Pixley Public Utility District

PIXLEY PUBLIC UTILITY DISTRICT

TCP MITIGATION PROJECT GAC TREATMENT AT WELLS 3A, 4, 5, & 6

DRAFT INITIAL STUDY/MITIGATED NEGATIVE DECLARATION

AUGUST 2024

SCH NO.

PREPARED FOR:
Pixley Public Utility District
232 East Davis Avenue
Pixley, CA 93256

PREPARED BY:
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EST. 1968
PROVOST& PRITCHARD
CONSULTING GROUP

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ACRONYMS AND ABBREVIATIONS

AB ..... Assembly Bill
Act ..... Fish and Wildlife Conservation Act
APE ..... Area of Potential Effect
APN ..... Assessor's Parcel Number
BLM ..... Bureau of Land Management
BMP ..... Best Management Practices
CalEEMod ..... California Emissions Estimator Modeling (software)
CARB ..... California Air Resources Board
CAA ..... Clean Air Act
CCAA ..... California Clean Air Act
CDFW ..... California Department Fish and Wildlife
CEQA ..... California Environmental Quality Act
CFR ..... Code of Federal Regulations
CH_4 ..... Methane
CNDDB ..... California Natural Diversity Database
CNPS ..... California Native Plant Society
CO ..... Carbon Monoxide
CO_2 ..... Carbon dioxide
$CO2_e$ ..... Carbon Dioxide-Equivalent
County ..... Tulare County
CWA ..... Clean Water Act
dBA ..... A-weighted decibels
District ..... Pixley Public Utility District
DOC ..... Department of Conservation
DTSC ..... Department of Toxic Substances Control
EBCT ..... empty bed contact time
EFH ..... Essential Fish Habitat
EIR ..... Environmental Impact Report
EO ..... Executive Order
FEMA ..... Federal Emergency Management Agency
FMMP ..... Farmland Mapping and Monitoring Program

FPPA ..... Farmland Protection and Policy Act
FTA ..... Federal Transit Administration
GAC ..... Granular Activated Carbon
GAMAQI ..... Guide for Assessing and Mitigating Air Quality Impacts
GHG ..... Greenhouse Gas
GSA ..... Groundwater Sustainability Agency
GWP ..... Global Warming Potential
HPIR ..... Historic Properties Identification Report
IPaC ..... U.S. Fish and Wildlife Service's Information for Planning and Consultation system
IS ..... Initial Study
IS/MND ..... Initial Study/Mitigated Negative Declaration
MBTA ..... Migratory Bird Act
MCL ..... maximum contaminant level
MGD ..... million gallons per day
MMRP ..... Mitigation Monitoring and Reporting Program
MND ..... Mitigated Negative Declaration
NAHC ..... Native American Heritage Commission
ND ..... Negative Declaration
NMFS ..... National Marine Fisheries Service
NO_2 ..... Nitrogen Dioxide
NOx ..... Nitrogen Oxides
NPDES ..... National Pollutant Discharge Elimination System
O_3 ..... Ozone
O&M ..... operations & maintenance
Pb ..... Lead
PID ..... Pixley Irrigation District
PM_{10} ..... particulate matter 10 microns in size
$PM_{2.5}$ ..... particulate matter 2.5 microns in size
ppb ..... parts per billion
ppm ..... parts per million
PPUD ..... Pixley Public Utility District
Project ..... TCP Mitigation Project GAC Treatment at Wells 3A, 4, 5, & 6
ROG ..... Reactive Organic Gases

RWQCB ..... Regional Water Quality Control Board
SDWA ..... Safe Drinking Water Act
SIP ..... State Implementation Plan
SHPO ..... State Historic Preservation Officer
SJVAB ..... San Joaquin Valley Air Basin
SJVAPCD ..... San Joaquin Valley Air Pollution Control District
SO_2 ..... Sulfur Dioxide
SSJVIC ..... Southern San Joaquin Valley Information Center
SR ..... State Route
SRA ..... State Responsiblity Area
SSA ..... Sole Source Aquifer
SWPPP ..... Storm Water Pollution Prevention Plan
SWRCB ..... State Water Resources Control Board
TCP ..... Trichloropropane
USACE ..... United States Army Corps of Engineers
USC ..... United States Code
USEPA ..... United States Environmental Protection Agency
USFWS ..... United States Fish and Wildlife Service
USGS ..... United States Geological Survey
µg/m3 ..... micrograms per cubic meter
VdB ..... vibration velocity level in dB
VMT ..... vehicle miles traveled
WWTP ..... Wastewater Treatment Plant

CHAPTER 1 INTRODUCTION

Provost & Pritchard Consulting Group (Provost & Pritchard) has prepared this Initial Study/Mitigated Negative Declaration (IS/MND) on behalf of the Pixley Public Utility District (PPUD or District) to address the potential environmental effects of the Pixley Public Utility District Trichloropropane (TCP) Mitigation Project Granular Activated Carbon (GAC) Treatment at Wells 3A, 4, 5, & 6 (Project). This document has been prepared in accordance with the California Environmental Quality Act (CEQA), Public Resources Code Section 21000 et seq. The District is the CEQA lead agency for this Project.

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

1.1 REGULATORY INFORMATION

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

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

1.2 DOCUMENT FORMAT

This IS/MND contains six chapters. Chapter 1 Introduction, provides an overview of the Project and the CEQA process. Chapter 2 Project Description, provides a detailed description of proposed Project components and objectives. Chapter 3 Determination, the Lead Agency's determination based upon this initial evaluation. Chapter 4 Environmental Impact Analysis presents the CEQA checklist and environmental analysis for all impact areas, mandatory findings of significance, and feasible mitigation measures. If the 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 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 5 Mitigation, Monitoring, and Reporting Program (MMRP), provides the proposed mitigation measures, implementation timelines, and the entity/agency responsible for ensuring implementation. Chapter 6 References details the documents and reports this document relies upon to provide its analysis.

The California Emissions Estimator Modeling (software) (CalEEMod) Output Files, Biological Evaluation, and Historic Properties Identification Report are provided as technical Appendix A, Appendix B, and, Appendix C, respectively, at the end of this document.

CHAPTER 2 PROJECT DESCRIPTION

2.1 PROJECT BACKGROUND

2.1.1 Project Title

Pixley Public Utility District TCP Mitigation Project GAC Treatment at Wells 3A, 4, 5, & 6

2.1.2 Lead Agency Name and Address

Pixley Public Utility District
232 East Davis Avenue
Pixley, CA 93256

2.1.3 Contact Person and Phone Number

Lead Agency Contact

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CEQA Consultant

Provost & Pritchard Consulting Group
Briza Sholars, Environmental Project Manager
(559) 449-2700

2.1.4 Project Location

The proposed Project is located at four existing well sites in Tulare County, California, within and near the unincorporated community of Pixley. The Project is located approximately 210 miles southeast of Sacramento and 38 miles northwest of Bakersfield (see Figure 2-1and Figure 2-2). The centroid of the Project site is 35° 57' 53.82" W, 119° 17' 45.58" W. The Project is located on Assessor's Parcel Numbers (APNs) 299-084-001, 299-150-034, 298-060-023, 298-060-026, and 314-080-030. The Area of Potential Effect (APE) used for biological and cultural surveys is 16 acres, approximately four (4) acres at each site to allow for access and staging areas.

2.1.5 General Plan Designation and Zoning

Project Area	General Plan Designation	Zoning District
WELL 3A SITE (APN 299-084-001)	Residential (Low Density)	R-1 (Single-Family Residential)
WELL 4 SITE (APN 299-150-034)	Commercial	C-2 (General Commercial)
WELL 5 SITE (APNS 298-060-023/026)	Residential (Low Density)	R-1 (Single-Family Residential)
WELL 6 SITE (APN 314-080-030)	Valley Agriculture	M-1 (Light Manufacturing)

2.1.6 Description of Project

Project Background and Purpose

The District is responsible for providing domestic water to the residents within the community of Pixley. The District currently has 815 connections within its service area. The District solely relies on groundwater for its source of water supply. Currently, the District owns and operates five active wells that are connected directly to its water distribution system. These wells are known as Well 3A, Well 4, Well 4A, Well 5, and Well 6. The most recent improvements to the District's water supply infrastructure resulted in the abandonment of a previous well (Well 2A) and the construction of Well 4A. Well 4A and Well 4 are located on the same site; however, the two wells utilize a bypass switch and are not operated at the same time. Together, the District's wells have a total maximum production efficiency of approximately 1,850 gallons per minute.

The carcinogenic synthetic organic contaminant 1,2,3-Trichloropropane (TCP) has been detected at levels higher than the maximum contaminant level (MCL) within the water supply from Wells 3A, 4, 5, and 6.[1] On April 7, 2020, a feasibility study was prepared to investigate and determine what measures could be taken to treat the existing wells and bring them back into compliance. 1,2,3, TCP is an exclusively man-made synthetic organic chemical and a carcinogen. TCP was used as a component in agricultural soil fumigants applied over large areas of the Central Valley, including Tulare County. TCP is heavier than water, very slow to biodegrade naturally, and is sparingly volatile – all characteristics that make it persistent in the groundwater and difficult to treat. The Project would help remediate TCP contamination for Wells 3A, 4, 5, and 6 to ensure compliance with the MCL for drinking water consumption.

Project Description

The District proposes four water treatment systems at four well sites for the remediation of 1,2,3-TCP. Each system would include similar improvements to the existing well sites. Project components would include the following:

Well 3A Site

- Granular Activated Carbon (GAC) wellhead treatment system
    - Includes two 12' diameter GAC vessels
    - Includes 10,000-gallon hydropneumatic tank
    - Includes approximately 300 linear feet of new storm drain pipeline from the Well 3A site south along Walnut Street to the existing storm water basin at the intersection of Walnut and Holste Ave.
    - Includes sand separator with sand separator pit
    - Includes 12.5% sodium hypochlorite (NaOCl) chemical building and chemical storage building (100-gallon storage drum)
    - Includes site asphalt paving approximately 9,000 square feet (SF)
    - Includes new access road that would be 15' wide and approximately 70' long

Well 4 Site

- GAC wellhead treatment system
    - Includes two 12' diameter GAC vessels

[1] (State Water Board 2023)

  - Includes approximately 400 linear feet of new storm drain pipeline from the Well 4 site west along Compton Avenue to Main Street. The water main in the alley behind the Well 4 site would be replaced
  - Includes sand separator with sand separator pit
  - Includes 12.5% sodium hypochlorite (NaOCl) chemical building and chemical storage building (100-gallon storage drum)
  - Includes site asphalt paving approximately 13,800 square feet (SF)
  - Includes new access road that would be 15' wide and approximately 145' long

Well 5 Site

- GAC wellhead treatment system
  - Includes two 12' diameter GAC vessels
- Includes approximately 650 linear feet of new treated water and storm drain pipelines from the Well 5 treatment parcel, west along Compton Ave to S Cedar Street
  - New raw water pipeline between the Well 5 parcel and the Well 5 treatment parcel
  - Includes sand separator with sand separator pit
  - Includes 12.5% sodium hypochlorite (NaOCl) chemical building and chemical storage building (100-gallon storage drum)
  - Includes site asphalt paving approximately 13,300 square feet (SF)
  - Includes new access road that would be 15' wide and approximately 80' long

Well 6 Site

- GAC wellhead treatment system
  - Includes two 12' diameter GAC vessels
  - Includes approximately 200 linear feet of new storm drain pipeline
  - Includes sand separator with sand separator pit
  - Includes 12.5% sodium hypochlorite (NaOCl) chemical building and chemical storage building (100-gallon storage drum)
  - Excavation at the ponding basin north of the Well 6 site to provide more capacity

Construction Schedule

Construction is anticipated to occur simultaneously lasting approximately 16 months.

Equipment

Construction equipment would likely include an excavator, backhoe/loader, concrete truck, concrete pumper. Construction would require one super, one foreman, two operators, four laborers/carpenters/masons.

Operation and Maintenance

The operation and maintenance (O&M) of the Project would be consistent with that of the District's other similar facilities and with what presently takes place at the well sites. O&M would continue to be performed by District staff.

2.1.7 Other Public Agencies Whose Approval May Be Required

- County of Tulare – Grading Permit, Building Permit, and Encroachment Permit.
- State Water Resources Control Board – National Pollutant Discharge Elimination System (NPDES) Construction General Permit.

2.1.8 Consultation with California Native American Tribes

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

The District has not received any written correspondence from a Tribe pursuant to Public Resources Code Section 21080.3.1 requesting notification of proposed Project.

2.1.9 "CEQA–Plus" Assessment

The District may be applying for financial assistance to implement the Project through State or federal funding in the future.

In addition to meeting the requirements of CEQA, and because the financial assistance originates from the Federal government (USEPA, in this case), the Project could be subject to "federal cross-cutting authority" requirements of other federal laws and Executive Orders that apply in federal financial assistance programs. (This process is frequently referred to as "CEQA-Plus".) Therefore, the District must also complete certain studies and analyses to satisfy various federal environmental requirements.

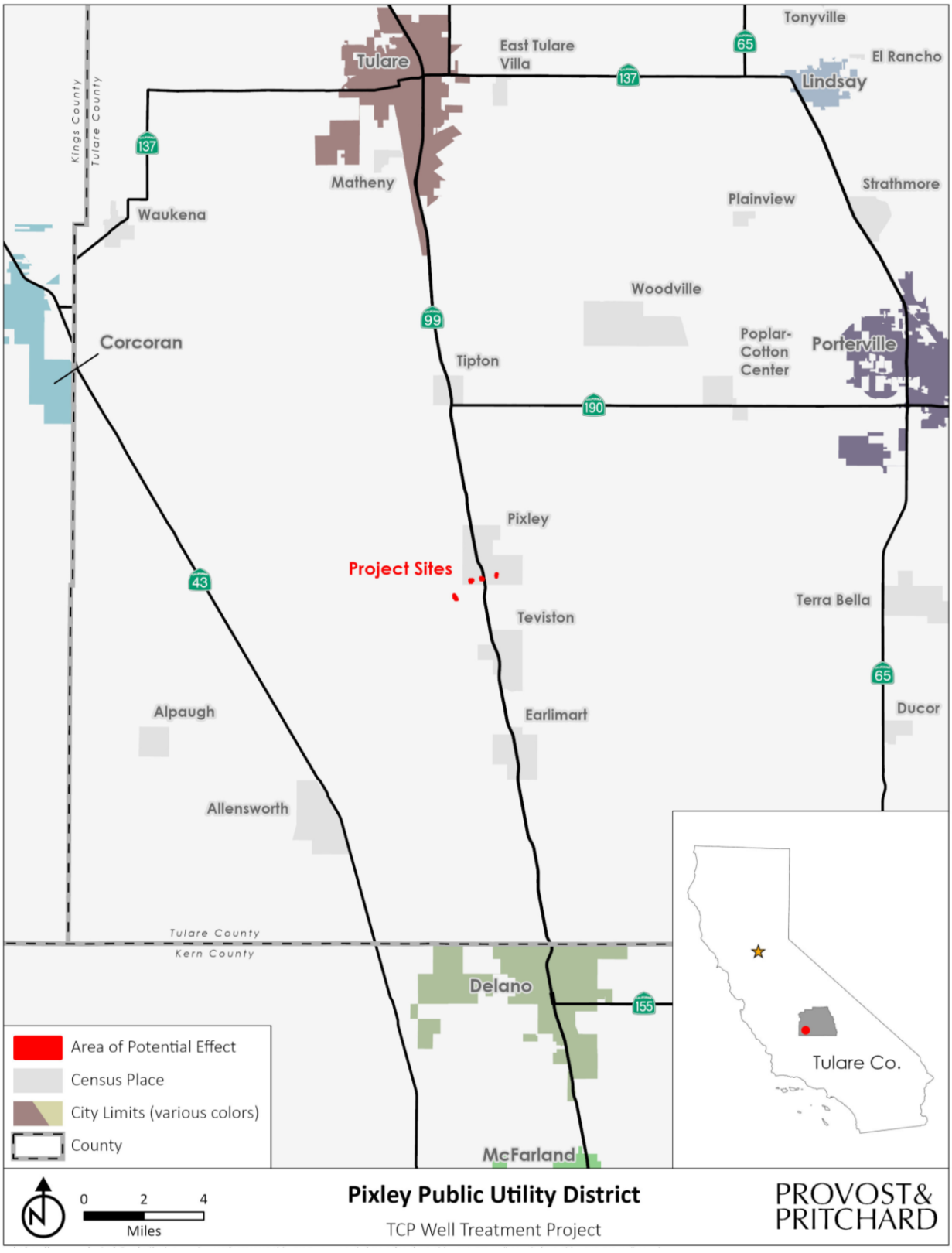


Figure 2-1: Regional Vicinity Map

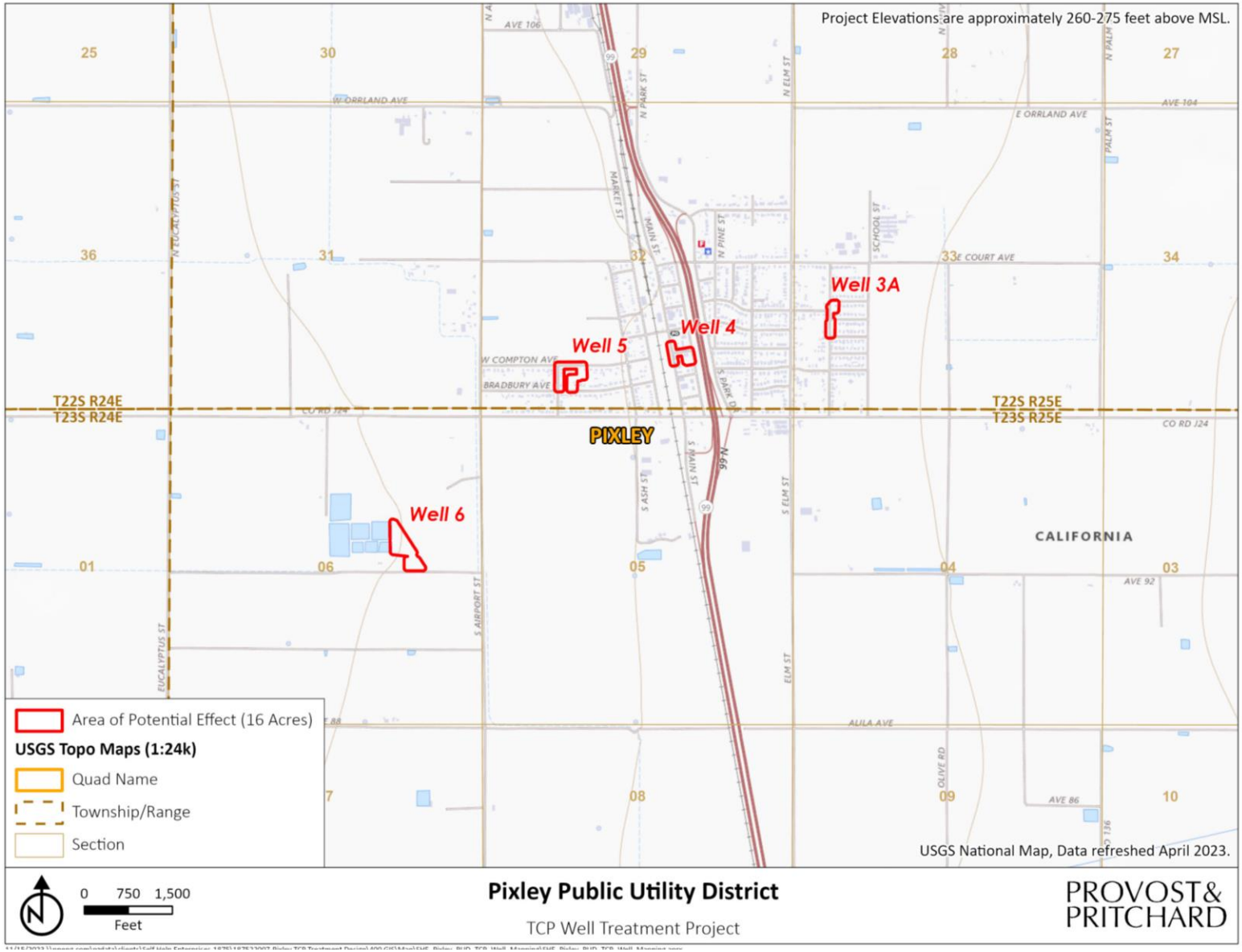


Figure 2-2: Topo Quad Map

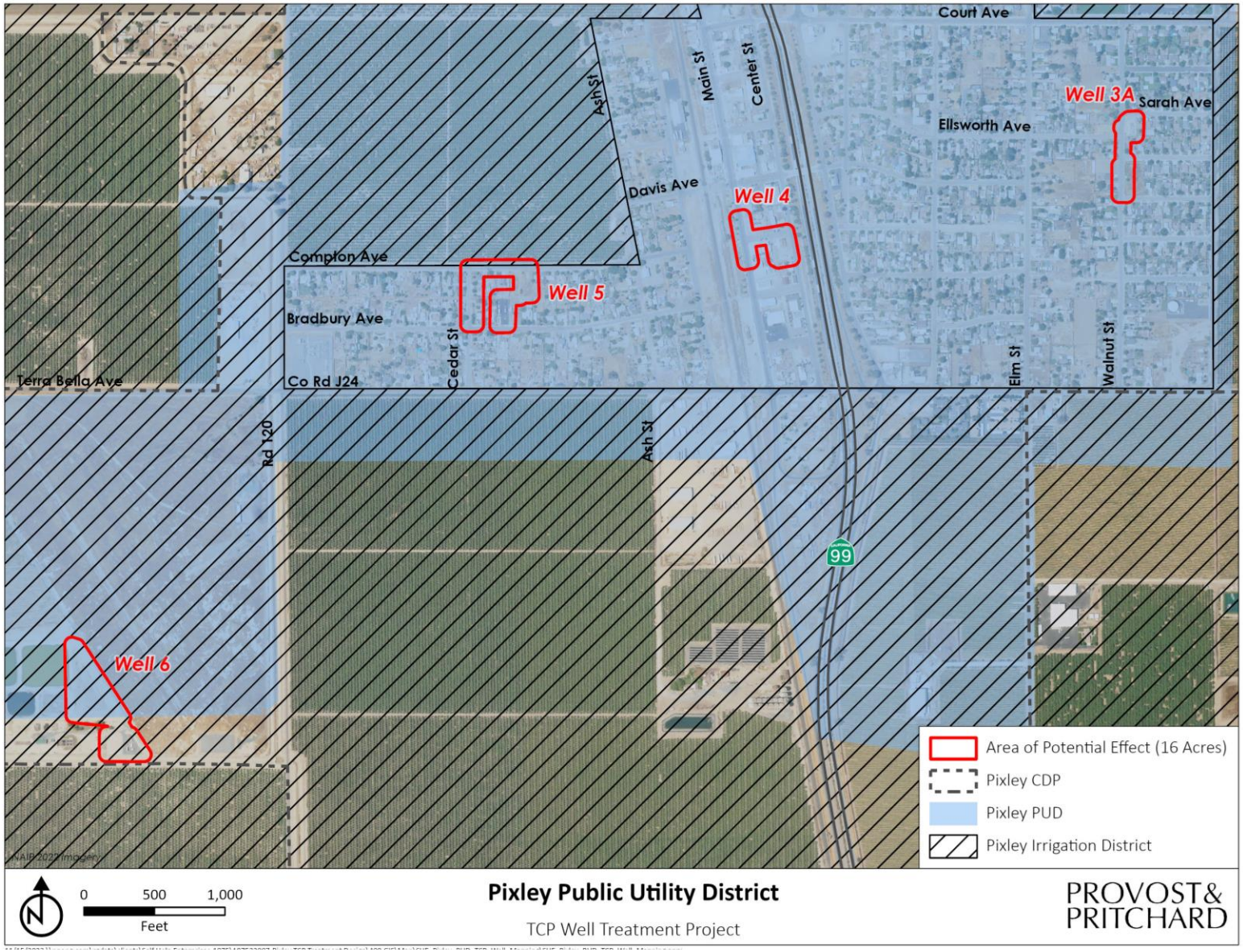


Figure 2-3: District Map

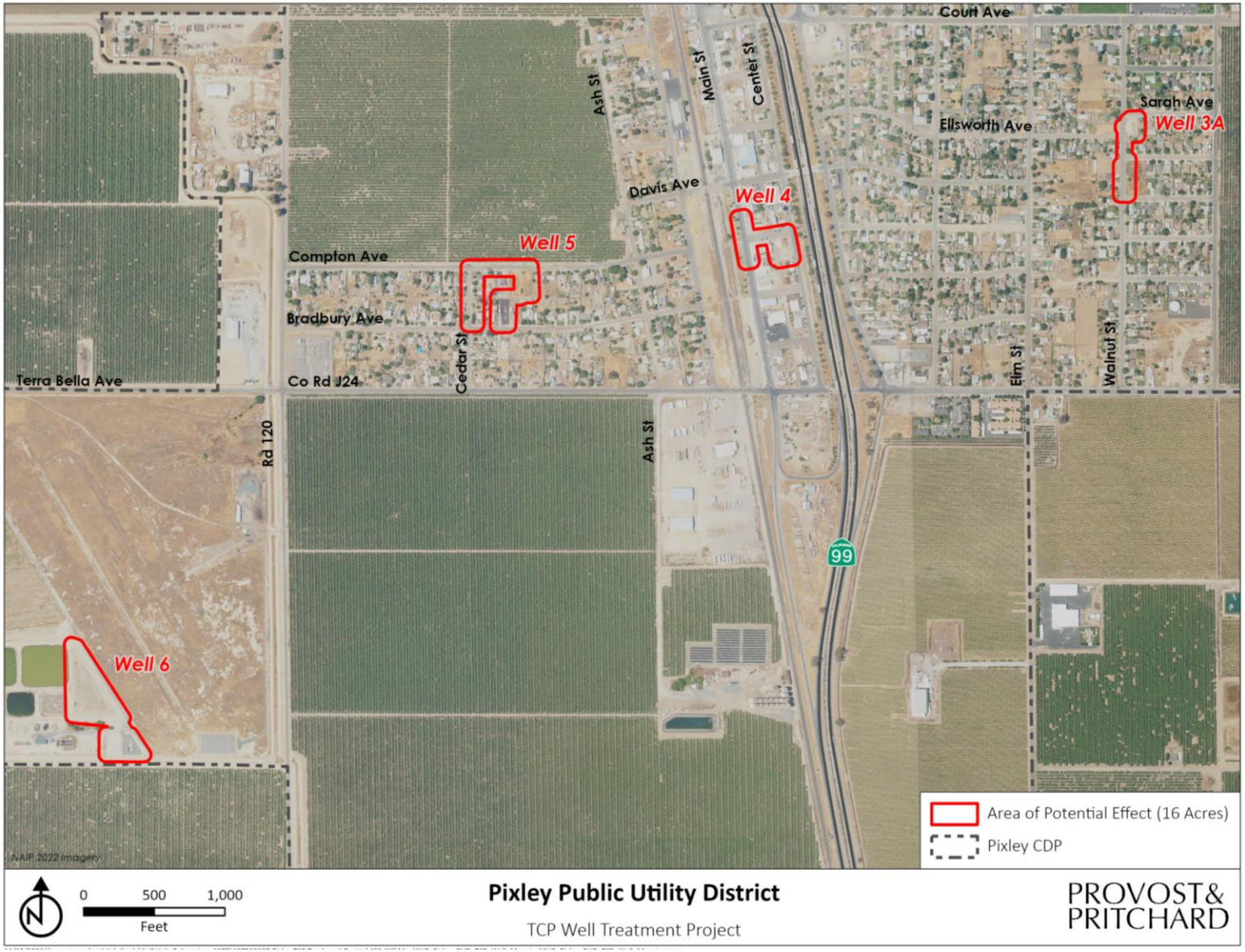


Figure 2-4: APE/Aerial Map

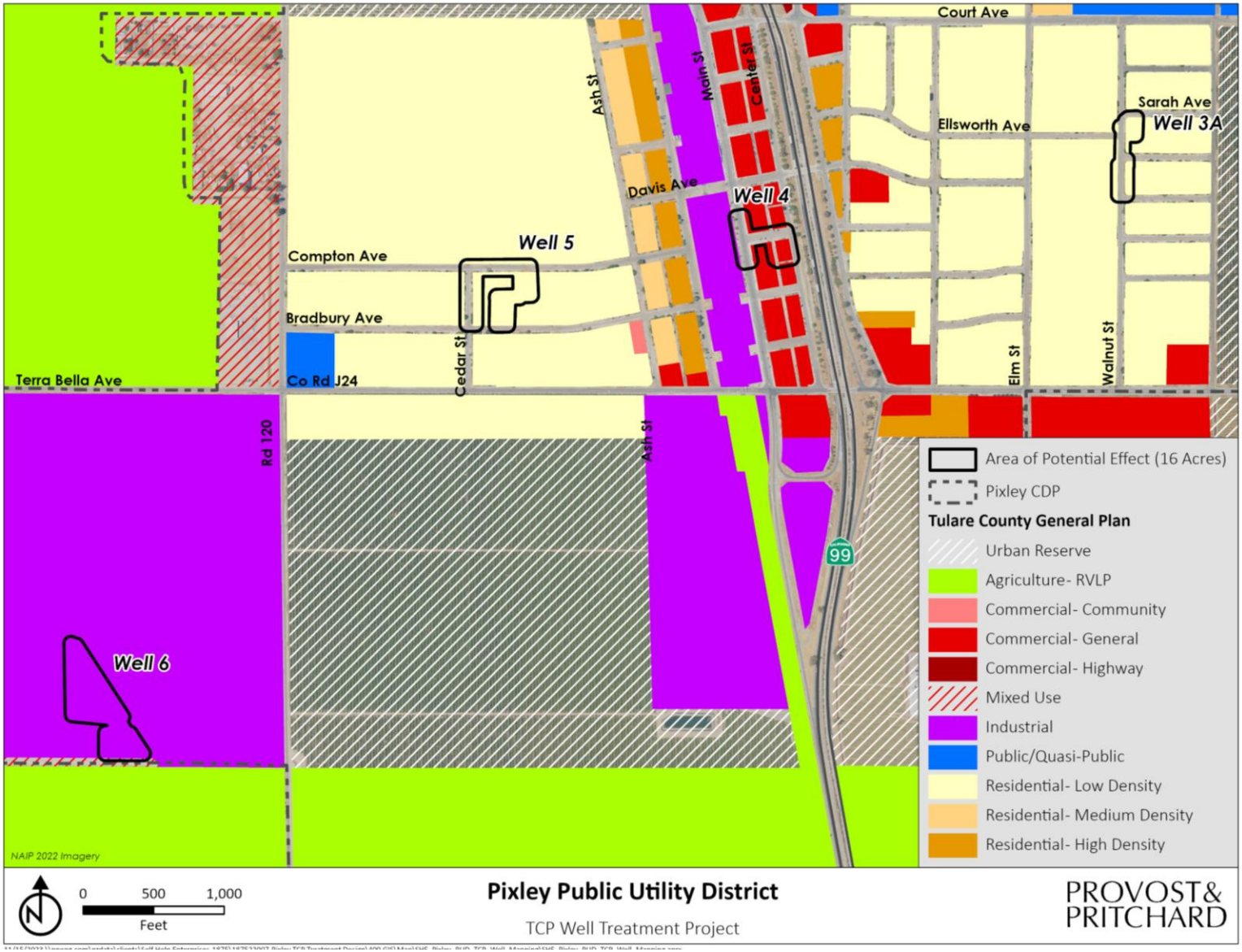


Figure 2-5: General Plan Land Use Designation Map

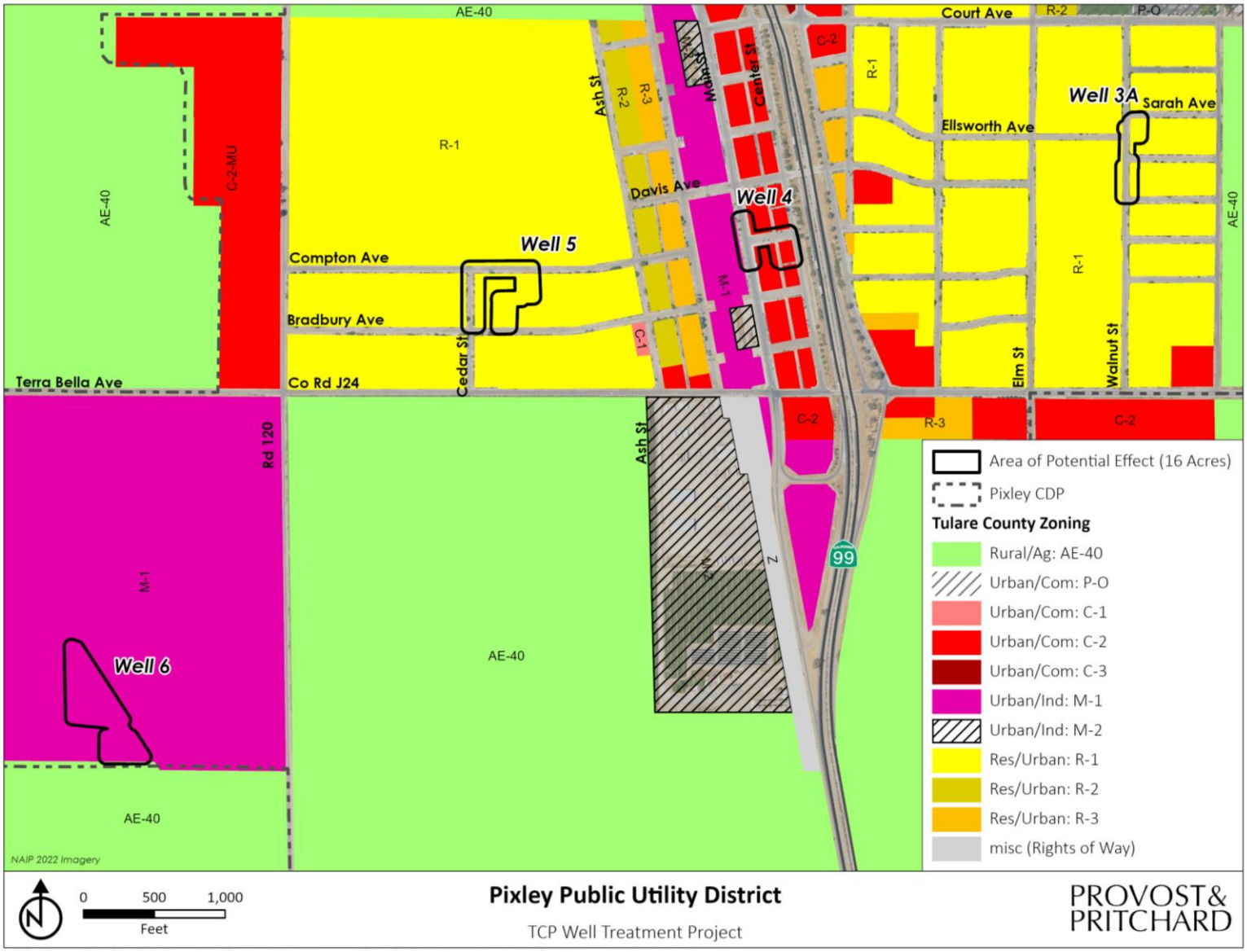


Figure 2-6: Zoning Map

CHAPTER 3 DETERMINATION

3.1 POTENTIAL ENVIRONMENTAL IMPACTS

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

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

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

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

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

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

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

3.2 DETERMINATION

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

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

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

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

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

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

Ronnie Prine
Signature

7/30/2024
Date

Ronnie Prine/Board President
Printed Name/Position

CHAPTER 4 ENVIRONMENTAL IMPACT ANALYSIS

4.1 AESTHETICS

Table 4-1: Aesthetics Impacts

Except as provided in Public Resources Code Section 21099, would the project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
a) Have substantial adverse effect on a scenic vista?	☐	☐	☐	☒
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?	☐	☐	☒	☐

4.1.1 Baseline Conditions

The Project would take place in the unincorporated community of Pixley, California in Tulare County. Pixley is an urban built-up community that is surrounded by agriculture and open space. The nearest scenic resource to Pixley is the Pixley National Wildlife Refuge approximately 6.5 miles to the southwest, but it cannot be seen from any of the Project sites. The Project sites are relatively flat, with the nearest significant topographic changes being the Sierra Nevada Mountain Range approximately 40 miles to the east with elevations reaching over 14,000 feet and containing national forest and park lands and the coastal range foothills 60 miles to the west with elevations up to 3,000 feet. The Sierra Nevada Range is visible on clear weather days from the Project sites. The nearest officially designated State Scenic Highway is State Route (SR) 180, located approximately 53 miles north.[2] SR 180 traverses across both Fresno and Tulare County.

[2] (California State Scenic Highway System Map 2018)

4.1.2 Impact Analysis

a) Have substantial adverse effect on a scenic vista?

No Impact. The Project is not located within a scenic vista or a public viewshed of any sensitive aesthetic resources. Scenic features in the vicinity of the Project include the vast expanse of agricultural land surrounding the community of Pixley. In addition, to the east lies the prominent Sierra Nevada Mountains. The Project would be constructed within the urban environment of Pixley and would not impact the surrounding agricultural aesthetics, nor would it obstruct any views of the easterly lying Sierra Nevada Mountains. There would be no impact.

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

No Impact. There are no trees, rock outcroppings, or historical buildings near a designated State Scenic Highway that would be substantially damaged by the Project. As mentioned, the Project is not located near a State Scenic Highway as the closest one is SR 180, located approximately 53 miles north of the Project. Project activities would have no effect on SR 180 and therefore would not adversely affect the scenic qualities of the designated scenic highway. There would be no impact.

c) In non-urbanized areas, substantially degrade the existing visual character or quality of public views of the site and its surroundings? (Public views are those that are experienced from publicly accessible vantage point). If the project is in an urbanized area, would the project conflict with applicable zoning and other regulations governing scenic quality?

Less than Significant Impact. The Project sites are all existing well site lots and are either surrounded by agricultural, residential, or commercial uses. The proposed water treatment systems would blend in with the existing wells and would be consistent with the development of the sites and area, minimizing any potential visual impacts. During construction, there would be some temporary impacts to residential streets with the laydown of pipeline; however, these impacts would be short-term. Impacts would be less than significant.

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

Less than Significant Impact. The Project sites are surrounded by agricultural, residential, or commercial uses. Lighting is not proposed for the operation of the Project nor would lighting be used during construction. Additional vehicular traffic after construction would be limited to maintenance and monitoring on an as-needed basis which would be performed during daylight hours, except in an unforeseen emergency situation. None of the proposed Project materials for the water treatment infrastructure would cause glare as it would be painted in a manner to reduce any potential glaring effects. Therefore, the Project would not create a new source of substantial light or glare that would adversely affect day or nighttime views in the area. Impacts would be less than significant.

Wild, Scenic, and Recreational Rivers Act

The National Wild and Scenic Rivers Act was established in 1968, to maintain the natural beauty, biology, and wildness of federally designated "wild," "scenic," or "recreational" rivers that may be threatened by construction of dams, diversions, and canals. The act seeks to preserve these designated rivers in their free-flowing condition, and to protect their immediate environments for the benefit and enjoyment of present

and future generations. There are no "wild" or "scenic" rivers within or proximate to the proposed project site. The nearest river of such is the Kern River, located approximately 45 miles east.[3]

[3] (National Wild and Scenic River System 2020)

4.2 AGRICULTURE AND FORESTRY RESOURCES

Table 4-2: Agriculture and Forest Impacts

Would the project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
a) Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?	☐	☐	☐	☒
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?	☐	☐	☐	☒

4.2.1 Baseline Conditions

The Project is located in California's Central San Joaquin Valley in Tulare County. Tulare County is known for its agricultural production as it was the number one agriculture producing county in the United States for 2020.[4] In 2022, Tulare County's agriculture production grossed 8.6 billion dollars, an increase in 6.5% from the previous year.[5] While the Project is located within the developed community of Pixley, the surrounding lands are primarily agricultural lands. This is typical of all cities and communities of Tulare County.

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

[4] (University of California Agriculture and Natural Resources 2022)
[5] (Tulare County Agricultural Commissioner/Sealer 2022)

use categories, five of which are agriculture related: prime farmland, farmland of statewide importance, unique farmland, farmland of local importance, and grazing land — rated according to soil quality and irrigation status. Each is summarized below:

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

As demonstrated in Figure 4-1, the FMMP for the Project sites are designated as Urban and Built-Up Land or Vacant and Disturbed Land.[6]

4.2.2 Impact Analysis

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

No Impact. The Project would not convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance, as neither of the sites are designated as such (see Figure 4-1). The Project sites are designated as "Urban and Built-up Land" and "Vacant and Disturbed Land". The Project would construct 1,2,3-TCP treatment systems to existing wells at existing well sites. None of the construction areas contain farmland and all four sites have already been disturbed. Therefore, there would be no impact.

[6] (California Department of Conservation 2023)

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

No Impact. None of the Project sites are zoned for agricultural use or contain a Williamson Act contract. The Project would have no impact on agriculture. Therefore. there would be no impact.

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

No Impact. The Project would not conflict with existing zoning for, or cause rezoning of, forest land, timberland, or timberland zoned Timberland Production. The Pixley Community Plan has not designated any place in the Project area or surrounding lands as Forest Land, Timberland, or timberland zoned for Timberland Production.[7] The Project would have construction activities in areas that have previously been disturbed and would not be in or near a forest or timberland environment. Therefore, there would be no impact.

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

No Impact. The Project is not located in or near any forest land. Therefore, the Project would not result in the loss of forest land or conversion of forest land to non-forest use. There would be no impact.

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

No Impact. The Project would not involve changes in the existing environment that would result in the conversion of farmland to non-agricultural use or the conversion of forest land to non-forest use. As mentioned, neither of the Project sites are designated or used for farming activities. In addition, no land acquisition would be required for the completion of the Project. Therefore, there would be no impact.

4.2.3 Federal Cross-Cutting Topic

Farmland Protection Act

The Farmland Protection and Policy Act (FPPA) was enacted in 1981 to minimize the loss of prime farmland and unique farmlands because of federal actions that converted these lands to nonagricultural uses. The act assures that federal programs are compatible with state and local governments, and private programs and policies to protect farmland.

As defined by the FPPA, prime farmland is farmland that has the best combination of physical and chemical characteristics for producing food, feed, forage, fiber, and oilseed crops, and also is available for these uses. A unique farmland is land other than prime farmland that is used for production of specific, high-value food and fiber crops; it has the special combination of soil quality, location, growing season, and moisture supply needed to economically produce sustained high quality or high yields of specific crops.

As previously concluded, the proposed project is not located on land classified by the California Department of Conservation (DOC) as Prime Farmland, Farmland of Statewide Importance, Unique Farmland, and Farmland of Local Importance. These classifications recognize a land' s suitability for agricultural production by considering the physical and chemical characteristics of the soil, such as soil temperature range, depth

[7] (County of Tulare Resource Management Agency 2015)

of the groundwater table, flooding potential, rock fragment content, and rooting depth. The classifications also consider location, growing season, and moisture available to sustain high-yield crops. Together, Important Farmland and Grazing Land are defined by the DOC as "Agricultural Land."

The proposed project would be on land that is classified as “Urban and Built-up Land” and “Vacant and Disturbed Land” neither of which support agricultural uses. Therefore, no farmland would be converted as a result of the Project. Therefore, the Project would not conflict with the Farmland Protection and Policy Act or adversely affect prime or unique farmland.

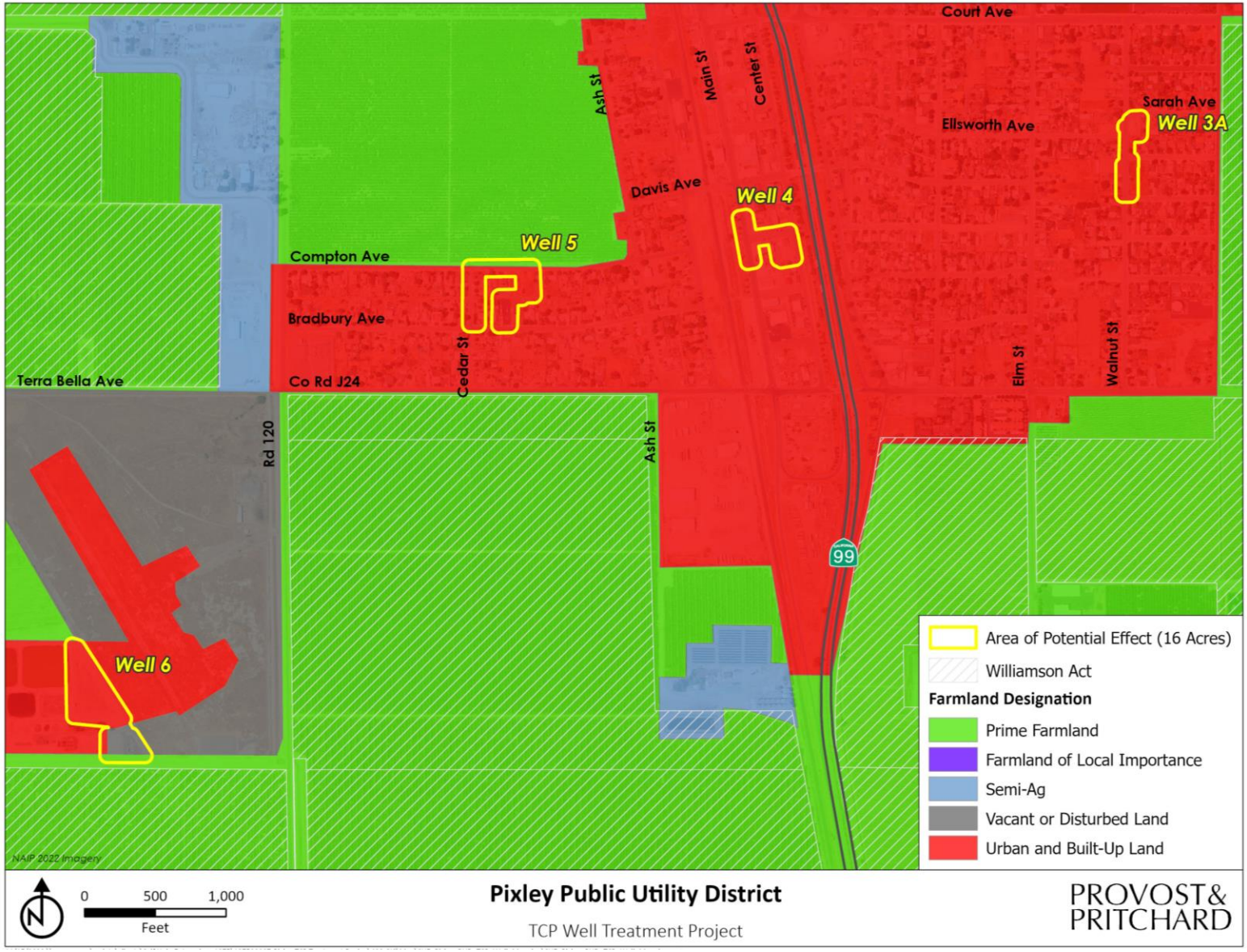


Figure 4-1: FMMP Map

4.3 AIR QUALITY

Table 4-3: Air Quality Impacts

Would the project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
a) Conflict with or obstruct implementation of the applicable air quality plan?	☐	☐	☐	☒
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?	☐	☐	☒	☐

4.3.1 Baseline Conditions

The Project site is located within the boundaries of the San Joaquin Valley Air Pollution Control District (SJVAPCD) and the San Joaquin Valley Air Basin (SJVAB). The SJVAB is positioned within the San Joaquin Valley of California. The San Joaquin Valley is bounded by the Sierra Nevada Mountain Range to the east and the Coastal Mountain Range to the west. Wind within the SJVAB typically channels south-southwest during the summer months, while wind flows to the north-northwest during the winter months. Wind velocity for the region is considered low for an area of such size.[8] Due to a lack of strong wind and the natural confinement of the mountain ranges surrounding the SJVAB, the region experiences some of the worst air quality in the world.

Regulatory Attainment Designations

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

The United States Environmental Protection Agency (USEPA) designates areas for ozone, Carbon Monoxide (CO), and nitrogen oxides (NO_2) as "does not meet the primary standards," "cannot be classified," or "better than national standards." For sulfur dioxide (SO_2), areas are designated as "does not meet the primary

[8] (San Joaquin Valley Air Pollution Control District 2012)

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

According to the USEPA Tulare County was not in non-attainment for two pollutant concentrations, with PM-2.5 (2012) being classified as in serious non-attainment, and 8-hour Ozone (2015) classified as being in extreme non-attainment as of October 27th, 2023.[9]

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

Pollutant	Averaging Time	California Standards*		National Standards*	
		Concentration*	Attainment Status	Primary	Attainment Status
Ozone (O_3)	1-hour	0.09 parts per million (ppm)	Nonattainment/ Severe	–	No Federal Standard
	8-hour	0.070 ppm	Nonattainment	0.075 ppm	Nonattainment (Extreme)**
Particulate Matter (PM_{10})	AAM	20 micrograms per cubic meter (µg/m3)	Nonattainment	–	Attainment
	24-hour	50 µg/m^3		150 µg/m^3	
Fine Particulate Matter ($PM_{2.5}$)	AAM	12 µg/m^3	Nonattainment	12 µg/m^3	Nonattainment
	24-hour	No Standard		35 µg/m^3	
Carbon Monoxide (CO)	1-hour	20 ppm	Attainment/ Unclassified	35 ppm	Attainment/ Unclassified
	8-hour	9 ppm		9 ppm	
	8-hour (Lake Tahoe)	6 ppm		–	
Nitrogen Dioxide (NO_2)	AAM	0.030 ppm	Attainment	53 ppb	Attainment/ Unclassified
	1-hour	0.18 ppm		100 ppb	
Sulfur Dioxide (SO_2)	AAM	–	Attainment	--	Attainment/ Unclassified
	24-hour	0.04 ppm		--	
	3-hour	–		0.5 ppm	
	1-hour	0.25 ppm		75 ppb	
Lead (Pb)	30-day Average	1.5 µg/m^3	Attainment	–	No Designation/ Classification
	Calendar Quarter	–		--	
	Rolling 3-Month Average	–		0.15 µg/m^3	
Sulfates (SO_4)	24-hour	25 µg/m^3	Attainment	No Federal Standards	
Hydrogen Sulfide (H_2S)	1-hour	0.03 ppm (42 µg/m^3)	Unclassified		
Vinyl Chloride (C_2H_3Cl)	24-hour	0.01 ppm (26 µg/m^3)	Attainment		
Visibility-Reducing Particle Matter	8-hour	Extinction coefficient: 0.23/km-visibility of 10 miles or more due to particles when the	Unclassified		

[9] (United States Environmental Protection Agency 2023)

Pollutant	Averaging Time	California Standards*		National Standards*	
		Concentration*	Attainment Status	Primary	Attainment Status
		relative humidity is less than 70%.			

** For more information on standards visit: https://ww3.arb.ca.gov/research/aaqs/aaqs2.pdf*
*** No Federal 1-hour standard. Reclassified extreme nonattainment for the Federal 8-hour standard 10/27/23.*
****Secondary Standard*
Source: CARB 2015; SJVAPCD 2015

Construction-Generated Emissions

Construction of the Project is assumed to be completed over approximately twelve months. Emissions associated with the Project were calculated using CalEEMod Air Quality Model, Version 2022.1.1.20. The emissions modeling includes emissions generated by off-road equipment, haul trucks, and worker commute trips. Emissions were quantified based on anticipated construction schedules and the default parameters contained in the model. Localized air quality impacts associated with the Project would be minor and were qualitatively assessed. Modeling assumptions and output files are included in Appendix A.

Thresholds of Significance

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

The primary pollutants of concern during Project construction and operation are ROG (reactive organic gases), NO_X, PM_{10}, and $PM_{2.5}$. The SJVAPCD Guide for Assessing and Mitigating Air Quality Impacts (GAMAQI) adopted in 2015 contains thresholds for ROG and Nitrogen Oxides (NO_X); Sulfur Oxides (SO_X), CO, PM_{10}, and $PM_{2.5}$.

Ozone is a secondary pollutant that can be formed miles away from the source of emissions through reactions of ROG and NO_X emissions in the presence of sunlight. Therefore, ROG and NOx are termed ozone precursors. The SJVAB often exceeds the state and national ozone standards. Therefore, if the Project emits a substantial quantity of ozone precursors, the Project may contribute to an exceedance of the ozone standard. The SJVAB also exceeds air quality standards for PM_{10}, and $PM_{2.5}$; therefore, substantial Project emissions may contribute to an exceedance for these pollutants.

The SJVAPCD adopted significance thresholds for construction-related and operational ROG, NO_X, PM, CO, and SO_X, these thresholds are included in Table 4-5.

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

Pollutant	Significance Threshold	
	Construction Emissions (tons/year)	Operational Emissions (tons/year)
CO	100	100
NO_x	10	10
ROG	10	10
SO_x	27	27
PM_{10}	15	15

Pollutant	Significance Threshold	
	Construction Emissions (tons/year)	Operational Emissions (tons/year)
$PM_{2.5}$	15	15
Source: SJVAPCD. 2015. Guidance for Assessing and Mitigating Air Quality Impacts. Website: https://www.valleyair.org/transportation/GAMAQI-2015/FINAL-DRAFT-GAMAQI.PDF. Accessed October 27, 2023.		

4.3.2 Impact Analysis

Short-Term Construction-Generated Emissions

Estimated construction-generated emissions are summarized in Table 4-6. Due to the passive nature of the Project, long-term operational emissions would be negligible and would not exceed any set threshold governing air quality emission generation within the SJVAPCD.

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

Source	Annual Emissions (Tons per Year)					
	ROG	NO_X	CO	SO_X	PM_{10}	$PM_{2.5}$
Maximum Annual Project Construction Emissions	0.11	1.01	1.01	<0.005	0.47	0.26
SJVAPCD Threshold	*10*	*10*	*100*	*27*	*15*	*15*
Threshold Exceeded?	No	No	No	No	No	No

Maximum Daily Emissions of Criteria Air Pollutants

Daily construction emissions generated by the Project are summarized in Table 4-7.

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

Source	Daily Emissions Maximum (in pounds)					
	ROG	NO_X	CO	SO_X	PM_{10}	$PM_{2.5}$
Construction – Summer	3.75	36	33.8	0.05	21.4	11.6
Construction – Winter	3.73	36	33.6	0.05	21.4	11.6
SJVAPCD Threshold	*100*	*100*	*100*	*100*	*100*	*100*
Threshold Exceeded?	No	No	No	No	No	No

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

No Impact. The Project would not conflict with or obstruct implementation of any applicable air quality plan. The proposed Project would not exceed any threshold for air quality emissions that has been set by the SJVAPCD. Therefore, there would be no impact.

b) Would the project result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard?

Less than Significant Impact. The proposed Project would not result in a cumulatively considerable net increase of any criteria pollutant for which the Project region is in non-attainment. As shown in Table 4-6, and Table 4-7, the Project would not exceed an emissions threshold which has been set by the SJVAPCD for construction related emissions. Due to the passive nature of the proposed Project, long-term operational emissions would be negligible and would not exceed any set threshold governing air quality emission generation within the SJVAPCD. Therefore, impacts would be less than significant.

c) Expose sensitive receptors to substantial pollutant concentrations?

Less than Significant Impact. As discussed above, the proposed Project would not result in significant long-term operational emissions. Constructed related emissions, shown in Table 4-6 and Table 4-7, would be temporary in nature and would cease upon Project construction. Short-term construction activities, however, could result in temporary increases in pollutant concentrations that could impact nearby sensitive receptors. Sensitive Receptors are groups that would be more affected by air, noise, and light pollution, pesticides, and other toxic chemicals than others. This includes infants, children under 16, elderly over 65, athletes, and people with cardiovascular and respiratory diseases. High concentrations of these groups would include daycares, residential areas, hospitals, elder care facilities, schools, and parks. While the proposed Project would result in construction in proximity to potential sensitive receptors, in the form of surrounding single family residences, the construction activities lack the potential to cause a significant health risk to sensitive receptors in the area due to the Project's size and nature. The majority of emissions generated by the Project would be as a result of constructing a concrete base for the wells and associated equipment to be located on. Therefore, impacts would be less than significant.

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

Less than Significant Impact. During construction activities, construction equipment exhaust and application of asphalt, structural coating and other construction applications would temporarily emit odors. Construction would be completed within the community of Pixley and would have an effect on some residences which would be located near the construction area of the Project. Construction of the Project would be temporary, and odors would not remain after Project completion. Therefore, impacts would be less than significant.

4.3.3 Federal Cross-Cutting Topic

Clean Air Act (CAA)

Under the federal CAA, federal actions conducted in air basins that are not in attainment with the federal ozone standard (such as the SJVAB) must demonstrate conformity with the State Implementation Plan (SIP). Conformity to a SIP is defined in the federal CAA as meaning conformity to a SIP's purpose of eliminating or reducing the severity and number of violations of the national standards and achieving an expeditious attainment of such standards. The SJVAPCD has published Regulation IX, Rule 9110 (referred as the General Conformity Rule) that indicates how most federal agencies can make such a determination.[10]

The SJVAPCD specifies that a project is conforming to the applicable attainment or maintenance plan if it:

- complies with all applicable SJVAPCD rules and regulations,
- complies with all applicable control measures from the applicable plans, and
- is consistent with the growth forecast in the applicable plans.

The SJVAPCD does not require a detailed quantification of construction emissions unless the project's indirect source emissions are expected to increase pollutant emissions of ROG or NO_X in excess of 10 tons per year. Because proposed Project construction would not exceed this threshold, the proposed Project would comply with the conformity criteria.

[10] The SJVAPCD's Rule 9110 is consistent with USEPA 's General Conformity Rule, Determining Conformity of General Federal Actions to State or Federal Implementation Plans (40 CFR, Part 93), available online at http://www.valleyair.org/rules/currntrules/r9110.pdf.

4.4 BIOLOGICAL RESOURCES

Table 4-8: Biological Resources Impacts

Would the project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
a) Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service?	☐	☒	☐	☐
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 federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?	☐	☐	☐	☒
d) Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?	☐	☐	☐	☒
e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?	☐	☐	☐	☒
f) Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?	☐	☐	☐	☒

4.4.1 Baseline Conditions

General

The Project is located within the census-designated place of Pixley, which is located in the southwest portion of Tulare County and southern portion of the San Joaquin Valley, California. The Well 3A Site is located adjacent to the intersection of Sarah Avenue and Walnut Street and extends south along Walnut Street. The Well 4 Site is located adjacent to the intersection of South Main Street and Compton Avenue. The Well 5 Site is located adjacent to the intersection of South Cedar Street and West Bradbury Avenue. The Well 6 site is located southwest of the intersection of Terra Bell Avenue and Road 120. The topography of each well site is relatively flat with elevations ranging from approximately 260 to 275 feet above mean

sea level. The APE used for biological surveys is 16 acres, approximately four (4) acres at each site to allow for access and staging areas.

Like most of California, the Project area experience a Mediterranean climate. Warm, dry summers are followed by cool, moist winters. In the summer, average high temperatures range between 85- and 95-degrees Fahrenheit (°F), but often exceed 95 °F, and the humidity is generally low. Winter temperatures are often below 60 °F during the day and rarely exceed 70 °F. On average, Pixley receives approximately 13 inches of precipitation in the form of rain yearly, most of which occurs between October and March and the sites would be expected to receive similar amounts of precipitation.[11]

Soils

One soil map unit, Akers-Akers saline-sodic complex, was identified within the Project site (see Appendix D of Appendix B for the soils report). This soil is well drained, has moderate permeability, negligible runoff, and is used primarily for irrigated cropland.

Hydric soils are defined as soils that are saturated, flooded, or ponded long enough during the growing season to develop anaerobic conditions such that under sufficiently wet conditions, hydrophytic vegetation can be supported. The soils of the Project site are predominantly nonhydric.

Biotic Habitats

Four biotic habitats were observed within the Project site and included developed, grassland, ruderal, and orchard (see Figure 4-2). The habitat types that were found within each of the APEs is summarized below in Table 4-9. These habitats and their constituent plant and animal species are described in more detail in the following sections.

Table 4-9: Summary of Habitat Types Within Each APE

Well Site	Habitat Type and Presence in the APEs			
	Developed	Grassland	Ruderal	Orchard
Well 3A	X		X	
Well 4	X		X	
Well 5	X	X	X	X
Well 6	X		X	

[11] (National Weather Service 2023)

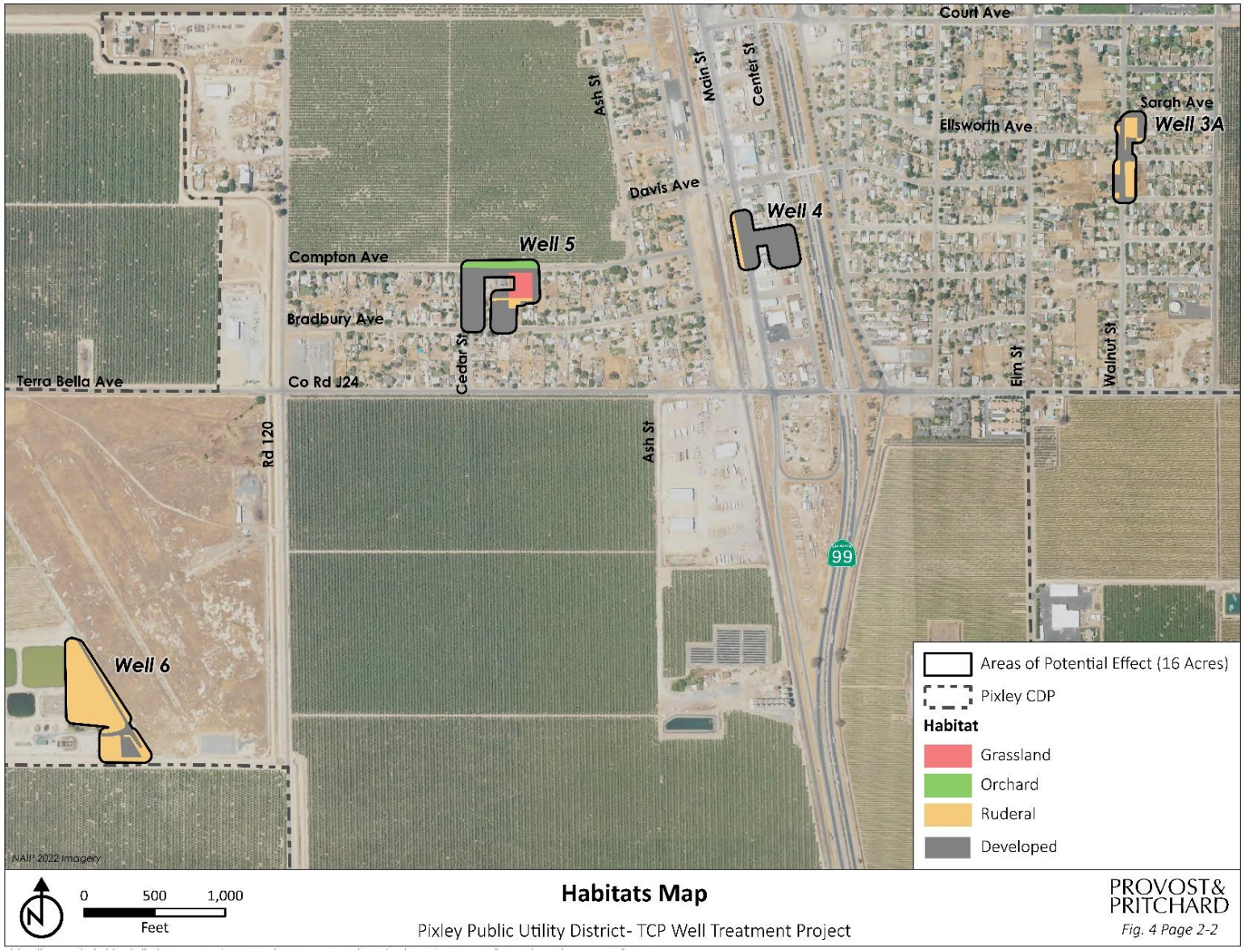


Figure 4-2: Habitats Map

Developed

The developed habitat of the sites consisted of paved lots, residential streets, buildings, and concrete pads. There were no plant or animal species located in this habitat. The existing buildings had metal roofs and are unlikely to be insulated.

Grassland

The grassland habitat of the sites were populated by brome grasses (Bromus sp.) and Russian thistle (Salsola australis). The soil has been historically disturbed in this habitat. No small mammal burrows were observed.

Ruderal

The ruderal habitat within the sites consisted of vacant lots and an empty water retention basin. The ground was covered with packed dirt and supported native species such as telegraphweed (Heterotheca grandiflora), and nonnative species such as cheeseweed mallow (Malva parviflora), puncture vine (Tribulus terrestris), Russian thistle, and tree-of-heaven (Ailanthus altissima). Bird species observed during the field survey included California scrub jay (Aphelocoma californica), European starling (Sturnus vulgaris), house finch (Haemorhous mexicanus), killdeer (Charadrius vociferus), and mourning dove (Zenaida macroura).

Several domestic dogs (Canis familiaris) and a feral cat (Felis catus) were also observed within these areas, along with several small mammal burrows approximately three inches in diameter within the ruderal habitat of Well 6.

Orchard

There was also a small orchard on the north edge of the site of Well 5. There was no additional vegetation within this habitat. Bird species observed during the field survey included house finch and mourning dove.



Figure 4-3: Overview of the Ruderal Habitat at Well 3A Site



Figure 4-4: Overview of the Developed Habitat at Well 4 Site



Figure 4-5: Overview of the Grassland Habitat at Well 5 Site

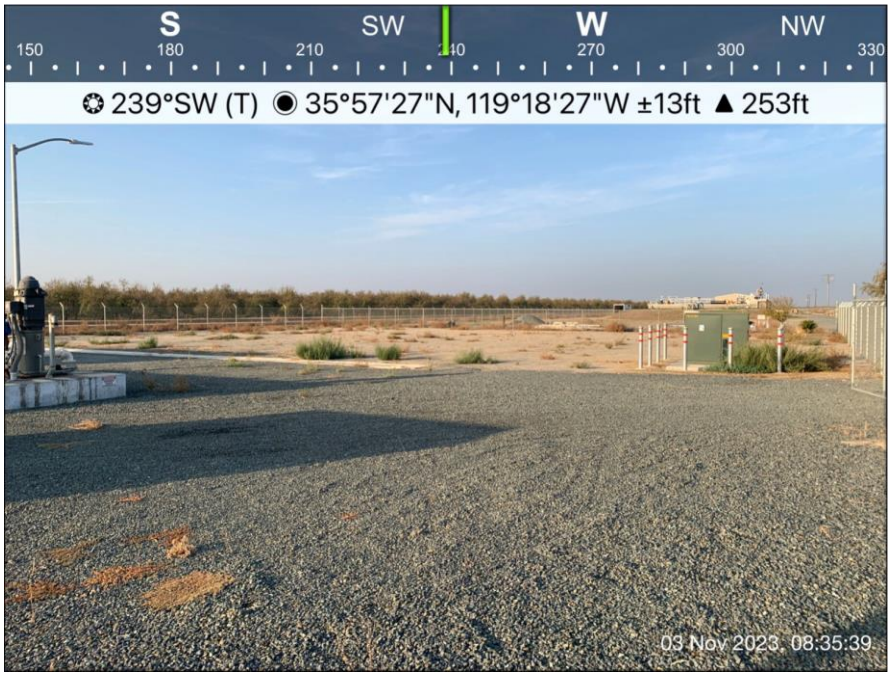


Figure 4-6: Overview of the Ruderal Habitat at Well 6 Site

Natural Communities of Special Concern and Riparian Habitat

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

There are no recorded observations a of natural community of special concern within the APEs or in the vicinity. Additionally, no natural communities of special concern were observed during the field survey.

Riparian habitat is composed of plant communities that occur along the banks, and sometimes over the banks, of most waterways and is an important habitat for numerous wildlife species. CDFW has jurisdiction over most riparian habitat in California. No waterways that support riparian habitat and no riparian habitat were observed within, or adjacent to, the APEs during the field survey.

Designated Critical Habitat

The United States Fish and Wildlife Service's (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, which may require special management and protection. According to the USFWS' Information for Planning and Consultation system (IPaC), designated critical habitat is absent from the APEs and vicinity.

Wildlife Movement Corridors and Native Wildlife Nursery Sites

Wildlife movement corridors are routes that animals regularly and predictably follow during seasonal migration, dispersal from native ranges, daily travel within home ranges, and inter-population movements. Movement corridors in California are typically associated with valleys, ridgelines, and rivers and creeks

supporting riparian vegetation. There are no features within the APEs that are likely to function as wildlife movement corridors.

Native wildlife nursery sites are areas where a species or group of similar species raise their young in a concentrated place, such as maternity bat roosts. The APEs contained developed habitat with buildings with metal roofs, but they lacked insulation and would not be suitable for roosting bats. No other potential native wildlife nursery sites were observed within the APEs.

Special Status Plant and Animal

A query of the CNDDB for occurrences of special status plant and animal species was conducted for the Pixley 7.5-minute United States Geological Survey (USGS) quadrangle that contains the APEs, and for the 8 surrounding USGS quadrangles: Allensworth, Alpaugh, Delano East, Delano West, Sausalito School, Taylor Weir, Tipton, and Woodville. A query of the IPaC was also completed for the APEs. These species, and their potential to occur within the APEs, are listed in Table 4-10 and Table 4-11 on the following pages. The potential occurrence for each special status species on each APE was assessed separately, with the exception of the APEs for Well 3A & 4, which were grouped together due to the high degree of similarity between the two sites. Other special status species that did not show up in the CNDDB query, but have the potential to occur in the vicinity, are also included in Table 4-11. Species lists obtained from CNDDB and IPaC are available in Appendix B and Appendix C, respectively of Appendix B. All relevant sources of information, as discussed in the Study Methodology section of this report, as well as field observations, were used to determine if any special status species have the potential to occur within the APE.

Table 4-10: List of Special Status Plants with Potential to Occur Onsite and/or in the Vicinity

Species	Status*	Habitat	Occurrence within the APEs		
			Wells 3A & 4	Well 5	Well 6
Alkali mariposa-lily (*Calochortus striatus*)	CNPS 1B	Found in the Sierra Nevada foothills, the Desert Mountains, and the Mojave Desert in alkaline meadows, ephemeral washes, and moist creosote-bush scrub in chaparral, alkali scrub communities, meadows, and seeps. Found at elevations between 200 and 500 feet. Sometimes associated with vernal pools. Blooms April – June.	**Absent.** These APEs lack suitable habitat for this species.	**Absent.** This APE lacks suitable habitat for this species.	**Absent.** This APE lacks suitable habitat for this species.
Alkali-sink goldfields (*Lasthenia chrysantha*)	CNPS 1B	Found in vernal pool and wet saline flat habitats in the San Joaquin Valley region at elevations below 700 feet. Blooms February – April.	**Absent.** These APEs lack suitable habitat for this species.	**Absent.** This APE lacks suitable habitat for this species.	**Absent.** This APE lacks suitable habitat for this species.
Brittlescale (*Atriplex depressa*)	CNPS 1B	Found in the Central Valley in alkaline or clay soils, typically in meadows or annual grasslands at elevations below 1,100 feet. Sometimes associated with vernal pools. Blooms June – October.	**Absent.** These APEs lack suitable habitat for this species.	**Absent.** The APE lacks suitable habitat and soils for this species.	**Absent.** The APE lacks suitable habitat and soils for this species.
California alkali grass (*Puccinellia simplex*)	CNPS 1B	Found in the San Joaquin Valley and other parts of California in saline flats and mineral springs within valley grassland and wetland-riparian communities. Found at elevations below 3,000 feet. Blooms March – May.	**Absent.** These APEs lack suitable habitat for this species.	**Unlikely.** The soil within the grassland habitat of this APE has been historically disturbed and maintained. The nearest recorded observation of this species occurred approximately 10.75 miles northwest of this APE on an unknown date prior to 1983.	**Unlikely.** The soil within the grassland habitat of this APE has been historically disturbed and maintained. The nearest recorded observation of this species occurred approximately 11 miles northwest of this APE on an unknown date prior to 1983.

Species	Status*	Habitat	Occurrence within the APEs		
			Wells 3A & 4	Well 5	Well 6
California jewelflower (*Caulanthus californicus*)	FE, CE, CNPS 1B	Found in the San Joaquin Valley and western Transverse Ranges in sandy soils. Occurs on flats and slopes, generally in non-alkaline grassland at elevations between 200 and 6,100 feet. Blooms February – April.	**Absent.** These APEs lack suitable habitat for this species.	**Absent.** This APE lacks suitable habitat for this species.	**Absent.** This APE lacks suitable habitat for this species.
Coulter's goldfields (*Lasthenia glabrata* ssp. *coulteri*)	CNPS 1B	Found on alkaline and saline soils in vernal pools and playas in grassland at elevations below 4,500 feet. Blooms April – May.	**Absent.** These APEs lack suitable habitat for this species.	**Absent.** This APE lacks suitable habitat for this species.	**Absent.** This APE lacks suitable habitat for this species.
Earlimart orache (*Atriplex cordulata* var. *erecticaulis*)	CNPS 1B	Found in the San Joaquin Valley in saline and alkaline soils, typically within valley grasslands at elevations below 400 feet. Blooms August – September.	**Absent.** These APEs lack suitable habitat for this species.	**Unlikely.** The soil within the grassland habitat of this APE has been historically disturbed and maintained. The nearest recorded observation of this species occurred somewhere in the vicinity of the Pixley Airport in 1994.	**Unlikely.** The soil within the grassland habitat of this APE has been historically disturbed and maintained. The nearest recorded observation of this species occurred somewhere in the vicinity of the Pixley Airport in 1994.
Kern mallow (*Eremalche parryi* ssp. *kernensis*)	FE, CNPS 1B	Occurs in the San Joaquin Valley and the Southern Inner Coast Ranges in eroded hillsides and alkali flats; often on dry, open, sandy to clay soils and within alkali scrub communities at elevations between 200 and 4,300 feet. Blooms March – May.	**Absent.** These APEs lack suitable habitat for this species.	**Absent.** These APEs lack suitable habitat for this species.	**Absent.** These APEs lack suitable habitat for this species.
Lesser saltscale (*Atriplex minuscula*)	CNPS 1B	Found in the San Joaquin Valley in sandy, alkaline soils in alkali scrub, valley and foothill grassland, and alkali sink communities at elevations below 750 feet. Blooms April – October.	**Absent.** These APEs lack suitable habitat and soils for this species.	**Absent.** The APE lacks suitable habitat and soils for this species.	**Absent.** The APE lacks suitable habitat and soils for this species.
Lost Hills crownscale (*Atriplex coronata* var. *vallicola*)	CNPS 1B	Found in the San Joaquin Valley in dried ponds and vernal pools with alkaline soils in alkali scrub, and valley and foothill grasslands at elevations below 2,900 feet. Blooms April – September.	**Absent.** These APEs lack suitable habitat and soils for this species.	**Absent.** This APE lacks suitable habitat and soils for this species.	**Absent.** This APE lacks suitable habitat and soils for this species.

Species	Status*	Habitat	Occurrence within the APEs		
			Wells 3A & 4	Well 5	Well 6
Recurved larkspur (*Delphinium recurvatum*)	CNPS 1B	Occurs in chenopod scrub, cismontane woodland, and grassland habitats on poorly drained, fine, alkaline soils; often in valley saltbush or valley chenopod scrub communities at elevations between 100 and 2,600 feet. Blooms March – June.	**Absent.** These APEs lack suitable habitat and soils for this species.	**Absent.** This APE lacks suitable habitat and soils for this species.	**Absent.** This APE lacks suitable habitat and soils for this species.
San Joaquin woollythreads (*Monolopia congdonii*)	FE, CNPS 1B	Occurs in the San Joaquin Valley in sandy soils on alkaline or loamy plains in valley and foothill grassland and alkali scrub communities at elevations between 150 and 2,800 feet. Blooms February – May.	**Absent.** These APEs lack suitable habitat for this species.	**Absent.** This APE lacks suitable habitat and soils for this species.	**Absent.** This APE lacks suitable habitat and soils for this species.
Spiny-sepaled button-celery (*Eryngium spinosepalum*)	CNPS 1B	Found in the Sierra Nevada foothills and the San Joaquin Valley. Occurs in vernal pools, swales, and roadside ditches. Often associated with clay soils in vernal pools within grassland communities. Occurs at elevations between 50 and 4,200 feet. Blooms April – July.	**Absent.** These APEs lack suitable habitat and soils for this species.	**Absent.** This APE lacks suitable habitat and soils for this species.	**Absent.** This APE lacks suitable habitat and soils for this species.
Subtle orache (*Atriplex subtilis*)	CNPS 1B	Found in the San Joaquin Valley in saline depressions in alkaline soils within valley and foothill grassland communities at elevations below 300 feet. Blooms June – October.	**Absent.** These APEs lack suitable habitat for this species.	**Unlikely.** The soil within the grassland habitat of this APE has been historically disturbed and maintained. The nearest recorded observation of this species occurred approximately 0.75 miles south of the APE in 1971.	**Unlikely.** The soil within the grassland habitat of this APE has been historically disturbed and maintained. The nearest recorded observation of this species occurred approximately one mile east of the APE in 1971.
Vernal pool smallscale (*Atriplex persistens*)	CNPS 1B	Occurs in the Central Valley in alkaline vernal pools at elevations below 400 feet. Blooms June – September.	**Absent.** These APEs lack suitable habitat for this species.	**Absent.** This APE lacks suitable habitat for this species.	**Absent.** This APE lacks suitable habitat for this species.
Note: CNPS is the acronym for California Native Plant Society					

Table 4-11: List of Special Status Animals with Potential to Occur Onsite and/or in the Vicinity

Species	Status*	Habitat	Occurrence within the APEs		
			Well 3 & 4	Well 5	Well 6
American badger (*Taxidea taxus*)	CSSC	Occurs most abundantly in drier open stages of shrub, forest, and herbaceous habitats with friable soils to burrow, but can be found within numerous habitats throughout California, including the margins of agricultural lands. Needs a sufficient prey base of burrowing rodents.	**Absent.** These APEs lack suitable habitat for this species.	**Unlikely.** There were no signs of this species within the APE. Grassland habitat within this APE is marginal and unlikely to support this species. The nearest recorded observation of this species occurred approximately five miles south of the APE on an unknown date prior to 1986.	**Unlikely.** There were no signs of this species within the APE. The ruderal habitat is unlikely to support this species. The nearest recorded observation of this species occurred approximately 4.5 miles south of the APE on an unknown date prior to 1986.
Bakersfield legless lizard (*Anniella grinnelli*)	CSSC	Can be found burrowing in moist, sandy soil within grassland, sand/dune, or chaparral habitats. Fallen logs, woody debris, and leaf litter under trees and bushes in sunny areas often indicate suitable habitat. The current known range is restricted to the east side of the Carrizo Plain and within the city limits of Bakersfield.	**Absent.** These APEs lack suitable habitat for this species.	**Unlikely.** The soil within the grassland habitat of this APE has been historically disturbed and maintained. The nearest recorded observation of this species occurred approximately 4.5 miles southwest of the APE in 2019.	**Absent.** This APE lacks suitable habitat for this species.
Blunt-nosed leopard lizard (*Gambelia sila*)	FE, CE, CFP	Occurs in the San Joaquin Valley region in expansive, arid areas with scattered vegetation. Today they inhabit non-native grassland and alkali sink scrub communities of the Valley floor marked by poorly drained, alkaline, and saline soils. They can be found at elevations ranging from 98 to 2,600 feet above sea level. They are absent from areas of steep slopes and dense vegetation, and areas subject to seasonal flooding. Adults may excavate shallow burrows but rely on deeper pre-existing rodent burrows for hibernation and reproduction.	**Absent.** These APEs lack suitable habitat for this species.	**Absent.** This APE lacks suitable habitat for this species.	**Absent.** This APE lacks suitable habitat for this species.

Species	Status*	Habitat	Occurrence within the APEs		
			Well 3 & 4	Well 5	Well 6
Buena Vista Lake ornate shrew (*Sorex ornatus relictus*)	FE, CSSC	Prefers moist soils, inhabiting marshes, swamps, and riparian shrublands. Uses stumps, logs, and leaf litter for cover.	**Absent.** These APEs lack suitable habitat for this species.	**Absent.** This APE lacks suitable habitat for this species.	**Absent.** This APE lacks suitable habitat for this species.
Burrowing owl (*Athene cunicularia*)	CSSC	Resides in open, dry grasslands, deserts, scrublands, and other areas with low growing vegetation. Nests and roosts underground in existing burrows created by mammals, most often ground squirrels, and human-made structures.	**Absent.** These APEs lack suitable habitat for this species.	**Absent.** This APE lacks suitable habitat for this species.	**Unlikely.** There were no signs of this species within the APE. The nearest recorded observation of this species occurred approximately 3.5 miles southwest of the APE in 1993.
Coast horned lizard (*Phrynosoma blainvillii*)	CSSC	Found in grasslands, coniferous forests, woodlands, and chaparral, primarily in open areas with patches of loose, sandy soil and low-lying vegetation in valleys, foothills, and semi-arid mountains. Frequently found near ant hills and along dirt roads in lowlands along sandy washes with scattered shrubs.	**Absent.** These APEs lack suitable habitat for this species.	**Absent.** This APE lacks suitable habitat for this species.	**Absent.** This APE lacks suitable habitat for this species.
Conservancy fairy shrimp (*Branchinecta conservatio*)	FE	Found in large, turbid freshwater vernal pools in the Central Valley, from Tehama County in the north to Merced County in the south, with one outlying population in Ventura County's Interior Coast Ranges.	**Absent.** These APEs lack suitable habitat for this species.	**Absent.** This APE lacks suitable habitat for this species.	**Absent.** This APE lacks suitable habitat for this species.
Loggerhead shrike (*Lanius ludovicianus*)	CSSC	Frequents open habitats with sparse shrubs and trees, other suitable perches, bare ground, and low herbaceous cover. In the Central Valley, this species nests in riparian areas, desert scrub, and agricultural hedgerows.	**Unlikely.** This species could potentially pass through or forage within the APE, but these APEs lacks suitable nesting habitat. The nearest recorded observation of this species occurred approximately 5.5 miles north of the APE in 1918.	**Unlikely.** This species could potentially pass through or forage within the APE, but the APE lacks suitable nesting habitat. The nearest recorded observation of this species occurred approximately 5.5 miles north of the APE in 1918.	**Unlikely.** This species could potentially pass through or forage within the APE, but the APE lacks suitable nesting habitat. The nearest recorded observation of this species occurred approximately six miles north of the APE in 1918.
Monarch butterfly (*Danaus plexippus*)	FC	Roosts in wind-protected tree groves (eucalyptus, Monterey pine, cypress), with nectar and water sources nearby. Larval host plants	**Absent.** These APEs lack suitable habitat for this species.	**Absent.** This APE lacks suitable habitat for this species.	**Absent.** This APE lacks suitable habitat for this species.

Species	Status*	Habitat	Occurrence within the APEs		
			Well 3 & 4	Well 5	Well 6
		consist of milkweeds (*Asclepias* sp.). Winter roost sites extend along the Pacific coast from northern Mendocino to Baja California, Mexico.			
Mountain plover - nesting (*Charadrius montanus*)	CSSC	Breeds on open plains at moderate elevations outside of California. Winters in short-grass plains and fields, plowed or fallow fields, and sandy deserts within California. Prefers flat, bare ground with burrowing rodents.	**Absent.** These APEs lack suitable habitat for this species.	**Unlikely.** The wintering habitat within the APE is poor and it is unlikely they would forage in the habitats present within this APE. The nearest recorded observation of this species occurred approximately 12 miles southwest of the APE in 2002.	**Unlikely.** The wintering habitat within the APE is poor and it is unlikely they would forage in the habitats present within this APE. The nearest recorded observation of this species occurred approximately 11.25 miles southwest of the APE in 2002.
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.	**Absent.** These APEs lack suitable habitat for this species.	**Absent.** This APE lacks suitable habitat for this species.	**Absent.** This APE lacks suitable habitat for this species.
San Joaquin coachwhip (*Masticophis flagellum ruddocki*)	CSSC	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.	**Absent.** These APEs lack suitable habitat for this species.	**Unlikely.** Grassland habitat within this APE is marginal and unlikely to support this species. Suitable habitats are also absent from the adjacent lands. The nearest recorded observation of this species occurred approximately six miles south of the APE in 1992.	**Absent.** These APEs lack suitable habitat for this species.
San Joaquin kit fox (*Vulpes macrotis mutica*)	FE, CT	Opportunistically forages in a variety of habitats. Dens in burrows within alkali sink, valley grassland, and woodland habitats in valleys and adjacent foothills and in human-made structures in cities, rangeland, and agricultural areas.	**Absent.** These APEs lack suitable habitat for this species.	**Absent.** This APE lacks suitable habitat for this species.	**Unlikely.** The existing burrows within this APE were too small for this species to occupy, and the habitats within this APE are marginal. The nearest recorded observation of this species occurred approximately three miles southwest of the APE in 1997.
Swainson's hawk (*Buteo swainsoni*)	CT	Nests in large trees in open areas adjacent to grasslands, grain or alfalfa fields, or livestock pastures	**Unlikely.** There is no nesting or foraging habitat for this species within these APEs or the	**Unlikely.** There is no nesting or foraging habitat for this species within this APE or the	**Unlikely.** There is no nesting or foraging habitat for this species within this APE or the

Species	Status*	Habitat	Occurrence within the APEs		
			Well 3 & 4	Well 5	Well 6
		suitable for supporting rodent populations.	immediate vicinity. Any Swainson's hawks nesting in the larger vicinity are unlikely to be disturbed by construction activities due to the baseline level of disturbance associated with Pixley. The nearest recorded observation of this species occurred approximately 3.75 miles south of these APEs in 2017.	immediate vicinity. Any Swainson's hawks nesting in the larger vicinity are unlikely to be disturbed by construction activities due to the baseline level of disturbance associated with Pixley. The nearest recorded observation of this species occurred approximately 3.75 miles south of the APE in 2017	immediate vicinity. Any Swainson's hawks nesting in the larger vicinity are unlikely to be disturbed by construction activities due to the baseline level of disturbance associated with Pixley. The nearest recorded observation of this species occurred approximately three miles south of the APE in 2017.
Tipton kangaroo rat (*Dipodomys nitratoides nitratoides*)	FE, CE	Inhabits saltbush scrub and sink scrub communities in the Tulare Lake Basin of the southern San Joaquin Valley. This species needs soft friable soils to burrow.	**Absent.** These APEs lack suitable habitat for this species.	**Absent.** This APE lacks suitable habitat for this species.	**Absent.** This APE lacks suitable habitat for this species.
Tricolored blackbird (*Agelaius tricolor*)	CT, CSSC	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 foraging in dairy farm feed fields.	**Absent.** These APEs lack suitable habitat for this species.	**Absent.** This APE lacks suitable habitat for this species.	**Absent.** This APE lacks suitable habitat for this species.
Vernal pool fairy shrimp (*Branchinecta lynchi*)	FT	Occupies vernal and seasonal pools, with clear to tea-colored water, in grass or mud-bottomed swales, and basalt depression pools.	**Absent.** These APEs lack suitable habitat for this species.	**Absent.** This APE lacks suitable habitat for this species.	**Absent.** This APE lacks suitable habitat for this species.
Western snowy plover (*Charadrius alexandrinus nivosus*)	FT, CSSC	Typically found on sandy beaches, salt pond levees, and shores of large alkali lakes.	**Absent.** These APEs lack suitable habitat for this species.	**Absent.** This APE lacks suitable habitat for this species.	**Absent.** This APE lacks suitable habitat for this species.
Western spadefoot (*Spea hammondii*)	CSSC	The majority of the time this species is terrestrial and occurs in small mammal burrows and soil cracks, sometimes in the bottom of dried pools. Prefers open areas with sandy or gravelly soils, in a variety of habitats including mixed woodlands, grasslands, coastal sage scrub, chaparral, sandy washes,	**Absent.** These APEs lack suitable habitat for this species.	**Absent.** This APE lacks suitable habitat for this species.	**Absent.** This APE lacks suitable habitat for this species.

Species	Status*	Habitat	Occurrence within the APEs		
			Well 3 & 4	Well 5	Well 6
		lowlands, river floodplains, alluvial fans, playas, alkali flats, foothills, and mountains. Vernal or seasonal pools, that hold water for a minimum of three weeks, are necessary for breeding.			

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

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

STATUS CODES

FE	Federally Endangered	CE	California Endangered
FT	Federally Threatened	CT	California Threatened
FC	Federal Candidate	CFP	California Fully Protected
		CSSC	California Species of Special Concern

CNPS LISTING

1B Plants rare, threatened, or endangered in California and elsewhere.

4.4.2 Impact Analysis

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

Less than Significant Impact with Mitigation Incorporated. Of the 15 regionally occurring special status plant species, all are considered absent from or unlikely to occur within the Project sites due to past or ongoing disturbance and/or the absence of suitable habitat. Since it is unlikely that these species would occur onsite, implementation of the Project should have no impact on these 15 special status species through construction mortality, disturbance, or loss of habitat. Mitigation measures are not warranted.

Of the 19 regionally occurring special status animal species, all are considered absent from or unlikely to occur within the well sites due to past or ongoing disturbance and/or the absence of suitable habitat. Since it is unlikely that these species would occur onsite, implementation of the Project should have no impact on these 19 special status species through construction mortality, disturbance, or loss of habitat. Mitigation measures are not warranted.

Project-Related Mortality and/or Nest Abandonment of Migratory Birds and Raptors

The APEs contain suitable nesting and foraging habitat for a variety of protected bird species, such as migratory birds, and raptors. It is anticipated that during the nesting bird season, protected birds could nest on the ground, shrubs, trees, or structures within the APEs and forage within the APEs. Protected birds located within or adjacent to the APE during construction have the potential to be injured or killed by Project-related activities. In addition to the direct "take" of protected birds within the APE or adjacent areas, these birds nesting in these areas could be disturbed by Project-related activities resulting in nest abandonment. Projects that adversely affect the nesting success of protected birds or result in the mortality of these birds would be a violation of state and federal laws and considered a potentially significant impact under CEQA and NEPA.

Implementation of the mitigation measures BIO-1 through BIO-3 will reduce potential impacts to protected nesting birds to a less than significant level under CEQA and NEPA and will help guide compliance with state and federal laws protecting these bird species.

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

No Impact. Riparian habitat is absent from the APEs and adjacent lands. There are no CNDDB-designated "natural communities of special concern" recorded within the APEs or surrounding lands. Mitigation is not warranted.

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

No Impact. Typical wetlands, vernal pools, and other waters were absent from the Project sites. Mitigation measures are not warranted.

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?

No Impact. The Project sites do not contain features that would be likely to function as wildlife movement corridors or native wildlife nursery sites. Therefore, the project would have no impact on wildlife movement corridors or other native wildlife nursery sites, and no additional mitigation measures are warranted.

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

No Impact. The project appears to be consistent with the goals and policies of the Pixley Community Plan. There are no known Habitat Conservation Plans or Natural Community Conservation Plans in the project vicinity. Mitigation measures are not warranted.

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

No Impact. The Project is not located within the boundaries of an adopted Habitat Conservation Plan, Natural Communities Conservation Plan, or other approved local, regional, or state habitat conservation plan. There would be no impact and mitigation measures are not warranted.

4.4.3 Federal Cross-Cutting Topic

Federal Endangered Species Act

Regulations in the federal Endangered Species Act of 1973 and subsequent amendments govern the conservation of endangered and threatened species and the ecosystems on which they depend. USFWS and the National Marine Fisheries Service (NMFS) oversee the act. USFWS has jurisdiction over plants, wildlife, and resident fish, and NMFS has jurisdiction over anadromous fish, marine fish, and mammals. Section 7 requires federal agencies to consult with USFWS and NMFS if they determine that a proposed project may affect a listed species or destroy or adversely modify designated critical habitat. Under Section 7, the federal lead agency must obtain incidental take authorization or a letter of concurrence, stating that the project is not likely to adversely affect federally listed species. Section 7 requirements do not apply to nonfederal actions. Because the USEPA is the source of SRF monies that may be distributed to Tulare County, its distribution is a federal action covered by Section 7.

Appendix B presents a Biological Evaluation intended to provide the basis for compliance with Section 7 of the Endangered Species Act.

Section 9 prohibits take of any fish or wildlife species listed as endangered, including the destruction of habitat that prevents the species' recovery. "Take" is defined as any action or attempt to hunt, harm, harass, pursue, shoot, wound, capture, kill, trap, or collect a species. Section 9 prohibitions also apply to threatened species unless a special rule governing take was defined at the time the species became listed.

The take prohibition in Section 9 applies only to fish and wildlife species. However, Section 9 also prohibits the unlawful removal and possession, or malicious damage or destruction, of any endangered plant from federal land. Section 9 prohibits acts to remove, cut, dig up, damage, or destroy an endangered plant species in non-federal areas in knowing violation of any State law or in the course of criminal trespass.

Candidate species and species that are proposed for or under petition for listing receive no protection under Section 9.

See discussion under checklist item a.

Fish and Wildlife Conservation Act

The Fish and Wildlife Conservation Act (Act), approved September 29, 1980, declares that fish and wildlife are of ecological, educational, esthetic, cultural, recreational, economic, and scientific value to the Nation. The Act acknowledges that historically, fish and wildlife conservation programs have focused on more recreationally and commercially important species within any particular ecosystem, without provisions for the conservation and management of nongame fish and wildlife. The purposes of this Act are to encourage all federal departments and agencies to utilize their statutory and administrative authority, to the maximum extent practicable and consistent with each agency's statutory responsibilities and to conserve and to promote conservation of non-game fish and wildlife and their habitats. The Act authorizes financial and technical assistance to the States for the development, revision, and implementation of conservation plans and programs for nongame fish and wildlife. The Act defines "nongame fish and wildlife" as wild vertebrate animals in an unconfined state, that are not ordinarily taken for sport, fur, or food, not listed as endangered or threatened species, and not marine mammals within the meaning of the Marine Mammal Protection Act. The original Act authorized $5 million for each of Fiscal Years 1982 through 1985, for grants for development and implementation of comprehensive State nongame fish and wildlife plans and for administration of the Act.

See discussions under checklist items a, b, and d above.

Migratory Bird Treaty Act

The Migratory Bird Treaty Act (MBTA) (Title 16, Section 703 and following sections of the United States Code [16 USC 703 et seq.]), first enacted in 1918, provides protection of international migratory birds and authorizes the Secretary of the Interior to regulate the taking of migratory birds. The MBTA states that it is unlawful, except as permitted by regulations, to pursue, take, or kill any migratory bird, or any part, nest, or egg of any such bird. The current list of species protected by the MBTA is found under Title 50, Section 10.13 of the Code of Federal Regulations (50 CFR 10.13). The list includes nearly all birds native to the United States.

In December 2017, the United States Department of the Interior's Office of the Solicitor issued a revised legal interpretation (Opinion M-37050) of the MBTA's prohibition on the take of migratory bird species. Opinion M-37050 concludes that "consistent with the text, history, and purpose of the MBTA, the statute's prohibitions on pursuing, hunting, taking, capturing, killing, or attempting to do the same apply only to affirmative actions that have as their purpose the taking or killing of migratory birds, their nests, or their eggs" (DOI 2017). According to Opinion M-37050, take of a migratory bird, its nest, or eggs that is incidental to another lawful activity does not violate the MBTA, and the MBTA's criminal provisions do not apply to those activities. Opinion M-37050 may affect how the MBTA is interpreted but does not legally change the regulation itself.

The United States Court of Appeals for the Ninth Circuit, the controlling federal appellate court for California, also has held that habitat modification that harms migratory birds "does not 'take' them within the meaning of the MBTA (Seattle Audubon Soc. v. Evans, 952 F.2d 297, 303, 1981).

See discussion under checklist item a.

Bald and Golden Eagle Protection Act

The Bald and Golden Eagle Protection Act affords additional legal protection to bald eagles and golden eagles. This law prohibits the take, sale, purchase, barter, offer of sale, purchase, or barter, transport, export or import, at any time or in any manner of any bald or golden eagle, alive or dead, or any part, nest, or egg thereof (16 United States Code [USC] 668---668d). The Bald and Golden Eagle Protection Act also defines take to include "pursue, shoot, shoot at, poison, wound, kill, capture, trap, collect, molest, or disturb," and includes criminal and civil penalties for violating the statute. USFWS further defines the term "disturb" as agitating or bothering an eagle to a degree that causes or is likely to cause injury, or either a decrease in productivity or nest abandonment by substantially interfering with normal breeding, feeding, or sheltering behavior.

See discussion under checklist item a).

Magnuson-Stevens Fishery Conservation and Management Act

The Magnuson-Stevens Fishery Conservation and Management Act, as amended (16 USC 180 l), requires that Essential Fish Habitat (EFH) be identified and described in federal fishery management plans. Federal agencies must consult with NMFS on any activity that they fund, permit, or carry out that may adversely affect EFH. The EFH regulations require that federal agencies obligated to consult on EFH also provide NMFS with a written assessment of the effects of any action on EFH (50 CFR 600.920). NMFS is required to provide EFH conservation and enhancement recommendations to federal agencies. The statute also requires federal agencies receiving NMFS EFH conservation recommendations to provide a detailed written response to NMFS within 30 days of receipt, detailing how they intend to avoid, mitigate, or offset the impact of activity on EFH (Section 305[b][4][B]).

EFH is defined as those waters and substrates necessary to fish for spawning, breeding, feeding, or growth to maturity. For the purposes of interpreting the definition of EFH, "waters" includes aquatic areas and their associated physical, chemical, and biological properties that are used by fish, and may include areas historically used by fish where appropriate; "substrate" includes sediment, hard bottom, structures underlying the waters, and associated biological communities; "necessary" means habitat required to support a sustainable fishery and a healthy ecosystem; and "spawning, breeding, feeding, or growth to maturity" covers all habitat types used by a species throughout its life cycle. No EFH is on the project site.

Clean Water Act

Section 404

Section 404 of the Clean Water Act (CWA) requires project proponents to obtain a permit from the United States Army Corps of Engineers before performing any activity involving a discharge of dredged or fill material into waters of the U.S. Waters of the U.S. include:

- Navigable waters of the U.S.;
- Interstate waters;
- All other waters where the use or degradation or destruction of the waters could affect interstate or foreign commerce;
- Tributaries to any of these waters; and
- Wetlands that meet any of these criteria, or that are adjacent to any of these waters or their tributaries.

Many surface waters and wetlands in California meet the criteria for waters of the U.S.

Section 402

CWA Section 402 regulates construction-related stormwater discharges to surface waters through the NPDES program, which is administered by USEPA. In California, the State Water Resources Control Board is authorized by USEPA to oversee the program through the Regional Water Quality Control Boards (RWQCBs)-in this case, the Central Valley (Region 5) RWQCB.

Section 401

Under CWA Section 401(a)(1), the applicant for a federal license or permit to conduct an activity that may result in a discharge into waters of the U.S. must provide the federal licensing or permitting agency with a certification that any such discharge will not violate state water quality standards. The RWQCBs administer the Section 401 program to prescribe measures for projects that are necessary to avoid, minimize, and mitigate adverse effects on water quality and ecosystems.

No State or federally protected wetlands or waters are on the proposed project site.

4.4.4 Mitigation

BIO-1 (*Avoidance*): The project's construction activities will occur, if feasible, between September 16 and January 31 (outside of the nesting bird season) to avoid impacts to nesting birds.

BIO-2 (*Pre-construction Surveys*): If activities must occur within nesting bird season (February 1 to September 15), a qualified biologist will conduct a pre-construction survey within five calendar days prior to the start of construction at each APE for nesting migratory birds within up to 50 feet outside of the APEs and for other nesting raptors within up to 450 feet outside of the APEs. All raptor nests would be considered "active" upon the nest-building stage. If no active nests are observed, no further action is required.

BIO-3 (*Avoidance Buffers*): On discovery of any active nests near work areas, a qualified biologist will determine appropriate avoidance buffer distances based on applicable CDFW and/or USFWS guidelines, the biology of the species, conditions of the nest(s), and the level of project disturbance.

4.5 CULTURAL RESOURCES

Table 4-12: Cultural Resources Impacts

Would the project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
a) Cause a substantial adverse change in the significance of a historical resource pursuant to in § 15064.5?	☐	☒	☐	☐
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?	☐	☒	☐	☐

4.5.1 Baseline Conditions

Historic Properties Identification Report

A Historic Properties Identification Report (HPIR) of the PPUD Well 3A, 4, 5, & 6 TCP Project APE was conducted by ASM Affiliates Archaeologist in March 2024. The field methods employed included intensive pedestrian examination of the ground surface for evidence of archaeological sites in the form of artifacts, surface features (such as bedrock mortars, historical mining equipment), and archaeological indicators (e.g., organically enriched midden soil, burnt animal bone); the identification and location of any discovered sites, should they be present; tabulation and recording of surface diagnostic artifacts; site sketch mapping; preliminary evaluation of site integrity; and site recording, following the California Office of Historic Preservation Instructions for Recording Historic Resources and the Bureau of Land Management (BLM) 8100 Manual, using DPR 523 forms. Parallel survey transects spaced at 15-m apart were employed for pedestrian survey of the Project APE.

The Area of Potential Effect (APE) used for cultural surveys is 16 acres, approximately four (4) acres at each site to allow for access and staging areas. The Project APE includes four separate existing well sites, three of which are located within the community of Pixley, while a fourth is on the outskirts adjacent to the Wastewater Treatment Plant (WWTP). No cultural resources of any kind were identified within the Project APE.

Records Search

A records search from the Southern San Joaquin Valley Information Center (SSJVIC) of the California Historical Resources Information System, located at California State University, Bakersfield was conducted in January 2024. The SSJVIC records search includes a review of all recorded archaeological and built-environment resources as well as a review of cultural resource reports on file. In addition, the California Points of Historical Interest, the California Historical Landmarks, the California Register of Historical Resources, the National Register of Historic Places, and the California State Built Environment Resources Directory listings were reviewed for the above referenced APE and an additional ¼-mile radius. Due to the sensitive nature of cultural resources, archaeological site locations are not released. (Appendix C).

Additional sources included the State Historic Preservation Officer (SHPO) Historic Properties Directory, Archaeological Determinations of Eligibility, and the California Inventory of Historic Resources.

Native American Outreach

The Native American Heritage Commission (NAHC) in Sacramento was contacted in December 2023. They were provided with a brief description of the Project and a map showing its location and requested a search of the Sacred Lands File to determine if any Native American resources have been recorded in the immediate APE. The NAHC identifies, catalogs, and protects Native American cultural resources -- ancient places of special religious or social significance to Native Americans and known ancient graves and cemeteries of Native Americans on private and public lands in California. The NAHC is also charged with ensuring California Native American tribes' accessibility to ancient Native American cultural resources on public lands, overseeing the treatment and disposition of inadvertently discovered Native American human remains and burial items, and administering the California Native American Graves Protection and Repatriation Act, among many other powers and duties. NAHC provide a current list of Native American Tribal contacts to notify of the Project. The six tribal representatives identified by NAHC were contacted in writing via United States Postal Service in a letter February 5, 2024, informing each Tribal contact of the Project. A follow up email was sent March 20, 2024.

The following is a list of the tribal representatives that were notified of the Project:

1. Santa Rosa Rancheria Tachi Yokut Tribe, Samantha McCarthy, Cultural Specialist II
2. Santa Rosa Rancheria Tachi Yokut Tribe, Shana Powers, Tribe Historic Preservation Officer
3. Santa Rosa Rancheria Tachi Yokut Tribe, Nichole Escalón, Cultural Specialist II
4. Tule River Indian Tribe, Neil Peyron, Chairperson
5. Tule River Indian Tribe, Kerri Vera, Environmental Department
6. Wuksache Indian Tribe/Eshom Valley Band, Kenneth Woodrow, Chairperson

4.5.2 Impact Analysis

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

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

a and b) Less than Significant Impact with Mitigation Incorporated. According to the SSJVIC, three previous studies (TU-01393, TU-01567, and TU-01802) have been conducted within the APE, and eight previous studies were identified within the 0.5 mi. buffer. Based on SSJVIC data, approximately ten percent of the APE has been previously surveyed. The SSJVIC results identified no previously recorded cultural resources within the APE. Three historic-era built environment resources (P-54-003232, P-54-003398, and P-54-004626) as well as the remains of the Pixley Railroad Station (P-54-003397) were identified within the 0.5 mi. buffer, with the nearest located less than 0.1 mi. from the APE. It is unlikely that the Project has the potential to result in significant impacts or adverse effects to cultural or historical resources, such as archaeological remains, artifacts, or historic properties. However, in the improbable event that cultural resources are encountered during Project construction, implementation of mitigation measure CUL-1 outlined below would reduce impacts to less than significant.

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

Less than Significant Impact with Mitigation Incorporated. There is no evidence or record that the Project has the potential to be an unknown burial site, or the site of buried human remains. In the unlikely event of such a discovery, mitigation shall be implemented. With incorporation of mitigation measure CUL-2 outlined below, impacts resulting from the discovery of remains interred on the Project site would be less than significant.

4.5.3 Federal Cross-Cutting Topic

National Historic Preservation Act

The National Historic Preservation Act of 1966 as amended created the National Register of Historic Places and extended protection to historic places of State, local, and national significance. It established the Advisory Council on Historic Preservation, State Historic Preservation Officer (SHPO), Tribal Preservation Officers, and a preservation grants-in-aid program. Section 106 directs federal agencies to take into account effects of their actions ("undertakings") on properties in or eligible for the National Register. Section 106 of the act is implemented by regulations of the Advisory Council on Historic Preservation (36 Code of Federal Regulations [CFR] Part 800).

The United States Department of the Interior criteria and procedures for evaluating a property's eligibility for inclusion in the National Register are at 36 CFR Part 60. The 36 CFR Part 800 regulations, implementing Section 106, call for consultation with the SHPO, Native American tribes, and interested members of the public throughout the Section 106 compliance process. The four principal steps are to:

- Initiate the Section 106 process (36 CFR Part 800.3);
- Identify historic properties, cultural resources that are eligible for inclusion in the National Register of Historic Places (36 CFR Part 800.4);
- Assess the effects of the undertaking to historic properties within the area of potential effect (36 CFR Part 800.5); and
- Resolve adverse effects (36 CFR Part 800.6).

Adverse effects on historic properties often are resolved through preparation of a Memorandum of Agreement (MOA), developed in consultation with Reclamation, the SHPO, Native American tribes, the Advisory Council on Historic Preservation, and interested members of the public. The MOA stipulates procedures that treat historic properties to mitigate adverse effects (36 CFR Part 800.14[b]).

No historic properties have been identified within the area of potential effects. Therefore, the proposed project would not have an adverse effect on historic properties.

4.5.4 Mitigation

CUL-1 Should archaeological remains or artifacts be unearthed during any stage of project activities, work in the area of the discovery shall cease until the area is evaluated by a qualified archaeologist. If mitigation is warranted, the project proponent shall abide by recommendations of the archaeologist.

CUL-2 In the event that human remains are discovered on the Project site, the Tulare County Coroner must be notified of that discovery (Health and Safety Code Section 7050.5) and all activities in the immediate area if the find or in any nearby area reasonably suspected of overlie adjacent human remains must cease until appropriate and lawful measures have been implemented. If the Coroner determines that the remains are not recent, but

rather of Native American origin, the Coroner shall notify the Native American Heritage Commission (NAHC) in Sacramento within 24 hours to permit the NAHC to determine the most likely descendent of the deceased Native American.

4.6 ENERGY

Table 4-13: Energy Impacts

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

4.6.1 Baseline Conditions

The proposed water treatment Project would be located within the community of Pixley. This area is served by Southern California Edison for its energy needs and by Southern California Gas Company for natural gas.

4.6.2 Impact Analysis

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

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

Construction is estimated to consume a total of 29,390.70 gallons of diesel fuel and 436.86 gallons of gasoline fuel (see Appendix A). California Code of Regulations Title 13, Motor Vehicles, Section 2449(d)(2), Idling, limits idling times of construction vehicles to no more than 5 minutes, thereby precluding unnecessary and wasteful consumption of fuel because of unproductive idling of construction equipment. In addition, the energy consumption for construction activities would not be ongoing as they would be limited to the duration of Project construction.

The proposed Project is expected to utilize negligible levels of energy during operations of the sites due to the passive nature of the use. Energy consumption of non-residential uses is currently governed by the 2022 California Building Code, Part 6 for structures, and Title 20 of the California Code of Regulations for appliances. Energy consumption is anticipated to decrease over time as more energy efficient standards take effect and energy-consuming equipment reaches its end-of-life and necessitates replacement. Therefore, impacts would be less than significant.

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

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

4.7 GEOLOGY AND SOILS

Table 4-14: Geology and Soils Impacts

Would the project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
a) Directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving:				
i. Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publication 42.	☐	☐	☒	☐
ii. Strong seismic ground shaking?	☐	☐	☒	☐
iii. Seismic-related ground failure, including liquefaction?	☐	☐	☐	☒
iv. Landslides?	☐	☐	☐	☒
b) Result in substantial soil erosion or the loss of topsoil?	☐	☐	☒	☐
c) Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction or collapse?	☐	☐	☒	☐
d) Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994) creating substantial direct or indirect risks to life or property?	☐	☐	☐	☒
e) Have soils incapable of adequately supporting the use of septic tanks or alternative waste water 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 geological feature?	☐	☒	☐	☐

4.7.1 Baseline Conditions

Geology and Soils

The Project is located in Tulare County, in the southern section of California's Great Valley Geomorphic Province, or Central Valley. The Sacramento Valley makes up the northern third and the San Joaquin Valley makes up the southern two-thirds of the geomorphic province.[12] Both valleys are watered by large rivers flowing west from the Sierra Nevada Range, with smaller tributaries flowing east from the Coast Ranges. Most of the surface of the Great Valley is covered by Quaternary (present day to 1.6 million years ago) alluvium. The sedimentary formations are steeply upturned along the western margin due to the uplifted

[12] (California Department of Conservation 2002)

Sierra Nevada Range. From the time the Valley first began to form, sediments derived from erosion of igneous and metamorphic rocks and consolidated marine sediments in the surrounding mountains have been transported into the Valley by streams.

One soil map unit, Akers-Akers saline-Sodic complex, was identified within the Project sites. This soil is predominantly nonhydric, well drained, has moderate permeability, negligible runoff, and is used primarily for irrigated cropland. It is also suitable for both building site development.[13]

Hydric soils are defined as soils that are saturated, flooded, or ponded long enough during the growing season to develop anaerobic conditions such that under sufficiently wet conditions, hydrophytic vegetation can be supported.

Faults and Seismicity

Ground shaking is the primary seismic hazard in Tulare County due to the County's seismic setting and its record of historical activity. The community of Pixley is located on the valley floor and the valley portion of Tulare County is located on alluvial deposits, which tend to experience greater ground shaking intensities than areas located on hard rock. This results in greater damage to structures on the valley floor compared to those located in the foothills and the mountain areas of the County.[14] There are no active faults in Tulare County. The nearest active fault to the Project area is the San Andreas Fault, located approximately 53 miles southwest.[15]

Liquefaction

The potential for liquefaction, which is the loss of soil strength due to seismic forces, is dependent on soil types and density, the groundwater table, and the duration and intensity of ground shaking. Although no specific liquefaction hazard areas have been identified in the County, this potential is recognized throughout the San Joaquin Valley where unconsolidated sediments and a high-water table coincide. It is reasonable to assume that due to the depth to groundwater within the southern portion of Tulare County, liquefaction hazards would be negligible. Using the United States Department of Agriculture Natural Resources Conservation Service soil survey of Tulare County, an analysis of the soils onsite was performed. The only soil in the Project sites consist of Akers-Akers, 0 to 2 percent slopes.

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 that become saturated, high in silt or clay content. The Project sites are dominated by Akers-Akers soils, with a low to moderate risk of subsidence.

Dam and Levee Failure

Lake Success is located approximately 21 miles northeast of the Project site; although the Project site, in its entirety, is outside of the inundation zone for the Richard L. Schafer Dam (formerly Success Dam).

[13] (County of Tulare Resource Management Agency 2015)
[14] (County of Tulare Resource Management Agency 2015)
[15] (California Department of Conservation 2023)

4.7.2 Impact Analysis

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

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

ii. Seismic-related ground failure, including liquefaction?

a-i and a-ii) Less than Significant Impact. The Project sites and their vicinity are located in an area traditionally characterized by relatively low seismic activity. The sites are not located in an Alquist-Priolo Earthquake Fault Zone as established by the Alquist-Priolo Fault Zoning Act. The nearest major fault is the San Andreas Fault, located approximately 53 miles southwest of the Project sites. As noted, structural damage on the valley floor of the San Joaquin Valley is common due to the underlying alluvial deposits. The Project proposes additional water treatment facility equipment that has the potential to be impacted by seismic ground shaking; however, all proposed Project features would be constructed in a manner to handle seismic events, as required by the California Building Code. This would result in less than significant impacts. In addition, the Project would not include habitable structures; therefore, the Project would not result in potential substantial adverse effects, including the risk of loss, injury, or death. Impacts would be less than significant.

iii. Seismic-related ground failure, including liquefaction?

No Impact. According to the soils report prepared for the Project, the Project sites' soil conditions are not conducive of resulting in liquefaction potential. Therefore, there would be no impact.

iv. Landslides?

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. The potential landslide impact at this location is minimal as the nearest site is approximately 18 miles west of the foothills and the local topography is essentially flat and level. Implementation of the Project would not cause potential substantial direct or indirect effects from landslides, including the risk of loss, injury, or death. There would be no impact.

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

Less than Significant Impact. Earthmoving activities associated with the Project would include ground disturbing activities such as clearing and grading. These activities could expose soils to erosion processes and the extent of erosion would vary depending on slope steepness/stability, vegetation/cover, concentration of runoff, and weather conditions. Dischargers whose projects disturb less than one acre but are part of a larger common plan of development that in total disturbs one or more acres, are required to obtain coverage under the State Water Resources Control Board (SWRCB) NPDES General Permit for Stormwater Discharges Associated with Construction and Land Disturbance Activities (Construction General Permit). The Project could be subject to this requirement as the area disturbed by the water treatment Project at each site is up to four acres. Construction activity subject to Construction General Permit includes clearing, grading, and disturbances to the ground such as stockpiling, or excavation, but does not include regular maintenance activities performed to restore the original line, grade, or capacity of the facility. The Construction General Permit requires the development of a Storm

Water Pollution Prevention Plan (SWPPP) by a certified Qualified SWPPP Developer. Since the Project sites have relatively flat terrain with a low potential for soil erosion, and would comply with the SWRCB requirements, impacts would be less than significant.

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

Less than Significant Impact. The Project sites and the surrounding areas do not have any substantial grade changes to the point where the Project would expose people or structures to potential substantial adverse effects on- or offsite such as from landslides, lateral spreading, subsidence, liquefaction, or collapse. As mentioned earlier, subsidence and liquefaction risk are low at the Project sites. Any impact would be less than significant.

d) Would the project be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial direct or indirect risks to life or property?

No Impact. Expansive soils are those with excessive swelling clay minerals such as montmorillonite. The presence of expansive clay minerals in soils can cause excessive swelling when the soil comes into contact with water and also shrinkage when it undergoes drying.[16] Soils within the Project sites contain Akers-Akers soil. There are no clayey soils that would be susceptible to excessive swelling and shrinking; therefore, there would be no impact.

e) Would the project have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems where sewers are not available for the disposal of wastewater?

No Impact. The Project would not require the use of septic tanks or any type of wastewater disposal systems. The Project would not construct any habitable structures that would indirectly result in the generation of wastewater. Therefore, there would be no impact.

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

No Impact. There are no known paleontological resources or unique geological features that have been identified at the Project site, at any of the basin locations. There would be no impacts.

[16] (ScienceDirect 2021)

4.8 GREENHOUSE GAS EMISSIONS

Table 4-15: Greenhouse Gas Emissions Impacts

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

4.8.1 Baseline Conditions

Commonly identified GHG emissions and sources include the following:

Carbon dioxide (CO_2) is an odorless, colorless natural greenhouse gas. CO_2 is emitted from natural and anthropogenic sources. Natural sources include the following: decomposition of dead organic matter; respiration of bacteria, plants, animals, and fungus; evaporation from oceans; and volcanic out gassing. Anthropogenic sources include the burning of coal, oil, natural gas, and wood.

Methane (CH_4) is a flammable greenhouse gas. A natural source of methane is the anaerobic decay of organic matter. Geological deposits, known as natural gas fields, also contain methane, which is extracted for fuel. Other sources are from landfills, fermentation of manure, and ruminants such as cattle.

Nitrous oxide (N_2O), also known as laughing gas, is a colorless greenhouse gas. Nitrous oxide is produced by microbial processes in soil and water, including those reactions that occur in fertilizer containing nitrogen. In addition to agricultural sources, some industrial processes (fossil fuel-fired power plants, nylon production, nitric acid production, and vehicle emissions) also contribute to its atmospheric load.

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

Ozone (O_3) is known as a photochemical pollutant and is a greenhouse gas; however, unlike other greenhouse gases, ozone in the troposphere is relatively short-lived and, therefore, is not global in nature. O_3 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.

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 by at least 40 percent, 150 percent, and 20 percent respectively since the year 1750. 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 25 tons of CO_2. Therefore, CH_4 is a much more potent GHG than CO_2. In accordance with SJVAPCD's *CEQA Greenhouse Gas Guidance for Valley Land-use Agencies in Addressing GHG Emission Impacts for New Projects*[17], 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.

4.8.2 Impact Analysis

Project Related Emissions

Construction of the Project is assumed to be completed over approximately twelve months. Emissions associated with the Project were calculated using CalEEMod Air Quality Model, Version 2022.1.1.20. The emissions modeling includes emissions generated by off-road equipment, haul trucks, and worker commute trips. Emissions were quantified based on anticipated construction schedules and the default

[17] (San Joaquin Valley Air Pollution Control District 2009)

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. Estimated construction-generated emissions are summarized in Table 4-16. GHGs impact the environment over time as they increase and contribute to climate change.

Table 4-16: Short Term Construction Related GHG Emissions

	Emissions (MT CO2e) in Tons per Year
Maximum Annual Construction CO2e Emissions	161
AB 32 Consistency Threshold for Land-Use Development Projects*	1,100
AB 32 Consistency Threshold for Stationary Source Projects*	10,000
Threshold Exceeded?	No

* As published in the Bay Area Air Quality Management District's CEQA Air Quality Guidelines. Available online at http://www.baaqmd.gov/~/media/files/planning-and-research/ceqa/ceqa_guidelines_may2017-pdf.pdf?la=en Accessed 10/27/2023.

Construction related generation of GHGs would be a maximum of 161 Metric Tons of Carbon Dioxide Equivalent (MT CO2e) per year, while operational are expected to be negligible due to the nature of the proposed use. The Project would not exceed the AB 32 consistency threshold for land use projects for both short term construction emissions and long-term operational emissions as a result.

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

Less than Significant Impact. The Project would not generate GHG emissions, either directly or indirectly, that may have a significant impact on the environment. As shown in Table 4-16, the Project is not expected to result in the generation of GHG emissions that would exceed the AB 32 consistency threshold of 1,100 MT CO2e annually during both construction activities. Due to the nature of the proposed use, the Project is expected to result in the generation of negligible quantities of emissions during operational activities. Therefore, impacts would be less than significant.

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

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

4.9 HAZARDS AND HAZARDOUS MATERIALS

Table 4-17: Hazards and Hazardous Materials Impacts

Would the project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
a) Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?	☐	☐	☒	☐
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?	☐	☐	☒	☐

4.9.1 Baseline Conditions

Hazardous Materials

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

regulated hazardous waste facilities in California, including underground storage tank (UST) cases and non-UST cleanup programs, including Spills-Leaks-Investigations-Cleanups sites, Department of Defense sites, and Land Disposal program. A search of the DTSC EnviroStor database and the SWRCB GeoTracker performed on November 8, 2023, determined that there are no known active hazardous waste generators or hazardous material spill sites within the Project sites or immediate surrounding vicinity.[18] The nearest active case is located approximately 700 feet southwest of the Well 4 site near the intersection of South Main Street and Allen Avenue.

Airports

The nearest airport to the Project is the Visalia Municipal Airport, located approximately 25 miles north-northwest. The old Pixley Airport site known as Harmon Field is located adjacent to the Well 6 site. In 1985, Harmon Field was placed on the State Priority Ranking List, a ranking of hazardous materials sites, by the DTSC. Harmon Field airport was ultimately closed in 1994.[19]

Emergency Response Plan

The Tulare County Office of Emergency Services coordinates the development and maintenance of the Tulare County Operational Area Master Emergency Services Plan. Tulare County offers an alert system called "AlertTC". AlertTC is Tulare County's public mass notification system, designed to keep those who live or work in Tulare County informed of important information during emergency events. The system is administered by the County of Tulare and is operated in partnership with many Tulare County cities.[20]

Sensitive Receptors

Common sensitive receptors typically consist of residences, schools, day care centers, hospitals, and nursing homes. As the Project is located within the urbanized community of Pixley, each site other than Well 6, is adjacent to a sensitive receptor. The nearest sensitive receptor is located less than 25 feet from the Project site.

4.9.2 Impact Analysis

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

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

a and b) Less than Significant Impact. Equipment and materials used during construction activities would include fuels, oils, and lubricants. The routine use or an accidental spill of hazardous materials used in construction could result in inadvertent releases, which could adversely affect construction workers, the public, and the environment.

Any potential accidental hazardous materials spills during Project construction are the responsibility of the contractor to remediate in accordance with industry best management practices (BMPs) and State and County regulations. Any impacts would therefore be less than significant.

[18] (California Department of Toxic Substances Control 2022); (California State Waterboards 2023)
[19] (County of Tulare Resource Management Agency 2015)
[20] (Tulare County 2023)

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

Less than Significant Impact. Well 3 site is located within a quarter mile of Pixley Middle School, Pixley Adult School, and Pixley Elementary School. However, outside of fuels, oils, and lubricants, the Project would not require the use of hazardous materials that would be emitted in or near the school. The Project would adhere to BMPs involving the use and transport of hazardous materials. Therefore, impacts would be less than significant.

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

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

e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard or excessive noise for people residing or working in the project area?

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

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

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

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

Less than Significant Impact. Typically, wildland fires are associated with grasslands and open space. The Project sites and the surrounding lands consists of urban uses such as residences and commercial buildings. The Project would not include any residential components, nor would it require any employees to be stationed permanently at the site on a daily basis. Any impacts from directly or indirectly exposing people or structures to injury or death involving a wildland fire would be considered less than significant.

4.10 HYDROLOGY AND WATER QUALITY

Table 4-18: Hydrology and Water Quality Impacts

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

4.10.1 Baseline Conditions

The District, which includes the Project sites, is located within the boundaries of the Tule Subbasin. This portion of the Tule Subbasin is managed by the Pixley Irrigation District (PID) Groundwater Sustainability Agency (GSA) for its groundwater resources. The District itself is an active member of the PID GSA.

4.10.2 Impact Analysis

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

Less than Significant Impact. The existing wells associated with the Project currently meet all other drinking water standards except for 1,2,3-TCP. The Project would ensure wells 3A, 4, 5, and 6 comply with compliance with the current 1,2,3-TCP standard by installing GAC treatment facilities.

In order for the GAC to remove TCP from the water, the carbon must have enough adsorption capacity and the water must be in contact with the carbon for enough time for adsorption to take place. The parameter used to indicate the time the water is in contact with the carbon is the empty bed contact time (EBCT). An EBCT of approximately 15 minutes is recommended for TCP removal treatment. In order to more fully utilize the carbon, the GAC treatment system would be configured using pairs of vessels in a series. The Project would be constructed so water would flow through one vessel filled with GAC and then through a second vessel filled with GAC before entering the distribution system. Operating with vessels in series is particularly important with TCP, which has an MCL equal to the Detection Limiting for the Purposes of Reporting. With series operation, The District would be able to allow the GAC in the lead vessel to approach full saturation/usage before the carbon is changed out. It would also provide improved treatment reliability and reduce the likelihood of an inadvertent treatment failure and resulting MCL violation.

As part of the process, the GAC would require water to be used to backwash the GAC treatment vessels before using new GAC and when suspended solids accumulate in the top of the vessels. This discharge would then be piped to a County stormwater basin. The discharge would contain unaltered groundwater with minimal carbon fines and is considered a low threat discharge. This discharge would not violate any water quality or waste discharge standards and would require a general or individual permit from the Central Valley Regional Board. Impacts would be less than significant.

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

Less than Significant Impact. The Project would bring four existing domestic wells into compliance by constructing GAC treatment systems for each. The Project would not increase the overall production of water between the wells, nor would it increase capacity of the wells. Although the underlying Tule Subbasin is critically-over drafted, the amount of water being removed from the aquifer would not change. Therefore, implementation of the Project would not interfere substantially with groundwater recharge such that the Project would impede sustainable groundwater management of the Tule Subbasin, nor would it substantially decrease ground water supplies. Any impacts would be less than significant.

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

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

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

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

impede or redirect flood flows?

c-i – c-iv) Less than Significant Impact. There are no streams or rivers onsite or in the immediate vicinity of the Project that could be impacted by the Project. Additionally, the individual footprints of the GAC treatment systems at each well site would be small and would result in minor changes to drainage due to addition of impervious surfaces. All new paved areas would be designed for adequate stormwater flow. The pipeline associated with the Project would be installed within the existing right-of-way and would not alter any existing drainage patterns. Therefore, impacts would be less than significant.

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

No Impact. The Project is not within a regulatory floodway or within a base floodplain (100 year) elevation (see Figure 4-7). In addition, the Project would not include any housing or structures that would be subject to flooding either from a watercourse or from dam inundation. There are no bodies of water near the Project sites that would create a potential risk of hazards from seiche, tsunami or mudflow. Therefore, there would be no impact.

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

No Impact. The Project is intended to provide clean drinking water to the community of Pixley. The proposed water treatment systems would not adversely affect any watershed. In addition, the Project would not cause any increase in overall production of water between the four wells. The Project would not conflict with or obstruct implementation of any water quality control plan or sustainable groundwater management plan. There would be no impact.

4.10.3 Federal Cross-Cutting Topic

Flood Plain Management- Executive Order Numbers 11988, 12148, and 13690

The Federal Emergency Management Agency (FEMA) designates flood hazard and frequency for cities and counties on its Flood Insurance Rate Maps. The proposed project area is not within a designated 100-year floodplain, on a floodplain map, or otherwise designated by FEMA.

Rivers and Harbors Act

The Rivers and Harbors Act of 1899 prohibits construction of any bridge, dam, dike, or causeway over or in navigable waterways of the U.S., without Congressional approval. Under Section 10 of the Act, the building of any wharfs, piers, jetties, and other structures is prohibited without Congressional approval, and excavation or fill within navigable waters requires the approval of the Chief of Engineers. The United States Army Corps of Engineers (USACE) is authorized to issue permits for the discharge of refuse matter into or affecting navigable waters under Section 13 of the act.

The proposed project would not be constructed in a location that would affect a navigable waterway, requiring permit or approval by USACE.

Safe Drinking Water Act, Sole Source Aquifer Protection

The Safe Drinking Water Act (SDWA) required USEPA to establish criteria through which an aquifer may be declared a critical aquifer protection area. Since 1977, it has been used by communities to help prevent

contamination of groundwater from federally funded projects. These aquifers are defined as "sole source aquifers." USEPA's Sole Source Aquifer (SSA) Program was established under Section 1424(e) of the SDWA. These are, essentially, aquifers that are the only drinking water supply for the population of a region.

SSA designation protects an area's groundwater resources by requiring USEPA to review all proposed projects within the designated area that will receive federal financial assistance. The SSA Program states that if USEPA determines an area to have an aquifer which is the sole or principal drinking water source for the area, that if contaminated would create a significant hazard to public health, a notice of that determination needs to be published in the Federal Register. After publication of any such notice, no commitment for federal financial aid may be applied for any project that the Administrator determines may contaminate the aquifer through a recharge zone, so as to create a significant hazard to public health (USEPA 2019).

The Project is not located in a Sole Source Aquifer.

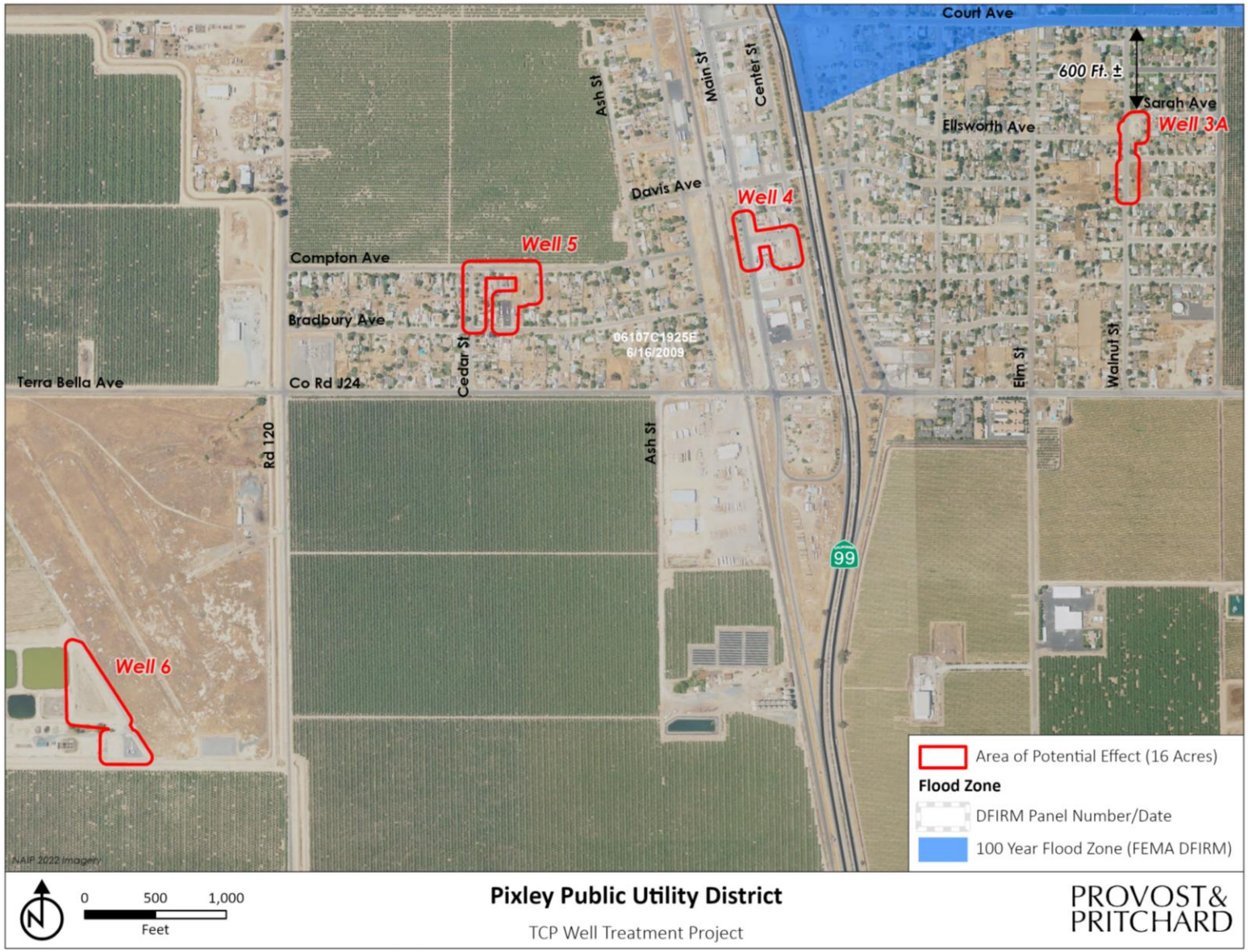


Figure 4-7: FEMA Flood Map

4.11 LAND USE AND PLANNING

Table 4-19: Land Use and Planning Impacts

Would the project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
a) Physically divide an established community?	☐	☐	☐	☒
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?	☐	☐	☒	☐

4.11.1 Baseline Conditions

The Project is located in Pixley, California and is a census-designated place in Tulare County. Pixley is located approximately 45 miles northwest of Bakersfield, 25 miles south of Visalia, and 60 miles southeast of Fresno. As seen in other cities and communities throughout the Central Valley in California, Pixley is an agricultural community that is surrounded by farms and open space outside of the urban planned area. However, the community of Pixley itself contains various urban land uses such as residential, commercial, industrial, and public-quasi-public. As seen in Table 4-20 below, the Project sites contain either residential, commercial, or agricultural general plan land use designations and either residential, commercial, or manufacturing zoning designations.

Table 4-20: General Plan and Zoning Designations

Project Area	General Plan Designation	Zoning District
WELL 3A SITE (APN 299-084-001)	Residential (Low Density)	R-1 (Single-Family Residential)
WELL 4 SITE (APN 299-150-034)	Commercial	C-2 (General Commercial)
WELL 5 SITE (APNS 298-060-023/026)	Residential (Low Density)	R-1 (Single-Family Residential)
WELL 6 SITE (APN 314-080-030)	Valley Agriculture	M-1 (Light Manufacturing)

4.11.2 Impact Analysis

a) Would the project physically divide an established community?

No Impact. The Project would add GAC wellhead treatment systems at four existing well sites to treat the high levels of 1,2,3-TCP. Implementation of the Project would not result in any physical division within the community of Pixley. There would be no impact.

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

Less than Significant Impact. The Project sites are located on parcels that are zoned R-1 (Single-Family Residential), C-2 (General Commercial), and M-1 (Light Manufacturing) and planned for residential, commercial, and agriculture. The purpose of the Project is to modify public facilities to reduce the levels of 1,2,3-TCP below the maximum containment level in the water supplied to the community of Pixley.

The Project components are already established uses and the sites themselves are previously disturbed that are improved with domestic wells and ancillary facilities. Implementation of the Project would not change the existing use of the site but would only modify existing facilities to allow the continued operation of supplying clean drinking water to the community of Pixley. The Project would be consistent with all applicable plans, policies, ordinances, and regulations, including those adopted for the purpose of avoiding or mitigating an environmental effect. Impacts would be less than significant.

4.11.3 Federal Cross-Cutting Topic

Coastal Zone Management Act

The Coastal Zone Management Act was enacted in 1972. This act, administered by the National Oceanic and Atmospheric Administration, provides management of the nation' s coastal resources. The California coastal zone generally extends 1,000 yards inland from the mean high tide line. The Project site is more than 100 miles from the coastline. Therefore, the proposed project would not conflict with the Coastal Zone Management Act.

4.12 MINERAL RESOURCES

Table 4-21: Mineral Resources Impacts

Would the project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
a) Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state?	☐	☐	☐	☒
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?	☐	☐	☐	☒

4.12.1 Baseline Conditions

The bulk of Tulare County's mineral extraction activities focus on aggregate (sand, gravel, and crushed stone), which is primarily used in building materials. Historically, the Kaweah River, Lewis Creek, and the Tule River have provided the main sources of high-quality sand and gravel in Tulare County. The highest quality deposits are located at the Kaweah and Tule Rivers. According to the Tulare County General Plan Background Report, all of the known potential mineral resource locations are mapped within the foothills and/or along major water courses. Similarly, the only active oil and gas fields are located in the foothills along Deer Creek.[21] These sources do not identify potential mineral resource locations within or adjacent to the Project site or elsewhere in Pixley.

The Project site is not delineated on a local land use plan as a locally important mineral resource recovery site.

4.12.2 Impact Analysis

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

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

a and b) No Impact. The California Geological Survey Division of Mines and Geology has not classified either of the Project sites as a Mineral Resource Zone under the Surface Mining and Reclamation Act. California's Division of Oil, Gas and Geothermal Resources has no records of active oil or gas wells on the Project sites or in the immediate area. No known mineral resources are within the Project either of the Project sites. Therefore, implementation of the Project would not result in the loss of availability of a known mineral resource that would be of value to the region and the residents, nor would it result in the loss of availability of a locally important mineral resource recover site delineated on a local general plan, specific plan or other land use plan since no known mineral resources occur in this area. There would be no impact.

[21] (Environmental Science Associates 2010)

4.13 NOISE

Table 4-22: Noise Impacts

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

4.13.1 Baseline Conditions

The community of Pixley is located in the southwestern portion of Tulare County, California. SR 99 bisects the community into eastern and western halves. SR 99 is a major contributor of noise levels that exceed the acceptance level of 60 dBA (A-weighted decibels) found in the Pixley Community Plan.[22] Levels above 60 dBA are said to introduce compatibility issues. The Well 3A, 4, and 5 sites are located within the built community of Pixley and contain either residences or commercial establishments within their vicinity. Well 6 is located in the outskirts near the WWTP, which is more isolated and further away from development.

4.13.2 Impact Analysis

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

Less than Significant Impact. The nearest sensitive receptors to the Project sites would be residences adjacent to some of the existing well sites and the proposed pipeline pathways, specifically the Well 3A and Well 5 sites. Project construction-related activities would involve temporary, short-term, and intermittent noise sources including site preparation and activities related to installation of new GAC treatment facilities and associated pipeline. The construction phase of the Project would involve temporary noise sources originating predominantly from off-road equipment, such as backhoes, drilling rigs, scrapers, and tractors. Construction-related noise levels would be higher than existing ambient noise levels in the Project sites but would not occur after construction-related activities are completed. Operation and maintenance noise would be similar in character to existing noise in the area resulting

[22] (County of Tulare Resource Management Agency 2015)

from existing activity such as traffic noise. Tulare County General Plan Policies HS-8.18 and HS-8.19 address noise generated from construction-related activities. Policy HS-8.18 limits noise-generating activities (such as construction-related activities) to hours of normal business operation unless specific County approval is given. Construction-related activities would be restricted to daytime hours and would be short-term, temporary, and intermittent in nature. Policy HS-8.19 requires the County to ensure contractors implement best practices as appropriate to reduce the construction-related noise impacts. By complying with Tulare County General Plan Policies HS-8.18 and HS-8.19, the Project would have a less than significant impact.

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

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

Table 4-23. Typical Construction Equipment Vibration Sources Levels

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

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

c) For a project located within the vicinity of a private airstrip or an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels?

No Impact. The Project would not be located within an airport land use plan or within two miles of an airport. The nearest airport, which is the Visalia Municipal Airport, is located approximately 25 miles north-northwest of the Project. Furthermore, the Project would not involve the development of habitable structures or require the presence of permanent staff onsite. There would be no impact.

4.14 POPULATION AND HOUSING

Table 4-24: Population and Housing Impacts

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

4.14.1 Baseline Conditions

According to the 2020 Census, the community of Pixley has an estimated population of 3,828.[23] Additionally, it is estimated that Pixley contains approximately 1,073 households.[24] The Project sites are located throughout the community of Pixley and are primarily surrounded by urban land uses such as residential and commercial. The Well 6 site is located on the outskirts of the community and is surrounded by agricultural properties and is adjacent to Pixley's WWTP. The nearest incorporated city to the Project is the City of Delano, located approximately 12 miles south along SR 99.

4.14.2 Impact Analysis

a) Would the project induce substantial unplanned population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)?

No Impact. Currently, the synthetic organic contaminant 1,2,3-TCP has been detected at levels at or higher than the regulatory MCL within four District wells. The Project would construct GAC treatment systems and ancillary facilities/equipment to the four existing well sites within the community of Pixley to treat the contaminated water supply. The Project would not add additional capacity to the water system that could result in unplanned population growth. The existing wells would maintain their existing capacity and would continue to serve Pixley's existing planned demand. There would be no impact.

[23] (United States Census Bureau 2020)
[24] Ibid.

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

No Impact. The Project would be constructed on lands that lack housing. The Project would not result in displacing or demolishing housing. The Project would require demolition of an existing structure but said structure would be inhabitable. Therefore, there would be no impact.

4.14.3 Federal Cross-Cutting Topic

Environmental Justice Executive Order 12898

Executive Order (EO) 12898, Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations, was issued in 1994. The EO directs federal agencies to identify and address the disproportionately high and adverse human health or environmental effects of their actions on minority and low-income populations, to the greatest extent practicable and permitted by law.

USEPA has developed a mapping and screening tool called EJSCREEN that uses nationally consistent data to identify minority or low-income communities. According to EJSCREEN, the proposed project site is not in an environmental justice community (USEPA 2015). In addition, the purpose of the project would be to supply clean, reliable water to residents of the District. Because the proposed project would directly benefit the local community only, no disproportional health of environmental effect would be imposed on minority or low-income populations. The proposed project would not conflict with the purpose and objectives of EO 12898.

4.15 PUBLIC SERVICES

Table 4-25: Public Services

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

4.15.1 Baseline Conditions

Fire Protection: The Project area would be served by the Tulare County Fire Department. The closest fire station is Tulare County Fire Station No. 27, located approximately 0.3 miles north of the Well 4 site.

Police Protection: Police protection is provided by the Tulare County Sheriff's Department. The closest sheriff's station is Tulare County Sheriff Pixley Substation, located approximately 0.3 miles north of the Well 4 site. The sheriff's station is located adjacent to the fire station.

Schools: Pixley Middle School, Pixley Adult School, and Pixley Elementary School are the closest schools to the Project. All three schools are located less than a quarter-mile from the Well 3 site.

Parks: The nearest park to the Project site is Pixley Park, located approximately 0.6 miles south of the Well 4 site.

Landfills: The nearest landfill to the Project site is the Woodville Landfill, located approximately 12 miles to the northeast.

4.15.2 Impact Analysis

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

i. Fire Protection:

ii. Police Protection:

iii. Schools:

iv. Parks:

v. Other public facilities:

a-i – a-iv) No Impact. The Project would not require new or altered governmental facilities in order to maintain acceptable service ratios, response times, or other performance objectives for public services. The Project involves the construction of water treatment facilities to provide clean drinking water to the community of Pixley. Currently, Pixley's wells contain 1,2,3-TCP levels that are above the MCL. The Project would not result in unplanned population growth as no increase in water capacity would be proposed as part of the Project. There would be no impact to the listed public services.

4.16 RECREATION

Table 4-26: Recreation Impacts

Would the project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
a) Increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?	☐	☐	☐	☒
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?	☐	☐	☐	☒

4.16.1 Baseline Conditions

Tulare County contains several parks and recreational facilities. The Tulare County Parks maintains 11 parks Countywide. Pixley Park, which is the closest park to the Project at 0.6 miles south of the Well 4 site, is one of the 11 parks maintained by Tulare County.[25] Pixley Park is a 22-acre community park located at the north end of Pixley. The park is equipped with restrooms, picnic tables, covered picnic areas, barbecues, a baseball/softball field, and a playground area.[26]

4.16.2 Impact Analysis

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

No Impact. The Project would construct GAC treatment systems and ancillary facilities/equipment to the four existing well sites within the community of Pixley to treat the contaminated water supply. Project features would not increase the use or demand of any existing neighborhood park, regional park, or any other recreational facilities of any kind. Population growth is not anticipated or associated with the Project. Therefore, there would be no impact.

b) Does the project include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment?

No Impact. The Project would not include recreational facilities, nor would it propose the expansion of any existing recreational facilities. As mentioned, the Project's objective is to allow the District to provide the community of Pixley with a clean, reliable source of water. There would be no impact.

[25] (Tulare County Parks 2023)
[26] (County of Tulare Resource Management Agency 2015)

4.17 TRANSPORTATION

Table 4-27: Transportation Impacts

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

4.17.1 Baseline Conditions

Pixley is a census-designated place located in Tulare County, wholly surrounded by agricultural production. The Project sites are predominantly located in developed areas; however, Well site 6 is located in an isolated location adjacent to the WWTP near S. Airport Street and the Avenue 92 alignment. SR 99 is the nearest highway, which is located at least 0.9 miles from all four Project sites. The furthest site from SR 99 is the Well 6 site, located 0.9 miles west and the closest is the Well 4 site, which is 130 feet west. Local roads within the community of Pixley that would be impacted by the Project consist of W. Compton Avenue, Walnut Street, and Holste Avenue.

4.17.2 Impact Analysis

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

Less than Significant Impact. The Project includes water treatment at four existing well sites. Construction traffic associated with the Project would be minimal and temporary, approximately lasting twelve months. Operational traffic would be minimal. Operational traffic would consist of maintenance which is already occurring at the well sites. There would not be a significant adverse effect to existing roadways in the area.

Road closures and detours are not anticipated as part of construction. Construction-related impacts would be temporary and alternate routes would be available for use by vehicles, pedestrians, and bicycles, as needed. Any and all disturbances to roadways, driveways, sidewalks, curb, and gutter incurred from the pipeline work would be temporary and repaired to baseline conditions once construction is completed.

Additionally, the Project would include new access roads at three of the four well sites. These access roads would be constructed in accordance with all State and local applicable regulations.

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

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

Less than Significant Impact. Section 15064.3 of the State CEQA Guidelines establishes specific considerations for evaluating a project's transportation impacts. The State CEQA Guidelines identify vehicle miles traveled (VMT), which is defined as the amount and distance of automobile travel attributable to a project, as the most appropriate measure of transportation impacts. Other relevant considerations may include the effects of a project on transit and nonmotorized travel. Construction of the Project would last approximately 12 months and would use existing construction crews. Operation of the Project would not add a substantial amount of VMT to the Project area. Therefore, impacts would be less than significant.

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

No Impact. No new roadway design features are associated with the Project that could increase hazards.

The Project would require construction equipment to be transported to the Project site using hauling trucks. Project area roadways are suitable for the transporting of heavy-duty construction equipment; therefore, there would be no impact.

d) Would the project result in inadequate emergency access?

Less than Significant Impact. The Project would not propose new roadway design features or permanent alterations to roadways. Pipeline would be installed within various rights-of way; however, all pipeline would be located underground and fully covered after installation. Any potential disturbances to roadways during construction would be temporary and repaired to baseline conditions. No road closures or detours are anticipated as part of the construction phase of the Project. Any disturbances to traffic patterns, such as a potential lane diversion would be temporary and minimal in nature, as there would be alternate routes available for emergency vehicles. The operational phase of the Project would have no effect on roadways or emergency access. Therefore, overall potential Project-related impacts to emergency access on local roadways would be considered less than significant.

4.18 TRIBAL CULTURAL RESOURCES

Table 4-28: Tribal Cultural Resources Impacts

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

4.18.1 Baseline Conditions

Penutian-speaking Yokuts tribal groups occupied the southern San Joaquin Valley region and much of the nearby Sierra Nevada. For a variety of historical reasons, existing research information emphasizes the central Yokuts tribes who occupied both the valley and particularly the foothills of the Sierra. The northernmost tribes suffered from the influx of Euro-Americans during the Gold Rush and their populations were in substantial decline by the time ethnographic studies began in the early twentieth century. In contrast, the southernmost tribes were partially removed by the Spanish to missions and eventually absorbed into multi-tribal communities on the Sebastian Indian Reservation (on Tejon Ranch), and later the Tule River Reservation and Santa Rosa Rancheria to the north. The result is an unfortunate scarcity of ethnographic detail on southern Valley tribes, especially in relation to the rich information collected from the central foothills tribes where native speakers of the Yokuts dialects are still found. Regardless, the general details of indigenous life-ways were similar across the broad expanse of Yokuts territory, particularly in terms of environmentally influenced subsistence and adaptation and with regard to religion and belief, which were similar everywhere.

Public Resources Code Section 21080.3.1, et seq. (Codification of AB 52, 2013-14)

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

Historic Properties Identification Report

An HPIR survey of the Project APE was conducted by ASM Affiliates Archaeologist in March 2024. The field methods employed included intensive pedestrian examination of the ground surface for evidence of archaeological sites in the form of artifacts, surface features (such as bedrock mortars, historical mining equipment), and archaeological indicators (e.g., organically enriched midden soil, burnt animal bone); the identification and location of any discovered sites, should they be present; tabulation and recording of surface diagnostic artifacts; site sketch mapping; preliminary evaluation of site integrity; and site recording, following the California Office of Historic Preservation Instructions for Recording Historic Resources and the BLM 8100 Manual, using DPR 523 forms. Parallel survey transects spaced at 15-m apart were employed for pedestrian survey of the Project APE.

The Project APE includes four separate existing well sites, three of which are located within the built community of Pixley, while a fourth is on the outskirts adjacent to the WWTP.

No cultural resources of any kind were identified within the Project APE.

4.18.2 Impact Assessment

a) Would the project cause a substantial adverse change in the significance of a tribal cultural resource, defined in Public Resources Code section 21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe, and that is:

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

ii. A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Public Resources Code Section 5024.1. In applying the criteria set forth in subdivision (c) of Public Resources Code Section 5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe.

a-i – a-ii) Less than Significant Impact with Mitigation Incorporated. The District, as a public lead agency, has not received any formal requests for notification from any State tribes, pursuant to AB 52. As discussed above in Section 4.5.4, a records search of the NAHC Sacred Lands File was completed for the Project APE. Results of this file search were negative, and no tribal cultural resources were identified in the Project APE. A records search was also conducted at the SSJVIC, California State University, Bakersfield. The search results determined that tribal cultural resources were not discovered. Although

there is little or no chance the Project would cause a substantial adverse change to the significance of a tribal cultural resource as defined. To ensure the protection of any unknow tribal cultural resources, mitigation measures TCR-1 and TCR-2 will be implemented prior to any ground disturbing activities taking place. In addition, mitigation measures CUL-1 and CUL-2, described in Section 4.5.4 are will also be implemented in the event cultural materials or human remains are unearthed during excavation or construction. In addition, the following mitigation measures will be implemented prior to any ground disturbing activities, to ensure protection of tribal cultural resources.

4.18.3 Mitigation

TCR-1 (Cultural Awareness Training): Prior to construction and any ground disturbing activities, a Cultural Awareness Training Program shall be provided to all construction managers and construction personnel prior to commencing ground disturbance work at the project site. The training shall be prepared and conducted by a qualified archaeologist to the satisfaction of the District. The training shall be a length of time adequate to explain applicable statues, regulations, enforcement provisions; the prehistoric and historic environmental setting and context, local tribal groups; show sample artifacts; and what prehistoric and historic archaeological deposits look like at the surface and when exposed during construction. The training may be discontinued to new workers to the site when ground disturbance is completed. Construction personnel shall not be permitted to operate equipment within the construction area unless they have attended the training. A list of the names of all personnel who attended the training, and copies of the signed acknowledgement forms shall be submitted to the District for their review and approval.

TCR-2 (Curation Agreement) It is recommended that the District execute a curation agreement with the Santa Rosa Rancheria – Tachi Yokut Tribe for the Project. The tribe will provide the curation agreement document prior to ground disturbing activities. It is further recommended that they be contacted if any archaeological discoveries are made during Project construction and implementation.

4.19 UTILITIES AND SERVICE SYSTEMS

Table 4-29: Utilities and Service Systems Impacts

Would the project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
a) Require or result in the relocation or construction of new or expanded water, wastewater treatment or storm water drainage, electric power, natural gas, or telecommunications facilities, the construction or relocation of which could cause significant environmental effects?	☐	☐	☒	☐
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 reduction goals?	☐	☐	☐	☒
e) Comply with federal, state, and local management and reduction statutes and regulations related to solid waste?	☐	☐	☐	☒

4.19.1 Baseline Conditions

Water and Wastewater

The PPUD provides water and sewer services for the community of Pixley. The system serves a population of approximately 3,310 persons through 825 connections. As mentioned, the District relies on four active wells for its water supply. In 2021, the District received approximately $2 million to rehabilitate an existing well, install a backup generator, and replace leaking water mains. The funding support was provided through the Small Community Drought Relief Program by the California Department of Water Resources. The District operates a WWTP, that is located near the site of Well 6. The District's WWTP provides secondary treatment with an STM Aerator system, clarifiers, sludge digestion, and sludge drying beds. Treated wastewater is then stored in evaporation/percolation ponds and/or applied on pastureland that is owned and operated by the District. Non-milking cattle graze on the pastureland. The District's monthly average daily discharge shall not exceed 0.29 MGD. The District's monthly average daily discharge is currently 0.284 MGD.[27]

[27] (County of Tulare Resource Management Agency 2015)

Solid Waste

Solid waste services are provided by the Tule Trash Company.[28] Their services include disposing of agricultural waste, construction debris, recyclables, and organic recyclables. The closest landfill to the community of Pixley is the Teapot-Dome Disposal Site, located approximately 10.75 miles northeast.

4.19.2 Impact Analysis

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

Less than Significant Impact. The Project would require the construction of new stormwater drainage pipelines to connect to existing stormwater basins. The proposed GAC vessels would generate wash water during treatment and would be discharged through the proposed stormwater drainage pipelines to the existing stormwater basins. In total, the four wells would generate up to 360,000 gallons of wash water every few months. The existing stormwater basin near Well 6 would be excavated further to increase capacity in order to better manage the increase in stormwater. The construction of said infrastructure has been analyzed throughout this IS/MND and would abide by all applicable regulations to ensure that impacts would be less than significant. Applicable regulations include an encroachment permit to construct within the existing rights-of-way, and implementation of a Construction General Permit, which requires a SWPPP. Implementation of said requirements would result in the Project having a less than significant impact.

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

Less than Significant Impact. The Project would require a limited amount of water during construction for dust control and other construction-related purposes. This would be for a limited timeframe and therefore would have a less than significant impact on water supplies. The Project would add GAC treatment to four existing wells and would not require additional water usage above what is currently being used for operation of the facilities. Impacts would be less than significant.

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

No Impact. The Project includes improvements to the existing community water system by constructing GAC water treatment facilities and ancillary equipment/infrastructure adjacent to four community wells. No component of the Project would generate wastewater. There would be no impact.

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

No Impact. Minimal waste would be generated by the Project during construction. Construction contractors are generally required to remove all solid waste generated during construction. During operation, the Project would not generate solid waste. Therefore, there would be no impact.

[28] (Tule Trash 2023)

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

No Impact. Any solid waste generated during Project construction would be required to comply with all applicable federal, state, and local statues and regulations related to solid waste removal and proper disposal. There would be no impact.

4.20 WILDFIRE

Table 4-30: Wildfire Impacts

If located in or near state responsibility areas or lands classified as very high fire hazard severity zones, would the project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
a) Substantially impair an adopted emergency response plan or emergency evacuation plan?	☐	☐	☐	☒
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?	☐	☐	☐	☒

4.20.1 Baseline Conditions

The Project is located in the community of Pixley, which is an agriculturally-oriented community that is surrounded all around by open space and farmland. According to the California Department of Forestry and Fire Protection (CalFire), the Project is not located in a State Responsibility Area (SRA) or a Very High Fire Hazard Severity Zone. The nearest SRA is located approximately 16 miles to the east of the Project. The nearest Very High Fire Hazard Severity Zone is located approximately 32 miles east of the Project.[29]

4.20.2 Impact Analysis

a) If located in or near state responsibility areas or lands classified as very high fire hazard severity zones, would the project substantially impair an adopted emergency response plan or emergency evacuation plan?

No Impact. The Project would not impair an adopted emergency response plan or emergency evacuation plan. The Project sites are not located in an SRA and is served by local firefighters. In addition, the Project sites are not designated as a very high fire hazard severity zone. Therefore, there would be no impact.

[29] (California Department of Forestry and Fire Protection 2022); (ArcGIS 2023)

b) If located in or near state responsibility areas or lands classified as very high fire hazard severity zones, would the project due to slope, prevailing winds, and other factors, exacerbate wildfire risks and thereby expose project occupants to pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire?

No Impact. The Project sites are essentially flat, not located within a designated wildfire area as described above, would not have Project occupants except temporarily during construction, and is subject to mild seasonal and periodic winds from the northwest. Therefore, the Project sites are not susceptible to slope, prevailing winds, and other factors that would exacerbate wildfire risks and thereby expose Project occupants to pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire. Therefore, there would be no impact.

c) If located in or near state responsibility areas or lands classified as very high fire hazard severity zones, would the project require the installation or maintenance of associated infrastructure (such as roads, fuel breaks, emergency water sources, power lines or other utilities) that may exacerbate fire risk or that may result in temporary or ongoing impacts to the environment?

No Impact. As mentioned above, the Project would not be located within an SRA and is not located in or near a very high fire hazard severity zone. The Project would not include and would not require installation of associated infrastructure that may exacerbate fire risk or that could result in temporary or ongoing impacts to the environment when located in or near an SRA or land classified as a very high fire hazard severity zone. Therefore, there would be no impact.

d) If located in or near state responsibility areas or lands classified as very high fire hazard severity zones, would the project expose people or structures to significant risks, including downslope or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes?

No Impact. The Project sites would not be located near a major slope or near a river or stream. In addition, as mentioned above the Project sites would not be located in an SRA or and is not located in or near a very high fire hazard severity zone. Therefore, the Project could not 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 when located in or near an SRA or land classified as a very high fire hazard severity zone. There would be no impact.

4.21 CEQA MANDATORY FINDINGS OF SIGNIFICANCE

Table 4-31: CEQA Mandatory Findings of Significance

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

4.21.1 Statement of Findings

a) Does the project have the potential to substantially degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, substantially reduce the number or restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory?

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

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

Less than Significant Impact. 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 construction of GAC treatment facilities at four well sites within the PPUD in order to provide a clean, reliable supply of drinking water. No additional roads would be constructed as a result of the Project, nor would any additional public services be required. The Project is intended to improve water quality and 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.

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

Less than Significant Impact. The Project would construct GAC treatment facilities at four well sites within the PPUD in order to provide a clean, reliable supply of drinking water to the community of Pixley. The Project in and of itself would not create a significant hazard to the public or the environment. On the contrary, implementation of the Project would resolve water quality issues. Construction-related air quality/dust exposure impacts could occur temporarily as a result of Project construction. However, implementation of basic regulatory requirements identified in this IS/MND would ensure that impacts are less than significant. Therefore, the Project would not have any direct or indirect adverse impacts on humans. This impact would be less than significant.

CHAPTER 5 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 Project in Tulare County. The MMRP lists mitigation measures recommended in the IS/MND for the Project and identifies monitoring and reporting requirements.

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

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

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

Mitigation, Monitoring, and Reporting Program						
Item	Mitigation Measure	When Monitoring is to Occur	Frequency of Monitoring	Agency Responsible for Monitoring	Method to Verify Compliance	Verification of Compliance
Biological Resources						
BIO-1	**(Avoidance)**: The project's construction activities will occur, if feasible, between September 16 and January 31 (outside of the nesting bird season) to avoid impacts to nesting birds.	September 16 to January 31	Once, as determined needed by qualified biologist during construction activities	PPUD with assistance of a qualified biological subconsultant	Biologist Report	
BIO-2	**(Pre-construction Surveys)**: If activities must occur within nesting bird season (February 1 to September 15), a qualified biologist will conduct a pre-construction survey within five calendar days prior to the start of construction at each APE for nesting migratory birds within up to 50 feet outside of the APEs and for other nesting raptors within up to 450 feet outside of the APEs. All raptor nests would be considered "active" upon the nest-building stage. If no active nests are observed, no further action is required.	February 1 to September 15	Once, as determined needed by qualified biologist during construction activities	PPUD with assistance of a qualified biological subconsultant	Biologist Report	
BIO-3	**(Avoidance Buffers)**: On discovery of any active nests near work areas, a qualified biologist will determine appropriate avoidance buffer distances based on applicable CDFW and/or USFWS guidelines, the biology of the species, conditions of the nest(s), and the level of project disturbance.	Prior to construction activities	Once, Prior to ground disturbing activities and the start of construction	PPUD with assistance of a qualified biological subconsultant	Biologist Report	
Cultural Resources						
CUL-1	(**Archaeological Remains**): Should archaeological remains or artifacts be unearthed during any stage of project activities, work in the area of the discovery shall cease until the area is evaluated by a qualified archaeologist. If mitigation is warranted, the project proponent shall abide by recommendations of the archaeologist.	During construction	Daily during construction activities	PPUD		

Mitigation, Monitoring, and Reporting Program						
Item	Mitigation Measure	When Monitoring is to Occur	Frequency of Monitoring	Agency Responsible for Monitoring	Method to Verify Compliance	Verification of Compliance
CUL-2	**(Human Remains)**: In the event that human remains are discovered on the Project site, the Tulare County Coroner must be notified of that discovery (Health and Safety Code Section 7050.5) and all activities in the immediate area if the find or in any nearby area reasonably suspected of overlie adjacent human remains must cease until appropriate and lawful measures have been implemented. If the Coroner determines that the remains are not recent, but rather of Native American origin, the Coroner shall notify the NAHC in Sacramento within 24 hours to permit the NAHC to determine the most likely descendent of the deceased Native American.	During construction	Daily during construction activities	PPUD		
Tribal Cultural Resources						
TCR-1	(Cultural Awareness Training): Prior to construction and any ground disturbing activities, a Cultural Awareness Training Program shall be provided to all construction managers and construction personnel prior to commencing ground disturbance work at the project site. The training shall be prepared and conducted by a qualified archaeologist to the satisfaction of the District. The training shall be a length of time adequate to explain applicable statues, regulations, enforcement provisions; the prehistoric and historic environmental setting and context, local tribal groups; show sample artifacts; and what prehistoric and historic archaeological deposits look like at the surface and when exposed during construction. The training may be discontinued to new workers to the site when ground disturbance is completed. Construction personnel shall not be permitted to operate equipment within the construction area unless they have attended	Prior to construction or any ground disturbing activities	One Cultural Awareness Training prior to construction or any ground disturbing activities	PPUD		

Mitigation, Monitoring, and Reporting Program						
Item	Mitigation Measure	When Monitoring is to Occur	Frequency of Monitoring	Agency Responsible for Monitoring	Method to Verify Compliance	Verification of Compliance
	the training. A list of the names of all personnel who attended the training, and copies of the signed acknowledgement forms shall be submitted to the District for their review and approval.					
TCR-2	(Curation Agreement) It is recommended that the District execute a curation agreement with the Santa Rosa Rancheria – Tachi Yokut Tribe for the Project. The tribe will provide the curation agreement document prior to ground disturbing activities. It is further recommended that they be contacted if any archaeological discoveries are made during Project construction and implementation.	Once prior to construction	Daily during construction activities	PPUD		

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Pixley TCP Detailed Report

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1. Basic Project Information

1.1. Basic Project Information

Data Field	Value
Project Name	Pixley TCP
Construction Start Date	9/2/2024
Operational Year	2025
Lead Agency	—
Land Use Scale	Project/site
Analysis Level for Defaults	County
Windspeed (m/s)	2.10
Precipitation (days)	23.0
Location	35.96708538273309, -119.2921773881736
County	Tulare
City	Unincorporated
Air District	San Joaquin Valley APCD
Air Basin	San Joaquin Valley
TAZ	2743
EDFZ	9
Electric Utility	Southern California Edison
Gas Utility	Southern California Gas
App Version	2022.1.1.20

1.2. Land Use Types

Land Use Subtype	Size	Unit	Lot Acreage	Building Area (sq ft)	Landscape Area (sq ft)	Special Landscape Area (sq ft)	Population	Description

Other Asphalt Surfaces	3.35	Acre	3.35	0.00	0.00	—	—	—

1.3. User-Selected Emission Reduction Measures by Emissions Sector

No measures selected

2. Emissions Summary

2.1. Construction Emissions Compared Against Thresholds

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

Un/Mit.	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	4.45	3.75	36.0	33.8	0.05	1.60	19.8	21.4	1.47	10.1	11.6	—	5,404	5,404	0.22	0.05	0.46	5,424
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	4.43	3.73	36.0	33.6	0.05	1.60	19.8	21.4	1.47	10.1	11.6	—	5,391	5,391	0.22	0.05	0.01	5,411
Average Daily (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	0.69	0.60	5.56	5.53	0.01	0.25	2.32	2.57	0.23	1.18	1.41	—	972	972	0.04	0.01	0.02	975
Annual (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	0.13	0.11	1.01	1.01	< 0.005	0.05	0.42	0.47	0.04	0.22	0.26	—	161	161	0.01	< 0.005	< 0.005	161

2.2. Construction Emissions by Year, Unmitigated

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

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

Daily - Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2024	4.45	3.75	36.0	33.8	0.05	1.60	19.8	21.4	1.47	10.1	11.6	—	5,404	5,404	0.22	0.05	0.44	5,424
2025	1.35	3.25	10.4	13.0	0.02	0.43	0.11	0.43	0.40	0.03	0.40	—	2,398	2,398	0.10	0.02	0.46	2,406
Daily - Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2024	4.43	3.73	36.0	33.6	0.05	1.60	19.8	21.4	1.47	10.1	11.6	—	5,391	5,391	0.22	0.05	0.01	5,411
2025	1.35	1.13	10.4	13.0	0.02	0.43	0.00	0.43	0.40	0.00	0.40	—	2,398	2,398	0.10	0.02	0.00	2,406
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2024	0.69	0.58	5.56	5.53	0.01	0.25	2.32	2.57	0.23	1.18	1.41	—	916	916	0.04	0.01	0.02	919
2025	0.55	0.60	4.25	5.36	0.01	0.18	< 0.005	0.18	0.16	< 0.005	0.16	—	972	972	0.04	0.01	0.01	975
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2024	0.13	0.11	1.01	1.01	< 0.005	0.05	0.42	0.47	0.04	0.22	0.26	—	152	152	0.01	< 0.005	< 0.005	152
2025	0.10	0.11	0.78	0.98	< 0.005	0.03	< 0.005	0.03	0.03	< 0.005	0.03	—	161	161	0.01	< 0.005	< 0.005	161

2.4. Operations Emissions Compared Against Thresholds

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

Un/Mit.	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	0.00	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	0.00	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Average Daily (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	0.00	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Annual (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	0.00	< 0.005	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

2.5. Operations Emissions by Sector, Unmitigated

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

Sector	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Area	0.00	0.02	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Energy	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Water	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Waste	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	0.00	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Area	—	0.02	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Energy	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Water	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Waste	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	0.00	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Area	0.00	0.02	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Energy	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Water	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Waste	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	0.00	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Area	0.00	< 0.005	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Energy	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Water	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Waste	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	0.00	< 0.005	0.00	0.00	0.00	0.00	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. Construction Emissions Details

3.1. Site Preparation (2024) - Unmitigated

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

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	4.34	3.65	36.0	32.9	0.05	1.60	—	1.60	1.47	—	1.47	—	5,296	5,296	0.21	0.04	—	5,314

Dust From Material Movement	—	—	—	—	—	—	19.7	19.7	—	10.1	10.1	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	4.34	3.65	36.0	32.9	0.05	1.60	—	1.60	1.47	—	1.47	—	5,296	5,296	0.21	0.04	—	5,314
Dust From Material Movement	—	—	—	—	—	—	19.7	19.7	—	10.1	10.1	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.48	0.40	3.94	3.61	0.01	0.18	—	0.18	0.16	—	0.16	—	580	580	0.02	< 0.005	—	582
Dust From Material Movement	—	—	—	—	—	—	2.15	2.15	—	1.11	1.11	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.09	0.07	0.72	0.66	< 0.005	0.03	—	0.03	0.03	—	0.03	—	96.1	96.1	< 0.005	< 0.005	—	96.4
Dust From Material Movement	—	—	—	—	—	—	0.39	0.39	—	0.20	0.20	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.11	0.10	0.06	0.91	0.00	0.00	0.10	0.10	0.00	0.02	0.02	—	108	108	0.01	< 0.005	0.44	110
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.09	0.09	0.07	0.71	0.00	0.00	0.10	0.10	0.00	0.02	0.02	—	95.4	95.4	0.01	< 0.005	0.01	97.0
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.01	0.08	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	10.8	10.8	< 0.005	< 0.005	0.02	11.0
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.01	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	1.80	1.80	< 0.005	< 0.005	< 0.005	1.83
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.3. Grading (2024) - Unmitigated

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

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

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	2.26	1.90	18.2	18.8	0.03	0.84	—	0.84	0.77	—	0.77	—	2,958	2,958	0.12	0.02	—	2,969
Dust From Material Movement	—	—	—	—	—	—	7.08	7.08	—	3.42	3.42	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.05	0.04	0.40	0.41	< 0.005	0.02	—	0.02	0.02	—	0.02	—	64.8	64.8	< 0.005	< 0.005	—	65.1
Dust From Material Movement	—	—	—	—	—	—	0.16	0.16	—	0.08	0.08	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.01	0.01	0.07	0.08	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	10.7	10.7	< 0.005	< 0.005	—	10.8
Dust From Material Movement	—	—	—	—	—	—	0.03	0.03	—	0.01	0.01	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.08	0.07	0.06	0.61	0.00	0.00	0.08	0.08	0.00	0.02	0.02	—	81.8	81.8	0.01	< 0.005	0.01	83.1
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.01	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	1.86	1.86	< 0.005	< 0.005	< 0.005	1.89
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	0.31	0.31	< 0.005	< 0.005	< 0.005	0.31
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.5. Building Construction (2024) - Unmitigated

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

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.44	1.20	11.2	13.1	0.02	0.50	—	0.50	0.46	—	0.46	—	2,398	2,398	0.10	0.02	—	2,406
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.15	0.13	1.21	1.41	< 0.005	0.05	—	0.05	0.05	—	0.05	—	258	258	0.01	< 0.005	—	259
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.03	0.02	0.22	0.26	< 0.005	0.01	—	0.01	0.01	—	0.01	—	42.7	42.7	< 0.005	< 0.005	—	42.9
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.7. Building Construction (2025) - Unmitigated

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

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.35	1.13	10.4	13.0	0.02	0.43	—	0.43	0.40	—	0.40	—	2,398	2,398	0.10	0.02	—	2,406
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.35	1.13	10.4	13.0	0.02	0.43	—	0.43	0.40	—	0.40	—	2,398	2,398	0.10	0.02	—	2,406
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.51	0.43	3.99	4.98	0.01	0.16	—	0.16	0.15	—	0.15	—	915	915	0.04	0.01	—	918
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.09	0.08	0.73	0.91	< 0.005	0.03	—	0.03	0.03	—	0.03	—	151	151	0.01	< 0.005	—	152
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

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

3.9. Paving (2025) - Unmitigated

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

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

Off-Road Equipment	0.85	0.71	6.52	8.84	0.01	0.29	—	0.29	0.26	—	0.26	—	1,351	1,351	0.05	0.01	—	1,355
Paving	—	0.68	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.03	0.03	0.23	0.31	< 0.005	0.01	—	0.01	0.01	—	0.01	—	48.1	48.1	< 0.005	< 0.005	—	48.3
Paving	—	0.02	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.01	< 0.005	0.04	0.06	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	7.96	7.96	< 0.005	< 0.005	—	7.99
Paving	—	< 0.005	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.11	0.11	0.06	0.95	0.00	0.00	0.11	0.11	0.00	0.03	0.03	—	121	121	0.01	0.01	0.46	123
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Worker	< 0.005	< 0.005	< 0.005	0.03	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	3.94	3.94	< 0.005	< 0.005	0.01	4.01
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.01	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	0.65	0.65	< 0.005	< 0.005	< 0.005	0.66
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.11. Architectural Coating (2025) - Unmitigated

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

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.15	0.13	0.88	1.14	< 0.005	0.03	—	0.03	0.03	—	0.03	—	134	134	0.01	< 0.005	—	134
Architectural Coatings	—	3.12	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.01	< 0.005	0.03	0.04	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	4.76	4.76	< 0.005	< 0.005	—	4.77
Architectural Coatings	—	0.11	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	0.79	0.79	< 0.005	< 0.005	—	0.79
Architectural Coatings	—	0.02	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

4. Operations Emissions Details

4.1. Mobile Emissions by Land Use

4.1.1. Unmitigated

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

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Other Asphalt Surfaces	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Total	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Other Asphalt Surfaces	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Total	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Other Asphalt Surfaces	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Total	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

4.2. Energy

4.2.1. Electricity Emissions By Land Use - Unmitigated

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

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Other Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Other Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Other Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00

4.2.3. Natural Gas Emissions By Land Use - Unmitigated

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

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Other Asphalt Surfaces	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00

Total	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Other Asphalt Surfaces	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Total	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Other Asphalt Surfaces	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Total	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00

4.3. Area Emissions by Source

4.3.1. Unmitigated

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

Source	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Consumer Products	—	0.01	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	—	0.01	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Landscape Equipment	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Total	0.00	0.02	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Consumer Products	—	0.01	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	—	0.01	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	0.02	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Consumer Products	—	< 0.005	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	—	< 0.005	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Landscape Equipment	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Total	0.00	< 0.005	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00

4.4. Water Emissions by Land Use

4.4.1. Unmitigated

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

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

Other Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Other Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Other Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00

4.5. Waste Emissions by Land Use

4.5.1. Unmitigated

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

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Other Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Other Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Other Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00

4.6. Refrigerant Emissions by Land Use

4.6.1. Unmitigated

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

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

4.7. Offroad Emissions By Equipment Type

4.7.1. Unmitigated

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

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

4.8. Stationary Emissions By Equipment Type

4.8.1. Unmitigated

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

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

4.9. User Defined Emissions By Equipment Type

4.9.1. Unmitigated

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

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

4.10. Soil Carbon Accumulation By Vegetation Type

4.10.1. Soil Carbon Accumulation By Vegetation Type - Unmitigated

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

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

Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10.2. Above and Belowground Carbon Accumulation by Land Use Type - Unmitigated

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

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

4.10.3. Avoided and Sequestered Emissions by Species - Unmitigated

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

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

Remove	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

5. Activity Data

5.1. Construction Schedule

Phase Name	Phase Type	Start Date	End Date	Days Per Week	Work Days per Phase	Phase Description
Site Preparation	Site Preparation	9/2/2024	10/25/2024	5.00	40.0	—
Grading	Grading	10/26/2024	11/6/2024	5.00	8.00	—
Building Construction	Building Construction	11/7/2024	7/14/2025	5.00	178	—
Paving	Paving	7/15/2025	7/31/2025	5.00	13.0	—
Architectural Coating	Architectural Coating	8/1/2025	8/19/2025	5.00	13.0	—

5.2. Off-Road Equipment

5.2.1. Unmitigated

Phase Name	Equipment Type	Fuel Type	Engine Tier	Number per Day	Hours Per Day	Horsepower	Load Factor
Site Preparation	Rubber Tired Dozers	Diesel	Average	3.00	8.00	367	0.40
Site Preparation	Tractors/Loaders/Backhoes	Diesel	Average	4.00	8.00	84.0	0.37
Grading	Excavators	Diesel	Average	1.00	8.00	36.0	0.38
Grading	Graders	Diesel	Average	1.00	8.00	148	0.41
Grading	Rubber Tired Dozers	Diesel	Average	1.00	8.00	367	0.40
Grading	Tractors/Loaders/Backhoes	Diesel	Average	3.00	8.00	84.0	0.37
Building Construction	Cranes	Diesel	Average	1.00	7.00	367	0.29
Building Construction	Forklifts	Diesel	Average	3.00	8.00	82.0	0.20
Building Construction	Generator Sets	Diesel	Average	1.00	8.00	14.0	0.74
Building Construction	Tractors/Loaders/Backhoes	Diesel	Average	3.00	7.00	84.0	0.37
Building Construction	Welders	Diesel	Average	1.00	8.00	46.0	0.45
Paving	Cement and Mortar Mixers	Diesel	Average	2.00	6.00	10.0	0.56
Paving	Pavers	Diesel	Average	1.00	8.00	81.0	0.42
Paving	Paving Equipment	Diesel	Average	2.00	6.00	89.0	0.36

Paving	Rollers	Diesel	Average	2.00	6.00	36.0	0.38
Paving	Tractors/Loaders/Backhoes	Diesel	Average	1.00	8.00	84.0	0.37
Architectural Coating	Air Compressors	Diesel	Average	1.00	6.00	37.0	0.48

5.3. Construction Vehicles

5.3.1. Unmitigated

Phase Name	Trip Type	One-Way Trips per Day	Miles per Trip	Vehicle Mix
Site Preparation	—	—	—	—
Site Preparation	Worker	17.5	7.70	LDA,LDT1,LDT2
Site Preparation	Vendor	—	6.80	HHDT,MHDT
Site Preparation	Hauling	0.00	20.0	HHDT
Site Preparation	Onsite truck	—	—	HHDT
Grading	—	—	—	—
Grading	Worker	15.0	7.70	LDA,LDT1,LDT2
Grading	Vendor	—	6.80	HHDT,MHDT
Grading	Hauling	0.00	20.0	HHDT
Grading	Onsite truck	—	—	HHDT
Building Construction	—	—	—	—
Building Construction	Worker	0.00	7.70	LDA,LDT1,LDT2
Building Construction	Vendor	0.00	6.80	HHDT,MHDT
Building Construction	Hauling	0.00	20.0	HHDT
Building Construction	Onsite truck	—	—	HHDT
Paving	—	—	—	—
Paving	Worker	20.0	7.70	LDA,LDT1,LDT2
Paving	Vendor	—	6.80	HHDT,MHDT
Paving	Hauling	0.00	20.0	HHDT

Paving	Onsite truck	—	—	HHDT
Architectural Coating	—	—	—	—
Architectural Coating	Worker	0.00	7.70	LDA,LDT1,LDT2
Architectural Coating	Vendor	—	6.80	HHDT,MHDT
Architectural Coating	Hauling	0.00	20.0	HHDT
Architectural Coating	Onsite truck	—	—	HHDT

5.4. Vehicles

5.4.1. Construction Vehicle Control Strategies

Non-applicable. No control strategies activated by user.

5.5. Architectural Coatings

Phase Name	Residential Interior Area Coated (sq ft)	Residential Exterior Area Coated (sq ft)	Non-Residential Interior Area Coated (sq ft)	Non-Residential Exterior Area Coated (sq ft)	Parking Area Coated (sq ft)
Architectural Coating	0.00	0.00	0.00	0.00	8,756

5.6. Dust Mitigation

5.6.1. Construction Earthmoving Activities

Phase Name	Material Imported (cy)	Material Exported (cy)	Acres Graded (acres)	Material Demolished (sq. ft.)	Acres Paved (acres)
Site Preparation	—	—	60.0	0.00	—
Grading	—	—	8.00	0.00	—
Paving	0.00	0.00	0.00	0.00	3.35

5.6.2. Construction Earthmoving Control Strategies

Non-applicable. No control strategies activated by user.

5.7. Construction Paving

Land Use	Area Paved (acres)	% Asphalt
Other Asphalt Surfaces	3.35	100%

5.8. Construction Electricity Consumption and Emissions Factors

kWh per Year and Emission Factor (lb/MWh)

Year	kWh per Year	CO2	CH4	N2O
2024	0.00	532	0.03	< 0.005
2025	0.00	532	0.03	< 0.005

5.9. Operational Mobile Sources

5.9.1. Unmitigated

Land Use Type	Trips/Weekday	Trips/Saturday	Trips/Sunday	Trips/Year	VMT/Weekday	VMT/Saturday	VMT/Sunday	VMT/Year
Other Asphalt Surfaces	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

5.10. Operational Area Sources

5.10.1. Hearths

5.10.1.1. Unmitigated

5.10.2. Architectural Coatings

Residential Interior Area Coated (sq ft)	Residential Exterior Area Coated (sq ft)	Non-Residential Interior Area Coated (sq ft)	Non-Residential Exterior Area Coated (sq ft)	Parking Area Coated (sq ft)
0	0.00	0.00	0.00	8,756

5.10.3. Landscape Equipment

Season	Unit	Value
Snow Days	day/yr	0.00
Summer Days	day/yr	180

5.11. Operational Energy Consumption

5.11.1. Unmitigated

Electricity (kWh/yr) and CO2 and CH4 and N2O and Natural Gas (kBTU/yr)

Land Use	Electricity (kWh/yr)	CO2	CH4	N2O	Natural Gas (kBTU/yr)
Other Asphalt Surfaces	0.00	532	0.0330	0.0040	0.00

5.12. Operational Water and Wastewater Consumption

5.12.1. Unmitigated

Land Use	Indoor Water (gal/year)	Outdoor Water (gal/year)
Other Asphalt Surfaces	0.00	0.00

5.13. Operational Waste Generation

5.13.1. Unmitigated

Land Use	Waste (ton/year)	Cogeneration (kWh/year)
Other Asphalt Surfaces	0.00	—

5.14. Operational Refrigeration and Air Conditioning Equipment

5.14.1. Unmitigated

Land Use Type	Equipment Type	Refrigerant	GWP	Quantity (kg)	Operations Leak Rate	Service Leak Rate	Times Serviced

5.15. Operational Off-Road Equipment

5.15.1. Unmitigated

Equipment Type	Fuel Type	Engine Tier	Number per Day	Hours Per Day	Horsepower	Load Factor

5.16. Stationary Sources

5.16.1. Emergency Generators and Fire Pumps

Equipment Type	Fuel Type	Number per Day	Hours per Day	Hours per Year	Horsepower	Load Factor

5.16.2. Process Boilers

Equipment Type	Fuel Type	Number	Boiler Rating (MMBtu/hr)	Daily Heat Input (MMBtu/day)	Annual Heat Input (MMBtu/yr)

5.17. User Defined

Equipment Type	Fuel Type

5.18. Vegetation

5.18.1. Land Use Change

5.18.1.1. Unmitigated

Vegetation Land Use Type	Vegetation Soil Type	Initial Acres	Final Acres

5.18.1. Biomass Cover Type

5.18.1.1. Unmitigated

Biomass Cover Type	Initial Acres	Final Acres

5.18.2. Sequestration

5.18.2.1. Unmitigated

Tree Type	Number	Electricity Saved (kWh/year)	Natural Gas Saved (btu/year)

6. Climate Risk Detailed Report

6.1. Climate Risk Summary

Cal-Adapt midcentury 2040–2059 average projections for four hazards are reported below for your project location. These are under Representation Concentration Pathway (RCP) 8.5 which assumes GHG emissions will continue to rise strongly through 2050 and then plateau around 2100.

Climate Hazard	Result for Project Location	Unit
Temperature and Extreme Heat	30.0	annual days of extreme heat
Extreme Precipitation	0.20	annual days with precipitation above 20 mm
Sea Level Rise	—	meters of inundation depth
Wildfire	0.00	annual hectares burned

Temperature and Extreme Heat data are for grid cell in which your project are located. The projection is based on the 98th historical percentile of daily maximum/minimum temperatures from observed historical data (32 climate model ensemble from Cal-Adapt, 2040–2059 average under RCP 8.5). Each grid cell is 6 kilometers (km) by 6 km, or 3.7 miles (mi) by 3.7 mi.
Extreme Precipitation data are for the grid cell in which your project are located. The threshold of 20 mm is equivalent to about ¾ an inch of rain, which would be light to moderate rainfall if received over a full day or heavy rain if received over a period of 2 to 4 hours. Each grid cell is 6 kilometers (km) by 6 km, or 3.7 miles (mi) by 3.7 mi.
Sea Level Rise data are for the grid cell in which your project are located. The projections are from Radke et al. (2017), as reported in Cal-Adapt (Radke et al., 2017, CEC-500-2017-008), and consider inundation location and depth for the San Francisco Bay, the Sacramento-San Joaquin River Delta and California coast resulting different increments of sea level rise coupled with extreme storm events. Users may select from four scenarios to view the range in potential inundation depth for the grid cell. The four scenarios are: No rise, 0.5 meter, 1.0 meter, 1.41 meters
Wildfire data are for the grid cell in which your project are located. The projections are from UC Davis, as reported in Cal-Adapt (2040–2059 average under RCP 8.5), and consider historical data of climate, vegetation, population density, and large (> 400 ha) fire history. Users may select from four model simulations to view the range in potential wildfire probabilities for the grid cell. The four simulations make different assumptions about expected rainfall and temperature are: Warmer/drier (HadGEM2-ES), Cooler/wetter (CNRM-CM5), Average conditions (CanESM2), Range of different rainfall and temperature possibilities (MIROC5). Each grid cell is 6 kilometers (km) by 6 km, or 3.7 miles (mi) by 3.7 mi.

6.2. Initial Climate Risk Scores

Climate Hazard	Exposure Score	Sensitivity Score	Adaptive Capacity Score	Vulnerability Score
Temperature and Extreme Heat	3	0	0	N/A
Extreme Precipitation	N/A	N/A	N/A	N/A
Sea Level Rise	N/A	N/A	N/A	N/A
Wildfire	N/A	N/A	N/A	N/A
Flooding	0	0	0	N/A
Drought	0	0	0	N/A
Snowpack Reduction	N/A	N/A	N/A	N/A
Air Quality Degradation	0	0	0	N/A

The sensitivity score reflects the extent to which a project would be adversely affected by exposure to a climate hazard. Exposure is rated on a scale of 1 to 5, with a score of 5 representing the greatest exposure.
The adaptive capacity of a project refers to its ability to manage and reduce vulnerabilities from projected climate hazards. Adaptive capacity is rated on a scale of 1 to 5, with a score of 5 representing the greatest ability to adapt.
The overall vulnerability scores are calculated based on the potential impacts and adaptive capacity assessments for each hazard. Scores do not include implementation of climate risk reduction measures.

6.3. Adjusted Climate Risk Scores

Climate Hazard	Exposure Score	Sensitivity Score	Adaptive Capacity Score	Vulnerability Score
Temperature and Extreme Heat	3	1	1	3
Extreme Precipitation	N/A	N/A	N/A	N/A
Sea Level Rise	N/A	N/A	N/A	N/A
Wildfire	N/A	N/A	N/A	N/A
Flooding	1	1	1	2
Drought	1	1	1	2
Snowpack Reduction	N/A	N/A	N/A	N/A
Air Quality Degradation	1	1	1	2

The sensitivity score reflects the extent to which a project would be adversely affected by exposure to a climate hazard. Exposure is rated on a scale of 1 to 5, with a score of 5 representing the greatest exposure.

The adaptive capacity of a project refers to its ability to manage and reduce vulnerabilities from projected climate hazards. Adaptive capacity is rated on a scale of 1 to 5, with a score of 5 representing the greatest ability to adapt.
The overall vulnerability scores are calculated based on the potential impacts and adaptive capacity assessments for each hazard. Scores include implementation of climate risk reduction measures.

6.4. Climate Risk Reduction Measures

7. Health and Equity Details

7.1. CalEnviroScreen 4.0 Scores

The maximum CalEnviroScreen score is 100. A high score (i.e., greater than 50) reflects a higher pollution burden compared to other census tracts in the state.

Indicator	Result for Project Census Tract
Exposure Indicators	—
AQ-Ozone	82.5
AQ-PM	94.1
AQ-DPM	21.4
Drinking Water	99.5
Lead Risk Housing	81.9
Pesticides	88.3
Toxic Releases	21.0
Traffic	6.10
Effect Indicators	—
CleanUp Sites	73.4
Groundwater	97.9
Haz Waste Facilities/Generators	69.4
Impaired Water Bodies	33.2
Solid Waste	95.7
Sensitive Population	—
Asthma	42.6
Cardio-vascular	73.6

Low Birth Weights	47.6
Socioeconomic Factor Indicators	—
Education	99.0
Housing	71.6
Linguistic	99.8
Poverty	97.3
Unemployment	96.7

7.2. Healthy Places Index Scores

The maximum Health Places Index score is 100. A high score (i.e., greater than 50) reflects healthier community conditions compared to other census tracts in the state.

Indicator	Result for Project Census Tract
Economic	—
Above Poverty	0.692929552
Employed	13.7944309
Median HI	4.953163095
Education	—
Bachelor's or higher	2.207108944
High school enrollment	22.72552291
Preschool enrollment	38.32926986
Transportation	—
Auto Access	87.47593995
Active commuting	22.31489799
Social	—
2-parent households	50.30155268
Voting	44.34749134
Neighborhood	—
Alcohol availability	66.61106121

Park access	8.17400231
Retail density	2.707558065
Supermarket access	7.635057103
Tree canopy	2.053124599
Housing	—
Homeownership	27.52470166
Housing habitability	22.48171436
Low-inc homeowner severe housing cost burden	22.10958553
Low-inc renter severe housing cost burden	72.21865777
Uncrowded housing	6.300526113
Health Outcomes	—
Insured adults	4.79917875
Arthritis	0.0
Asthma ER Admissions	41.7
High Blood Pressure	0.0
Cancer (excluding skin)	0.0
Asthma	0.0
Coronary Heart Disease	0.0
Chronic Obstructive Pulmonary Disease	0.0
Diagnosed Diabetes	0.0
Life Expectancy at Birth	23.1
Cognitively Disabled	39.7
Physically Disabled	57.4
Heart Attack ER Admissions	12.4
Mental Health Not Good	0.0
Chronic Kidney Disease	0.0
Obesity	0.0

Pedestrian Injuries	66.9
Physical Health Not Good	0.0
Stroke	0.0
Health Risk Behaviors	—
Binge Drinking	0.0
Current Smoker	0.0
No Leisure Time for Physical Activity	0.0
Climate Change Exposures	—
Wildfire Risk	0.0
SLR Inundation Area	0.0
Children	12.4
Elderly	86.8
English Speaking	2.1
Foreign-born	69.7
Outdoor Workers	0.5
Climate Change Adaptive Capacity	—
Impervious Surface Cover	92.9
Traffic Density	9.3
Traffic Access	0.0
Other Indices	—
Hardship	99.5
Other Decision Support	—
2016 Voting	33.7

7.3. Overall Health & Equity Scores

Metric	Result for Project Census Tract
CalEnviroScreen 4.0 Score for Project Location (a)	96.0

Healthy Places Index Score for Project Location (b)	7.00
Project Located in a Designated Disadvantaged Community (Senate Bill 535)	Yes
Project Located in a Low-Income Community (Assembly Bill 1550)	Yes
Project Located in a Community Air Protection Program Community (Assembly Bill 617)	No

a: The maximum CalEnviroScreen score is 100. A high score (i.e., greater than 50) reflects a higher pollution burden compared to other census tracts in the state.
b: The maximum Health Places Index score is 100. A high score (i.e., greater than 50) reflects healthier community conditions compared to other census tracts in the state.

7.4. Health & Equity Measures

No Health & Equity Measures selected.

7.5. Evaluation Scorecard

Health & Equity Evaluation Scorecard not completed.

7.6. Health & Equity Custom Measures

No Health & Equity Custom Measures created.

8. User Changes to Default Data

Screen	Justification
Construction: Construction Phases	Construction Schedule

Appendix B: Biological Evaluation

PIXLEY PUBLIC UTILITY DISTRICT

WELL 3A, 4, 5, & 6 TCP PROJECT BIOLOGICAL EVALUATION

PIXLEY, CA
JANUARY 2024

PREPARED FOR:
Pixley Public Utility District
232 East Davis Avenue, Pixley, California 93256

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ACRONYMS AND ABBREVIATIONS

APE ..... Area of Potential Effect
CDFW ..... California Fish and Wildlife
CEQA ..... California Environmental Quality Act
CESA ..... California Endangered Species Act
CFR ..... Code of Federal Regulations
CNDDB ..... California Natural Diversity Database
CNPS ..... California Native Plant Society
CWA ..... Clean Water Act
CWHR ..... California Wildlife Habitat Relations
DPS ..... Distinct Population Segment
EFH ..... Essential Fish Habitat
ESA ..... Endangered Species Act
GAC ..... Granular Activated Carbon
HCP ..... Habitat Conservation Plan
HUC ..... Hydrologic Unit Code
IPaC ..... U.S. Fish and Wildlife Service's Information for Planning and Consultation system
MBTA ..... Migratory Bird Act
NCCP ..... Natural Community Conservation Plan
NEPA ..... National Environmental Policy Act
NOAA ..... National Oceanic and Atmospheric Administration
NPDES ..... National Polution Discharge Elimination System
NRCS ..... Natural Resources Conservation Service
Provost & Pritchard ..... Provost & Pritchard Consulting Group
RWQCB ..... Regional Water Quality Control Board
SWPPP ..... Storm Water Pollution Prevention Plan
SWRCB ..... State Water Resources Control Board
TCP ..... State Water Resources Control Board
USACE ..... United States Army Corps of Engineers
USEPA ..... United States Environmental Protection Agency
USFWS ..... United States Fish and Wildlife Service
USGS ..... United States Geological Survey
WDR ..... Water Discharge Requirements

1 INTRODUCTION

The following Biological Evaluation Report, prepared by Provost & Pritchard Consulting Group (Provost & Pritchard) in compliance with the California Environmental Quality Act (CEQA) and National Environmental Policy Act (NEPA), includes a description of the biological resources present or with potential to occur within the proposed Well 3A, 4, 5, & 6 TCP Project (or "project") and surrounding areas, and evaluates potential project-related impacts to those resources.

1.1 PROJECT DESCRIPTION

The project includes four separate well sites (Wells 3A, 4, 5, and 6) located within the census-designated place of Pixley, which is located in the southwest portion of Tulare County and southern portion of the San Joaquin Valley, California. The Well 3A Site is located adjacent to the intersection of Sarah Avenue and Walnut Street, and extends south along Walnut Street. The Well 4 Site is located adjacent to the intersection of South Main Street and Compton Avenue. The Well 5 Site is located adjacent to the intersection of South Cedar Street and West Bradburry Avenue. The Well 6 site is located southwest of the intersection of Terra Bell Avenue and Road 120 (see Figure 1, Figure 2 and Figure 3). The project would construct one new Granular Activated Carbon (GAC) wellhead treatment system at each of the sites. Each project site Area of Potential Effects (APE) includes the site plus an additional 50-foot buffer. The 50-foot buffer was chosen to encompass all impacts by the project. The total area of all APEs equals approximately 16.4 acres.

The District proposes four water treatment systems at four well sites for the remediation of 1,2,3-Trichloropropane (TCP). Each system would include similar improvements to the existing well sites. Project components would include the following:

WELL 3A SITE

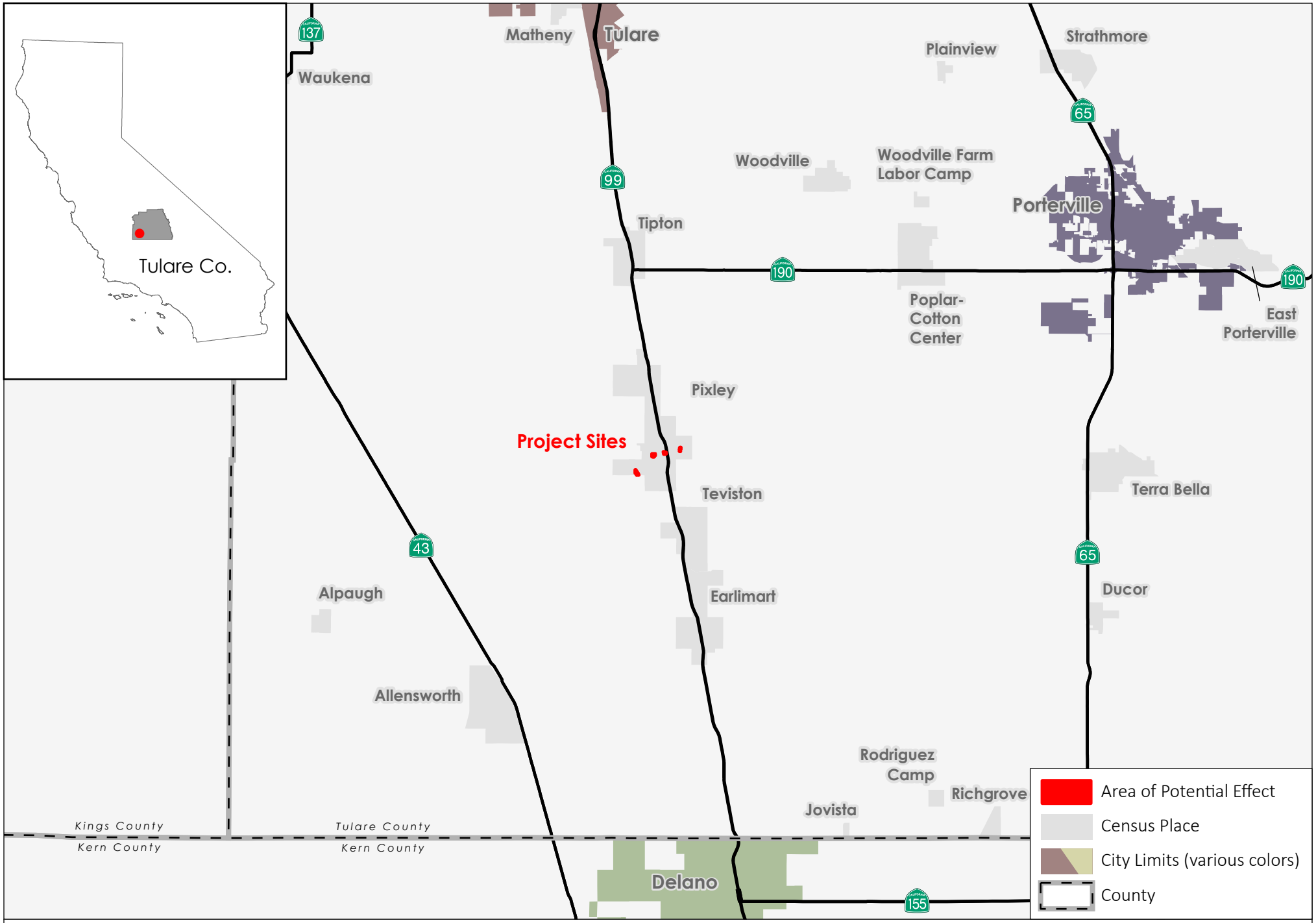
The new GAC wellhead treatment system will include:

- two 12' diameter GAC vessels;
- one 10,000-gallon hydropneumatic tank;
- approximately 300 linear feet of new storm drain pipeline from the Well 3A site south along Walnut Street to the existing storm water basin at the intersection of Walnut and Holste Ave;
- one sand separator with sand separator pit;
- one 12.5% sodium hypochlorite (NaOCl) chemical building and another chemical storage building with a 100-gallon storage drum;
- site asphalt paving within approximately 9,000 square feet (SF); and
- a new access road that would be 15' wide and approximately 70' long.

WELL 4 SITE

The Well 4 The new GAC wellhead treatment system will include:

- two 12' diameter GAC vessels;
- approximately 400 linear feet of new storm drain pipeline from the Well 4 site west along Compton Avenue to Main Street. The water main in the alley behind the Well 4 site would be replaced;
- one sand separator with sand separator pit;
- one 12.5% NaOCl chemical building and chemical storage building with a 100 gallon storage drum;
- site asphalt paving approximately 13,800 SF; and
- a new access road that would be 15' wide and approximately 145' long.



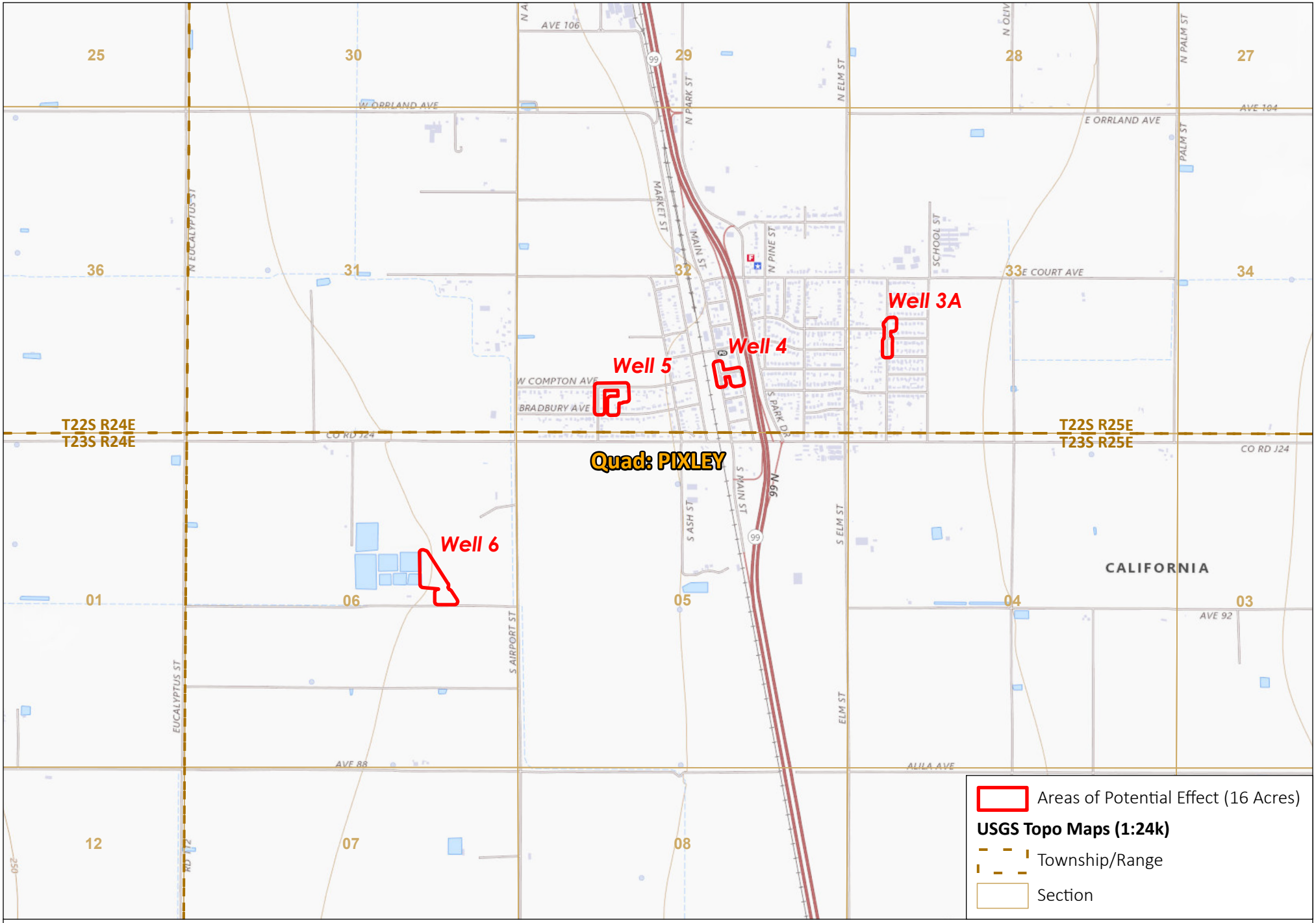
Regional Vicinity Map

Pixley Public Utility District- TCP Well Treatment Project

PROVOST& PRITCHARD

Fig. 1 Page 1-2

1/9/2024 \\ppeng.com\pzdata\clients\Self Help Enterprises-1875\187522007-Pixley TCP Treatment Design\400 GIS\Map\SHE_Pixley_PUD_TCP_Well_Mapping\SHE_Pixley_PUD_TCP_Well_Mapping.aprx

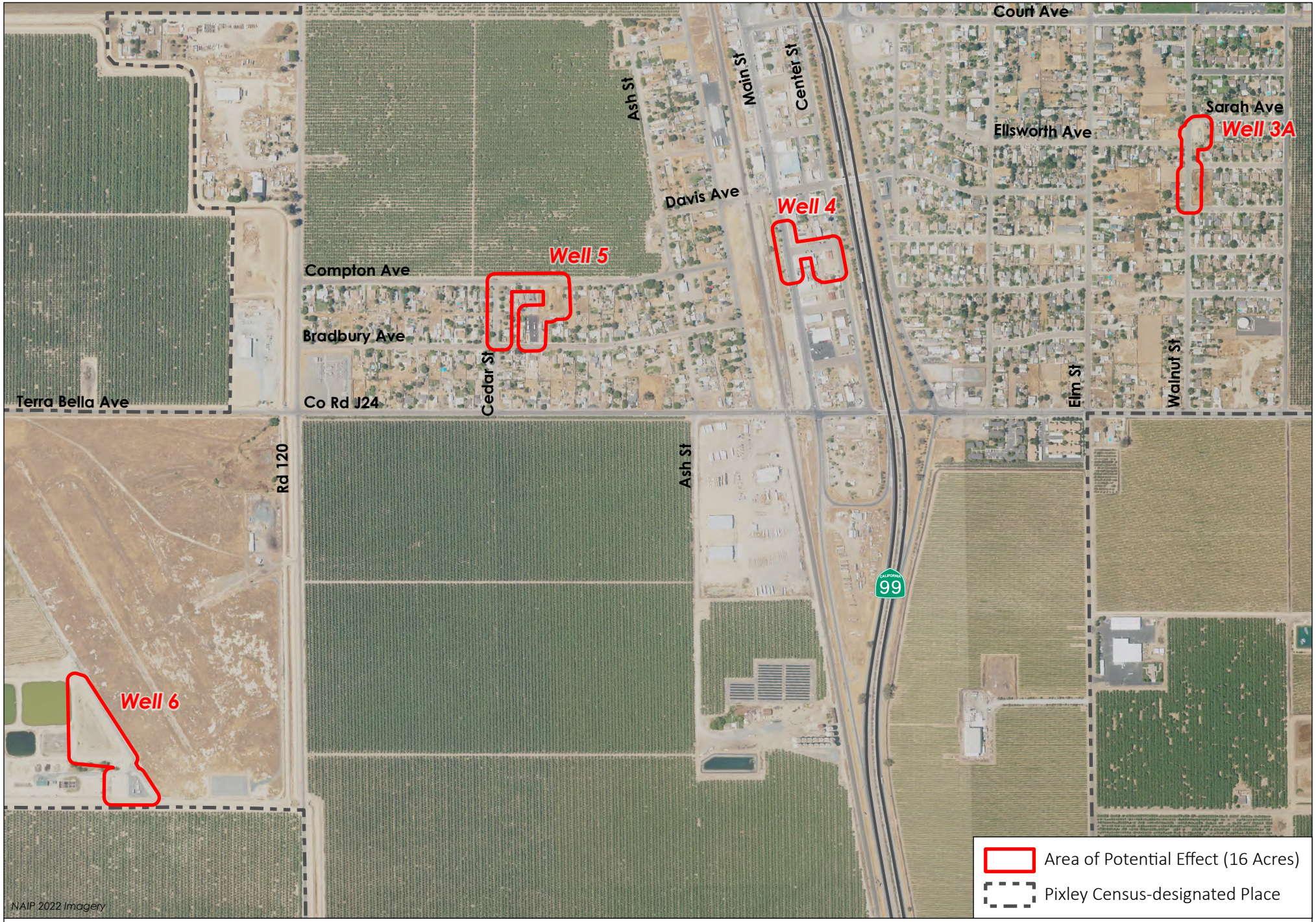


Topographic Map

Pixley Public Utility District- TCP Well Treatment Project

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Fig. 2 Page 1-3



0 500 1,000
Feet

Aerial Map

Pixley Public Utility District- TCP Well Treatment Project

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Fig. 3 Page 1-4

WELL 5 SITE

The new GAC wellhead treatment system will include:

- two 12' diameter GAC vessels;
- approximately 650 linear feet of new treated water and storm drain pipelines from the Well 5 treatment parcel, west along Compton Ave to S Cedar Street;
- one new raw water pipeline between the Well 5 parcel and the Well 5 treatment parcel;
- one sand separator with sand separator pit;
- one 12.5% NaOCl chemical building and chemical storage building with a 100 gallon storage drum.
- site asphalt paving approximately 13,300 SF;
- a new access road that would be 15' wide and approximately 80' long.

WELL 6 SITE

The new GAC wellhead treatment system will include:

- two 12' diameter GAC vessels;
- approximately 200 linear feet of new storm drain pipeline;
- one sand separator with sand separator pit;
- one 12.5% NaOCl chemical building and chemical storage building with a 100 gallon storage drum.

1.2 REPORT OBJECTIVES

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

This report addresses issues related to the following:

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

Therefore, the objectives of this report are:

- Summarize all APE-specific information related to existing biological resources.
- Make reasonable inferences about the biological resources that could occur on the APEs based on habitat suitability and the proximity of the APEs to a species' known range.
- Summarize all state and federal natural resource protection laws that may be relevant to implementation of the project.
- Identify and discuss project impacts and effects to biological resources likely to occur onsite within the context of CEQA, NEPA, and/or state or federal laws.
- Identify and prescribe a set of avoidance and mitigation measures that would reduce impacts to a less-than-significant level (as identified by CEQA) or avoid and minimize effects (as identified by NEPA) and are generally consistent with recommendations of the resource agencies for affected biological resources.

1.3 STUDY METHODOLOGY

A reconnaissance-level field survey of the APEs was conducted on November 3, 2023, by Provost & Pritchard biologist, Roman Endicott. The survey consisted of walking throughout the project sites and visually surveying the remainder of each APE with binoculars while identifying and noting land uses, biological habitats and communities, and plant and animal species encountered, and assessing habitats that could be suitable for various rare or protected plant and animal species. Representative photographs of the site were taken and are presented in Appendix A.

Mr. Endicott then utilized the results of the field survey to conduct an analysis of potential project-related impacts to biological resources based on the resources known to occur or with potential to occur within each of the APEs. Sources of information used in preparation of this analysis included: the California Department of Fish and Wildlife's (CDFW) California Natural Diversity Database (CNDDB; see Appendix B for the species list) and California Wildlife Habitat Relationships (CWHR) database; California Native Plant Society's (CNPS) Online Inventory of Rare and Endangered Vascular Plants of California; CalFlora's online database of California native plants; Jepson Herbarium's online database (i.e., Jepson eFlora); United States Fish and Wildlife Service's (USFWS) Environmental Conservation Online System (ECOS), Information for Planning and Consultation (IPaC; see Appendix C for the species list) system, and National Wetlands Inventory (NWI); iNaturalist; NatureServe Explorer's online database; United States Department of Agriculture (USDA) Natural Resources Conservation Service's (NRCS) Web Soil Survey (see Appendix D for the Web Soil Survey Report); California Herps website; and various manuals, reports, and references related to plants and animals of the southern San Joaquin Valley region.

The field survey did not include focused surveys for special status species. The field survey conducted included the appropriate level of detail to assess the significance of potential impacts to sensitive biological resources resulting from implementing 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 United States Army Corps of Engineers (USACE), CDFW, Regional Water Quality Control Board (RWQCB) and the State Water Resources Control Board (SWRCB).

2 EXISTING CONDITIONS

2.1 REGIONAL SETTINGS

TOPOGRAPHY

The topography of each APE is relatively flat with elevations ranging from approximately 260 to 275 feet above mean sea level.

CLIMATE

Like most of California, the APEs experience a Mediterranean climate. Warm, dry summers are followed by cool, moist winters. In the summer, average high temperatures range between 85- and 95-degrees Fahrenheit (°F), but often exceed 95 °F, and the humidity is generally low. Winter temperatures are often below 60 °F during the day and rarely exceed 70 °F. On average, Pixley receives approximately 13 inches of precipitation in the form of rain yearly, most of which occurs between October and March (National Weather Service, 2023), and the APE would be expected to receive similar amounts of precipitation.

HYDROLOGY

The nearest surface water to the project is a wastewater treatment pond which is adjacent to Well 6.

SOILS

One soil map unit, Akers-Akers saline-sodic complex, was identified within the APEs (see Appendix D for the Web Soil Survey Report). This soil is well drained, has moderate permeability, negligible runoff, and is used primarily for irrigated cropland.

Hydric soils are defined as soils that are saturated, flooded, or ponded long enough during the growing season to develop anaerobic conditions such that under sufficiently wet conditions, hydrophytic vegetation can be supported. The soils of the APEs are predominantly nonhydric.

2.2 BIOTIC HABITATS

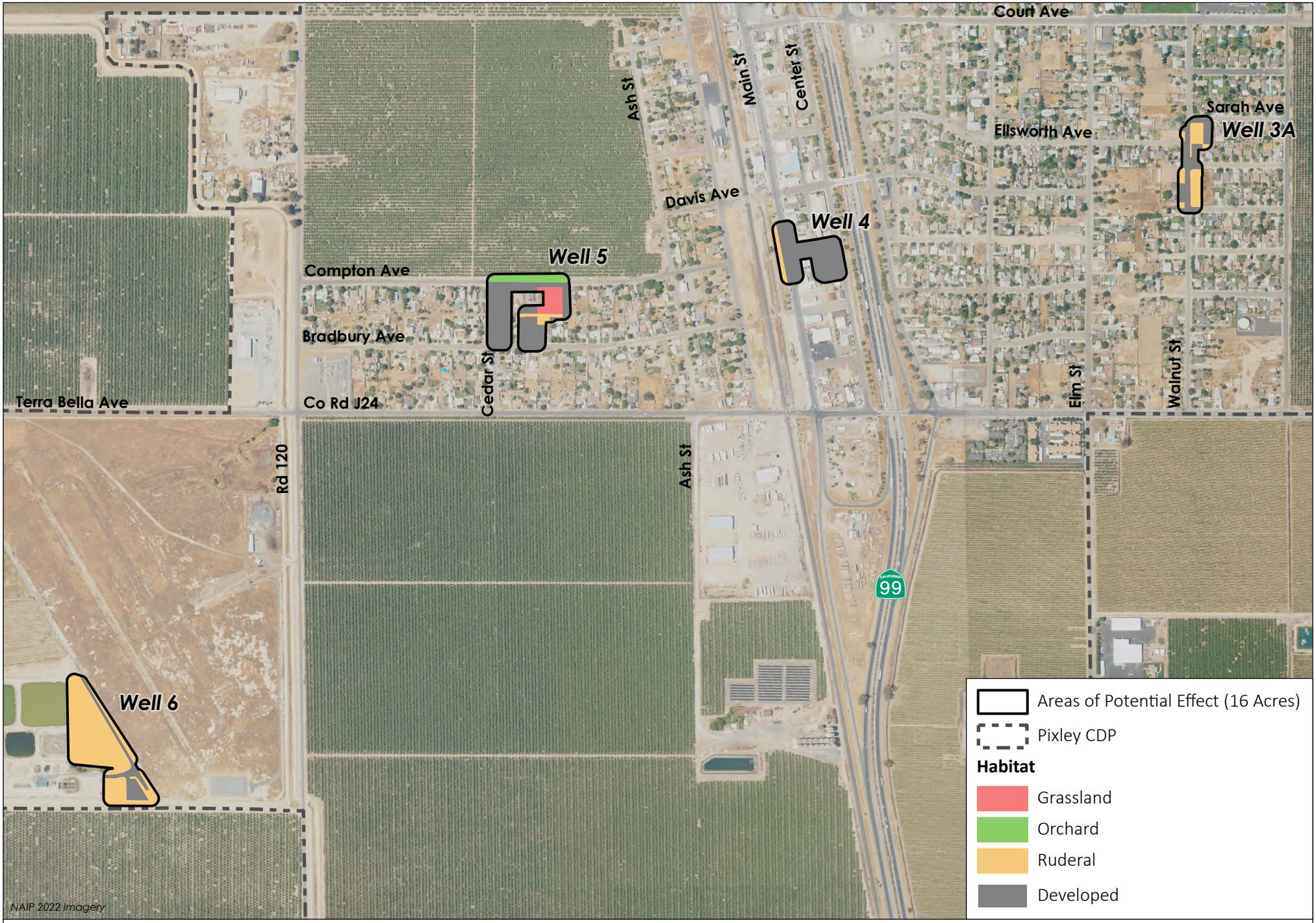
Four biotic habitats were observed within the APEs and included developed, grassland, ruderal, and orchard (see Figure 4). The habitat types that were found within each of the APEs is summarized below in Table 1. These habitats and their constituent plant and animal species are described in more detail in the following sections.

Table 1: Summary of Habitat Types Within Each APE

APE Name	Habitat Type and Presence in the APEs			
	Developed	Grassland	Ruderal	Orchard
Well 3A	X		X	
Well 4	X		X	
Well 5	X	X	X	X
Well 6	X		X	

DEVELOPED

The developed habitat of the APEs consisted of paved lots, residential streets, buildings, and concrete pads. There were no plant or animal species located in this habitat. The buildings had metal roofs and are unlikely to be insulated.



0 500 1,000
Feet

Habitats Map

Pixley Public Utility District- TCP Well Treatment Project

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Fig. 4 Page 2-2

GRASSLAND

The grassland habitat of the APEs was populated by brome grasses (*Bromus* sp.) and Russian thistle (*Salsola australis*). The soil has been historically disturbed in this habitat. No small mammal burrows were observed.

RUDERAL

The ruderal habitat within the APEs consisted of vacant lots and an empty water retention basin. The ground was covered with packed dirt and supported native species such as telegraphweed (*Heterotheca grandiflora*), and nonnative species such as cheeseweed mallow (*Malva parviflora*), puncture vine (*Tribulus terrestris*), Russian thistle, and tree-of-heaven (*Ailanthus altissima*). Bird species observed during the field survey included California scrub jay (*Aphelocoma californica*), European starling (*Sturnus vulgaris*), house finch (*Haemorhous mexicanus*), killdeer (*Charadrius vociferus*), and mourning dove (*Zenaida macroura*).

Several domestic dogs (*Canis familiaris*) and a feral cat (*Felis catus*) were also observed within these areas, along with several small mammal burrows approximately 3 inches in diameter within the ruderal habitat of Well 6.

ORCHARD

There was also a small orchard on the north edge of the APE of Well 5. There was no additional vegetation within this habitat. Bird species observed during the field survey included house finch and mourning dove.

2.3 NATURAL COMMUNITIES OF SPECIAL CONCERN AND RIPARIAN HABITAT

Natural communities of special concern are those that are of limited distribution, distinguished by significant biological diversity, or home to special status species. CDFW has classified and mapped all natural communities in California. Just as the special status plant and animal species, these natural communities of special concern can be found within the CNDDB.

There are no recorded observations a of natural community of special concern within the APEs or in the vicinity. Additionally, no natural communities of special concern were observed during the field survey.

Riparian habitat is composed of plant communities that occur along the banks, and sometimes over the banks, of most waterways and is an important habitat for numerous wildlife species. CDFW has jurisdiction over most riparian habitat in California. No waterways that support riparian habitat and no riparian habitat were observed within, or adjacent to, the APEs during the field survey.

2.4 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, which may require special management and protection. According to the IPaC, designated critical habitat is absent from the APEs and vicinity.

2.5 WILDLIFE MOVEMENT CORRIDORS AND NATIVE WILDLIFE NURSERY SITES

Wildlife movement corridors are routes that animals regularly and predictably follow during seasonal migration, dispersal from native ranges, daily travel within home ranges, and inter-population movements. Movement corridors in California are typically associated with valleys, ridgelines, and rivers and creeks supporting riparian vegetation. There are no features within the APEs that are likely to function as wildlife movement corridors.

Native wildlife nursery sites are areas where a species or group of similar species raise their young in a concentrated place, such as maternity bat roosts. The APEs contained developed habitat with buildings with metal roofs, but they lacked insulation and would not be suitable for roosting bats. No other potential native wildlife nursery sites were observed within the APEs.

2.6 SPECIAL STATUS PLANTS AND ANIMALS

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

A query of the CNDDB for occurrences of special status plant and animal species was conducted for the *Pixley* 7.5-minute U.S. Geological Survey (USGS) quadrangle that contains the APEs, and for the 8 surrounding USGS quadrangles: *Allensworth, Alpaugh, Delano East, Delano West, Sausalito School, Taylor Weir, Tipton, and Woodville*. A query of the IPaC was also completed for the APEs. These species, and

their potential to occur within the APEs, are listed in Table 2 and Table 3 on the following pages. The potential occurrence for each special status species on each APE was assessed separately, with the exception of the APEs for Well 3A & 4, which were grouped together due to the high degree of similarity between the two sites. Other special status species that did not show up in the CNDDB query, but have the potential to occur in the vicinity, are also included in Table 3. Species lists obtained from CNDDB and IPaC are available in Appendix B and Appendix C, respectively. All relevant sources of information, as discussed in the Study Methodology section of this report, as well as field observations, were used to determine if any special status species have the potential to occur within the APE.

Table 2: List of Special Status Plants with Potential to Occur on the APE and/or in the Vicinity

Species	Status*	Habitat	Occurrence within the APEs		
			Wells 3A & 4	Well 5	Well 6
Alkali mariposa-lily (*Calochortus striatus*)	CNPS 1B	Found in the Sierra Nevada foothills, the Desert Mountains, and the Mojave Desert in alkaline meadows, ephemeral washes, and moist creosote-bush scrub in chaparral, alkali scrub communities, meadows, and seeps. Found at elevations between 200 and 500 feet. Sometimes associated with vernal pools. Blooms April – June.	**Absent.** These APEs lack suitable habitat for this species.	**Absent.** This APE lacks suitable habitat for this species.	**Absent.** This APE lacks suitable habitat for this species.
Alkali-sink goldfields (*Lasthenia chrysantha*)	CNPS 1B	Found in vernal pool and wet saline flat habitats in the San Joaquin Valley region at elevations below 700 feet. Blooms February – April.	**Absent.** These APEs lack suitable habitat for this species.	**Absent.** This APE lacks suitable habitat for this species.	**Absent.** This APE lacks suitable habitat for this species.
Brittlescale (*Atriplex depressa*)	CNPS 1B	Found in the Central Valley in alkaline or clay soils, typically in meadows or annual grasslands at elevations below 1,100 feet. Sometimes associated with vernal pools. Blooms June – October.	**Absent.** These APEs lack suitable habitat for this species.	**Absent.** The APE lacks suitable habitat and soils for this species.	**Absent.** The APE lacks suitable habitat and soils for this species.
California alkali grass (*Puccinellia simplex*)	CNPS 1B	Found in the San Joaquin Valley and other parts of California in saline flats and mineral springs within valley grassland and wetland-riparian communities. Found at elevations below 3,000 feet. Blooms March – May.	**Absent.** These APEs lack suitable habitat for this species.	**Unlikely.** The soil within the grassland habitat of this APE has been historically disturbed and maintained. The nearest recorded observation of this species occurred approximately 10.75 miles northwest of this APE on an unknown date prior to	**Unlikely.** The soil within the grassland habitat of this APE has been historically disturbed and maintained. The nearest recorded observation of this species occurred approximately 11 miles northwest of this APE on an unknown date prior to

Species	Status*	Habitat	Occurrence within the APEs		
			Wells 3A & 4	Well 5	Well 6
				1983.	1983.
California jewelflower (*Caulanthus californicus*)	FE, CE, CNPS 1B	Found in the San Joaquin Valley and western Transverse Ranges in sandy soils. Occurs on flats and slopes, generally in non-alkaline grassland at elevations between 200 and 6,100 feet. Blooms February – April.	**Absent.** These APEs lack suitable habitat for this species.	**Absent.** This APE lacks suitable habitat for this species.	**Absent.** This APE lacks suitable habitat for this species.
Coulter's goldfields (*Lasthenia glabrata* ssp. *coulteri*)	CNPS 1B	Found on alkaline and saline soils in vernal pools and playas in grassland at elevations below 4,500 feet. Blooms April – May.	**Absent.** These APEs lack suitable habitat for this species.	**Absent.** This APE lacks suitable habitat for this species.	**Absent.** This APE lacks suitable habitat for this species.
Earlimart orache (*Atriplex cordulata* var. *erecticaulis*)	CNPS 1B	Found in the San Joaquin Valley in saline and alkaline soils, typically within valley grasslands at elevations below 400 feet. Blooms August – September.	**Absent.** These APEs lack suitable habitat for this species.	**Unlikely.** The soil within the grassland habitat of this APE has been historically disturbed and maintained. The nearest recorded observation of this species occurred somewhere in the vicinity of the Pixley Airport in 1994.	**Unlikely.** The soil within the grassland habitat of this APE has been historically disturbed and maintained. The nearest recorded observation of this species occurred somewhere in the vicinity of the Pixley Airport in 1994.
Kern mallow (*Eremalche parryi* ssp. *kernensis*)	FE, CNPS 1B	Occurs in the San Joaquin Valley and the Southern Inner Coast Ranges in eroded hillsides and alkali flats; often on dry, open, sandy to clay soils and within alkali scrub communities at elevations between 200 and 4,300 feet. Blooms March – May.	**Absent.** These APEs lack suitable habitat for this species.	**Absent.** These APEs lack suitable habitat for this species.	**Absent.** These APEs lack suitable habitat for this species.

Species	Status*	Habitat	Occurrence within the APEs		
			Wells 3A & 4	Well 5	Well 6
Lesser saltscale (*Atriplex minuscula*)	CNPS 1B	Found in the San Joaquin Valley in sandy, alkaline soils in alkali scrub, valley and foothill grassland, and alkali sink communities at elevations below 750 feet. Blooms April – October.	**Absent.** These APEs lack suitable habitat and soils for this species.	**Absent.** The APE lacks suitable habitat and soils for this species.	**Absent.** The APE lacks suitable habitat and soils for this species.
Lost Hills crownscale (*Atriplex coronata* var. *vallicola*)	CNPS 1B	Found in the San Joaquin Valley in dried ponds and vernal pools with alkaline soils in alkali scrub, and valley and foothill grasslands at elevations below 2,900 feet. Blooms April – September.	**Absent.** These APEs lack suitable habitat and soils for this species.	**Absent.** This APE lacks suitable habitat and soils for this species.	**Absent.** This APE lacks suitable habitat and soils for this species.
Recurved larkspur (*Delphinium recurvatum*)	CNPS 1B	Occurs in chenopod scrub, cismontane woodland, and grassland habitats on poorly drained, fine, alkaline soils; often in valley saltbush or valley chenopod scrub communities at elevations between 100 and 2,600 feet. Blooms March – June.	**Absent.** These APEs lack suitable habitat and soils for this species.	**Absent.** This APE lacks suitable habitat and soils for this species.	**Absent.** This APE lacks suitable habitat and soils for this species.
San Joaquin woollythreads (*Monolopia congdonii*)	FE, CNPS 1B	Occurs in the San Joaquin Valley in sandy soils on alkaline or loamy plains in valley and foothill grassland and alkali scrub communities at elevations between 150 and 2,800 feet. Blooms February – May.	**Absent.** These APEs lack suitable habitat for this species.	**Absent.** This APE lacks suitable habitat and soils for this species.	**Absent.** This APE lacks suitable habitat and soils for this species.

Species	Status*	Habitat	Occurrence within the APEs		
			Wells 3A & 4	Well 5	Well 6
Spiny-sepaled button-celery (*Eryngium spinosepalum*)	CNPS 1B	Found in the Sierra Nevada foothills and the San Joaquin Valley. Occurs in vernal pools, swales, and roadside ditches. Often associated with clay soils in vernal pools within grassland communities. Occurs at elevations between 50 and 4,200 feet. Blooms April – July.	**Absent.** These APEs lack suitable habitat and soils for this species.	**Absent.** This APE lacks suitable habitat and soils for this species.	**Absent.** This APE lacks suitable habitat and soils for this species.
Subtle orache (*Atriplex subtilis*)	CNPS 1B	Found in the San Joaquin Valley in saline depressions in alkaline soils within valley and foothill grassland communities at elevations below 300 feet. Blooms June – October.	**Absent.** These APEs lack suitable habitat for this species.	**Unlikely.** The soil within the grassland habitat of this APE has been historically disturbed and maintained. The nearest recorded observation of this species occurred approximately 0.75 miles south of the APE in 1971.	**Unlikely.** The soil within the grassland habitat of this APE has been historically disturbed and maintained. The nearest recorded observation of this species occurred approximately one mile east of the APE in 1971.
Vernal pool smallscale (*Atriplex persistens*)	CNPS 1B	Occurs in the Central Valley in alkaline vernal pools at elevations below 400 feet. Blooms June – September.	**Absent.** These APEs lack suitable habitat for this species.	**Absent.** This APE lacks suitable habitat for this species.	**Absent.** This APE lacks suitable habitat for this species.

Table 3: List of Special Status Animals with Potential to Occur on the APE and/or in the Vicinity

Species	Status*	Habitat	Occurrence within the APEs		
			Well 3 & 4	Well 5	Well 6
American badger (*Taxidea taxus*)	CSSC	Occurs most abundantly in drier open stages of shrub, forest, and herbaceous habitats with friable soils to burrow, but can be found within numerous habitats throughout California, including the margins of	**Absent.** These APEs lack suitable habitat for this species.	**Unlikely.** There were no signs of this species within the APE. Grassland habitat within this APE is marginal and unlikely to support this species. The nearest recorded observation of this species occurred	**Unlikely.** There were no signs of this species within the APE. The ruderal habitat is unlikely to support this species. The nearest recorded observation of this species occurred approximately 4.5 miles south of the APE on an unknown

Species	Status*	Habitat	Occurrence within the APEs Well 3 & 4	Well 5	Well 6
		agricultural lands. Needs a sufficient prey base of burrowing rodents.		approximately five miles south of the APE on an unknown date prior to 1986.	date prior to 1986.
Bakersfield legless lizard (*Anniella grinnelli*)	CSSC	Can be found burrowing in moist, sandy soil within grassland, sand/dune, or chaparral habitats. Fallen logs, woody debris, and leaf litter under trees and bushes in sunny areas often indicate suitable habitat. The current known range is restricted to the east side of the Carrizo Plain and within the city limits of Bakersfield.	**Absent.** These APEs lack suitable habitat for this species.	**Unlikely.** The soil within the grassland habitat of this APE has been historically disturbed and maintained. The nearest recorded observation of this species occurred approximately 4.5 miles southwest of the APE in 2019.	**Absent.** This APE lacks suitable habitat for this species.
Blunt-nosed leopard lizard (*Gambelia sila*)	FE, CE, CFP	Occurs in the San Joaquin Valley region in expansive, arid areas with scattered vegetation. Today they inhabit non-native grassland and alkali sink scrub communities of the Valley floor marked by poorly drained, alkaline, and saline soils. They can be found at elevations ranging from 98 to 2,600 feet above sea level. They are absent from areas of steep slopes and dense vegetation, and areas subject to seasonal flooding. Adults may excavate shallow burrows but rely on deeper pre-existing rodent burrows for hibernation and reproduction.	**Absent.** These APEs lack suitable habitat for this species.	**Absent.** This APE lacks suitable habitat for this species.	**Absent.** This APE lacks suitable habitat for this species.
Buena Vista Lake ornate shrew	FE, CSSC	Prefers moist soils, inhabiting marshes, swamps, and	**Absent.** These APEs lack suitable habitat for this	**Absent.** This APE lacks suitable habitat for this	**Absent.** This APE lacks suitable habitat for this

Species	Status*	Habitat	Occurrence within the APEs Well 3 & 4	Well 5	Well 6
(*Sorex ornatus relictus*)		riparian shrublands. Uses stumps, logs, and leaf litter for cover.	species.	species.	species.
Burrowing owl (*Athene cunicularia*)	CSSC	Resides in open, dry grasslands, deserts, scrublands, and other areas with low growing vegetation. Nests and roosts underground in existing burrows created by mammals, most often ground squirrels, and human-made structures.	**Absent.** These APEs lack suitable habitat for this species.	**Absent.** This APE lacks suitable habitat for this species.	**Unlikely.** There were no signs of this species within the APE. The nearest recorded observation of this species occurred approximately 3.5 miles southwest of the APE in 1993.
Coast horned lizard (*Phrynosoma blainvillii*)	CSSC	Found in grasslands, coniferous forests, woodlands, and chaparral, primarily in open areas with patches of loose, sandy soil and low-lying vegetation in valleys, foothills, and semi-arid mountains. Frequently found near ant hills and along dirt roads in lowlands along sandy washes with scattered shrubs.	**Absent.** These APEs lack suitable habitat for this species.	**Absent.** This APE lacks suitable habitat for this species.	**Absent.** This APE lacks suitable habitat for this species.
Conservancy fairy shrimp (*Branchinecta conservatio*)	FE	Found in large, turbid freshwater vernal pools in the Central Valley, from Tehama County in the north to Merced County in the south, with one outlying population in Ventura County's Interior Coast Ranges.	**Absent.** These APEs lack suitable habitat for this species.	**Absent.** This APE lacks suitable habitat for this species.	**Absent.** This APE lacks suitable habitat for this species.
Loggerhead shrike (*Lanius ludovicianus*)	CSSC	Frequents open habitats with sparse shrubs and trees, other suitable perches, bare ground, and low herbaceous cover. In the Central Valley, this species	**Unlikely.** This species could potentially pass through or forage within the APE, but these APEs lacks suitable nesting habitat. The nearest	**Unlikely.** This species could potentially pass through or forage within the APE, but the APE lacks suitable nesting habitat. The nearest	**Unlikely.** This species could potentially pass through or forage within the APE, but the APE lacks suitable nesting habitat. The nearest recorded

Species	Status*	Habitat	Occurrence within the APEs Well 3 & 4	Well 5	Well 6
		nests in riparian areas, desert scrub, and agricultural hedgerows.	recorded observation of this species occurred approximately 5.5 miles north of the APE in 1918.	recorded observation of this species occurred approximately 5.5 miles north of the APE in 1918.	observation of this species occurred approximately six miles north of the APE in 1918.
Monarch butterfly (*Danaus plexippus*)	FC	Roosts in wind-protected tree groves (eucalyptus, Monterey pine, cypress), with nectar and water sources nearby. Larval host plants consist of milkweeds (*Asclepias* sp.). Winter roost sites extend along the Pacific coast from northern Mendocino to Baja California, Mexico.	**Absent.** These APEs lack suitable habitat for this species.	**Absent.** This APE lacks suitable habitat for this species.	**Absent.** This APE lacks suitable habitat for this species.
Mountain plover - nesting (*Charadrius montanus*)	CSSC	Breeds on open plains at moderate elevations outside of California. Winters in short-grass plains and fields, plowed or fallow fields, and sandy deserts within California. Prefers flat, bare ground with burrowing rodents.	**Absent.** These APEs lack suitable habitat for this species.	**Unlikely.** The wintering habitat within the APE is poor and it is unlikely they would forage in the habitats present within this APE. The nearest recorded observation of this species occurred approximately 12 miles southwest of the APE in 2002.	**Unlikely.** The wintering habitat within the APE is poor and it is unlikely they would forage in the habitats present within this APE. The nearest recorded observation of this species occurred approximately 11.25 miles southwest of the APE in 2002.
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.	**Absent.** These APEs lack suitable habitat for this species.	**Absent.** This APE lacks suitable habitat for this species.	**Absent.** This APE lacks suitable habitat for this species.
San Joaquin coachwhip (*Masticophis flagellum ruddocki*)	CSSC	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.	**Absent.** These APEs lack suitable habitat for this species.	**Unlikely.** Grassland habitat within this APE is marginal and unlikely to support this species. Suitable habitats are also absent from the adjacent lands. The nearest recorded observation of this	**Absent.** These APEs lack suitable habitat for this species.

Species	Status*	Habitat	Occurrence within the APEs Well 3 & 4	Well 5	Well 6
				species occurred approximately six miles south of the APE in 1992.	
San Joaquin kit fox (*Vulpes macrotis mutica*)	FE, CT	Opportunistically forages in a variety of habitats. Dens in burrows within alkali sink, valley grassland, and woodland habitats in valleys and adjacent foothills and in human-made structures in cities, rangeland, and agricultural areas.	**Absent.** These APEs lack suitable habitat for this species.	**Absent.** This APE lacks suitable habitat for this species.	**Unlikely.** The existing burrows within this APE were too small for this species to occupy, and the habitats within this APE are marginal. The nearest recorded observation of this species occurred approximately three miles southwest of the APE in 1997.
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.	**Unlikely.** There is no nesting or foraging habitat for this species within these APEs or the immediate vicinity. Any Swainson's hawks nesting in the larger vicinity are unlikely to be disturbed by construction activities due to the baseline level of disturbance associated with Pixley. The nearest recorded observation of this species occurred approximately 3.75 miles south of these APEs in 2017.	**Unlikely.** There is no nesting or foraging habitat for this species within this APE or the immediate vicinity. Any Swainson's hawks nesting in the larger vicinity are unlikely to be disturbed by construction activities due to the baseline level of disturbance associated with Pixley. The nearest recorded observation of this species occurred approximately 3.75 miles south of the APE in 2017	**Unlikely.** There is no nesting or foraging habitat for this species within this APE or the immediate vicinity. Any Swainson's hawks nesting in the larger vicinity are unlikely to be disturbed by construction activities due to the baseline level of disturbance associated with Pixley. The nearest recorded observation of this species occurred approximately three miles south of the APE in 2017.
Tipton kangaroo rat (*Dipodomys nitratoides nitratoides*)	FE, CE	Inhabits saltbush scrub and sink scrub communities in the Tulare Lake Basin of the southern San Joaquin Valley. This species needs soft friable soils to burrow.	**Absent.** These APEs lack suitable habitat for this species.	**Absent.** This APE lacks suitable habitat for this species.	**Absent.** This APE lacks suitable habitat for this species.
Tricolored blackbird (*Agelaius tricolor*)	CT, CSSC	Nests colonially near fresh water in dense cattails or tules, or in thickets of riparian	**Absent.** These APEs lack suitable habitat for this species.	**Absent.** This APE lacks suitable habitat for this species.	**Absent.** This APE lacks suitable habitat for this species.

Species	Status*	Habitat	Occurrence within the APEs Well 3 & 4	Well 5	Well 6
		shrubs. Forages in grassland and cropland. Large colonies are often found foraging in dairy farm feed fields.			
Vernal pool fairy shrimp (*Branchinecta lynchi*)	FT	Occupies vernal and seasonal pools, with clear to tea-colored water, in grass or mud-bottomed swales, and basalt depression pools.	**Absent.** These APEs lack suitable habitat for this species.	**Absent.** This APE lacks suitable habitat for this species.	**Absent.** This APE lacks suitable habitat for this species.
Western snowy plover (*Charadrius alexandrinus nivosus*)	FT, CSSC	Typically found on sandy beaches, salt pond levees, and shores of large alkali lakes.	**Absent.** These APEs lack suitable habitat for this species.	**Absent.** This APE lacks suitable habitat for this species.	**Absent.** This APE lacks suitable habitat for this species.
Western spadefoot (*Spea hammondii*)	CSSC	The majority of the time this species is terrestrial and occurs in small mammal burrows and soil cracks, sometimes in the bottom of dried pools. 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 or seasonal pools, that hold water for a minimum of three weeks, are necessary for breeding.	**Absent.** These APEs lack suitable habitat for this species.	**Absent.** This APE lacks suitable habitat for this species.	**Absent.** This APE lacks suitable habitat for this species.

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

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

STATUS CODES

FE	Federally Endangered	CE	California Endangered
FT	Federally Threatened	CT	California Threatened
FC	Federal Candidate	CFP	California Fully Protected
		CSSC	California Species of Special Concern

CNPS LISTING

1B	Plants rare, threatened, or endangered in California and elsewhere.

3 IMPACTS AND MITIGATION

3.1 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 rare may be destroyed or displaced. Sensitive habitats such as wetlands and riparian woodlands may be altered or destroyed. Such impacts may be considered either "significant" or "less than significant" under CEQA. According to *CEQA Statute and Guidelines* (AEP 2023), "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 (CWA) (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 (HCP), Natural Community Conservation Plan (NCCP), or other approved local, regional, or state HCP.

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 (40 Code of Federal Regulations (CFR) 1508.27).

For the purposes of assessing effects of an action on biological resources, the relevant context is often local. The analysis may, however, require a comparison of the action area's biological resources with the biological resources of an entire region. Project activities must have a federal nexus and discuss federally listed species, and/or designated critical habitat that may be affected in the action area.

Federal agencies are required to determine whether their actions may affect listed or proposed species and designated critical habitat. The primary role of this document is to provide agencies conclusion and the rationale to support those conclusions regarding the effects of any proposed actions of the project on protected resources. Document content and recommended elements are identified in 50 CFR 402.12(f).

Under section 7 of the Endangered Species Act, federal agencies must consult with NOAA Fisheries or the USFWS, depending on the species, through an informal or formal consultation when any action the agency carries out, funds, or authorizes may affect either a species listed as threatened or endangered under the Act, or any critical habitat designated for it.

Once resources are assessed an Endangered Species Act Section 7 finding needs to be made regarding proposed or listed species and/or designated critical habitat that may be present in the project area. This report will provide the necessary information for the lead federal agency to make a determination on affects. This finding may result in one of the following determinations:

- *"*No effect*"* - means there will be no impacts, positive or negative, to listed or proposed resources. Generally, this means no listed resources will be exposed to action and its environmental consequences. Concurrence from the Service is not required.
- *"*May affect, but not likely to adversely affect" means that all effects are beneficial, insignificant, or discountable. Beneficial effects have contemporaneous positive effects without any adverse effects to the species or habitat. Insignificant effects relate to the size of the impact and include those effects that are undetectable, not measurable, or cannot be evaluated. Discountable effects are those extremely unlikely to occur. These determinations require written concurrence from the Service.
- *"*May affect, likely to adversely affect" means that listed resources are likely to be exposed to the action or its environmental consequences and will respond in a negative manner to the exposure.

3.2 RELEVANT GOALS, POLICIES, AND LAWS

PIXLEY COMMUNITY PLAN

The Pixley Community Plan Document contain the following goals and policies related to the Project:

3.2.1.1 CONSERVATION POLICIES

ERM-1.1 Protection of Rare and Endangered Species

The County shall ensure the protection of environmentally sensitive wildlife and plant life, including those species designated as rare, threatened, and/or endangered by State and/or Federal government, through compatible land use development.

ERM 1.2 Development in Environmentally Sensitive Areas

The County shall limit or modify proposed development within areas that contain sensitive habitat for special status species and direct development into less significant habitat areas. Development in natural habitats shall be controlled so as to minimize erosion and maximize beneficial vegetative growth.

THREATENED AND ENDANGERED SPECIES

Permits may be required from CDFW and/or USFWS if activities associated with a project have the potential to result in the "take" of a species listed as threatened or endangered under the California Endangered Species Act (CESA) and/or Endangered Species Act (ESA), respectively. Take is defined by CESA 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 ESA 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 the 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 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 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 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 birds covered by the MBTA (Section 3513), as well as any other native non-game birds (Section 3800).

BIRDS OF PREY

Birds of prey are protected in California under provisions of California 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 Bald and Golden Eagle Protection Act (16 USC 668), which makes it unlawful to kill birds or their eggs, or take feathers or nests, without a permit issued by the U.S. Secretary of the Interior.

NESTING BIRDS

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

WETLANDS AND OTHER "JURISDICTIONAL WATERS"

The definition of "waters of the United States" (WOTUS) often changes from one presidential administration to the next. The current definition, established under the Biden Administration that became effective on March 20, 2023 (i.e. "new rule"), has adopted much of the same WOTUS designations as the pre-2015 rules, but has incorporated the most recent science and court case rulings. Traditional navigable waters, territorial seas, and interstate waters remain covered under the new rule. Natural drainage channels and adjacent wetlands may be considered "waters of the United States" or

"jurisdictional waters" subject to the jurisdiction of the USACE based on the "relatively permanent standard," which is defined in the new rule as "relatively permanent, standing or continuously flowing waters connected to paragraph Traditional Navigable Waters, and waters with a continuous surface connection to such relatively permanent waters or to Traditional Navigable Waters. The extent of jurisdiction has been defined in the Code of Federal Regulations but is also subject to interpretation by the federal courts. Jurisdictional waters generally include the following categories:

1) *Traditional Navigable Waters, the territorial seas, or interstate waters (not including interstate wetlands);*
2) *Impoundments of waters of the United States;*
3) *Tributaries of:*
    a. *Traditional Navigable Waters, territorial seas, or interstate waters (not including interstate wetlands); or*
    b. *Impoundments of water of the United States when the tributaries meet the relatively permanent standard.*
4) *Wetlands:*
    a. *Adjacent to Traditional Navigable Waters, the territorial seas, or interstate waters;*
    b. *Adjacent to and with a continuous surface connection to relatively permanent impoundments of waters of the United States*
    c. *Adjacent to and with a continuous surface connection to relatively permanent jurisdictional tributaries.*
5) *Intrastate lakes and ponds not identified in items 1 through 4 of this section that are relatively permanent, standing or continuously flowing bodies of water with a continuous surface connection to the waters identified in items 1 or 3 above.*

Exclusions under the new definition include the following:

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

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

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

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

Under the Porter-Cologne Water Quality Control Act of 1969, the SWRCB has regulatory authority to protect the water quality of all surface water and groundwater in 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 United States 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 United States, require Waste Discharge Requirements (WDRs), or waivers of WDRs, from the RWQCB. The RWQCB also administers the Construction Storm Water Program and the federal National Pollution Discharge Elimination System (NPDES) program. Projects that disturb one acre or more of soil must obtain a Construction General Permit under the Construction Storm Water Program. A prerequisite for this permit is the development of a Storm Water Pollution Prevention Plan (SWPPP) by a certified Qualified SWPPP Developer. Projects that discharge wastewater, storm water, or other pollutants into a Water of the United States 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 a Lake or Streambed Alteration. If CDFW determines that the activity may adversely affect fish and wildlife resources, a Lake or Streambed Alteration Agreement will be prepared. Such an agreement typically stipulates that certain measures will be implemented to protect the habitat values of the lake or drainage in question.

3.3 POTENTIALLY SIGNIFICANT PROJECT-RELATED IMPACTS AND MITIGATION

Species protected by California Fish and Game Code, CDFW, USFWS, CEQA, or NEPA that have the potential to be impacted by project activities include migratory nesting birds and raptors. Corresponding mitigation measures can be found below.

PROJECT-RELATED MORTALITY AND/OR NEST ABANDONMENT OF MIGRATORY BIRDS AND RAPTORS

The APEs contain suitable nesting and foraging habitat for a variety of protected bird species, such as migratory birds, and raptors. It is anticipated that during the nesting bird season, protected birds could nest on the ground, shrubs, trees, or structures within the APEs and forage within the APEs. Protected birds located within or adjacent to the APE during construction have the potential to be injured or killed by project-related activities. In addition to the direct "take" of protected birds within the APE or adjacent areas, these birds nesting in these areas could be disturbed by project-related activities resulting in nest abandonment. Projects that adversely affect the nesting success of protected birds or result in the mortality of these birds would be a violation of state and federal laws and considered a potentially significant impact under CEQA and NEPA.

Implementation of the following measures will reduce potential impacts to protected nesting birds to a less than significant level under CEQA and NEPA and will help guide compliance with state and federal laws protecting these bird species.

> Environmental Commitment BIO-1a (*Avoidance*): The project's construction activities will occur, if feasible, between September 16 and January 31 (outside of the nesting bird season) to avoid impacts to nesting birds.
>
> Environmental Commitment BIO-1b (*Pre-construction Surveys*): If activities must occur within nesting bird season (February 1 to September 15), a qualified biologist will conduct a pre-construction survey within five calendar days prior to the start of construction at each APE for nesting migratory birds within up to 50 feet outside of the APEs and for other nesting raptors within up to 450 feet outside of the APEs. All raptor nests would be considered "active" upon the nest-building stage. If no active nests are observed, no further action is required.
>
> Environmental Commitment BIO-1c (*Avoidance Buffers*): On discovery of any active nests near work areas, a qualified biologist will determine appropriate avoidance buffer distances based on applicable CDFW and/or USFWS guidelines, the biology of the species, conditions of the nest(s), and the level of project disturbance.

3.4 SECTION 7 DETERMINATIONS

In addition to the effects analysis performed in Table 2 and Table 3 of this document, Table 4 summarizes project effect determinations for federally-listed species found on the CNDDB list and the USFWS IPaC list generated on October 30, 2023 (see Appendix B and Appendix C, respectively), in accordance with Section 7 of the Endangered Species Act.

Table 4: Section 7 Determinations

Species	Determination	Rationale for Determination
Blunt-nosed leopard lizard (*Gambelia sila*)	No effect	**Habitat absent.** Habitats required by this species are absent from the APEs.
Buena Vista Lake ornate shrew (*Sorex ornatus relictus*)	No effect	**Habitat absent.** Habitats required by this species are absent from the APEs.
California jewelflower (*Caulanthus californicus*)	No effect	**Habitat absent.** Habitats and soils required by this species are absent from the APEs.
Conservancy fairy shrimp *(Branchinecta conservatio)*	No effect	**Habitat absent.** Habitats required by this species are absent from the APEs.
Kern mallow (*Eremalche parryi* ssp. *kernensis*)	No effect	**Habitat absent**. Habitats required by this species are absent from the APEs.
Monarch butterfly (*Danaus plexippus*)	No effect	**Habitat absent**. Foraging and roosting habitat was absent within the APEs.
San Joaquin kit fox (*Vulpes macrotis mutica*)	No effect	**Habitat absent.** Habitats required by this species are absent from the APEs.
San Joaquin woollythreads (*Monolopia congdonii*)	No effect	**Habitat absent**. Habitats and soils required by this species are absent from the APEs.
Tipton kangaroo rat (*Dipodomys nitratoides nitratoides*)	No effect	**Habitat absent**. Habitats required by this species are absent from the APEs.
Vernal pool fairy shrimp (*Branchinecta lynchi*)	No effect	**Habitat absent.** Habitats required by this species are absent from the APE.
Western snowy plover (*Charadrius alexandrinus nivosus*)	No effect	**Habitat absent.** Habitats required by this species are absent from the APE.

3.5 LESS THAN SIGNIFICANT PROJECT-RELATED IMPACTS

PROJECT-RELATED IMPACTS TO SPECIAL STATUS PLANT SPECIES ABSENT FROM, OR UNLIKELY TO OCCUR ON, THE PROJECT SITE

Of the 15 regionally occurring special status plant species, all are considered absent from or unlikely to occur within the APEs due to past or ongoing disturbance and/or the absence of suitable habitat.

Since it is unlikely that these species would occur onsite, implementation of the project should have no impact on these 15 special status species through construction mortality, disturbance, or loss of habitat. Mitigation measures are not warranted.

PROJECT-RELATED IMPACTS TO SPECIAL STATUS ANIMAL SPECIES ABSENT FROM, OR UNLIKELY TO OCCUR ON, THE PROJECT SITE

Of the 19 regionally occurring special status animal species, all are considered absent from or unlikely to occur within the APEs due to past or ongoing disturbance and/or the absence of suitable habitat.

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

PROJECT-RELATED IMPACTS TO RIPARIAN HABITAT AND NATURAL COMMUNITIES OF SPECIAL CONCERN

Riparian habitat is absent from the APEs and adjacent lands. There are no CNDDB-designated "natural communities of special concern" recorded within the APEs or surrounding lands. Mitigation is not warranted.

PROJECT-RELATED IMPACTS TO REGULATED WATERS, WETLANDS, AND WATER QUALITY

Typical wetlands, vernal pools, and other waters were absent from the APEs. There are no designated wild and scenic rivers within the project site; therefore, the project would not result in direct impacts to wild and scenic rivers. Mitigation measures are not warranted.

PROJECT-RELATED IMPACTS TO WILDLIFE MOVEMENT CORRIDORS AND NATIVE WILDLIFE NURSERY SITES

The APEs do not contain features that would be likely to function as wildlife movement corridors or native wildlife nursery sites. Therefore, the project would have no impact on wildlife movement corridors or other native wildlife nursery sites, and no additional mitigation measures are warranted.

PROJECT-RELATED IMPACTS TO CRITICAL HABITAT

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

LOCAL POLICIES OR HABITAT CONSERVATION PLANS

The project appears to be consistent with the goals and policies of the Pixley Community Plan. There are no known HCPs or NCCPs in the project vicinity. Mitigation measures are not warranted.

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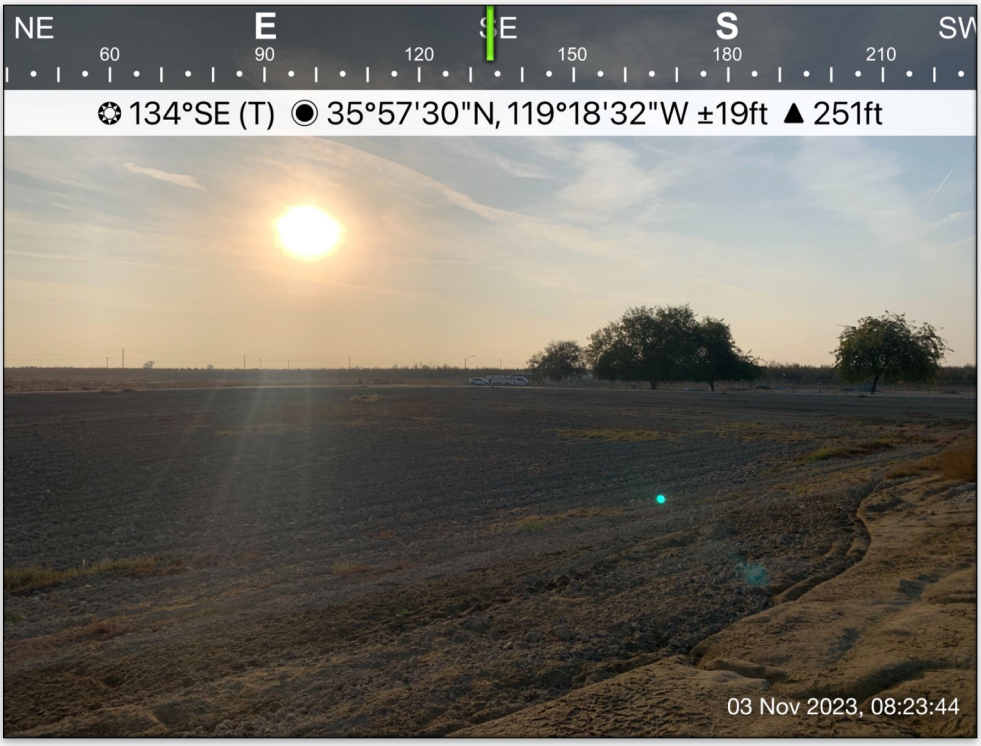
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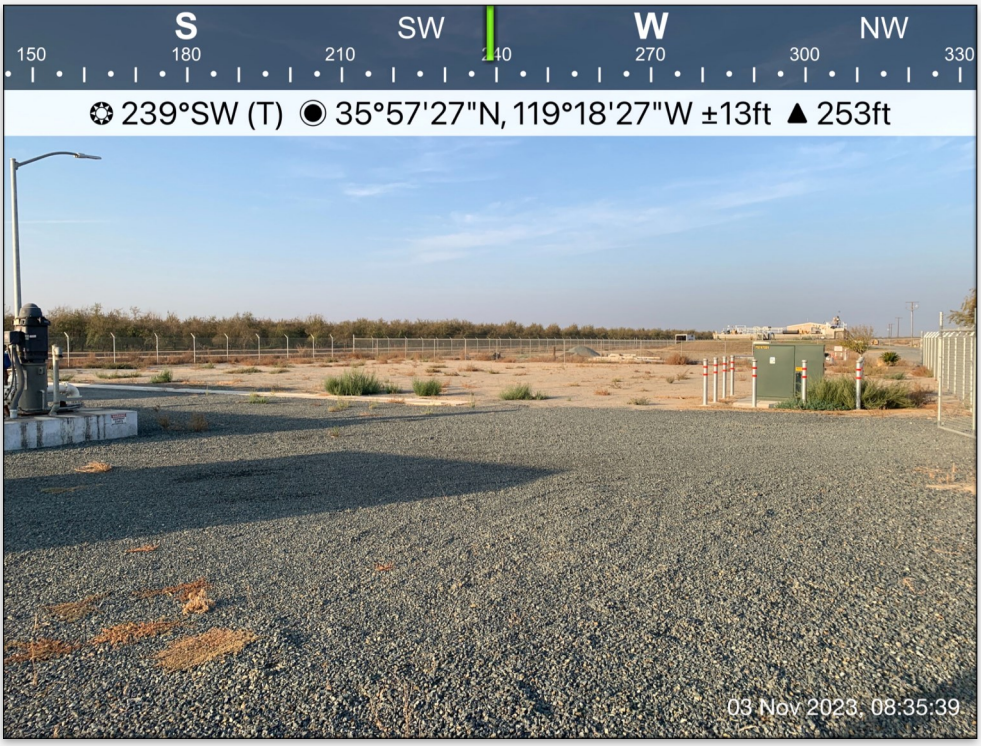
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APPENDIX A: REPRESENTATIVE PHOTOS OF THE APE



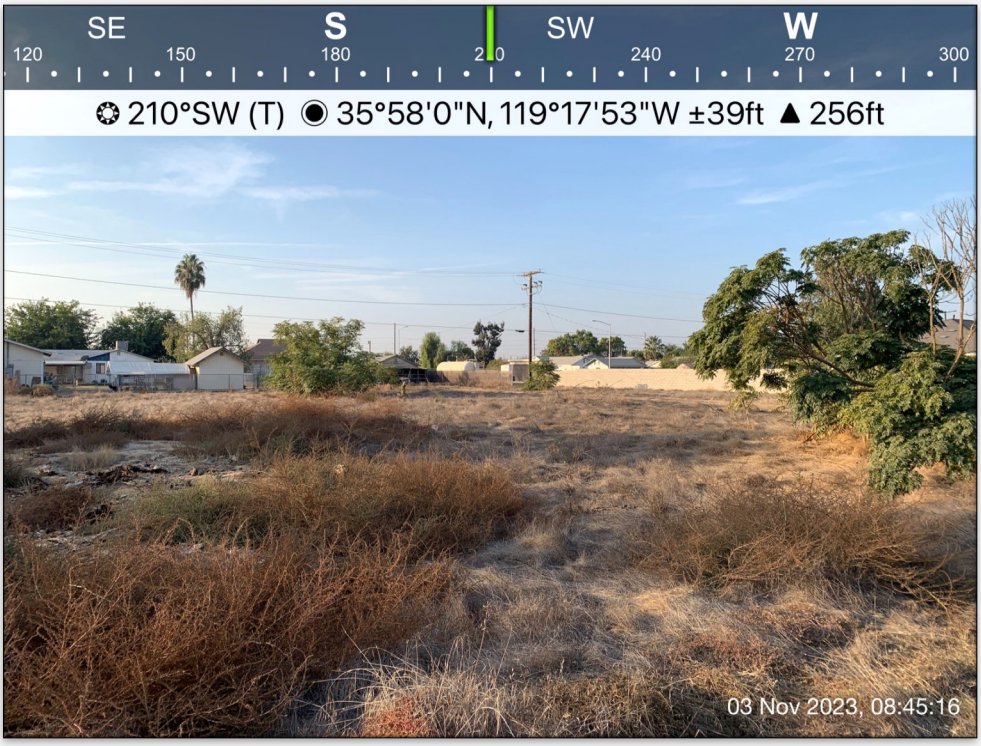
Photograph 1

Photo of the ruderal habitat at Well 6.



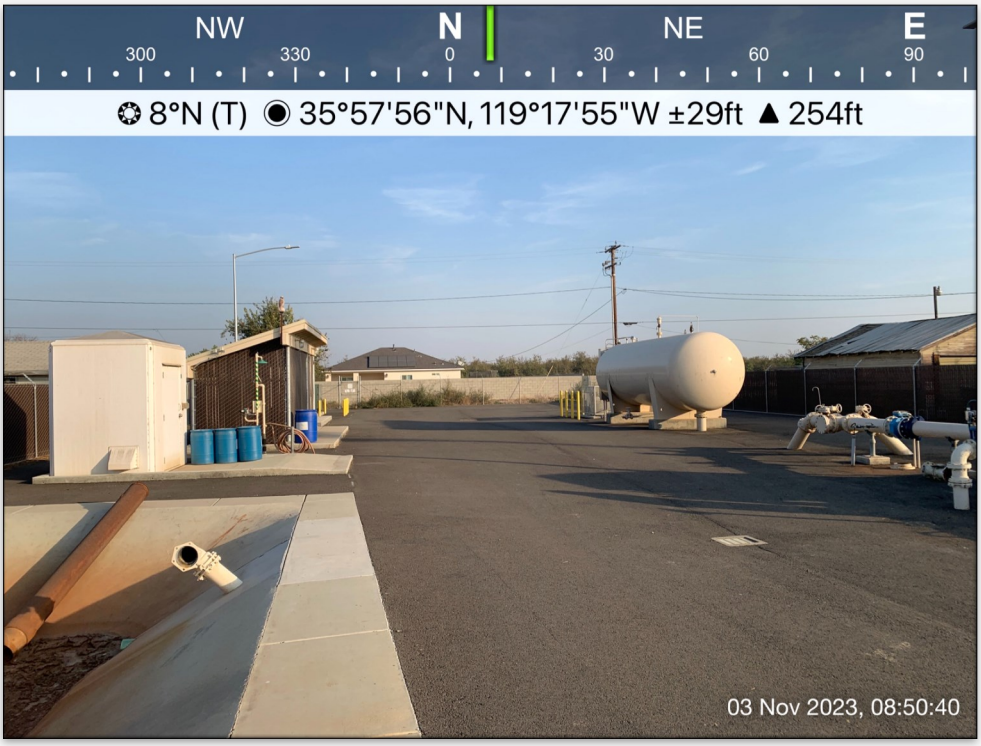
Photograph 2

Another photo of the ruderal habitat at Well 6.



Photograph 3

Overview of the grassland habitat at Well 5.



Photograph 4

Overview of the developed habitat at Well 5.



Photograph 5

Photo of the developed habitat at Well 4.



Photograph 6

Another photo of the developed habitat at Well 4.



Photograph 7

Another overview of the developed habitat at Well 4.



Photograph 8

Overview of the ruderal habitat at Well 3A.

APPENDIX B: CNDDB 9-QUAD SPECIES LIST

Selected Elements by Common Name

California Department of Fish and Wildlife

California Natural Diversity Database

Query Criteria: Quad IS (Pixley (3511983) OR Alpaugh (3511984) OR Taylor Weir (3611914) OR Tipton (3611913) OR Woodville (3611912) OR Sausalito School (3511982) OR Delano East (3511972) OR Delano West (3511973) OR Allensworth (3511974))

Species	Element Code	Federal Status	State Status	Global Rank	State Rank	Rare Plant Rank/CDFW SSC or FP
alkali mariposa-lily *Calochortus striatus*	PMLIL0D190	None	None	G3	S2S3	1B.2
alkali-sink goldfields *Lasthenia chrysantha*	PDAST5L030	None	None	G2	S2	1B.1
American badger *Taxidea taxus*	AMAJF04010	None	None	G5	S3	SSC
An andrenid bee *Andrena macswaini*	IIHYM35130	None	None	G2	S2	
Bakersfield legless lizard *Anniella grinnelli*	ARACC01050	None	None	G2G3	S2S3	SSC
blunt-nosed leopard lizard *Gambelia sila*	ARACF07010	Endangered	Endangered	G1	S2	FP
brittlescale *Atriplex depressa*	PDCHE042L0	None	None	G2	S2	1B.2
burrowing owl *Athene cunicularia*	ABNSB10010	None	None	G4	S2	SSC
California alkali grass *Puccinellia simplex*	PMPOA53110	None	None	G2	S2	1B.2
California jewelflower *Caulanthus californicus*	PDBRA31010	Endangered	Endangered	G1	S1	1B.1
coast horned lizard *Phrynosoma blainvillii*	ARACF12100	None	None	G4	S4	SSC
Coulter's goldfields *Lasthenia glabrata ssp. coulteri*	PDAST5L0A1	None	None	G4T2	S2	1B.1
Earlimart orache *Atriplex cordulata var. erecticaulis*	PDCHE042V0	None	None	G3T1	S1	1B.2
Hopping's blister beetle *Lytta hoppingi*	IICOL4C010	None	None	G1G2	S2	
Kern brook lamprey *Lampetra hubbsi*	AFBAA02040	None	None	G1G2	S1S2	SSC
Kern mallow *Eremalche parryi ssp. kernensis*	PDMAL0C031	Endangered	None	G3G4T3	S3	1B.2
lesser saltscale *Atriplex minuscula*	PDCHE042M0	None	None	G2	S2	1B.1
loggerhead shrike *Lanius ludovicianus*	ABPBR01030	None	None	G4	S4	SSC
Lost Hills crownscale *Atriplex coronata var. vallicola*	PDCHE04371	None	None	G4T3	S3	1B.2

Species	Element Code	Federal Status	State Status	Global Rank	State Rank	Rare Plant Rank/CDFW SSC or FP
molestan blister beetle *Lytta molesta*	IICOL4C030	None	None	G2	S2	
Morrison's blister beetle *Lytta morrisoni*	IICOL4C040	None	None	G1G2	S2	
mountain plover *Charadrius montanus*	ABNNB03100	None	None	G3	S2	SSC
Nelson's (=San Joaquin) antelope squirrel *Ammospermophilus nelsoni*	AMAFB04040	None	Threatened	G2G3	S3	
Northern Claypan Vernal Pool *Northern Claypan Vernal Pool*	CTT44120CA	None	None	G1	S1.1	
recurved larkspur *Delphinium recurvatum*	PDRAN0B1J0	None	None	G2?	S2?	1B.2
San Joaquin coachwhip *Masticophis flagellum ruddocki*	ARADB21021	None	None	G5T2T3	S3	SSC
San Joaquin kit fox *Vulpes macrotis mutica*	AMAJA03041	Endangered	Threatened	G4T2	S3	
San Joaquin pocket mouse *Perognathus inornatus*	AMAFD01060	None	None	G2G3	S2S3	
San Joaquin tiger beetle *Cicindela tranquebarica joaquinensis*	IICOL0220E	None	None	G5T1	S1	
San Joaquin woollythreads *Monolopia congdonii*	PDASTA8010	Endangered	None	G2	S2	1B.2
spiny-sepaled button-celery *Eryngium spinosepalum*	PDAPI0Z0Y0	None	None	G2	S2	1B.2
subtle orache *Atriplex subtilis*	PDCHE042T0	None	None	G1	S1	1B.2
Swainson's hawk *Buteo swainsoni*	ABNKC19070	None	Threatened	G5	S4	
Tipton kangaroo rat *Dipodomys nitratoides nitratoides*	AMAFD03152	Endangered	Endangered	G3T1T2	S2	
tricolored blackbird *Agelaius tricolor*	ABPBXB0020	None	Threatened	G1G2	S2	SSC
Valley Sacaton Grassland *Valley Sacaton Grassland*	CTT42120CA	None	None	G1	S1.1	
Valley Saltbush Scrub *Valley Saltbush Scrub*	CTT36220CA	None	None	G2	S2.1	
Valley Sink Scrub *Valley Sink Scrub*	CTT36210CA	None	None	G1	S1.1	
vernal pool fairy shrimp *Branchinecta lynchi*	ICBRA03030	Threatened	None	G3	S3	
vernal pool smallscale *Atriplex persistens*	PDCHE042P0	None	None	G2	S2	1B.2

Species	Element Code	Federal Status	State Status	Global Rank	State Rank	Rare Plant Rank/CDFW SSC or FP
western snowy plover	ABNNB03031	Threatened	None	G3T3	S3	SSC
Charadrius nivosus nivosus						
western spadefoot	AAABF02020	None	None	G2G3	S3S4	SSC
Spea hammondii						

Record Count: 42

APPENDIX C: IPAC SPECIES LIST

United States Department of the Interior

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

In Reply Refer To:
Project Code: 2024-0010622
Project Name: Pixley TCP Treatment

October 30, 2023

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

To Whom It May Concern:

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

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

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

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

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

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

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

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

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

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

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

Attachment(s):

- Official Species List

OFFICIAL SPECIES LIST

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

This species list is provided by:

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

PROJECT SUMMARY

Project Code: 2024-0010622
Project Name: Pixley TCP Treatment
Project Type: Water Supply Facility - Withdrawal - Groundwater
Project Description: There are four existing wells within Pixley which are proposed to install GAC wellhead treatment systems at each site.

Project Location:

The approximate location of the project can be viewed in Google Maps: https://www.google.com/maps/@35.9661268,-119.2985094964557,14z



Counties: Tulare County, California

ENDANGERED SPECIES ACT SPECIES

There is a total of 7 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
Buena Vista Lake Ornate Shrew *Sorex ornatus relictus* There is **final** critical habitat for this species. Your location does not overlap the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/1610	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	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

INSECTS

NAME	STATUS
Monarch Butterfly *Danaus plexippus* No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/9743	Candidate

CRUSTACEANS

NAME	STATUS
Conservancy Fairy Shrimp *Branchinecta conservatio*	Endangered
There is **final** critical habitat for this species. Your location does not overlap the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/8246	
Vernal Pool Fairy Shrimp *Branchinecta lynchi*	Threatened
There is **final** critical habitat for this species. Your location does not overlap the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/498	

CRITICAL HABITATS

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

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

IPAC USER CONTACT INFORMATION

Agency: Provost & Pritchard Consulting Group
Name: Roman Endicott
Address: 455 W. Fir Ave
City: Clovis
State: CA
Zip: 93611
Email rendicott@ppeng.com
Phone: 5594492700

APPENDIX D: NRCS WEB SOIL SURVEY REPORT

United States Department of Agriculture

NRCS

Natural Resources Conservation Service

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

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



October 30, 2023

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

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How Soil Surveys Are Made

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

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

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

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

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

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

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

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

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

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

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

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

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

Soil Map

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

Custom Soil Resource Report
Soil Map



MAP LEGEND

Area of Interest (AOI)
- Area of Interest (AOI)

Soils
- Soil Map Unit Polygons
- Soil Map Unit Lines
- Soil Map Unit Points

Special Point Features
- Blowout
- Borrow Pit
- Clay Spot
- Closed Depression
- Gravel Pit
- Gravelly Spot
- Landfill
- Lava Flow
- Marsh or swamp
- Mine or Quarry
- Miscellaneous Water
- Perennial Water
- Rock Outcrop
- Saline Spot
- Sandy Spot
- Severely Eroded Spot
- Sinkhole
- Slide or Slip
- Sodic Spot
- Spoil Area
- Stony Spot
- Very Stony Spot
- Wet Spot
- Other
- Special Line Features

Water Features
- Streams and Canals

Transportation
- Rails
- Interstate Highways
- US Routes
- Major Roads
- Local Roads

Background
- Aerial Photography

MAP INFORMATION

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

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

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

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

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

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

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

Soil Survey Area: Tulare County, Western Part, California
Survey Area Data: Version 17, Aug 31, 2023

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

Date(s) aerial images were photographed: Mar 12, 2022—Mar 22, 2022

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

Map Unit Legend

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
101	Akers-Akers, saline-Sodic, complex, 0 to 2 percent slopes	6.1	100.0%
Totals for Area of Interest		**6.1**	**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.

Tulare County, Western Part, California

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

Map Unit Setting

National map unit symbol: hp6z
Elevation: 230 to 350 feet
Mean annual precipitation: 8 to 12 inches
Mean annual air temperature: 63 to 64 degrees F
Frost-free period: 225 to 300 days
Farmland classification: Prime farmland if irrigated and either protected from flooding or not frequently flooded during the growing season

Map Unit Composition

Akers and similar soils: 60 percent
Akers, saline-sodic, and similar soils: 25 percent
Minor components: 15 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Akers

Setting

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

Typical profile

Ap - 0 to 16 inches: fine sandy loam
Bk - 16 to 60 inches: fine sandy loam

Properties and qualities

Slope: 0 to 2 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Well drained
Runoff class: Negligible
Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high (0.60 to 2.00 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: Very rare
Frequency of ponding: None
Calcium carbonate, maximum content: 10 percent
Gypsum, maximum content: 2 percent
Maximum salinity: Nonsaline to slightly saline (0.0 to 4.0 mmhos/cm)
Sodium adsorption ratio, maximum: 12.0
Available water supply, 0 to 60 inches: High (about 9.7 inches)

Interpretive groups

Land capability classification (irrigated): 1
Land capability classification (nonirrigated): 4c
Hydrologic Soil Group: B
Ecological site: R017XY907CA - Aridic Alkali Desert
Hydric soil rating: No

Description of Akers, Saline-sodic

Setting

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

Typical profile

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

Properties and qualities

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

Interpretive groups

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

Minor Components

Tujunga

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

Colpien

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

Yettem

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

Grangeville

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

Tagus

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

Hanford

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

Unnamed, ponded

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

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Appendix C: Historic Properties Identification Report

Draft

HISTORIC PROPERTIES IDENTIFICATION REPORT, PIXLEY PUBLIC UTILITY DISTRICT TCP MITIGATION PROJECT GAC TREATMENT AT WELLS 3A, 4, 5, AND 6 TULARE COUNTY, CALIFORNIA

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SUMMARY OF FINDINGS

This Historic Properties Identification Report (HPIR) documents the results of an intensive Phase I survey for the Pixley Public Utility District TCP Mitigation Project GAC Treatment at Wells 3A, 4, 5, and 6 (Undertaking), Tulare County, California.

The proposed Undertaking consists of four extant well sites identified as Wells 3A, 4, 5, and 6. The horizontal Area of Potential Effect (APE) for the proposed Undertaking totals approximately 16 acres (ac.) and contains all construction areas, staging and laydown areas, and access roads. The vertical APE, defined as the maximum depth of excavation of the proposed Undertaking, is not expected to exceed 10 ft. below ground surface.

The APE is within Tulare County, approximately 16.5 miles (mi.) south of the city of Tulare. This places the APE on the open flats of the San Joaquin Valley. Specifically, the APE is within Sections 32 and 33, Township 22 South, Range 25 East (T22S/R25E), Mount Diablo Base and Meridian (MDBM), as illustrated on the Pixley USGS 7.5-minute topographic quadrangle. The APE site consists of undeveloped and industrial properties. Elevations within the APE, which is mostly flat, range from 255 feet (ft.) above mean sea level (amsl) to 267 ft. amsl.

ASM Affiliates (ASM) conducted this study, with Director of Archaeology, Peter A. Carey, M.A., RPA, serving as principal investigator. Senior Archaeologist Dustin Merrick, M.A., RPA, was a contributing author of this report. Architectural Historian Madeline Gonzalez, M.A., conducted the cultural resource survey and was a contributing author of this report with Director of Architectural History, Shannon Davis, M.A., RPH providing oversight and review. The study was undertaken to assist with compliance with Section 106 of the National Historic Preservation Act (NHPA) of 1966, as amended, and the California Environmental Quality Act (CEQA).

To determine whether the APE had been previously surveyed for cultural resources, and/or whether any such resources were known to exist within or near to it, an archival records search was conducted by the staff of the Southern San Joaquin Valley Information Center (SSJVIC) on January 29, 2024. According to the SSJVIC, three previous studies (TU-01393, TU-01567, and TU-01802) have been conducted within the APE, and eight previous studies were identified within the 0.5 mi. buffer. Based on SSJVIC data, approximately 10 percent of the APE has been previously surveyed. The SSJVIC results identified no previously recorded cultural resources within the APE. Three historic-era built environment resources (P-54-003232, P-54-003398, and P-54-004626) as well as the remains of the Pixley Railroad Station (P-54-003397) were identified within the 0.5 mi. buffer, with the nearest located less than 0.1 mi. from the APE. Additional background research of the APE, including a review of historical aerial imagery, identified a historic-era building within the APE.

Geoarchaeological review of the APE indicates that the APE is unlikely to contain buried deposits. In addition, historic aerial and topographic map review indicates the APE has been heavily disturbed by agricultural activities as far back as 1956.

A search of the Native American Heritage Commission (NAHC) Sacred Lands File was completed on January 30, 2024. Based on the NAHC records, the APE is negative for sacred sites or traditional cultural places. Outreach letters and emails were sent on February 5, 2024, to tribal organizations on the NAHC contact list. Follow-up emails were sent on April 16, 2024. The Santa Rosa Rancheria Tachi Yokut Tribe responded requesting a cultural presentation for construction staff and a curation agreement for the Project. No additional responses were received as a result of this outreach.

An intensive Phase I survey of the APE was conducted by ASM Assistant Archaeologist Maria Silva, B.A., on February 19, 2024. The Phase I survey included a review of the APE for the presence both archaeological resources and built environment features. Parallel survey transects spaced at maximum intervals of 15 meters (m.) apart were employed for pedestrian survey of the 8 ac. APE. Visibility for the APE ranged from fair (approximately 30 percent) to great (over 95 percent) with the exception of developed areas which were hardscaped over or covered with imported gravel. Visibility was obscured in places by non-native vegetation. Soils within the APE consisted of light brown sandy loam. No archaeological resources were observed within the APE.

An intensive Phase I cultural resource survey of the APE was completed by ASM Architectural Historian Madeline Gonzalez, M.A., on January 24, 2024. The architectural survey area contained one historic building on parcel APN 299-15-34 within the study area of the APE, located on the southeast corner of Compton Avenue and Center Avenue in Pixley, California. During the survey, multiple photographs were taken of the building to document the resource and its setting. The building plans, architectural features, condition, and integrity were noted.

After thorough research and evaluation, the Compton Avenue Warehouse is recommended not eligible for listing in the NRHP/CRHR under any criteria. There are no historic properties/historical resources within the APE for the proposed Project, and as such, no historic properties effected under NHPA and no substantial adverse change to a historical resource pursuant to under CEQA.

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1. INTRODUCTION AND REGULATORY CONTEXT

ASM Affiliates (ASM) was retained by the Provost & Pritchard Consulting Group to prepare a Historic Properties Identification Report (HPIR) for the Pixley Public Utility District (District) TCP Mitigation Project GAC Treatment at Wells 3A, 4, 5, & 6 (Undertaking) Tulare County, California (Figure 1). The study was undertaken to assist with compliance with Section 106 of the National Historic Preservation Act (NHPA) of 1966, as amended, and the California Environmental Quality Act (CEQA). The investigation was conducted, specifically, to ensure that significant impacts or adverse effects to historic properties or historical resources do not occur as a result of the proposed Undertaking.

This current study included:

- A background records search and literature review to determine if any known cultural resources were present in the vicinity and/or whether the area had been previously and systematically studied by archaeologists;
- An on-foot, intensive inventory of the proposed Undertaking to identify and record previously undiscovered cultural resources and to examine known sites; and
- A preliminary assessment of any such resources found within the subject property.

Director of Archaeology, Peter A. Carey, M.A., RPA, served as principal investigator. Senior Archaeologist Dustin Merrick, M.A., RPA, was a contributing author of this report. Assistant Archaeologist Maria Silva, B.A., conducted the fieldwork. Architectural Historian Madeline Gonzalez, M.A., conducted the cultural resource survey and authored the architectural sections of the report with Director of Architectural History, Shannon Davis, M.A., RPH providing oversight and review.

This document constitutes a report on the proposed Undertaking. Subsequent chapters provide background to the investigation, including historic context studies; the findings of the archival records search; a summary of the field surveying techniques employed; and the results of the fieldwork. We conclude with a summary of findings for the proposed Undertaking.

1.1 UNDERTAKING LOCATION

The proposed Undertaking is within Tulare County, approximately 16.5 miles (mi.) south of the city of Tulare. This places the proposed Undertaking on the open flats of the San Joaquin Valley. Specifically, the proposed Undertaking is within Sections 32 and 33, Township 22 South, Range 25 East (T22S/R25E), Mount Diablo Base and Meridian (MDBM), as illustrated on the Pixley USGS 7.5-minute topographic quadrangle. The proposed Undertaking site consists of undeveloped and industrial properties. Elevations within the proposed Undertaking, which is mostly flat, range from 255 feet (ft.) above mean sea level (amsl) to 267 ft. amsl.

1.2 UNDERTAKING DESCRIPTION AND AREA OF POTENTIAL EFFECTS

The District proposes four water treatment systems at four well sites for the remediation of 1,2,3-TCP. Each system would include similar improvements to the existing well sites. proposed Undertaking components would include the following:

Well 3A Site

- GAC wellhead treatment system
    - Includes two 12 ft. diameter GAC vessels
    - Includes 10,000-gallon hydropneumatic tank
    - Includes approximately 300 linear feet of new storm drain pipeline from the Well 3A site south along Walnut Street to the existing storm water basin at the intersection of Walnut and Holste Avenues.
    - Includes sand separator with sand separator pit
    - Includes 12.5% sodium hypochlorite (NaOCl) chemical building and chemical storage building (100-gallon storage drum)
    - Includes site asphalt paving approximately 9,000 square feet (sf.)
    - Includes new access road that would be 15 ft. wide and approximately 70 ft. long

Well 4 Site

- GAC wellhead treatment system
    - Includes two 12 ft. diameter GAC vessels
    - Includes approximately 400 linear feet of new storm drain pipeline from the Well 4 site west along Compton Avenue to Main Street. The water main in the alley behind the Well 4 site would be replaced
    - Includes sand separator with sand separator pit
    - Includes 12.5% sodium hypochlorite (NaOCl) chemical building and chemical storage building (100-gallon storage drum)
    - Includes site asphalt paving approximately 13,800 sf.
    - Includes new access road that would be 15 ft. wide and approximately 145 ft. long

Well 5 Site

- GAC wellhead treatment system
    - Includes two 12 ft. diameter GAC vessels
- Includes approximately 650 linear feet of new treated water and storm drain pipelines from the Well 5 treatment parcel, west along Compton Avenue to S Cedar Street
    - New raw water pipeline between the Well 5 parcel and the Well 5 treatment parcel
    - Includes sand separator with sand separator pit
    - Includes 12.5% sodium hypochlorite (NaOCl) chemical building and chemical storage building (100-gallon storage drum)
    - Includes site asphalt paving approximately 13,300 sf.
    - Includes new access road that would be 15 ft. wide and approximately 80 ft. long

Well 6 Site

- GAC wellhead treatment system

- Includes two 12 ft. diameter GAC vessels
- Includes approximately 200 linear feet of new storm drain pipeline
- Includes sand separator with sand separator pit
- Includes 12.5% sodium hypochlorite (NaOCl) chemical building and chemical storage building (100-gallon storage drum)
- Excavation at the ponding basin north of the Well 6 site to provide more capacity

The horizontal Area of Potential Effect (APE) for the proposed Undertaking totals approximately 16 ac. and contains all construction areas, staging and laydown areas, and access roads. The vertical APE, defined as the maximum depth of excavation of the proposed Undertaking, is not expected to exceed 10 ft. below ground surface.

1.3 REGULATORY CONTEXT

1.3.1 National Historic Preservation Act Section 106

NHPA Section 106 is applicable to federal undertakings, including projects financed or permitted by federal agencies regardless of whether the activities occur on federally managed or privately owned land. Its purpose is to determine whether adverse effects will occur to significant cultural resources, defined as "historical properties" that are listed in or determined eligible for listing in the National Register of Historic Places (NRHP). The criteria for NRHP eligibility are defined at 36 CFR § 60.4 as follows:

> The quality of significance in American history, architecture, archaeology, 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 that:
>
> (A) are associated with events that have made a significant contribution to the broad patterns of our history; or
>
> (B) are associated with the lives of persons significant in our past; or
>
> (C) embody the distinctive characteristics of a type, period, or method of construction, or that represent the work of a master, or that possess high artistic values, or that represent a significant and distinguishable entity whose components may lack individual distinction; or
>
> (D) have yielded or may be likely to yield, information important in prehistory or history.

There are, however, restrictions on the kinds of historical properties that can be NRHP listed. These have been identified by the Advisory Council on Historic Preservation (ACHP), as follows:

> Ordinarily cemeteries, birthplaces, or graves of historical figures, properties owned by religious institutions or used for religious purposes, structures that have been moved from their original locations, reconstructed historic buildings, properties primarily commemorative in nature, and properties that have achieved significance within the past

50 years shall not be considered eligible for the National Register. However, such properties will qualify if they are integral parts of districts that do meet the criteria or if they fall within the following categories:

(a) A religious property deriving primary significance from architectural or artistic distinction or historical importance; or

(b) A building or structure removed from its original location but which is significant primarily for architectural value, or which is the surviving structure most importantly associated with a historic person or event; or

(c) A birthplace or grave of a historical figure of outstanding importance if there is no appropriate site or building directly associated with his productive life.

(d) A cemetery which derives its primary significance from graves of persons of transcendent importance, from age, from distinctive design features, or from association with historic events; or

(e) A reconstructed building when accurately executed in a suitable environment and presented in a dignified manner as part of a restoration master plan, and when no other building or structure with the same association has survived; or

(f) A property primarily commemorative in intent if design, age, tradition, or symbolic value has invested it with its own exceptional significance; or

(g) A property achieving significance within the past 50 years if it is of exceptional importance. (ACHP n.d.)

1.3.2 National Register Criteria for Evaluation

The criteria for evaluation of NRHP eligibility are outlined at 36 CFR Part 60.4. A district, site, building, structure, or object must generally be at least 50 years old to be eligible for consideration as a historic property. That district, site, building, structure, or object must retain integrity of location, design, setting, materials, workmanship, feelings, and association as well as meet one of the following criteria to demonstrate its significance in American history, architecture, archeology, engineering, and culture. A district, site, building, structure, or object must:

> (A) be associated with events that have made a significant contribution to the broad patterns of history; or,
>
> (B) be associated with the lives of people significant in our past; or,
>
> (C) embody the distinct characteristics of a type, period, or method of construction, or represent the work of a master, or possess high artistic values, or represent a significant and distinguishable entity whose components may lack individual distinction; or,
>
> (D) have yielded, or may be likely to yield, information important in prehistory or history.

A site must have integrity and meet one of the four criteria of eligibility to demonstrate its historic associations in order to convey its significance. A property must be associated with one or more events important in the history or prehistory in order to be considered for listing under Criterion A. Additionally, the specific association of the property itself, must also be considered significant. Criterion B applies to properties associated with individuals whose specific contributions to the history can be identified and documented. Properties significant for their physical design or construction under Criterion C must have features with characteristics that exemplify such elements as architecture, landscape architecture, engineering, and artwork. Criterion D most commonly applies to properties that have the potential to answer, in whole or in part, important research questions about human history that can only be answered by the actual physical materials of cultural resources. A property eligible under Criterion D must demonstrate the potential to contain information relevant to the prehistory and history (*National Register Bulletin* 15).

A district, site, building, structure, or object may also be eligible for consideration as a historic property if that property meets the criteria considerations for properties generally less than 50 years old, in addition to possessing integrity and meeting the criteria for evaluation.

1.3.3 California Environmental Quality Act

CEQA is applicable to discretionary actions by state or local lead agencies. Under CEQA, lead agencies must analyze impacts to cultural resources. Significant impacts under CEQA occur when "historically significant" or "unique" cultural resources are adversely affected, which occurs when such resources could be altered or destroyed through project implementation. Historically significant cultural resources are defined by eligibility for or by listing in the California Register of Historical Resources (CRHR). In practice, the federal NRHP criteria (below) for significance applied under Section 106 are generally (although not entirely) consistent with CRHR criteria (see PRC § 5024.1, Title 14 CCR, Section 4852 and § 15064.5(a)(3)).

Significant cultural resources are those archaeological resources and historical properties that:

(A) Are associated with events that have made a significant contribution to the broad patterns of California's history and cultural heritage;

(B) Are associated with the lives of persons important in our past;

(C) Embody the distinctive characteristics of a type, period, region, or method of construction, or represent the work of an important creative individual, or possess high artistic values; or

(D) Have yielded, or may be likely to yield, information important in prehistory or history.

Unique resources under CEQA, in slight contrast, are those that represent:

> An archaeological artifact, object, or site about which it can be clearly demonstrated that, without merely adding to the current body of knowledge, there is a high probability that it meets any of the following criteria:
>
> (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.

(3) Is directly associated with a scientifically recognized important prehistoric or historic event or person (PRC § 21083.2(g)).

Preservation in place is the preferred approach under CEQA to mitigating adverse impacts to significant or unique cultural resources.

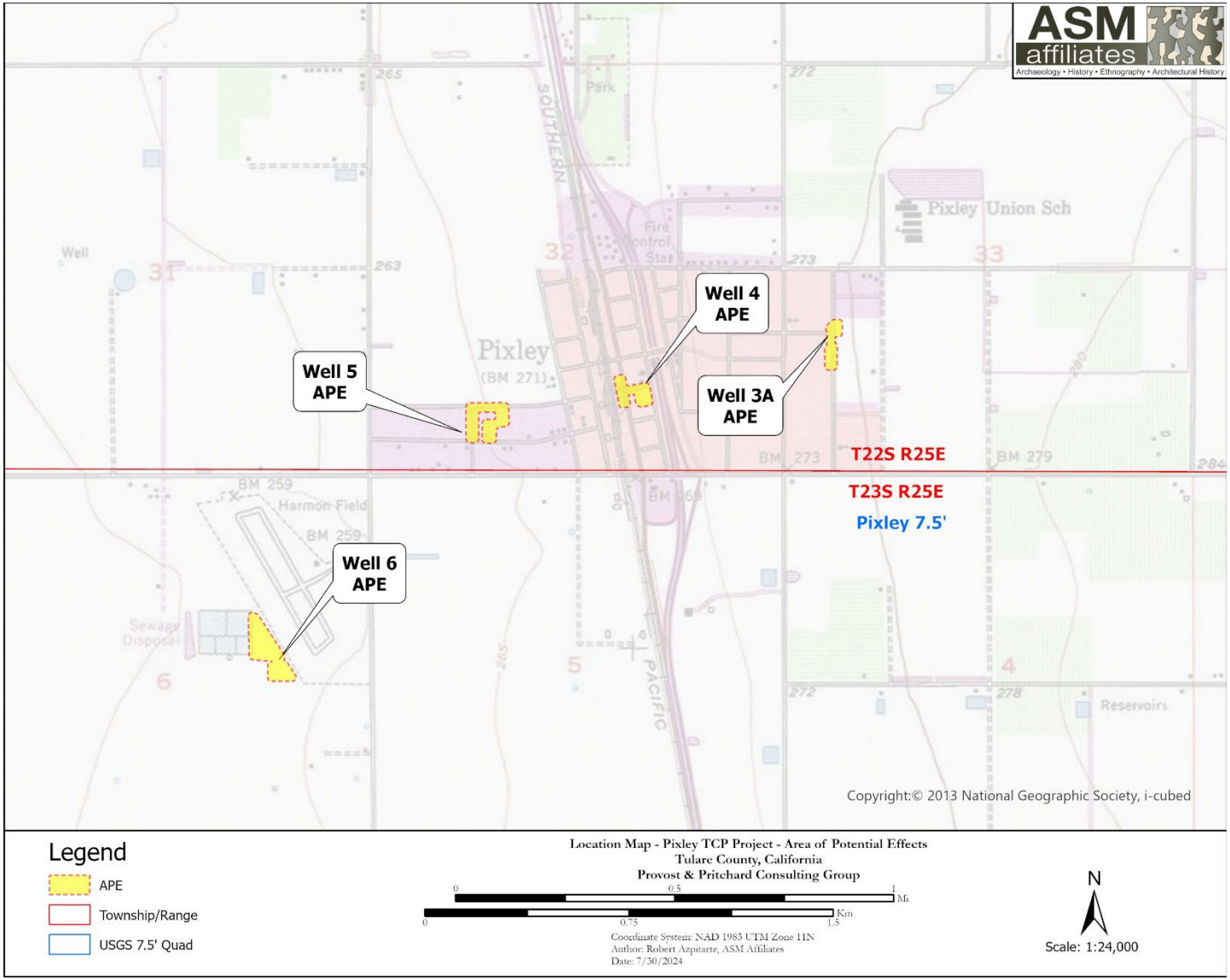


Figure 1. APE Map for the Pixley Public Utility District TCP Mitigation Project GAC Treatment at Wells 3A, 4, 5, & 6, Tulare County, California.

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2. NATURAL AND CULTURAL CONTEXT

2.1 ENVIRONMENTAL BACKGROUND AND GEOARCHAEOLOGICAL SENSITIVITY

As noted above, the APE is at an average elevation of approximately 260 ft. amsl, 16.5 mi. south of the city of Tulare on the open flats of the San Joaquin Valley. Before the appearance of agriculture, this location would have been prairie grasslands, grading into tree savannas in the foothills to the east (Preston 1981). The APE and immediate surroundings have been farmed and grazed for many years and no native vegetation is present, with the APE now consisting largely of undeveloped land, a water treatment plant, a reservoir, and access roads. Perennial bunchgrasses such as purple needlegrass and nodding needlegrass most likely would have been the dominant plant cover in the region prior to cultivation.

The APE is within the southern extent of the San Joaquin Valley. A Caltrans geoarchaeological study (Meyer et al. 2010) that included the APE was consulted in order to identify the potential for buried archaeological sites in the vicinity of the vicinity. This study involved first determining the location and ages of late Pleistocene (>25,000 years old) landforms in the southern San Joaquin Valley. These were identified by combining a synthesis of 2,400 published paleontological, soils and archaeological chronometric dates with geoarchaeological field testing. The ages of surface landforms were then mapped to provide an assessment for the potential for buried archaeological deposits. These ages were derived primarily from the Soil Survey Geographic Database (SSURGO) and the State Soils Geographic (STATSGO) database. A series of maps were created from this information that ranked locations in seven ordinal classes for sensitivity for buried soils, from Very Low to Very High.

According to the geoarchaeological model developed by Meyer et al. (2010), the general vicinity of the APE has a Low potential for buried archaeological deposits. Based on the observable data, buried sites and cultural resources are considered unlikely within the APE.

2.2 ETHNOGRAPHIC BACKGROUND

Penutian-speaking Yokuts tribal groups occupied the southern San Joaquin Valley region and much of the nearby Sierra Nevada. Ethnographic information about the Yokuts was collected primarily by Powers (1971, 1976 [originally 1877]), Kroeber (1925), Gayton (1930, 1948), Driver (1937), and Harrington (n.d.). For a variety of historical reasons, existing research information emphasizes the central Yokuts tribes which occupied both the valley and particularly the foothills of the Sierra Nevada. The northernmost tribes suffered from the influx of Euro Americans during the Gold Rush and their populations were in substantial decline by the time ethnographic studies began in the early twentieth century. In contrast, the southernmost tribes were partially removed by the Spanish to missions and eventually absorbed into multi-tribal communities on the Sebastian Indian Reservation (on Tejon Ranch), and later the Tule River Reservation and Santa Rosa Rancheria to the north. The result is a scarcity of ethnographic detail on southern Valley tribes, especially in relation to the rich information collected from the central foothills tribes where native speakers of the Yokuts dialects are still found. Regardless, the general details of indigenous

lifeways were similar across the broad expanse of Yokuts territory, particularly in terms of environmentally influenced subsistence and adaptation and with regard to religion and belief, which were similar everywhere.

Following Kroeber (1925: Plate 47), the Tulare region lies in a contact zone between a series of Yokuts tribal groups. Kroeber places the Wowol to the west of the APE, the Tuhohi to the south, Koyeti to the north along Tule River, and the Paleuyami to the southeast. No historic villages are recorded in the immediate vicinity by Kroeber (1925).

The Yokuts settlement pattern was largely consistent, regardless of the specific tribe involved. Winter villages were typically located along lakeshores and major stream courses (as these existed circa 150 years before present [YBP]), with dispersal phase family camps at elevated spots on the valley floor and near gathering areas in the foothills.

Most Yokuts groups, again regardless of specific tribal affiliation, were organized as a recognized and distinct tribelet, a circumstance that almost certainly pertained to the tribal groups noted above. Tribelets were land-owning groups organized around a central village and linked by shared territory and descent from a common ancestor. The population of most tribelets ranged from about 150 to 500 people (Kroeber 1925).

Each tribelet was headed by a chief who was aided by a variety of assistants, the most important of whom was the *winatum*, a herald or messenger and assistant chief. A shaman also served as religious officer. While shamans did not have any direct political authority, as Gayton (1930) has illustrated, they maintained substantial influence within their tribelet.

Shamanism is a religious system common to many Native American tribes. It involves a direct and personal relationship between the individual and the supernatural world enacted by entering a trance or hallucinatory state (usually through the ingestion of psychotropic plants, such as jimsonweed or more typically native tobacco). Shamans were considered individuals with an unusual degree of supernatural power, serving as healers or curers, diviners, and controllers of natural phenomena (such as rain or thunder). Shamans also produced the rock art of this region, depicting the visions they experienced in vision quests believed to represent their spirit helpers and events in the supernatural realm (Whitley 1992, 2000).

The centrality of shamanism to the religious and spiritual life of the Yokuts was demonstrated by the role of shamans in the yearly ceremonial round. The ritual round, performed the same way each year, started in the spring with the jimsonweed ceremony, followed by rattlesnake dance and (where appropriate) first salmon ceremony. After returning from seed camps, fall rituals began in the late summer with the mourning ceremony, followed by first seed and acorn rites, and then bear dance (Gayton 1930:379). In each case, shamans served as ceremonial officials responsible for specific dances involving a display of their supernatural powers (Kroeber 1925).

Subsistence practices varied from tribelet to tribelet based on the environment of residence. Throughout Native California, and Yokuts territory in general, the acorn was a primary dietary component, along with a variety of gathered seeds. Valley tribes augmented this resource with lacustrine and riverine foods, especially fish and wildfowl. As with many Native California tribes,

the settlement and subsistence rounds included the winter aggregation into a few large villages, where stored resources (like acorns) served as staples, followed by dispersal into smaller camps, often occupied by extended families, where seasonally available resources would be gathered and consumed.

Although population estimates vary and population size was greatly affected by the introduction of Euro American diseases and social disruption, the Yokuts were one of the largest, most successful groups in Native California. Cook (1978) estimates that the Yokuts region contained 27 percent of the aboriginal population in the state at the time of contact; other estimates are even higher. Many Yokuts people continue to reside in the southern San Joaquin Valley today.

2.3 PRE-CONTACT ARCHAEOLOGICAL BACKGROUND

The southern San Joaquin Valley region has received minimal archaeological attention compared to other areas of the state. In part, this is because the majority of California archaeological work has been concentrated in the Sacramento Delta, Santa Barbara Channel, and central Mojave Desert areas (see Moratto 1984). Although knowledge of the region's prehistory is limited, enough is known to determine that the archaeological record is broadly similar to south-central California as a whole (see Gifford and Schenck 1926; Hewes 1941; Wedel 1941; Fenenga 1952; Elsasser 1962; Fredrickson and Grossman 1977; Schiffman and Garfinkel 1981). Based on these sources, the general prehistory of the region can be outlined as follows.

Initial occupation of the region occurred at least as early as the *Paleoindian Period*, or prior to about 10,000 YBP. Evidence of early use of the region is indicated by characteristic fluted and stemmed points found around the margin of Tulare Lake, in the foothills of the Sierra, and in the Mojave Desert proper.

Both fluted and stemmed points are particularly common around lake margins, suggesting a terminal Pleistocene/early Holocene lakeshore adaptation similar to that found throughout the far west at the same time; little else is known about these earliest peoples. More than 250 fluted points have been recovered from the Witt Site (CA-KIN-32), located along the western shoreline of ancient Tulare Lake, west of the APE, demonstrating the importance of this early occupation in the San Joaquin Valley (see Fenenga 1993). Additional finds consist of a Clovis-like projectile point discovered in a flash-flood cut-bank near White Oak Lodge in 1953 on Tejon Ranch (Glennan 1987a, 1987b). More recently, a similar fluted point was found near Bakersfield (Zimmerman et al. 1989), and a number are known from the Edwards Air Force Base and Boron area of the western Mojave Desert. Although human occupation of the state is well-established during the Late Pleistocene, relatively little can be inferred about the nature and distribution of this occupation with a few exceptions. First, little evidence exists to support the idea that people at that time were big-game hunters, similar to those found on the Great Plains. Second, the western Mojave Desert evidence suggests small, very mobile populations that left a minimal archaeological signature. The evidence from the ancient Tulare Lake shore, in contrast, suggests much more substantial population and settlements which, instead of relying on big game hunting, were tied to the lacustrine lake edge. Variability in subsistence and settlement patterns is thus apparent in California, in contrast to the Great Plains.

Substantial evidence for human occupation across California, however, first occurs during the middle Holocene, roughly 7500 to 4000 YBP. This period is known as the *Early Horizon*, or alternatively as the Early Millingstone, along the Santa Barbara Channel. In the south, populations were concentrated along the coast with minimal visible use of inland areas. Adaptation emphasized hard seeds and nuts with toolkits dominated by mullers and grindstones (manos and metates). Additionally, little evidence for Early Horizon occupation exists in most inland portions of the state, partly due to a severe cold and dry paleoclimatic period occurring at this time, although a site deposit dating to this age has been identified along the ancient Buena Vista shoreline in Kern County to the south (Rosenthal et al. 2007). Regardless of specifics, Early Horizon population density was low with a subsistence adaptation more likely tied to plant food gathering than hunting.

Environmental conditions improved dramatically after about 4000 YBP during the *Middle Horizon* (or Intermediate Period). This period is known climatically as the Holocene Maximum (circa 3800 YBP) and was characterized by significantly warmer and wetter conditions than previously experienced. It was marked archaeologically by large population increase and radiation into new environments along coastal and interior south-central California and the Mojave Desert (Whitley 2000). In the Delta region to the north, this same period of favorable environmental conditions was characterized by the appearance of the Windmiller culture which exhibited a high degree of ritual elaboration (especially in burial practices) and perhaps even a rudimentary mound-building tradition (Meighan, personal communication, 1985). Along with ritual elaboration, Middle Horizon times experienced increasing subsistence specialization, perhaps correlating with the appearance of acorn processing technology. Penutian speaking peoples (including the Yokuts) are also posited to have entered the state roughly at the beginning of this period and, perhaps, to have brought this technology with them (cf. Moratto 1984). Likewise, it appears the so-called "Shoshonean Wedge" in southern California, the Takic speaking groups that include the Gabrielino/Fernandeño, Tataviam, and Kitanemuk, may have moved into the region at that time (Sutton 2009), rather than at about 1500 YBP as first suggested by Kroeber (1925).

Evidence for Middle Horizon occupation of interior south-central California is substantial. For example, in northern Los Angeles County along the upper Santa Clara River, to the south of the San Joaquin Valley, the Agua Dulce village complex indicates occupation extending back to the Intermediate Period, when the population of the village may have been 50 or more people (King et al. n.d.). Similarly, inhabitation of the Hathaway Ranch region near Lake Piru, and the Newhall Ranch near Valencia, appears to date to the Intermediate Period (W&S Consultants 1994). To the west, little or no evidence exists for pre-Middle Horizon occupation in the upper Sisquoc and Cuyama River drainages; populations first appear there at roughly 3500 YBP (Horne 1981). The Carrizo Plain, the valley immediately west of the San Joaquin, experienced a major population expansion during the Middle Horizon (W&S Consultants 2004; Whitley et al. 2007), and recently collected data indicates the Tehachapi Mountains region was first significantly occupied during the Middle Horizon (W&S Consultants 2006). A parallel can be drawn to the inland Ventura County region where a similar pattern has been identified (Whitley and Beaudry 1991), as well as the western Mojave Desert (Sutton 1988a, 1988b), the southern Sierra Nevada (W&S Consultants 1999), and the Coso Range region (Whitley et al. 1988). In all of these areas a major expansion in settlement, the establishment of large site complexes, and an increase in the range of environments exploited appear to have occurred sometime roughly around 4000 YBP. Although most efforts to explain this expansion have focused on local circumstances and events, it is increasingly apparent

this was a major southern California-wide occurrence, and any explanation must be sought at a larger level of analysis (Whitley 2000). Additionally, evidence from the Carrizo Plain suggests the origins of the tribelet level of political organization developed during this period (W&S Consultants 2004; Whitley et al. 2007). Whether this same demographic process holds for the southern San Joaquin Valley, including the current APE, is yet to be determined.

The beginning of the *Late Horizon* is set variously at 1500 and 800 YBP, with a growing archaeological consensus for the shorter chronology. Increasing evidence suggests the importance of the Middle-Late Horizons transition (1150 to 500 YBP) in the understanding of south-central California prehistory. This corresponds to the so-called Medieval Climatic Anomaly, followed by the Little Ice Age, and this general period of climatic instability extended to about 90 YBP. It included major droughts matched by intermittent "mega-floods," and resulted in demographic disturbances across much of the west (Jones et al. 1999). It is believed to have resulted in major population decline and abandonments across south-central California, involving as much as 90 percent of the interior populations in some regions, including the Carrizo Plain (Whitley et al. 2007). It is not clear whether site abandonment was accompanied by a true reduction in population or an agglomeration of the same numbers of peoples into fewer but larger villages in more favorable locations. Population along the Santa Barbara coast appears to have spiked at about the same time that it collapsed on the Carrizo Plain (Whitley et al. 2007). Along Buena Vista Lake, in Kern County, population appears to have been increasingly concentrated toward the later end of the Medieval Climatic Anomaly (Culleton 2006), and population intensification also appears to have occurred in the well-watered Tehachapi Mountains during this same period (W&S Consultants 2006).

What is clear is that Middle Period villages and settlements were widely dispersed across the south-central California landscape, including in the Sierra Nevada and the Mojave Desert. Many of these sites are found at locations that lack existing or historically known fresh water sources. Late Horizon sites, in contrast, are typically concentrated in areas where fresh water was available during the historical period, if not currently.

One extensively studied site that shows evidence of intensive occupation during the Middle-Late Horizons transition (~1500-500 YBP) is the Redtfeldt Mound (CA-KIN-66/H), located west of the current APE, near the north shore of ancient Tulare Lake. There, Siefkin (1999) reported on human burials and a host of artifacts and ecofacts excavated from a modest-sized mound. He found that both Middle Horizon and Middle-Late Horizons transition occupations were more intensive than Late Horizon occupations, which were sporadic and less intensive (Siefkin 1999:110-111).

The Late Horizon can then be understood as a period of recovery from a major demographic collapse. One result is the development of regional archaeological cultures as the precursors to ethnographic Native California; suggesting that ethnographic lifeways recorded by anthropologists extend roughly 800 years into the past.

The position of southern San Joaquin Valley prehistory relative to patterns seen in surrounding areas is still somewhat unknown. The presence of large lake systems in the valley bottoms appears to have mediated some of the desiccation seen elsewhere. But, as the reconstruction of Soda Lake in the nearby Carrizo Plain demonstrates (see Whitley et al. 2007), environmental perturbations

had serious impacts on lake systems too. Identifying certain of the prehistoric demographic trends for the southern San Joaquin Valley, and determining how these trends (if present) correlate with those seen elsewhere, is a current important research objective.

2.4 HISTORICAL BACKGROUND

2.4.1 History of Tulare County

Spanish explorers first visited the San Joaquin Valley in 1772, but its lengthy distance from the missions and presidios along the Pacific Coast delayed permanent settlement for many years, including during the Mexican period of control over the Californian region. In the 1840s, Mexican rancho owners along the Pacific Coast allowed their cattle to wander and graze in the San Joaquin Valley (JRP Historical Consulting 2009). The Mexican government granted the first ranchos in the southern part of the San Joaquin Valley in the early 1840s, but these did not result in permanent settlement. It was not until the annexation of California in 1848 that the exploitation of the southern San Joaquin Valley began (Pacific Legacy 2006).

The discovery of gold in northern California in 1848 resulted in a dramatic increase of population, consisting in good part of fortune seekers and gold miners, who began to scour other parts of the state. After 1851, when gold was discovered in the Sierra Nevada Mountains in eastern Kern County, the population of the area grew rapidly. Some new immigrants began ranching in the San Joaquin Valley to supply the miners and mining towns. Ranchers grazed cattle and sheep, and farmers dry-farmed or used limited irrigation to grow grain crops, leading to the creation of small agricultural communities throughout the valley (JRP Historical Consulting 2009).

After the American annexation of California, the southern San Joaquin Valley became significant as a center of food production for this new influx of people in California. The expansive unfenced and principally public foothill spaces were well suited for grazing both sheep and cattle (Boyd 1997). As the Sierra Nevada gold rush presented extensive financial opportunities, ranchers introduced new breeds of livestock, consisting of cattle, sheep and pig (Boyd 1997).

With the increase of ranching in the southern San Joaquin Valley came the dramatic change in the landscape, as non-native grasses more beneficial for grazing and pasture replaced native flora (Preston 1981). After the passing of the Arkansas Act in 1850, efforts were made to reclaim small tracts of land in order to create more usable spaces for ranching. Eventually, as farming supplanted ranching as a more profitable enterprise, large tracts of land began to be reclaimed for agricultural use, aided in part by the extension of the railroad in the 1870s (Pacific Legacy 2006).

The Santa Fe and Southern Pacific Railroads extended into Tulare County in the 1870s. Deliberations among the major owners of the rail companies resulted in a decision that one large town would be developed in the approximate middle of each San Joaquin Valley county, to serve as county seat and railroad hub. The location of the City of Tulare was one such selected spot, placed at the intersection of the Santa Fe and Southern Pacific railroads (Preston 1991). Prior to that time, this area had relatively few settlers due to the lack of surface water, with most Euro Americans settling either farther north and east, closer to the main branches of the Kaweah and Kings Rivers, or to the south and east, along the Tule River (Menafee and Dodge 1913).

The City of Tulare was established by the Southern Pacific Railroad in 1872, with plats aligned parallel to the tracks. As a rail diversion point, a series of rail company workshops, including a roundhouse, were constructed. The work force for these facilities attracted additional development and settlement. In addition to the rail yards, by 1876 the town had a general store, drugstore, hardware shop, two blacksmiths, two carpentry shops, a wheelwright, lumberyard, and a flour mill (Preston 1991).

Following the passage of statewide "No-Fence" laws in 1874, ranching practices began to decline, while farming expanded in the San Joaquin Valley in both large land holdings and smaller, subdivided properties. As the farming population grew, so did the demand for irrigation. During the period of reclaiming unproductive land in the southern San Joaquin Valley, grants were given to individuals who had both the resources and the finances to undertake the operation alone.

Three competing partnerships developed during this period which had a great impact on control of water, land reclamation and ultimately agricultural development in the San Joaquin Valley: Livermore and Chester, Haggin and Carr, and Miller and Lux, perhaps the most famous of the enterprises. Livermore and Chester were responsible, among other things, for developing the large Hollister plow (3 ft. wide by 2 ft. deep), pulled by a 40-mule team, which was used for ditch digging. Haggin and Carr were largely responsible for reclaiming the beds of the Buena Vista and Kern lakes, and for creating the Calloway Canal, which drained through the Rosedale area in Bakersfield to Goose Lake (Morgan 1914). Miller and Lux ultimately became one of the biggest private property holders in the country, controlling the rights to over 22,000 square mi. Miller and Lux's impact extended far beyond Kern County, however. They recognized early on that control of water would have important economic implications, and they played a major role in the water development of the state. They controlled, for example, over 100 mi. of the San Joaquin River with the San Joaquin and Kings River Canal and Irrigation System. They were also embroiled for many years in litigation against Haggin and Carr over control of the water rights to the Kern River. Descendants of Henry Miller continue to play a major role in California water rights, with his great-grandson, George Nickel, Jr., the first to develop the concept of water banking, thus creating a system to buy and sell water (Levine 2011).

The controversies associated with these endeavors culminated in the Wright Irrigation Act of 1887, which provided for the ownership of land and water as a unit rather than as separate rights. It further allowed the creation of irrigation districts comprised of local landowners.

2.4.2 History of Pixley

The area of land that is now the town of Pixley began like many other areas in California's central valley and in Tulare County. It quickly became notable for its lush landscape and bountiful wildflowers and it was described as a "sheep man's paradise" due to the consistent presence of moisture in the ground and abundance of vegetation for sheep herding (Keagle 1939a). During the late 1800s, in the area that would become Pixley as well as most of Tulare County, an article described how "one could look as far as the eye could reach over the great plains with nothing to obstruct the vision save an occasional farm house" (*Tulare Advance-Register* 1887). The first structure to be built by non-indigenous settlers in what would become the town of Pixley was the Smith family homestead. The Smith family grazed cattle in the area and would be one of the first

to bore wells and discover the artesian water beneath the surface, a discovery that would transform the area forever (Keagle 1939a).

The history of the founding of the town of Pixley is tied to the route of the Central Pacific Railroad and a man named Frank Pixley, the namesake of the town. Fank Pixley was the attorney general of California while Leland Stanford was governor. This relationship continued when Stanford was president of the Central Pacific Railroad and Frank Pixley was retained as his legal advisor (Brewer 2004). Because of the presence of the artesian water in the area of Pixley, two men named Darwin C. Allen and William B. Bradbury saw potential in the area and had interest in developing a town. They contacted Pixley due to his connections with Stanford, and together established the Pixley Townsite Company in 1886. Through Pixley, Stanford was persuaded to approve the construction of a railroad station in what would become the center of the town of Pixley (Brewer 2004). In order to justify a railroad stop, the grand three-story Artesia Hotel (named for the significant water source) was constructed. It would serve as the railroad eating house and became the heart of the small town, named after Pixley due to his financial and legal assistance in the creation and development of the town (Keagle 1939a).

Pixley was notable not just for the presence of artesian water but also because of its visibility—the well spewed fresh water 10 feet in the air in a fountain effect, dazzling visitors to the area (Keagle 1939a). The new Pixley rail stop was located near the well which was west of the Central Pacific Railroad tracks and across the street from the Artesia Hotel. The Pixley Water Mutual Company was in charge of the boring and distribution of water to the surrounding farming areas.

A livery stable was constructed to support the Artesia Hotel. Other buildings in the town included a general merchandise store constructed of brick, a large two-story school, a grain warehouse, a blacksmith shop, and a number of residences (Keagle 1939b). By 1887, a post office was established in the hotel, and, by 1888, the new train depot and adjoining warehouse were completed, thus together leading the town to become a grain shipping center and fully defining Pixley as a town in its own right along the Central Pacific Railroad (Keagle 1939b).

However, this would not last. As the United States underwent a depressive economic period around the turn of the twentieth century, Pixley's artesian water reserve was depleting from overuse, and eventually irrigation could happen only during the unpredictable wet years (Keagle 1939c). This was a bleak era of Pixley's history, as many families left the area and the two brick buildings adjacent to the hotel were abandoned. Those who stayed began to venture into other industries, mainly dairy, as advancements in technology led to the development of gas-powered motor pumps that could allow for alfalfa fields. Other ventures included a failed attempt to grow eucalyptus for furniture making and lumber in 1908. Various Southern California corporations purchased land to invest in eucalyptus, but failed to realize that the wrong species of eucalyptus was planted. It is for this reason that eucalyptus trees are still visible along Route 99. On the other hand, in 1912, James T. Compton successfully invented a scraper and built a machine shop in the heart of Pixley. Coined the "Compton Scraper," the factory was the community's main business for a period of time in the early twentieth century (Keagle 1939c).

As the Compton Scraper factory enjoyed success and farmers found success in the dairy industry, the community began to further develop and the hotel "came back to life" (Keagle 1939d). During

the 1910s, the B, C, and D blocks (now Bradbury, Compton, and Davis) were developed with various businesses to support the town, and dwellings were constructed largely in the Post-WWI period (Keagle 1939d). At around the same time, cotton began to replace dairy as the area's largest industry. By 1922, 11,000 bales of cotton were produced in a year (Keagle, 1939e).

However, the Depression Era brought trouble and tension to Pixley. The prosperity of the previous decades had attracted a number of cotton field laborers that cotton growers now had difficulty paying. This tension ultimately culminated in a strike that left two dead and eight wounded in 1933 (Ommen 2016). Despite this troubled era, Pixley continued to grow as a town as a result of its agricultural successes, and steadily climbed in population. In 1956, the town reached its then peak population of 2,500 (*Tulare-Advance Register* 1986). This is around the same time that Highway 99 was diverted. It had originally traversed the town through Main Street but, in the mid-1950s, the highway was diverted to the east.

Since the mid-twentieth century, the population of Pixley has risen and fallen, as the agricultural economy that Pixley relies upon for its wealth has shifted. Presently, growth in Pixley is dependent on its proximity to Highway 99 and the Union Pacific railroad.

2.4.3 Site Specific History of Compton Avenue Warehouse (APN 299-15-34)

The Compton Avenue Warehouse, or Simeral's Warehouse, is located within the Well 4 APE, was constructed on the lot located on Compton Avenue between Center Street and Main Street, east of the alley that bisects the block. The oldest portion of the building was constructed in 1920, with subsequent sections completed by 1956. Historically, Compton Avenue has born various names; it has been referred to as "Center Street" (before the contemporary Center Street was named) or occasionally as "C Street." Regardless of its name, the street now known as Compton Avenue was a very important street in the early history of Pixley.

The original Pixley train depot and the artesian well were located just one block to the west, and the Artesian Hotel, described by newspapers as the "heart" or the "pride" of Pixley was located across the street on the northeast corner of what is now Main Street and Compton Avenue (*Tulare-Advance Register* 1981). Constructed in the late 1800s, the hotel quickly became the social center of the town and the area immediately surrounding the hotel became the economic center. As agricultural prosperity brought more business to Pixley and as the town began to grow, the blocks surrounding the hotel's immediate vicinity were utilized for both residential and economic purposes (*Tulare Advance-Register* 1887).

Across the block to the east of the Compton Avenue Warehouse once stood the Compton Scraper Works factory—a small warehouse at southeast corner of Third Street and C Street (now Center and Compton avenues) (Keagle 1939c). The Compton Scraper Works factory was at one time the hotel's livery stable. This building was demolished when Highway 99 was re-aligned in the 1950s.

In 1918, J. E. Swanson and George Simeral established the Pixley Mercantile Company in a building on the southeast corner of what is now Main Street and Compton Avenue (Keagle 1939d). Later, after Simeral took full ownership of the business, the name was changed to the Pixley Hardware Company. In 1920, it was announced that a new warehouse would be constructed adjoining the original building (*The Fresno Morning Republican* 1920). This was likely the

announcement of the construction of the original and oldest section of the Compton Avenue Warehouse.

Neighboring the Pixley Hardware Company were the Folletts, a multi-generational Pixley family. Follett family members were notable in the town's history as the first post-masters of the town and later as the first telephone operators in the city, effectively bringing telephones to Pixley during the first decades of the twentieth century (*Tulare Advance-Register* 1939). The Folletts owned a piece of property on "C Street" that was later purchased by the Simerals in 1945 (*Tulare Advance-Register* 1945). The property sold to Simeral was likely the plot or plots that were part of the parcel on which he had already constructed one section of the warehouse. Although building records are unclear, it is likely that the Follet's had constructed another warehouse building on the east end of the parcel. At an unknown date between the 1945 purchase by Simeral and 1956, a third warehouse was constructed in between the two earlier buildings to join the three small warehouses into one building, as evidenced in the 1956 historic aerial.

A 1937 newspaper reveals that the Pixley Mutual Water Company (now known as the PPUD) owned the easternmost lot of Block 44: lot 18 (*Tulare Advance-Register* 1937). This explains why the Compton Avenue property does not fully reach the curb on its eastern side. The Simerals seem to have supported the efforts of the Pixley Mutual Water Company and, by 1960, described their business as a "hardware and pump business" (*Tulare Advance-Register* 1960). Robert Simeral was quoted in the local newspapers in 1960 as being involved with the study for a third well in the city of Pixley. In this same paper, he is photographed standing next to the water pumping plant under the Pixley Water tower, which is directly north of the Compton Avenue property (*Tulare Advance-Register* 1960). The connections between Robert Simeral and the Pixley Mutual Water Company are very likely what led to the construction of a pump in the rear of the Compton Avenue property, which runs to this day. It would not have been challenging to convert the warehouse on the property from a "hardware and pump business warehouse" to a "well shop and warehouse" as it is now after the property was purchased by what is now the PPUD in the early 1970s.

In 1969, the warehouse building is listed under the address of 223 Compton Avenue as "Simerol's Warehouse" in the Pixley city directory (with Simerol a likely misspelling as the name is spelled Simeral in all other sources) (R. L. Polk 1969). In the following years, however, the address is not listed again. Due to changing parcel sizes, changing street names, and street re-alignments immediately surrounding the building, the address of the individual parcels and/or the potential address under the ownership of the Folletts are lost.

The economic viability of this area of Pixley began to decline after the re-alignment of Highway 99. Highway 99 originally ran along what is now Main Street in Pixley. Because the highway ran along the route of the Central Pacific Railroad, which was already the center of town, the initial construction of the highway did not negatively impact the economic development of the town, and in fact worked to further promote it (*Tulare Advance-Register* 1960). However, when Highway 99 was realigned east, many of the original blocks of Pixley were demolished and only one block between the railroad and the new highway alignment was retained. Caught between train tracks on the west and a highway on the east, this one block segment of Pixley was effectively isolated from the rest of the town, negating any further conceivable growth or development of the land in this

area. The Compton Avenue property exists as it does now because of this arrangement, effectively isolated from the rest of Pixley between the two transportation corridors.

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3. LITERATURE REVIEW

3.1 RECORDS SEARCH

In order to determine whether the APE had been previously surveyed for cultural resources, and/or whether any such resources were known to exist within or near to it, an archival records search was conducted by the staff of the Southern San Joaquin Valley Information Center (SSJVIC) on January 29, 2024. The records search was completed to determine: (i) if pre-contact or historic-era cultural resources had previously been recorded within the APE; (ii) if the APE had been systematically surveyed by archaeologists prior to the initiation of this fieldwork; and/or (iii) whether the area surrounding the APE was known to contain archaeological sites or built environment resources and to thereby be culturally sensitive. Records examined included archaeological site files and maps, the NRHP, Historic Property Data File, California Inventory of Historic Resources, and the California Points of Historic Interest. The records search included the APE and a 0.5 mi. buffer.

According to the SSJVIC, no previous studies have been conducted within the APE, and 10 previous studies were identified within the 0.5 mi. buffer (Table 1). The SSJVIC results identified no previously recorded cultural resources within the APE. Three historic-era built environment resources (P-54-003232, P-54-003398, and P-54-004626) as well as the remains of the Pixley Railroad Station (P-54-003397) were identified within the 0.5 mi. buffer, with the nearest located less than 0.1 mi. from the APE (Table 2). The results of the SSJVIC records search are available in Confidential Appendix A.

Table 1. Previous Reports with 0.5 mi. of the APE

Report #	Year	Author/Affiliation	Title	APE Relationship
TU-00102	1995	Hatoff, Brian, Voss, Barb, Waechter, Sharon, Wee, Stephen, and Benté, Vance	Cultural Resources Inventory Report for the Proposed Mojave Northward Expansion Project	Outside
TU-00195	1977	Cantwell, R.J.	Archaeological and Historical Survey Report: Railroad Crossing Avenue 96 at Road 125	Outside
TU-00230	1978	Cantwell, R.J.	Archaeological and Historical Survey Report: Road 120 From Avenue 64 to Avenue 96	Outside
TU-00406	1988	Neuenschwander, Neal	Cultural Resource Assessment of the Pixley Apartments II, Tulare County, California	Outside
TU-01023	1999	Hudlow, Scott	A Phase I Cultural Resource Survey for Tulare County Community Redevelopment, Pixley Place Project, Tulare County, California	Outside
TU-01324	2006	Arrington, Cindy, Bass, Bryon, Brown, Joan, Corey, Chris, and Hunt, Kevin	Cultural Resources Final Report of Monitoring and Findings for the Qwest Network Construction Project, State of California	Outside
TU-01393	2008	Supernowicz, Dana	Cultural Resources Study of the Pixley Project Metro PCS Site No. FRN-031C:11247 South Center Street, Pixley, Tulare County, California	Outside

Report #	Year	Author/Affiliation	Title	APE Relationship
TU-01465	2007	Orfila, Rebecca	GO131-D Proposed Vestal to Pixley 66 kV Line Reconnaissance Report	Outside
TU-01567	2009	Bonner, Wayne and Crawford, Kathleen	Records Search and Site Visit Results for Cricket Communications Candidate VIS-662B (Metro PCS FRN031C) 11247 South Center Street, Pixley, Tulare County, California	Outside
TU-01802	2017	Thomas, Katherine and Crawford, Kathleen	Cultural Resources Records Search and Site Visit Results for AT&T Mobility, LLC Candidate CVU1229 (Pixley), 142' NW of Center ST & Compton Ave Intersection, Pixley, Tulare County, California	Outside

Table 2. Previously Recorded Resources

Primary #	Type	Description	Eligibility Status	APE Relationship
P-54-003232	Historic-era building	Pixley Hotel.	Recommended not eligible	Outside
P-54-003397	Historic-era site	Pixley Railroad Station.	Unevaluated	Outside
P-54-003398	Historic-era structure	Fish pond.	Unevaluated	Outside
P-54-004626	Historic-era structure	Southern Pacific Railroad.	Determined not eligible	Outside

3.2 TRIBAL COORDINATION

A search of the Native American Heritage Commission (NAHC) Sacred Lands File was completed on January 30, 2024. Based on the NAHC records, the APE is negative for sacred sites or traditional cultural places. Outreach letters and emails were sent on February 5, 2024, to tribal organizations on the NAHC contact list. Follow-up emails were sent on April 16, 2024. The Santa Rosa Rancheria Tachi Yokut Tribe responded requesting a cultural presentation for construction staff and a curation agreement. No additional responses were received as a result of this outreach. NAHC request, NAHC results, Tribal outreach letters, and Tribal responses can be found in Confidential Appendix B.

3.3 HISTORIC AERIAL AND TOPOGRAPHIC MAPS

Historical topographical maps and aerial imagery that included the APE were consulted to identify potential historic-era structures or resources. According to USGS topographic quadrangles, historical aerials, Google Earth imagery, and Nationwide Environmental Title Research, portions of the APE were developed as early as the early twentieth century or have undergone significant development since at least the mid-twentieth century. The 1929 USGS Pixley 1:31,680 quadrangle depicts Well 3A, Well 5, and Well 6 as undeveloped. Well 4 is within the downtown Pixley area with roads and buildings directly adjacent to the APE. An unnamed road runs adjacent to the eastern portion of the Well 4 APE along the same alignment as what is now Center Street, and another unnamed road is depicted directly north of the Well 4 APE in the same position as what is now Compton Avenue. The 1950 USGS Pixley 1:24,000 quadrangle depicts the APE as being in the same condition as the 1929 topographic map with the exception roads depicted to the west of Well 3A and roads to the north and south of Well 5.

Aerial imagery depicts the majority of the APE as undeveloped as far back as 1956. The Well 3A APE is undeveloped as far back as 1956. The Well 3A APE remains undeveloped until 1984 with an extant structure developed in the southeastern portion of the APE. From 1984 to 2023, the Well 3A APE appears in its current state. The Well 4 APE is developed as far back as 1956 with an extant building in the northern portion of the Well 4 APE and a small structure in the southern portion of the APE. The Well 4 APE is bordered by Compton Avenue to the north, Center Street to the east, and an unnamed alley to the west. From 1956 to 2023, the Well 4 APE appears in its current state. The Well 5 APE is undeveloped as far back as 1956. The Well 5 APE goes through significant changes throughout the mid-to-late-twentieth and early-twenty-first centuries with multiple structures being developed and demolished. The 2022 aerial image depicts the Well 5 APE in its current state. The Well 6 APE is undeveloped as far back as 1956. The Well 6 APE remains undeveloped until 2021. The 2021 aerial image depicts the Well 6 in its current state.

3.4. ARCHIVAL RESEARCH

ASM conducted archival research to develop a general historic context for the City of Pixley and the site-specific information regarding the identified built environment resource within the Well 4 APE. Building permits and other documents were requested through the Tulare County Assessor's Office as well as the Tulare County Resource Management Agency. Due to the frequent change of address as well as the evolution of the surrounding neighborhood of the built environment resource within the Well 4 APE, limited original building permits or documents pertaining to the building exist. Local newspapers and ancestry resources were used to search for any possible individuals or events associated with the property.

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4. FIELD METHODS AND RESULTS

4.1 FIELD METHODS

An intensive Phase I survey of the APE was conducted by ASM Assistant Archaeologist Maria Silva, B.A., on February 19, 2024. The Phase I survey included a review of the APE for the presence of archaeological resources and built environment features. The field methods employed also included intensive pedestrian examination of the ground surface for evidence of archaeological sites in the form of artifacts, surface features (such as bedrock mortars or historical mining equipment), and archaeological indicators (e.g., organically enriched midden soil or burnt animal bone); the identification and location of any discovered sites, should they be present; tabulation and recording of surface diagnostic artifacts; site sketch mapping; preliminary evaluation of site integrity; and site recording, following the California Office of Historic Preservation (OHP) Instructions for Recording Historic Resources using California Department of Parks and Recreation (DPR) 523 forms. Parallel survey transects spaced at maximum intervals of 15 m. apart were employed for pedestrian survey of the 16 ac. APE.

4.2 SURVEY RESULTS

4.2.1 Archaeological Results

The APE consists of four water treatment systems at four well sites, identified as Well 3A, 4, 5, and 6. Visibility for the APE ranged from fair (approximately 30 percent) to great (over 95 percent) with the exception of developed areas which were hardscaped over or covered with imported gravel (Figure 2 and Figure 3). Visibility was obscured in places by non-native vegetation. Soils within the APE consisted of light brown sandy loam. No archaeological resources were observed within the APE.

4.2.2 Built Environment Results

An extant historic-era building was identified within the Well 4 APE during background research. ASM Architectural Historian Madeline Gonzalez, M.A. recorded the extant historic-era building on January 24, 2024. During the recording, multiple photos were taken of the property and the building. Architectural and landscape features and their condition were noted.

The historic-era structure is located on Compton Avenue (APN 299-15-34) in Pixley, California (Figure 4). The first section of the building was constructed in 1920, with two additional rectangular-form sections likely completed between 1945 and 1956. The Compton Avenue Warehouse (APN 299-15-34) is a utilitarian, one-story, warehouse and shop building, with a primary façade facing northwest toward Compton Avenue. The primary façade of the building features no set-back and is constructed up to the edge of the sidewalk. The Compton Avenue Warehouse features three distinct rooflines, each a medium-pitched front-gable roof. The differentiating rooflines visually divide the building into three separate sections, likely related to different periods of construction. As the roof and the features of each section are different from the

other, the east and west sections were likely separate buildings completed prior to the middle section built to join them together.

The westernmost section was constructed first in 1920 and is the smallest of the three sections. The primary façade faces Compton Avenue and its west façade faces an alley that runs parallel to Center and Main streets (Figure 5). In contrast to the other two sections, the western section exhibits shallow, wood eaves and exposed wood rafters (Figure 6). The primary façade features is stucco clad, with evidence on the lower sections of heavy re-painting and re-stuccoing. A single, flat, metal door is located on the far west side of the primary façade. The roof of this section of the building is halved at the gable peak, with the west plane of the roof composed of corrugated metal and the east plane composed of asphalt shingle. The horizontal metal cladding of the west façade differs from the stucco cladding of the primary façade. There appears to have been a window on the north end of the west façade which has since been filled with the same corrugated metal cladding. Similarly, a small wooden plank is present on this side of the building, however, it is not clear whether it is covering a window that once existed or if it is covering a hole. Finally, a large double-door entrance is found on the southern end of the west facade. This entrance appears to be a garage door or a garage entrance, and is composed of corrugated metal, but a different material than the surrounding cladding. This differentiation in materials is further evidence that construction of the three section of the building occurred at a different times. The metal siding of the western section is heavily damaged and dented in many different areas. The western section of the building is the smallest of the three sections and does not extend as far south. As the western section is shorter than the other two, the resulting overall form of the building is an “L” shape (Figure 7). The rear façade of this section displays no notable features beyond a continuation of the metal cladding found along other parts of the building.

The next section of the building that was constructed was likely the easternmost section which is closest to the corner of Center Street and Compton Avenue (Figure 8). It is also a front-gable rectangular building that is the widest of the three sections. It features flat, metal, double entrance doors in the center of the primary façade facing Compton Avenue. It appears that there were once windows on either side of the doors, however, these have since been filled in as evidenced by the variations of painted stucco along the primary façade. A metal vent is present in the center of the façade above the doorway, and directly within the under-gable is an exterior light. Notably, the sidewalk in the front of the primary façade of this section of the building is a red color and is elevated higher than the other segments of sidewalk in its immediate vicinity and in front of the other sections of the building. The rear and east facades of the easternmost section are clad in vertical metal siding. The east façade features a series of windows with thick wood window surrounds (Figure 9). Two of the five windows have been boarded shut. The visible wood windows each feature two panes of glass and are top-pivoted, allowing air and ventilation into the interior. Wood roof rafters are visible along this façade and support the rusted corrugated metal roof in poor condition. The cladding in the gable section of the rear façade is newer corrugated metal, evidence of renovations likely included alterations to the entrances and fenestration patterns of the side and rear facades in recent years (Figure 10). On the east end of the rear façade are two vertical rectangular window openings which are presently covered with plywood. A rolling, metal, garage door is located roughly in the center of the rear façade where it intersects with a concrete pad. West of the garage door is another boarded up opening, likely another window. Refuse surrounds this section with the additional storage of pipes along the side of the building. The rear façade is where

the electric breaker for the building is located and is where the wired electricity connects to the building.

The primary façade of the middle section of the building currently has no openings or fenestration with the exception of a vent in the gable area (refer to Figure 5). However, physical evidence in the differentiation of the stucco and paint along the primary façade indicate prior openings have been filled in, with at least an entryway on the west side of this section. Unlike the eastern-most front-gable section of the building, the middle section features asphalt shingle roofing. A visible gap between the walls of the middle and eastern section indicate that these sections were constructed separately and later filled in with stucco to seal the gap. The rear façade of the middle section features a large attic vent in the gable area (Figure 11). The rear façade is divided into two sections by a central wooden post. On the east side is a metal, rolling, garage door, composed of the same materials as the rolling metal garage door to its east. The west side displays no architectural features, however, the discrepancy in metal cladding reveals that there was likely an opening of some sort on that side at one point in the building's history. A single west-facing window from the middle section of the building looks out into the rear area behind the western most section.

The area around the Compton Avenue warehouse displays no notable landscaping features. A paved sidewalk lines the front of the building, however, it begins at the alley and terminates at the east end of the building (Figure 12). A chain link fence surrounds the entirety of the parcel. One the day of survey, there was no visible vegetation beyond moss growth on the ground of the rear of the parcel. In the rear, behind the building, a pumping device is located.



Figure 2. APE overview well 3A, facing northeast.



Figure 3. APE overview well 5, facing southwest.



Figure 4. Well 5 APE, including the Compton Avenue Warehouse, primary and west façades. View toward southeast.



Figure 5. Compton Avenue Warehouse middle and western sections. View toward south.



Figure 6. West façade of western section. View toward east.



Figure 7. West and rear façade of western section. View toward east.



Figure 8. Primary façade of Compton Avenue Warehouse, easternmost section. View toward south.



Figure 9. Compton Avenue Warehouse, east façade. View toward west.



Figure 10. Compton Avenue Warehouse, rear façade of eastern and middle sections. View toward northwest.



Figure 11. Compton Avenue Warehouse rear facade. View toward northeast.



Figure 12. Example of landscaping, sidewalk, and curb elevation of the Compton Avenue Warehouse. View toward southwest.

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5. SUMMARY AND RECOMMENDATIONS

A records search was conducted at the SSJVIC. This search indicated that the portions of the APE had been previously surveyed, and that no previously recorded cultural resources were within the APE. An NAHC SLF search was conducted for the APE and the NAHC responded with negative SLF results. Geoarchaeological review of the APE indicates that the APE is unlikely to contain buried deposits. Historic aerial and topographic map review indicated the APE has been heavily disturbed by agricultural activities as far back as 1956. One extant historic-era building was identified during background research within the Well 4 APE.

A Phase I survey of the APE was conducted on February 19, 2024, with parallel transects spaced at 15 m. intervals. No additional built environment resources and no archaeological resources were identified within the Project APE. ASM recorded the historic-era building within the Well 4 APE on January 24, 2024 and an NRHP/CRHR eligibility evaluation is provided below.

5.1 NRHP/CRHR EVALUATION

ASM considered whether the architectural resource located within the Compton Avenue Warehouse is individually eligible under any NRHP/CRHR criteria.

Criteria A/1: The Compton Avenue Warehouse was evaluated under NRHP/CRHR Criteria A/1 for its potential association with a specific historic event or a pattern of events that made a significant contribution to the surrounding community, the state of California, or the nation. Because the Compton Avenue Warehouse was a commercial storage space and warehouse constructed in the heart of Pixley, it was evaluated under the theme of commercial development in Pixley, California, and Tulare County with a potential period of significance beginning in 1920 (the year of construction) and ended in the 1950s, when CA-99 was re-routed and the commercial significance of downtown Pixley waned.

The Compton Avenue Warehouse was constructed in the heart of downtown Pixley adjacent to significant businesses and buildings include the Artesian Hotel, the Railroad Depot station, and the Compton Scraper factory. Due to the significant number of buildings that have been demolished in downtown Pixley, there is no longer a commercial historic district to which the warehouse could be considered a contributing resource. The Artesian Hotel was razed in the 1920s, the railroad depot burned down around the same time, and the Compton Scraper factory was razed when CA-99 was re-routed in the 1950s, which led to the economic decline of the area and eventual demolition of many buildings along Main Street.

Individually, the warehouse was not as significant to the commercial development of the town as were other examples. The most important commercial buildings representative of Pixley's early to mid-twentieth century commercial development were constructed along Main Street (CA-99) from the 1910s and through the 1930s. These were small, one-story, commercial buildings designed to support the needs of train passengers coming through the railroad depot and then later to attract motorists traveling on the highway to stop in Pixley. The Compton Avenue Warehouse was

constructed to support one of these commercial buildings on Main Street: the Pixley Mercantile Company owned by George Simeral. This building is still extant today, however, it is so heavily modified that it is no longer a good representation of the theme of commercial development. From the time of its construction until its sale in the 1960s or 1970s, the Compton Avenue Warehouse supported the Pixley Mercantile Company and was ancillary to it. The warehouse was used to store extra stock or materials. Later, when Simeral transitioned his business from a general store to a tool and pipe repair shop (Pixley Hardware Company), the warehouse continued to provide storage for the extra tools and by providing a location for repairs to take place.

The Compton Avenue Warehouse undoubtedly supported a business that contributed to Pixley's commercial development in the early decades of the twentieth century. While the Pixley Mercantile Company/Pixley Hardware Company may have been an important store within the commercial history of Pixley, it has been so altered that it is no longer able to reflect its historical association. The warehouse is not able to individually convey the commercial significance of the business without the associated store to which it is an ancillary resource. Research did not reveal that the Compton Avenue warehouse was the location of any significant events or activities important to the history of Pixley, the state or the nation. As such, while the Compton Avenue Warehouse is associated with the theme of Pixley's early commercial development, it is not a good representation of that theme. Therefore, ASM recommends the Compton Avenue Warehouse as not eligible under NRHP/CRHR Criteria A/1.

Criteria B/2: ASM considered whether the Compton Avenue Warehouse is eligible under NRHP/CRHR Criteria B/2 for association with the life of a person important to the history of the city, state, or nation. The Compton Avenue Warehouse is associated with George Simeral (Simerol) who operated the commercial store on the adjacent lot, the Pixley Mercantile Company/Pixley Hardware Company. Simoral owned and operated the store in Pixley from around the 1910s to around the 1970s and became involved with the Pixley Mutual Water Company in the 1950s. Simeral undoubtedly contributed to the growth and development of Pixley first by establishing a commercial store and later by providing service to the Pixley Mutual Water Company. Although he could be considered a historically important individual, the Compton Avenue Warehouse is not as closely associated with his career or significant contributions to Pixley as is the store itself. Therefore, ASM recommends the Compton Avenue Warehouse as not eligible under NRHP/CRHR Criteria B/2.

Criteria C/3: ASM considered whether the Compton Avenue Warehouse is eligible under NRHP/CRHR Criteria C/3 for embodying distinctive characteristics of a type, period, or method of construction, for representing the work of a master, or for possessing high artistic values. The precise construction history of the Compton Avenue Warehouse is unclear due to a lack of building permits and County Assessor records. What is known, however, is that a section of the present warehouse was constructed on the lot in 1920. It is not clear, although it is highly likely, whether another warehouse was constructed on the lot around the same time. By 1945, when George Simeral had purchased all portions of the parcel, it was likely that at that time Simeral decided to construct the middle section of the warehouse to join the two existing buildings and create one large warehouse. All three sections of the building were constructed by 1956, as evidenced in the first historic aerial photograph. The building is a simple, rectangular form warehouse building composed of stucco and corrugated metal, typical but not particularly a good representation of

warehouse construction found throughout the California during the first half of the twentieth century. It does not display characteristics of a particular style or period of architecture or a method of construction of a warehouse that is different than what can be commonly found in Pixley, the state of California, or the nation. Additionally, research did not reveal that the construction of the building was associated with the work of a master architect or a master builder. Therefore, ASM recommends the Compton Avenue Warehouse as not eligible under NRHP/CRHR Criteria C/3.

Criteria D/4: The Compton Avenue Warehouse is a common property type that does not have the potential to provide information about history or prehistory that is not available through historic research. As such, the Compton Avenue warehouse is recommended not eligible for NRHP/CRHR Criteria D/4.

5.2 SUMMARY

One architectural resource is located within the APE. After thorough research and evaluation, the Compton Avenue Warehouse is recommended not eligible for listing in the NRHP/CRHR under any criteria. There are no historic properties/historical resources within the APE for the proposed Project, and as such, no historic properties effected under NHPA and no substantial adverse change to a historical resource pursuant to under CEQA.

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CONFIDENTIAL APPENDICES

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