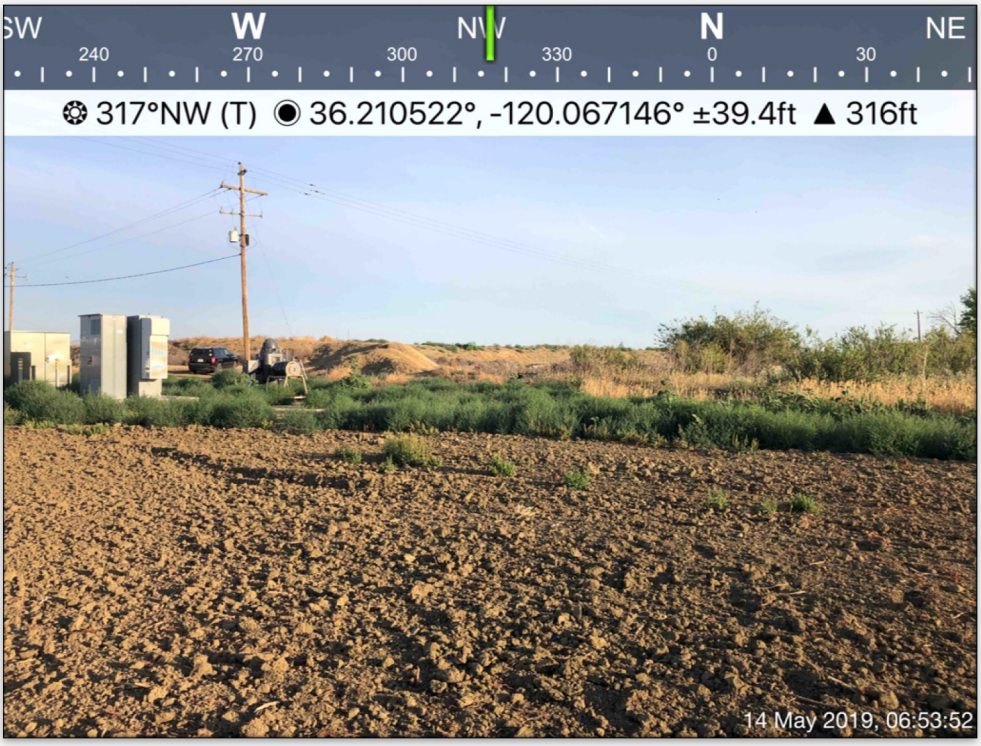


Photograph 11:

Location of the middle diversion point and Pump No. 1. This photograph shows an existing basin onsite and some old piping unrelated to this Project. Vegetative cover in this area is composed predominantly of sunflower and Russian thistle. Recently-disked agricultural fields within the percolation area are visible in the background.

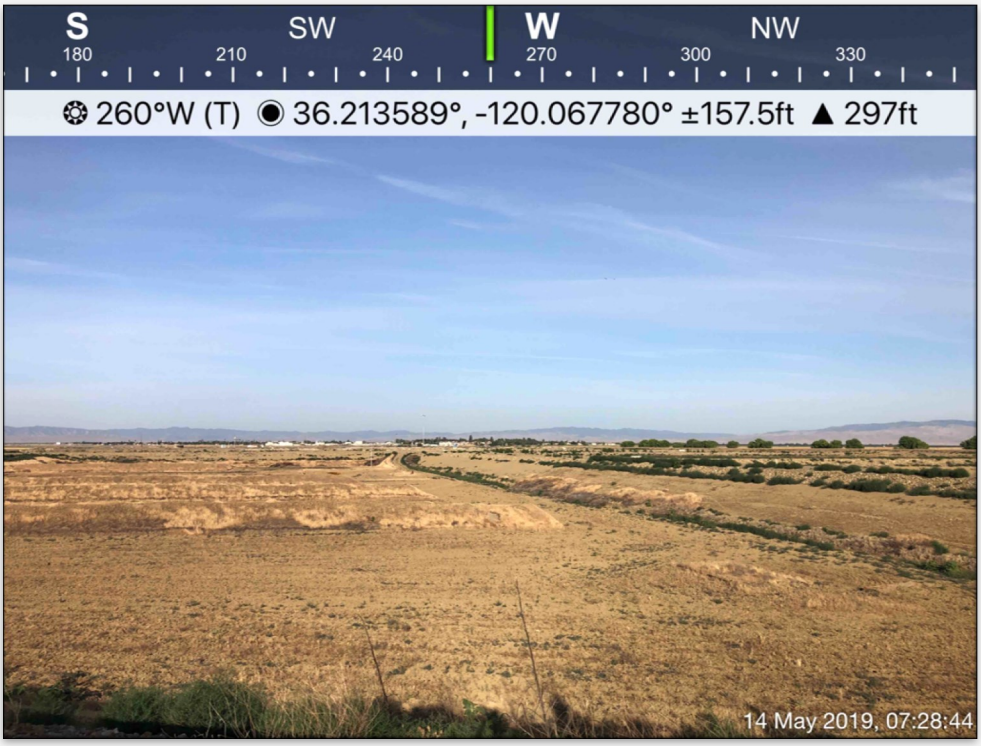
Photograph 12:

The location of Pump No. 1 is visible in the foreground. Riparian habitat of Westside Detention Basin is visible in the background to the left and recently-disked agricultural fields within the percolation area are visible in the background to the right.



Photograph 13:

This photograph shows the location of the northernmost diversion point and Pump No. 3. The riparian habitat of Westside Detention Basin is visible in the background. Recently-disked agricultural field within the percolation area is visible in the foreground. This photograph also shows dense stands of Russian thistly within Project areas.

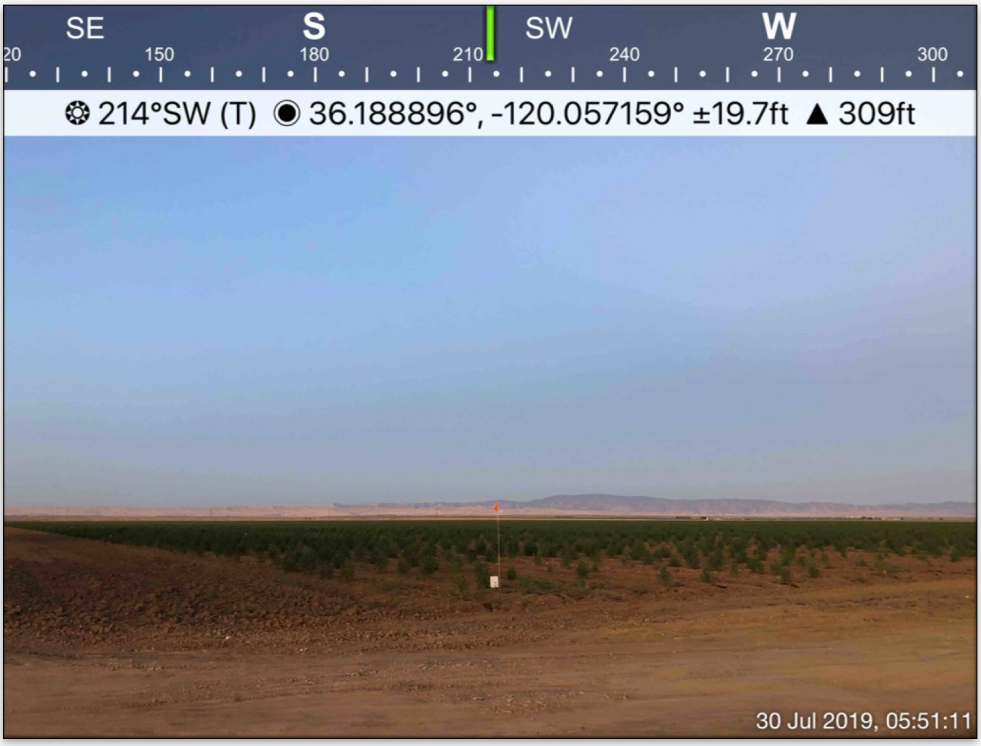


Photograph 14:

Overview of existing wastewater treatment ponds within the percolation area. Earthen berms are present within the basin and vegetation appears to have been recently cleared.

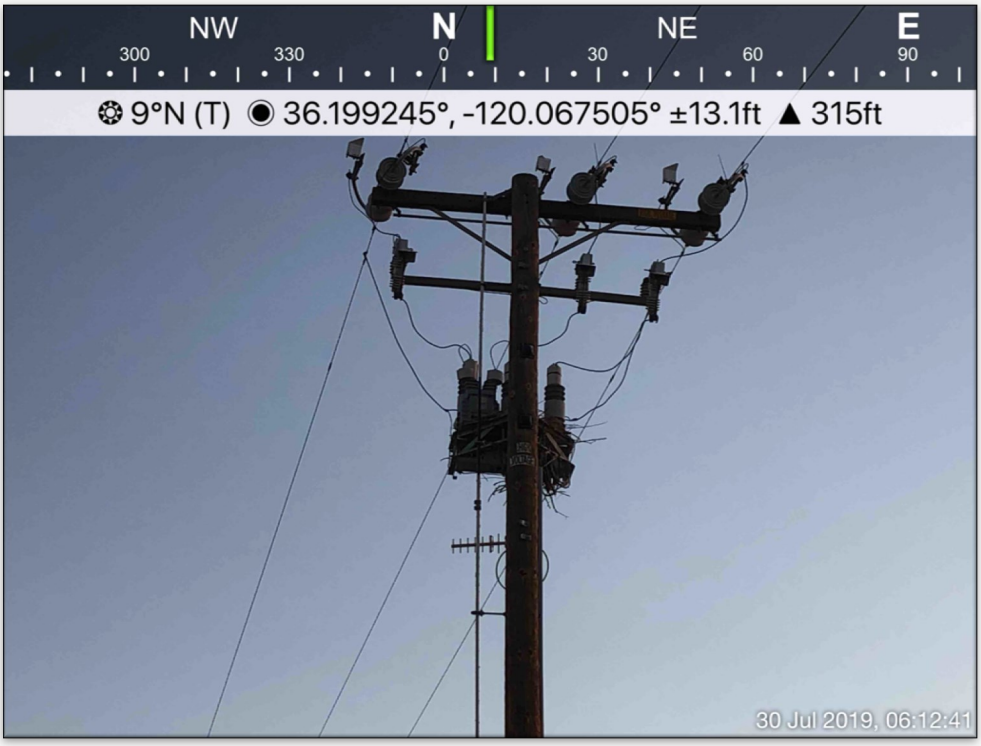
Photograph 16:

Active black-tailed jackrabbit den within the wastewater treatment ponds in the percolation area.



Photograph 17:

Overview of the southern portion of the percolation area. In May, this was a recently-disked, barren field. In July, it had been planted in hemp.

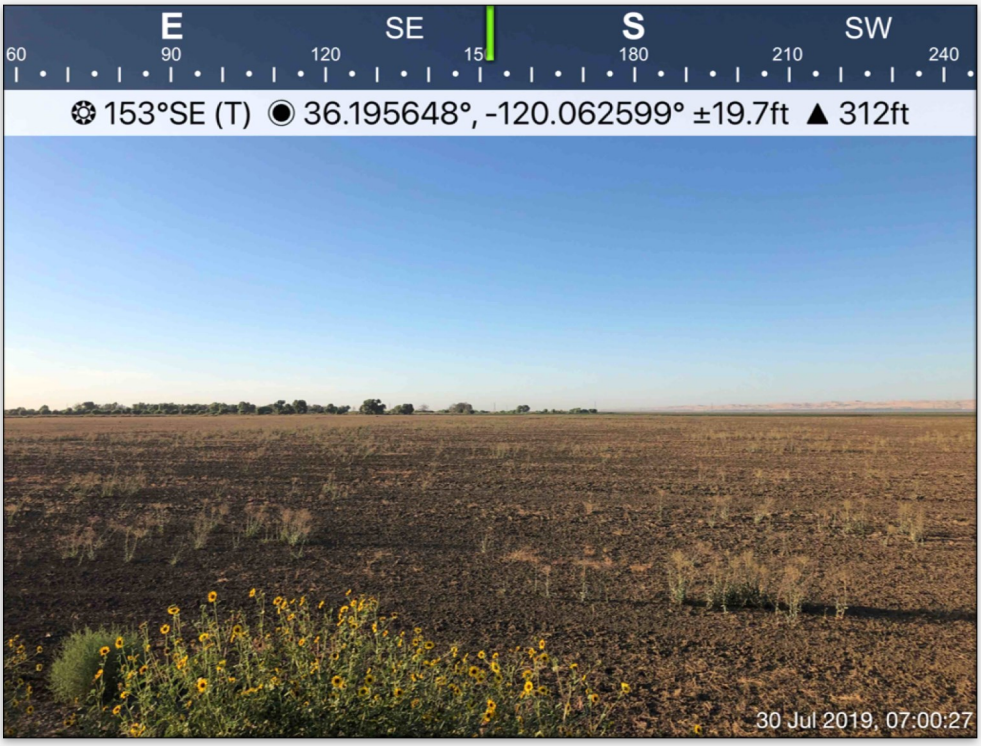


Photograph 17:

Inactive stick nest on power pole along the western boundary of the percolation area.

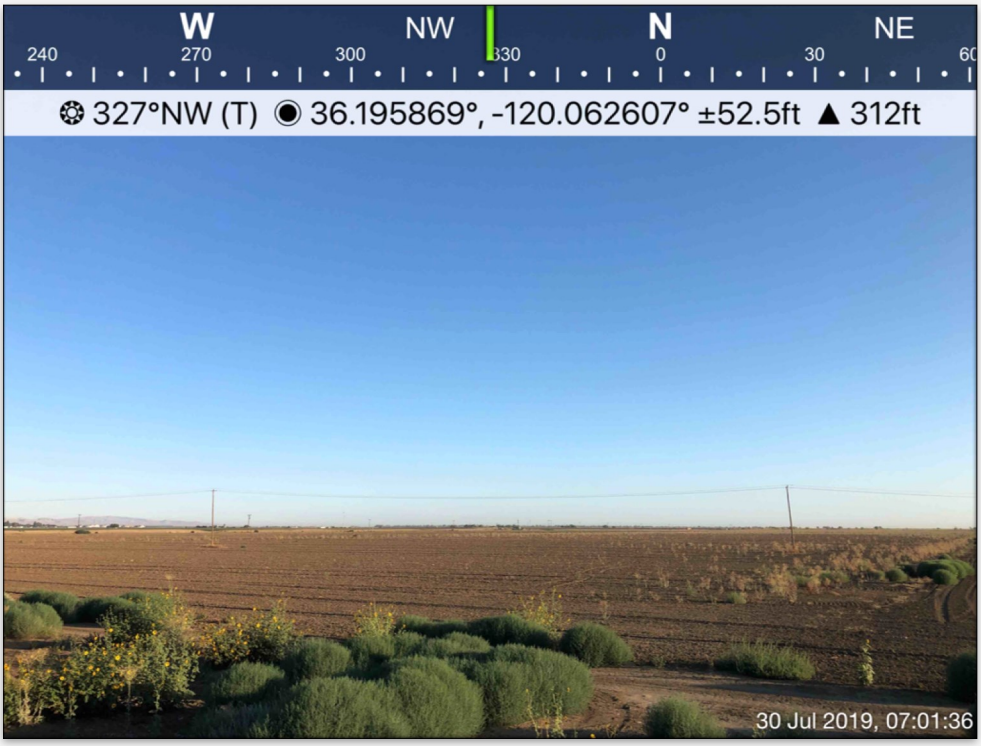
Photograph 18:

Significant whitewash was observed at the base of several power poles and other suitable raptor perches on-site.



Photograph 19:

Overview of agricultural fields within the percolation area.



Photograph 20:

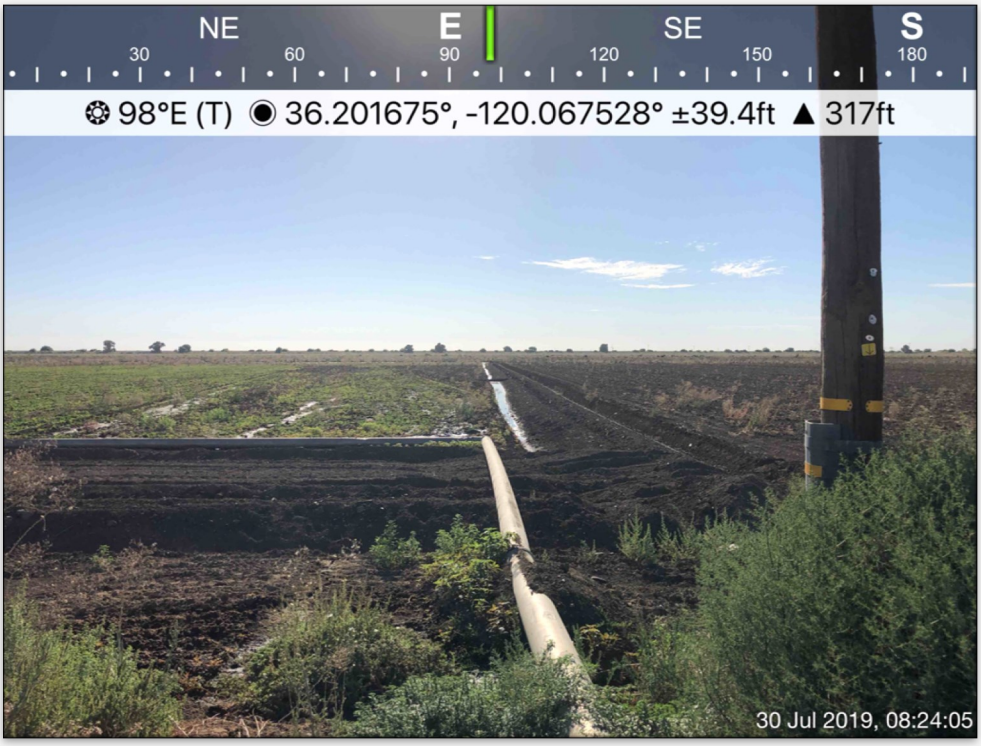
Overview of agricultural fields within the percolation area south of Palmer Ave and east of Madera Avenue.

Photograph 21:

A covey of California quail was observed within Russian thistle near the proposed location of Pump No. 3.

Photograph 22:

This photograph shows an overgrowth of Russian thistle near the proposed location of Pump No. 3. In May 2019, this area had been disked and was barren of vegetation.



Photograph 23:

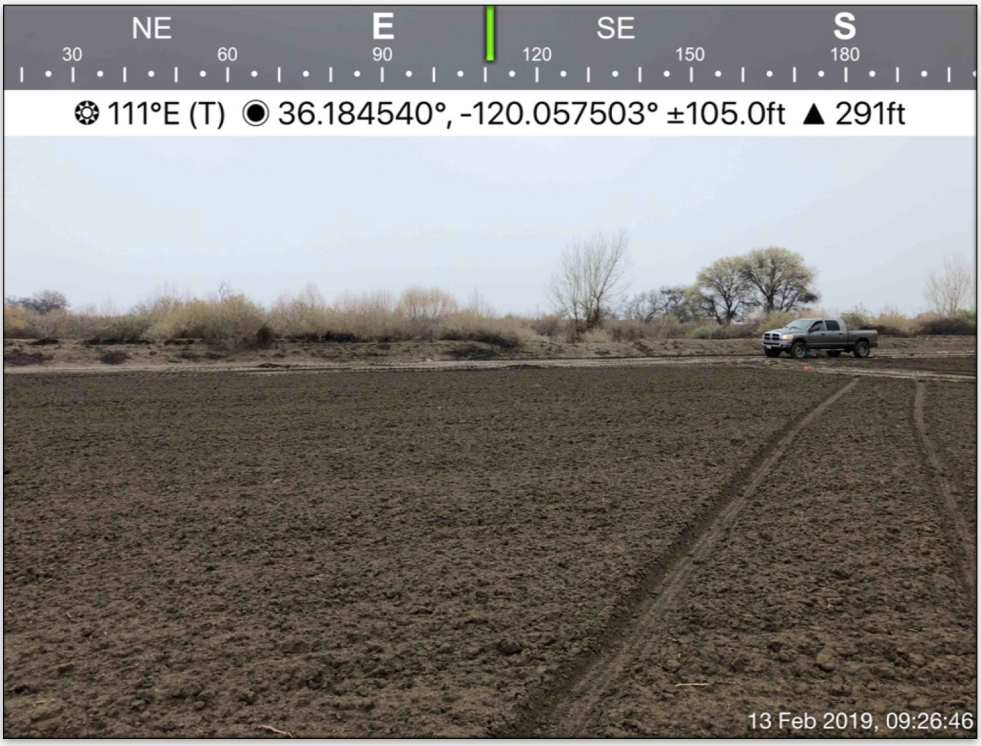
This photograph shows evidence of recent extensive ground disturbance onsite. Several new pipelines and trenches had been constructed within the southern percolation area as part of the hemp farming operation. This irrigation infrastructure was not present during the surveys in February or May of 2019.

Photograph 24:

This photograph shows evidence of recent extensive ground disturbance onsite. Several new pipelines and trenches had been constructed within the southern percolation area as part of the hemp farming operation. This irrigation infrastructure was not present during the surveys in February or May of 2019.

Photograph 25:

This photograph shows the Westside Detention Basin at the location of Diversion Point No. 2 in February 2019.



Photograph 26:

Barren agricultural fields in the percolation area are visible in the foreground. The Westside Detention Basin and the location of Pump No. 2 is visible in the background. This photograph shows site conditions in February 2019 just before diversion activities.

Appendix B

CNDDB 9-QUAD SEARCH RESULTS

CITY OF HURON

ARROYO PASAJER0 MUTUAL WATER COMPANY
GROUNDWATER RECHARGE PROJECT

Selected Elements by Common Name

California Department of Fish and Wildlife

California Natural Diversity Database

Query Criteria: Quad IS (Huron (3612021) OR Harris Ranch (3612032) OR Calflax (3612031) OR Vanguard (3611938) OR Guijarral Hills (3612022) OR Westhaven (3611928) OR Avenal (3612012) OR La Cima (3612011) OR Kettleman City (3611918))

Species	Element Code	Federal Status	State Status	Global Rank	State Rank	Rare Plant Rank/CDFW SSC or FP
American badger *Taxidea taxus*	AMAJF04010	None	None	G5	S3	SSC
black-crowned night heron *Nycticorax nycticorax*	ABNGA11010	None	None	G5	S4	
blunt-nosed leopard lizard *Gambelia sila*	ARACF07010	Endangered	Endangered	G1	S1	FP
brittlescale *Atriplex depressa*	PDCHE042L0	None	None	G2	S2	1B.2
burrowing owl *Athene cunicularia*	ABNSB10010	None	None	G4	S3	SSC
California glossy snake *Arizona elegans occidentalis*	ARADB01017	None	None	G5T2	S2	SSC
California jewelflower *Caulanthus californicus*	PDBRA31010	Endangered	Endangered	G1	S1	1B.1
Fresno kangaroo rat *Dipodomys nitratoides exilis*	AMAFD03151	Endangered	Endangered	G3TH	SH	
Great Valley Mesquite Scrub *Great Valley Mesquite Scrub*	CTT63420CA	None	None	G1	S1.1	
Kern mallow *Eremalche parryi ssp. kernensis*	PDMAL0C031	Endangered	None	G3G4T3	S3	1B.2
Lemmon's jewelflower *Caulanthus lemmonii*	PDBRA0M0E0	None	None	G3	S3	1B.2
loggerhead shrike *Lanius ludovicianus*	ABPBR01030	None	None	G4	S4	SSC
long-eared owl *Asio otus*	ABNSB13010	None	None	G5	S3?	SSC
merlin *Falco columbarius*	ABNKD06030	None	None	G5	S3S4	WL
molestan blister beetle *Lytta molesta*	IICOL4C030	None	None	G2	S2	
Nelson's antelope squirrel *Ammospermophilus nelsoni*	AMAFB04040	None	Threatened	G2	S2S3	
San Joaquin coachwhip *Masticophis flagellum ruddocki*	ARADB21021	None	None	G5T2T3	S2?	SSC
San Joaquin dune beetle *Coelus gracilis*	IICOL4A020	None	None	G1	S1	
San Joaquin kit fox *Vulpes macrotis mutica*	AMAJA03041	Endangered	Threatened	G4T2	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
San Joaquin Pocket Mouse *Perognathus inornatus*	AMAFD01060	None	None	G2G3	S2S3	
San Joaquin woollythreads *Monolopia congdonii*	PDASTA8010	Endangered	None	G2	S2	1B.2
short-nosed kangaroo rat *Dipodomys nitratoides brevinasus*	AMAFD03153	None	None	G3T1T2	S1S2	SSC
Swainson's hawk *Buteo swainsoni*	ABNKC19070	None	Threatened	G5	S3	
Temblor legless lizard *Anniella alexanderae*	ARACC01030	None	None	G1	S1	SSC
Tipton kangaroo rat *Dipodomys nitratoides nitratoides*	AMAFD03152	Endangered	Endangered	G3T1T2	S1S2	
tricolored blackbird *Agelaius tricolor*	ABPBXB0020	None	Threatened	G2G3	S1S2	SSC
Tulare grasshopper mouse *Onychomys torridus tularensis*	AMAFF06021	None	None	G5T1T2	S1S2	SSC
western mastiff bat *Eumops perotis californicus*	AMACD02011	None	None	G5T4	S3S4	SSC
western spadefoot *Spea hammondii*	AAABF02020	None	None	G3	S3	SSC
yellow-headed blackbird *Xanthocephalus xanthocephalus*	ABPBXB3010	None	None	G5	S3	SSC

Record Count: 30

Appendix C

IPAC OFFICIAL SPECIES LIST

CITY OF HURON

ARROYO PASAJER0 MUTUAL WATER COMPANY
GROUNDWATER RECHARGE PROJECT

United States Department of the Interior

FISH AND WILDLIFE SERVICE
Sacramento Fish And Wildlife Office
Federal Building
2800 Cottage Way, Room W-2605
Sacramento, CA 95825-1846
Phone: (916) 414-6600 Fax: (916) 414-6713

In Reply Refer To: May 07, 2019
Consultation Code: 08ESMF00-2019-SLI-1866
Event Code: 08ESMF00-2019-E-05989
Project Name: City of Huron: Arroyo Pasajero/Westside Detention Basin Groundwater Recharge Project

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-1866

Event Code: 08ESMF00-2019-E-05989

Project Name: City of Huron: Arroyo Pasajero/Westside Detention Basin Groundwater Recharge Project

Project Type: WATER SUPPLY / DELIVERY

Project Description: The applicant, Arroyo Pasajero Mutual Water Company proposes to divert water which reaches the Westside Detention Basin (WSDB) ponding area along the Aqueduct adjacent to Gale Avenue for the benefit of the Arroyo Pasajero Mutual Water Company and the City of Huron for irrigated agriculture, municipal water supply, and flood relief by direct diversion and underground storage. Runoff from Los Gatos, Warthan, Jacalitos, and Zapato Chino Creeks with watershed of approximately 529 square miles drains into the Arroyo Pasajero and then ponds at the WSDB along the westerly embankment of the California Aqueduct (Aqueduct or San Luis Canal), north and east of the City of Huron.

The existing facilities are owned by the US Bureau of Reclamation (Reclamation), the City of Huron, and private landowners. Water builds up against the Aqueduct and in the WSDB and then onto the private property in Sections 1, 6, 7, and 18 and during large rain events can possibly overflow at Gale Avenue into Section 19 (Township 20 South, Range 18 East, M.D.B. & M.). The landowners will manage the water that ponds and infiltrates on their property and propose to install up to four portable temporary pumps (totaling 20 cfs maximum) at the three points of diversion (each approximately 200 square feet) for the distribution of water to percolate over additional existing bermed ponding areas. The infiltration area is approximately 500 acres and includes agricultural land and the City of Huron percolation ponds. Recovery of stored water will be from existing agricultural irrigation wells near the ponded areas for beneficial use of irrigated agriculture and municipal water supply with Place of Use of 6,664 acres.

The temporary diversion facilities include a booster pump with a flow rate between 3 and 7 cfs, the pipeline will be 10” diameter aluminum pipe, a flow meter meeting the SB88 requirements for reporting under the water right. The suction end will have a screen and a float assembly.

Flooding occurs at the Arroyo Pasajero Creek and Lassen Avenue, and once the WSDB fills in, the excess water spills over Gale Avenue. The

proposed diversion will relieve pressure on the WSDB and therefore potentially reducing flooding and associated impacts at main roads used by City of Huron residents.

Project Location:

Approximate location of the project can be viewed in Google Maps: https://www.google.com/maps/place/36.19264796068198N120.06464993079697W

Counties: Fresno, CA

Endangered Species Act Species

There is a total of 10 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.

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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
Giant Kangaroo Rat *Dipodomys ingens* No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/6051	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

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
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

Flowering Plants

NAME	STATUS
California Jewelflower *Caulanthus californicus* No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/4599	Endangered
San Joaquin Wooly-threads *Monolopia (=Lembertia) congdonii* No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/3746	Endangered

Critical habitats

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

Appendix D

NRCS CUSTOM SOILS RESOURCE REPORT

CITY OF HURON

ARROYO PASAJER0 MUTUAL WATER COMPANY
GROUNDWATER RECHARGE PROJECT

United States Department of Agriculture

NRCS

Natural Resources Conservation Service

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

Custom Soil Resource Report for Fresno County, California, Western Part

Soils Report

August 13, 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.

The U.S. Department of Agriculture (USDA) prohibits discrimination in all its programs and activities on the basis of race, color, national origin, age, disability, and where applicable, sex, marital status, familial status, parental status, religion, sexual orientation, genetic information, political beliefs, reprisal, or because all or a part of an individual's income is derived from any public assistance program. (Not all prohibited bases apply to all programs.) Persons with disabilities who require

alternative means for communication of program information (Braille, large print, audiotape, etc.) should contact USDA's TARGET Center at (202) 720-2600 (voice and TDD). To file a complaint of discrimination, write to USDA, Director, Office of Civil Rights, 1400 Independence Avenue, S.W., Washington, D.C. 20250-9410 or call (800) 795-3272 (voice) or (202) 720-6382 (TDD). USDA is an equal opportunity provider and employer.

Contents

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: 1:22,200 if printed on A portrait (8.5" x 11") sheet.

N

Meters: 0 300 600 1200 1800

Feet: 0 1000 2000 4000 6000

Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 10N 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.

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: Fresno County, California, Western Part
Survey Area Data: Version 13, 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
477	Westhaven clay loam, 0 to 2 percent slopes	40.9	7.3%
960	Excelsior, sandy substratum-westhaven association, flooded, 0 to 2 percent slopes	518.3	92.5%
981	Sewage disposal pond	1.4	0.2%
Totals for Area of Interest		**560.5**	**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.

Fresno County, California, Western Part

477—Westhaven clay loam, 0 to 2 percent slopes

Map Unit Setting

National map unit symbol: hp0d
Elevation: 250 to 640 feet
Mean annual precipitation: 6 to 8 inches
Mean annual air temperature: 62 to 65 degrees F
Frost-free period: 240 to 290 days
Farmland classification: Prime farmland if irrigated

Map Unit Composition

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

Description of Westhaven, Clay Loam

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 calcareous sedimentary rock

Typical profile

Ap - 0 to 12 inches: clay loam
Bw - 12 to 21 inches: silty clay loam
Bk - 21 to 61 inches: stratified loam to silty clay loam
C - 61 to 72 inches: stratified loamy sand to silty clay 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 (0.20 to 0.57 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: Very rare
Frequency of ponding: None
Calcium carbonate, maximum in profile: 4 percent
Gypsum, maximum in profile: 1 percent
Salinity, maximum in profile: Nonsaline to slightly saline (0.0 to 4.0 mmhos/cm)
Sodium adsorption ratio, maximum in profile: 12.0
Available water storage in profile: High (about 10.5 inches)

Interpretive groups

Land capability classification (irrigated): 1
Land capability classification (nonirrigated): 7c
Hydrologic Soil Group: C
Hydric soil rating: No

Minor Components

Cerini, clay loam
Percent of map unit: 5 percent
Landform: Alluvial fans
Hydric soil rating: No

Calflax, clay loam, saline-sodic
Percent of map unit: 2 percent
Landform: Fan skirts
Hydric soil rating: No

Lethent, clay loam
Percent of map unit: 2 percent
Landform: Fan remnants
Hydric soil rating: No

Westhaven, loam
Percent of map unit: 2 percent
Landform: Alluvial fans
Hydric soil rating: No

Ciervo, clay
Percent of map unit: 2 percent
Landform: Fan skirts
Hydric soil rating: No

Posochanet, clay loam, saline-sodic
Percent of map unit: 2 percent
Landform: Fan skirts
Hydric soil rating: No

960—Excelsior, sandy substratum-westhaven association, flooded, 0 to 2 percent slopes

Map Unit Setting
National map unit symbol: hp2l
Elevation: 310 to 850 feet
Mean annual precipitation: 7 to 8 inches
Mean annual air temperature: 62 to 64 degrees F
Frost-free period: 240 to 280 days
Farmland classification: Not prime farmland

Map Unit Composition
Excelsior, sandy loam, sandy substratum, and similar soils: 50 percent
Westhaven, loam, and similar soils: 30 percent
Minor components: 20 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Excelsior, Sandy Loam, Sandy Substratum

Setting

Landform: Flood plains, alluvial fans
Landform position (two-dimensional): Toeslope, footslope
Landform position (three-dimensional): Tread
Microfeatures of landform position: Bars and channels
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Alluvium derived from calcareous sedimentary rock

Typical profile

A1 - 0 to 7 inches: sandy loam
A2 - 7 to 23 inches: sandy loam
C1 - 23 to 53 inches: stratified loamy sand to silt loam
C2 - 53 to 72 inches: loamy sand

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: Occasional
Frequency of ponding: Occasional
Calcium carbonate, maximum in profile: 3 percent
Gypsum, maximum in profile: 1 percent
Salinity, maximum in profile: Nonsaline to slightly saline (0.0 to 4.0 mmhos/cm)
Sodium adsorption ratio, maximum in profile: 10.0
Available water storage in profile: Moderate (about 6.8 inches)

Interpretive groups

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

Description of Westhaven, Loam

Setting

Landform: Flood plains, alluvial fans
Landform position (two-dimensional): Toeslope, footslope
Landform position (three-dimensional): Tread
Microfeatures of landform position: Bars and channels
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Alluvium derived from calcareous sedimentary rock

Typical profile

Ap - 0 to 7 inches: loam
Bw - 7 to 17 inches: loam
Bk1 - 17 to 42 inches: stratified loam to silty clay loam
Bk2 - 42 to 65 inches: stratified loamy sand to silty clay loam
C - 65 to 72 inches: stratified loam to silty clay 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 (0.20 to 0.57 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: Occasional
Frequency of ponding: Occasional
Calcium carbonate, maximum in profile: 4 percent
Gypsum, maximum in profile: 1 percent
Salinity, maximum in profile: Nonsaline to slightly saline (0.0 to 4.0 mmhos/cm)
Sodium adsorption ratio, maximum in profile: 12.0
Available water storage in profile: High (about 9.8 inches)

Interpretive groups

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

Minor Components

Ciervo, clay

Percent of map unit: 10 percent
Landform: Fan skirts
Hydric soil rating: No

Excelsior, sandy loam

Percent of map unit: 5 percent
Landform: Flood plains, alluvial fans
Microfeatures of landform position: Bars and channels
Hydric soil rating: No

Cerini, clay loam

Percent of map unit: 3 percent
Landform: Alluvial fans
Hydric soil rating: No

Anela, very gravelly sandy loam

Percent of map unit: 2 percent
Landform: Flood plains
Hydric soil rating: No

981—Sewage disposal pond

Map Unit Setting

National map unit symbol: hp2n
Elevation: 140 to 650 feet

Farmland classification: Not prime farmland

Map Unit Composition

Sewage disposal pond: 100 percent

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

Description of Sewage Disposal Pond

Properties and qualities

Slope: 0 percent

Frequency of flooding: Very rare

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Appendix E

ESSENTIAL FISH HABITAT QUERY RESULTS

CITY OF HURON

ARROYO PASAJER0 MUTUAL WATER COMPANY
GROUNDWATER RECHARGE PROJECT

NOAA HABITAT CONSERVATION | HABITAT PROTECTION
NATIONAL MARINE FISHERIES SERVICE

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.

West Coast Regional Office
Alaska Regional Office

Query Results

Degrees, Minutes, Seconds: Latitude = 36°12'2" N, Longitude = 121°56'27" W
Decimal Degrees: Latitude = 36.20, Longitude = -120.06

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.

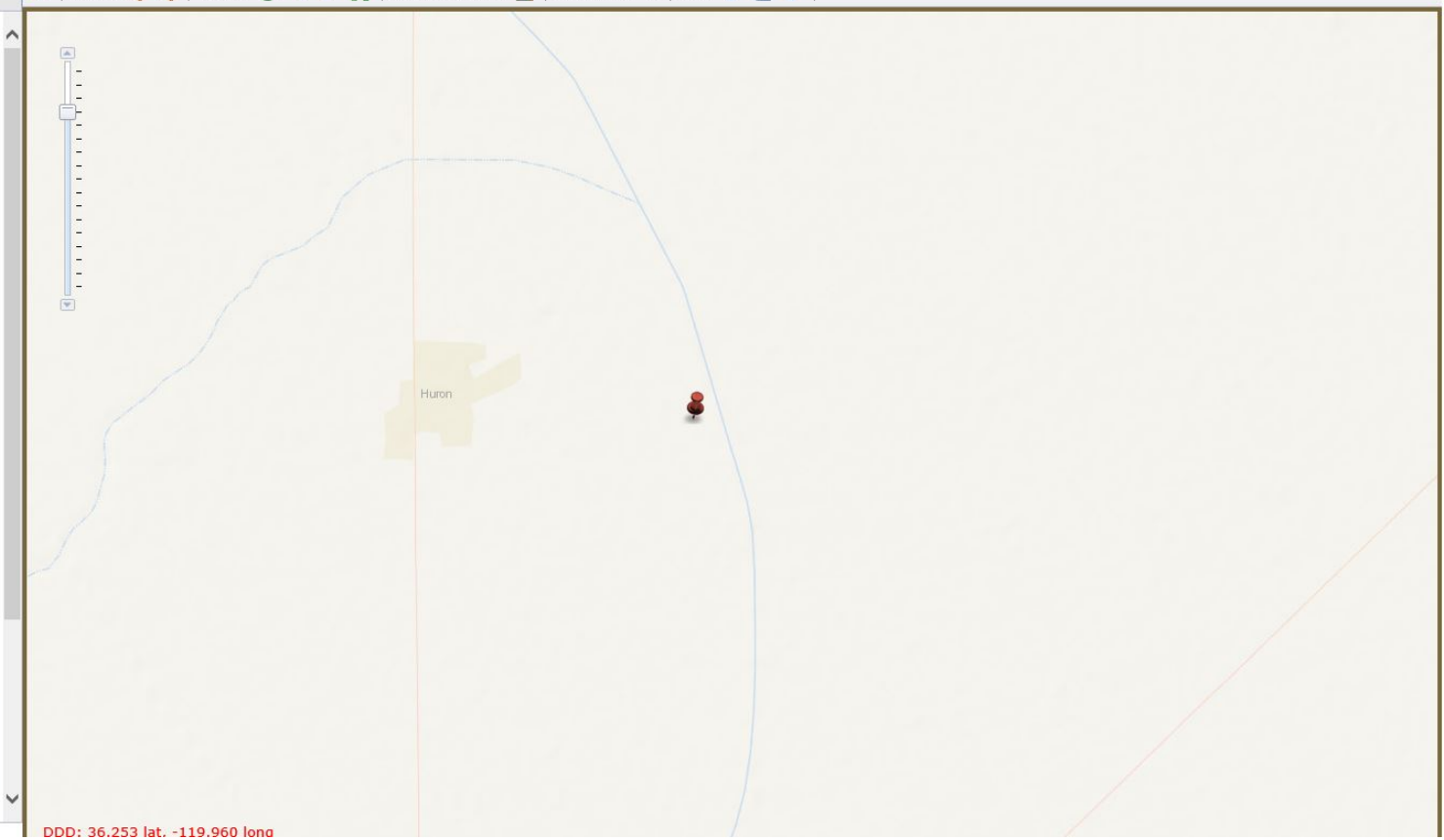
EFH Areas Protected from Fishing

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,

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



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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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

Appendix C

Cultural Report

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Cultural Resource Inventory and Evaluation Report for the City of Huron Water Transfer Project, Fresno County, California

USBR Reference No. 19-SCAO-156

Diana T. Dyste, Jessica Jones, Amber Long, and Carlos van Onna

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Submitted To

U.S. Department of the Interior
Bureau of Reclamation
Mid-Pacific Region
2800 Cottage Way
Sacramento, CA 95825

City of Huron
36311 S. Lassen Avenue
Huron, CA 93234

October 2019
draft

USGS Huron 7.5-minute topographic quadrangle
APE is 560 acres; 552 acres surveyed
Keywords: San Joaquin Power and Light Company, Henrietta/Huron/Gates 60 kV Transmission Line

MANAGEMENT SUMMARY

Applied EarthWorks, Inc. (Æ), on behalf of the City of Huron (City) and under subcontract to Provost & Pritchard Consulting Group, completed a cultural resource inventory and evaluation for the City of Huron Water Transfer Project (Project) in Huron, Fresno County, California. The Arroyo Pasajero Mutual Water Company proposes to divert water overflow from the Westside Detention Basin to adjacent properties that are owned and managed by private citizens and the City, while portions of the proposed Project are within easements held by the U.S. Bureau of Reclamation (USBR). The Project must comply with both Section 106 of the National Historic Preservation Act (NHPA) and the California Environmental Quality Act (CEQA), which mandate that government agencies consider the impacts of their actions on the environment, including cultural resources. This report documents whether historical resources as defined by the CEQA Guidelines, or historical properties as defined by NHPA Section 106, would be impacted by the proposed Project.

To fulfill requirements of NHPA Section 106 and CEQA, Æ's cultural resource inventory included a records search at the California Historical Resources Information System Southern San Joaquin Valley Information Center at California State University, Bakersfield; historic archival research at the Fresno County Assessor's Office; and a search of the Native American Heritage Commission's Sacred Lands File and outreach to local Native American tribes. Additionally, Æ conducted an intensive pedestrian survey of the Area of Potential Effects (APE) to identify cultural resources. Æ also completed National Register of Historic Places (NRHP) and California Register of Historical Resources (CRHR) eligibility evaluations for historical built environment resources identified in the APE.

The records search identified five previous investigations that intersected the APE and five additional studies in the surrounding 0.5-mile area. There are no previously recorded resources in the APE. Three built environment resources have been identified in the surrounding 0.5-mile area: Gale Avenue Bridge (P-10-006237), a segment of the historical Southern Pacific Railroad (P-10-003930), and the California Aqueduct/San Luis Drain (P-10-006207). A search of the NAHC Sacred Lands File and outreach to local tribal representatives did not reveal the presence of sacred sites in or near the APE. Æ's buried site sensitivity assessment determined that the APE consists of Excelsior (Westhaven association) and Westhaven soil types and is prone to flooding. The assessment concluded there is low probability that soils in the APE contain intact or well-preserved archaeological deposits.

Æ archaeologists conducted an intensive pedestrian survey of the APE to identify archaeological resources visible at the ground surface. No prehistoric or historic-era archaeological sites, features, or isolates were observed within the APE. Æ architectural historians conducted a reconnaissance survey to identify and record historic-era built environment resources. Two historic-era built environment resources were identified during survey: a linear resource (Henrietta/Huron/Gates 60 kV transmission line [AE-4046-001]) and a historic-era electric pump (AE-4046-ISO-001). Per the USBR's direction, Æ evaluated the eligibility of the Henrietta/Huron/Gates 60 kV transmission line for listing in the NRHP and CRHR. Æ

recommends that the resource is ineligible for inclusion in the NRHP and CRHR. The historic-era pump (AE-4046-ISO-01) was recorded as an isolate without clear association and, therefore, is considered not eligible for inclusion in the NRHP or CRHR.

Field notes and photographs are on file at Æ's office in Fresno, California. A copy of the final version of this report and associated cultural resource records will be transmitted to the Southern San Joaquin Valley Information Center for inclusion in the California Historical Resources Information System.

CONTENTS

APPENDICES

FIGURES

TABLES

ACRONYMS AND ABBREVIATIONS

Æ	Applied EarthWorks, Inc.
AB 52	Assembly Bill 52 (2015)
ACHP	Advisory Council on Historic Preservation
AIRFA	American Indian Religious Freedom Act
APE	Area of Potential Effects
ARMR	Archaeological Resource Management Reports
ARPA	Archaeological Resources Protection Act
bgs	below the ground surface
cal B.P.	calibrated years before present
CCR	California Code of Regulations
CEQA	California Environmental Quality Act
cfs	Cubic feet per second
CFR	Code of Federal Regulations
CHRIS	California Historical Resources Information System
CHSC	California Health and Safety Code
City	City of Huron
CRHR	California Register of Historical Resources
DPR	Department of Parks and Recreation (California)
EO	Executive Order
GIS	Geographic Information System
kV	kilovolt
NAGPRA	Native American Graves Protection and Repatriation Act
NAHC	Native American Heritage Commission
NHPA	National Historic Preservation Act
NPS	National Park Service
NRHP	National Register of Historic Places
OHP	Office of Historic Preservation
PL	Public Law
PRC	Public Resource Code (California)
Project	City of Huron Water Transfer Project
PG&E	Pacific Gas and Electric Company
RPA	Registered Professional Archaeologist
SHPO	State Historic Preservation Office
SJLPC	San Joaquin Light and Power Corporation
SSJVIC	Southern San Joaquin Valley Information Center
TCR	Tribal Cultural Resource

USC	United States Code
USBR	U.S. Bureau of Reclamation
USDA	U.S. Department of Agriculture
USGS	U.S. Geological Survey
WSDB	Westside Detention Basin

1
INTRODUCTION

1.1 GOALS OF THE STUDY

Applied EarthWorks, Inc. (Æ), under subcontract to Provost & Pritchard Consulting Group and at the request of the City of Huron (City) and U.S. Bureau of Reclamation (USBR), conducted a cultural resource inventory and evaluation for the City of Huron Water Transfer Project (Project). The Project is approximately 1 mile east of the City of Huron in Fresno County, California (Figure 1-1). Specifically, the Project is in the Southeast 1/4 of the Southeast 1/4 of Section 1, Township 20 South, Range 17 East and the West 1/4 of Section 7 and West 1/2 of Section 18, Township 20 South, Range 18 East, as shown on the U.S. Geological Survey (USGS) Huron, California, 7.5-minute topographic quadrangle (Figure 1-2). The Area of Potential Effects (APE) includes privately owned agricultural land, parcels owned by the City, and USBR land easements (Figure 1-3).

This report meets the requirements of Section 106 of the National Historic Preservation Act (NHPA; Chapter 36, Code of Federal Regulations [CFR], Part 800.1[a]) and the California Environmental Quality Act (CEQA). The City is the agency responsible for environmental review per CEQA Guidelines (California Public Resource Code [PRC] 21084.1), while the USBR is the lead agency for environmental review pursuant to federal laws and regulations related to NHPA Section 106. The NHPA and CEQA Guidelines mandate that government agencies consider the impacts of proposed Project activities on the environment, including cultural resources. Æ's cultural resource investigation sought to determine whether historic properties, as defined by NHPA Section 106 (36 CFR 800.4), or historical resources, as defined by the CEQA (PRC 15064.5), would be adversely impacted by the proposed Project in a manner that would diminish a resource's significance or eligibility for inclusion in the National Register of Historic Places (NRHP) and California Register of Historical Resources (CRHR).

Æ's cultural resource inventory included: (1) a records search of the California Historical Resources Information System (CHRIS) at the Southern San Joaquin Valley Information Center (SSJVIC) at California State University, Bakersfield, (2) historical archival research, (3) a search of the Native American Heritage Commission's Sacred Lands File and outreach to local Native American tribes, (4) a desktop buried site sensitivity assessment, (5) an intensive pedestrian survey of the APE to identify and record cultural resources, and (6) evaluation of the eligibility of one historic-era built environment resource for inclusion in the NRHP and CRHR.

1.2 PROJECT DESCRIPTION

Arroyo Pasajero Mutual Water Company proposes to divert water from the Westside Detention Basin (WSDB) ponding area along the California Aqueduct adjacent to Gale Avenue to an infiltration area of approximately 547 acres that includes agricultural land and City-owned percolation ponds. At present, runoff from Los Gatos, Warthan, Jacalitos, and Zapato Chino

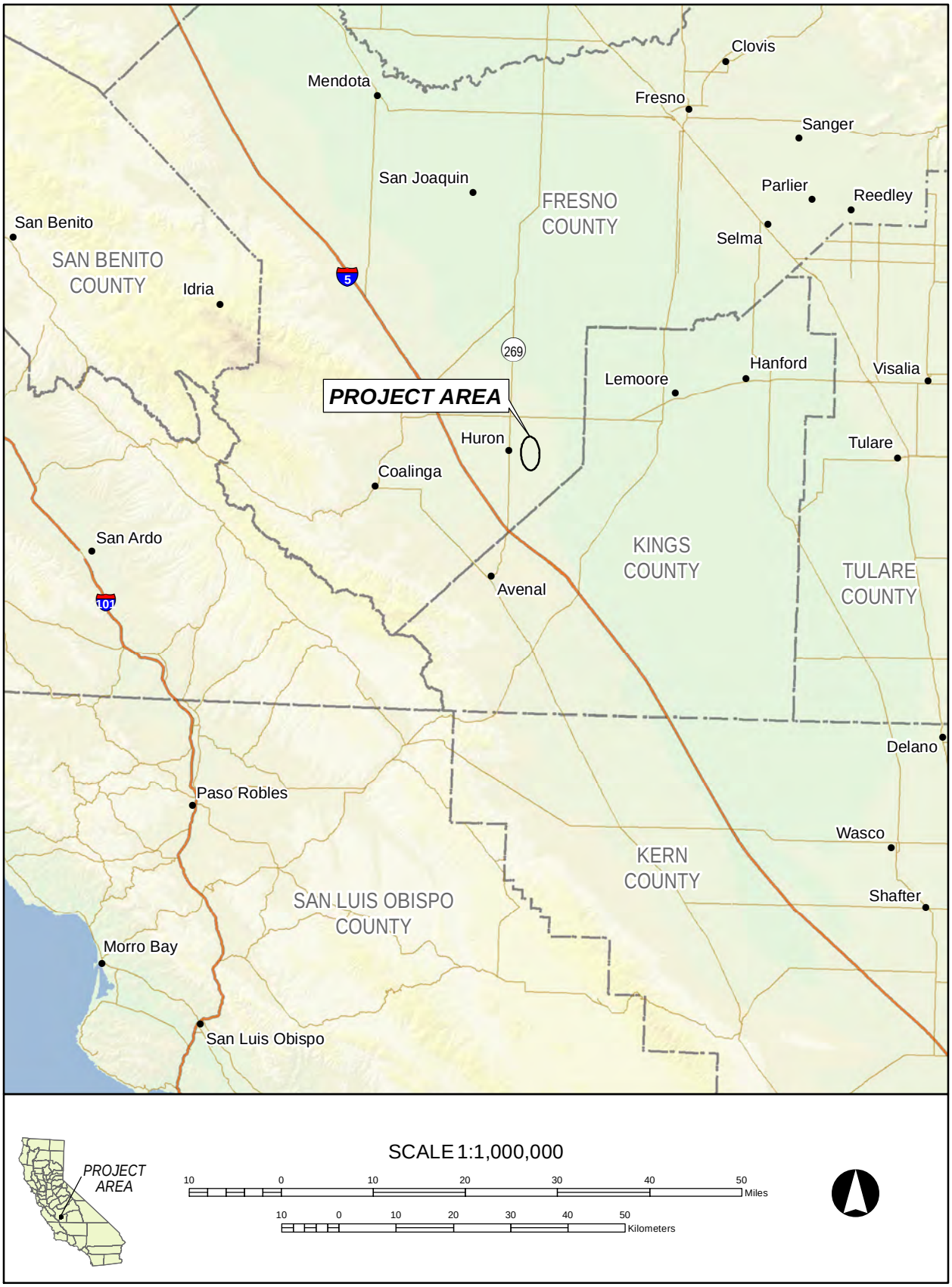

Figure 1-1 Project vicinity in Fresno County, California.

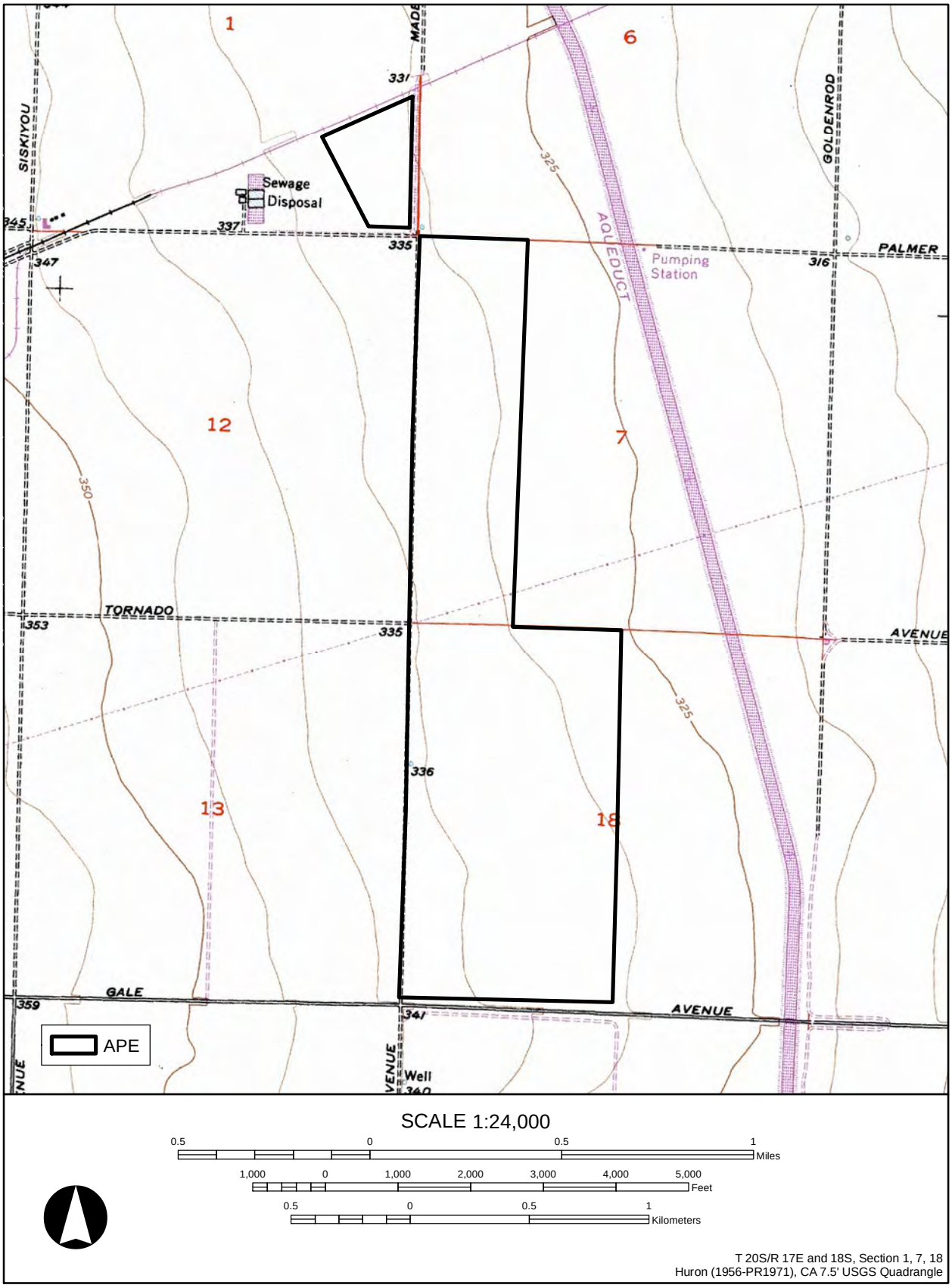

Figure 1-2 Project location of the USGS Huron, CA 7.5-minute topographic quadrangle.

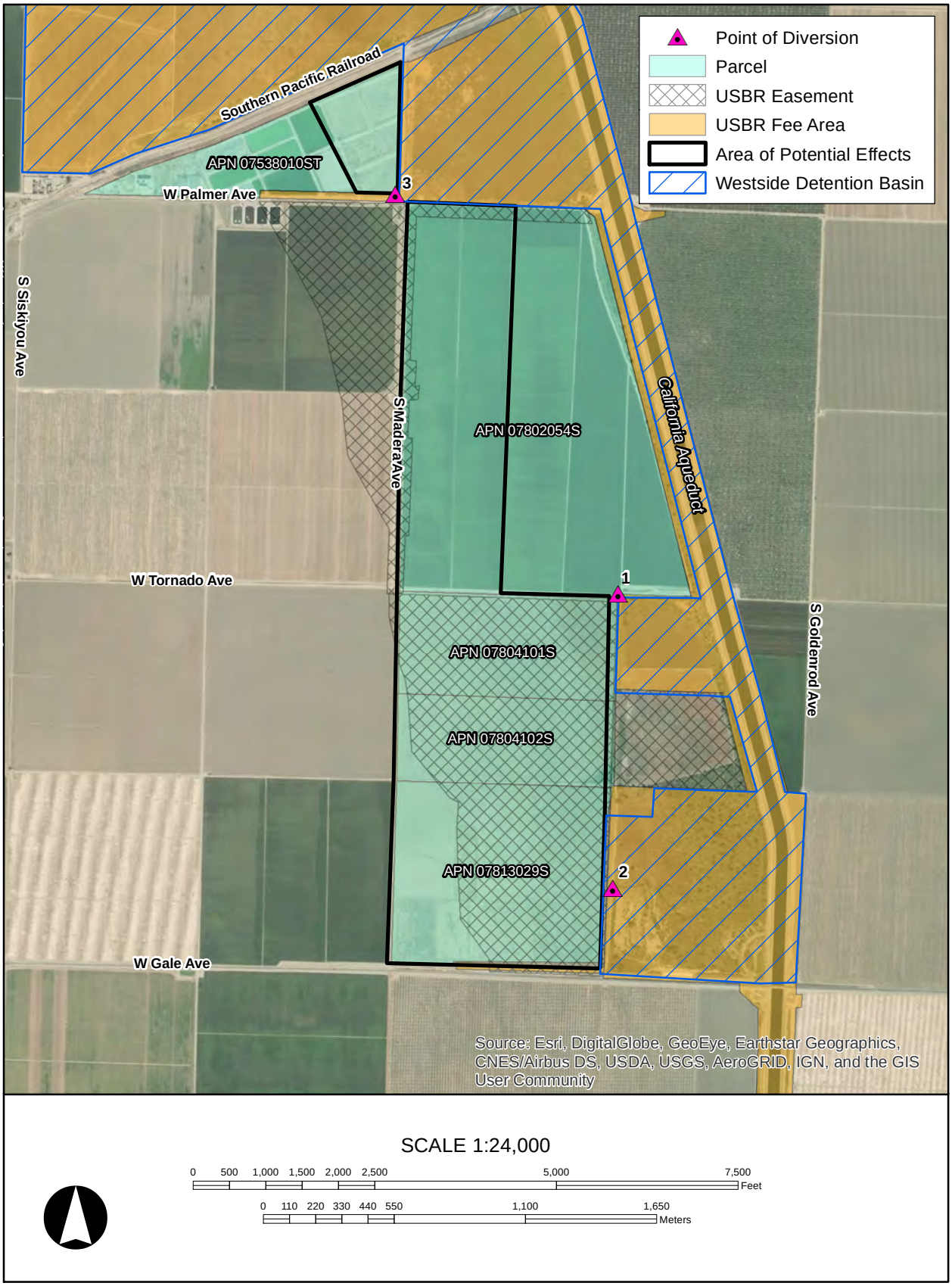

Figure 1-3 Aerial view of the Project APE.

creeks drains into Arroyo Pasajero Creek and ponds at the WSDB north and east of the City along the westerly embankment of the California Aqueduct. Seasonal flooding occurs at Arroyo Pasajero Creek and Lassen Avenue. When the WSDB fills in, the excess water spills onto Gale Avenue. The proposed diversion will relieve pressure on the WSDB and, therefore, potentially reduce flooding and associated impacts at main roads used by City residents.

Water also builds up against the California Aqueduct and the WSDB and then overflows onto private property in Sections 1, 6, 7, and 18 of Township 20 South, Range 18 East. During heavy rain events, water can overflow at Gale Avenue into Section 19. Landowners in these sections will manage the water that ponds and infiltrates on their property through use of up to four portable temporary pumps (totaling 20 cubic feet per second [cfs] maximum) at the three points of diversion (Figure 1-3) for the distribution of water, which will percolate over additional existing ponding areas. The stored water will be recovered using existing agricultural irrigation wells near the ponded areas and distributed for agricultural and municipal water supply. Temporary diversion facilities include: (1) a booster pump with a flow rate between 3 and 7 cfs; (2) 10-inch-diameter aluminum pipe; and (3) a flow meter meeting the SB88 requirements for reporting under the water right.

1.3 FEDERAL LAWS AND REGULATIONS

1.3.1 National Historic Preservation Act (NHPA)

NHPA Section 106 (54 U.S. Code [USC] Section 306108) authorizes the U.S. Secretary of the Interior to expand and maintain the NRHP, establishes the Advisory Council on Historic Preservation (ACHP) as an independent federal entity, requires federal agencies to take into account the effects of their undertakings on historic properties and to afford the ACHP a reasonable opportunity to comment on such undertakings, and identifies federal agencies as responsible for the preservation of historic properties located within lands owned or managed by their agencies. In addition to establishing the NRHP, NHPA Section 106 provides that states may establish State Historic Preservation Officers (SHPO) to administer State Historic Preservation Programs.

Finally, before approving any undertaking, NHPA Section 106 and its implementing regulations (36 CFR 800) require federal agencies to consider the effects of the undertaking on any district, site, building, structure, or object that is included in or eligible for inclusion in the NRHP. Section 106 of the NHPA defines the process to identify and evaluate historic properties, assess effects, and mitigate any adverse effects identified. All steps in this process include consultation with the ACHP should they choose to participate, the appropriate SHPO(s), Indian tribes, other consulting parties, and the public.

1.3.2 Antiquities Act of 1906

The Antiquities Act of 1906 (16 USC 431–433) establishes criminal penalties for unauthorized destruction or appropriation of "any historic or prehistoric ruin or monument, or any object of antiquity" on federal land; provides for issuance of permits for excavation of archaeological sites or collection of "antiquities" on federal land to qualified institutions or individuals; and empowers the President to establish historical monuments and landmarks.

1.3.3 Archaeological Resources Protection Act (ARPA)

The Archaeological Resources Protection Act (ARPA) (16 USC 470aa et seq.), enacted in 1979, provides for the protection of archaeological resources more than 100 years old that occur on federally owned or managed lands. The statute makes it unlawful to excavate or remove items of archaeological interest from federal lands without a permit, and it defines the process for obtaining such a permit from the responsible federal agency. This process includes a 30-day notification to Native American tribes regarding the intended issuance of a permit that may result in harm or destruction to any Native American tribal religious or cultural site on public lands, as determined by the federal land manager. The law establishes a process for prosecuting individuals who excavate, remove, damage, or otherwise alter or deface archaeological resources on federal lands without a permit subject to the ARPA. The law also requires the permanent curation in a federally qualified institution of any archaeological artifacts, excavation notes, records, photographs, and other items associated with collections made on federal lands. Standards for curation are provided in regulations at 36 CFR 79 and provide for the confidentiality of archaeological information. Both civil and felony penalties apply to violations of the ARPA.

1.3.4 American Indian Religious Freedom Act (AIRFA)

American Indian Religious Freedom Act (AIRFA; 42 USC 1996) establishes a policy of respect and federal protection of Indian religious practices. It seeks to correct federal policies and practices that could (a) deny access to sacred sites required in traditional religious ceremony, (b) prohibit use and possession of sacred objects necessary for religious ceremonies, and (c) intrude upon or interfere with religious ceremonies.

1.3.5 Executive Order 13007

Executive Order 13007 directs federal agencies to accommodate access to, and ceremonial use of, Indian sacred sites by Indian religious practitioners. It requires federal agencies to avoid adversely affecting the physical integrity of sacred sites to the extent practicable, permitted by law, and not clearly inconsistent with essential agency functions. Executive Order 13007 reinforces AIRFA.

1.3.6 Native American Graves Protection and Repatriation Act (NAGRPA)

The Native American Graves Protection and Repatriation Act (NAGPRA) (PL 101-601, 25 USC 3001 et seq., 104 Statute 3048), passed in 1990, provides a process for museums and federal agencies to return certain Native American “cultural items” (i.e., human remains, funerary objects, sacred objects, and objects of cultural patrimony) to lineal descendants, culturally affiliated Indian tribes (i.e., tribes recognized by the Secretary of the Interior), and Native Hawaiian organizations if legitimate cultural affiliation of the cultural items can be determined according to the law. Museums, as defined under the statute, are required to inventory cultural items in their possession and determine which items can be repatriated to the appropriate party. Religious or ceremonial cultural items intentionally or unintentionally excavated and removed from federal lands may be subject to NAGPRA.

1.4 STATE LAWS AND REGULATIONS

1.4.1 CEQA and Assembly Bill 52 (2015)

The CEQA Statute (PRC Section 21000 et seq.) and Guidelines (Title 14, California Code of Regulations [CCR] Section 15000 et seq.) direct lead agencies to determine whether cultural resources are "historically significant." Generally, a cultural resource shall be considered "historically significant" if it is 50 years old or older; possesses integrity of location, design, setting, materials, workmanship, feeling, and association; and meets the requirements for listing on the CRHR under any one of the following criteria (14 CCR 15064.5):

1. Is associated with events that have made a significant contribution to the broad patterns of California's history and cultural heritage;

2. Is associated with the lives of persons important in our past;

3. Embodies the distinctive characteristics of a type, period, region, or method of construction, or represents the work of an important creative individual, or possesses high artistic values; or

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

Unique archaeological resources are also protected under CEQA. Unique archaeological resources are those resources that may not meet the above criteria but can clearly demonstrate that, without merely adding to the current body of knowledge, there is a high probability that it meets any of the following criteria (PRC 21082.2[g]):

1. Contains information needed to answer important scientific research questions and that there is a demonstrable public interest in that information;

2. Has a special and particular quality such as being the oldest of its type or the best available example of its type; and

3. Is directly associated with a scientifically recognized important prehistoric or historic event or person.

In addition, PRC 21074 defines a tribal cultural resource (TCR) as "a site, feature, place, or 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." TCRs may also include "non-unique archaeological resources" that may not be scientifically significant but still hold sacred or cultural value to a consulting tribe. A TCR is considered significant if it is: (1) listed or eligible for listing in the CRHR, or in a local register of historical resources as defined in PRC 5020.1(k); or (2) a TCR determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in PRC 5024.1(c). In applying these criteria applicable to TCRs, the lead agency must consider the significance of the resource to a California Native American tribe.

Under CEQA, a project with an effect that may cause a substantial adverse change in the significance of a historical resource or a TCR is a project that may have a significant effect on

the environment (14 CCR 15064.5[b]). Substantial adverse change in the significance of a historical resource or TCR is defined as physical demolition, destruction, relocation, or alteration of the resource or its immediate surroundings in a manner that materially impairs the significance of the resource that justifies its inclusion or eligibility to be included in the CRHR. Additionally, a project may cause a substantial adverse change in the significance of a TCR if the adverse change is identified through consultation with any California Native American tribe that requests consultation and is traditionally and culturally affiliated with the geographic area of a proposed project (PRC 21084.2).

The cited statute and guidelines specify how cultural resources and TCRs are to be managed in the context of projects, such as the present Project. Briefly, archival and field surveys must be conducted, government-to-government consultation with California Native American tribes must occur, and identified resources must be inventoried and evaluated in prescribed ways. Impacts on TCRs, prehistoric and historical archaeological resources, and built-environment resources such as standing structures, buildings, and objects deemed "historically significant" must be avoided or mitigated to the extent feasible (PRC 21081).

1.4.2 California Health and Safety Codes

California Health and Safety Code (CHSC) 7050.5 and PRC 5097.98 both concern the treatment of human remains. Per CHSC 7050.5, if human remains are exposed during Project-related construction work, the Fresno County Coroner is to be notified immediately to arrange for proper treatment and disposition. If the coroner determines the remains to be Native American, per CHSC 7050.5 and PRC 5097.98, the coroner must notify the Native American Heritage Commission within 24 hours of discovery.

1.5 DEFINITION OF AREA OF POTENTIAL EFFECTS

The APE is defined as "the geographic area or areas within which an undertaking may directly or indirectly cause changes in the character or use of historic properties, if any such properties exist" (36 CFR 800.16[d]). Moreover, the APE consists of both *horizontal* and *vertical limits* of proposed Project activities, and encompasses all portions of the proposed Project area whether owned or managed by the USBR, private citizens, or the City. The APE described below was established by the USBR in coordination with the City.

The 560-acre horizontal APE includes all portions of Assessor's Parcel Numbers (APN) 07804101S, 07804102S, 07813029S, 07802054S and 07538010ST (Figure 1-3). The APE is composed of two discontinuous areas. The northern APE (33 acres) is an existing basin within the City's wastewater treatment facility northwest of the intersection of Palmer and Madera avenues. The southern APE (527 acres) begins at the southeast corner of Palmer and Madera avenues and extends approximately 2 miles south along the east side of Madera Avenue. Large portions of the APE are currently being cultivated.

The vertical limits of the APE are bounded by the maximum height of the tallest structure and maximum depth of ground disturbance. The vertical axis of the APE consists of four portable temporary pumps that stand approximately 8 feet above the ground surface. While no excavation is planned for percolation ponds, it is possible grading or levelling of the ground surface may occur within 1–2 feet of the ground surface to accommodate installation of aboveground pipes.

1.6 PROFESSIONAL QUALIFICATIONS

Æ Principal Archaeologist Mary Baloian (Ph.D.), a Registered Professional Archaeologist (RPA 15189), served as principal investigator for this Project, providing quality oversight and technical guidance. Æ Senior Archaeologist Diana T. Dyste (M.A., RPA 39362477) served as project manager, provided technical and administrative oversight for all aspects of the Project, and completed the desktop buried site sensitivity analysis. Dyste meets the Secretary of the Interior's Standards for Professional Qualifications in Archaeology and Ethnography. Æ Senior Historical Archaeologist M. Colleen Hamilton (M.A., RPA 10535) guided the archival research and NRHP/CRHR evaluations of built environment resources. Hamilton meets the Secretary of the Interior's Standards for Professional Architectural History, History, and Archaeology, with a focus on historic archaeology. Æ Architectural Historian Carlos van Onna (M.A.) and Associate Architectural Historian Amber Long (M.A.) conducted site-specific archival research, prepared the historic context, and assisted Hamilton in completing NRHP/CRHR eligibility evaluations. Staff Archaeologist/Geographic Information System (GIS) Technician Jessica Jones (B.A.) served as lead author of the report, prepared maps and report graphics, and compiled the Project's GIS data. Æ Associate Archaeologist Randy Ottenhoff (Ph.D., RPA 17098) served as field director and completed the pedestrian archaeological survey with field technicians Christa Torres (B.A.), Tony Torres (B.A.), Sairy Tobin (B.A.), and Isaac Sandoval (B.A.). Résumés for key personnel are provided in Appendix A.

1.7 REPORT ORGANIZATION

This technical report was prepared according to California Office of Historic Preservation standards outlined in *Archaeological Resource Management Reports (ARMR): Recommended Contents and Format* (1990) and fulfills the requirements for NHPA Section 106 as outlined in *Reclamation Managing Water in the West, Bureau of Reclamation, Mid-Pacific Region, General Scope of Work for Cultural Resources Investigation in California*, updated April 2012.

Following this introduction, Chapter 2 describes the natural environment, prehistoric setting, and ethnography of the region. A regional historic overview and Project-specific historic context is provided in Chapter 3. Chapter 4 discusses the methods employed for background research, archaeological and historic built environment surveys, buried site sensitivity assessment, site recordation, and NRHP/CRHR eligibility evaluations. A summary of background research results, findings of the archaeological and built environment surveys, and buried site sensitivity assessment is provided in Chapter 5. Evaluations of cultural resource eligibility for inclusion in the NRHP/CRHR are presented in Chapter 6, followed by a summary of findings and resource management recommendations in Chapter 7. References cited are provided in Chapter 8, followed by Appendices A–E.

2
NATURAL AND PREHISTORIC SETTING

2.1 NATURAL SETTING

The Project is in the San Joaquin Valley, the southern half of an elongated trough called the Great Valley. The Great Valley is a 50-mile-wide lowland that extends approximately 500 miles south from the Cascade Range to the Tehachapi Mountains (Norris and Webb 1990:412). The Great Valley is divided by two prominent hydrologic features, the Sacramento and San Joaquin rivers, which drain into San Francisco Bay. Between the Mesozoic and Cenozoic eras, the Great Valley served as a shallow marine embayment containing numerous lakes, primarily within the San Joaquin Valley (Norris and Webb 1990:412). The Coast Ranges had not yet formed during this era, but the region received sediments from the eroding Sierra Nevada as well as marine deposition throughout this period. Waters began to diminish around 10 million years ago during the late Pliocene and eventually were cut off from the ocean altogether by the formation of the Coast Ranges, leaving tributaries and small lakes that survived until historical times (Hill 1984:28; Norris and Webb 1990:380).

Much of the Great Valley rests upon thick strata of alluvial sediments washed down from the Sierra Nevada and Coast Ranges during the Quaternary (Norris and Webb 1990:Figure 12-9). It is this same soil that today makes the valley a fertile agricultural region. Below these levels are layers from the Pliocene and older epochs, which consist of both marine (shale, sandstone) and nonmarine (basalt, andesite) materials. The Coast Ranges have also shaped the geography of the Project vicinity. The hills to the west consist of Pleistocene sandstone, shale, and conglomerate, which exhibit extensive folding, faulting, and stream erosion. Rich petroleum deposits are present in these sediments, especially in the southwest corner of Fresno County near Coalinga, which is about 15 miles southwest of the APE.

The San Joaquin River is the San Joaquin Valley's dominant hydrological feature. The river descends from the foothills northeast of Fresno and flows west across the valley floor toward the community of Mendota, where it turns and follows a north-northwest course to the Sacramento–San Joaquin Delta. Along with several lesser streams, four main channels (i.e., Los Gatos, Warthan, Jacalitos, and Zapato Chino creeks) flow southeast from the foothills through Pleasant Valley and empty into a natural sink near Huron. The streams are seasonal and remain dry for most of the year. Before historic drainage projects and modern reclamation, seasonal flooding from the San Joaquin and Kings rivers produced extensive wetlands in the valley. Lakes, marshes, and sloughs once covered more than 3,000 square miles in the San Joaquin Valley (Moratto 1984:168). The largest of these was ancient Tulare Lake, which was east of the study vicinity and spanned as much as 30 miles from shore to shore (Preston 1981). Prior to the late nineteenth century, the Kings River as well as the tributaries of the Kaweah and Tule rivers emptied into the lake. As more water was diverted from these streams for agricultural purposes, the shores of the lake progressively retreated. By the early twentieth century, Tulare Lake had all but disappeared except in unusually wet years when high levels of runoff were released into these rivers.

The Great Valley's wetlands supported diverse flora and fauna in prehistoric and pioneer times. In particular, vast herds of elk, antelope, and wild horses roamed the valley floor, and migratory birds flocked to Tulare Lake. Many of the game animals were displaced by the drier environment while the encroachment of agriculture affected both flora and fauna distribution across the valley.

2.2 CULTURAL SETTING

2.2.1 Prehistory

The San Joaquin Valley prehistoric record is among the least understood of all regions in California. Reconstruction of past cultural patterns has been stymied by two key factors: geomorphology and human activity (Dillon 2002; Siefken 1999). The valley floor that encompasses the Project area has been inundated with thick alluvial deposits resulting from granitic and sedimentary outflow from the San Joaquin River, particularly during mass flood events. This pattern has continued for millennia and has resulted in the burial of early- to mid-Holocene archaeological sites, estimated to be buried at depths up to 10 meters along the lower stretches of the San Joaquin Valley drainage systems (Meyer et al. 2010; Onken 2019). Thus, compared to other regions in the state, there is a paucity of research and a related lack of data from which to build a complete understanding of past human behavior specific to Fresno County.

In addition, archaeological sites buried in shallow deposits (i.e., less than 6 feet below the ground surface) have been heavily impacted by agricultural, transportation, and urban development since the historic period. Development has effectively removed mounds and shallow subsurface cultural deposits that once existed in great numbers across the valley floor (Rosenthal et al. 2007). Most archaeological investigations in the San Joaquin Valley have occurred at mid-elevation sites along the Tulare River and in the vicinities of Tulare and Kaweah lakes as well as to the east in the Sierra Nevada foothills.

Nevertheless, available data for sites in valley lacustrine environs and in the Sierra foothills east of the Project (e.g., Lloyd et al. 2011) are helpful in identifying key cultural changes within the APE and surrounding environs. The summary of cultural traits presented below is based on a review of San Joaquin Valley lacustrine, riverine, and valley floor site data discussed in Rosenthal et al. (2007) along with foothill site data summarized by Lloyd et al. (2011). Cultural periods and accompanying dates (given as calibrated years before present [cal B.P.]) are based on Rosenthal et al. (2007:150–159), Moratto (1984:333), McGuire and Garfinkel (1980:49–53), and Bennyhoff and Fredrickson's chronologies (Fredrickson 1973, 1974).

The Paleo-Indian Period (13,500–10,500 cal B.P.) is represented by ephemeral lacustrine sites dominated by atlatl dart and spear projectile points. The earliest evidence of distinct valley and foothill cultural patterns appears during the Lower Archaic Period (10,500–7450 cal B.P.). Valley sites contain crescents and stemmed projectile points and reveal the consumption of freshwater fish, waterfowl, mussels, deer, and pronghorn. In contrast, foothills sites are dominated by dense ground stone and flaked stone assemblages with a diet narrowly focused on deer, pronghorn, and presumably nuts or seeds. The Middle Archaic (7450–2500 cal B.P.) includes the Lamont Phase (5950–3150 cal B.P.), a time when semipermanent villages first appear along riverbanks in tandem with larger, more established lacustrine villages. Stone tools were used in abundance, meanwhile ground stone tool kits emerged along with long-distance

trade and exchange networks focused on obsidian, shell beads, and ornaments. In the foothills, lithic and dietary patterns of the Lower Archaic continued.

New cultural patterns emerged during the Upper Archaic Period (2500–850 cal B.P.), especially during the Canebrake Phase (3150–1350 cal B.P.) when a distinct shift in burial practices occurred and geographic differences in site and artifact types appeared. The Sawtooth Phase (1350–650 cal B.P.) is marked by the sudden presence of mound sites in the valley. Widespread proliferation of specialized technology is evident, including new types of bone tools, projectile points, and ceremonial objects such as wands and blades. Paleoethnobotanical studies also suggest the use of labor-intensive and seasonally abundant resources, including acorns, pine nuts, salmon, and shellfish. Similarly, the Emergent Period, extending from 850 cal B.P. to the historic era, is marked by continued variation in settlement and burial patterns across valley and foothill regions, coupled with the disappearance of atlatl and dart tool kits that are replaced with bow-and-arrow technology (i.e., small corner-notched and Desert series projectile points) at about 650 cal B.P. Fishing tool kits expanded to include more efficient harpoons, bone fishhooks, and gorge hooks. In the Tulare Basin, pottery obtained via trade appears as well as baked clay balls used for cooking and making carved clay effigies.

2.2.2 Ethnohistory

The APE is in the Southern Valley Yokuts ethnographic territory. The Yokuts are one of eight subgroups of the Penutian linguistic phylum that is present across the western coast and inland regions of North America from Canada to Mexico (Golla 2011:128). The Yokuts had many language subgroups and spoke a variety of dialects across the southern and central San Joaquin Valley as well as the Sierra Nevada. Many groups could converse across dialects with relative ease (Golla 2011). The Southern Valley Yokuts populated the shores of Tulare, Buena Vista, and Kern lakes, their connecting sloughs, and the lower portions of the Kings, Kaweah, Tule, and Kern rivers (Latta 1999; Silverstein 1978). At the beginning of the historic period, 15 tribelets of Southern Valley Yokuts lived within the Tulare Basin (Moratto 1984). Kroeber (1939) estimated that Yokuts political units averaged 350 persons each; however, a much higher population figure of 15,700 persons was made by Spanish expeditions exploring the Central Valley and California coastal regions in the early nineteenth century (Cook 1955).

The Tulare Lake basin offered a rich and varied array of resources to the several Southern Valley Yokuts tribes occupying its environs. Of these groups, the Tachi occupied the western shores of Tulare Lake and the area around the Fresno Slough. In particular, mid-twentieth-century ethnographer Frank Latta (1999:141) identified the town of Huron as the Tachian village site of *Holón* (Golon), based on his interviews with Native American informants. Other nearby villages included *Údgeu* (Udjiu) about 5 miles southwest from *Holón* and *Walnau* (Walna) on the westernmost shores of Tulare Lake about 12 miles south of Huron (Kroeber 1976:Plate 47; Latta 1999:endpapers).

The Tachi relied on the plentiful supply of lacustrine resources, including lake trout, chubs, perch, and suckers as well as turtles and freshwater shellfish. They burned fires near the lakeshore at night to attract fish, which were commonly caught in nets dragged behind tule rafts, although spears and basketry also were used (Wallace 1978:450). Wild seeds and acorns were harvested in the early summer and fall, respectively, and stored for use throughout the year.

Burning was used to enhance the productivity of vegetable foods. Waterfowl and other game attracted to the lake supplemented the Yokuts diet.

Intensive European exploration of Yokuts territory did not take place until the early nineteenth century (Wallace 1978). Native American population in the San Joaquin Valley was significantly reduced by disease, and settlement patterns were disrupted as a result of recruitment for Mission Soledad, Mission San Luis Obispo, Mission San Antonio de Padua, and Mission San Juan Bautista. However, even more traumatic impacts to the valley's Native American population were caused by a series of parasitic (i.e., malaria) and viral (e.g., influenza) epidemics that began in 1833. The diseases struck with such virulence that by 1846 an estimated 40–75 percent of Native Americans had died during outbreaks in California. The Southern Valley Yokuts, residing in their lake-slough-marsh environment, would have been particularly vulnerable to malaria. Interruption of the valley's traditional cultures and societies accelerated in 1848 with the signing of the Treaty of Guadalupe Hidalgo and start of the gold rush, which spurred mass migration of American settlers into California (Moratto 1984). By 1850, of the estimated 15,700 people constituting the 15 tribelets of the Southern Valley Yokuts, only approximately 3,680 are estimated to have survived into the mid-twentieth century (Cook 1955).

Currently there are five Native American tribal groups with ancestral ties to the APE, including the Santa Rosa Rancheria Tachi Yokut Tribe, Kern Valley Indian Community, Tule River Indian Tribe, Wuksache Indian Tribe/Eshom Valley Band, and the Tubatulabals of Kern Valley. Several Southern Valley Yokuts tribes have survived the effects of colonization. Yokuts today have developed language apprenticeship programs and early childhood education centers to serve tribal members, including the Wukchumne of the Tule-Kaweah near Porterville, Choynimni speakers of the Kings River tribes, Chukchansi at the Picayune and Table Mountain Rancherias near Fresno, and Yawelmani speakers of the Tule River Reservation (Golla 2011:154). Several Yokuts tribal groups are governed by elders' councils and operate auxiliary departments that serve local tribal populations in areas of governance, healthcare, education, and cultural resource management.

3
HISTORIC CONTEXT

3.1 EARLY EXPLORATION OF THE CENTRAL VALLEY

The first organized Euro-American foray into the western valley occurred in 1806 when Spanish Lieutenant Gabriel Moraga and his men explored stretches of the San Joaquin, Kings, and Kaweah rivers (Cook 1960:247–253). The most relevant study to the APE was the 1815 travels of Sergeant Juan de Ortega and his band, who camped at a place called "Chemem" just after crossing the coastal mountains from the Presidio of Monterey (Cook 1960:267–271). Although Ortega's chronicler, Father Cabot, does not mention any native residents at this location, this campsite very likely corresponds to the village of *Údgeu* mentioned in Section 2.2.2 (Cook 1960:267; Kroeber 1976:Plate 47; Latta 1999:141, 143). The apparent absence of people is consistent with the ethnographic narratives of Latta (1999:143), whose informant stated that the inhabitants of this village were (either voluntarily or involuntarily) taken to Mission San Juan Bautista sometime after its completion in 1797. Proceeding eastward, Ortega may have passed through or near *Holón* on his way to investigate the Kaweah Delta.

Chemem was later occupied and renamed by Mexican settlers, who referred to the place as Posa Chiné or Poso Chané. A 1932 Tulare newspaper article states that at "one time, there were perhaps a dozen Spanish and Mexican families living at the old Posa. They ranged cattle and horses and a few goats. The swamp area was cultivated and planted to trees, vines, and garden truck" (Clough and Secrest 1984:40). In 1854, the Higuera family established a homestead at Posa Chiné/Poso Chané and herded cattle and stock as far as the west shore of Tulare Lake. They likely resided there until 1862–1863 when a flood destroyed the watering hole. The Higueras were succeeded by Gustav Kreyenhagen and family, who had moved their flocks and herds from the Los Banos area in 1875 (Vandor 1919:825–826). The Kreyenhagens sheered as many as 150,000 sheep per year and shipped the wool to the railhead at Huron.

3.2 DEVELOPMENT OF THE CITY OF HURON

Like many valley towns, Huron owes its existence to the railroad. In the spring of 1872, the Southern Pacific Railroad arrived in Fresno County, connecting this previously remote region with the San Francisco Bay area. Five years later, the railroad built a branch line from Goshen 40 miles westward; the endpoint of this line became Huron (Vandor 1919:283). It appears that the railroad's intent was to improve the area's infrastructure in order to better market its land holdings there. Up to this time, stockmen grazed their sheep and cattle on the wild grasses that once covered the valley. By the 1880s, area farmers like W. P. Kerr and J. M. Wells were reaping substantial harvests of barley and hay (Clough and Secrest 1984:259). Edward Vogelsang built a grain warehouse in Huron in 1888, and ranchers such as the McSwain family constructed their homes in the town (Vandor 1919:997, 1099). By 1892, Huron included a general merchandise store, two smaller shops, a blacksmith, and two livery stables (Mouren 1956:99).

In 1888, Southern Pacific lengthened the line, then known as the Goshen Division, west to Pleasant Valley where coal had been discovered in the nearby foothills in the mid-1870s (Clough and Secrest 1984:277–278; Thompson 1891:102). The ore was loaded onto the train at a point known as "Coaling Station A," which was shortened to Coalinga. Although the coal prospects never materialized due to the poor quality of the deposits, the town later became best known as the hub of one of California's major oil-producing regions. During the first part of the twentieth century, oil wells were drilled throughout western Fresno County, particularly in and around Coalinga, although hardly any oil was found in the Huron area. The town nevertheless benefited from the oil boom, primarily as a central shipping point (Clough 1986:114; Mouren 1956:99). Oil companies began delivering piping and other materials to the town via the railroad as early as 1901, and trucking firms were established there in the late 1920s to haul supplies to Coalinga and the Kettleman Hills.

3.3 POWER INFRASTRUCTURE—SAN JOAQUIN LIGHT AND POWER CORPORATION

The San Joaquin Electric Company, founded in 1896, was the precursor to the San Joaquin Light and Power Corporation (SJLPC) system. The San Joaquin Electric Company is credited with building the first hydroelectric plant on the San Joaquin River. The company had financial difficulty and reorganized in 1902 as the San Joaquin Power Company. The latter was reincorporated as the SJLPC in 1910 and refinanced in order to obtain additional funding (Coleman 1952; SJLPC 1924). As with all power companies, the success of the SJLPC depended on the demand for its product.

While working for the Mt. Whitney Power Company in 1899, Albert G. Wishon convinced an otherwise skeptical group of farmers in Lindsay, which is about 60 miles southeast of the APE, that pumps powered by hydroelectricity were a viable and inexpensive means of extracting groundwater for irrigation (Coleman 1952:204). Wishon's understanding of what the hydroelectric industry could mean to agriculture turned out to be a great boon for the SJLPC. In 1914, the company provided power for the irrigation of 100,000 acres—about one third of the irrigated lands—in Fresno, Kern, Madera, Merced, San Joaquin, Stanislaus, and Tulare counties, and increasingly more farmers turned to electric pumps to draw groundwater (INFOTEC Research, Inc. and Theodoratus Cultural Research, Inc. 1985:149).

Soon, SJLPC recognized a lucrative market for power in the oil fields, which had pumps, derricks, and drills that all required power (Van Norden 1912). The Coalinga, Kern, and Midway oil fields were within reach of the SJLPC. Prior to electrification, steam- and gas-powered equipment was used in the oil fields. Eventually, the industry realized that electric power was cheaper and the infrastructure was easier to maintain (Van Norden 1912). Within the APE, a SJLPC transmission line built in 1913 runs northeast–southwest through the intersection of Tornado Avenue and South Madera Avenue. This line was part of the original 25.25-mile-long Henrietta–Coalinga 60 kV transmission line built to provide additional electricity to the oil fields in Coalinga (Figure 3-1).

SJLPC constructed Henrietta Substation in 1911 and built Coalinga Substation (later known as Coalinga No. 1) in 1913 (Van Norden 1912;). Pacific Gas and Electric Company (PG&E) acquired the SJLPC in 1930 and constructed Huron Substation west of the APE in 1948. In 1953,

PG&E opened Gates Substation and rerouted a section of the Henrietta–Coalinga transmission line to Gates before it continued on to Coalinga (Coleman 1952). Despite changes in the overall alignment of the SJLPC line, the recorded segment of the Henrietta/Huron/Gates 60 kV transmission line within the APE follows the original SJLPC alignment.

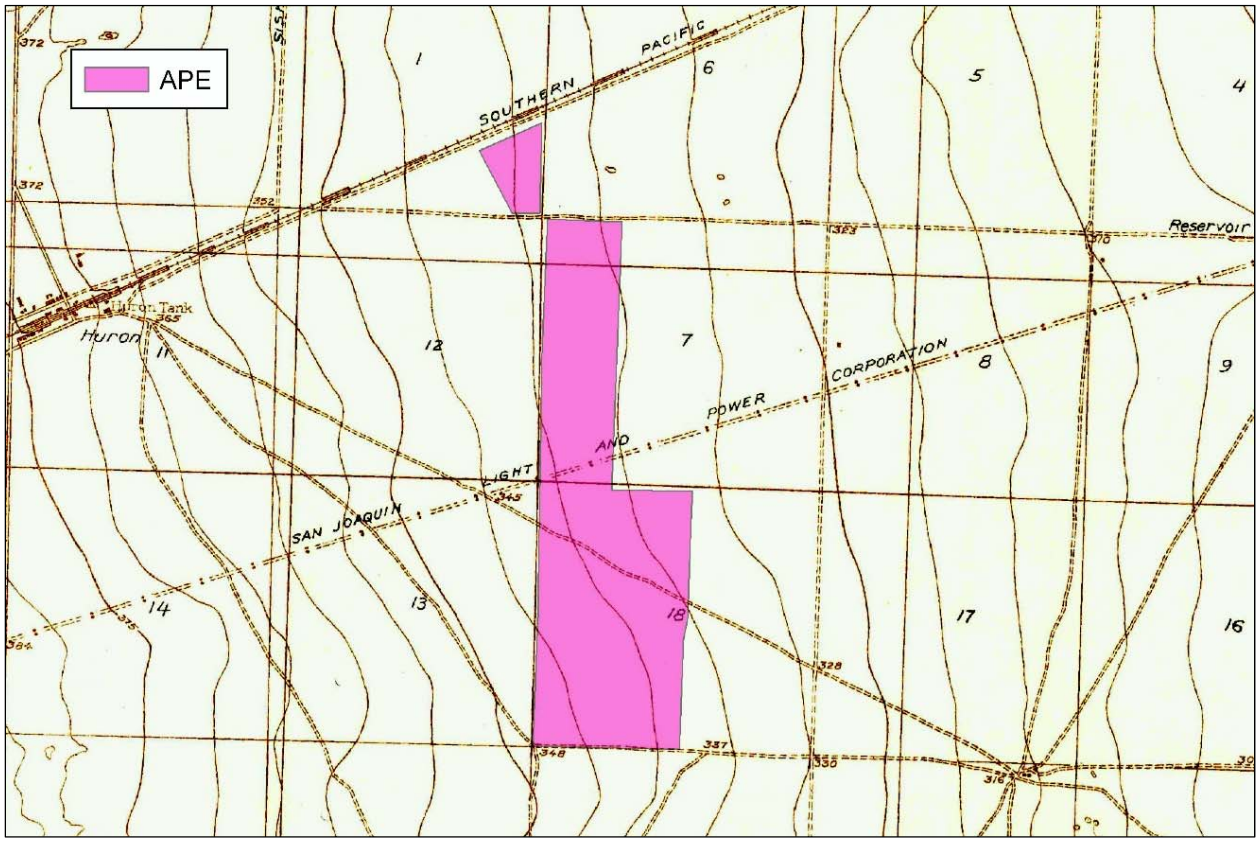

Figure 3-1 San Joaquin Light and Power Corporation Henrietta–Coalinga transmission line on the 1933 USGS Huron, CA 7.5-minute quadrangle.

3.4 AGRICULTURAL DEVELOPMENT

Into the 1920s, the livestock industry was dominant in the western Central Valley, although there were signs that its importance was waning in favor of agriculture. Similar to the valley's eastern side, where geography and commercial development had made it the nation's leading producer of grapes and tree fruit, the distinct physical and economic characteristics of what came to be known as the West Side predisposed this region to specialize in specific cash and subsistence crops. A few familiar examples from the past and present include cantaloupes, which thrive in the clay/sandy loam and drier microclimate of the West Side; alfalfa, which is associated with the region's long tradition of dairy farming; grain, which requires relatively less water and is better suited to the drier West Side; and various varieties of tomatoes, a hardy crop that can be found on both sides of the valley.

In 1925, local historian John Outcalt (1925:359) foreshadowed what was to come when he wrote "some activity is being set afoot to encourage the raising of cotton." By the following decade, cotton emerged as a staple crop on the West Side and has remained so ever since (Baloian and

Lloyd 2016:14–15). Commercial cotton cultivation in western Fresno County, which began around the Five Points area (approximately 16 miles north of the APE) in the early 1920s, became the dominant industry in west Fresno County following World War II (Hall 1986:175–177, 181–185). Located far from the canal systems of the Kings River, cotton farmers typically extracted water from deep wells to irrigate their crops (Asselin and Baloian 2017:11).

3.5 IRRIGATION AND CANAL INFRASTRUCTURE

In some ways, the problems facing farmers on the West Side of the Central Valley were scaled-down versions of issues confronting the entire state. Namely, some areas typically received an abundance of water, while others had not nearly enough for cultivation. Similarly, in temporal terms, runoff from the valley's rivers varied widely from year to year—any given parcel could be stricken with drought one year then inundated with flood water the next (Baloian and Lloyd 2016:15).

Alongside the many private efforts to irrigate arid lands during the second half of the 1800s, the signing of the Reclamation Act in 1902 signaled the start of large-scale federal involvement in rendering dry land suitable for human use. Seventeen states in the American West would eventually benefit from the reclamation fund that was generated by sale of public land in these states. The U.S. Bureau of Reclamation, which was established by the act, is charged with the management, development, and protection of water resources, with an initial emphasis on providing much-needed irrigation to dry areas. This goal has mainly been achieved by a more even distribution of existing water through the construction of dams and waterways. The USBR is now the largest wholesale supplier of water in the United States and the largest producer of hydroelectric power in the West (National Park Service 2017).

Since the turn of the twentieth century, the electric water pump had been an important innovation, allowing agriculture in previously uncultivated areas, but what the valley really needed was a way to control and redistribute the tremendous supply of water flowing from the Sierra Nevada. The solution was the Central Valley Project (CVP), a multicomponent water conveyance system. The CVP began as a state water project in the mid-1930s, yet because financing for this large-scale public works project was beyond the means of California, the federal government assumed control and placed the project under the jurisdiction of the USBR. Although construction plodded along through World War II and the 1940s, by the early 1950s the CVP was functioning as an integrated system.

The CVP and other federal water projects greatly expanded the capacity of stored irrigation water, thereby bolstering the state's agricultural industry, making California one of the leading producers of agricultural goods in the world. Shortly after construction of the CVP, in 1953 the USBR published a report, which estimated that:

> About 500,000 acres of irrigated land which would have reverted to dry farmed land or native pasture without project water retained a market value of $212,750,000 more than they would have without project water, and over $60 million of value has been added to dry land that has been irrigated with project water since 1944 [Bureau of Reclamation 1956:xiv].

These figures illustrate the impact of the CVP after only a few years of service, suggesting that more than 60 years later, the long-term effects of the project have been immense (Baloian and Lloyd 2016:16).

In 1952, a group of west Fresno County landowners led by cotton growers Jack O'Neill and Russell Giffin formed the Westlands Water District (WWD), which covered 350,000 acres at its inception (Hall 1986:184–185). Well water was becoming increasingly more costly to obtain, and members of the WWD, whose farms averaged more than 2,000 acres in size, lobbied the state and federal governments for ways to bring aboveground water to their properties. When plans for a CVP impoundment facility in the foothills west of Los Banos first came to light in 1954, the farmers immediately recognized it as a major opportunity and threw their support behind the proposal. The dam and its related conveyance, today known as the Bernie Sisk (San Luis) Dam and the San Luis Canal Division of the California Aqueduct, eventually became incorporated into the California State Water Project—the nation's last great water project of the twentieth century. The San Luis Canal, which flows 2 miles northeast of Huron and close to the APE, was completed in 1967 (Asselin and Baloian 2017:11; Bailey 2007:103).

4
METHODS

4.1 RECORDS SEARCH

At Æ's request, the CHRIS SSJVIC at California State University, Bakersfield, performed a records search on June 6, 2019, to identify previously recorded resources and prior surveys within the APE and surrounding 0.5-mile area. SSJVIC staff completed searches of the Historic Property Data File, National Register of Historic Places, California Register of Historical Resources, California Historical Landmarks, and California Points of Historical Interest databases.

4.2 ARCHIVAL RESEARCH

The purpose of archival research is to provide information regarding the history of land use and to assess the potential for prehistoric and historic-era archaeological deposits to be located within the APE. Æ's investigation compiled information from several sources, including:

- Resources for historical maps and documents (see also Appendix B) such as the Map Aerial Locator Tool (MALT), Fresno County Property Atlases, United States Geological Survey TopoView (https://ngmdb.usgs.gov/topoview); California Electric Transmission Line (https://cecgis-caenergy.com);
- Fresno County Assessor's Office; and
- Æ's in-house library, which includes maps and local histories.

The results of archival research, both online and in-person, were primarily used in writing the historic context (Chapter 3) and evaluations (Chapter 6), although a history of parcel land ownership within the APE is presented in Chapter 5.

4.3 NATIVE AMERICAN OUTREACH

On May 20, 2019, Æ sent an e-mail to the Native American Heritage Commission (NAHC) requesting a search of its Sacred Lands File and contact information for local Native American representatives who may have information about the APE. The NAHC responded on May 28, 2019, with its findings and attached a list of Native American tribes and individuals culturally affiliated with the APE. On October 2, 2019, Æ prepared and mailed an outreach letter to each of the contacts identified by the NAHC and kept a log of all responses. The outreach letter is standard best practices within cultural resource management and is not part of AB 52 or NHPA Section 106 government-to-government consultation. Æ's record of correspondence is included in Appendix C.

4.4 ARCHAEOLOGICAL SURVEY

4.4.1 Fieldwork Authorization

The USBR must grant permission for a cultural resource survey on land managed by the agency. Æ prepared and submitted a U.S. Department of the Interior Application for Permit for Archeological Investigations under the authority of the Archeological Resources Protection Act of 1979. The USBR approved the application and issued a fieldwork authorization for Æ to conduct the pedestrian survey (Reference Number 19-SCAO-156) (Appendix E).

4.4.2 Survey

On July 11–15, 2019, Æ archaeologists Randy Ottenhoff, Christa Torres, and Tony Torres, conducted an intensive archaeological pedestrian survey of the southernmost section of the APE. On August 21–23, 2019, Ottenhoff returned to the APE with archaeologists Sairy Tobin and Isaac Sandoval to complete survey in the central portion of the APE. Æ surveyed the northernmost portion of the APE in 2016 for the City of Huron Recycled Wastewater Project (Asselin and Baloian 2017), and while the ground was not surveyed again for this Project, the results of the 2016 survey are included in this report. The APE was surveyed using parallel and meandering transects spaced no more than 15–20 meters apart, exclusive of areas inundated with water at the time of the surveyed. Æ staff photographed survey areas using an Olympus TG-860 digital camera. Methods and observations were recorded on Æ Survey Field Record forms and a Trimble Global Positioning System (GPS) unit was used to collect geospatial data. All photographs and field notes are on file at Æ's Fresno office.

4.5 BUILT ENVIRONMENT SURVEY

On July 23, 2019, Æ architectural historian Annie McCausland conducted a built environment survey of the APE. Buildings and/or structures that are 50 years of age or older (i.e., constructed in or before 1969) within the APE were identified, photographed, and documented on California Department of Parks and Recreation (DPR) Primary Record and Building, Structure, and Object Record forms. Results of both the field study and archival research were used to compile a historic context for the APE and to assess the changes that have occurred in the physical characteristics of the existing historic built environment over time.

4.6 BURIED SITE SENSITIVITY ASSESSMENT

Æ conducted a geologic and hydrologic review of the APE to identify the potential for paleosols that may contain intact prehistoric cultural deposits in the APE. Æ consulted geological maps, historical maps, the U.S. Department of Agriculture Natural Resources Conservation Service Web Soil Survey online database, and regional geoarchaeological studies. These sources provided information regarding the natural watercourses in the area as well as data about local soils and sediments, parent rock formations, and historical vegetation. This information was used to estimate the age of the sediments surrounding the APE, consider the hydrologic and geologic forces that created and placed these sediments, and assess the likelihood of encountering buried cultural resources within the vertical APE during Project activities should any ground disturbance such as grading or ground surface levelling occur.

5
FINDINGS

5.1 RECORDS SEARCH RESULTS

The SSJVIC responded to Æ's records search request on June 3, 2019, with an inventory of previous studies conducted within the APE and surrounding 0.5-mile area (Records Search File No. 19-207). The results in the SSJVIC response letter differ from the summary herein due to a change in APE; only current APE records search findings are reported herein. In addition to the SSJVIC's results, in 2016 Æ completed two technical studies that intersect the APE: the City of Huron Water Treatment Plant Improvement Project (Baloian and Lloyd 2016) and the City of Huron Recycled Wastewater Project (Asselin and Baloian 2017). Results of these two studies are included in this report.

Three other previous investigations (FR-00135, -02052, -02027) were conducted in the APE and five were completed within the surrounding 0.5-mile area (see Appendix B). There are no previously recorded resources in the APE. Three built environment resources are recorded in the surrounding 0.5-mile area: Gale Avenue Bridge (P-10-006237), a segment of the historical Southern Pacific Railroad (P-10-003930), and the California Aqueduct/San Luis Drain (P-10-006207).

5.2 ARCHIVAL RESEARCH

Results of desktop research and in-person searches at repositories (see Section 4.2) provided key information, including historical data presented in Section 3.2, Chapter 6, and included on the DPR forms in Appendix E. Specific sources of map and aerial images consulted during archival research are identified in Appendix B. Historical landownership through the 1930s is presented in Table 5-1. Property ownership in the APE can be traced back to at least 1891 and includes various private landowners, the Cal Ranch Company, and the Southern Pacific Railroad Company.

Table 5-1
History of Land Ownership within the APE

Progressive Atlas Map	T20S/R17E E ½ of SE ¼ of Sec. 1	T20S/R18E W ½ of Sec. 7	T20S/R18E W ½ of Sec. 18
1891	Joseph I. Merritt	Northern half: Koffman & Simon Southern half: Henry Levy	No owner indicated
1907	Sanford Ballou	Southern Pacific Railroad Company	Northern half: G. Calpriso Southern half: Calif Ranch Company
1909	Kate Ballou	Southern Pacific Railroad Company	Northern half: G. H. Jones Southern half: Cal Ranch Company
1911	Kate Ballou	Southern Pacific Railroad Company	Northern half: G. H. Jones Southern half: Cal Ranch Company
1913	Kate Ballou	Southern Pacific Railroad Company	Northern half: G. H. Jones Southern half: Cal Ranch Company

Table 5-1 (continued)
History of Land Ownership within the APE

Progressive Atlas Map	T20S/R17E E ½ of SE ¼ of Sec. 1	T20S/R18E W ½ of Sec. 7	T20S/R18E W ½ of Sec. 18
1920	Kate Ballou	Southern Pacific Railroad Company	Northern half: G. H. Jones Southern half: Cal Ranch Company
1930	Kate Ballou	Southern Pacific Railroad Company	Northern half: F. W. Bailey Southern half: Lee Wakefield
1935	Kate Ballou	Southern Pacific Railroad Company	Northern half: F. W. Bailey Southern half: Lee Wakefield

5.3 NATIVE AMERICAN OUTREACH

The NAHC responded to Æ's request on May 28, 2019, with negative findings for the Sacred Lands File search of the APE; however, they caution that the absence of information in the Sacred Lands File does not indicate the absence of Native American cultural resources within the APE. The NAHC provided a list of tribal representatives for outreach to local tribal groups regarding any sites of cultural or spiritual significance in the APE. Contacts recommended by the NAHC include:

- Chairperson Robert Ledger Sr. of the Dumna Wo-Wah Tribal Government,
- Stan Alec of the Kings River Choinumni Tribe,
- Chairperson Rueben Barrios Sr. of the Santa Rosa Rancheria Tachi-Yokut Tribe,
- Chairperson Leanne Walker-Grant of Table Mountain Rancheria,
- Cultural Resources Director Robert Pennell of Table Mountain Rancheria, and
- Chairperson Kenneth Woodrow of the Wuksache Indian Tribe/Eshom Valley Band.

On October 2, 2019, Æ sent a letter to each of the tribal contacts above providing information about the Project and inviting interested tribal representatives to contact Æ with information or questions. A follow-up e-mail was sent on October 4, 2019. No responses from the Native American contacts have been received to date. A record of correspondence is included in Appendix C.

5.4 ARCHAEOLOGICAL SURVEY FINDINGS

5.4.1 Visibility

The land within the APE is primarily utilized for crop cultivation. As a result, the landscape is relatively flat and unobscured by pavement or buildings. At the time of survey, ground visibility within the APE was variable. Fallow fields and dirt roadways provided the best visibility (90–100 percent; Figure 5-1). Dense weeds and seasonal grasses, which were observed primarily along road shoulders and some sections of fallow fields that were inundated with water, reduced

ground visibility in small portions of the APE to less than 10 percent (Figure 5-2). Surface visibility within recently planted agricultural fields was generally good (60–80 percent; Figure 5-3). Soils observed in the APE were a brown sandy loam interspersed with small pebbles and cobbles.

Figure 5-1 Representative overview of fallow fields and roadways within the APE, facing west.

Figure 5-2 Representative overview of dense vegetation limiting ground visibility in the APE, facing west.

Figure 5-3 Typical visibility in agricultural fields in the APE, facing west.

5.4.2 Negative Findings

Æ archaeologists surveyed portions of the 560-acre APE that were not obstructed by impenetrable vegetation or water, totaling 519 acres of intensive coverage, or approximately 92.7 percent of the total APE (Figure 5-4). Approximately 2 percent (12 acres) of the APE was inaccessible due to water or vegetation. Æ surveyed the remaining 5.9 percent (33 acres) of the APE north of Palmer Avenue in 2016 (Asselin and Baloian 2017), and that area was not resurveyed during 2019 field efforts. No evidence of prehistoric or historic-era archaeological sites, features, artifacts, or isolates were observed in the APE. Two historic-era built environment resources within the APE, the Henrietta/Huron/Gates 60 kV transmission line (AE-4046-01) and an isolated pump (AE-4046-ISO-01), are discussed in the following section.

5.5 BUILT ENVIRONMENT SURVEY RESULTS

5.5.1 Henrietta/Huron/Gates 60 kV Transmission Line Segment (AE-4046-01)

The SJLPC built the Henrietta–Coalinga 60 kV transmission line that intersects the APE in 1913. It ran for 25.25 miles between the Henrietta and Coalinga substations to provide additional power to the Coalinga oil fields. By 1948, PG&E had acquired the SJLPC and built Huron Substation. The section of the Henrietta–Coalinga transmission line west of Huron Substation, which is approximately 2 miles outside the APE, was later rerouted south to Gates Substation, which was constructed in 1953. This change resulted in the current Henrietta/Huron/Gates 60 kV transmission line segment. However, the recorded transmission line segment in the APE retains its original alignment as constructed by the SJLPC in 1913.

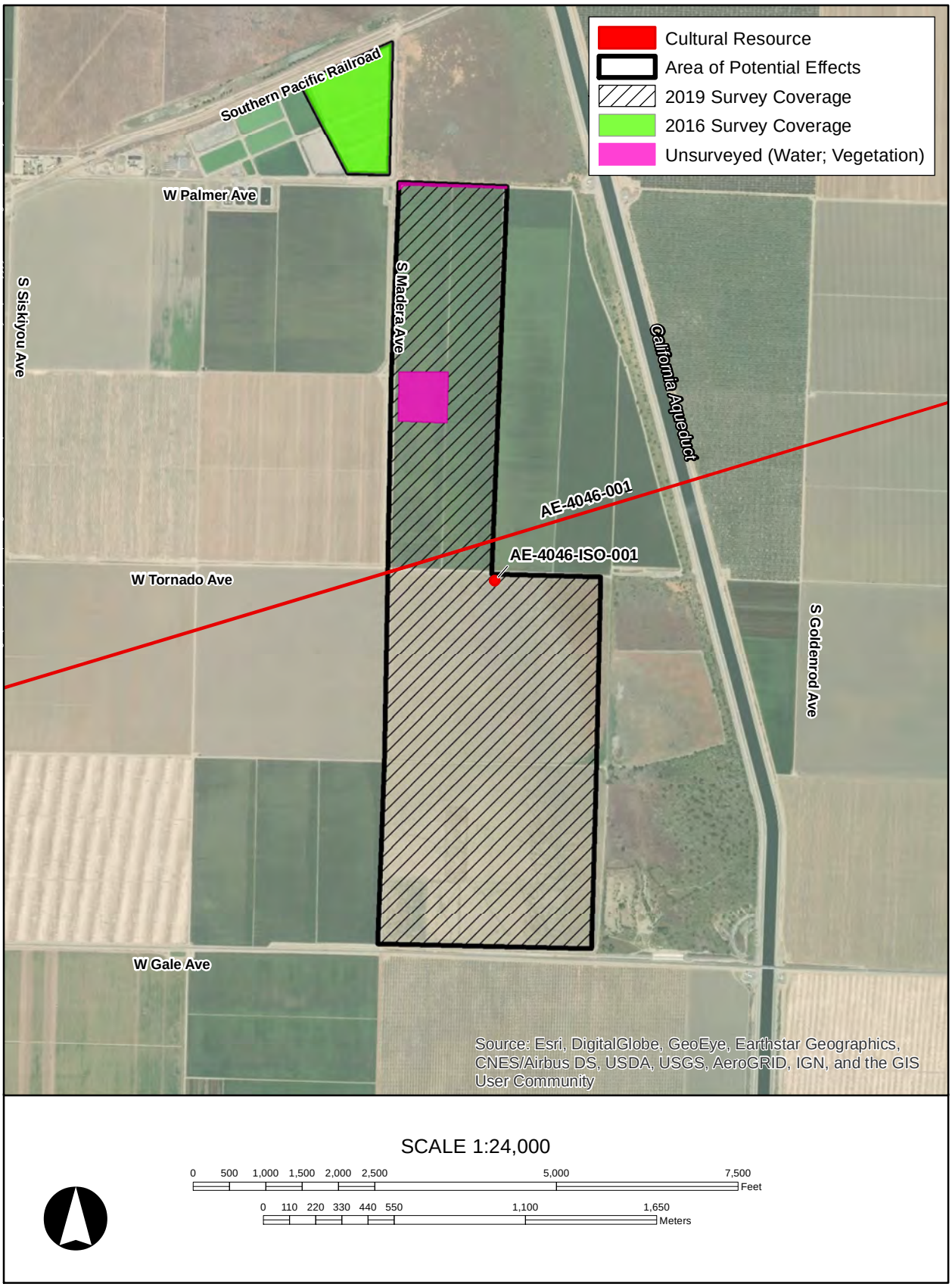

Figure 5-4 Survey coverage and cultural resources in the APE.

Five wood poles carry the 0.19-mile-long segment of the transmission line through the APE, following the original alignment of the Henrietta–Coalinga 60 kV transmission line (Figure 5-5). The transmission line enters the APE from the southwest at the intersection of West Tornado Avenue and South Madera Avenue and angles to the northeast, exiting the APE approximately 473 feet north of West Tornado Avenue. The poles are 1 foot in diameter with wood crossarms that support three power lines. One pole in the alignment (designated as Pole 4) has fuses on both crossarms with capacitor banks below. Pole 5 is similarly constructed, although the power lines transfer from this pole to a different (unrecorded) modern distribution line. A single guy wire is attached to an anchor at ground level, and an additional pole is used as a back stake.

Figure 5-5 Segment of Henrietta/Huron/Gates transmission line within the APE, facing east.

5.5.2 Irrigation Pump and Impoundment Berm (AE-4046-ISO-01)

A groundwater transfer pump on the south side of West Tornado Avenue is of likely historic age. The pump is in a northwest–southeast-orientated circular depression surrounded by an earthen berm that is open to the north. There is a 15-foot-long by 8-foot-tall fuel tank atop the east side of the berm (Figure 5-6).

The pump itself is comprised of a Cummins ReCon brand engine block with a drive shaft protruding to the northwest connecting to a Randolph Manufacturing Company G400 gear drive. From the well, groundwater was funneled northwest through a 60-foot-long aboveground steel pipe that disappears into the earthen berm. No exit point can be seen, which makes the exact destination or purpose of the pumped water unclear. The aboveground pipe has a Waterman brand Red Top model air and pressure relief valve as well as a pressure gauge. The engine control panel on a post on the east side of the engine has several gauges and control buttons. A

power source is no longer present. A potential remnant of a distribution line pole suggests that the pump was connected to the existing distribution line parallel to West Tornado Avenue, just west of the earthen berm.

Figure 5-6 Pump, berm, and fuel tank, facing east.

A fuel tank on top of the east side of the earthen berm has a northeast-southwest orientation. It appears to be coated with a brown-red steel primer, and most of its surface has been tagged with graffiti. The tank rests on two wood poles that have been tied together and lay flat on the earthen berm with some overhang on either end. On the east side of the tank, there are several pipes and valves. The longest of these pipes disappears into the berm and has no discernable exit point. There are currently no visible connections between the tank and the pump.

The exact age of the pump could not be established; however, the ReCon division of Cummins was founded in 1966 with the opening of their facility in Memphis, Tennessee (Cummins 2019). The ReCon division, as the name suggests, specializes in reconditioning existing engines. This puts the build or reconditioning date of the engine post-1966. The pump first appears on a 1967 historic aerial photograph (Figure 5-7). Ground disturbance at the pump site can first be seen on an aerial photograph from 1964 (Agricultural Adjustment Administration 1964). On the 1967 aerial image, the circular earthen berm can be recognized, albeit with a different arrangement of the various components of the pump (Agricultural Adjustment Administration 1967). On later aerial views, the earthen berm is less recognizable, although it can be clearly seen again in 1993 (Agricultural Adjustment Administration 1993). The presence of the pump, however, appears to be uninterrupted since the second half of the 1960s. The electrical pump is considered part of a

larger system that is no longer extant. It is an isolated remnant of a past cultural landscape that cannot be evaluated in its entirety given the information available at present. Nonetheless, the pump does not appear to coincide with the local introduction of electricity service for powering irrigation pumps that promoted the expansion of agriculture on the West Side.

Figure 5-7 1967 aerial photograph showing pump and berm (Agricultural Adjustment Administration 1967).

The electrical pump, berm, and tank are considered part of a larger system that is no longer extant and, therefore, is best categorized as an isolated remnant of a cultural landscape. Æ recorded the isolated features on the appropriate DPR forms (Appendix D). An isolate by definition lacks historical association and is not, in itself, eligible for the NRHP or CRHR.

5.6 BURIED SITE SENSITIVITY ANALYSIS

5.6.1 Landscape Chronology

The valley floor is largely composed of older Pleistocene (prior to 25,000 cal B.P.) alluvial fan deposits originating from the Sierra Nevada that form a large piedmont to the east where the valley margins join the Sierra Nevada. These margins have undergone episodes of stability as well as erosion by channel incision. Eroded material is later redeposited, which results in an accumulation of buried deposits within the center of the valley. Smaller alluvial fans are present along the western margins of the valley, but the bulk of these landforms is buried by younger deposits dating from 31,340 and 26,352 cal B.P. (Meyer et al. 2010).

During the glacial conditions of the late Pleistocene (approximately 25,000–15,000 cal B.P.), the valley experienced a period of landscape stability that allowed soils to form, although channel incision continued from 25,000 to 20,000 cal B.P. during episodes of glacial outwash. After 20,000–19,000 cal B.P., channels and streams began to exceed their carrying capacity, resulting in the infilling of channels and existing basins. Infilling was then followed by a lateral spread of sediments across existing alluvial fans and throughout the floodplain. The entrainment, transportation, and deposition of these glacial sediments appear to have ceased between 18,500 and 16,500 years ago. Landforms of the late Pleistocene are small, often isolated, and far less prevalent than older Pleistocene landforms within the valley (Meyer et al. 2010).

The transition to nonglacial conditions during the latest Pleistocene (15,000–11,500 cal B.P.) brought on pronounced changes in hydrologic, geomorphic, and biotic systems. During this time, the environment experienced rapid climatic fluctuations, most notably during the onset of the Younger Dryas (12,900–11,500 cal B.P.) when the climate abruptly, yet briefly, returned to glacial conditions. The latest Pleistocene was a period of greater climatic variability compared to prior time periods, and the subsequent disequilibrium is evident in the stratigraphic deposits. The increased variability and rapidly fluctuating conditions led to an increase in both erosion and deposition throughout the valley. As such, landforms generated during this period of environmental instability are more prevalent today than late Pleistocene-age landforms (Meyer et al. 2010).

The Early Holocene (11,500–7000 cal B.P.) saw more stable conditions than the latest Pleistocene and experienced a warmer and drier climate. A reduction in effective moisture promoted stabilization of existing landforms, continued soil development, and limited confinement of erosion and transport to existing channels. The most notable example of landscape stability during this time is seen in the alluvial landforms along the valley's western margins where well-developed Early Holocene soils are present (Meyer et al. 2010).

Early Holocene stability was followed by pronounced climatic variability in the Middle Holocene (7000–4000 cal B.P.). Middle Holocene landforms within California are typically rare. There is a lack of consensus surrounding whether the climatic conditions of the Middle Holocene were markedly warmer and drier or cooler and wetter than today. Although there is a gap in the Middle Holocene stratigraphic record throughout California, this is not the case for the San Joaquin Valley, as buried soils of this age have been documented within alluvial fans, floodplains, and basins within the valley with dates ranging from 6400 to 4500 cal B.P. These Middle Holocene deposits sometimes bury Early Holocene surfaces within the confines of the valley; however, the Middle Holocene surfaces are still the least prevalent when compared to the abundance of landforms from other periods (Meyer et al. 2010).

The cooler and wetter conditions of the Late Holocene (4000–0 cal B.P.) are characterized by episodes of increased precipitation and runoff. Multiple episodes of deposition can be seen in the alluvial fans and floodplains of the valley. The increase in wetness allowed vegetation to flourish, stabilizing new deposits as well as existing landforms and slowing the rate of landscape change prior to 2000 cal B.P. These Late Holocene surfaces are best observed on the east and west margins of the valley (Meyer et al. 2010).

The onset of the latest Holocene (2000–150 cal B.P.) brought increased shifts in rainfall, episodic droughts, and the Little Ice Age. This increase in variability contributed to rapid and extensive landscape modification, which is observable on exposed landforms. Large-scale flooding led to large-scale deposition. The majority of the valley is capped by these vast latest Holocene alluvial deposits. The climate oscillations between wet and dry also contributed to the destabilization of large portions of the landscape, contributing to the widespread deposition that spans the valley floor (Meyer et al. 2010).

The historic and modern (150–0 cal B.P.) period is characterized by extensive landscape development and erosion throughout the valley due to agriculture, logging, livestock grazing, dredging, mining, quarrying, irrigation, and landscape reclamation. Changes in vegetation from native to nonnative species as well as a reduction in ground cover due to drought and livestock grazing fueled erosion. The region surrounding the city of Huron was used for grazing in the early historic period until canals and levees were constructed in the late 1800s to prevent flooding and to transport water for farming. Additionally, portions of the landscape were subjected to artificial cut and fill episodes to support modern urbanization and development. Much of the natural topography (e.g., mounds and natural levees) that may have harbored prehistoric archaeological sites was truncated and destroyed by this development. Modern deposits continue to form within the valley, but these are human-made deposits resulting from continued landscape modification (Meyer et al. 2010).

Sedimentation in the valley encompassing the city of Huron is dominated by cycles of erosion from the mountains that carry granitic parent material to the floor of the valley below that form vast alluvial fans and piedmont landforms. For millennia, local hydrology has moved granitic sediments throughout the valley where they are deposited into existing basins. During periods of high effective moisture, rivers overflow and deposit fine-grained and often organic-rich sediments across the valley floodplain. The accumulation of these fine organic sediments along with periods of hydrologic stability over millennia has resulted in a soil-rich region, making the western San Joaquin Valley a prime landscape for agricultural practices.

The city of Huron is in the Westside Subbasin of the greater Tulare Lake Hydrologic Region within the San Joaquin Valley Groundwater Basin. The Westside Subbasin consists of unconsolidated continental deposits of Tertiary and Quaternary age. An aquitard is present between approximately 500 to 850 feet below the ground surface (bgs), above which sediments consist of younger and older alluvium, and a portion of the Tulare Formation. These sediments erode to form poorly sorted clay, silt, and sand, which are interspersed with pockets of well-sorted fine to medium grained sand (Soil Survey Staff 2019a, 2019b).

Geologic and soil data derived from the National Resources Conservation Service Soils Survey identify the APE as dominated by Westhaven clay loam and Excelsior sandy substratum Westhaven association. The latter makes up approximately 89 percent of the APE and is characterized as floodplain found in alluvial fans. Westhaven clay loams in contrast are well drained. Both soil types are found in slopes of less than 2 percent and are derived from calcareous sedimentary rock. However, Westhaven soils have a higher variability in texture and structure, ranging from clay loam within the first 12 inches bgs to a silty clay loam present at 21–61 inches bgs, underlain by stratified loamy sand to silty clay loam below 61 inches.

5.6.2 Buried Site Sensitivity

In general, the entire San Joaquin Valley has low potential for the identification of Paleo (13,500–10,500 B.P.) and Lower Archaic (10,500–7500 B.P.) archaeological sites due to the continual depositional process occurring across the Central Valley during the Early and Middle Holocene that have deeply buried cultural material up to 35 feet bgs (Onken 2019). Evidence of Early Holocene occupation does exist, however, and two cultural deposits discovered in lacustrine loam soils have been dated to 8379 and 7848 cal B.P. at Tulare Lake and along the bank of the Tulare River, respectively (Meyer et al. 2010:71). Still, the dominant pattern in the region is that older sites are often destroyed, displaced from their original place of deposition, or deeply buried by flood or alluvial sediment deposition. By the Late Holocene (2000 B.P. to present) a decrease in mass erosional deposition occurs such that the possibility of encountering intact archaeological sites is moderate to high in flat or elevated areas located away from tributaries, rivers, and streams. The APE, however, is in a flat area prone to frequent flooding, which decreases the potential for preservation of archaeological deposits in primary context.

Soils in the APE are generally thick and underlain by paleosol horizons, also known as clay aquifers or hardpan, found at 500–850 feet bgs. The dominant soil types of the APE, namely Westhaven association, consist of well-drained loam, silt, or sandy soils that contain nonsaline or very slight levels of saline (0–2 millimhos per centimeter) with neutral to moderate alkalinity. Environments composed of well-drained soils with nonsaline or very slight salinity paired with neutral to moderate alkaline levels tend to only moderately preserve bone, teeth, and other organic materials (Kibblewhite et al. 2015). Low levels of saline introduced into artifacts via groundwater percolation would contribute to the rapid decay of artifacts. Metals and other porous materials would be most susceptible to corrosion resulting from groundwater percolation (Kibblewhite et al. 2015; Rapp and Hill 2006); however, the degree of decay would be comparatively less than if exposed to high alkaline or high saline groundwater. Furthermore, modern land-use practices and agricultural use of chemical or saline sprays accelerates the decay of nearly all classes of cultural material, including glass, metal, bone, teeth, and shell (Rapp and Hill 2006). Given the chemical profile likely to be found in the APE soils, coupled with the episodic inundation of the soils due to seasonal flooding, there is low probability of encountering well-preserved buried archaeological deposits in the vertical APE.

6
RESOURCE EVALUATIONS

This chapter discusses the process and approach used in the evaluation of eligibility for inclusion in the NRHP or CRHR for one built environment structure (AE-4046-01) identified in the APE. The details of each resource evaluation are provided below and on California DPR 523-series forms included in Appendix C.

6.1 EVALUATION CRITERIA

To determine whether the Project has the potential to adversely affect a historic property/historical resource, the structure within the APE must be evaluated for eligibility to be listed in the NRHP or CRHR. If a resource qualifies as a historic property/historical resource, the potential for the Project to cause an adverse effect or significant adverse change to the qualities of the resource that make it eligible will require assessment, and the effects may be subject to mitigation. Cultural resources that are not eligible for the NRHP or CRHR do not require such consideration. The National Park Service (NPS) has established a process for identifying, evaluating, and assessing effects to historic properties. Practically speaking, determinations made within a federal regulatory context are almost always universally accepted for purposes of identifying, evaluating, and assessing impacts under CEQA.

The first threshold in this process is to ascertain whether a site or built environment resource within the APE is old enough to be considered a historic property and, accordingly, eligible for federal and/or state registers. Consistent with 36 CFR 60.4, to be eligible for the NRHP, an archaeological or built environment resource must be 50 years old or older. Except under exceptional circumstances (National Park Service [NPS] 1997:25–43), sites and properties less than 50 years old are dismissed from further consideration. If a resource is found to meet this age criterion, the following sequential steps apply:

- Classifying the resource as a district, archaeological site, building, structure, or object;
- Determining the theme, context, and relevant thematic period of significance with which the resource is associated;
- Determining whether the resource is historically important under a set of significance criteria; and
- If significant, determining whether the resource retains integrity.

In California, historical resources are usually classified according to *Instructions for Recording Historical Resources*, published by the California Office of Historic Preservation in 1995. This handbook contains listings of resource categories for historical and prehistoric sites as well as standing structures. For built environment resources, it is additionally helpful to define a property's type (e.g., commercial vs. residential, urban vs. rural, agricultural vs. industrial). In

this regard, *Historical Context and Archaeological Research Design for Agricultural Properties* (California Department of Transportation 2007) is a useful guide for categorizing rural resources.

The historic context establishes the framework within which decisions about significance are based (NPS 1997:9). The evaluation process essentially weighs the relative importance of events, people, and places against the larger backdrop of history. Within this process, the context provides the comparative standards and/or examples as well as the theme(s) necessary for this assessment. According to the NPS (1997:9), a theme is a pattern or trend that has influenced the history of an area over time. A theme is typically couched in geographic (i.e., local, state, or national) and temporal terms to focus and facilitate the evaluation process.

Significance is based on how well a subject resource represents one or more themes through its associations with important events or people and/or through its inherent qualities. A resource must demonstrate more than just association with a theme; it must be a good representative of the theme, capable of illustrating the various thematic elements of a time and place in history. In order to be included in the NRHP and thus be considered a historic property per 36 CFR 800.16(l), 36 CFR 60.4 defines four criteria for evaluation:

> The quality of significance in American history, architecture, archeology, engineering, and culture is present in districts, sites, buildings, structures, and objects that possess integrity of location, design, setting, materials, workmanship, feeling, and association and
>
> (a) that are associated with events that have made a significant contribution to the broad patterns of our history; or
>
> (b) that are associated with the lives of persons significant in our past; or
>
> (c) that embody distinctive characteristics of a type, period, or method of construction, or represents the work of a master, or that possess high artistic values, or that represent a significant and distinguishable entity whose components may lack individual distinction; or
>
> (d) that have yielded, or may be likely to yield, information important in prehistory or history.

Similarly, according to the CEQA Guidelines, for a historical resource to be eligible for the CRHR, it must meet at least one of the criteria defined in California PRC 5024.1(c):

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

To be included in the NRHP and CRHR, a resource must not only possess historical significance but also the physical means to convey such significance—that is, it must possess integrity. Integrity refers to the degree to which a resource retains its original character. To facilitate this assessment, the NPS (1997:44–45) provides the following definition of the seven aspects of integrity.

1. Location is the place where the historic property was constructed or the place where the historic event occurred;
2. Design is the combination of elements that create the form, plan, space, structure, and style of a property;
3. Setting is the physical environment of a historic property;
4. Materials are the physical elements that were combined or deposited during a particular period and in a particular pattern or configuration to form a historic property;
5. Workmanship is the physical evidence of the crafts of a particular culture or people during any given period in history or prehistory;
6. Feeling is a property's expression of the aesthetic or historic sense of a particular period of time; and,
7. Association is the direct link between an important historic event or person and a historic property.

Assessing integrity of a significant historic properties depends on an understanding of the components or features that give it significance. For this reason, the issue of integrity is addressed only after significance has been established. Moreover, resources that are not significant per NRHP and CRHR criteria are by definition not eligible to either register and do not require an integrity assessment.

6.2 RESOURCE EVALUATIONS

6.2.1 Henrietta/Huron/Gates 60 kV Transmission Line Segment (AE-4046-01)

Portions of the Henrietta/Huron/Gates 60 kV transmission line was constructed by the SJLPC in 1913 as the Henrietta–Coalinga 60 kV transmission line, which ran for 25.25 miles between the Henrietta and Coalinga substations to provide additional power to the Coalinga oil fields. Over the next several decades, the oil industry shifted from steam- and gas-powered equipment to electricity because the latter was cheaper to use. A portion of the historic-era Henrietta–Coalinga 60 kV line intersects the APE. In 1948, PG&E built Huron Substation, which changed the overall alignment of the Henrietta–Coalinga transmission line but did not affect the alignment of the recorded segment in the APE. In 1953, the section of the Henrietta–Coalinga transmission line connecting to Huron Substation outside the APE was rerouted south to Gates Substation.

Criterion A/1

Archival research presented in Section 3.3 suggests that the 1913 Henrietta–Coalinga 60 kV transmission line was a critical element of the development of the oil industry and the local

power grid as the technology of power distribution and electricity use increased in the Central Valley. The transmission line was constructed to provide additional power to the Coalinga Oil Fields as well as provide power for irrigation and agriculture. The alignment changed in 1953 with the construction of the Huron and Gates substations. While a connection to the evolution of the oil industry in Coalinga can be made, archival findings did not identify a direct link between the transmission line and the growth of the oil industry, nor were the transmission lines critical to the completion of local infrastructure projects. Thus, AE-4046-01 is not associated with any significant historic patterns, events, or trends at the national, state, and/or local level. The transmission line is not significant under Criterion A/1.

Criterion B/2

Extensive archival searches and communication with PG&E staff did not identify an association between the transmission line segment and any historically significant person(s) at the national, state, and/or local level. AE-4046-01 is not significant under Criterion B/2.

Criterion C/3

Information reviewed from archival sources and field study of the wood monopole construction within the APE does not suggest that the transmission line embodies distinctive characteristics of a type, period, or method of construction, or represents the work of a master, or possesses high artistic values. Thus, the transmission line segment is not significant under Criterion C/3.

Criterion D/4

This criterion is most relevant for archaeological sites, but it can be applied to built environment resources if further study has the potential to yield information that cannot be obtained from other sources. Historical information about transmission lines is prevalent, and further study would not add any new information about AE-4046-01; therefore, the transmission line segment is not significant under Criterion D/4.

Recommendation of Eligibility for Inclusion in the NRHP and CRHR

Due to a lack of significance, the transmission line (AE-4046-01) is recommended ineligible for inclusion in the NRHP and CRHR.

7
SUMMARY AND CONCLUSION

Æ provided cultural resource services for the City of Huron Water Transfer Project near Huron in Fresno County, California. The applicant, Arroyo Pasajero Mutual Water Company, is seeking permits from the City of Huron to divert water overflow from the Westside Detention Basin to several adjacent properties owned and managed by private citizens, the City of Huron, and held as easements by the USBR. The Project has potential to benefit local agriculture and the municipal water supply as well as prevent roadway flooding during times of heavy precipitation. As a subconsultant to Provost & Pritchard Consulting Group, Æ conducted a cultural resource inventory to determine if significant archaeological or historic-era built environment resources are present within the APE. Accordingly, Æ performed background research, obtained records searches from the SSJVIC and NAHC, completed a buried site sensitivity assessment of the APE, conducted intensive pedestrian archaeological and built environment surveys of the APE, and evaluated the eligibility of a segment of the Henrietta/Huron/Gates 60 kV transmission line for listing in the NRHP and CRHR.

The SSJVIC records search for the APE and surrounding 0.5-mile area identified three previous investigations intersecting the APE (FR-00135, -02052, -02027) and five additional studies in the surrounding 0.5-mile area. In addition, Æ has completed two other technical studies in areas that intersect the APE (Asselin and Baloian 2016; Baloian and Lloyd 2016). There are no previously recorded resources in the APE. Three built environment resources have been identified in the surrounding 0.5-mile area: Gale Avenue Bridge (P-10-006237), a segment of the historic-era Southern Pacific Railroad (P-10-003930), and the California Aqueduct/San Luis Drain (P-10-006207). A search of the Native American Heritage Commission Sacred Lands File and outreach to local tribal representatives did not reveal the presence of sacred sites in the APE. The buried site sensitivity assessment concluded there is a low probability for soils in the APE to contain intact or well-preserved archaeological deposits.

No prehistoric or historic-era archaeological sites were discovered during pedestrian survey of the APE; however, Æ identified two historic-era built environment resources: the Henrietta/ Huron/Gates 60 kV transmission line (AE-4046-001) and a historic-era pump (AE-4046-ISO-001). The electric pump was once part of a larger system that is no longer extant and is considered an isolated remnant of a cultural landscape. It is not, in itself, eligible for the NRHP or CRHR. Æ evaluated the Henrietta/Huron/Gates 60 kV transmission line and recommends it ineligible for inclusion in the NRHP and CRHR.

Consistent with state and federal statutes and regulations, Æ advises that in the event archaeological remains are encountered during Project activities within any portion of the APE, all work within 50 feet of the find should be halted until a qualified archaeologist can identify the discovery and assess its significance.

If human remains are uncovered during construction, the USBR Mid-Pacific Regional Cultural Resources Officer and Reclamation NAGPRA Specialist must be notified immediately and the

Fresno County Coroner is to be notified to arrange for proper treatment and disposition of the remains. If the remains are identified on the basis of archaeological context, age, cultural associations, or biological traits to be those of a Native American, California Health and Safety Code 7050.5 requires that the county coroner notify the NAHC within 24 hours of discovery. The NAHC will then identify the Most Likely Descendant, who will be afforded the opportunity to recommend means for treatment of the human remains following protocols in California Public Resources Code 5097.98.

8
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APPENDIX A

Personnel Qualifications

MARY CLARK BALOIAN

President/Principal Archaeologist

Areas of Expertise

- Cultural resource management
- Prehistoric archaeology
- Project management

Years of Experience

- 28

Education

Ph.D., Anthropology, Southern Methodist University, 2003

M.A., Anthropology, Southern Methodist University, 1995

B.A., Anthropology, University of California, Davis, 1989

Registrations/Certifications

- Registered Professional Archaeologist 15189

Permits/Licensure

- Principal Investigator, California BLM Statewide Cultural Resources Use Permit CA-18-22

Professional Affiliations

- Society for American Archaeology
- Society for California Archaeology
- American Cultural Resource Association
- Association of Environmental Professionals

Professional Experience

2000–	President (2015–), Regional Manager (2012–2014), Assistant Division Manager (2010–2011), Senior Archaeologist (2000–), Applied EarthWorks, Inc., Fresno, California
1998–2001	Adjunct Faculty Member, Fresno City College, Fresno, California
1995–1996	Staff Archaeologist, Applied EarthWorks, Inc., Fresno, California
1994–1995	Staff Archaeologist, INFOTEC Research, Inc., Fresno, California
1992–1994	Teaching Assistant, Southern Methodist University, Dallas, Texas
1989–1991	Archaeological Project Leader, California Department of Transportation, Sacramento

Technical Qualifications

Dr. Clark Baloian has been involved in archaeology in California and the western United States since 1987. Her areas of expertise include the prehistory of the San Joaquin Valley, Sierra Nevada, Great Basin, central California coast, and the Iron Age of West Africa. Dr. Baloian has served as Project Manager, Field Supervisor, Crew Chief, or Field Technician for projects throughout California, Oregon, Nevada, New Mexico, Texas, Hawaii, and West Africa. Her experience in cultural resource management includes research design, data acquisition, laboratory analysis, and preparation of technical reports and compliance documents; she also has completed the Advisory Council on Historic Preservation course in National Historic Preservation Act (NHPA) Section 106 compliance policies and procedures. Her analytic skills include lithic and ceramic analyses as well as settlement pattern studies and spatial analysis, which were the foci of her doctoral research. As a Principal Archaeologist for Applied EarthWorks, Dr. Baloian directs professional staff and subcontractors and provides quality assurance for all project work. She has directed numerous surveys, testing and data recovery excavations as well as prepared dozens of technical reports and compliance documents. She administers large, complex, multiyear, multiphase projects as well as smaller cultural resource investigations.

Applied EARTHWORKS Inc.

M. COLLEEN HAMILTON

Senior Historical Archaeologist/Architectural Historian

Areas of Expertise

- Cultural resource management and legal compliance
- Historical archaeology and historic landscape assessment
- Architectural history and built-environment assessment

Years of Experience

- 40

Education

M.A., History, University of Missouri, St. Louis, 1990

B.A., Anthropology, Wright State University, Dayton, 1977

Registrations/Certifications

- Registered Professional Archaeologist 10535
- HAZWOPER (1996–2018)

Permits/Licensure

- Principal Investigator, California BLM Statewide Cultural Resources Use Permit CA-15-29
- Crew Chief, Nevada BLM Statewide Cultural Resources Use Permit N-95359

Professional Affiliations

- Society for Historical Archaeology
- Society for Architectural History
- Society for California Archaeology
- Society for Industrial Archaeology
- California Historical Society
- California Preservation Foundation

Professional Experience

1998–	Historical Program Manager, Senior Historical Archaeologist/Architectural Historian, Applied EarthWorks, Inc., Hemet, California
1997–1998	Historic Archaeologist/Architectural Historian, White Oak Environmental Alliance, Inc., Springfield, Illinois.
1993–1997	Program Manager/Architectural Historian, Facilities Management Program, Navajo Nation Historic Preservation Department, Window Rock, Arizona
1982–1992	Senior Archaeologist, Archaeological Survey, University of Missouri, St. Louis
1979–1981	Archaeologist, American Resources Group, Ltd., Carbondale, Illinois
1977–1979	Asst. Field Director, Center for Archaeological Investigations, Southern Illinois University, Carbondale

Technical Qualifications

Ms. Hamilton has 30 plus years of experience in historic preservation planning and cultural resource management. She has designed, organized, and directed significance testing and data recovery operations on both historical and prehistoric archaeological sites. Her archaeological expertise includes site significance assessments and determination of project impacts pursuant to Section 106 of the NHPA. She also has extensive experience in assessing built-environment resources. Architectural assessments include building evaluation and mitigation documentation such as Historic American Building Survey (HABS), Historic American Engineering Record (HAER), and Historical American Land Survey (HALS) documentation. Ms. Hamilton has led resource managements along the Colorado River Aqueduct (CRA), a nationally recognized historic property, for Metropolitan Water District (Metropolitan) since 1999. She has provided oversight for historical resources assessment on the Whitewater Mining Pit Reclamation Project that included documenting segments of the CRA in Riverside County. She oversaw the testing and HABS/HAER recordation of two CRA construction camps dating to the 1930s. Most recently, she has provided technical guidance at the Weymouth Filtration/Treatment Plant in La Verne, California where Metropolitan is planning seismic retrofitting of historic buildings and upgrade of the filtration system. For Coachella Valley Water District, Ms. Hamilton guided the recordation of the Coachella Canal to HAER-like standards. For PG&E Ms. Hamilton oversaw the excavations of a historic workers camp dating to the 1910s as an element of the Crane Valley Dam Seismic Retrofit Project.

DIANA TERESA DYSTE

Senior Archaeologist

Areas of Expertise

- Cultural resource management
- Ethnography
- Tribal consultation
- Zooarchaeological, paleoethnobotanical, and lithics analysis

Years of Experience

- 19

Education

Ph.D., Anthropology/Feminist Studies, University of California, Santa Barbara, 2018

M.A., Anthropology (Archaeology/ Cultural Resource Management emphasis), University of California, Santa Barbara, 2010

B.A., Anthropology, University of California, Santa Barbara, 2002

A.A., Liberal Arts and Sciences, Ventura College, 1999

Registrations/Certifications

- Registered Professional Archaeologist 39362477

Professional Affiliations

- American Anthropological Association
- American Cultural Resources Association
- Santa Barbara Museum of Natural History
- Society for American Archaeology
- Society for California Archaeology
- World Archaeological Congress

Professional Experience

2018–	Senior Archaeologist, Applied EarthWorks, Inc., Fresno, California
2015–2018	Interim Cultural Resources Supervisor and Senior Archaeologist/Ethnographer, Aspen Environmental Group
2007–2009	Archaeologist (GS-9), U.S. Department of Agriculture, Los Padres National Forest
2005–2007	Archaeologist (GS-7), U.S. Department of Agriculture, Los Padres National Forest
2004–2005	Archaeological Contractor, Padre, Inc., Ventura, California
2000–2005	Archaeologist (GS-4/5), U.S. Department of Agriculture, Los Padres National Forest

Technical Qualifications

Ms. Dyste meets the Secretary of the Interior's qualification criteria as an archaeologist and ethnographer. She has extensive experience preparing environmental documents and managing complex projects pursuant to applicable federal, state, and local regulations. Her work includes senior review or prime authorship of cultural resources documents for National Historical Preservation Act Section 106, National Environmental Policy Act, and California Environmental Quality Act compliance, including public and tribal comment and response; development of research designs; design and implementation of cultural resources plans. Ms. Dyste is qualified to conduct archaeological survey, including the supervision of small to large sized field crews, as well as zooarchaeological, paleoethnobotanical, lithics, and ethnographic analyses. She is able to analyze cultural spatial patterns via use of Total Station and Geographic Information Systems software. Ms. Dyste's Assembly Bill 52 and NHPA Section 106 tribal consultation services are informed by her knowledge and training in Native American jurisprudence, cultural sensitivity training, and graduate seminars in Native American environmental law, indigenous research methodologies, and community-based Participatory Action Research with tribal and special interest groups. She has project experience in coastal, highlands, grasslands, desert, and remote mountain settings across the state of California, although her academic region of specialty is in central and southern California with a focus on Salinan, Esselen, northern/interior/coastal Chumash prehistoric and modern political tribal groups. Ms. Dyste is a native Spanish speaker and assists clients with the translation of English to Spanish signage and public notices.

JESSICA JONES

Staff Archaeologist/GIS Specialist

Areas of Expertise

- Geographic Information Systems (GIS) in archaeology
- Computer-generated maps and graphics
- Archaeological survey and excavation

Years of Experience

- 6

Education

B.A., Anthropology, California State University, Sacramento, 2013

Archaeological Technician Certificate, Anthropology Department, Fresno City College, Fresno, California, 2011

Professional Experience

2017–	Staff Archaeologist/GIS Specialist, Applied EarthWorks, Inc. Fresno, California
2015–2017	Geographic Information Systems (GIS) Technician, Applied EarthWorks, Inc., Fresno, California
2012–2013	Laboratory Technician (volunteer), Archaeological Research Center, California State University, Sacramento
2009–2010	Laboratory Technician (volunteer), Fresno City College, Fresno, California

Technical Qualifications

As a Staff Archaeologist, Ms. Jones performs Native American outreach, archival research, pedestrian archaeological and built environment survey, site recordation and evaluation, and excavation on projects throughout the Central Valley and Sierra Nevada foothills. She serves as a primary author or contributor for cultural resource inventory reports and is experienced in the preparation of California Department of Parks and Recreation cultural resource record forms (DPR 523 series) and California Department of Transportation cultural resource documents. Her authorship with the company requires working knowledge of Section 106 of the NHPA and CEQA regulatory framework. In her role as a GIS Specialist, Ms. Jones serves as cartographer and data manager for large and small projects involving both prehistoric and historic-era cultural resources. Using ESRI ArcGIS (10.0–) software, she has prepared maps and illustrations for site documentation and technical reports encompassing archaeological and built environment resources for a variety of projects in California and Oregon. She performs GIS data analyses as needed. Additionally, Ms. Jones oversees Æ's GIS program and team, trains and mentors new GIS staff, and manages the company's master geodatabase for cultural resources and projects. She has extensive experience volunteering in archaeological repositories and is well versed in laboratory methodology related to the processing, cataloging, and management of archaeological collections.

RANDY L. OTTENHOFF

Associate Archaeologist

Areas of Expertise

- Cultural resource management
- Federal and California/Nevada regulations
- Design and implementation of pedestrian survey and subsurface site testing
- Rock art recordation and analysis
- Spatial analysis

Years of Experience

- 15

Education

Ph.D., Archaeology, University of Central Lancashire, 2015

B.A., Anthropology, University of California, Davis, 2004

A.A., Liberal Arts, American River College, Sacramento, 2001

Registrations/Certifications

- Registered Professional Archaeologist 17098
- Permitted Oregon Qualified Archaeologist

Professional Affiliations

- Society for American Archaeology
- Society for California Archaeology

Professional Experience

2018–	Associate Archaeologist, Applied EarthWorks, Inc., Fresno, California
2017–2018	Cultural Resource Specialist II, ICF, Sacramento, California
2016–2017	Cultural Resource Specialist II, HDR Engineering, Inc., Sacramento, California
2010	Field Technician, Chambers Group, LLC, Reno, Nevada
2007–2010	Field Archaeologist, Pacific Legacy, Sacramento, California
2007–2009	Staff Archaeologist, Abercrombie's Archaeology Consultants, Reno, Nevada
2006	Field Technician, ASM Affiliates, Reno, Nevada
2004–2007	Field Archaeologist, Kautz Environmental, Reno, Nevada

Technical Qualifications

Dr. Ottenhoff has 15 years of experience in cultural resources management and meets the Secretary of the Interior's qualification criteria as an archaeologist. He has extensive experience managing field projects pursuant to applicable federal, state, and local regulations for projects in the Sierra Nevada, including projects with historic-period artifact scatters and mines as well as prehistoric sites. Dr. Ottenhoff has served as sole and co-author of numerous technical reports, including Class/Phase I Inventory and Class III federal reports as well as letter reports summarizing the methods and results of project monitoring. He is familiar with National Historical Preservation Act Section 106, National Environmental Policy Act, and California Environmental Quality Act compliance, including public and tribal comment and response; development of research designs; and design and implementation of cultural resources plans. He is qualified to conduct archaeological survey, including the supervision of small to medium-sized field crews, as well as field and laboratory processing of artifact assemblages. Dr. Ottenhoff has project experience in coastal, highlands, grasslands, desert, and remote mountain settings across the state of California and is certified to conduct archaeological investigations in Oregon.

Applied EARTHWORKS Inc.

AMBER LONG

Associate Architectural Historian

Areas of Expertise

- Cultural resource management
- Project management
- Architectural history
- California history
- Environmental history
- CEQA/NEPA analysis
- Environmental and land-use planning

Years of Experience

- 6

Education

M.A., History, California Polytechnic State University, San Luis Obispo, 2015 (with distinction)

B.A., Political Science/ Communications, California Polytechnic State University, San Luis Obispo, 2003

Professional Affiliations

- California Preservation Foundation
- American Planning Association

Professional Experience

2019–	Associate Architectural Historian, Applied EarthWorks, Inc., San Luis Obispo, California
2018–2019	Planner, Santa Barbara County Planning and Development Department, Development Review Division, Santa Maria, California
2017–2018	Cultural Resources Manager, LSA Associates Inc., San Luis Obispo, California
2015–2017	Cultural Resources Analyst, LSA Associates Inc., San Luis Obispo, California
2013–2015	Cultural Resource Assistant, LSA Associates Inc., San Luis Obispo, California

Technical Qualifications

Ms. Long meets the Secretary of the Interior's Professional Qualification Standards for Architectural History and History. She has managed cultural resource projects throughout the Central Coast region and has contributed to large-scale projects state wide. Ms. Long's expertise includes effects analysis, policy consistency analysis, historical resource evaluation, significance evaluation, archival and historical research, and architectural field surveys. She has completed projects in consultation with California Department of Transportation (Caltrans) Districts 5 and 12 as well as various local governments and private-sector clients to satisfy compliance requirements under NHPA Section 106, CEQA, and local regulations. Her strong CEQA background stems from her experience as an environmental and land-use planner. Ms. Long has authored Initial Studies, contributed to Environmental Impact Reports and Environmental Assessments, and prepared regulatory permits in Santa Barbara County.

APPENDIX B

Records Search Results

*Archaeological site location information is exempt from the Freedom of Information Act (FOIA) and California Public Records Act (CPRA).

California Historical Resources Information System

Fresno
Kern
Kings
Madera
Tulare

Southern San Joaquin Valley Information Center
California State University, Bakersfield
Mail Stop: 72 DOB
9001 Stockdale Highway
Bakersfield, California 93311-1022
(661) 654-2289
E-mail: ssjvic@csub.edu
Website: www.csub.edu/ssjvic

6/3/2019

Diana T. Dyste
Applied EarthWorks, Inc.
1391 W. Shaw Ave., Suite C
Fresno, CA 93711

Re: City of Huron Recharge
Records Search File No.: 19-207

The Southern San Joaquin Valley Information Center received your record search request for the project area referenced above, located on the Huron USGS 7.5' quads. The following reflects the results of the records search for the project area and the 0.5 mile radius:

As indicated on the data request form, the locations of resources and reports are provided in the following format: ☐ custom GIS maps ☒ shapefiles

Resources within project area:	None
Resources within 0.5 mile radius:	P-10-006237
Reports within project area:	FR-00135, 02052, 02027
Reports within 0.5 mile radius:	FR-01794, 01795, 01796, 02133, 02537

Note: Reports and resources authored by Applied EarthWorks were omitted per the Data Request Form.

Resource Database Printout (list):	☒ enclosed	☐ not requested	☐ nothing listed
Resource Database Printout (details):	☒ enclosed	☐ not requested	☐ nothing listed
Resource Digital Database Records:	☒ enclosed	☐ not requested	☐ nothing listed
Report Database Printout (list):	☒ enclosed	☐ not requested	☐ nothing listed
Report Database Printout (details):	☒ enclosed	☐ not requested	☐ nothing listed
Report Digital Database Records:	☒ enclosed	☐ not requested	☐ nothing listed
Resource Record Copies:	☒ enclosed	☐ not requested	☐ nothing listed
Report Copies:	☐ enclosed	☒ not requested	☐ nothing listed
OHP Historic Properties Directory:	☐ enclosed	☐ not requested	☒ nothing listed
Archaeological Determinations of Eligibility:	☐ enclosed	☐ not requested	☒ nothing listed
CA Inventory of Historic Resources (1976):	☐ enclosed	☐ not requested	☒ nothing listed

Caltrans Bridge Survey: Not available at SSJVIC; please see http://www.dot.ca.gov/hq/structur/strmaint/historic.htm

Ethnographic Information: Not available at SSJVIC

Historical Literature: Not available at SSJVIC

Historical Maps: Not available at SSJVIC; please see http://historicalmaps.arcgis.com/usgs/

Local Inventories: Not available at SSJVIC

GLO and/or Rancho Plat Maps: Not available at SSJVIC; please see http://www.glorecords.blm.gov/search/default.aspx#searchTabIndex=0&searchByTypeIndex=1 and/or http://www.oac.cdlib.org/view?docId=hb8489p15p;developer=local;style=oac4;doc.view=items

Shipwreck Inventory: Not available at SSJVIC; please see http://www.slc.ca.gov/Info/Shipwrecks.html

Soil Survey Maps: Not available at SSJVIC; please see http://websoilsurvey.nrcs.usda.gov/app/WebSoilSurvey.aspx

Please forward a copy of any resulting reports from this project to the office as soon as possible. Due to the sensitive nature of archaeological site location data, we ask that you do not include resource location maps and resource location descriptions in your report if the report is for public distribution. If you have any questions regarding the results presented herein, please contact the office at the phone number listed above.

The provision of CHRIS Data via this records search response does not in any way constitute public disclosure of records otherwise exempt from disclosure under the California Public Records Act or any other law, including, but not limited to, records related to archeological site information maintained by or on behalf of, or in the possession of, the State of California, Department of Parks and Recreation, State Historic Preservation Officer, Office of Historic Preservation, or the State Historical Resources Commission.

Due to processing delays and other factors, not all of the historical resource reports and resource records that have been submitted to the Office of Historic Preservation are available via this records search. Additional information may be available through the federal, state, and local agencies that produced or paid for historical resource management work in the search area. Additionally, Native American tribes have historical resource information not in the CHRIS Inventory, and you should contact the California Native American Heritage Commission for information on local/regional tribal contacts.

Should you require any additional information for the above referenced project, reference the record search number listed above when making inquiries. Invoices for Information Center services will be sent under separate cover from the California State University, Bakersfield Accounting Office.

Thank you for using the California Historical Resources Information System (CHRIS).

Sincerely,

Celeste M. Thomson
Coordinator

Report List

SSJVIC Record Search 19-207

Report No.	Other IDs	Year	Author(s)	Title	Affiliation	Resources
FR-00135	NADB-R - 1140863	1995	Hatoff, Brian, Voss, Barb, Waechter, Sharon, Benté, Vance, and Wee, Stephen	Cultural Resources Inventory Report for the Proposed Mojave Northward Expansion Project.	Woodward-Clyde Consultants	
FR-01794	Submitter - Contract #675	2002	Love, Bruce and Tang, Bai "Tom"	Historic Property Survey Report: Cross Valley Rail Corridor Project Between the Cities of Visalia and Huron Tulare, Kings, and Fresno Counties, California	CRM TECH	
FR-01795	Submitter - Contract #675	2002	Love, Bruce and Tang, Bai "Tom"	Archaeological Survey Report: Cross Valley Rail Corridor Project Between the Cities of Visalia and Huron Tulare, Kings, and Fresno Counties, California	CRM TECH	
FR-01796	Submitter - Contract #675	2002	Love, Bruce and Tang, Bai "Tom"	Historic Study Report/Historical Resources Evaluation Report: Cross Valley Rail Corridor Project Between the Cities of Visalia and Huron Tulare, Kings, and Fresno Counties, California.	CRM TECH	
FR-02027		2003	Offermann, Janis and Orlins, Robert	Negative Archaeological Survey Report for Improvements to the Arroyo Pasajero Westside Detention Basin - Survey of Borrow Areas, Fresno County, California	Department of Water Resources	
FR-02052	Submitter - Cost Object Number M.7197.3000.930	2003	Offermann, Janis	Historic Property Survey Negative Findings for Improvements to the Arroyo Pasajero Westside Detention Basin, Fresno and Kings County, California	Department of Water Resources	
FR-02133		2005	Billat, Lorna	Report for Hurron/ CA-1670H Cellular Facility Installation for Nextel	EarthTouch Inc.	
FR-02537		2012	Bowen, Madeline	Historical Resources Evaluation Report 17 Bridges Seismic Retrofit Project, San Joaquin Valley, California.	AECOM	10-006207, 10-006209, 10-006210, 10-006222, 10-006223, 10-006234, 10-006236, 10-006237, 10-006246
FR-02537A		2012	Bowen, Mark	Finding of No Adverse Effect for the 17 Bridges Seismic Retrofit Project, Merced, Fresno, and Kings Counties, California	AECOM	
FR-02537B		2012	Bowen, Madeline	Historic Property Survey Report 17 Bridges Seismic Retrofit Project, San Joaquin Valley, California	AECOM	
FR-02537C		2012	Martinez, Jesse	Archaeological Survey Report 17 Bridges Seismic Retrofit Project, San Joaquin Valley, California	AECOM	

Resource List

SSJVIC Record Search 19-207

Primary No.	Trinomial	Other IDs	Type	Age	Attribute codes	Recorded by	Reports
P-10-006237		Resource Name - Gale Avenue Bridge; Resource Name - Map Reference #6	Structure, Element of district	Historic	HP19	2011 (Patricia Ambacher, AECOM)	FR-02537, FR-02545, FR-02546, FR-02547

Historical Map and Aerial References

Date	Name	Author/Creator	Reference	Key Observations Related to Built Environment Landscape
1937	13-ABI-43-61	Agricultural Adjustment Administration	1937 Fresno County, California, Aerial Survey No. 1937 13-ABI-43-61, http://cdmweb.lib.csufresno.edu/cdm/singleitem/collection/aerial/id/656/rec/1, accessed through Map and Aerial Locator Tool (MALT), Henry Madden Library, California State University, Fresno, May, 8 2019.	Dirt roads crisscrossing parcel. Southeasterly road still extant. Railroad tracks north of APE extant and a frontage road along the tracks. Dirt road in alignment of current Palmer Ave extant south of APE. No development within the APE in this area. Palmer Ave dirt road still extant.
1942	ABI-5B-175	Agricultural Adjustment Administration	1942 Fresno County, California, Aerial Survey No. 1942 ABI-5B-175, http://cdmweb.lib.csufresno.edu/cdm/singleitem/collection/aerial/id/656/rec/1, accessed through Map and Aerial Locator Tool (MALT), Henry Madden Library, California State University, Fresno, May, 8 2019.	Agriculture, Gale Avenue and Madera Avenue extant. Evidence of agriculture on the parcel, but no further development. Dirt road in alignment of current Madera Ave extant on east side of APE.
1950	ABI-76-102	United States Department of Agriculture Production and Marketing	1950 Fresno County, California, Aerial Survey No. 1950 ABI-7G-102, http://cdmweb.lib.csufresno.edu/cdm/singleitem/collection/aerial/id/656/rec/1, accessed through Map and Aerial Locator Tool (MALT), Henry Madden Library, California State University, Fresno, May, 8 2019.	Row crops and interior dirt access rows extant.
1950	ABI-76-104	United States Department of Agriculture Production and Marketing	1950 Fresno County, California, Aerial Survey No. 1950 ABI-7G-104, http://cdmweb.lib.csufresno.edu/cdm/singleitem/collection/aerial/id/656/rec/1, accessed through Map and Aerial Locator Tool (MALT), Henry Madden Library, California State University, Fresno, May, 8 2019.	
1957	ABI-24T-65	United States Commodity Stabilization Service.	1957 Fresno County, California, Aerial Survey No. 1957 ABI-24T-65, http://cdmweb.lib.csufresno.edu/cdm/singleitem/collection/aerial/id/656/rec/1, accessed through Map and Aerial Locator Tool (MALT), Henry Madden Library, California State University, Fresno, May, 8 2019.	Landmass described in 1947 now looks like a small pond, north of the pond is a turn out with some development. Row crops. Dirt access roads now gone.
1957	ABI-24T-63	United States Commodity Stabilization Service.	1957 Fresno County, California, Aerial Survey No. 1957 ABI-24T-63, http://cdmweb.lib.csufresno.edu/cdm/singleitem/collection/aerial/id/656/rec/1, accessed through Map and Aerial Locator Tool (MALT), Henry Madden Library, California State University, Fresno, May, 8 2019.	
1967	ABI-6HH-238	United States Agricultural Stabilization and Conservtion Service	1967 Fresno County, California, Aerial Survey No. 1967 ABI-6HH-238, http://cdmweb.lib.csufresno.edu/cdm/singleitem/collection/aerial/id/656/rec/1, accessed through Map and Aerial Locator Tool (MALT), Henry Madden Library, California State University, Fresno, May, 8 2019.	Agriculture, round berm extant with equipment inside. Row crops Nearby California Aqueduct extant (outside APE).
1967	ABI-6HH-293	United States Agricultural Stabilization and Conservtion Service	1967 Fresno County, California, Aerial Survey No. 1967 ABI-6HH-293, http://cdmweb.lib.csufresno.edu/cdm/singleitem/collection/aerial/id/656/rec/1, accessed through Map and Aerial Locator Tool (MALT), Henry Madden Library, California State University, Fresno, May, 8 2019.	
1970	2866-12-74	United States Agricultural Stabilization and Conservtion Service	1977 Fresno County, California, Aerial Survey No. 1977 2866-12-74, https://digitized.library.fresnostate.edu/digital/collection/aerial/id/5954, accessed through Map and Aerial Locator Tool (MALT), Henry Madden Library, California State University, Fresno, May, 8 2019.	Agriculture, north-south road segment parallel to Madera in the north half of the quad, round berm area still in use.
1977	FRE CO 10-5 R	Agricultural Adjustment Administration	1977 Fresno County, California, Aerial Survey No. 1977 FRE CO 10-5 R, https://digitized.library.fresnostate.edu/digital/collection/aerial/id/23609, accessed through Map and Aerial Locator Tool (MALT), Henry Madden Library, California State University, Fresno, May, 8 2019.	APE polygon has taken shape, earthmoving apparent in aerial. Agriculture, road segment gone, round berm area extant.

Historical Map and Aerial References

1992	BR-CVHAB 8-51	Agricultural Adjustment Administration	1992 Fresno County, California, Aerial Survey No. 1992 BR-CVHAB 8-51, https://digitized.library.fresnostate.edu/digital/collection/aerial/id/10484, accessed through Map and Aerial Locator Tool (MALT), Henry Madden Library, California State University, Fresno, May, 8 2019.	Agriculture, canal along Madera extant. road segment gone, round berm area extant.
1994	NAPP 6919-203	California Department of Transportation, District 6	1994 Fresno County, California, Aerial Survey No. 1994 NAPP 6919-203, https://digitized.library.fresnostate.edu/digital/collection/aerial/id/10484, accessed through Map and Aerial Locator Tool (MALT), Henry Madden Library, California State University, Fresno, May, 8 2019.	Agriculture, berm reworked and equipment missing.
1912	Coalinga, CA 1:250,000	U.S. Geological Survey	1912 Coalinga, CA. 1:250,000 scale. U.S. National Geologic Map Database, Historical Topographic Map Collection (topoView), https://ngmdb.usgs.gov/topoview/, accessed May, 8 2019.	Two roads running to the southeast across Section 18. One building identified outside the APE.
1937	Huron, CA 1:31,680	U.S. Geological Survey	1937 Huron, CA. 1:31,680 scale, 1947 Ed. U.S. National Geologic Map Database, Historical Topographic Map Collection (topoView), https://ngmdb.usgs.gov/topoview/, accessed May, 8 2019.	Southeasterly road still extant.
1956	Huron, CA 1:24,000	U.S. Geological Survey	1956 Huron, CA. 1:24,000 scale, 1964 ed. U.S. National Geologic Map Database, Historical Topographic Map Collection (topoView), https://ngmdb.usgs.gov/topoview/, accessed May, 8 2019.	
2/28/1855	Township 20 South, Range 18 East	General Land Office	1855 General Land Office Survey Plat, Township 20 South, Range 18 East, San Bernardino Meridian, DM ID 37963. U.S. Department of the Interior, Bureau of Land Management General Land Office Records, https://glorecords.blm.gov, accessed May, 8 2019.	
2/28/1855	Township 20 South, Range 17 East	General Land Office	1855 General Land Office Survey Plat, Township 20 South, Range 18 East, San Bernardino Meridian, DM ID 379380. U.S. Department of the Interior, Bureau of Land Management General Land Office Records, https://glorecords.blm.gov, accessed May, 8 2019.	
25765	1970 2866-12-74	United States. Agricultural Stabilization and Conservtion Service.	1970 Fresno County, California, Aerial Survey No. 1970 2866-12-74, https://digitized.library.fresnostate.edu/digital/collection/aerial/id/5954, accessed through Map and Aerial Locator Tool (MALT), Henry Madden Library, California State University, Fresno, July 23, 2019.	