

WEST SIDE WATER STORAGE TANK PROJECT

DRAFT INITIAL STUDY/MITIGATED NEGATIVE DECLARATION

APRIL 2024

PREPARED FOR:

Caruthers Community Services District
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ACRONYMS AND ABBREVIATIONS

APE	Area of Potential Effect
BA	biological assessment
BAAQMD	Bay Area Air Quality Management District
BMP	Best Management Practices
BO	biological opinion
CalEEMod	California Emissions Estimator Modeling (software)
CARB	California Air Resources Board
CCAA	California Clean Air Act
CDFW	California Fish and Wildlife
CEQA	California Environmental Quality Act
CFR	Code of Federal Regulations
CGS	California Geological Survey
CHRIS	California Historical Resources Information System
CKGSP	Central Kings Groundwater Sustainability Plan
CNDDDB	California Natural Diversity Database
CO	Carbone Monoxide
County	Fresno County
CRHR	California Register of Historical Resources
CWA	Clean Water Act
District	Caruthers Community Services District
DTSC	Department of Toxic Substances Control
EIR	Environmental Impact Report
GAC	granulated activated carbon
GAMAQI	Guide for Assessing and Mitigating Air Quality Impacts
GC	Government Code
GHG	Greenhouse Gas
GSA	Groundwater Sustainability Agency
HUC	Hydrologic Unit Code
IPaC	United States Fish and Wildlife Service’s Information for Planning and Consultation system
IS	Initial Study
IS/MND	Initial Study/Mitigated Negative Declaration

km	kilometers
MBTA	Migratory Bird Act
MMRP	Mitigation Monitoring and Reporting Program
MND	Mitigated Negative Declaration
MRZ	Mineral Resource Zones
NAAQS	National Ambient Air Quality Standards
NAGPRA	Native American Graves Protection and Repatriation Act
NAHC	Native American Heritage Commission
ND	Negative Declaration
NMFS	National Marine Fisheries Service
NO ₂	Nitrogen Dioxide
NO _x	Nitrogen Oxides
NPPA	Native Plant Protection Act of 1977
NRCS	Natural Resources Conservation Service
NRHP	National Register of Historic Places
O ₃	Ozone
Pb	Lead
PG&E	Pacific Gas and Electric Company
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
PRC	Public Resource Code
Project	West Side Water Storage Tank Project
QSD	Qualified Storm Water Pollution Prevention Plan Developer
ROG	Reactive Organic Gases
RWQCB	Regional Water Quality Control Board
SHPO	State Historic Preservation Office
SJVAB	San Joaquin Valley Air Basin
SJVAPCD	San Joaquin Valley Air Pollution Control District
SLF	Sacred Lands File Search
SO ₂	Sulfur Dioxide
SSJVIC	Southern San Joaquin Valley Information Center

SR	State Route
SWPPP	Storm Water Pollution Prevention Plan
SWRCB	State Water Resources Control Board
TCP	1,2,3-trichloropropane
TPY	tons per year
USACE	United States Army Corps of Engineers
USC	United States Code
USDA	United States Department of Agriculture
USEPA	Environmental Protection Agency
USFWS	United States Fish and Wildlife Service
USGS	United States Geological Survey
$\mu\text{g}/\text{m}^3$	micrograms per cubic meter

CHAPTER 1 INTRODUCTION

Provost & Pritchard Consulting Group (Provost & Pritchard) has prepared this Initial Study/Mitigated Negative Declaration (IS/MND) on behalf of the Caruthers Community Services District (District) to address the environmental effects of the West Side Water Storage Tank Project (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 CalEEMod Output Files, Biological Evaluation, and Class III Inventory/Phase I Survey, 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

West Side Water Storage Tank Project

2.1.2 Lead Agency Name and Address

Caruthers Community Services District
PO Box 218
Caruthers, CA 93609

2.1.3 Contact Person and Phone Number

Lead Agency Contact

David McIntyre
District Manager
(559) 864-8189

CEQA Consultant

Provost & Pritchard Consulting Group
Jarred Olsen, Environmental Project Manager
(559) 636-1166

2.1.4 Project Location

The Project is located in southern Fresno County, central California, approximately 168 miles southeast of Sacramento and 94 miles northwest of Bakersfield (see [Figure 2-1](#) and [Figure 2-2](#)). The Project site is located at the southeast corner of Caruthers Avenue and Benedict Avenue, west of Marks Avenue on Assessor's Parcel Number 041-280-89. The centroid of the Project site is 36°32'21.8"N 119°50'53.7"W.

2.1.5 General Plan Designation and Zoning

Project Area	General Plan Designation	Zoning District
ONSITE	R-A	R-A
ADJACENT LANDS	R-A	R-A

2.1.6 Description of Project

Project Background and Purpose

The Caruthers Community Services District (District) was formed in 1960 and is responsible for providing both water and sewer service to the unincorporated community of Caruthers in southern Fresno County.

The District's jurisdiction spans approximately 361 acres and includes a domestic water system presently serving approximately 721 residential connections, 33 commercial/industrial connections, and 4 landscape irrigation connections throughout the community.

Existing water supply facilities include two (2) active wells, Well Nos. 5 and 6, whose depths are 630 and 890 feet, respectively. Well No. 3 is available, but not in active service due to a concentration of ethylene dibromide and 1,2,3-trichloropropane (TCP) at levels exceeding the MCL. Well Nos. 5 and 6 both have arsenic levels in excess of the current MCL of 10 ppb, and Well No. 5 is now also out of compliance for TCP. Construction is nearly complete for an arsenic treatment facility at the Well No. 6 site to provide arsenic treatment for both existing wells. A pipeline has been constructed from Well No. 5 to the Well No. 6 site for the purpose of consolidating the treatment location. A storage tank has also been constructed, which will store treated water and allow for blending of raw water and treated water.

Currently, all of the active water supply sources are located on the east side of the District boundary, resulting in uneven flow and pressure distribution. This Project would be constructed on the west side to provide more even flow and pressure distribution. The water storage tank would be filled during low demand periods, and be available for distribution during high demands, providing improved water supply and pressure reliability.

The District water distribution system includes several dead-end runs and ranges from 4 inch to 12-inch water lines. The small water lines are old (constructed in the early 1960's, pipelines are steel) and have exceeded their anticipated useful life.

Project Description

The West Side Water Storage Tank Project would construct a 500,000-gallon water storage tank whose dimensions would be approximately 22-feet high and 65-feet in diameter. Appurtenant infrastructure includes electrical equipment, on-site lighting, booster pumps, an emergency backup generator, seven-foot-tall slatted perimeter fencing, and a basin for stormwater and storage tank backwash purposes. The facility would replace the existing 6-inch water main in Caruthers Avenue between the western edge of the District and Marks Avenue to a 10-inch transmission main. In a second phase, improvements would include a groundwater well and a granulated activated carbon (GAC) treatment process to increase system reliability and redundancy, should a well on the east side of the District go offline and another source of clean, reliable water is needed.

Construction Schedule

Construction of the Project is anticipated to be completed within nine months, which would include grading, site preparation, construction of a water tank and associated infrastructure, and connection to the existing distribution system. Completion of phase two is unknown at this time.

Generally, construction would occur between the hours of 7:00 am and 5:00 pm, Monday through Friday, excluding holidays. Post-construction activities would include system testing, commissioning, and site clean-up. Construction would require temporary staging and storage of materials and equipment. Staging areas would be located onsite.

Equipment

Construction equipment would likely include an excavator, drill rigs, backhoes, graders, skid steers, loaders, crane, and hauling trucks.

Operation and Maintenance

Operation and maintenance of the facility would be performed by the existing maintenance staff.

2.1.7 Site and Surrounding Land Uses and Setting

Table 2-1: Existing Uses, General Plan Designation, & Zone Districts of Surrounding Properties

Direction from Project Site	Existing Use	General Plan Designation	Zone District
NORTH	Agriculture	Agriculture	AE-20 (Exclusive Agriculture)
EAST	Residential	Residential	R-A (Single-Family Residential, Agricultural)
SOUTH	Residential	Residential	R-A (Single-Family Residential, Agricultural)
WEST	Residential	Residential	R-A (Single-Family Residential, Agricultural)

2.1.8 Other Public Agencies Whose Discretionary Approval May Be Required

- State Water Resources Control Board
- County of Fresno

2.1.9 Consultation with California Native American Tribes

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

The Lead Agency has not received any written correspondence from any Tribe pursuant to Public Resources Code Section 21080.3.1 requesting notification of the proposed project.

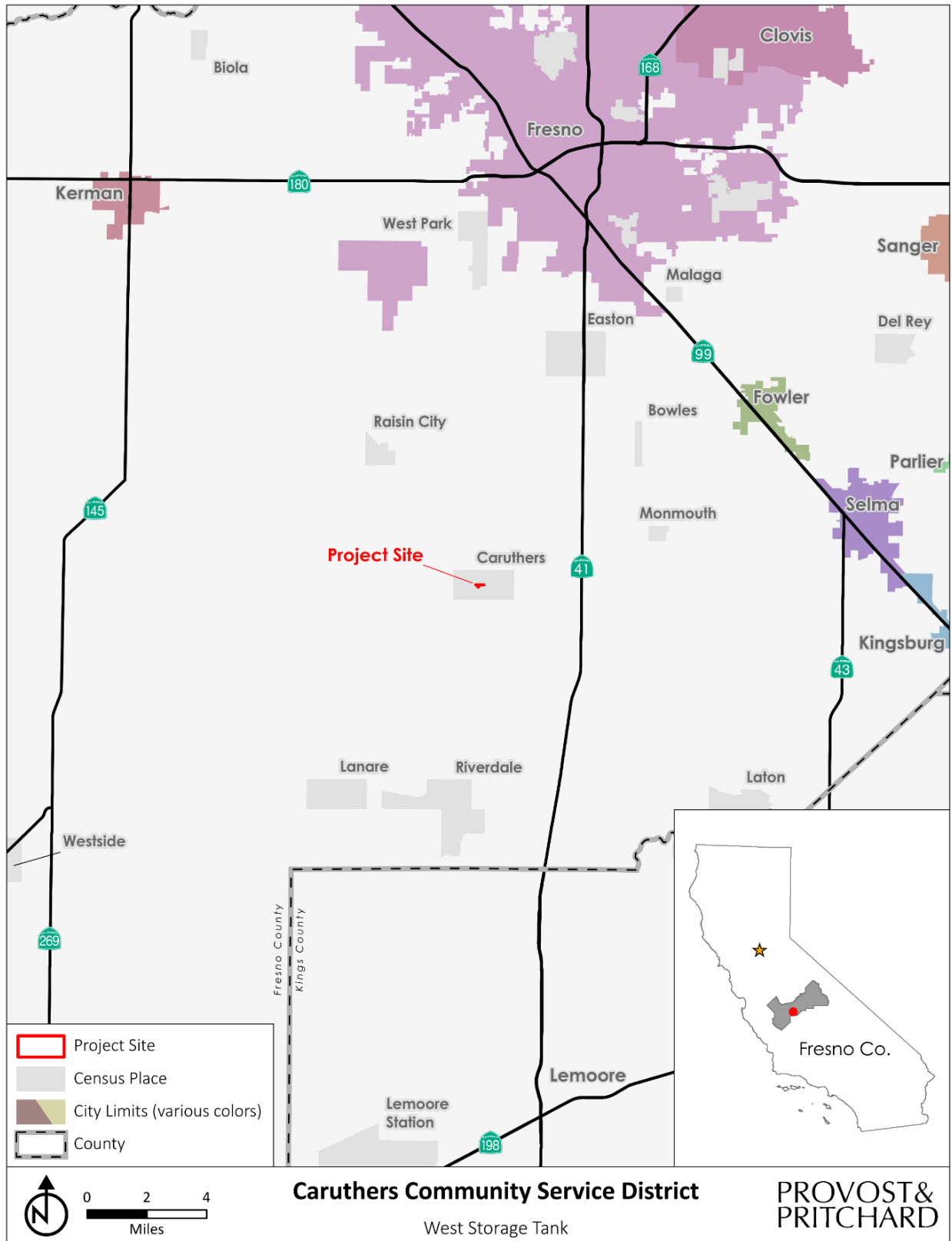


Figure 2-1: Regional Location

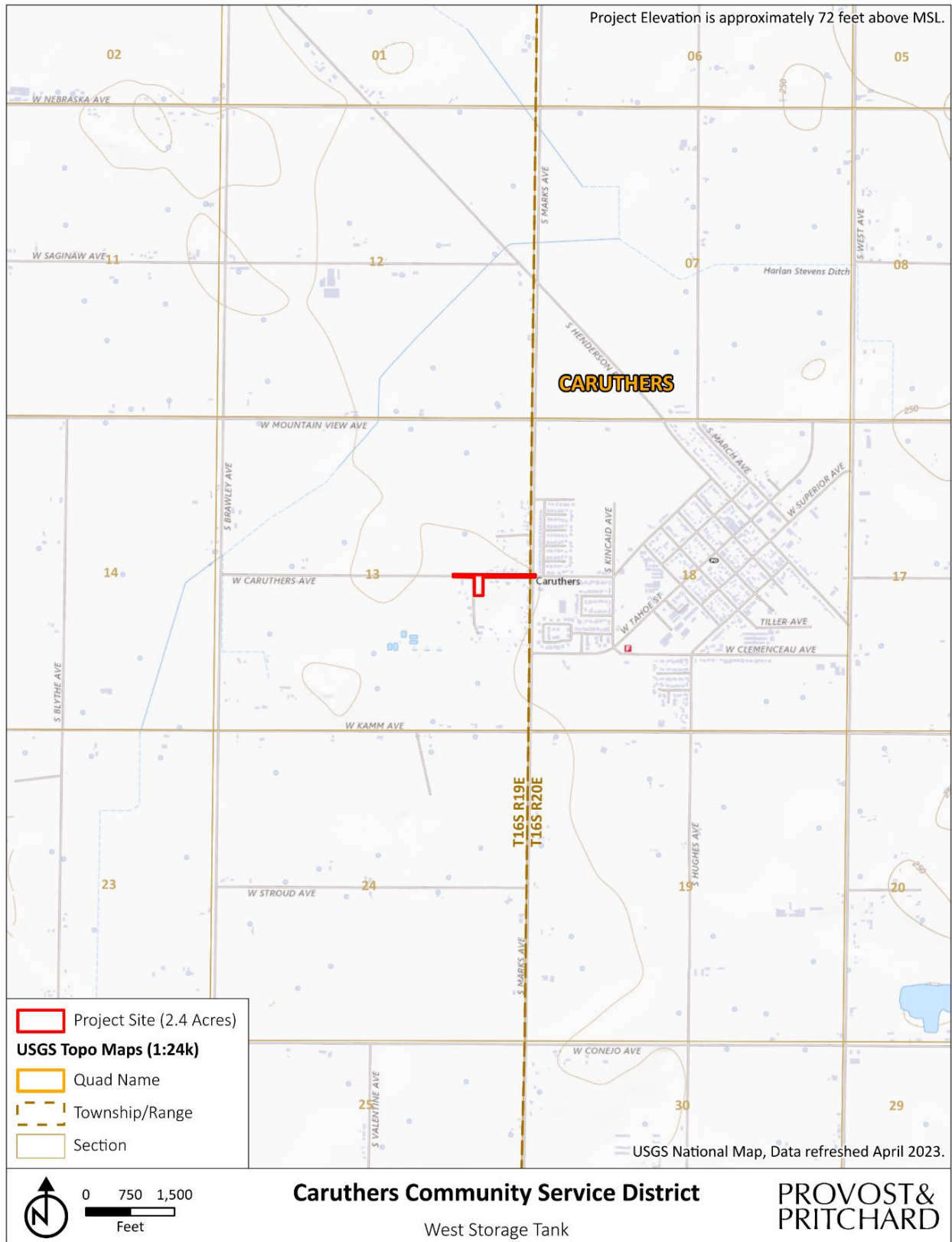
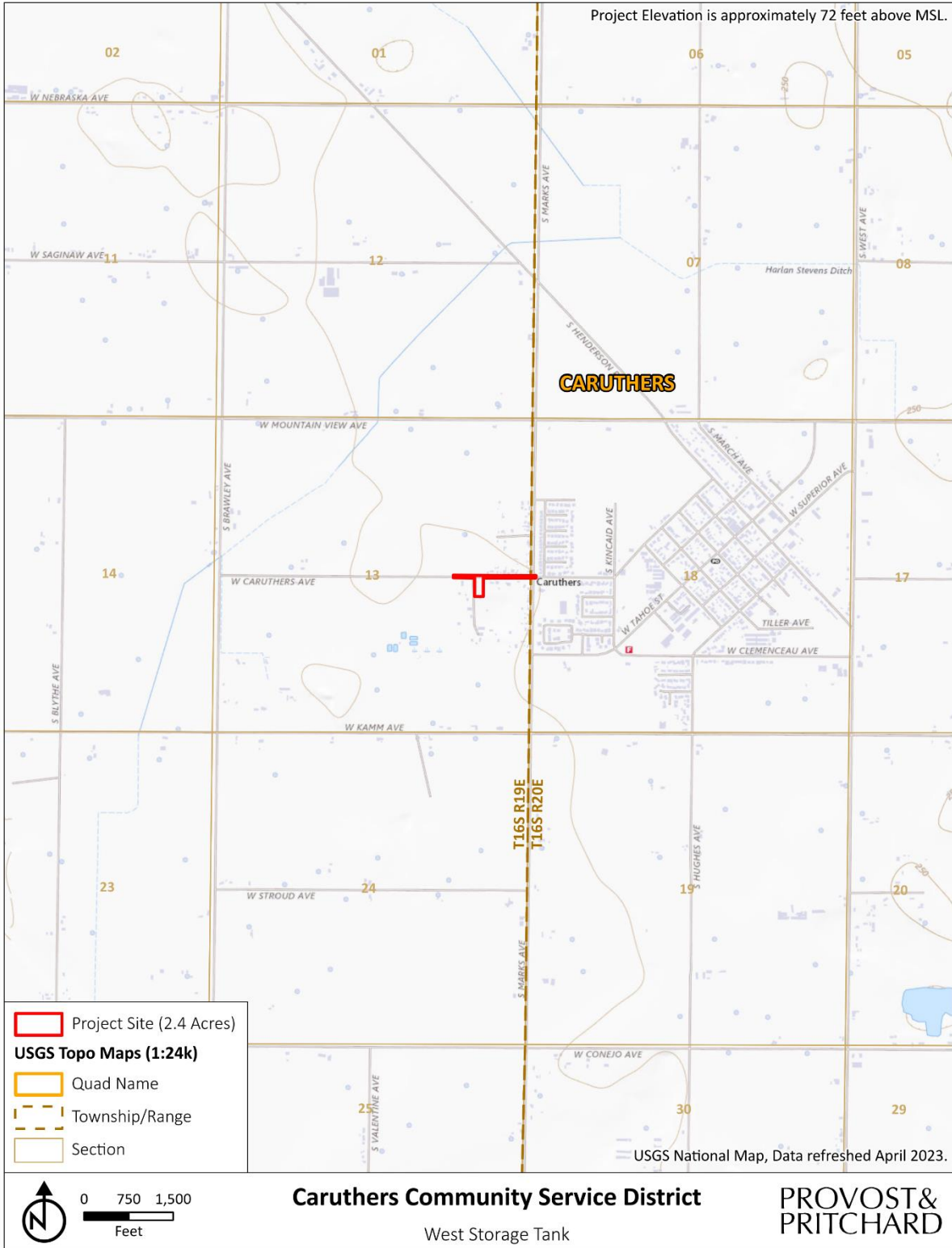


Figure 2-2: Topo Quad



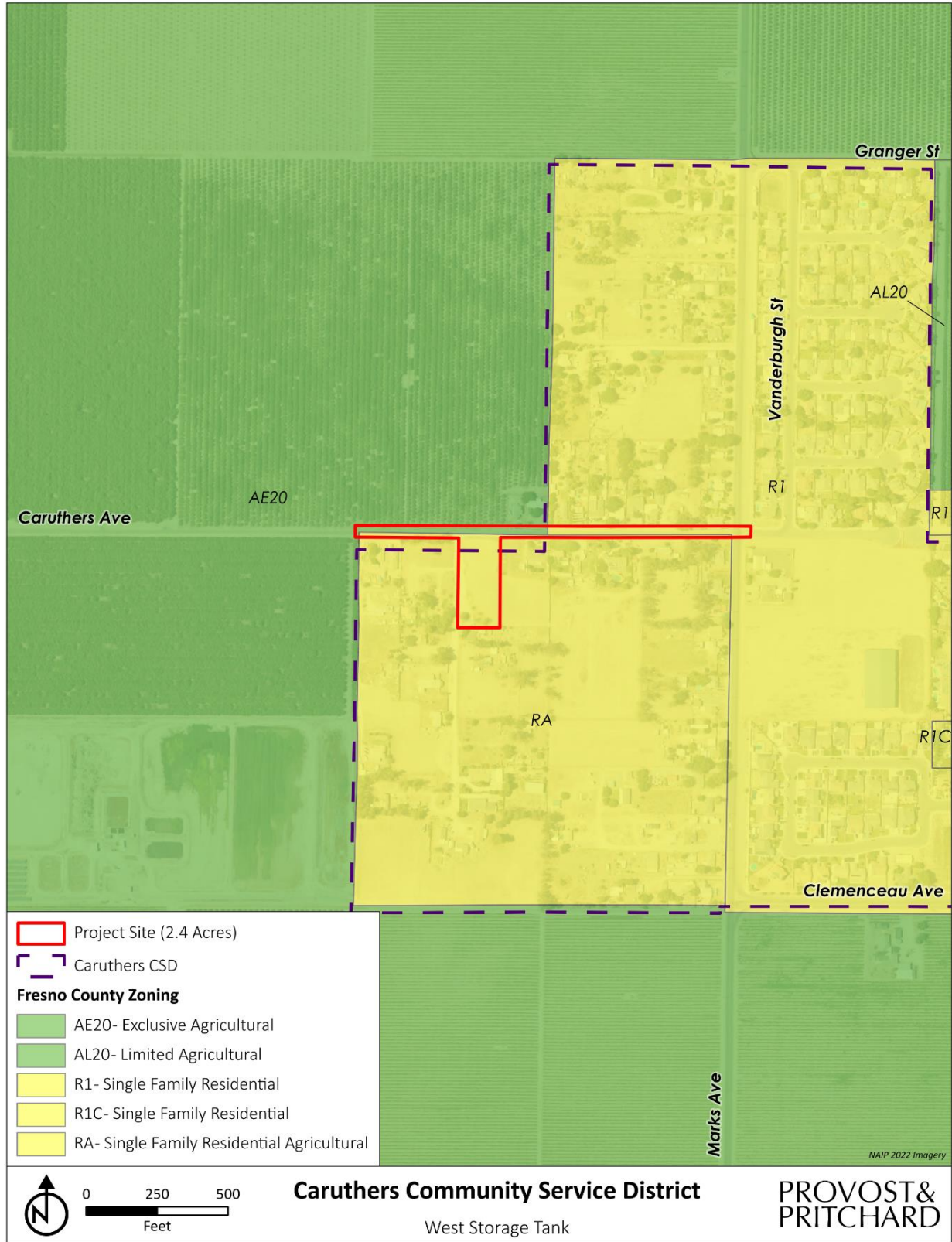


Figure 2-4: Zone District Map

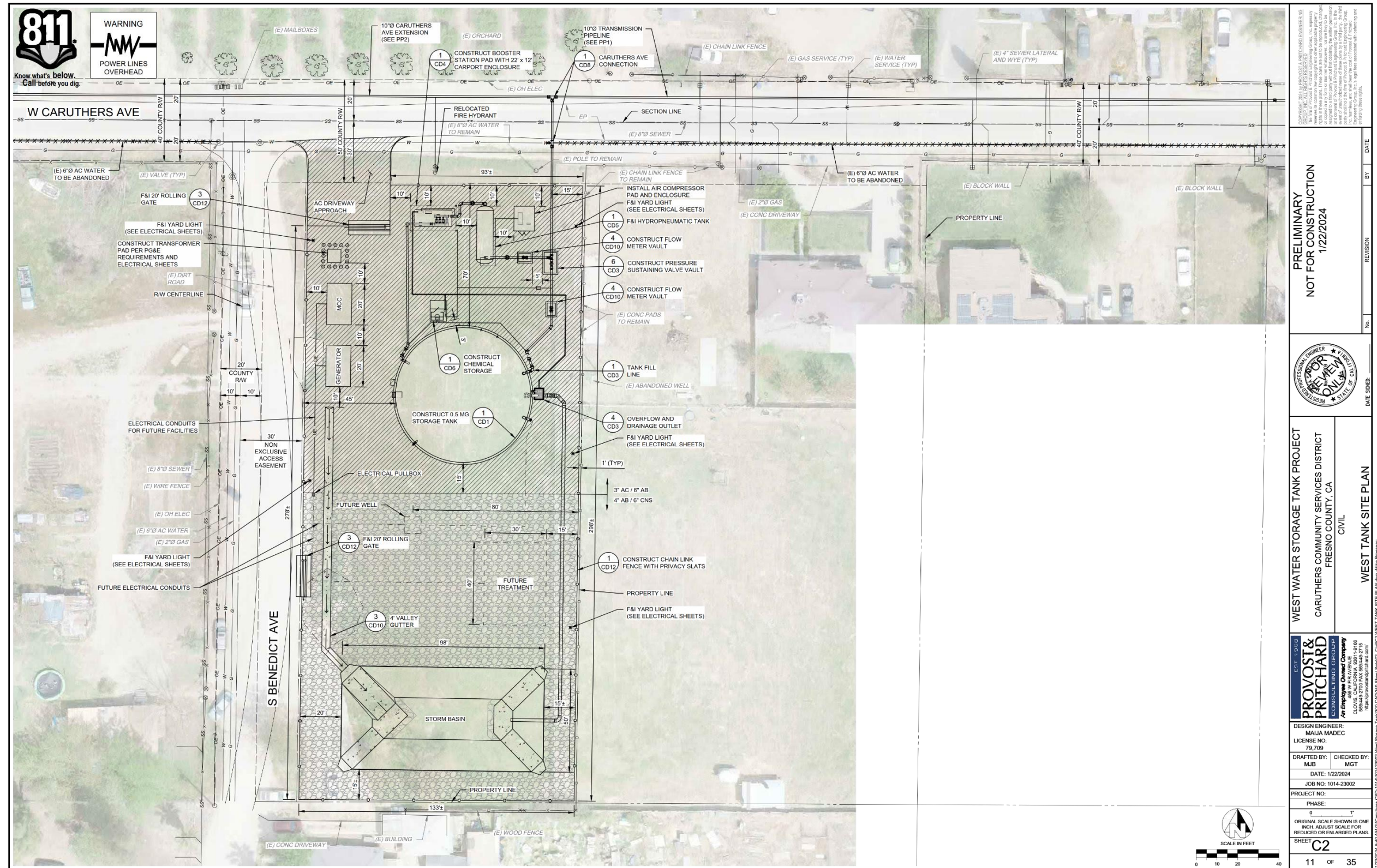


Figure 2-5: Site Plan

CHAPTER 3 DETERMINATION

3.1 POTENTIAL ENVIRONMENTAL IMPACTS

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

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

The analyses of environmental impacts in [Chapter 4 Environmental Impact Analysis](#) result in an impact statement, which shall have the following meanings.

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

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

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

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

3.2 DETERMINATION

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

- I find that the proposed project COULD NOT have a significant effect on the environment, and a NEGATIVE DECLARATION will be prepared.
- I find that although the proposed project could have a significant effect on the environment, there will not be a significant effect in this case because revisions in the project have been made by or agreed to by the project proponent. A MITIGATED NEGATIVE DECLARATION will be prepared.
- I find that the proposed project MAY have a significant effect on the environment, and an ENVIRONMENTAL IMPACT REPORT is required.
- I find that the proposed project MAY have a "potentially significant impact" or "potentially significant unless mitigated" impact on the environment, but at least one effect 1) has been adequately analyzed in an earlier document pursuant to applicable legal standards, and 2) has been addressed by mitigation measures based on the earlier analysis as described on attached sheets. An ENVIRONMENTAL IMPACT REPORT is required, but it must analyze only the effects that remain to be addressed.
- I find that although the proposed project could have a significant effect on the environment, because all potentially significant effects (a) have been analyzed adequately in an earlier EIR or NEGATIVE DECLARATION pursuant to applicable standards, and (b) have been avoided or mitigated pursuant to that earlier EIR or NEGATIVE DECLARATION, including revisions or mitigation measures that are imposed upon the proposed project, nothing further is required.



Signature

4/29/2024

Date

David McIntyre

Printed Name/Position

CHAPTER 4 ENVIRONMENTAL IMPACT ANALYSIS

4.1 AESTHETICS

Table 4-1: Aesthetics Impacts

Except as provided in Public Resources Code Section 21099, would the project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
a) Have substantial adverse effect on a scenic vista?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b) Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) In non-urbanized areas, substantially degrade the existing visual character or quality of public views of the site and its surroundings? (Public views are those that are experienced from publicly accessible vantage point). If the project is in an urbanized area, would the project conflict with applicable zoning and other regulations governing scenic quality?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
d) Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

4.1.1 Baseline Conditions

The Project is located in the southern part of Fresno County in the Central San Joaquin Valley. Lands in the vicinity consist of relatively flat irrigated farmland and the rural residential community of Caruthers. Agricultural practices in the vicinity consist of row crop, field crops, and orchard cultivation in the form of vineyards and almonds. In Fresno County, a portion of State Route (SR) 180 has been officially identified by Caltrans as a “designated State Scenic Highway;” however, that segment is approximately 28 miles northeast of the site.¹ Caruthers is located approximately 40 miles east of the foothills of the Coast Range and approximately 30 miles west of the foothills of the Sierra Nevada. Neither of these foothills nor mountain ranges are typically visible from the vantage point of the Project site, even on a clear day. Rural roadways, local water distribution canals, water retention basins, and other infrastructure typical of rural agricultural areas in the San Joaquin Valley are also in the immediate vicinity. The Project site is substantially surrounded by residences whose heights are approximately 25 feet tall.

¹ (California State Scenic Highway System Map 2018)

4.1.2 Applicable Regulations

The Fresno County General Plan sets forth the following goals and policies that protect the aesthetic character of the County and which have potential relevance to the Project's CEQA review:

- Goal OS-K: To conserve, protect, and maintain the scenic quality of Fresno County and discourage development that degrades areas of scenic quality.
- Policy HS-E.2: The County shall ensure that new development, including public infrastructure projects, does not create safety hazards such as glare from direct or reflective sources.

4.1.3 Impact Analysis

a) Have substantial adverse effect on a scenic vista?

Less than Significant Impact. Scenic features in the vicinity may include irrigation canals or the vast expanse of agricultural uses. The Project site is not within the viewshed of any water features or scenic vistas. Furthermore, the Project site would not stand out from its surroundings in any remarkable fashion. The height of the proposed improvements would be consistent with the height of residences found in the surrounding area. Impacts would be less than significant.

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

No Impact. In Fresno County, a portion of SR 180 has been officially identified by Caltrans as a "designated State Scenic Highway." However, Project activities would occur approximately 28 miles southwest and would not have the potential to affect the 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 site is not in an urbanized area and is surrounded by agricultural and rural residential lands. The proposed water tank would be approximately 22 feet high, which is consistent with the height limit of the residential zoning in the surrounding area. A seven-foot-tall fence with privacy slats would be constructed to minimize views. 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. On-site lighting will be hooded and aimed down to limit light spillage onto adjacent properties. The water storage tank would not be reflective to minimize glare. Therefore, the Project would not create a new source of substantial light or glare that would adversely affect day or nighttime views in the area or be inconsistent with existing conditions. Impacts would be less than significant.

4.2 AGRICULTURE AND FORESTRY RESOURCES

Table 4-2: Agriculture and Forest Impacts

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

4.2.1 Baseline Conditions

The Project is located in the California’s Central San Joaquin Valley in Fresno County and more specifically within the unincorporated community of Caruthers. Fresno County is located within California’s agricultural heartland. For crop year 2020-2021, Fresno County ranked second for the top agricultural counties in the State in the annual market value of farm products.²

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

The Project site is designated by the Farmland Mapping and Monitoring Program as Urban and Built-Up Land. The Project site is not subject to a Williamson Act contract. The Project site is zoned R-A (Single Family Residential-Agricultural District) which is intended “to provide for the development of single-family

² (California Department of Food and Agriculture 2023)

residential estate homes in a semi-rural environment on lots not less than thirty-six thousand (36,000) square feet in area, not more than one (1) dwelling unit permitted on any lot.”³ The Project site is vacant.

4.2.2 Applicable Regulations

Fresno County General Plan⁴

The Fresno County General Plan sets forth the following policies relating to agriculture, and which have potential relevance to the Project’s CEQA review:

- Policy LU-A.1: The County shall maintain agriculturally-designated areas for agriculture use and shall direct urban growth away from valuable agricultural lands to cities, unincorporated communities, and other areas planned for such development where public facilities and infrastructure are available.
- Policy LU-A.13: The County shall protect agricultural operations from conflicts with non-agricultural uses by requiring buffers between proposed non-agricultural uses and adjacent agricultural operations.
- Policy LU-A.20: The County shall adopt and support policies and programs that seek to protect and enhance surface water and groundwater resources critical to agriculture.
- Policy PF-C.11: The County shall assure an on-going water supply to help sustain agriculture and accommodate future growth by allocation of resources necessary to carry out the water resource management programs.

4.2.3 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. As stated above, the Project site is vacant and designated Urban and Built-Up Land. Therefore, the Project would not convert important farmland to a non-agricultural use. There would be no impact.

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

No Impact. The Project site is not subject to a Williamson Act contract and pursuant to Government Code Section 53091 subdivision (e), zoning ordinances shall not apply to the location or construction of facilities for the storage of water. Therefore, the Project would not conflict with existing agricultural zoning or a Williamson Act contract. 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 site is not zoned for forest land, timberland, or timberland zoned Timberland Production. There would be no impact.

³ (County of Fresno 1990)

⁴ (Fresno County General Plan Policy Document 2000)

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

No Impact. The Project site does not contain forest land or convert existing forest land elsewhere to a 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 proposed water tank improvements would not result in land use conversion of farmland or forest land, either directly or indirectly. There would be no impact.

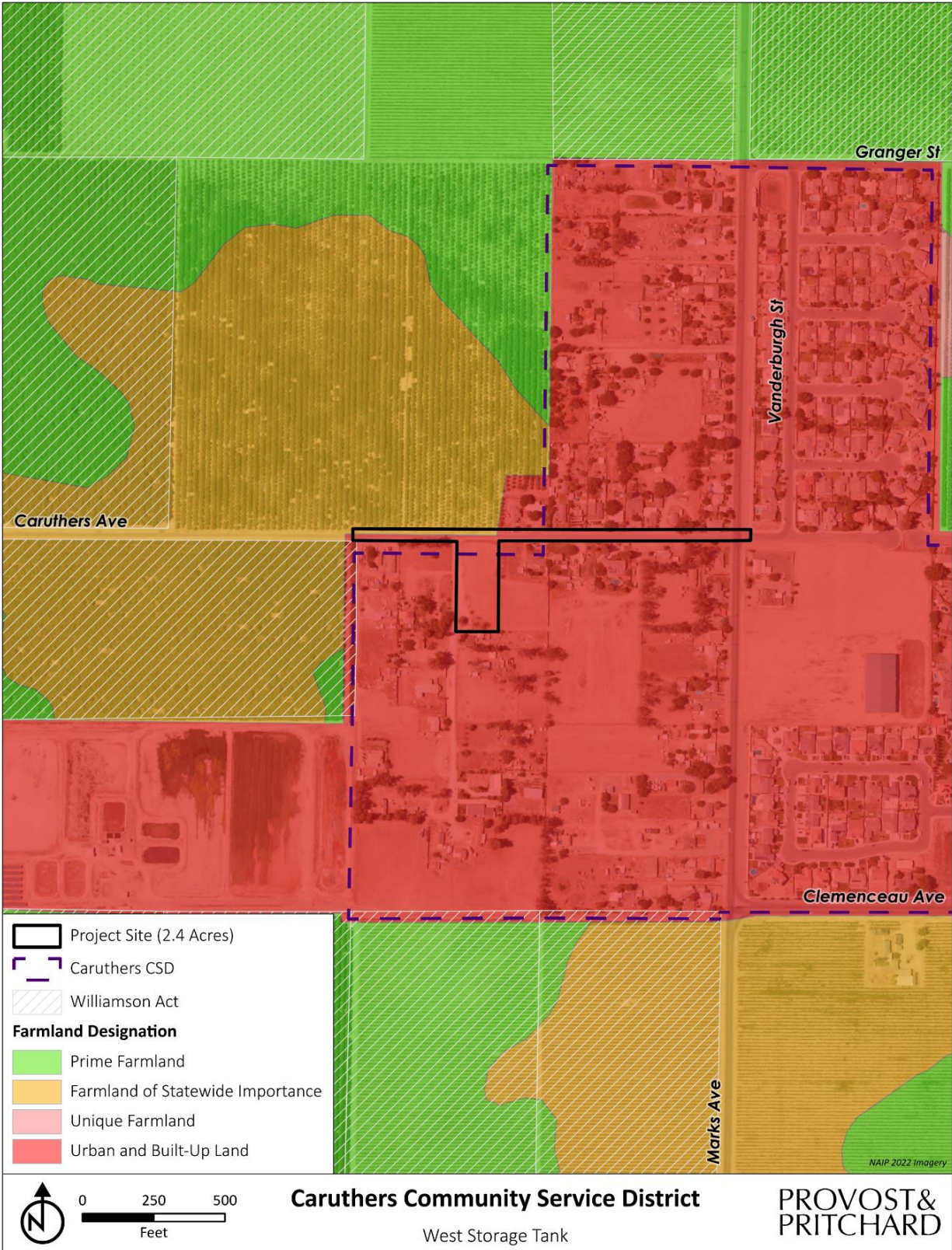


Figure 4-1: Farmland Designation Map

4.3 AIR QUALITY

Table 4-3: Air Quality Impacts

Would the project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
a) Conflict with or obstruct implementation of the applicable air quality plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b) Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c) Expose sensitive receptors to substantial pollutant concentrations?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
d) Result in other emissions (such as those leading to odors) adversely affecting a substantial number of people?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

4.3.1 Baseline Conditions

The Project site is a vacant site surrounded by single-family residential and agricultural land uses.

4.3.2 Applicable Regulations

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 (O₃), carbon monoxide (CO), and nitrogen dioxide (NO₂) as “does not meet the primary standards,” “cannot be classified,” or “better than national standards.” For sulfur dioxide (SO₂), areas are designated as “does not meet the primary standards,” “does not meet the secondary standards,” “cannot be classified,” or “better than national standards.” However, the CARB terminology of attainment, nonattainment, and unclassified is more frequently used. The USEPA uses the same sub-categories for nonattainment status: serious, severe, and extreme. In 1991, the USEPA assigned new nonattainment designations to areas that had previously been classified as Group I, II, or III for particulate matter less than 10 microns in diameter (PM₁₀) based on the likelihood that they would violate national PM₁₀ standards. All other areas are designated “unclassified.”

The State and national attainment status designations pertaining to the San Joaquin Valley Air Basin (SJVAB) are summarized in **Table 4-4**. The SJVAB is currently designated as a nonattainment area with respect to the State PM₁₀ standard, ozone, and fine particulate matter 2.5 microns in size (PM_{2.5}) standards. The SJVAB is designated nonattainment for the National Ambient Air Quality Standards (NAAQS) 8-hour ozone and PM_{2.5} standards. On September 25, 2008, the USEPA re-designated the San Joaquin Valley to attainment status for the PM₁₀ NAAQS and approved the PM₁₀ Maintenance Plan.

4.3.3 Thresholds

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

Particulate Matter (PM₁₀): Construction impacts associated with the proposed Project would be considered significant if the feasible control measures for construction in compliance with Regulation VIII as listed in the SJVAPCD guidelines are not incorporated or implemented, or if project-generated emissions would exceed 15 tons per year (TPY). Operational impacts associated with the Project would be considered significant if the project generates emissions of PM₁₀ that exceed 15 TPY.

Emissions of Ozone Precursors (ROG and NO_x): Construction impacts associated with the Project would be considered significant if the project generates emissions of Reactive Organic Gases (ROG) or nitrogen oxides (NO_x) that exceeds 10 TPY. Operational impacts associated with the Project would be considered significant if the project generates emissions of ROG or NO_x that exceed 10 TPY.

Conflict with or Obstruct Implementation of Applicable Air Quality Plan: Due to the region's nonattainment status for O₃, PM_{2.5}, and PM₁₀, if the project-generated emissions of either of the ozone precursor pollutants (i.e., ROG and NO_x) or PM₁₀ would exceed the SJVAPCD's significance thresholds, then the project would be considered to conflict with the attainment plans. In addition, if the project would result in a change in land use and corresponding increases in vehicle miles traveled, the project may result in an increase in vehicle miles traveled that is unaccounted for in regional emissions inventories contained in regional air quality control plans.

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

Toxic Air Contaminants: Exposure to toxic air contaminants would be considered significant if the probability of contracting cancer for the Maximally Exposed Individual (i.e., maximum individual risk) would exceed 20 in 1 million or would result in a Hazard Index greater than 1.

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

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 ppm	Nonattainment/ Severe	–	No Federal Standard
	8-hour	0.070 ppm	Nonattainment	0.075 ppm	Nonattainment (Extreme)**
Particulate Matter (PM ₁₀)	AAM	20 µg/m ³	Nonattainment	–	Attainment
	24-hour	50 µg/m ³		150 µg/m ³	
Fine Particulate Matter (PM _{2.5})	AAM	12 µg/m ³	Nonattainment	12 µg/m ³	Nonattainment
	24-hour	No Standard		35 µg/m ³	
Carbon Monoxide (CO)	1-hour	20 ppm	Attainment/ Unclassified	35 ppm	Attainment/ Unclassified
	8-hour	9 ppm		9 ppm	
	8-hour (Lake Tahoe)	6 ppm		–	
Nitrogen Dioxide (NO ₂)	AAM	0.030 ppm	Attainment	53 ppb	Attainment/ Unclassified
	1-hour	0.18 ppm		100 ppb	
Sulfur Dioxide (SO ₂)	AAM	–	Attainment	--	Attainment/ Unclassified
	24-hour	0.04 ppm		--	
	3-hour	–		0.5 ppm	
	1-hour	0.25 ppm		75 ppb	
Lead (Pb)	30-day Average	1.5 µg/m ³	Attainment	–	No Designation/ Classification
	Calendar Quarter	–		--	
	Rolling 3-Month Average	–		0.15 µg/m ³	
Sulfates (SO ₄)	24-hour	25 µg/m ³	Attainment	No Federal Standards	
Hydrogen Sulfide (H ₂ S)	1-hour	0.03 ppm (42 µg/m ³)	Unclassified		
Vinyl Chloride (C ₂ H ₃ Cl)	24-hour	0.01 ppm (26 µg/m ³)	Attainment		
Visibility-Reducing Particle Matter	8-hour	Extinction coefficient: 0.23/km-visibility of 10 miles or more due to particles when the relative humidity is less than 70%.	Unclassified		

* For more information on standards visit: <https://ww3.arb.ca.gov/research/aaqs/aaqs2.pdf>

** No Federal 1-hour standard. Reclassified extreme nonattainment for the Federal 8-hour standard.

***Secondary Standard

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

4.3.4 Impact Analysis

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

Less than Significant Impact. CEQA requires that certain projects be analyzed for consistency with the applicable air quality plan. For a project to be consistent with SJVAPCD air quality plans, the pollutants emitted from a project should not exceed the SJVAPCD emission thresholds or cause a significant impact on air quality. As discussed below, the Project would not result in the generation of criteria air pollutants that would exceed SJVAPCD thresholds of significance. Implementation of SJVAPCD Regulation VIII would further reduce construction dust impacts. Operational emissions associated with the Project would not exceed SJVAPCD established significance thresholds. Therefore, the Project would not conflict with or obstruct implementation of SJVAPCD air quality plans. The impact would be less than significant.

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

Less than Significant Impact. The Project would not exceed thresholds of significance established by the SJVAPCD, as shown in **Table 4-5**. Therefore, impacts would be less than significant.

Table 4-5: Emissions Summary, Criteria Air Pollutants

	Emissions (in tons per year)					
	ROG	NO _x	CO	SO ₂	PM ₁₀	PM _{2.5}
Construction Annual Emissions	0.03	0.31	0.38	<0.005	<0.005	<0.005
Operational Annual Emissions	0.03	0.08	0.09	<0.005	<0.005	<0.005
Significance Threshold	10	10	100	27	15	15
Significant Impact?	No	No	No	No	No	No
Source: Appendix A						

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

Less than Significant Impact. The Project would require the use of diesel-powered off-road construction equipment and emergency generator. However, due to the short duration of construction and emergency operations, the Project area’s flat topography and typical winds experienced in the Central Valley, exposure to diesel particulate matter would be temporary and minimal. 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. Heavy-duty equipment in the Project area during construction could emit odors, primarily from the equipment exhaust. However, the construction activity would cease when construction is completed. The SJVAPCD addresses odor criteria within the GAMAQI. The District has not established a rule or standard regarding odor emissions, rather, the District has a nuisance rule, which states, “Any project with the potential to frequently expose members of the public to object able odors to be deemed to have a significant impact.” The proposed uses are not anticipated to emit any long-term objectionable odors. Therefore, objectionable odors affecting a substantial number of people would not occur as a result of the project. There would be a less than significant impact.

4.4 BIOLOGICAL RESOURCES

Table 4-6: Biological Resources Impacts

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

4.4.1 Baseline Conditions

A pedestrian survey of the Project site was conducted by a qualified biologist in June 2023. 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), California Department of Fish and Wildlife (CDFW), Regional Water Quality Control Board (RWQCB) and the State Water Resources Control Board (SWRCB).

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

A query of the California Natural Diversity Database (CNDDDB) for occurrences of special status plant and animal species was conducted for the Caruthers 7.5-minute United States Geological Survey (USGS) quadrangle that contains the project site, and for the eight surrounding USGS quadrangles: *Burrel*, *Conejo*, *Fresno South*, *Kearney Park*, *Laton*, *Malaga*, *Raisin*, and *Riverdale*. The United States Fish and Wildlife Service’s Information for Planning and Consultation system (IPaC) was also queried for federally protected species that may occur within the project site. These species, and their potential to occur within the project site, are listed in [Table 4-7](#) and [Table 4-8](#) below. Other special status species that did not show up in the CNDDDB query, but have the potential to occur in the vicinity, are also included. Species lists obtained from CNDDDB and IPaC are available in [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 are known to be within the Project site.

Table 4-7: List of Special Status Animals with Potential to Occur Onsite and/or in the Vicinity

Species	Habitat	Occurrence within the Project Site
Blunt-nosed leopard lizard (<i>Gambelia sila</i>)	Inhabits semi-arid grasslands, alkali flats, low foothills, canyon floors, large washes, and arroyos, usually on sandy, gravelly, or loamy substrate, sometimes on hardpan. Often found where there are abundant rodent burrows in dense vegetation or tall grass. Cannot survive on lands under cultivation. Known to bask on kangaroo rat mounds and often seeks shelter at the base of shrubs, in small mammal burrows, or in rock piles. Adults may excavate shallow burrows but rely on deeper pre-existing rodent burrows for hibernation and reproduction.	Absent. The site is outside of the current range for this species.
Burrowing owl (<i>Athene cunicularia</i>)	Resides in open, dry annual or perennial grasslands, deserts, and scrublands with low growing vegetation. Nests underground in existing burrows created by mammals, most often ground squirrels, and sometimes in artificial structures, such as pipes.	Unlikely. No burrows were observed within the project site during the survey. The nearest recorded observation of this species within the vicinity was approximately 6 miles northwest of the site in 1991.
California glossy snake (<i>Arizona elegans occidentalis</i>)	Inhabits arid scrub, rocky washes, grasslands, and chaparral. Prefers open areas with loose soil for easy burrowing.	Unlikely. The site and surrounding areas have high levels of disturbance and lack aquatic habitats which makes the site unsuitable for this species. The nearest recorded observation of this species within the vicinity was approximately 3.5 miles southeast of the site in 1939.

Species	Habitat	Occurrence within the Project Site
California tiger salamander- central California DPS (<i>Ambystoma californiense</i>)	Requires vernal pools or seasonal ponds for breeding and small mammal burrows for aestivation. Generally found in grassland and oak savannah plant communities in central California from sea level to 1,500 feet in elevation. Can migrate up to 1.3 miles to breed.	Unlikely. The site and surrounding areas lack vernal pool habitat required by this species. No burrows were located within the project site. The only recorded observation of this species within the vicinity was approximately 11.5 miles north of the site in 1936.
Coast horned lizard (<i>Phrynosoma blainvillii</i>)	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.	Unlikely. The site and surrounding areas have high levels of disturbance which makes the site unsuitable for this species. The only recorded observation of this species within the vicinity was approximately 11.5 miles north of the site in 1893.
Crotch bumble bee (<i>Bombus crotchii</i>)	Occurs throughout coastal California, as well as east to the Sierra-Cascade crest, and south into Mexico. Food plant genera include <i>Antirrhinum</i> , <i>Phacelia</i> , <i>Clarkia</i> , <i>Dendromecon</i> , <i>Eschscholzia</i> , and <i>Eriogonum</i> .	Unlikely. The site and surrounding areas lack suitable foraging habitat. The nearest recorded observation of this species within the vicinity was approximately 12.5 miles east of the site in 1912.
Fresno kangaroo rat (<i>Dipodomys nitratoideus exilis</i>)	An inhabitant of alkali sinks and open grassland habitats in Merced, Kings Fresno, and Madera counties. Prefers bare, alkaline, clay-based soils subject to seasonal inundation with more friable soil mounds around shrubs and grasses. The most recent recorded observation of this species in California was in 1992 in Fresno County.	Absent. Suitable habitats and burrows are absent from the project site and adjacent lands. The nearest recorded observation of this species within the vicinity was approximately 6.5 miles northwest of the site in 1974 but is listed as extirpated.
Giant garter snake (<i>Thamnophis gigas</i>)	Occurs in marshes, sloughs, drainage canals, irrigation ditches, rice fields, and adjacent uplands. Prefers locations with emergent vegetation for cover and open areas for basking. This species uses small mammal burrows adjacent to aquatic habitats for hibernation in the winter and to escape from excessive heat in the summer.	Absent. Suitable habitats are absent from the project site and adjacent lands. The nearest recorded observation of this species within the vicinity was approximately 7.5 miles southwest of the site in 1992.
Monarch butterfly (<i>Danaus plexippus</i>)	Roosts located in wind-protected tree groves (eucalyptus, Monterey pine, cypress), with nectar and water sources nearby. Larval host plants consist of milkweeds (<i>Asclepias</i> sp.). Winter roost sites extend along the coast from northern Mendocino to Baja California, Mexico.	Unlikely. The site and surrounding areas have high levels of disturbance and lack suitable foraging and roosting habitat. There are no recorded observations of this species on CNDDDB within the regional vicinity of the project.
Northern California legless lizard (<i>Anniella pulchra</i>)	Found primarily underground, burrowing in loose, sandy soil. Forages in loose soil and leaf litter during the day. Occasionally observed on the surface at dusk and night.	Unlikely. The site and surrounding areas have high levels of disturbance which makes the site unsuitable for this species. The only recorded observation of this species within the vicinity was approximately 11.5 miles north of the site in the 1880's.
Pallid bat (<i>Antrozous pallidus</i>)	Found in grasslands, chaparral, and woodlands, where it feeds on ground- and vegetation-dwelling arthropods, and occasionally takes insects in flight. Prefers to roost in rock crevices, but may also use tree cavities, caves, bridges, and other man-made structures.	Unlikely. The site lacks suitable foraging habitat for this species; however, this species could fly over the site in route to more suitable habitats. The only recorded observation of this species within the vicinity was approximately 15 miles north of the site in 1909.

Species	Habitat	Occurrence within the Project Site
San Joaquin kit fox (<i>Vulpes macrotis mutica</i>)	Uses underground dens with multiple entrances in alkali sink, valley grassland, and woodland in valleys and adjacent foothills.	Unlikely. Suitable dens were absent from the project site. The nearest recorded observation of this species within the vicinity was approximately 5.5 miles southeast of the site in 1993.
Swainson's hawk (<i>Buteo swainsoni</i>)	Nests in large trees in open areas adjacent to grasslands, grain or alfalfa fields, or livestock pastures suitable for supporting rodent populations.	Possible. Although there are no trees within the project site, large eucalyptus trees suitable for nesting are located adjacent to the south end of the site and could be utilized by this species. The nearest recorded observation of this species within the vicinity was approximately 6 miles east of the site in 2016.
Tricolored blackbird (<i>Agelaius tricolor</i>)	Nests colonially near fresh water in dense cattails or tules, or in thickets of riparian shrubs. Forages in grassland and cropland. Large colonies are often found on dairy farm forage fields.	Unlikely. The site lacks suitable aquatic habitat and vegetation required by this species. The nearest recorded observation of this species within the vicinity was approximately 6 miles southwest of the site in 2000.
Valley elderberry longhorn beetle (<i>Desmocerus californicus dimorphus</i>)	Lives in mature elderberry shrubs of the Central Valley and foothills. Adults are active from March to June.	Absent. There were no elderberry shrubs within the project site or surrounding area making the site unsuitable for this species.
Vernal pool fairy shrimp (<i>Branchinecta lynchi</i>)	Occupies vernal pools, with clear to tea-colored water, in grass or mud-bottomed swales, and basalt depression pools.	Absent. The site and surrounding areas lack vernal pool habitat required by this species.
Vernal pool tadpole shrimp (<i>Lepidurus packardii</i>)	Occurs in vernal pools, with clear to tea-colored water, in grass or mud-bottomed swales, and basalt depression pools.	Absent. The site and surrounding areas lack vernal pool habitat required by this species.
Western mastiff bat (<i>Eumops perotis californicus</i>)	Found in open, arid to semi-arid habitats, including dry desert washes, flood plains, chaparral, oak woodland, open ponderosa pine forest, grassland, and agricultural areas, where it feeds on insects in flight. Roosts most commonly in crevices in cliff faces but may also use high buildings and tunnels.	Unlikely. The site lacks suitable foraging habitat for this species. The nearest recorded observation of this species within the vicinity was approximately 7.5 miles northeast of the site in 1958.
Western spadefoot (<i>Spea hammondi</i>)	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 pools or temporary wetlands, lasting a minimum of three weeks, which do not contain bullfrogs, fish, or crayfish are necessary for breeding.	Unlikely. The site and surrounding areas lack suitable aquatic habitat, burrows, or soil cracks required by this species. The nearest recorded observation of this species within the vicinity was approximately 12 miles southwest of the site in 1998.
Western yellow-billed cuckoo (<i>Coccyzus americanus occidentalis</i>)	Suitable nesting habitat in California includes dense riparian willow-cottonwood and mesquite habitats along a perennial river. Once a common breeding species in riparian habitats of lowland California, this species currently breeds consistently in only two locations in the state: along the Sacramento and South Fork Kern Rivers.	Absent. Habitats required by this species are absent from the site.

Table 4-8: List of Special Status Plants with Potential to Occur Onsite and/or in the Vicinity

Species	Habitat	Occurrence within the Project Site
Alkali-sink goldfields (<i>Lasthenia chrysantha</i>)	Found in vernal pool and wet saline flat habitats. Occurrences documented in the Central Valley at elevations below 700 feet. Blooms February - April.	Absent. The site and surrounding areas lack vernal pools and suitable soils. The nearest recorded observation of this species within the vicinity was 8 miles southeast of the site in 1934 but is listed as possibly extirpated.
Brittlescale (<i>Atriplex depressa</i>)	Found in the Central Valley in alkaline or clay soils, typically in meadows or annual grassland at elevations below 1,050 feet. Sometimes associated with vernal pools. Blooms June–October.	Unlikely. The site and surrounding areas lack suitable habitat and soils for this species.
California alkali grass (<i>Puccinellia simplex</i>)	Found in the San Joaquin Valley and other parts of California in saline flats and mineral springs within valley grassland and wetland-riparian communities at elevations below 3,000 feet. Blooms March–May.	Absent. The site and surrounding areas lack suitable habitat. The only recorded observation of this species within the vicinity was 7 miles southeast of the site in 1935 but is listed as possibly extirpated.
California jewelflower (<i>Caulanthus californicus</i>)	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 approximately 200 feet and 6,100 feet. Blooms February–April.	Unlikely. The site and surrounding areas lack suitable habitat and soils for this species.
California satintail (<i>Imperata brevifolia</i>)	Although this facultative species is equally likely to occur in wetlands and non-wetlands, it is often found in wet springs, meadows, streambanks, and floodplains at elevations below 1,600 feet. Blooms September – May.	Unlikely. The site and surrounding areas lack suitable habitat and soils for this species.
Lesser saltscale (<i>Atriplex minuscula</i>)	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.	Unlikely. The site and surrounding areas lack suitable alkaline soils. The only recorded observation of this species within the vicinity was 4 miles northwest of the site in 1937.
Madera leptosiphon (<i>Leptosiphon serrulatus</i>)	Found in openings in foothill woodland, often yellow-pine forest, and chaparral at elevations between 1,000 feet and 4,300 feet. Blooms April – May.	Absent. The site and surrounding areas are outside of the elevational range for this species and lack suitable habitat. The only recorded observation of this species within the vicinity was 11.5 miles north of the site in 1922.
Panoche pepper-grass (<i>Lepidium jaredii</i> ssp. <i>album</i>)	Found on steep slopes, washes, alluvial-fans, and clay, sometimes alkaline, within Valley and Foothill Grassland communities in western Fresno County at elevations between 600–2,400 feet. Blooms February–June.	Unlikely. The site and surrounding areas lack suitable soils and habitats. The only recorded observation of this species within the vicinity was 6.5 miles south of the site in 1893 but is listed as possibly extirpated.

4.4.2 Applicable Regulations

Federal

Endangered Species Act

The Endangered Species Act (ESA) protects plants and animals that are listed as endangered or threatened by USFWS and the National Marine Fisheries Service (NMFS). Section 9 of the ESA prohibits, without authorization, the taking of listed wildlife, where take is defined as “harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, collect, or attempt to engage in such conduct” (50 Code of Federal Regulations

[CFR] 17.3). For plants, this statute governs removing, possessing, maliciously damaging, or destroying any listed plant under federal jurisdiction and removing, cutting, digging up, damaging, or destroying any listed plant in any other area in knowing violation of state law (16 United States Code [USC] 1538).

Under Section 7 of the ESA, federal agencies are required to consult with USFWS and/or NMFS if their actions, including permit approvals and funding, could adversely affect a listed (or proposed) species (including plants) or its critical habitat. Through consultation and the issuance of a biological opinion (BO), USFWS and NMFS may issue an incidental take statement allowing take of the species that is incidental to an otherwise authorized activity provided the activity will not jeopardize the continued existence of the species. Section 10 of ESA provides for the issuance of incidental take permits where no other federal actions are necessary provided a habitat conservation plan is developed.

Section 7 Consultation

Section 7 of the ESA mandates that all federal agencies consult with USFWS and/or NMFS to ensure that federal agencies' actions do not jeopardize the continued existence of a listed species or adversely modify critical habitat for listed species. If direct and/or indirect effects will occur to critical habitat that appreciably diminish the value of critical habitat for both the survival and recovery of a species, the adverse modifications will require formal consultation with USFWS or NMFS. If adverse effects are likely, the federal lead agency must prepare a biological assessment (BA) for the purpose of analyzing the potential effects of the proposed Project on listed species and critical habitat to establish and justify an "effect determination." Often a third-party, non-federal applicant drafts the BA for the lead federal agencies. The USFWS/NMFS reviews the BA; if it concludes that the Project may adversely affect a listed species or its habitat, it prepares a BO. The BO may recommend "reasonable and prudent alternatives" to the Project to avoid jeopardizing or adversely modifying habitat.

Critical Habitat

Critical Habitat is defined in Section 3 of the ESA as:

1. the specific areas within the geographical area occupied by a species, at the time it is listed in accordance with the ESA, on which are found those physical or biological features essential to the conservation of the species and that may require special management considerations or protection; and
2. specific areas outside the geographical area occupied by a species at the time it is listed, upon a determination that such areas are essential for the conservation of the species.

For inclusion in a Critical Habitat designation, habitat within the geographical area occupied by the species at the time it was listed must first have features essential to the conservation of the species (16 USC 1533). Critical Habitat designations identify, to the extent known and using the best scientific data available, habitat areas that provide essential life cycle needs of the species (areas on which are found the primary constituent elements). Primary constituent elements are the physical and biological features that are essential to the conservation of the species and that may require special management considerations or protection. These include but are not limited to the following:

1. Space for individual and population growth and for normal behavior.
2. Food, water, air, light, minerals, or other nutritional or physiological requirements.
3. Cover or shelter.
4. Sites for breeding, reproduction, or rearing (or development) of offspring.

5. Habitats that are protected from disturbance or are representative of the historic, geographical, and ecological distributions of a species.

Migratory Bird Treaty Act

The Migratory Bird Treaty Act (MBTA) implements international treaties between the U.S. and other nations devised to protect migratory birds, any of their parts, eggs, and nests from activities such as hunting, pursuing, capturing, killing, selling, and shipping, unless expressly authorized in the regulations or by permit. As authorized under the MBTA, USFWS issues permits to qualified applicants for the following types of activities: falconry, raptor propagation, scientific collecting, special purposes (rehabilitation, education, migratory game bird propagation, and salvage), take of depredating birds, taxidermy, and waterfowl sale and disposal. The regulations governing migratory bird permits can be found in 50 CFR part 13 General Permit Procedures and 50 CFR part 21 Migratory Bird Permits. The State of California has incorporated the protection of nongame birds, migratory birds, and birds of prey in Fish and Game Code Sections 3800, 3513, and 3503.5, respectively.

Clean Water Act

The purpose of the federal Clean Water Act (CWA) is to “restore and maintain the chemical, physical, and biological integrity of the nation’s waters.” Section 404 of the CWA prohibits the discharge of dredged or fill material into “Waters of the United States” without a permit from the USACE. The definition of Waters of the U.S. includes rivers, streams, estuaries, the territorial seas, ponds, lakes, and wetlands. Wetlands are defined as those areas “that are inundated or saturated by surface or ground water at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions” (33 CFR 328.3 7b). The USEPA also has authority over wetlands, including the authority to veto permits issued by USACE under CWA Section 404(c).

Projects involving activities that have no more than minimal individual and cumulative adverse environmental effects may meet the conditions of one of the Nationwide Permits already issued by USACE (Federal Register 82:1860, January 6, 2017). If impacts on wetlands could be substantial, an individual permit is required. A Water Quality Certification or waiver pursuant to Section 401 of the CWA is required for Section 404 permit actions; this certification or waiver is issued by the Regional Water Quality Control Board (RWQCB).

State

California Endangered Species Act

The California Endangered Species Act (CESA) (Fish and Game Code Sections 2050-2116) protects species of fish, wildlife, and plants listed by the State as endangered or threatened. Species identified as candidates for listing may also receive protection. Section 2080 of the CESA prohibits the taking, possession, purchase, sale, and import or export of endangered, threatened, or candidate species, unless otherwise authorized by permit. Take is defined in Fish and Game Code Section 86 as “hunt, pursue, catch, capture, or kill, or attempt to hunt, pursue, catch, capture, or kill.” The CESA allows for “take” incidental to otherwise lawful projects under permits issued by CDFW.

Fully Protected Species

The State of California first began to designate species as “fully protected” prior to the creation of the federal and the California ESAs. Lists of fully protected species were initially developed to provide

protection to those animals that were rare or faced possible extinction and included fish, amphibians and reptiles, birds, and mammals. Most fully protected species have since been listed as threatened or endangered under the federal and/or California ESAs. Fully protected species are identified in the California Fish and Game Code Section 4700 for mammals, Section 3511 for birds, Section 5050 for reptiles and amphibians, and Section 5515 for fish.

These sections of the California Fish and Game Code provide that fully protected species may not be taken or possessed at any time, including prohibition of CDFW from issuing incidental take permits for fully protected species under the CESA. CDFW will issue licenses or permits for take of these species for necessary scientific research or live capture and relocation pursuant to the permit and may allow incidental take for lawful activities carried out under an approved Natural Community Conservation Plan within which such species are covered.

Native Plant Protection Act

The Native Plant Protection Act (NPPA) of 1977 (Fish and Game Code Sections 1900-1913) was established with the intent to “preserve, protect and enhance rare and endangered plants in this state.” The NPPA is administered by CDFW. The Fish and Game Commission has the authority to designate native plants as “endangered” or “rare.” The NPPA prohibits the take of plants listed under the NPPA, but the NPPA contains a number of exemptions to this prohibition that have not been clarified by regulation or judicial rule. In 1984, the CESA brought under its protection all plants previously listed as endangered under NPPA. Plants listed as rare under NPPA are not protected under the CESA but are still protected under the provisions of NPPA. The Fish and Game Commission no longer lists plants under NPPA, referring all listings to the CESA.

California Fish and Game Code Special Protections for Birds

In addition to protections contained within the CESA and Fish and Game Code Section 3511 described above, the California Fish and Game Code includes a number of sections that specifically protect certain birds.

Section 3800 states that it is unlawful to take non-game birds, such as those occurring naturally in California that are not resident game birds, migratory game birds, or fully protected birds, except when in accordance with regulations of the California Fish and Game Commission or a mitigation plan approved by CDFW for mining operations.

Section 3503 prohibits the take, possession, or needless destruction of the nest or eggs of any bird.

Section 3503.5 protects birds of prey (which includes eagles, hawks, falcons, kites, ospreys, and owls) and prohibits the take, possession, or destruction of any birds and their nests.

Section 3505 makes it unlawful to take, sell, or purchase egrets, ospreys, and several exotic non-native species, or any part of these birds.

Section 3513 specifically prohibits the take or possession of any migratory non-game bird as designated in the MBTA.

Porter-Cologne Water Quality Act

The RWQCB implements water quality regulations under the federal CWA and the Porter-Cologne Water Quality Act. These regulations require compliance with the National Pollutant Discharge Elimination System

(NPDES), including compliance with the California Storm Water NPDES General Construction Permit for discharges of stormwater runoff associated with construction activities. General Construction Permits for projects that disturb one or more acres of land require development and implementation of a Storm Water Pollution Prevention Plan. Under the Porter-Cologne Water Quality Act, the RWQCB regulates actions that would involve “discharging waste, or proposing to discharge waste, with any region that could affect the water of the state” [Water Code Section 13260(a)]. Waters of the State are defined as “any surface water or groundwater, including saline waters, within the boundaries of the state” [Water Code Section 13050 (e)]. The RWQCB regulates all such activities, as well as dredging, filling, or discharging materials into Waters of the State, which are not regulated by USACE due to a lack of connectivity with a navigable water body. The RWQCB may require issuance of a Waste Discharge Requirements for these activities.

4.4.3 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. Birds could nest on the ground or in trees on or adjacent to the Project site. While there are no suitable trees for Swainson’s hawk within the Project site, large eucalyptus trees suitable for nesting for this species are located south of the Project site and could be utilized. Protected birds located within or adjacent to the Project site 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 Project site 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. Implementation of mitigation measures **BIO-1**, **BIO-2**, and **BIO-3** would reduce these impacts to less than significant.

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. Water features, hydric soils, riparian vegetation, and riparian habitat is absent from the Project area and adjacent lands. According to CNDDDB, there are no recorded observations of natural communities of special concern with potential to occur within the Project area or vicinity. Additionally, no natural communities of special concern were observed during the biological survey. Therefore, implementation of the Project would have no impact on riparian habitat or any other sensitive natural communities.

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. Wetlands are absent from the Project area and adjacent lands. Furthermore, there is no potential for indirect downstream effects because the Project would not involve lake or streambed altering activities. Therefore, implementation of the Project would have no impact on wetlands.

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. As discussed in **Appendix B**, the Project site project site does not have any features that would be used as wildlife movement corridors. No native wildlife nursery sites were found within the project site. There would be no impact.

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

No Impact. The Project is consistent with the goals and policies set forth in the Fresno County General Plan. The County does not have a tree preservation policy or ordinance that would be affected by the Project. There would be no impact.

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

4.4.4 Mitigation

BIO-1 The Project's construction activities should occur, if feasible, between September 15 and January 31 (outside of the nesting bird season) to avoid impacts to nesting birds.

BIO-2 If activities must occur within the nesting bird season (February 1 to September 14), a qualified biologist will conduct a pre-construction survey for Swainson's hawk nests onsite and within a 0.5-mile radius. This one time take avoidance survey will be conducted in accordance with the Recommended Timing and Methodology for Swainson's Hawk Nesting Surveys in California's Central Valley (Swainson's Hawk Technical Advisory Committee 2000), or current guidance. The pre-construction survey would also provide a presence/absence survey for all other nesting birds within the project site, and up to 100 feet outside of the project site for nesting migratory birds and up to 500 feet outside of the project site for nesting raptors. Raptor nests would be considered "active" upon the nest-building stage. If no active nests are observed, no further mitigation is required.

BIO-3 On discovery of any active nests or breeding colonies 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. If necessary, avoidance buffers will be identified with flagging, fencing, or other easily visible means, and will be maintained until the biologist has determined that the nestlings have fledged.

4.5 CULTURAL RESOURCES

Table 4-9: Cultural Resources Impacts

Would the project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
a) Cause a substantial adverse change in the significance of a historical resource pursuant to in § 15064.5?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Cause a substantial adverse change in the significance of an archaeological resource pursuant to § 15064.5?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c) Disturb any human remains, including those interred outside of dedicated cemeteries?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

4.5.1 Baseline Conditions

Records Search

A records search from the Southern San Joaquin Valley Information Center (SSJVIC) of the California Historical Resources Information System (CHRIS), located at California State University, Bakersfield was conducted in June 2023. 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 (NRHP), and the California State Built Environment Resources Directory listings were reviewed for the Project area and an additional ½-mile radius. Due to the sensitive nature of cultural resources, archaeological site locations are not released. The search results indicated the study area had not been previously surveyed and no cultural resources had been previously documented within it. The search also indicated that three (3) previous studies had been conducted within the 0.5-mi records search radius and that no cultural resources were documented within that search radius.

Additional sources included the State Office of Historic Preservation Historic Properties Directory, Archaeological Determinations of Eligibility, and the California Inventory of Historic Resources. (See [Appendix C](#))

Class III Inventory/Phase I Survey

A Phase I Survey of the Project site was conducted by ASM Associates in June 2023. 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 8100 Manual, using DPR 523 forms. The survey fieldwork used parallel transects spaced

at 15-meter intervals walked across the Project site. No cultural resources of any kind were identified within the study area. (See [Appendix C](#))

4.5.2 Applicable Regulations

Federal

National Register of Historic Places

The NHPA authorizes the Secretary of the Interior to establish a NRHP, an inventory of districts, sites, buildings, structures, and objects significant on a national, state, or local level in American history, architecture, archeology, engineering, and culture. The National Register is maintained by the National Park Service, the Advisory Council on Historic Preservation, State Historic Preservation Office (SHPO), and grants-in-aid programs.

Native American Graves Protection and Repatriation Act

The Native American Graves Protection and Repatriation Act (NAGPRA) strives to ensure that all Indian human remains, and cultural items are treated with dignity and respect. It encourages voluntary disclosure and return of remains and cultural items by publicly funded agencies and museums. It also states the intent for states to provide mechanisms for aiding Indian tribes, including non-federally recognized tribes, in filing repatriation claims and getting responses to those claims.

State

Office of Historic Preservation

The mission of the Office of Historic Preservation and the State Historical Resources Commission is to preserve and enhance California's irreplaceable historic heritage as a matter of public interest so that its vital legacy of cultural, educational, recreational, aesthetic, economic, social, and environmental benefits will be maintained and enriched for present and future generations. Public Resource Code (PRC) Section 5024 requires consultation with SHPO when a project may impact historical resources located on State-owned land.

California Register of Historic Resources

The SHPO maintains the California Register of Historic Resources (CRHR). Historic properties listed, or formally designated for eligibility to be listed, on the National Register are automatically listed on the CRHR (PRC Section 5024.1). State Landmarks and Points of Interest are also automatically listed. The California Register can also include properties designated under local preservation ordinances or identified through local historic resource surveys.

For a historic resource to be eligible for listing on the California Register, it must be significant at the local, state, or national level under one or more of the following four criteria:

- It is associated with events that have made a significant contribution to the broad patterns of local and regional history, or the cultural heritage of California or the United States;
- It is associated with the lives of persons important to local, California, or national history;
- It embodies the distinctive characteristics of a type, period, region, or method of construction, or represents the work of a master or possesses high artistic values; or
- It has yielded, or has the potential to yield, information important to the prehistory or history of the local area, California, or the nation (California Public Resources Code).

California Environmental Quality Act

PRC Section 21083.2 Archaeological Resources: CEQA directs the lead agency to include in its environmental assessment for the project a determination of the project effects on unique archeological resources; defines unique archeological resource; enables a lead agency to require an applicant to make a reasonable effort to preserve or mitigate impacts to any affected unique archeological resource; sets requirements for the applicant to provide payment to cover costs of mitigation; and restricts excavation as a mitigation measure.

PRC Section 21084.1 Historic Resources: CEQA establishes that adverse effects on a historic resource qualifies as a significant effect on the environment; and defines historical resource.

CEQA Guidelines Section 15064.5: This section defines three ways that a property can qualify as a significant historical resource for the purposes of CEQA review:

If the resource is listed in or determined eligible for listing in the California Register of Historical Resources;

If the resource is included in a local register of historical resources, as defined in PRC Section 5020.1(k), or is identified as significant in a historical resource survey meeting the requirements of PRC Section 5024.1(g) unless a preponderance of evidence demonstrates that it is not historically or culturally significant; or

If the lead agency determines the resource to be significant as supported by substantial evidence (CEQA Guidelines Section 15064.5)

In addition to determining the significance under CEQA and eligibility of any identified historical resource for the California Register, historic properties must be evaluated under the criteria for the National Register should federal funding or permitting become involved in any undertaking subject to this document.

CEQA Guidelines on Mitigation of Cultural Resources Impacts

CEQA Guidelines Section 15126.4 states that “public agencies should, whenever feasible, seek to avoid damaging effects on any historical resources of an archeological nature.” The Guidelines further state that preservation-in-place is the preferred approach to mitigate impacts on archaeological resources. However, according to Section 15126.4, if data recovery through excavation is “the only feasible mitigation,” then a “data recovery plan, which makes provision for adequately recovering the scientifically consequential information from and about the historical resources, shall be prepared and adopted prior to any excavation being undertaken.” Data recovery is not required for a resource of an archaeological nature if “the lead agency determines that testing or studies already completed have adequately recovered the scientifically consequential information from and about the archaeological or historical resource.” The section further states that its provisions apply to those archaeological resources that also qualify as historic resources.

Native American Heritage Act

Also relevant to the evaluation and mitigation of impacts to cultural resources is the Native American Heritage Act of 1976 which established the Native American Heritage Commission (NAHC) and protects Native American religious values on state property (see PRC Section 5097.9).

Public Notice to California Native American Indian Tribes

Government Code (GC) Section 65092 includes California Native American tribes that are on the contact list maintained by the NAHC in the definition of “person” to whom notice of public hearings shall be sent by local governments.

Disposition of Human Remains (Health and Safety Code Section 7050.5)

When an initial study identifies the existence, or the probable likelihood, of Native American human remains within the project, a lead agency shall work with the appropriate Native American groups or individuals as identified by the NAHC as provided in PRC Section 5097.98. The applicant may develop an agreement for treating or disposing of, with appropriate dignity, the human remains, and any items associated with Native American burials. Furthermore, HSC Section 7050.5 requires that construction or excavation be stopped in the vicinity of discovered human remains until the county coroner can determine whether the remains are those of a Native American. If the remains are determined to be Native American, the coroner must contact the NAHC.

California Native American Graves Protection and Repatriation Act of 2001

Health and Safety Code Sections 8010-8011 establish a State repatriation policy intent that is consistent with and facilitates implementation of NAGPRA. The Act strives to ensure that all California Indian human remains, and cultural items are treated with dignity and respect. It encourages voluntary disclosure and return of remains and cultural items by publicly funded agencies and museums in California. It also states the intent for the state to provide mechanisms for aiding California Indian tribes, including non-federally recognized tribes, in filing repatriation claims and getting responses to those claims.

Local

Fresno County General Plan

The 2000 Fresno County General Plan contains policies aimed at preserving and protecting cultural resources. The following policies are relevant to the protection of cultural resources within the Project site and surrounding area:

- Goal OS-J: To identify, protect, and enhance Fresno County's important historical, archeological, paleontological, geological, and cultural sites and their contributing environment, and promote and encourage preservation, restoration, and rehabilitation of Fresno County's historically significant resources in order to promote historical awareness, community identify, and to recognize the County's valued assets that have contributed to past County events, trends, styles of architecture, and economy.
- Policy OS-J.1: Preservation of Historic Resources. The County shall encourage preservation of any sites and/or buildings identified as having historical significance pursuant to the list maintained by the Fresno County Historic Landmarks and Records Advisory Commission.
- Policy OS-J.2: Historic Resources Consideration. The County shall consider historic resources during preparation or evaluation of plans and discretionary development projects.
- Policy OS-J.14: Sites Protection and Mitigation. The County shall require that discretionary development projects, as part of any required CEQA review, identify and protect important historical, archeological, paleontological, and cultural sites and their contributing environment from damage, destruction, and abuse to the maximum extent feasible. Project-level mitigation shall include accurate site surveys, consideration of project alternatives to preserve archeological and historic resources, and provision for resource recovery and preservation when displacement is unavoidable.⁵

⁵ (Fresno County General Plan Policy Document 2000)

4.5.3 Impact Analysis

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

No Impact. No historic resources were identified on the Project site. There would be no impact.

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

Less than Significant Impact with Mitigation Incorporated. As described above, there are no recorded cultural resources on the subject property. It is unlikely that the Project has the potential to result in significant impacts or adverse effects to any known unknown cultural resources, such as archaeological remains or artifacts. However, in the improbable event that cultural resources are encountered during Project grading and construction, implementation of mitigation measure **CUL-1** outlined below, will reduce impacts to any archaeological resource 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 in the record searches that indicates 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 will be reduced to less than significant.

4.5.4 Mitigation

CUL-1 Should archaeological remains or artifacts be unearthed during any stage of project activities, work in the area of 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 any human remains are discovered on the Project site, the Tulare County Coroner must be notified of the discovery (California Health and Safety Code, Section 7050.5) and all activities in the immediate area of the find or in any nearby area reasonably suspected to 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.

4.6 ENERGY

Table 4-10: Energy Impacts

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

4.6.1 Baseline Conditions

Pacific Gas and Electric Company (PG&E) supplies electricity and natural gas to the Project area. PG&E obtains its power through hydroelectric, thermal (natural gas), wind, and solar generation or purchases. PG&E continually produces new electric generation and natural gas sources and implements continuous improvements to gas lines throughout its service areas to ensure the provision of services to users.

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

Less than Significant Impact. The Project would comply with Building Energy Efficiency Standards included in Titles 20 and 24 of the California Code of Regulations, which requires new development to incorporate energy efficiency standards, including energy-efficient lighting and motor requirements, into Project designs. Current regulations for construction equipment, heavy-duty equipment, and earthmoving equipment used in construction contributes to reductions in energy as well as reduction in pollutant emissions. Through compliance with energy reduction standards and regulations aimed at reducing consumption of transportation related energy consumption, as well as the energy provider’s energy reduction programs, the Project would have less than significant impacts related to energy usage during Project operations and construction, and its impacts related to wasteful, inefficient, or unnecessary energy consumption overall, would be less than significant. The Project would not conflict with or obstruct a state or local plan for renewable energy or energy efficiency.

4.7 GEOLOGY AND SOILS

Table 4-11: 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:	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
i. Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publication 42.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
ii. Strong seismic ground shaking?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
iii. Seismic-related ground failure, including liquefaction?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
iv. Landslides?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Result in substantial soil erosion or the loss of topsoil?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c) Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction or collapse?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
d) Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994) creating substantial direct or indirect risks to life or property?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
e) Have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems where sewers are not available for the disposal of wastewater?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
f) Directly or indirectly destroy a unique paleontological resource or site or unique geological feature?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

4.7.1 Baseline Conditions

Faults and Seismicity

The Project site is not located within an Alquist-Priolo Earthquake Fault Zone and no known faults cut through the local soil at the site. The nearest major fault is the San Andreas Fault, located approximately 55 miles southwest of the Project site. The San Andreas Fault is the dominant active tectonic feature of the

Coast Ranges and represents the boundary of the North American and Pacific plates. A smaller fault zone, the Nunez Fault, is approximately 40 miles southwest of the site.⁶

Liquefaction

The potential for liquefaction, which is the loss of soil strength due to seismic forces, is dependent on soil types and density, depth to groundwater, and the duration and intensity of ground shaking. Although no specific liquefaction hazard areas have been identified in 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 Fresno County, liquefaction hazards would be negligible. Using the United States Department of Agriculture (USDA) Natural Resources Conservation Service (NRCS) soil survey of Fresno County, an analysis of the soils onsite was performed (See [Appendix B](#)). Soils in the area consist of Delhi loamy sandy and Hesperia sandy loam.

Soil Subsidence

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

Dam and Levee Failure

Pine Flat Reservoir is located approximately 35 miles northeast, and the Project site lies within the inundation zone for Pine Flat Dam.

4.7.2 Applicable Regulations

State

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

California Building Standards Code: The California Code of Regulations Title 24 is assigned to the California Building Standards Commission, which, by law, is responsible for coordinating all building standards. The California Building Code incorporates by reference the International Building Code with necessary California amendments. The International Building Code is a widely-adopted model building code in the United States published by the International Code Council. About one-third of the text within the California Building Standards Code has been tailored for California earthquake conditions.

Local

Fresno County General Plan: The Fresno County General Plan sets forth several goals and policies relating to seismic and geologic hazards, none of which are relevant to this Project's CEQA review.

⁶ (California Department of Conservation 2021)

4.7.3 Impact Analysis

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

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

Less than Significant Impact. The Project site and its vicinity are located in an area traditionally characterized by relatively low seismic activity. The site is not located in an Alquist-Priolo Earthquake Fault Zone as established by the Alquist-Priolo Fault Zoning Act (Section 2622 of Chapter 7.5, Division 2 of the California Public Resources Code). The nearest major fault is the San Andreas Fault, located approximately 55 miles southwest of the Project site. A smaller fault zone, the Nunez Fault, is approximately 40 miles southwest of the site.

The Project would not include development of habitable structures. Operation of the Project would not require permanent staff onsite or an increase in the number of employees required for routine maintenance. Instead, routine maintenance and repairs would be performed infrequently, on an as-needed basis by current District employees. Therefore, implementation of the Project would not result in an increase of people or habitable structures onsite. Any impact would be less than significant.

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

Less than Significant Impact. Liquefaction is a process which involves the temporary transformation of soil from a solid state to a fluid form during intense and prolonged ground shaking. Water-saturated areas with shallow depth to groundwater and uniform sands, loose-to-medium in density, are prone to liquefaction.⁷ As the Project site has a significant depth to groundwater, impacts would be less than significant.

- iv. Landslides?

No Impact. As the Project site 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 negligible as the site is approximately 30 miles from the foothills and the local topography is essentially flat and level. There would be no impact.

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

Less than Significant Impact. Earthmoving activities associated with the Project would include excavation, drilling, trenching, grading, and infrastructure construction over an area exceeding one acre. These activities could expose soils to erosion processes and the extent of erosion would vary depending on slope steepness/stability, vegetation/cover, concentration of runoff, and weather conditions. Dischargers whose projects disturb one (1) or more acres of soil or whose projects disturb less than one acre but are part of a larger common plan of development that in total disturbs one or more acres, are

⁷(Fresno County General Plan Policy Document 2000)

required to obtain coverage under the General Permit for Discharges of Storm Water Associated with Construction Activity Construction General Permit Order. Construction activity subject to this permit includes clearing, grading, and disturbances to the ground such as stockpiling, or excavation, but does not include regular maintenance activities performed to restore the original line, grade, or capacity of the facility. The Construction General Permit requires the development of a Storm Water Pollution Prevention Plan (SWPPP) by a certified Qualified Storm Water Pollution Prevention Plan Developer (QSD). Since the Project site has relatively flat terrain with a low potential for soil erosion and would comply with the SWRCB requirements, the impact would be less than significant.

- c) Would the project be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction or collapse? and;
- d) Would the project be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial direct or indirect risks to life or property?

Less than Significant Impact. Soils onsite consist primarily of Delhi loamy sand, which is classified as somewhat excessively drained with a very low runoff class (See NRCS Soil Resource Report in [Appendix B](#)). The Project site and surrounding areas do not contain substantial grade changes. Risk of landslides, lateral spreading, subsidence, liquefaction, and collapse are minimal. The Project would not propose significant alteration of the topography of the site and it would not involve development of structures or facilities that could be affected by expansive soils or expose people to substantial risks to life or property. Furthermore, the Project would be consistent with the California Building Standards Code. Any impacts would be less than significant.

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

No Impact. Septic installation or alternative wastewater disposal systems are not necessary for the Project. There would be no impact.

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

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

4.8 GREENHOUSE GAS EMISSIONS

Table 4-12: Greenhouse Gas Emissions Impacts

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

4.8.1 Baseline Conditions

The Project site is vacant.

4.8.2 Applicable Regulations

The Fresno County General Plan does not contain any goals or policies related to greenhouse gas or climate change.

4.8.3 Thresholds

The Lead Agency has not adopted a threshold of significance for greenhouse gas emissions. In this case, thresholds are compared against the Bay Area Air Quality Management District’s (BAAQMD) greenhouse gas (GHG) thresholds, which are 1,100 metric tons per year.⁸ It recommends no threshold for construction emissions.

4.8.4 Impact Analysis

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 result in 42.5 metric tons of annual GHG emissions from operation of both on-road and off-road equipment (see [Appendix A](#)). As discussed previously, Project operations would require routine maintenance conducted by existing staff and would not be a source of new emissions and therefore are not addressed further, while the emergency generator would generate minimal emissions. The Project would be below the BAAQMD thresholds for total Project emissions. Therefore, the GHG emissions from the Project would not have a significant impact on climate change.

⁸ (Bay Area Air Quality Management District 2017)

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

Less than Significant Impact. After Project construction, operational GHG emissions would consist of routine maintenance conducted by existing staff and minimal electrical usage, with minimal emissions as a result of emergency generator usage. The Project would provide potable water to residences whose current water sources do not meet safety standards. GHG emissions from the Project construction activities would be temporary and would not have a long-term impact on the state's ability to achieve the Scoping Plan's emission reduction targets for 2030 or beyond. Based on this, the Project would be consistent with the 2022 Scoping Plan and would not conflict with any applicable plan, policy, or regulation adopted for the purpose of reducing GHG emissions; therefore, impacts would be less than significant.

4.9 HAZARDS AND HAZARDOUS MATERIALS

Table 4-13: Hazards and Hazardous Materials Impacts

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

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 (DTSC, 2010). In addition to the EnviroStor database, the SWRCB GeoTracker database provides information on regulated hazardous waste facilities in California, including underground storage tank cases and non-underground storage tank 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 February 28, 2023, determined that there are no known active hazardous waste generators or hazardous material spill sites within the Project site or immediate surrounding vicinity.

Airports

The Fresno Yosemite International Airport is located approximately 17 miles northeast and a private airstrip is located approximately 3.5 miles southeast of the Project.

Emergency Response Plan

The Fresno County Office of Emergency Services coordinates the development and maintenance of the Fresno County Operational area Master Plan.

Sensitive Receptors

The Project site is located in an area of residential development. The nearest school is approximately 0.44 miles east of the Project site.

4.9.2 Applicable Regulations

Fresno County General Plan⁹: The Fresno County General Plan sets forth the following policies regarding hazards and hazardous materials and which have potential relevance to the Project's CEQA review:

- Goal HS-A: To protect public health and safety by preparing for, responding to, and recovering from the effects of natural or technological disasters.
- Policy HS-A.1: The County shall, through the Fresno County Operational Area Master Emergency Services Plan, maintain the capability to effectively respond to emergency incidents, including maintenance of an emergency operations center.
- Goal HS-F: To minimize the risk of loss of life, injury, serious illness, and damage to property resulting from the use, transport, treatment, and disposal of hazardous materials and hazardous wastes.
- Policy HS-F.3: The County, through its Hazardous Materials Incident Response Plan, shall coordinate and cooperate with emergency response agencies to ensure adequate countywide response to hazardous materials incidents.

4.9.3 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? and;

⁹ (Fresno County General Plan Policy Document 2000)

- 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? and;
- 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. The Project area is located approximately 0.44 miles west of Caruthers High School. Implementation of the Project would correct existing water reliability issues affecting the community of Caruthers. Construction of the Project would involve the use of hazardous materials associated with construction equipment, such as diesel fuel, lubricants, and solvents. However, the contractor would implement a SWPPP and would comply with all Cal/OSHA regulations regarding regular maintenance and inspection of equipment, spill prevention, and spill remediation in order to reduce the potential for incidental release of pollutants or hazardous substances onsite. Furthermore, any potential accidental hazardous materials spills during construction are the responsibility of the contractor to remediate in accordance with industry best management practices (BMPs) and State and county regulations. The operational phase of the Project would involve the use of chlorine, which is required for sanitation of drinking water. Storage, handling, and distribution of chlorine would be monitored and would comply with all relevant regulations set forth by DDW and County of Fresno. 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 does not involve land that is listed as a hazardous materials site pursuant to Government Code Section 65962.5 and is not included on a list compiled by the Department of Toxic Substances Control. A search of the DTSC EnviroStor database and the SWRCB GeoTracker determined that there are no known active hazardous waste generators or known hazardous material spill sites within the Project site. There would be no impact.

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

No Impact. The Project is not located within an airport land use plan or within two miles of an airport. The Fresno Yosemite International Airport is located approximately ten miles north-northwest, and the Selma Municipal Airport is located approximately three miles south-southwest of the Project. Construction and implementation of the Project would not be a safety hazard for people working in the area. 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?

Less than Significant Impact. Construction traffic associated with the Project would be minimal and temporary, lasting approximately nine months. Operational traffic would consist of as-needed maintenance trips and would have no effect on roadways or emergency access. Road closures and detours are not anticipated as part of the construction phase of the Project, however temporary lane diversions may be necessary for placement of the pipeline along Caruthers Avenue. Disturbances to traffic patterns, such as a potential lane diversion would be temporary and minimal in nature, as there

would be alternate routes available. Therefore, Project-related impacts to emergency evacuation routes or emergency response routes on local roadways would be considered less than significant.

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

No Impact. The nearest wildland, which has a moderate fire risk, is located approximately 25 miles northeast of the Project site.¹⁰ 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. There would be no impact.

¹⁰ (California Department of Forestry and Fire Protection 2023)

4.10 HYDROLOGY AND WATER QUALITY

Table 4-14: Hydrology and Water Quality Impacts

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

4.10.1 Baseline Conditions

According to the U.S. Geological Survey (USGS) classification system, the Project site lies within the Kennedy Pond-Fresno Slough watershed; Hydrologic Unit Code (HUC): 1803000902 and the Elkhorn Ditch-Liberty Ditch subwatershed; HUC: 180300090203. The nearest surface water to the Project is Harlan Stevens Ditch which is 0.5 miles northwest of the Project site.

The Project lies entirely within the Kings Groundwater Subbasin of the San Joaquin Valley Groundwater Basin.¹¹ The principal drainage in the vicinity of the Project is the channelized irrigation canal, Harlan Stevens Ditch, which flows approximately 0.6 miles north-northwest of the site through surrounding agricultural lands. There are no tributaries, or distributaries located within the site boundaries or adjacent to the site. The Project is located within the boundaries of the Central Kings Groundwater Sustainability Agency.

4.10.2 Applicable Regulations

Fresno County General Plan¹²: The Fresno County General Plan sets forth the following policies regarding hydrology and water quality and which have potential relevance to the Project's CEQA review:

- Policy ED-A.19: The County shall actively develop, adopt, and implement measures to ensure an adequate water supply for municipal and industrial use and agricultural production. The County shall explore and implement where feasible innovative new arrangements for providing additional water.
- Policy LU-A.20: The County shall adopt and support policies and programs that seek to protect and enhance surface water and groundwater resources critical to agriculture.
- Goal PF-C: To ensure the availability of an adequate and safe water supply for domestic and agricultural consumption.
- Policy PF-C.1: The County shall actively engage in efforts and support the efforts of others to retain existing water supplies within Fresno County.
- Policy PF-C.11: The County shall assure an on-going water supply to help sustain agriculture and accommodate future growth by allocation of resources necessary to carry out the water resource management programs.
- Policy PF-C.13: In those areas identified as having severe groundwater level declines or limited groundwater availability, the County shall limit development to uses that do not have high water usage or that can be served by a surface water supply.
- Policy PF-C.14: The County shall require that water supplies serving new development meet US Environmental Protection Agency and California Department of Health Services and other water quality and quantity standards.
- Policy PF-C.19: The County shall discourage the proliferation of small community water systems.
- Policy PF-C.23: The County shall regulate the transfer of groundwater for use outside of Fresno County. The regulation shall extend to the substitution of groundwater for transferred surface water.
- Policy PF-C.24: The County shall encourage the transfer of unused or surplus agricultural water to urban uses within Fresno County.

4.10.3 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. Construction activities may result in a potential impact through the erosion of soils and the build-up of silt and debris in runoff areas, however under California General Construction

¹¹ (California Department of Water Resources 2019)

¹² (Fresno County General Plan Policy Document 2000)

Permit 2022-0057-DWQ guidelines implementing a SWPPP, performed and approved by a QSD, would be required prior to construction, handling, and transportation of hazardous materials within the Project area. In addition, construction activities could result in accidental spills of fuels, paints, and other hazardous materials entering storm drains and other runoff areas. Through a SWPPP carried out by the contractor and a QSD, the Project would design and utilize BMPs in order to stabilize any sedimentation and erosion from leaving the Project site. Construction is temporary and would result in improved overall water quality for the surrounding community. GAC backwash from a future phase would be retained on-site in the proposed basin and would be required to comply with all applicable waste discharge requirements imposed by the Project would create a reliable and cleaner water source. Therefore, 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. Implementation of the Project would construct a water storage tank and in a future phase, a groundwater well. Both phases of the Project are intended to increase water system pressure, reliability, and quality. The future GAC treatment process would use a minimal amount of water during backwash operations. Construction of the Project would consume water, however this amount would be minimal. No planned growth beyond existing Community Plan land uses is anticipated. Therefore, the Project would not substantially decrease groundwater supplies or interfere substantially with groundwater recharge. 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
- iv. impede or redirect flood flows?

Less than Significant Impact. The Project does not propose to substantially alter the existing drainage pattern of the site. The Project would construct a stormwater retention basin designed for the Project's own runoff. 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 site is not in a flood hazard, tsunami, or seiche zone. See **Figure 4-2** for the flood zone map of the Project site and its vicinity. 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?

Less than Significant Impact. The Kings Subbasin is in overdraft. The Central Kings Groundwater Sustainability Plan (CKGSP) seeks to remedy the over drafting of its area through the construction of recharge basins adjacent to Consolidated Irrigation District’s surface water supply system.¹³ As the Project is not located adjacent to a canal or other waterway, and the Project does not propose to increase unplanned growth, the Project would not conflict with or obstruct implementation of the CKGSP. Impacts would be less than significant.

¹³ Ibid.

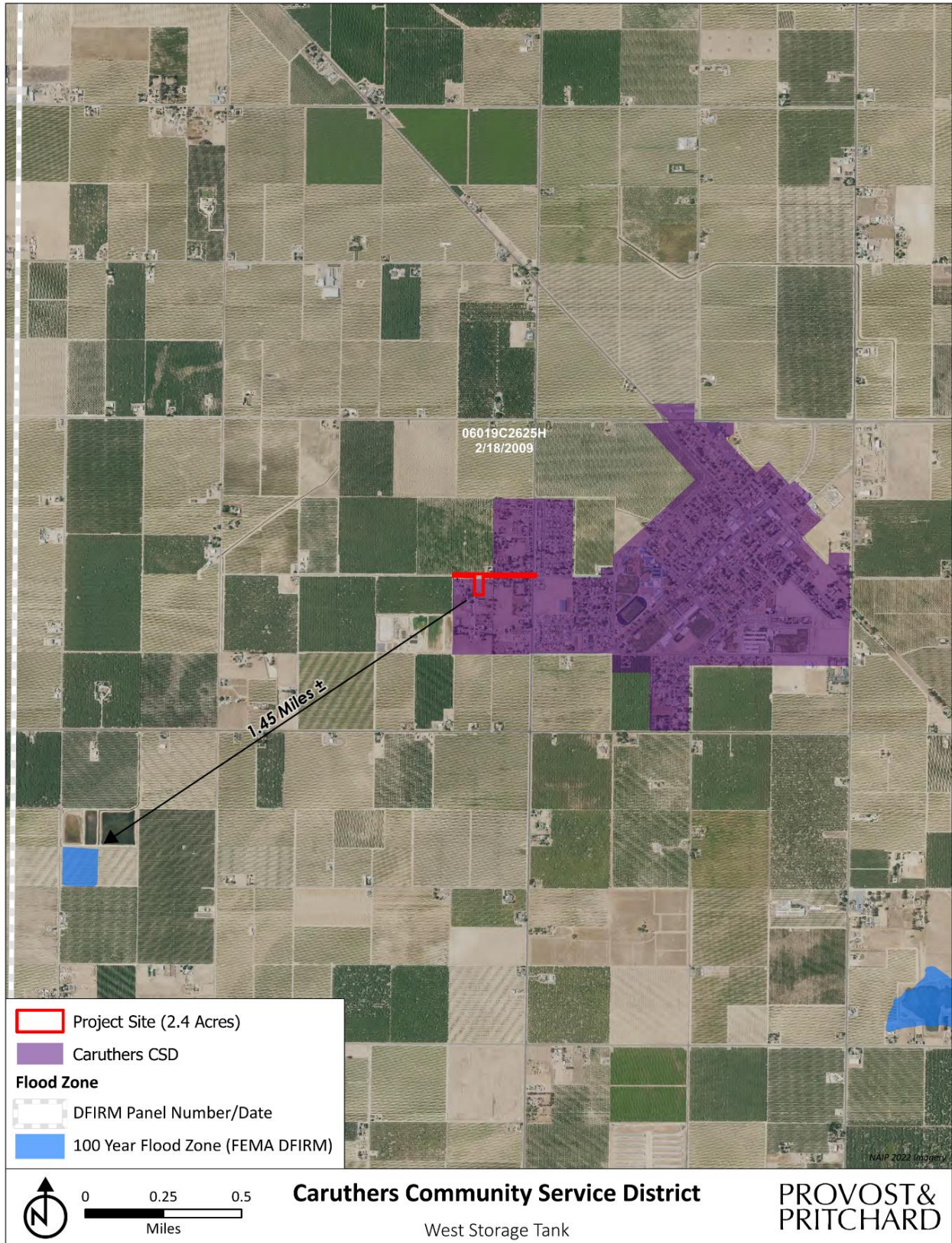


Figure 4-2: Flood Zone Map

4.11 LAND USE AND PLANNING

Table 4-15: Land Use and Planning Impacts

Would the project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
a) Physically divide an established community?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Cause a significant environmental impact due to a conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

4.11.1 Baseline Conditions

The Project area is surrounded by agricultural lands, ruderal vacant lots, and residential development. The Project site is located within vacant land zoned R-A (Single-Family Residential, Agricultural) by Fresno County. Zone Districts and General Plan Land Use Designations are illustrated in [Figure 2-3](#) and [Figure 2-4](#), respectively.

4.11.2 Applicable Regulations

Fresno County General Plan¹⁴

The Fresno County General Plan sets forth the following policies regarding land use and planning and which have potential relevance to the Project’s CEQA review:

- Policy LU-G.23: The County shall ensure that the expansion of unincorporated communities can be provided with necessary public services and that such expansion is consistent with other General Plan policies.

4.11.3 Impact Analysis

a) Would the project physically divide an established community?

No Impact. The Project site is located on a vacant lot. As illustrated in [Figure 2-3](#) and [Figure 2-4](#), the Project site is on the western end of an urban development area in a region dominated by agriculture. The Project would not include the permanent alteration of roads, trails, or paths that could be considered a connectivity network. Implementation of the Project would not divide an established community. 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?

¹⁴ (Fresno County General Plan Policy Document 2000)

No Impact. The Project site is within an area designated by the Fresno County General Plan as Low Density Residential. The General Plan contains goals and policies to provide services to meet the needs of the existing community and planned growth, and since the Project constitutes improvements to existing water facilities, implementation of the Project would not conflict with any applicable land use plan, policy, or regulation. As such, no direct impacts would occur. There would be no impact.

4.12 MINERAL RESOURCES

Table 4-16: Mineral Resources Impacts

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

4.12.1 Baseline Conditions

The community of Caruthers is located within the Fresno production-consumption (PC) region, which includes parts of Madera and Fresno Counties. The California Geological Survey (CGS), previously known as California Department of Conservation Division of Mines and Geology (DMG), has analyzed this region for the presence of aggregate resources in a 1988 mineral land classification report¹⁵ and a subsequent 1999 update¹⁶. In each of these reports CGS has classified the Fresno PC region according to the presence or absence of significant aggregate deposits. The land classification is presented in the form of Mineral Resource Zones (MRZs). MRZ-1 represents areas where information indicates that there are no significant aggregate deposits. MRZ-2 represents areas where adequate information indicates that significant aggregate deposits are present or where it is judged that a high likelihood exists for their presence. MRZ-3 represents areas containing mineral deposits the significance of which cannot be evaluated from available data. In both CGS reports, the Caruthers area is classified as MRZ-3. All areas known to contain significant aggregate deposits within the Fresno PC region are located along the Kings River floodplain and along the San Joaquin River.

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

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? and;
- 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?

No Impact. According to the CGS's Aggregate Sustainability Map,¹⁷ the Project is not within the vicinity of a site being used for aggregate production. The nearest aggregate production site is the Carmelita Mine located within the Kings River floodplain, approximately 24 miles northeast of the Project. In addition,

¹⁵ (California Department of Conservation 1986)

¹⁶ (California Department of Conservation 1999)

¹⁷ (California Department of Conservation 2018)

California's Division of Oil, Gas and Geothermal Resources has no record of active or inactive oil or gas wells or petroleum resources on the Project site or in the vicinity.¹⁸ The Project lies within a large region that has been classified by CGS as MRZ-3, representing an area containing mineral deposits the significance of which cannot be evaluated from available data. However, there are no known current or historic mineral resource extraction or recovery operations in the Project vicinity nor are there any known significant mineral resources onsite. Therefore, implementation of the Project would not result in the loss of availability of a known mineral resource since no known mineral resources occur in this area. Furthermore, the Project area has not been designated as a locally important mineral resource recovery site by a general plan, specific plan, or land use plan. There would be no impact.

¹⁸ (California Department of Conservation Well Finder 2020)

4.13 NOISE

Table 4-17: Noise Impacts

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

4.13.1 Baseline Conditions

Noise is most often described as unwanted sound. Although sound can be easily measured, the perception of noise and the physical response to sound complicate the analysis of its impact on people. Caruthers is a rural unincorporated community in southern Fresno County, dominated by agricultural production. SR 41 is the nearest highway, which is approximately 3.4 miles east of the Project site. The Project area is surrounded by agricultural lands, vacant lots, and residential development. The Fresno Yosemite International Airport is located approximately 17 miles northeast and a private airstrip is located approximately 3.5 miles southeast of the Project.

4.13.2 Applicable Regulations

Fresno County General Plan¹⁹

The Fresno County General Plan sets forth the following policies regarding noise and which have potential relevance to the Project's CEQA review:

- Policy HS-G.1: The County shall require that all proposed development incorporate design elements necessary to minimize adverse noise impacts on surrounding land uses.
- Policy HS-G.6: The County shall regulate construction-related noise to reduce impacts on adjacent uses in accordance with the County's Noise Control Ordinance.

¹⁹ (Fresno County General Plan Policy Document 2000)

Fresno County Noise Control Ordinance²⁰

Chapter 8.40 of the Fresno County Municipal Code contains the Noise Control Ordinance, which places limits on noise levels and hours of construction. Section 8.40.060 states that noise sources associated with construction activities are exempt from the provisions of the Noise Control Ordinance, as long as construction does not take place before 6:00 a.m. or after 9:00 p.m. on any day except Saturday or Sunday, or before 7:00 a.m. or after 5:00 p.m. on Saturday or Sunday. The ordinance also exempts noise sources associated with work performed by private or public utilities in the maintenance or modification of its facilities, and noise sources associated with the drilling or redrilling of petroleum, gas, injection or water wells.

4.13.3 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 construction phase of the Project would involve temporary noise sources, originating predominately from off-road equipment, such as backhoes, drilling rigs, scrapers, and tractors. As illustrated in **Table 4-18** below, typical construction noise levels could range between 74 to 89 dBA at a distance of 50 feet from the source, according to criteria from the Federal Transit Administration (FTA).²¹ Implementation of feasible noise control measures, such as the installation of mufflers or engine casing, would result in noise reduction of 5-10 dBA per source.

Table 4-18: Typical Construction Noise Levels

Equipment	Typical Noise Level (dBA) 50 feet from Source
Roller	74
Concrete Vibrator, Pump, Saw	76
Backhoe	80
Generator, Air Compressor	81
Compactor, concrete pump	82
Crane, Mobile	83
Dozer, Grader, Loader, Concrete Mixer, Impact Wrench, Pneumatic Tool	85
Truck, Jack Hammer	88
Paver, Scraper	89
Drill Rig	85

Noise from construction activities could exceed Fresno County Noise Control Ordinance standards of 65 dBA. However, Section 8.40.060 of the Noise Control Ordinance provides an exemption for noise sources associated with work performed by private or public utilities in the maintenance or modification of its facilities as well as an exemption for noise sources associated with the drilling or redrilling of petroleum, gas, injection or water wells. The Project is located adjacent to agricultural lands, accustomed to noises associated with farm equipment. Operational maintenance activities would be on an as-needed basis

²⁰ (County of Fresno 1978)

²¹ (Federal Highway Administration 2017)

with routine monitoring performed by existing staff and would not generate significant new noise. Any impacts would be mild and temporary and therefore, less than significant.

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

Less than Significant Impact. The construction phase of the Project would involve excavation and grading as part of development. The Project is located adjacent to an area dominated by agricultural production, which includes the use of off-road equipment and ground-disturbing activities on a regular basis. Conditions created by Project-related construction activities would not vary substantially from the baseline conditions routinely experienced onsite. 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 is not located within an airport land use plan or within two miles of an airport. The Fresno Yosemite International Airport is located approximately 17 miles northeast and a private airstrip is located approximately 3.5 miles southeast 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 4-19: Population and Housing Impacts

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

4.14.1 Baseline Conditions

The Project is located within the unincorporated community of Caruthers in southern Fresno County. The Project area is surrounded by agricultural lands and residential development.

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

No Impact. The Project proposes to construct water infrastructure for the purpose of delivering a reliable, clean supply of water and water pressure to its existing residents and would not result in direct or indirect population growth. As the Project site is vacant, no persons or housing would be displaced. Therefore, there will be no impact.

4.15 PUBLIC SERVICES

Table 4-20: Public Services

Would the project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
a) Result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for any of the public services:				
i. Fire protection?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
ii. Police protection?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
iii. Schools?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
iv. Parks?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
v. Other public facilities?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

4.15.1 Baseline Conditions

Fire Protection

The proposed Project area would be served by the Fresno County Fire Protection District, Battalion 15, Station 90 located approximately 0.5 miles west of the Project site.

Police Protection

Police protection is provided by the Fresno County Sheriff. The closest patrol station is located in Fresno approximately 13.7 miles north of the Project site.

Schools

Public school services are provided by the Caruthers Unified School District. The school district includes Caruthers Elementary School, Caruthers High School, and MARC High School. The Project site is located adjacent to the Caruthers Elementary School campus. Additionally, Caruthers High School and MARC High School are both located within 0.5 mile.

Parks

Fresno County has several regional parks, as well as State and national parks, national forest, wilderness areas, and ecological reserves. Regional recreational facilities within the County include 12 parks, four fishing access areas, and a boating facility. Laton-Kingston Park is the nearest regional park, located approximately 10.5 miles southeast of the Project site.²²

²² (County of Fresno Public Works and Planning 2012)

Landfills

The community of Caruthers is served by American Avenue Landfill which is located approximately 19 miles northwest of the Project site.²³

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:

No Impact. The Project area would continue to be served by the Fresno County Fire Protection District, Battalion 15, Station 90 located approximately 0.5 miles west of the Project site. The Fire Station would be able to accommodate the Project. There would be no impact to public fire services.

ii. Police Protection:

No Impact. Fresno County would continue to provide sheriff protection services to the Project site upon implementation of the Project. Emergency response is adequate to the Project site. The closest patrol station is located in Fresno approximately 13.7 miles north of the Project site.²⁴ No residential or office construction would be proposed for this Project and no additional police protection would be required. There would be no impact.

iii. Schools:

No Impact. The Project site is located adjacent to Caruthers Elementary School. Implementation would not include construction of any residential structures. The Project would not result in an increase of population that would require additional school facilities; therefore, there would be no impact.

iv. Parks:

No Impact. As the Project would not induce population growth, the Project would not create a need for additional park or recreational services. Laton-Kingston Park is the nearest regional park, located approximately 10.5 miles southeast of the Project site. Additionally, public schools, such as the adjacent Caruthers Elementary School include various public recreation facilities. No public facilities would be impacted by this Project.

v. Other public facilities:

No Impact. No other public facilities would be impacted by the construction or operation of the Project. There would be no impact.

²³ (County of Fresno n.d.)

²⁴ (Fresno County Fire Protection District n.d.)

4.16 RECREATION

Table 4-21: Recreation Impacts

Would the project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
a) Increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Does the project include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

4.16.1 Baseline Conditions

Fresno County has several regional parks, as well as State and national parks, national forest, wilderness areas, and ecological reserves. Regional recreational facilities within the County include 12 parks, 4 fishing access areas, and boating facility. Laton-Kingston Park is the nearest regional park, located approximately 10.5 miles southeast of the Project site.²⁵ Additionally, public schools, such as the adjacent Caruthers Elementary School include various public recreation facilities.

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? and;
- 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 require construction or expansion of such facilities. It would not increase the demand for recreational facilities or put a strain on the existing recreational facilities. No population growth would be associated with or be necessitated by the Project. There would be no impact.

²⁵ (County of Fresno Public Works and Planning 2012)

4.17 TRANSPORTATION

Table 4-22: Transportation Impacts

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

4.17.1 Baseline Conditions

Caruthers is a rural unincorporated community in southern Fresno County, dominated by agricultural production. SR 41 is the nearest highway, which is approximately 3.4 miles east of the Project site. The Project area is surrounded by agricultural lands, vacant lots, and residential development.

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? and;

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

Less than Significant Impact. Construction traffic associated with the Project would be minimal and temporary, lasting approximately nine months. Operational traffic consists of as-needed maintenance trips. There would not be a significant adverse effect to existing roadways in the area.

Vehicle miles traveled during construction would temporarily increase. Operational and maintenance vehicle miles traveled would increase a minimal amount due to additional driving, however this amount would not result in a significant impact.

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. As mentioned above, all potential disturbances to roadways would be temporary and repaired. Therefore, there would be no impact.

d) Would the project result in inadequate emergency access?

Less than Significant Impact. As described above, the Project would not propose new roadway design features or permanent alterations to roadways. All potential disturbances to roadways during construction would be temporary and repaired. Road closures and detours are not anticipated as part of the construction phase of the Project. Disturbances to traffic patterns, such as a potential lane diversion 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 4-23: Tribal Cultural Resources Impacts

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

4.18.1 Baseline Conditions

Records Search

A records search from the SSJVIC of CHRIS, located at California State University, Bakersfield was conducted in June 2023. 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 are of potential effect (APE) and an additional ½ mile radius. Due to the sensitive nature of cultural resources, archaeological site locations are not released. (See [Appendix C](#)).

Native American Outreach

A Sacred Lands File Search (SLF) was requested from NAHC in Sacramento in June 2023. The NAHC was provided with a brief description of the Project and a map showing its location with a request that the NAHC perform a search of the SLF to determine if any Native American resources have been recorded in

the immediate APE. The Project area had not been surveyed previously and no historic resources were known to exist within it. Outreach letters were sent to the tribes provided on the NAHC contact list. (See [Appendix C](#))

4.18.2 Applicable Regulations

The 2000 Fresno County General Plan contains policies aimed at preserving and protecting cultural resources. The following policy is relevant to the protection of tribal cultural resources within the Project site and surrounding area:

- Policy OS-J.3 The County shall solicit the views of the local Native American community in cases where development may result in disturbance to sites containing evidence of Native American activity and/or sites of cultural importance.

4.18.3 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

Less than Significant Impact with Mitigation Incorporated. A record search of the NAHC Sacred Lands File was completed for the Project area and the results were negative for the presence of Native American tribal cultural resources. A records search from CHRIS at SSVIC also confirmed that there are no recorded cultural or historical resources within the Project area. Less than significant impacts, with mitigation incorporated, to tribal resources are expected. Mitigation Measures **CUL-1** and **CUL-2**, described above in [Appendix C](#), are recommended in the event tribal cultural materials or human remains are unearthed during excavation or construction.

- 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.

Less than Significant Impact with Mitigation Incorporated. The District, as the public lead agency, has not received letters from any tribes officially requesting notification of Projects pursuant to PRC § 21080.3.1 (AB 52). Although there is little chance the Project would cause a substantial adverse change to the significance of a tribal cultural resource as defined. Mitigation Measures **CUL-1** and **CUL-2**, described in [Appendix C](#) are recommended in the event cultural materials or human remains are unearthed during excavation or construction.

4.18.4 Mitigation

CUL-1 Should archaeological remains or artifacts be unearthed during any stage of project activities, work in the area of 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 any human remains are discovered on the Project site, the Tulare County Coroner must be notified of the discovery (California Health and Safety Code, Section 7050.5) and all activities in the immediate area of the find or in any nearby area reasonably suspected to 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.

4.19 UTILITIES AND SERVICE SYSTEMS

Table 4-24: Utilities and Service Systems Impacts

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

4.19.1 Baseline Conditions

Water Supply

The Project lies entirely within the Kings Groundwater Subbasin of the San Joaquin Valley Groundwater Basin.²⁶ Declines in groundwater basin storage and groundwater overdraft are recurring problems in the Central Valley. Measures for ensuring the continued availability of groundwater for municipal needs have been identified and planned in several areas of the county. The measures include groundwater conservation and recharge, and supplementing or replacing groundwater sources for irrigation with surface water.

Landfills

The community of Caruthers is served by American Avenue Landfill which is located approximately 18 miles northwest of the Project site.²⁷

²⁶ (California Department of Water Resources 2019)

²⁷ (County of Fresno n.d.)

4.19.2 Applicable Regulations

The Fresno County General Plan sets forth the following policies regarding utilities and service systems and which have potential relevance to the Project's CEQA review:

- Policy PF-F.3: The County shall ensure that all new development complies with applicable provisions of the County Integrated Waste Management Plan.
- Policy PF-C.19: The County shall discourage the proliferation of small community water systems.
- Policy PF-C.20: The County shall not permit new private water wells within areas served by a public water system.
- Policy PF-C.14: The County shall require that water supplies serving new development meet U.S. Environmental Protection Agency and California Department of Health and Services and other water quality standards.
- Policy PF-C.11: The County shall assure an ongoing water supply to help sustain agriculture and accommodate future growth by allocation of resources necessary to carry out the water resource management programs.

4.19.3 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 includes a water facility and includes on-site stormwater retention pond. Minimal backwash generated by the Project's future GAC treatment process would be retained on-site in the proposed basin. No construction, relocation, or expansion of existing electric power, natural gas or telecommunications are necessary to accommodate the Project. Impacts would be less than significant.

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 does not propose to construct water-consuming residential, commercial, or industrial land uses. The future GAC treatment process would use a minimal amount of water, however the District has sufficient capacity to accommodate the increase. 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?

Less than Significant Impact. The Project would generate minimal backwash from the future GAC treatment process which would be retained on-site in the proposed basin. The Project would not require expansion of existing facilities. Impacts would be less than significant.

- 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? and;

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

Less than Significant Impact. Waste associated with construction would be minimal and temporary, most of which will be recycled. Operational and maintenance activities would include replacement of the GAC media. The media would be regenerated and recycled for future treatment use. Furthermore, the Project would continue to comply with any federal, State, and local regulations regarding solid waste. There would be a less than significant impact.

4.20 WILDFIRE

Table 4-25: Wildfire Impacts

If located in or near state responsibility areas or lands classified as very high fire hazard severity zones, would the project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
a) Substantially impair an adopted emergency response plan or emergency evacuation plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Due to slope, prevailing winds, and other factors, exacerbate wildfire risks, and thereby expose project occupants to pollutant concentrations from a wildfire or the uncontrollable spread of wildfire?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) Require the installation or maintenance of associated infrastructure (such as roads, fuel breaks, emergency water sources, power lines or other utilities) that may exacerbate fire risk or that may result in temporary or ongoing impacts to the environment?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d) Expose people or structures to significant risks, including downslope or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

4.20.1 Baseline Conditions

The proposed Project is located in the census-designated place of Caruthers, in Fresno County. The site is in a flat urbanized area of the Central San Joaquin Valley. It is in an urbanized area and with housing in the vicinity. The Project site would be served by the Fresno County Fire Protection District, and it is not located in or near a State Responsibility Area (SRA). Additionally, the Project is not on or near land classified as a very high fire hazard severity zone. The nearest very high fire hazard severity zone is located approximately 33 miles southeast.²⁸

4.20.2 Impact Analysis

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

²⁸ (California Department of Forestry and Fire Protection 2023)

- c) If located in or near state responsibility areas or lands classified as very high fire hazard severity zones, would the project require the installation or maintenance of associated infrastructure (such as roads, fuel breaks, emergency water sources, power lines or other utilities) that may exacerbate fire risk or that may result in temporary or ongoing impacts to the environment?
- d) If located in or near state responsibility areas or lands classified as very high fire hazard severity zones, would the project expose people or structures to significant risks, including downslope or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes?

No Impact. The Project is not located in or near an SRA or lands classified as very high fire hazard severity zones. The nearest SRA is 25 miles to the northeast of the Project site. Additionally, the site is approximately 33 miles from the nearest Very High classification of Fire Hazard Severity Zone. There would be no impact.

4.21 CEQA MANDATORY FINDINGS OF SIGNIFICANCE

Table 4-26: CEQA Mandatory Findings of Significance

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

4.21.1 Statement of Findings

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

Less than Significant with Mitigation Incorporated. The analysis conducted in this IS/MND 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, cultural, and tribal cultural resources from the implementation of the Project will be less than significant with the incorporation of the mitigation measures discussed in **Chapter 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. 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 reliability and 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 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 proposes to construct water infrastructure to improve water reliability in the community of Caruthers. The Project in and of itself would not create a significant hazard to the public or the environment. Construction-related air quality/dust exposure impacts could occur temporarily as a result of Project construction. However, implementation of basic regulatory requirements identified in this IS/MND would ensure that impacts are less than significant. Therefore, the Project would not have any direct or indirect adverse impacts on humans. 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. 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	The project’s construction activities should occur, if feasible, between September 15 and January 31 (outside of the nesting bird season) to avoid impacts to nesting birds.	Prior to commencement of construction	During construction	Caruthers CSD		
BIO-2	If activities must occur within the nesting bird season (February 1 to September 14), a qualified biologist will conduct a pre-construction survey for Swainson’s hawk nests onsite and within a 0.5-mile radius. This one time take avoidance survey will be conducted in accordance with the Recommended Timing and Methodology for Swainson's Hawk Nesting Surveys in California's Central Valley (Swainson's Hawk Technical Advisory Committee 2000), or current guidance. The pre-construction survey would also provide a presence/absence survey for all other nesting birds within the project site, and up to 100 feet outside of the project site for nesting migratory birds and up to 500 feet outside of the project site for nesting raptors. Raptor nests would be considered “active” upon the nest-building stage. If no active nests are observed, no further mitigation is required.	Prior to commencement of construction	During construction	Caruthers CSD		
BIO-3	On discovery of any active nests or breeding colonies 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. If necessary, avoidance buffers will be identified with flagging, fencing, or other easily visible means, and will be maintained until the biologist has determined that the nestlings have fledged.	Upon discovery of active nests or breeding colonies near work areas	During construction	Caruthers CSD		

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
Cultural and Tribal Cultural Resources						
CUL-1	Should archaeological remains or artifacts be unearthed during any stage of project activities, work in the area of 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.	Upon unearthing of archaeological remains or artifacts	During construction	Caruthers CSD		
CUL-2	In the event that any human remains are discovered on the Project site, the Tulare County Coroner must be notified of the discovery (California Health and Safety Code, Section 7050.5) and all activities in the immediate area of the find or in any nearby area reasonably suspected to 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.	Upon discovery of human remains	During construction	Caruthers CSD		

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Appendix A: CalEEMod Output File

West Storage Tank Custom Report

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1. Basic Project Information

1.1. Basic Project Information

Data Field	Value
Project Name	West Storage Tank
Construction Start Date	7/1/2024
Operational Year	2026
Lead Agency	—
Land Use Scale	Project/site
Analysis Level for Defaults	County
Windspeed (m/s)	3.50
Precipitation (days)	21.2
Location	36.53963281890883, -119.84840689878817
County	Fresno
City	Unincorporated
Air District	San Joaquin Valley APCD
Air Basin	San Joaquin Valley
TAZ	2520
EDFZ	5
Electric Utility	Pacific Gas & Electric Company
Gas Utility	Southern California Gas
App Version	2022.1.1.21

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
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General Light Industry	1.00	1000sqft	0.02	1,000	0.00	—	—	—
Other Non-Asphalt Surfaces	0.70	Acre	0.70	0.00	0.00	—	—	—

2. Emissions Summary

2.2. Construction Emissions by Year, Unmitigated

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

Year	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily - Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2024	1.45	1.22	11.4	11.0	0.02	0.53	5.35	5.89	0.49	2.58	3.07	—	1,760	1,760	0.07	0.02	0.19	1,766
Daily - Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2024	0.71	1.06	5.60	6.99	0.01	0.26	0.10	0.31	0.23	0.02	0.24	—	1,309	1,309	0.05	0.01	0.01	1,314
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2024	0.20	0.18	1.68	2.09	< 0.005	0.08	0.03	0.11	0.07	0.01	0.09	—	385	385	0.02	< 0.005	0.01	387
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2024	0.04	0.03	0.31	0.38	< 0.005	0.01	0.01	0.02	0.01	< 0.005	0.02	—	63.8	63.8	< 0.005	< 0.005	< 0.005	64.0

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	0.01	0.03	< 0.005	0.04	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	0.18	0.18	< 0.005	< 0.005	—	0.18
Energy	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	183	183	0.03	< 0.005	—	185
Water	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Waste	—	—	—	—	—	—	—	—	—	—	—	0.67	0.00	0.67	0.07	0.00	—	2.34
Stationary	0.00	0.00	0.00	0.00	0.00	0.00	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	0.01	0.03	< 0.005	0.04	< 0.005	< 0.005	0.00	< 0.005	< 0.005	0.00	< 0.005	0.67	184	184	0.10	< 0.005	0.00	188
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	—	183	183	0.03	< 0.005	—	185
Water	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Waste	—	—	—	—	—	—	—	—	—	—	—	0.67	0.00	0.67	0.07	0.00	—	2.34
Stationary	0.00	0.00	0.00	0.00	0.00	0.00	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	0.67	183	184	0.10	< 0.005	0.00	187
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	< 0.005	0.03	< 0.005	0.02	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	0.09	0.09	< 0.005	< 0.005	—	0.09
Energy	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	183	183	0.03	< 0.005	—	185
Water	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Waste	—	—	—	—	—	—	—	—	—	—	—	0.67	0.00	0.67	0.07	0.00	—	2.34
Stationary	0.15	0.13	0.44	0.49	< 0.005	0.02	0.00	0.02	0.02	0.00	0.02	0.00	69.0	69.0	< 0.005	< 0.005	0.00	69.2
Total	0.15	0.16	0.44	0.51	< 0.005	0.02	0.00	0.02	0.02	0.00	0.02	0.67	252	253	0.10	< 0.005	0.00	257
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	0.00
Area	< 0.005	0.01	< 0.005	< 0.005	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	—	0.01	0.01	< 0.005	< 0.005	—	0.01
Energy	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	—	30.4	30.4	< 0.005	< 0.005	—	30.7
Water	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00
Waste	—	—	—	—	—	—	—	—	—	—	—	0.11	0.00	0.11	0.01	0.00	—	—	0.39
Stationary	0.03	0.02	0.08	0.09	< 0.005	< 0.005	0.00	< 0.005	< 0.005	0.00	< 0.005	0.00	—	11.4	11.4	< 0.005	< 0.005	0.00	11.5
Total	0.03	0.03	0.08	0.09	< 0.005	< 0.005	0.00	< 0.005	< 0.005	0.00	< 0.005	0.11	—	41.8	41.9	0.02	< 0.005	0.00	42.5

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	0.60	0.50	4.60	5.56	0.01	0.24	—	0.24	0.22	—	0.22	—	858	858	0.03	0.01	—	861
Dust From Material Movement	—	—	—	—	—	—	0.53	0.53	—	0.06	0.06	—	—	—	—	—	—	—
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	< 0.005	< 0.005	0.01	0.02	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	2.35	2.35	< 0.005	< 0.005	—	2.36
Dust From Material Movement	—	—	—	—	—	—	< 0.005	< 0.005	—	< 0.005	< 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
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	0.39	0.39	< 0.005	< 0.005	—	0.39
Dust From Material Movement	—	—	—	—	—	—	< 0.005	< 0.005	—	< 0.005	< 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	0.02	0.02	0.01	0.20	0.00	0.00	0.03	0.03	0.00	0.01	0.01	—	31.0	31.0	< 0.005	< 0.005	0.12	31.5
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	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	0.08	0.08	< 0.005	< 0.005	< 0.005	0.08
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	—	0.01	0.01	< 0.005	< 0.005	< 0.005	0.01
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

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)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.41	1.19	11.4	10.7	0.02	0.53	—	0.53	0.49	—	0.49	—	1,713	1,713	0.07	0.01	—	1,719
Dust From Material Movement	—	—	—	—	—	—	5.31	5.31	—	2.57	2.57	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.01	0.01	0.06	0.06	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	9.39	9.39	< 0.005	< 0.005	—	9.42
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
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Off-Road Equipment	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	1.55	1.55	< 0.005	< 0.005	—	1.56
Dust From Material Movement	—	—	—	—	—	—	0.01	0.01	—	< 0.005	< 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	0.04	0.03	0.02	0.30	0.00	0.00	0.04	0.04	0.00	0.01	0.01	—	46.5	46.5	< 0.005	< 0.005	0.19	47.3
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	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	0.23	0.23	< 0.005	< 0.005	< 0.005	0.24
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	—	0.04	0.04	< 0.005	< 0.005	< 0.005	0.04
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
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Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.67	0.56	5.60	6.98	0.01	0.26	—	0.26	0.23	—	0.23	—	1,305	1,305	0.05	0.01	—	1,309
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.67	0.56	5.60	6.98	0.01	0.26	—	0.26	0.23	—	0.23	—	1,305	1,305	0.05	0.01	—	1,309
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.18	0.15	1.53	1.91	< 0.005	0.07	—	0.07	0.06	—	0.06	—	357	357	0.01	< 0.005	—	359
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	0.03	0.28	0.35	< 0.005	0.01	—	0.01	0.01	—	0.01	—	59.2	59.2	< 0.005	< 0.005	—	59.4
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	< 0.005	< 0.005	< 0.005	0.02	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	2.60	2.60	< 0.005	< 0.005	0.01	2.65
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	2.20	2.20	< 0.005	< 0.005	0.01	2.30
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	< 0.005	< 0.005	< 0.005	0.01	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	2.31	2.31	< 0.005	< 0.005	< 0.005	2.34
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	2.20	2.20	< 0.005	< 0.005	< 0.005	2.30
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	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	0.66	0.66	< 0.005	< 0.005	< 0.005	0.67
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	0.60	0.60	< 0.005	< 0.005	< 0.005	0.63
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	—	0.11	0.11	< 0.005	< 0.005	< 0.005	0.11
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	0.10	0.10	< 0.005	< 0.005	< 0.005	0.10
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. Paving (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	0.63	0.53	4.52	5.32	0.01	0.21	—	0.21	0.19	—	0.19	—	823	823	0.03	0.01	—	826
Paving	—	0.00	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.01	0.01	0.06	0.07	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	11.3	11.3	< 0.005	< 0.005	—	11.3	
Paving	—	0.00	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00	
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
Off-Road Equipment	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	1.87	1.87	< 0.005	< 0.005	—	1.87	
Paving	—	0.00	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00	
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
Worker	0.07	0.07	0.06	0.57	0.00	0.00	0.10	0.10	0.00	0.02	0.02	—	96.2	96.2	< 0.005	< 0.005	0.01	97.6	
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	—	1.36	1.36	< 0.005	< 0.005	< 0.005	1.39	
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	—	0.23	0.23	< 0.005	< 0.005	< 0.005	0.23	

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	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	0.00

3.9. Architectural Coating (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	0.17	0.14	0.91	1.15	< 0.005	0.03	—	0.03	0.03	—	0.03	—	134	134	0.01	< 0.005	—	134	
Architect ural Coatings	—	0.93	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
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	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	0.01	0.02	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	1.83	1.83	< 0.005	< 0.005	—	1.84	
Architect ural Coatings	—	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	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	0.30	0.30	< 0.005	< 0.005	—	0.30	

Architect Coatings	—	< 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)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	0.46	0.46	< 0.005	< 0.005	< 0.005	0.47
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	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	0.01	0.01	< 0.005	< 0.005	< 0.005	0.01
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	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005
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

4.2. 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)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
General Light Industry	—	—	—	—	—	—	—	—	—	—	—	—	183	183	0.03	< 0.005	—	185
Other Non-Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	—	183	183	0.03	< 0.005	—	185
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
General Light Industry	—	—	—	—	—	—	—	—	—	—	—	—	183	183	0.03	< 0.005	—	185
Other Non-Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	—	183	183	0.03	< 0.005	—	185
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
General Light Industry	—	—	—	—	—	—	—	—	—	—	—	—	30.4	30.4	< 0.005	< 0.005	—	30.7
Other Non-Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	—	30.4	30.4	< 0.005	< 0.005	—	30.7

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	—	0.02	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	—	< 0.005	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Landscape Equipment	0.01	0.01	< 0.005	0.04	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	0.18	0.18	< 0.005	< 0.005	—	0.18
Total	0.01	0.03	< 0.005	0.04	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	0.18	0.18	< 0.005	< 0.005	—	0.18
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Consumer Products	—	0.02	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	—	< 0.005	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	0.02	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Consumer Products	—	< 0.005	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	—	< 0.005	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Landscape Equipme	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	0.01	0.01	< 0.005	< 0.005	—	0.01
Total	< 0.005	0.01	< 0.005	< 0.005	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	0.01	0.01	< 0.005	< 0.005	—	0.01

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)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Emergency Generator	0.00	0.00	0.00	0.00	0.00	0.00	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	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Emergency Generator	0.00	0.00	0.00	0.00	0.00	0.00	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	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Emergency Generator	0.03	0.02	0.08	0.09	< 0.005	< 0.005	0.00	< 0.005	< 0.005	0.00	< 0.005	0.00	11.4	11.4	< 0.005	< 0.005	0.00	11.5
Total	0.03	0.02	0.08	0.09	< 0.005	< 0.005	0.00	< 0.005	< 0.005	0.00	< 0.005	0.00	11.4	11.4	< 0.005	< 0.005	0.00	11.5

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	7/16/2024	7/17/2024	5.00	1.00	—
Grading	Grading	7/18/2024	7/20/2024	5.00	2.00	—
Building Construction	Building Construction	7/21/2024	12/8/2024	5.00	100	—
Paving	Paving	12/9/2024	12/16/2024	5.00	5.00	—
Architectural Coating	Architectural Coating	12/17/2024	12/24/2024	5.00	5.00	—

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	Graders	Diesel	Average	1.00	8.00	148	0.41
Site Preparation	Tractors/Loaders/Backhoes	Diesel	Average	1.00	8.00	84.0	0.37
Grading	Graders	Diesel	Average	1.00	6.00	148	0.41
Grading	Rubber Tired Dozers	Diesel	Average	1.00	6.00	367	0.40
Grading	Tractors/Loaders/Backhoes	Diesel	Average	1.00	7.00	84.0	0.37
Building Construction	Cranes	Diesel	Average	1.00	4.00	367	0.29
Building Construction	Forklifts	Diesel	Average	2.00	6.00	82.0	0.20
Building Construction	Tractors/Loaders/Backhoes	Diesel	Average	2.00	8.00	84.0	0.37
Paving	Tractors/Loaders/Backhoes	Diesel	Average	1.00	7.00	84.0	0.37

Paving	Cement and Mortar Mixers	Diesel	Average	4.00	6.00	10.0	0.56
Paving	Pavers	Diesel	Average	1.00	7.00	81.0	0.42
Paving	Rollers	Diesel	Average	1.00	7.00	36.0	0.38
Architectural Coating	Air Compressors	Diesel	Average	1.00	6.00	37.0	0.48

5.3. Construction Vehicles

5.3.1. Unmitigated

Phase Name	Trip Type	One-Way Trips per Day	Miles per Trip	Vehicle Mix
Site Preparation	—	—	—	—
Site Preparation	Worker	5.00	7.70	LDA,LDT1,LDT2
Site Preparation	Vendor	—	4.00	HHDT,MHDT
Site Preparation	Hauling	0.00	20.0	HHDT
Site Preparation	Onsite truck	—	—	HHDT
Grading	—	—	—	—
Grading	Worker	7.50	7.70	LDA,LDT1,LDT2
Grading	Vendor	—	4.00	HHDT,MHDT
Grading	Hauling	0.00	20.0	HHDT
Grading	Onsite truck	—	—	HHDT
Building Construction	—	—	—	—
Building Construction	Worker	0.42	7.70	LDA,LDT1,LDT2
Building Construction	Vendor	0.16	4.00	HHDT,MHDT
Building Construction	Hauling	0.00	20.0	HHDT
Building Construction	Onsite truck	—	—	HHDT
Paving	—	—	—	—
Paving	Worker	17.5	7.70	LDA,LDT1,LDT2
Paving	Vendor	—	4.00	HHDT,MHDT

Paving	Hauling	0.00	20.0	HHDT
Paving	Onsite truck	—	—	HHDT
Architectural Coating	—	—	—	—
Architectural Coating	Worker	0.08	7.70	LDA,LDT1,LDT2
Architectural Coating	Vendor	—	4.00	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	1,500	500	0.00

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	—	—	0.50	0.00	—
Grading	—	—	1.50	0.00	—
Paving	0.00	0.00	0.00	0.00	0.70

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
General Light Industry	0.00	0%
Other Non-Asphalt Surfaces	0.70	0%

5.10. Operational Area Sources

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	500	0.00

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)	CO ₂	CH ₄	N ₂ O	Natural Gas (kBTU/yr)
General Light Industry	328,068	204	0.0330	0.0040	0.00
Other Non-Asphalt Surfaces	0.00	204	0.0330	0.0040	0.00

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
Emergency Generator	Diesel	1.00	—	200	75.0	0.73

8. User Changes to Default Data

Screen	Justification
Construction: Construction Phases	No demolition
Construction: Architectural Coatings	No parking area
Construction: Paving	—
Operations: Architectural Coatings	No parking area. No building interiors.
Operations: Energy Use	Assuming (6) 50-watt lamps running dusk until dawn. Assuming 50-hp pump operating 24/7/365.
Operations: Water and Waste Water	No water or wastewater usage.
Operations: Solid Waste	No solid
Operations: Refrigerants	No refrigerants used.

Appendix B: Biological Evaluation

CARUTHERS COMMUNITY SERVICES DISTRICT

WEST SIDE WATER STORAGE TANK PROJECT BIOLOGICAL EVALUATION

**FRESNO COUNTY
FEBRUARY 2024**

PREPARED FOR:

Caruthers Community Services District
Fresno County

PREPARED BY:

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

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ACRONYMS AND ABBREVIATIONS

BMP	Best Management Practices
CDFW	California Fish and Wildlife
CEQA	California Environmental Quality Act
CNDDDB	California Natural Diversity Database
CNPS	California Native Plant Society
County	Fresno County
ECOS	(USFWS) Environmental Conservation Online System
EPA	Environmental Protection Agency
HUC	Hydrologic Unit Code
IPaC	U.S. Fish and Wildlife Service’s Information for Planning and Consultation system
MBTA	Migratory Bird Act
NEPA	National Environmental Policy Act
NRCS	Natural Resources Conservation Service
Project	West Side Water Storage Tank Project
Provost & Pritchard	Provost & Pritchard Consulting Group
RWQCB	Regional Water Quality Control Board
SWPPP	Storm Water Pollution Prevention Plan
SWRCB	State Water Resources Control Board
USACE	United States Army Corps of Engineers
USC	United States Code
USDA	United States Department of Agriculture
USFWS	United States Fish and Wildlife Service
USGS	United States Geological Survey

1 INTRODUCTION

This Biological Evaluation, prepared by Provost & Pritchard Consulting Group (Provost & Pritchard) in compliance with the California Environmental Quality Act (CEQA) and National Environmental Policy Act (NEPA), includes descriptions of the biological resources present or with potential to occur within the proposed West Side Water Storage Tank Project (or “project”) and potential project-related impacts or effects to those resources, and mitigation measures to reduce these impacts and effects to a less-than-significant level under CEQA and NEPA.

1.1 PROJECT DESCRIPTION

The project site (or “site”) is located within the census-designated place of Caruthers, south of the City of Fresno in the center of Fresno County, California, and east of the City of Selma in the San Joaquin Valley (see [Figure 1](#) and [Figure 2](#)). The project site is approximately 2.4 acres (see [Figure 3](#)).

The Caruthers Community Service District proposes to implement the project, which includes constructing a new well, water storage tank, storm basin, pipeline, and associated facilities within the site.

1.2 REPORT OBJECTIVES

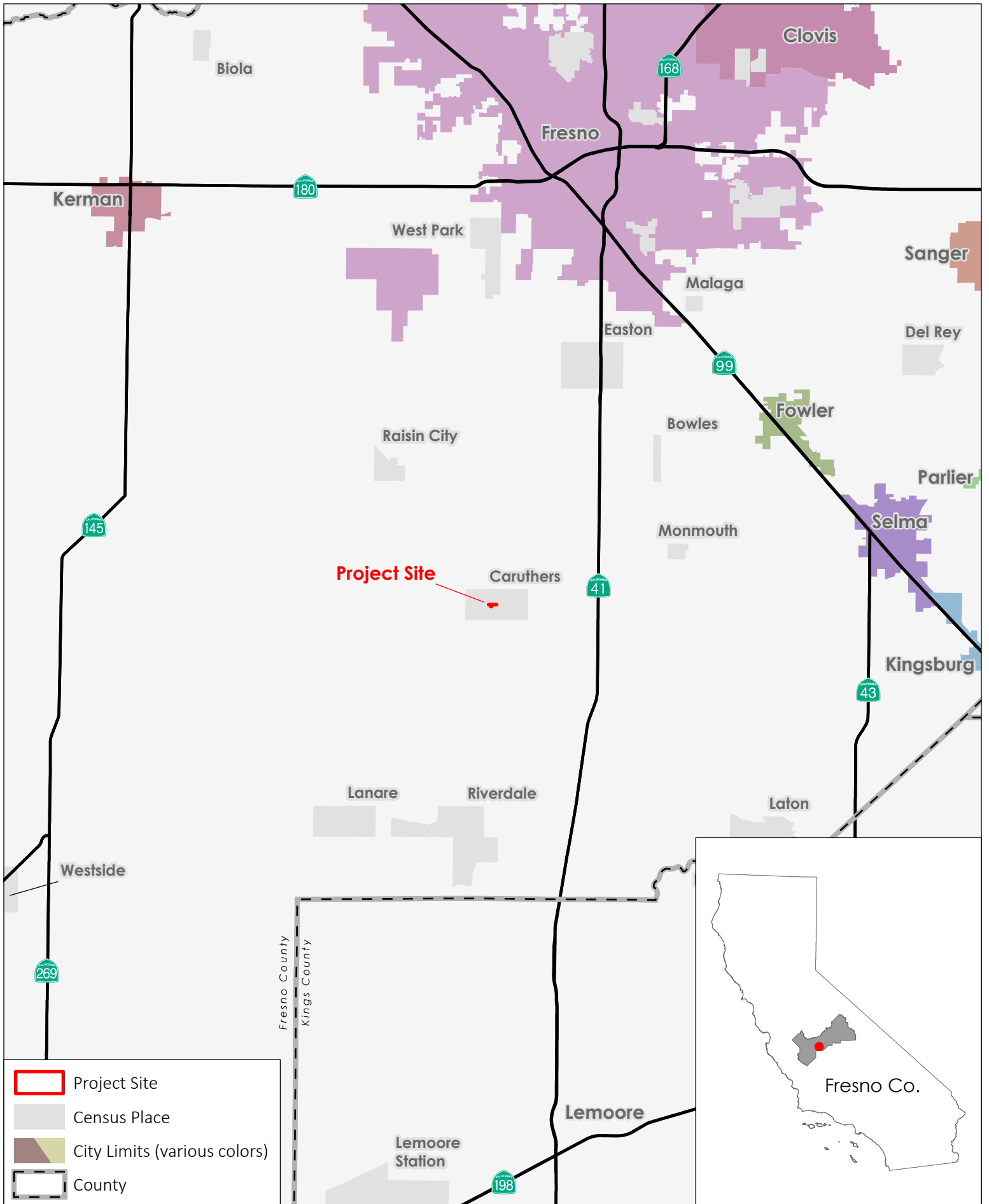
Construction activities such as those proposed by the project could potentially change biological resources or habitats that are critical for sensitive plant and wildlife species. In cases such as these, development may be regulated by state or federal agencies, and/or addressed by local regulatory agencies.

This report addresses issues related to the following:

- The presence of sensitive biological resources onsite, or with the potential to occur onsite.
- 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 to:

- Summarize all APE-specific information related to existing biological resources.
- Make reasonable inferences about the biological resources that could occur onsite based on habitat suitability and the proximity of the site to a species’ known range.
- 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 minimization 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.



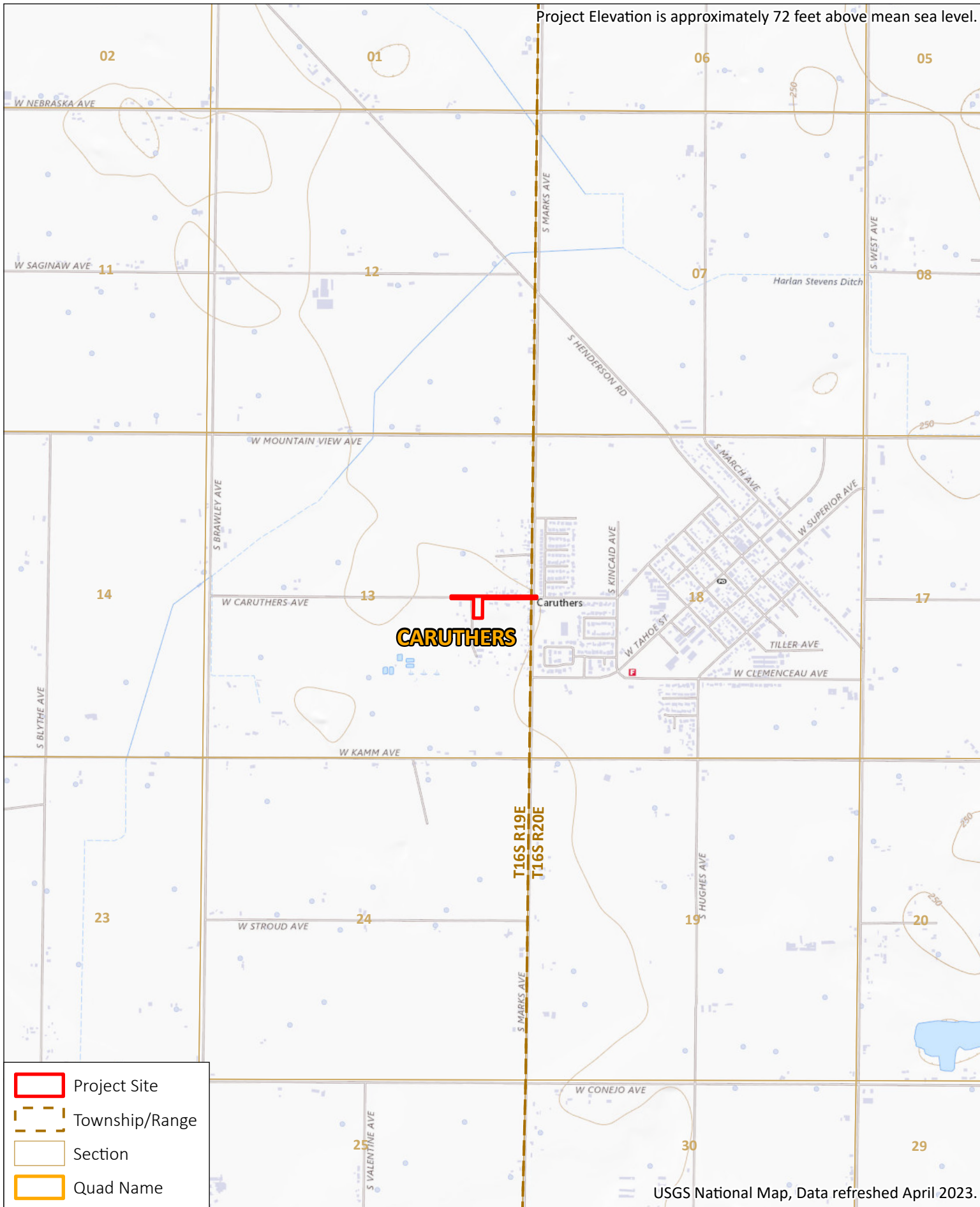
Regional Vicinity Map

Caruthers Community Service District - West Storage Tank

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Fig. 1 Page 1-2

Project Elevation is approximately 72 feet above mean sea level.



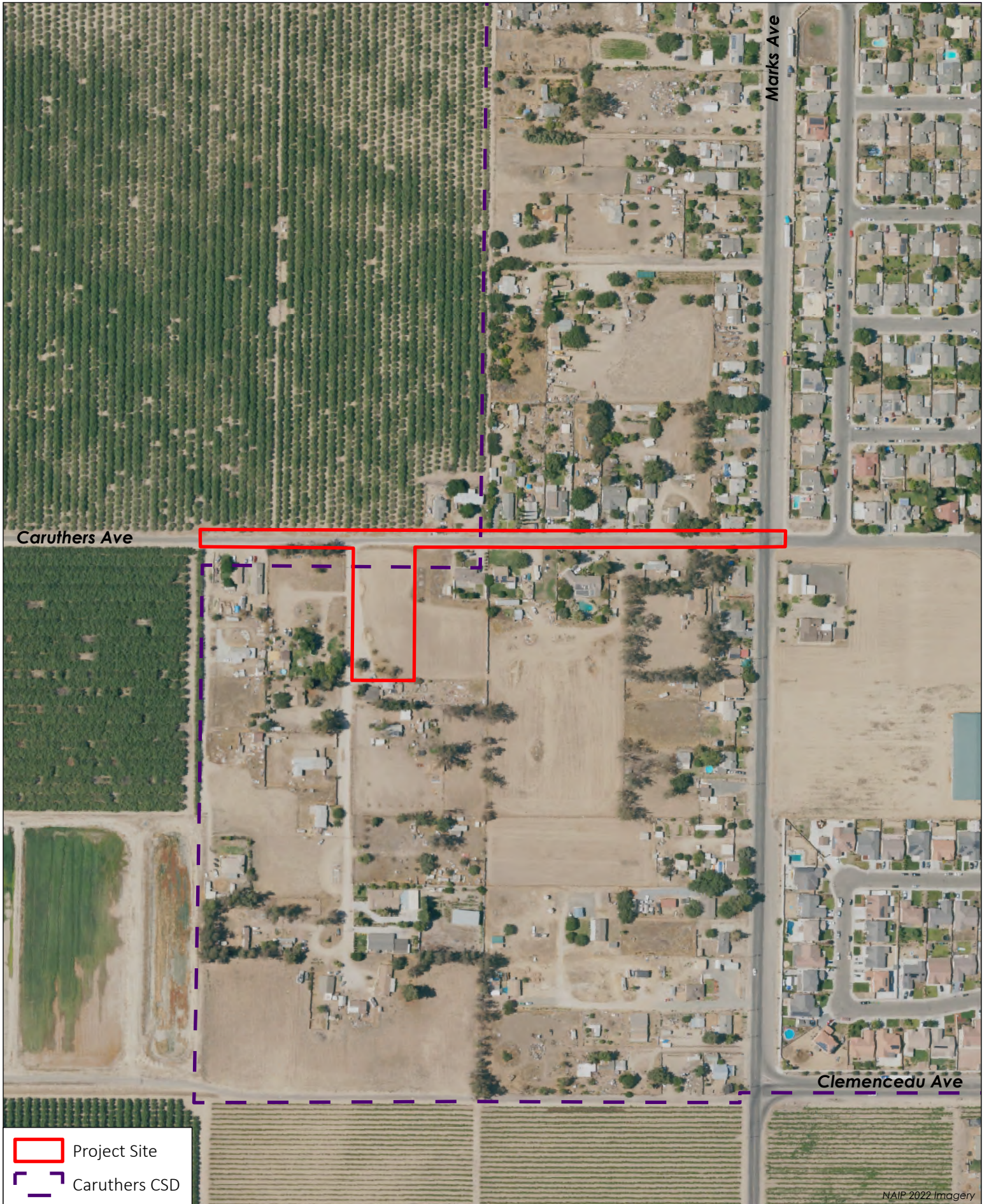
USGS National Map, Data refreshed April 2023.

Topographic Map

Caruthers Community Service District - West Storage Tank

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Fig. 2 Page 1-3

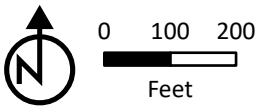


Caruthers Ave

Marks Ave

Clemencedu Ave

-  Project Site
-  Caruthers CSD



Aerial Map

Caruthers Community Service District - West Storage Tank

NAIP 2022 Imagery

PROVOST & PRITCHARD

Fig. 3 Page 1-4

1.3 STUDY METHODOLOGY

A reconnaissance-level field survey of the project site was conducted on June 7, 2023, and February 2, 2024, by Provost & Pritchard biologist, Shaylea Stark. The survey consisted of walking throughout the project site while identifying and noting land uses, biological habitats and communities, and plant and animal species encountered. Habitats were also assessed for potential suitability for various rare or protected plant and animal species. Representative photographs of the site were taken and are presented in [Appendix A](#).

Ms. Stark 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 the potential to occur within the site. Sources of information used in preparation of this analysis included: the California Department of Fish and Wildlife's (CDFW) California Natural Diversity Database (CNDDDB; see [Appendix B](#) for the species list) and California Wildlife Habitat Relationships (CWHHR) 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 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

2.1.1 TOPOGRAPHY

The site is located within the east side of Section 13, Township 16 South, Range 19 East, and the topography is relatively flat with an elevation of approximately 236 feet above mean sea level. (see [Figure 2](#)).

2.1.2 CLIMATE

Like most of California, the site experiences a Mediterranean climate. Warm, dry summers are followed by cool, moist winters. In the summer, average high temperatures range between 85- and 98-degrees Fahrenheit (°F), but often exceed 98 °F, and the humidity is generally low. Winter temperatures are often below 60 °F during the day and rarely exceed 65 °F (Weatherspark 2023). On average, Caruthers receives approximately 11 inches of precipitation in the form of rainfall yearly, most of which occurs between November and March, and the project site would be expected to receive similar amounts of precipitation.

2.1.3 HYDROLOGY

The nearest surface water to the project is Harlan Stevens Ditch which is 0.5 miles northwest of the project site. The Kings River receives water from streams in the Sierra Nevada and eastern Central Valley. The Kings River then flows into many unnamed canals and these canals flow into Harlan Stevens Ditch. Harlan Stevens Ditch eventually terminates in agricultural fields approximately 1.5 miles southwest of the project site.

2.1.4 SOILS

Two soil mapping units representing two soil types were identified within the site and are listed in [Table 1](#) (see [Appendix D](#) for the Web Soil Survey Report). The soils are displayed with their core properties in the table below, according to the Major Land Resource Area of California. Both soils are primarily used for agriculture.

Table 1: List of Soils Located on the Site and Their Basic Properties

Soil	Soil Map Unit	Percent of APE	Hydric Soil Category	Drainage	Permeability	Runoff
<i>Calhi</i>	Loamy sand, moderately deep, 0 to 3 percent slopes	46.6%	Predominantly Nonhydic	Somewhat excessively drained	Rapid permeability	Very slow runoff
<i>Delhi</i>	Loamy sand, 0 to 3 percent slopes	53.4%	Nonhydic	Somewhat excessively drained	Rapid permeability	Slow runoff

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. None of the major soils were identified as hydric. The soils onsite are considered predominantly nonhydic and nonhydic.

2.2 BIOTIC HABITATS

One biotic habitat, ruderal/grassland, was observed within the project site. This habitat and its constituent plant and animal species are described in more detail in the following section. The surrounding land includes sparse residential houses with large trees, farm animals, and agricultural orchards.

2.2.1 RUDERAL/GRASSLAND

The project site consists of ruderal/grassland habitat. Vegetation within this habitat included bromes (*Bromus* sp.), great brome (*Bromus diandrus*), broadleaf filaree (*Erodium botrys*), redstem filaree (*Erodium cicutarium*), puncture vine (*Tribulus terrestris*), mustard (*Brassica* spp.), horseweed (*Erigeron canadensis*), flatspine bursage (*Ambrosia acanthicarpa*), bristly fiddleneck (*Amsinckia tessellate*), Russian thistle (*Salsola tragus*), prostrate pigweed (*Amaranthus blitoides*), castor bean (*Ricinus communis*), prickly lettuce (*Lactuca serriola*), cheeseweed mallow (*Malva parviflora*), California poppy (*Eschscholzia californica*), and black locust trees (*Robinia pseudoacacia*).

The survey of the project site resulted in the identification of numerous bird species including house finch (*Haemorhous mexicanus*), house sparrow (*Passer domesticus*), American crow (*Corvus brachyrhynchos*), European starling (*Sturnus vulgaris*), Eurasian collared dove (*Streptopelia decaocto*), killdeer (*Charadrius vociferus*), northern mockingbird (*Mimus polyglottos*), western kingbird (*Tyrannus verticalis*), black phoebe (*Sayornis nigricans*), and red-shouldered hawk (*Buteo lineatus*). A feral cat (*Felis catus*), and cow (*Bos taurus*) patties were observed within the project site. No burrows or dens were observed within this habitat during the survey. This habitat and the project site provide foraging opportunities for birds, including raptors, during the day, as well as potentially bats, coyotes, and other nocturnal animals at night.

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 CNDDDB. There are no recorded observations of natural communities of special concern mapped within the project site. Additionally, no natural communities of special concern were observed during the biological 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 or riparian habitat were observed within or adjacent to the project site.

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 CNDDDB and IPaC, designated critical habitat is absent from the project site 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. The project site does not have any features that would be used 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. No native wildlife nursery sites were found within the project site.

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. Conversion of high-quality habitat to accommodate human population growth in turn reduces 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 CNDDDB for occurrences of special status plant and animal species was conducted for the Caruthers 7.5-minute U.S. Geological Survey (USGS) quadrangles that contain the APE, and for the eight surrounding USGS quadrangles: *Burrel*, *Conejo*, *Fresno South*, *Kearney Park*, *Laton*, *Malaga*, *Raisin*, and *Riverdale*. A query of the IPaC was also completed for the project site. These species, and their potential to occur within the site, are listed in [Table 2](#) and [Table 3](#), below. Other special status species that did not show

up in the CNDDDB query, but have the potential to occur in the vicinity, are also included in **Table 3**. Species lists obtained from CNDDDB 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 site.

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

Species	Status*	Habitat	Occurrence within the Site
Alkali-sink goldfields <i>(Lasthenia chrysantha)</i>	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. The site and surrounding areas lack vernal pools and suitable soils.
Brittlescale <i>(Atriplex depressa)</i>	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. The site and surrounding areas lack suitable habitat and soils for this species.
California alkali grass <i>(Puccinellia simplex)</i>	CNPS 1B	Found in the San Joaquin Valley and other parts of California in saline flats and mineral springs within valley grassland and wetland-riparian communities at elevations below 3,000 feet. Blooms March – May.	Absent. The site and surrounding areas lack suitable habitat.
California jewelflower <i>(Caulanthus californicus)</i>	FE, CE, CNPS 1B	Found in the San Joaquin Valley and western Transverse Ranges in sandy soils. Occurs on flats and slopes, generally in non-alkaline grassland at elevations between 200 and 6,100 feet. Blooms February – April.	Absent. The site and surrounding areas lack suitable habitat and soils for this species.
California satintail <i>(Imperata brevifolia)</i>	CNPS 2B	Often found in wet springs, meadows, streambanks, and floodplains, and can also be found in coastal scrub, riparian scrub, Mojavean desert scrub, chaparral, and alkali seeps at elevations below 1,600 feet. Blooms September – May.	Absent. The site and surrounding areas lack suitable habitat and soils for this species.
Lesser saltscale <i>(Atriplex minuscula)</i>	CNPS 1B	Found in the San Joaquin Valley in sandy, alkaline soils in alkali scrub, valley and foothill grassland, and alkali sink communities at elevations below 750 feet. Blooms April – October.	Unlikely. The site and surrounding areas lack suitable alkaline soils. The only recorded observation of this species within the vicinity was 4 miles northwest of the site in 1937.

Species	Status*	Habitat	Occurrence within the Site
Madera leptosiphon <i>(Leptosiphon serrulatus)</i>	CNPS 1B	Found within openings of foothill woodland, often yellow-pine forest, and chaparral at elevations between 1,000 and 4,300 feet. Blooms April – May.	Absent. The site and surrounding areas are outside of the elevational range for this species and lack suitable habitat.
Panoche pepper-grass <i>(Lepidium jaredii ssp. album)</i>	CNPS 1B	Found on steep slopes, washes, alluvial-fans, and clay, sometimes alkaline, within valley and foothill grassland communities in western Fresno County at elevations between 600 and 2,400 feet. Blooms February – June.	Unlikely. The site and surrounding areas lack suitable soils and habitats. The only recorded observation of this species within the vicinity was 6.5 miles south of the site in 1893 but is listed as possibly extirpated.

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

Species	Status*	Habitat	Occurrence within the Site
Blunt-nosed leopard lizard <i>(Gambelia sila)</i>	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. They are absent from areas with 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. The site is outside of the current range for this species.
Burrowing owl <i>(Athene cunicularia)</i>	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 by ground squirrels, and human-made structures.	Unlikely. No burrows were observed within the project site during the survey. The nearest recorded observation of this species within the vicinity was approximately 6 miles northwest of the site in 1991.
California glossy snake <i>(Arizona elegans occidentalis)</i>	CSSC	Inhabits arid scrub, rocky washes, grasslands, and chaparral. Prefers open areas with loose soil for easy burrowing. This species occurs from the eastern part of the San Francisco Bay Area south to northwestern Baja California but is absent along the central coast.	Unlikely. The site and surrounding areas have high levels of disturbance and lack aquatic habitats which makes the site unsuitable for this species. The nearest recorded observation of this species within the vicinity was approximately 3.5 miles southeast of the site in 1939.

Species	Status*	Habitat	Occurrence within the Site
California tiger salamander <i>(Ambystoma californiense)</i>	FT, CT	Requires vernal pools or seasonal ponds for breeding and small mammal burrows for aestivation. Generally found in grassland and oak savannah plant communities in central California from sea level to 1,500 feet in elevation. Can migrate up to 1.3 miles to breed.	Unlikely. The site and surrounding areas lack vernal pool habitat required by this species. No burrows were located within the project site. The only recorded observation of this species within the vicinity was approximately 11.5 miles north of the site in 1936.
Coast horned lizard <i>(Phrynosoma blainvillii)</i>	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.	Unlikely. The site and surrounding areas have high levels of disturbance which makes the site unsuitable for this species. The only recorded observation of this species within the vicinity was approximately 11.5 miles north of the site in 1893.
Crotch's bumble bee <i>(Bombus crotchii)</i>	CCE	Occurs throughout coastal California, as well as east to the Sierra Nevada-Cascade crest, and south into Mexico. Food plant genera include snapdragons, scorpionweeds, primroses, poppies, and buckwheats.	Unlikely. The site and surrounding areas lack suitable foraging habitat. The nearest recorded observation of this species within the vicinity was approximately 12.5 miles east of the site in 1912.
Fresno kangaroo rat <i>(Dipodomys nitratoides exilis)</i>	FE, CE	An inhabitant of alkali sinks and open grassland habitats in Merced, Kings, Fresno, and Madera counties. Prefers bare, alkaline, clay-based soils subject to seasonal inundation with more friable soil mounds around shrubs and grasses. The most recent recorded observation of this species in California was in 1992 in Fresno County.	Absent. Suitable habitats and burrows are absent from the project site and adjacent lands. The nearest recorded observation of this species within the vicinity was approximately 6.5 miles northwest of the site in 1974 but is listed as extirpated.
Giant gartersnake <i>(Thamnophis gigas)</i>	FT, CT	Occurs in marshes, sloughs, canals, ditches, rice fields, and adjacent uplands. Prefers locations with emergent vegetation for cover and open areas for basking. This species uses small mammal burrows adjacent to aquatic habitats for hibernation in the winter and to escape from excessive heat in the summer.	Absent. Suitable habitats are absent from the project site and adjacent lands.
Monarch butterfly <i>(Danaus plexippus)</i>	FC	Roosts in wind-protected tree groves (eucalyptus, Monterey	Unlikely. The site and surrounding areas have high levels of

Species	Status*	Habitat	Occurrence within the Site
		pine, cypress), with nectar and water sources nearby. Larval host plants consist of milkweeds. Winter roost sites extend along the Pacific coast from northern Mendocino to Baja California, Mexico.	disturbance and lack suitable foraging and roosting habitat. There are no recorded observations of this species on CNDDDB within the regional vicinity of the project.
Northern California legless lizard <i>(Anniella pulchra)</i>	CSSC	Found primarily underground, burrowing in loose, sandy soil. Forages in loose soil and leaf litter during the day. Occasionally observed on the surface at dusk and night.	Unlikely. The site and surrounding areas have high levels of disturbance which makes the site unsuitable for this species. The only recorded observation of this species within the vicinity was approximately 11.5 miles north of the site in the 1880's.
Northwestern pond turtle <i>(Actinemys marmorata)</i>	FPT, CSSC	An aquatic turtle of ponds, marshes, slow-moving rivers, streams, and irrigation ditches with riparian vegetation. Requires adequate basking sites and sandy banks or grassy open fields to deposit eggs.	Absent. Habitats required by this species are absent from the site.
Pallid bat <i>(Antrozous pallidus)</i>	CSSC	Found in grasslands, chaparral, and woodlands, where it feeds on ground- and vegetation-dwelling arthropods, and occasionally takes insects in flight. Prefers to roost in rock crevices, but may also use tree cavities, caves, bridges, and other human-made structures.	Unlikely. The site lacks suitable foraging habitat for this species; however, this species could fly over the site in route to more suitable habitats. The only recorded observation of this species within the vicinity was approximately 15 miles north of the site in 1909.
San Joaquin kit fox <i>(Vulpes macrotis mutica)</i>	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.	Unlikely. Suitable dens were absent from the project site. The nearest recorded observation of this species within the vicinity was approximately 5.5 miles southeast of the site in 1993.
Swainson's hawk <i>(Buteo swainsoni)</i>	CT	Nests in large trees in open areas adjacent to grasslands, grain or alfalfa fields, or livestock pastures suitable for supporting rodent populations.	Possible. Although there are no trees within the project site, large eucalyptus trees suitable for nesting are located adjacent to the site and could be utilized by this species. The nearest recorded observation of this species within the vicinity was approximately 6 miles east of the site in 2016.
Tricolored blackbird <i>(Agelaius tricolor)</i>	CT, CSSC	Nests colonially near fresh water in dense cattails or tules, or in thickets of riparian shrubs. Forages in grassland and	Unlikely. The site lacks suitable aquatic habitat and vegetation required by this species. The nearest recorded observation of this

Species	Status*	Habitat	Occurrence within the Site
		cropland. Large colonies are often found foraging in dairy farm feed fields.	species within the vicinity was approximately 6 miles southwest of the site in 2000.
Valley elderberry longhorn beetle (<i>Desmocerus californicus dimorphus</i>)	FT	Lives in mature elderberry shrubs in the Central Valley and adjacent foothills from Tehama County south through Merced and Mariposa Counties with two scattered populations in Madera and Fresno Counties. Adults are active from March to June.	Absent. There were no elderberry shrubs within the project site or surrounding area making the site unsuitable for this species.
Vernal pool fairy shrimp (<i>Branchinecta lynchi</i>)	FT	Occupies vernal and seasonal pools, with clear to tea-colored water, in grass or mud-bottomed swales, and basalt depression pools.	Absent. The site and surrounding areas lack vernal pool habitat required by this species.
Vernal pool tadpole shrimp (<i>Lepidurus packardii</i>)	FE	Occurs in vernal pools, clear to tea-colored water, in grass or mud-bottomed swales, and basalt depression pools.	Absent. The site and surrounding areas lack vernal pool habitat required by this species.
Western mastiff bat (<i>Eumops perotis californicus</i>)	CSSC	Found in open, arid to semi-arid habitats, including dry desert washes, flood plains, chaparral, oak woodland, open ponderosa pine forest, grassland, and agricultural areas, where it feeds on insects in flight. Roosts most commonly in crevices in cliff faces but may also use high buildings and tunnels.	Unlikely. The site lacks suitable foraging habitat for this species. The nearest recorded observation of this species within the vicinity was approximately 7.5 miles northeast of the site in 1958.
Western spadefoot (<i>Spea hammondi</i>)	FPT, 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.	Unlikely. The site and surrounding areas lack suitable aquatic habitat, burrows, or soil cracks required by this species. The nearest recorded observation of this species within the vicinity was approximately 12 miles southwest of the site in 1998.
Western yellow-billed cuckoo (<i>Coccyzus americanus occidentalis</i>)	FT, CE	Suitable nesting habitat in California includes dense riparian willow-cottonwood and mesquite habitats along a perennial river. Once common in	Absent. Habitats required by this species are absent from the site.

Species	Status*	Habitat	Occurrence within the Site
		the California Central Valley, as well as coastal valleys and riparian habitats east of the Sierra Nevada, habitat loss now constrains the California breeding population to small numbers of birds.	

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

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

STATUS CODES

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

CNPS LISTING

1B	Plants rare, threatened, or endangered in California and elsewhere.	2B	Plants rare, threatened, or endangered in California, but more common elsewhere.
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3 IMPACTS AND MITIGATION

3.1 SIGNIFICANCE CRITERIA

3.1.1 CEQA

General plans, area plans, and specific projects are subject to the provisions of CEQA. The purpose of CEQA is to assess the impacts of proposed projects on the environment prior to project implementation. Impacts to biological resources are just one type of environmental impact assessed under CEQA and vary from project to project in terms of scope and magnitude. Projects requiring removal of vegetation may result in the mortality or displacement of animals associated with this vegetation. Animals adapted to humans, roads, buildings, and pets may replace those species formerly occurring on a site. Plants and animals that are 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.”

3.1.2 NEPA

Federal projects are subject to the provisions of NEPA. The purpose of NEPA is to assess the effects of a proposed action on the human environment, assess the significance of those effects, and recommend measures that if implemented would mitigate those effects. As used in NEPA, a determination that certain

effects on the human environment are “significant” requires considerations of both context and intensity (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

3.2.1 FRESNO COUNTY GENERAL PLAN

The Fresno County General Plan Policy Document (Fresno County Planning Commission 2000) contains the following goals and policies related to the project:

3.2.1.1.1 WATER RESOURCES

Policy OS-A.1: The County shall develop, implement, and maintain a plan for achieving water resource sustainability, including a strategy to address overdraft and the needs of anticipated growth.

Policy OS-A.10: The County shall develop and maintain an inventory of sites within the county that are suitable for groundwater recharge. The sites shall be incorporated into the County GIS and included in the water resource database.

3.2.1.1.2 GROUNDWATER RECHARGE

Policy OS-A.13: The County shall encourage, where economically, environmentally, and technically feasible, efforts aimed at directly or indirectly recharging the county's groundwater.

3.2.1.1.3 WATER QUALITY

Policy OS-A.23: The County shall protect groundwater resources from contamination and overdraft by pursuing the following efforts: a. Identifying and controlling sources of potential contamination; b. Protecting important groundwater recharge areas; c. Encouraging water conservation efforts and supporting the use of surface water for urban and agricultural uses wherever feasible; d. Encouraging the use of treated wastewater for groundwater recharge and other purposes (e.g., irrigation, landscaping, commercial, and nondomestic uses); e. Supporting consumptive use where it can be demonstrated that this use does not exceed safe yield and is appropriately balanced with surface water supply to the same area; f. Considering areas where recharge potential is determined to be high for designation as open space; and g. Developing conjunctive use of surface and groundwater.

3.2.1.1.4 FISH AND WILDLIFE HABITAT

Policy OS-E.5: The County shall support preservation of habitats of rare, threatened, endangered, and/or other special-status species including fisheries. The County shall consider developing a formal Habitat Conservation Plan in consultation with Federal and State agencies, as well as other resource conservation organizations. Such a plan should provide a mechanism for the acquisition and management of lands that support special-status species.

Policy OS-E.17: The County should preserve, to the maximum possible extent, areas defined as habitats for rare or endangered animal and plant species in a natural state consistent with State and Federal endangered species laws.

3.2.2 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.

3.2.3 DESIGNATED CRITICAL HABITAT

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

3.2.4 MIGRATORY BIRDS

The 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).

3.2.5 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.

3.2.6 NESTING BIRDS

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

3.2.7 WETLANDS AND OTHER "JURISDICTIONAL WATERS"

The 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 Swainson’s hawk and nesting migratory birds and raptors. Corresponding mitigation measures can be found below.

3.3.1 PROJECT-RELATED MORTALITY AND/OR NEST ABANDONMENT OF MIGRATORY BIRDS, RAPTORS, AND SPECIAL STATUS BIRDS

Birds could nest on the ground or in trees on or adjacent to the project site. While there are no suitable trees for Swainson’s hawk within the project site, large eucalyptus trees suitable for nesting for this species are located south of the project site and could be utilized. Protected birds located within or adjacent to the project site 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 project site 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.

While foraging habitat for protected birds is present on the site, suitable foraging habitat is located adjacent to the site and within the vicinity of the site. Loss of the foraging habitat from implementation of the project is not considered a significant impact.

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

Mitigation Measure 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.

Mitigation Measure BIO-1b (Pre-construction Surveys): If activities must occur within the nesting bird season (February 1 to September 14), a qualified biologist will conduct a pre-construction survey for Swainson’s hawk nests onsite and within a 0.5-mile radius. This one time take avoidance survey will be conducted in accordance with the *Recommended Timing and Methodology for Swainson's Hawk Nesting Surveys in California's Central Valley* (Swainson's Hawk Technical Advisory Committee 2000), or current guidance. The pre-construction survey would also provide a presence/absence survey for all other nesting birds within the project site, and up to 100 feet outside of the project site for nesting migratory birds and up to 500 feet outside of the project site for nesting raptors. Raptor nests would be considered “active” upon the nest-building stage. If no active nests are observed, no further mitigation is required.

Mitigation Measure BIO-1c (Avoidance Buffers): On discovery of any active nests or breeding colonies 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. If necessary, avoidance buffers will be identified with flagging, fencing, or other easily visible means, and will be maintained until the biologist has determined that the nestlings have fledged.

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 CNDDDB list generated on February 5, 2024, and the USFWS IPaC list generated on February 5, 2024 (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 (<i>Gambelia sila</i>)	No effect	Habitat absent. Suitable habitats are absent from the project site and adjacent lands.
California tiger salamander (<i>Ambystoma californiense</i>)	No effect	Habitat absent. Vernal pool habitat is absent from the project site and surrounding lands. No burrows were located within the project site.
California jewelflower (<i>Caulanthus californicus</i>)	No effect	Habitat absent. The site and surrounding areas lack suitable habitat and soils for this species.
Fresno kangaroo rat (<i>Dipodomys nitratooides exilis</i>)	No effect	Habitat disturbed. Suitable habitats and burrows are absent from the project site and adjacent lands.

Species	Determination	Rationale for Determination
Giant gartersnake (<i>Thamnophis gigas</i>)	No effect	Habitat absent. Suitable habitats are absent from the project site and adjacent lands.
Monarch butterfly (<i>Danaus plexippus</i>)	No effect	Habitat absent. The project site lacks suitable foraging and roosting habitat for this species.
Northwestern pond turtle (<i>Actinemys marmorata</i>)	No effect	Habitat absent. Suitable habitats are absent from the project site and adjacent lands.
San Joaquin kit fox (<i>Vulpes macrotis mutica</i>)	No effect	Habitat disturbed. Suitable dens were absent from the project site and the disturbed habitats of the project site are unsuitable for this species.
Valley elderberry longhorn beetle (<i>Desmocerus californicus dimorphus</i>)	No effect	Habitat absent. Suitable habitats are absent from the project site and adjacent lands.
Vernal pool fairy shrimp (<i>Branchinecta lynchi</i>)	No effect	Habitat absent. Vernal pool habitat is absent from the project site.
Vernal pool tadpole shrimp (<i>Lepidurus packardii</i>)	No effect	Habitat absent. Vernal pool habitat is absent from the project site.
Western spadefoot (<i>Spea hammondi</i>)	No effect	Habitat absent. Suitable habitats are absent from the project site and adjacent lands.
Western yellow-billed cuckoo (<i>Coccyzus americanus occidentalis</i>)	No effect	Habitat absent. Suitable habitats are absent from the project site and adjacent lands.

3.5 LESS THAN SIGNIFICANT PROJECT-RELATED IMPACTS

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

Of the eight regionally occurring special status plant species, all eight are considered absent from or unlikely to occur within the project site due to past or ongoing disturbance and/or the absence of suitable habitat. These species include: alkali-sink goldfields, brittlescale, California alkali grass, California jewelflower, California satintail, lesser saltscale, Madera leptosiphon, and Panoche pepper-grass.

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

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

Of the 21 regionally occurring special status animal species, 20 are considered absent from or unlikely to occur within the project site due to past or ongoing disturbance, the absence of suitable habitat, and/or the project site is outside of the known range of a species. These species include blunt-nosed leopard lizard, burrowing owl, California glossy snake, California tiger salamander- central California DPS, coast horned lizard, Crotch bumble bee, Fresno kangaroo rat, giant gartersnake, monarch butterfly, northern California legless lizard, northwestern pond turtle, pallid bat, San Joaquin kit fox, tricolored blackbird, valley elderberry longhorn beetle, vernal pool fairy shrimp, vernal pool tadpole shrimp, western mastiff bat, western spadefoot, and western yellow-billed cuckoo.

Since it is unlikely that these species would occur onsite, implementation of the project should have no impact on these 20 special status species through construction mortality, disturbance, or loss of habitat. Mitigation is not warranted.

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

Riparian habitat is absent from the project site and adjacent lands. There are no CNDDDB-designated “natural communities of special concern” recorded within the site or surrounding lands. Mitigation is not warranted.

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

Typical wetlands, vernal pools, and other waters were not observed onsite at the time of the biological survey. The nearest water source is the Harlan Stevens Ditch which is 0.5 miles northwest of the project site. Mitigation is not warranted.

Since construction would involve ground disturbance over one acre, the project would be required to obtain a Construction General Permit under the Construction Storm Water Program administered by the RWQCB. A prerequisite for this permit is the development of a Storm Water Pollution Prevention Plan (SWPPP) to ensure construction activities do not adversely affect water quality.

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

The project site does not have any features that would be used as wildlife movement corridors. No native wildlife nursery sites were found within the project site. Therefore, the project would have no impact on wildlife movement corridors or native wildlife nursery sites, and mitigation is not warranted.

3.5.6 PROJECT-RELATED IMPACTS TO CRITICAL HABITAT

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

3.5.7 LOCAL POLICIES OR HABITAT CONSERVATION PLANS

The project appears to be consistent with the goals and policies of the Fresno County General Plan. There are no known HCPs or NCCPs in the project vicinity. Mitigation is not warranted.

3.5.8 COASTAL ZONE AND COASTAL BARRIERS RESOURCES ACT

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

3.5.9 PROJECT-RELATED IMPACT TO ESSENTIAL FISH HABITAT

Essential Fish Habitat (EFH) and Habitat Areas of Particular Concern (HAPC) are absent from the project site and surrounding lands, and consultation with the National Marine Fisheries (NMFS) Service would not be required. Query results of the NMFS EHF Mapper can be found in [Appendix E](#) at the end of this document. Mitigation measures are not warranted.

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APPENDIX A: REPRESENTATIVE PHOTOS OF THE PROJECT SITE



Photograph 1

Overview of the project site which contained ruderal/grassland habitat throughout the entire site.



Photograph 2

Overview of the black locust trees located in the southwest area of the project site.



Photograph 3

Along the east boundary of the site there were human made holes, a dead tree, and a concrete well filled with trash.



Photograph 4

Along the west boundary of the site there was a dirt road leading to the housing surrounding the site.



Photograph 5

Overview of the north boundary of the site.



Photograph 6

Overview of the east boundary of the site.



Photograph 7

Overview of the south boundary of the site.



Photograph 8

Overview of the proposed pipeline looking east.



Photograph 9

Overview of the proposed pipeline looking west.



Photograph 10

Surrounding land to the north and south of the pipeline contained residential houses.



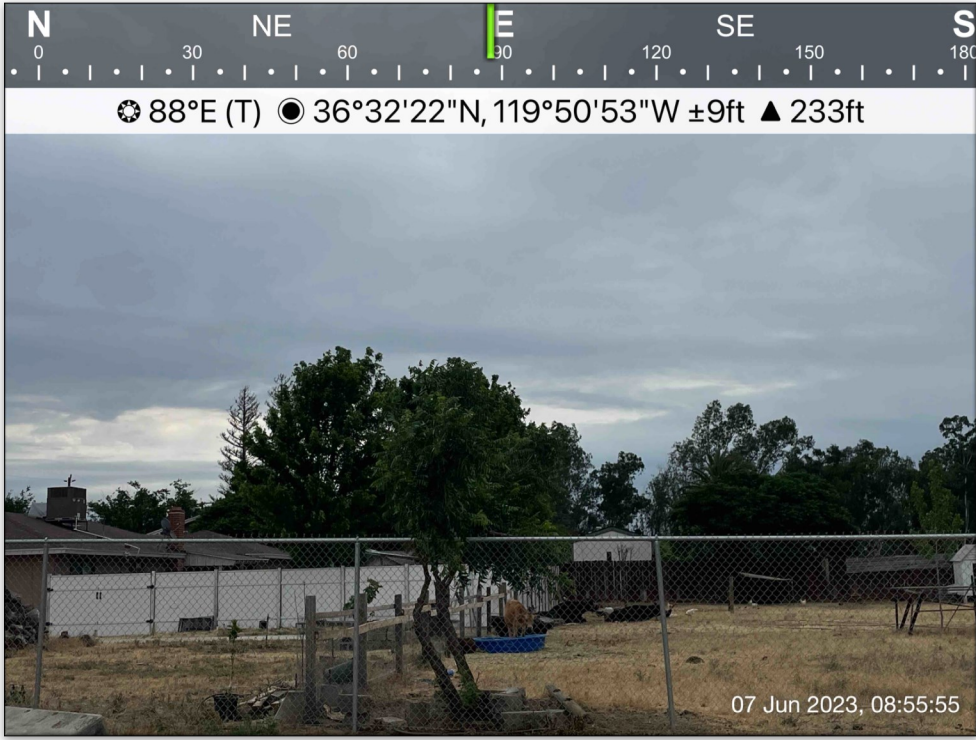
Photograph 11

Surrounding land to the west of the site contained residential houses.



Photograph 12

Surrounding land to the north of the site contained an agricultural orchard.



Photograph 13

Surrounding land to the east of the site contained a residential house and farm animals.



Photograph 14

Surrounding land to the south contained large trees where Swainson's hawk and other raptors could nest.

APPENDIX B: CNDDDB 9-QUAD SPECIES LIST



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



Query Criteria: Quad IS OR Caruthers (3611957) OR Burrel (3611948) OR Conejo (3611956) OR Fresno South (3611967) OR Kearney Park (3611968) OR Laton (3611946) OR Malaga (3611966) OR Raisin (3611958) OR Riverdale (3611947)

Species	Element Code	Federal Status	State Status	Global Rank	State Rank	Rare Plant Rank/CDFW SSC or FP
alkali-sink goldfields <i>Lasthenia chrysantha</i>	PDAST5L030	None	None	G2	S2	1B.1
American bumble bee <i>Bombus pensylvanicus</i>	IIHYM24260	None	None	G3G4	S2	
Antioch efferian robberfly <i>Efferia antiochi</i>	IIDIP07010	None	None	G1G2	S1S2	
brittlescale <i>Atriplex depressa</i>	PDCHE042L0	None	None	G2	S2	1B.2
burrowing owl <i>Athene cunicularia</i>	ABNSB10010	None	None	G4	S2	SSC
California alkali grass <i>Puccinellia simplex</i>	PMPOA53110	None	None	G2	S2	1B.2
California glossy snake <i>Arizona elegans occidentalis</i>	ARADB01017	None	None	G5T2	S2	SSC
California jewelflower <i>Caulanthus californicus</i>	PDBRA31010	Endangered	Endangered	G1	S1	1B.1
California satintail <i>Imperata brevifolia</i>	PMPOA3D020	None	None	G3	S3	2B.1
California tiger salamander - central California DPS <i>Ambystoma californiense pop. 1</i>	AAAAA01181	Threatened	Threatened	G2G3T3	S3	WL
coast horned lizard <i>Phrynosoma blainvillii</i>	ARACF12100	None	None	G4	S4	SSC
Crotch bumble bee <i>Bombus crotchii</i>	IIHYM24480	None	Candidate Endangered	G2	S2	
Fresno kangaroo rat <i>Dipodomys nitratooides exilis</i>	AMAFD03151	Endangered	Endangered	G3TH	SH	
giant gartersnake <i>Thamnophis gigas</i>	ARADB36150	Threatened	Threatened	G2	S2	
hoary bat <i>Lasiurus cinereus</i>	AMACC05032	None	None	G3G4	S4	
Hoover's eriastrum <i>Eriastrum hooveri</i>	PDPLM03070	Delisted	None	G3	S3	4.2
Hurd's metapogon robberfly <i>Metapogon hurdi</i>	IIDIP08010	None	None	G1G2	S1S2	
lesser saltscale <i>Atriplex minuscula</i>	PDCHE042M0	None	None	G2	S2	1B.1
Madera leptosiphon <i>Leptosiphon serrulatus</i>	PDPLM09130	None	None	G3	S3	1B.2



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



Species	Element Code	Federal Status	State Status	Global Rank	State Rank	Rare Plant Rank/CDFW SSC or FP
molestan blister beetle <i>Lytta molesta</i>	IICOL4C030	None	None	G2	S2	
Northern California legless lizard <i>Anniella pulchra</i>	ARACC01020	None	None	G3	S2S3	SSC
pallid bat <i>Antrozous pallidus</i>	AMACC10010	None	None	G4	S3	SSC
Panoche pepper-grass <i>Lepidium jaredii ssp. album</i>	PDBRA1M0G2	None	None	G2G3T2T3	S2S3	1B.2
San Joaquin kit fox <i>Vulpes macrotis mutica</i>	AMAJA03041	Endangered	Threatened	G4T2	S3	
San Joaquin pocket mouse <i>Perognathus inornatus</i>	AMAFD01060	None	None	G2G3	S2S3	
Swainson's hawk <i>Buteo swainsoni</i>	ABNKC19070	None	Threatened	G5	S4	
tricolored blackbird <i>Agelaius tricolor</i>	ABPBXB0020	None	Threatened	G1G2	S2	SSC
valley elderberry longhorn beetle <i>Desmocerus californicus dimorphus</i>	IICOL48011	Threatened	None	G3T3	S3	
western mastiff bat <i>Eumops perotis californicus</i>	AMACD02011	None	None	G4G5T4	S3S4	SSC
western spadefoot <i>Spea hammondi</i>	AAABF02020	Proposed Threatened	None	G2G3	S3S4	SSC
western yellow-billed cuckoo <i>Coccyzus americanus occidentalis</i>	ABNRB02022	Threatened	Endangered	G5T2T3	S1	

Record Count: 31

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: 2023-0091509
Project Name: West Storage Tank Project

February 05, 2024

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: 2023-0091509

Project Name: West Storage Tank Project

Project Type: Water Supply Facility - Withdrawal - Groundwater

Project Description: The project involves constructing a new well, water storage tank, storm basin, and associated facilities.

Project Location:

The approximate location of the project can be viewed in Google Maps: <https://www.google.com/maps/@36.539385550000006,-119.84831414454194,14z>



Counties: Fresno County, California

ENDANGERED SPECIES ACT SPECIES

There is a total of 9 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 Fisheries¹, as USFWS does not have the authority to speak on behalf of NOAA and the Department of Commerce.

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

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

MAMMALS

NAME	STATUS
Fresno Kangaroo Rat <i>Dipodomys nitratooides exilis</i> There is final critical habitat for this species. Your location does not overlap the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/5150	Endangered
San Joaquin Kit Fox <i>Vulpes macrotis mutica</i> No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/2873	Endangered

REPTILES

NAME	STATUS
Blunt-nosed Leopard Lizard <i>Gambelia silus</i> No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/625	Endangered
Northwestern Pond Turtle <i>Actinemys marmorata</i> No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/1111	Proposed Threatened

AMPHIBIANS

NAME	STATUS
California Tiger Salamander <i>Ambystoma californiense</i> Population: U.S.A. (Central CA DPS) There is final critical habitat for this species. Your location does not overlap the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/2076	Threatened
Western Spadefoot <i>Spea hammondi</i> No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/5425	Proposed Threatened

INSECTS

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

CRUSTACEANS

NAME	STATUS
Vernal Pool Fairy Shrimp <i>Branchinecta lynchi</i> 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	Threatened
Vernal Pool Tadpole Shrimp <i>Lepidurus packardii</i> There is final critical habitat for this species. Your location does not overlap the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/2246	Endangered

CRITICAL HABITATS

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

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

IPAC USER CONTACT INFORMATION

Agency: Private Entity
Name: Shaylea Stark
Address: 455 W Fir Ave
City: Clovis
State: CA
Zip: 93612
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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 Eastern Fresno Area, California

West Side Water Storage Tank Project



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

Custom Soil Resource Report

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

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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: Eastern Fresno Area, California
 Survey Area Data: Version 16, 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 16, 2022—May 30, 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
CgA	Calhi loamy sand, moderately deep, 0 to 3 percent slopes	1.1	46.6%
DhA	Delhi loamy sand, 0 to 3 percent slopes, MLRA 17	1.3	53.4%
Totals for Area of Interest		2.4	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,

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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.

Eastern Fresno Area, California

CgA—Calhi loamy sand, moderately deep, 0 to 3 percent slopes

Map Unit Setting

National map unit symbol: hl2b

Elevation: 170 to 250 feet

Mean annual precipitation: 6 to 10 inches

Mean annual air temperature: 61 to 63 degrees F

Frost-free period: 225 to 250 days

Farmland classification: Farmland of statewide importance

Map Unit Composition

Calhi and similar soils: 85 percent

Minor components: 15 percent

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

Description of Calhi

Setting

Landform: Dunes on fan skirts

Landform position (two-dimensional): Footslope

Landform position (three-dimensional): Side slope

Down-slope shape: Linear

Across-slope shape: Linear

Parent material: Eolian deposits derived from granite

Typical profile

A - 0 to 11 inches: loamy sand

C1 - 11 to 40 inches: loamy sand

2C2 - 40 to 60 inches: silty clay loam

Properties and qualities

Slope: 0 to 3 percent

Depth to restrictive feature: 30 to 48 inches to strongly contrasting textural stratification

Drainage class: Somewhat excessively drained

Runoff class: Very low

Capacity of the most limiting layer to transmit water (Ksat): Moderately low to moderately high (0.06 to 0.20 in/hr)

Depth to water table: More than 80 inches

Frequency of flooding: None

Frequency of ponding: None

Calcium carbonate, maximum content: 5 percent

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

Available water supply, 0 to 60 inches: Very low (about 2.8 inches)

Interpretive groups

Land capability classification (irrigated): 3s

Land capability classification (nonirrigated): 4e

Hydrologic Soil Group: A

Ecological site: R017XY905CA - Dry Alluvial Fans and Terraces

Hydric soil rating: No

Minor Components

El peco

Percent of map unit: 3 percent
Landform: Blowouts on fan skirts
Hydric soil rating: No

Traver

Percent of map unit: 3 percent
Landform: Blowouts on fan skirts
Hydric soil rating: No

Hesperia

Percent of map unit: 3 percent
Landform: Fan skirts
Hydric soil rating: No

Pond

Percent of map unit: 3 percent
Landform: Blowouts on fan skirts
Hydric soil rating: No

Fresno

Percent of map unit: 2 percent
Landform: Blowouts on fan skirts
Hydric soil rating: No

Unnamed

Percent of map unit: 1 percent
Landform: Depressions on fan skirts
Hydric soil rating: Yes

DhA—Delhi loamy sand, 0 to 3 percent slopes, MLRA 17

Map Unit Setting

National map unit symbol: 2ss8r
Elevation: 30 to 430 feet
Mean annual precipitation: 9 to 16 inches
Mean annual air temperature: 59 to 64 degrees F
Frost-free period: 225 to 310 days
Farmland classification: Prime farmland if irrigated

Map Unit Composition

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

Description of Delhi

Setting

Landform: Dunes on fan remnants

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Landform position (two-dimensional): Shoulder, toeslope

Landform position (three-dimensional): Side slope

Down-slope shape: Linear

Across-slope shape: Linear

Parent material: Eolian deposits derived from sandy alluvium derived from granite

Typical profile

A - 0 to 7 inches: loamy sand

C1 - 7 to 25 inches: loamy sand

C2 - 25 to 60 inches: loamy sand

Properties and qualities

Slope: 0 to 3 percent

Depth to restrictive feature: More than 80 inches

Drainage class: Somewhat excessively drained

Runoff class: Very low

Capacity of the most limiting layer to transmit water (Ksat): High to very high (5.95 to 19.98 in/hr)

Depth to water table: More than 80 inches

Frequency of flooding: None

Frequency of ponding: None

Maximum salinity: Nonsaline (0.0 to 1.0 mmhos/cm)

Available water supply, 0 to 60 inches: Low (about 4.2 inches)

Interpretive groups

Land capability classification (irrigated): 3s

Land capability classification (nonirrigated): 4e

Hydrologic Soil Group: A

Ecological site: R017XY906CA - Non-Alkali San Joaquin Valley Desert

Hydric soil rating: No

Minor Components

Hanford

Percent of map unit: 6 percent

Landform: Depressions on fan remnants

Hydric soil rating: No

Dello

Percent of map unit: 6 percent

Landform: Depressions on fan remnants

Hydric soil rating: Yes

Grangeville

Percent of map unit: 1 percent

Hydric soil rating: No

Hilmar

Percent of map unit: 1 percent

Hydric soil rating: No

Dinuba

Percent of map unit: 1 percent

Hydric soil rating: No

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APPENDIX E: NMFS EFH MAPPER

EFH Mapper Report

EFH Data Notice

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

[West Coast Regional Office](#)

Query Results

Degrees, Minutes, Seconds: Latitude = 36° 32' 23" N, Longitude = 120° 9' 6" W
Decimal Degrees: Latitude = 36.540, Longitude = -119.848

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

EFH

No additional Essential Fish Habitats (EFH) were identified at the report location.

Pacific Salmon EFH

No Pacific Salmon Essential Fish Habitat (EFH) were identified at the report location.

Atlantic Salmon

No Atlantic Salmon were identified at the report location.

HAPCs

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

EFH Areas Protected from Fishing

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

Spatial data does not currently exist for all the managed species in this area. The following is a list of species or management units for which there is no spatial data.

****For links to all EFH text descriptions see the complete data inventory: [open data inventory -->](#)**

Pacific Coastal Pelagic Species,

Jack Mackerel,

Pacific (Chub) Mackerel,

Pacific Sardine,

Northern Anchovy - Central Subpopulation,

Northern Anchovy - Northern Subpopulation,

Pacific Highly Migratory Species,

Bigeye Thresher Shark - North Pacific,

Bluefin Tuna - Pacific,

Dolphinfish (Dorado or Mahimahi) - Pacific,

Spatial data does not currently exist for all the managed species in this area. The following is a list of species or management units for which there is no spatial data.

****For links to all EFH text descriptions see the complete data inventory: [open data inventory -->](#)**

Pelagic Thresher Shark - North Pacific,
Swordfish - North Pacific

Appendix C: Class III Inventory/Phase I Survey

**CLASS III INVENTORY/PHASE I SURVEY,
CARUTHERS STORAGE TANK PROJECT,
CARUTHERS, FRESNO COUNTY, CALIFORNIA**

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MANAGEMENT SUMMARY

An intensive Class III cultural resources inventory/Phase I survey was conducted for the Caruthers Storage Tank Project (Project), Caruthers, Fresno County, California. The Project area is located in Caruthers, a census-designated place 13-miles (mi) south of the City of Fresno and 15-mi northwest of the City of Hanford in Section 13, Township 16 South, Range 19 East (T16S/R19E), Mount Diablo Base and Meridian (MDBM), Fresno County, California. ASM Affiliates conducted this study, with Peter A. Carey, M.A., RPA, serving as Principal Investigator. The study was undertaken to assist with the regulatory requirements for compliance with Section 106 of the National Historic Preservation Act (NHPA) of 1966, as amended, and the California Environmental Quality Act (CEQA).

A records search of site files and maps was conducted on 12 June 2023 at the Southern San Joaquin Valley Archaeological Information Center (SSJVIC), California State University, Bakersfield. A Sacred Lands File Request was also completed by the Native American Heritage Commission (NAHC) on 26 June 2023. These investigations determined that the Project area had not been surveyed previously, and that no historic resources were known to exist within it. Outreach and request for consultation letters were sent to tribal organizations on the contact list provided by the NAHC. Follow-up emails were also made to the contact list. No specific concerns or interest in consultation have so-far been identified by those contacted.

The horizontal Area of Potential Effects (APE) for the Project totals 2.4-acres (ac) and includes all work areas and laydown and staging areas for the Project. The vertical APE, defined as the maximum depth of excavation, is set at 10-ft.

The Class III inventory/Phase I survey fieldwork was conducted on 23 June 2023 with parallel transects spaced at 15-meter (m) intervals walked along the approximately 2.4-acre (ac) Project area. No archaeological or built environment resources were identified during the field study.

Based on these findings, the construction of the Caruthers Storage Tank Project does not have the potential to result in adverse impacts or effects to significant historical resources or historic properties, and a determination of no adverse effects/no significant impacts is recommended. In the unlikely event that cultural resources are identified during the project, it is recommended that a qualified archaeologist be contacted to evaluate the newly discovered resource. No additional archaeological work is recommended for this project.

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1. INTRODUCTION AND REGULATORY CONTEXT

ASM Affiliates was retained by Provost and Pritchard Consulting Group, to conduct an intensive Class III inventory/Phase I cultural resources survey for the Caruthers Storage Tank Project (Project), Fresno County, California. The Project APE is located in Section 13, Township 16 South, Range 19 East (T16S/R19E; MDBM) (Figure 1). The study was undertaken to assist with compliance with the regulatory requirements for 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 historical resources or historic properties do not occur as a result of project construction.

This current study included:

- A background records search and literature review to determine if any known cultural resources were present in the project zone and/or whether the area had been previously and systematically studied by archaeologists;
- An on-foot, intensive inventory of the APE 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.

Peter A. Carey, M.A., RPA, served as Principal Investigator and ASM Assistant Archaeologist Daniel Ware, B.A., conducted the survey.

This document constitutes a report on the Class III inventory/Phase I survey. Subsequent chapters provide background to the investigation, including historic context studies; the findings of the archival records search; Native American consultation; a summary of the field surveying techniques employed; and the results of the fieldwork. We conclude with management recommendations for the Project area.

1.1 PROJECT LOCATION

The Caruthers Storage Tank Project is located within the census designated community of Caruthers, 13-mi south of the City of Fresno. The tank location is proposed within an agricultural field south of W Caruthers Ave. A pipeline is proposed on the south side of W Caruthers Ave between S Kincaid Ave and S Marks Ave.

More generally, the Project area is located on the open flats of the San Joaquin Valley. The elevation of the Project area, which is flat, is approximately 240-feet (ft) above mean sea level (amsl). The Project area is surrounded by suburban residential and agricultural fields and orchards on all sides.

1.2 PROJECT DESCRIPTION AND AREA OF POTENTIAL EFFECTS

The West Side Water Storage Tank Project would construct a 500,000-gallon water storage tank whose dimensions would be approximately 22-feet high and 65-feet in diameter. Appurtenant infrastructure includes electrical equipment, on-site lighting, booster pumps, an emergency backup generator, 7-ft tall, slatted perimeter fencing, and a basin for stormwater and storage tank backwash purposes. The facility would replace the existing 6-inch water main in Caruthers Avenue between the western edge of the District and Marks Avenue (approximately 1,400 linear feet) to a 10-inch transmission main. In a second phase, improvements would include a groundwater well and a granulated activated carbon (GAC) treatment process to increase system reliability and redundancy, should a well go offline and another source of clean, reliable water is needed.

The horizontal APE for the Project totals 2.4-acres (ac) and includes all work areas and laydown and staging areas for the Project. The vertical APE, defined as the maximum depth of excavation, is set at 10-ft.

1.3 REGULATORY CONTEXT

1.3.1 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.

1.3.2 National Historic Preservation Act

Section 106 of the National Historic Preservation Act (NHPA) of 1966, as amended (Title 16 USC 470; 36 CFR Part 800) is applicable to federal undertakings, including projects financed or permitted by federal agencies, regardless of whether the activities occur on land that is managed by federal agencies, other governmental agencies, or private landowners. 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 and include:

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 to 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 NRHP. 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; or,
- (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. (<http://www.achp.gov/nrcriteria.html>)

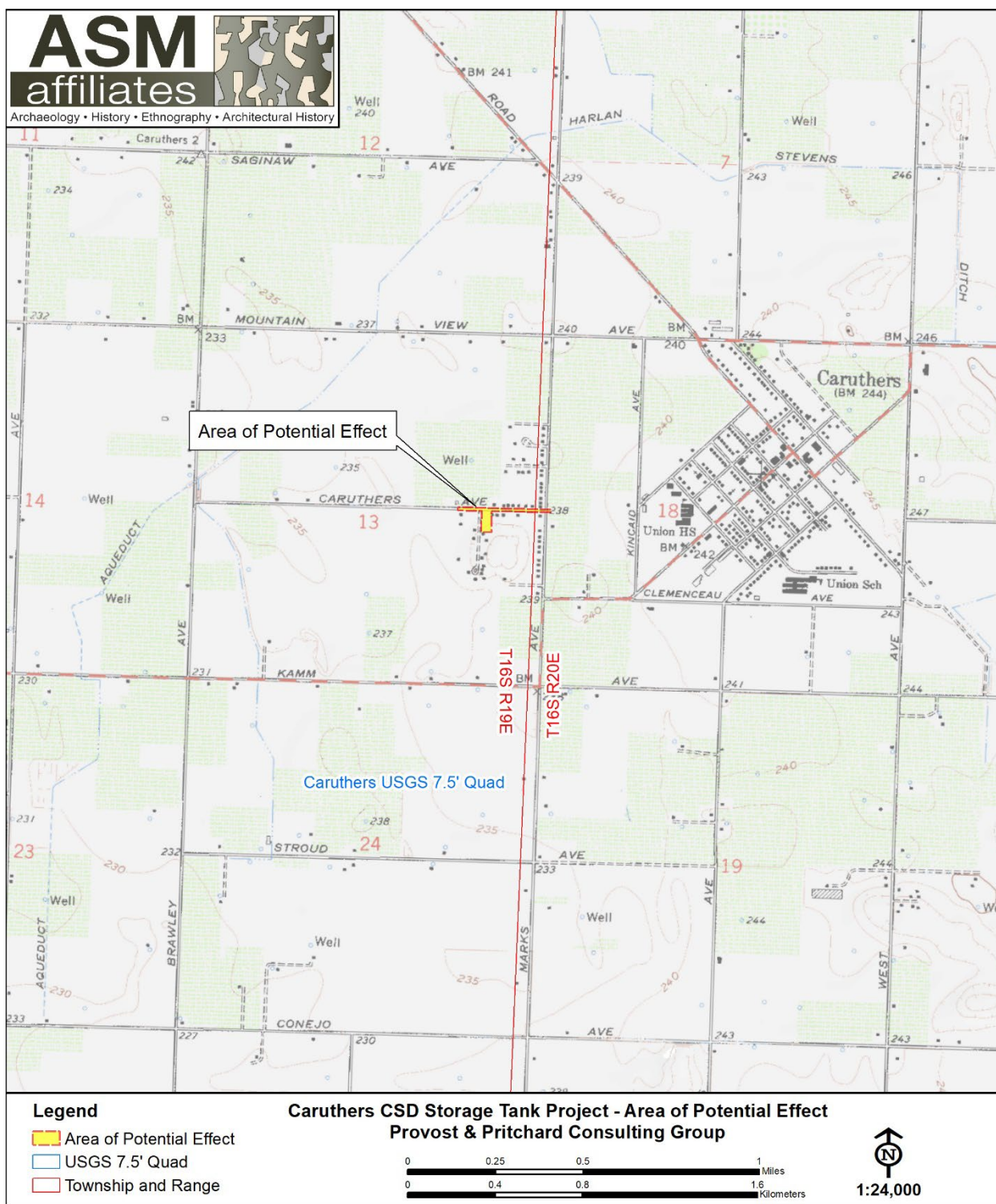


Figure 1. Location of the Caruthers Storage Tank Project Area of Potential Effect, Fresno County, California.

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2. ENVIRONMENTAL AND CULTURAL BACKGROUND

2.1 ENVIRONMENTAL BACKGROUND AND GEOARCHAEOLOGICAL SENSITIVITY

As noted above, the APE for the Project is located at an elevation of approximately 240-ft amsl on the open flats of the San Joaquin Valley, 13-mi south of City of Fresno. The APE is situated in the vicinity of the Kings River. The Kings River is perennial but rarely drains into the normally dry Tulare Lake bed.

Prior to the appearance of agriculture, starting in the nineteenth century, this location would have been prairie grasslands, grading into tree savannas in the foothills to the east (Preston 1981). Historically, and likely prehistorically, riparian environments would have been present along the drainages, waterways and marshes. The APE and immediate surroundings have been farmed and grazed for many years and no native vegetation is present. Perennial bunchgrasses such as purple needlegrass and nodding needlegrass most likely would have been the dominant plant cover in the APE prior to cultivation.

The APE falls on the Kings River Fan. According to a geoarchaeological model developed by Meyer et al. (2010), the APE has a Moderate to Moderately Low potential for buried archaeological deposits. Therefore, buried sites and cultural resources may be present within the Project APE. However, based on the location of the APE within a previously disturbed parcel in a residential area, it is unlikely that buried sites or cultural resources would be encountered during Project activities.

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), Latta (1977) and Harrington (n.d.). 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, near Lemoore. 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.

Following Kroeber (1925: Plate 47), the APE most likely lies in Apiachi (Apiche in Latta [1977:163]) territory. The principal village for this group was *Wohui* (*Wohue* in Latta [1977:163]) on the north bank of Murphy Slough, approximately 6-mi south of the APE.

The Yokuts settlement pattern was largely consistent, regardless of specific tribe involved. Winter villages were typically located along lakeshores and major stream courses (as these existed circa AD 1800), with dispersal phase family camps located 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 peoples (Kroeber 1925).

Each tribelet was headed by a chief who was assisted 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 most 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 based on 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 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 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 Schenk 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 years before present (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. Over 250 fluted points have been recovered from the Witt Site (CA-KIN-32), located along the western shoreline of ancient Tulare Lake south of the APE, demonstrating the importance of this early occupation in the San Joaquin Valley specifically (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 7,500 to 4,000 YBP. This period is known as the *Early Horizon*, or alternatively as the Early Millingstone along the Santa Barbara Channel. In the south, populations concentrated along the coast with minimal visible use of inland areas. Adaptation emphasized hard

seeds and nuts with tool-kits 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 4,000 YBP during the *Middle Horizon* (or Intermediate Period). This period is known climatically as the Holocene Maximum (circa 3,800 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 Windmill 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 3,500 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 4,000 years ago. 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 APE, is yet to be determined.

The beginning of the *Late Horizon* is set variously at 1,500 and 800 YBP, with a growing archaeological consensus for the shorter chronology. Increasing evidence suggests the importance of the Middle-Late Horizons transition (AD 800 to 1200) 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 A.D. 1860. 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% 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 (ibid). Along Buena Vista Lake, in Kern County, population appears to have been increasingly concentrated towards 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 then clear is that Middle Period villages and settlements were widely dispersed across the south-central California landscape, including in the Sierras and the Mojave Desert. Many of these sites are found at locations that lack existing or known historical 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 (~1,500 – 500 YBP) is the Redtfeldt Mound (CA-KIN-66/H), located south 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 life-ways 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

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 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).

Following the passage of state wide ‘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. Settlers began reclamation of swampland in 1866 and built small dams across the Kern River to divert water into the fields. By 1880, 86 different groups were taking water from the Kern River. Ten years later, 15 major canals provided water to thousands of acres in Kern County.

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. One small agricultural settlement, founded by Colonel Thomas Baker in 1861 after procuring one such grant, took advantage of reclaimed swampland along the Kern River. This settlement became the City of Bakersfield in 1869, and quickly became the center of activity in the southern San Joaquin Valley, and in the newly formed Kern County. Located on the main stage road through the San Joaquin Valley, the town became a primary market and transportation hub for stock and

crops, as well as a popular stopping point for travelers on the Los Angeles and Stockton Road. The Southern Pacific Railroad reached the Bakersfield area in 1873, connecting it with important market towns elsewhere in the state, dramatically impacting both agriculture and oil production (Pacific Legacy 2006).

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 (three feet wide by two feet 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 miles. Miller and Lux's impact extended 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 miles 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 San Joaquin Valley was dominated by agricultural pursuits until the oil boom of the early 1900s, which saw a shift in the region, as some reclaimed lands previously used for farming were leased to oil companies. Nonetheless, the shift of the San Joaquin Valley towards oil production did not halt the continued growth of agriculture (Pacific Legacy 2006). The Great Depression of the 1930s brought with it the arrival of great number of migrants from the drought-affected Dust Bowl region, looking for agricultural labor. These migrants established temporary camps in the valley, staying on long past the end of the drought and the Great Depression, eventually settling in towns such as Bakersfield where their descendants live today (Boyd 1997).

The city of Fresno (originally "Fresno Station"), located approximately 15-mi north of the APE and the county seat for Fresno County, was founded in 1872 and incorporated in 1885. Farmers saw success with the cultivation of wheat, grapes, and cattle. Eventually, Fresno County became one of the most agriculturally-rich counties in the United States (Fresno County Historical Society n.d.).

The first post office was opened in Caruthers in 1891. The town is named for W.A. Caruthers, a local farmer (Durham 1998). Over 130 years later, the census-designated community of Caruthers, like many outlying communities of Fresno, is still largely focused on agriculture.

2.5 RESEARCH DESIGN

2.5.1 Pre-Contact Archaeology

Previous research and the nature of the pre-contact archaeological record suggest two significant NRHP themes, both of which fall under the general Pre-Contact Archaeology area of significance. These are the Expansion of Pre-Contact Populations and Their Adaptation to New Environments; and Adaptation to Changing Environmental Conditions.

The Expansion of Pre-Contact Populations and Their Adaptation to New Environments theme primarily concerns the Middle Horizon/Holocene Maximum. Its period of significance runs from about 4,000 to 1,500 YBP. It involves a period during which the prehistoric population appears to have expanded into a variety of new regions, developing new adaptive strategies in the process.

The Adaptation to Changing Environmental Conditions theme is partly related to the Holocene Maximum, but especially to the Medieval Climatic Anomaly. The period of significance for this theme, accordingly, extends from about 4,000 to 800 YBP. This theme involves the apparent collapse of many inland populations, presumably with population movements to better environments such as the coast. It is not yet known whether the southern San Joaquin Valley, with its system of lakes, sloughs and swamps, experienced population decline or, more likely, population increase due to the relatively favorable conditions of this region during this period of environmental stress.

The range of site types that are present in this region include:

- Villages, primarily located on or near permanent water sources, occupied by large groups during the winter aggregation season;
- Seasonal camps, again typically located at water sources, occupied during other parts of the year tied to locally and seasonally available food sources;
- Special activity areas, especially plant processing locations containing bedrock mortars (BRMs), commonly (though not exclusively) near existing oak woodlands, and invariably at bedrock outcrops or exposed boulders;
- Stone quarries and tool workshops, occurring in two general contexts: at or below naturally occurring chert exposures on the eastern front of the Temblor Range; and at quartzite cobble exposures, often on hills or ridges;
- Ritual sites, most commonly pictographs (rock art) found at rockshelters or large exposed boulders, and cemeteries, both commonly associated with villages; and
- A variety of small lithic scatters (low density surface scatters of stone tools).

The first requisites in any research design are the definition of site age/chronology and site function. The ability to determine either of these basic kinds of information may vary between survey and test excavation projects, and due to the nature of the sites themselves. BRM sites without associated artifacts, for example, may not be datable beyond the assumption that they post-date the Early Horizon and are thus less than roughly 4,000 years old.

A second fundamental issue involves the place of site in the settlement system, especially with respect to water sources. Because the locations of the water sources have sometimes changed over time, villages and camps are not exclusively associated with existing (or known historical) water sources (W & S Consultants 2006). The size and locations of the region's lakes, sloughs and delta channels, to cite the most obvious example, changed significantly during the last 12,000 years due to major paleoclimatic shifts. This altered the area's hydrology and thus prehistoric settlement patterns. The western shoreline of Tulare Lake was relatively stable, because it abutted the Kettleman Hills. But the northern, southern and eastern shorelines comprised the near-flat valley floor. Relatively minor fluctuations up or down in the lake level resulted in very significant changes in the areal expression of the lake on these three sides, and therefore the locations of villages and camps. Although perhaps not as systematic, similar changes occurred with respect to stream channels and sloughs, and potential site locations associated with them. This circumstance has implications for predicting site locations and archaeological sensitivity. Site sensitivity is then hardest to predict in the open valley floor, where changes in stream courses and lake levels occurred on numerous occasions.

Nonetheless, the position of southern San Joaquin Valley prehistory relative to the changing settlement and demographic patterns seen in surrounding areas is still somewhat unknown (cf. Siefkin 1999), including to the two NRHP themes identified above. The presence of large lake systems in the valley bottoms can be expected to have mediated some of the effects of 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 another primary regional research objective.

Archaeological sites would primarily be evaluated for NRHP eligibility under Criterion D, research potential.

2.5.2 Historical Archaeology: Native American

Less research has been conducted on the regional historical archaeological record, both Native American and Euro-American. For Native American historical sites, the ethnographic and ethnohistoric periods in the southern San Joaquin Valley extended from first Euro-American contact, in AD 1772, to circa 1900, when tribal populations were first consolidated on reservations. The major significant historic NRHP themes during this period of significance involve the related topics of Historic-Aboriginal Archaeology, and Native American Ethnic Heritage. More specifically, these concern the Adaptation of the Indigenous Population to Euro-American Encroachment and Settlement, and their Acculturation to Western Society. These processes included the impact of missionization on the San Joaquin Valley (circa 1800 to about 1845); the introduction of the horse and the development of a San Joaquin Valley "horse culture," including raiding onto the coast and Los Angeles Basin (after about 1810); the use of the region as a refuge for mission neophyte escapees (after 1820); responses to epidemics from introduced diseases (especially in the 1830s); armed resistance to Euro-American encroachment (in the 1840s and early 1850s); the origins of the reservation system and the development of new tribal organizations and

ethnic identities; and, ultimately, the adoption of the Euro-American society's economic system and subsistence practices, and acculturation into that society.

Site types that have been identified in the region dating to the ethnographic/ethnohistoric period of significance primarily include villages and habitations, some of which contain cemeteries and rock art (including pictographs and cupules). Dispersed farmsteads, dating specifically from the reservation period or post-1853, would also be expected. The different social processes associated with this historical theme may be manifest in the material cultural record in terms of changing settlement patterns and village organization (from traditional nucleated villages to single family dispersed farmsteads); the breakdown of traditional trading networks with their replacement by new economic relationships; changing subsistence practices, especially the introduction of agriculture initially via escaped mission neophytes; the use of Euro-American artifacts and materials rather than traditional tools and materials; and, possibly, changing mortuary practices.

Inasmuch as culture change is a primary intellectual interest in archaeology, ethnographic villages and habitations may be NRHP eligible under Criterion D, research potential. Rock art sites, especially pictographs, may be eligible under Criterion C as examples of artistic mastery. They may also be eligible under Criterion A, association with events contributing to broad patterns of history. Ethnographic sites, further, may be NRHP eligible as Traditional Cultural Properties due to potential continued connections to tribal descendants, and their resulting importance in traditional practices and beliefs, including their significance for historical memory, tribal- and self-identity formation, and tribal education.

For Criteria A, C and D, eligibility requires site integrity (including the ability to convey historical association for Criterion A). These may include intact archaeological deposits for Criterion D, as well as setting and feel for Criteria C and A. Historical properties may lack physical integrity, as normally understood in heritage management, but still retain their significance to Native American tribes as Traditional Cultural Properties if they retain their tribal associations and uses.

2.5.3 Historical Archaeology: Euro-American

Approaches to historical Euro-American archaeological research relevant to the region have been summarized by Caltrans (1999, 2000, 2007, 2008). These concern the general topics of historical landscapes, agriculture and farming, irrigation (water conveyance systems), and mining.

For archaeological sites, Caltrans has identified an evaluation matrix aiding determinations of eligibility emphasizing potential eligibility under NRHP Criterion D, research potential. The identified research issues include site structure and land-use (lay-out, land use, feature function); economics (self-sufficiency, consumer behavior, wealth indicators); technology and science (innovations, methods); ethnicity and cultural diversity (religion, race); household composition and lifeways (gender, children); and labor relations. Principles useful for determining the research potential of an individual site or feature are conceptualized in terms of the mnemonic AIMS-R, as follows:

1. *Association* refers to the ability to link an assemblage of artifacts, ecofacts, and other cultural remains with an individual household, an ethnic or socioeconomic group, or a specific activity or property use.
2. *Integrity* addresses the physical condition of the deposit, referring to the intact nature of the archaeological remains. In order for a feature to be most useful, it should be in much the same state as when it was deposited. However, even disturbed deposits can yield important information (e.g., a tightly dated deposit with an unequivocal association).
3. *Materials* refers to the number and variety of artifacts present. Large assemblages provide more secure interpretations as there are more datable items to determine when the deposit was made, and the collection will be more representative of the household, or activity. Likewise, the interpretive potential of a deposit is generally increased with the diversity of its contents, although the lack of diversity in certain assemblages also may signal important behavioral or consumer patterns.
4. *Stratigraphy* refers to the vertically or horizontally discrete depositional units that are distinguishable. Remains from an archaeological feature with a complex stratigraphic sequence representative of several events over time can have the added advantage of providing an independent chronological check on artifact diagnosis and the interpretation of the sequence of environmental or sociocultural events.
5. *Rarity* refers to remains linked to household types or activities that are uncommon. Because they are scarce, they may have importance even in cases where they otherwise fail to meet other thresholds of importance (Caltrans 2007:209).

For agricultural sites, Caltrans (2007) has identified six themes to guide research: Site Structure and Land Use Pattern; Economic Strategies; Ethnicity and Cultural Adaptation; Agricultural Technology and Science; Household Composition and Lifeways; and Labor History. Expected site types would include farm and ranch homesteads and facilities, line camps, and refuse dumps. In general terms, historical Euro-American archaeological sites would be evaluated for NRHP eligibility under Criterion D, research potential. However, they also potentially could be eligible under Criteria A and B for their associated values with major historical trends or individuals. Historical landscapes might also be considered.

Historical structures, most likely to be pertinent to the current APE, in contrast are typically evaluated for NRHP eligibility under Criteria A and/or B, for their associated values with major historical trends or individuals, and C for potential design or engineering importance. Water conveyance systems comprise a particular sub-set of historical structures that warrant discussion in light of the known presence of two such resources within the Project APE.

2.5.4 Significant Themes

Water conveyance systems within the Project APE can be evaluated in terms of two NRHP themes, as follows.

Theme 1: Development of Irrigated Agriculture in the San Joaquin Valley, 1852-1964

As identified by Caltrans in the *Water Conveyance Systems in California Historic Context Development and Evaluation Procedures*, the “Development of Irrigated Agriculture” is a historically significant theme or event in the history of California and the Central Valley region. In the years following California’s statehood and the gold rush, increasing population created a growing market for agricultural products. The total irrigated acreage in the state grew from 60,000 acres in 1860 to nearly 400,000 acres by 1880, an increase of more than 650 percent, and the San Joaquin Valley contained the highest percentage of that land (approximately 47 percent) (Caltrans 2000). Private water companies, land colonies, mutual water companies, and irrigation districts were established in the mid- to late nineteenth century to build irrigation systems to further develop the state’s agriculture industry. Irrigation districts became the most influential of these organizations, especially after state legislation—the Wright Act of 1887—causing irrigation districts to grow in number, power, as well as the actual amount of irrigated land throughout the state. Forty-nine irrigation districts were organized between 1887 and 1896, most of them located between Stockton and Bakersfield. However, by the late 1920s, only seven of the original districts were still in existence, among them the Modesto, Turlock, and Tulare irrigation districts (Caltrans 2000). Under the impetus of increased demand during World War I, agricultural production reached a new peak in 1920. Companies like Pacific Gas & Electric and San Joaquin Valley Light and Power helped finance large irrigation reservoirs to feed district canals in return for the power generated. By 1930, there were 94 active districts in California, and the land watered by these agencies mushroomed to 1.6 million acres (Caltrans 2000). Irrigation districts provided more than 90 percent of the surface water used for irrigation in the San Joaquin Valley before the Central Valley Project came on line in the 1940s (Caltrans 2000). Most were located in the San Joaquin Valley, with the most successful in Modesto, Turlock, Merced, and Fresno.

The period of significance for this theme begins with the earliest developments of irrigated agriculture in the San Joaquin Valley, with the construction of the earliest earthen ditches in Visalia in 1852. Irrigated agriculture continues to be an important industry and influence in the Valley. The period of significance ends in 1968 following recommended guidance for closing a period of significance 50 years ago when activities continued to have importance, but no more specific date can be defined to end the historic period, and there is no justification for exceptional significance to extend the period of significance to an end date within the last 50 years (National Register of Historic Places 1997).

Associated Property Types:

Water Conveyance Systems

Following the framework established by Caltrans in *Water Conveyance Systems in California Historic Context Development and Evaluation Procedures*, the water conveyance system is the property type that has the potential to reflect this theme and period. Components and features of water conveyance systems include diversion structures, conduits, flow control devices, cleansing devices, and associated resources and settings. Water Conveyance Systems that are associated with

Development of Irrigated Agriculture in the San Joaquin Valley, 1852-1968 will be eligible under NRHP Criterion A/CRHR Criterion 1 for their association with this significant theme if:

- the association with the theme is important--simply because a water conveyance existed during the period of significant is not enough for that system to be eligible;
- the resource retains high overall integrity because of the high number of comparable examples. The property should retain most of the seven aspects of integrity: location, design, setting, materials, workmanship, feeling, and association.
- Due to the nature of this type of resource, repairs and modifications are acceptable but not if those modifications substantially modified the resource.

Water Conveyance Systems that are associated with Development of Irrigated Agriculture in the San Joaquin Valley, 1852-1968 will be eligible under NRHP Criterion B/CRHR Criterion 2 for their association with this significant theme if they are:

- associated with an important person's productive life *and* they are the property that is most closely associated with that person;
- the resource retains high overall integrity because of the high number of comparable examples. The property should retain most of the seven aspects of integrity: location, design, setting, materials, workmanship, feeling, and association.
- Due to the nature of this type of resource, repairs and modifications are acceptable but not if those modifications substantially modified the resource.

Water conveyance systems will rarely be found eligible under Criterion B. In California notable names for which there might be associations with water planning, construction, or engineering include: Anthony Chabot, George Chaffey, Frederick Eaton, William Mulholland, George Maxwell, Robert Marshall, Elwood Mead and C. E. Grunsky (Caltrans 2000).

Theme 2: Technological Innovation in Irrigated Agriculture in California, 1852-1964

Caltrans clearly defines the historic context for this theme in the "Legacy of Irrigation Canals" section of the context, while ASM has defined a period of significance based on the Caltrans context (Caltrans 2000). The following is a direct excerpt from the context:

"The earliest irrigation water conveyances in California were roughly made, earthen ditches to divert water. Techniques used to construct irrigation canals have varied widely during the various periods of California's history, from the relatively short, hand-dug, early masonry and tile ditches, to horse-scraped and hand-dug earthen irrigation ditches, to the large concrete-lined, machine-formed irrigation canals of the middle decades of the twentieth century. Evidence of these changes in scale, methods of construction, and knowledge of engineering are reflected in the remaining physical resources found on the landscape today. Substantial regional variation exists with respect to the adoption and dissemination of the new technologies, such as where and when concrete replaced wood in the engineering works of major irrigation canals. These regional differences can be explained in part by cultural traditions with respect to water management, ownership of

water rights, and environmental factors, but economics, politics, and the formation of particular types of irrigation institutions also played a significant role.

“Older canals were often subject to substantial change over time. A common change was to expand the system in order to serve more acreage. Unless pumps are used, irrigation canals rely on gravity to move water, and they can provide service only to land lying below the canal’s water level. As irrigated acreage expanded, water companies frequently consolidated smaller ditch systems, moved the point of diversion upstream, and built a high-line canal to service new acreage. In this manner, pioneer canals were often absorbed into larger systems, frequently by irrigation districts, to pull in more potentially irrigable lands. Segments of earlier irrigation systems might remain largely intact within the larger framework of a new irrigation system, or the changes could be such that the old separate irrigation system would become, in essence, a typical component of a new 1920s irrigation district canal.

“Another important factor is that water is notoriously difficult to control; it can be, and frequently is, an engine of destruction. Flood waters, for example, repeatedly overwhelmed the flimsy wooden control structures built on nineteenth and early-twentieth century irrigation systems in the San Joaquin Valley. Canals required periodic maintenance and were also often altered as a result of improvements designed to counteract the normal erosion that occurs from water moving through earth-lined canals. Improvements to stabilize canals ranged from realigning segments of the channel, to lining ditches or putting them in pipe, to replacement of checks, drops, culverts, or other regulation structures. These improvements were sometimes carried out system-wide, sometimes on a piecemeal basis. In light of the proclivity for change and the wide diversity of canal materials and modes of construction, adequate documentary research is essential to understand the evolution of an important irrigation canal and to assess its integrity” (Caltrans 2000).

The period of significance for this theme begins with the earliest developments of irrigated agriculture in the San Joaquin Valley, with the construction of the earliest earthen ditches in Visalia in 1852. Technological innovations in agricultural irrigation are ongoing, but the period of significance ends in 1968 following recommended guidance for closing a period of significance 50 years ago when activities continued to have importance, but no more specific date can be defined to end the historic period, and there is no justification for exceptional significance to extend the period of significance to an end date within the last 50 years (National Register of Historic Places 1997).

Associated Property Types:

Water Conveyance Systems

Following the framework established by Caltrans in *Water Conveyance Systems in California Historic Context Development and Evaluation Procedures*, the water conveyance system is the property type that has the potential to reflect this theme and period. Components and features of water conveyance systems include diversion structures, conduits, flow control devices, cleansing devices, and associated resources and settings. Water Conveyance Systems that are associated with

Technological Innovation in Irrigated Agriculture in California, 1852-1968 will be eligible under NRHP Criterion C/CRHR Criterion 3 for their association with this significant theme if they are/have:

- unique values;
- the best or good example of the property type as one that possess distinctive characteristics of the type and through those characteristics clearly illustrates at least one of the following;
 - the pattern of features common to a particular class of resources
 - the individuality or variation of features that occurs within the class;
 - the evolution of that class; or
 - the transition between classes of resources
- the earliest, best preserved, largest, or sole surviving example of particular types of water conveyance systems;
- a design innovation of evolutionary trends in engineering
- designed by a figure of acknowledged greatness in the field or by someone unknown whose workmanship is distinguishable from others by its style and quality *and* be a good example of that designer's work;
- the resource retains high overall integrity because of the high number of comparable examples. The property should retain most of the seven aspects of integrity: location, design, setting, materials, workmanship, feeling, and association.

A large water conveyance system with multiple components will often be evaluated as a district rather than as a single property. An eligible historic district must possess a significant concentration or linkage of resources that are united historically or aesthetically by plan or physical development. It should be a significant and distinguishable entity, although its components need not possess individual distinction (Caltrans 2000).

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3. ARCHIVAL 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 on any of them, an archival records search was conducted by the staff of the Southern San Joaquin Valley Information Center (IC) on 12 June 2023, at the request ASM Affiliates. The records search was completed to determine: (i) if prehistoric or historical archaeological sites had previously been recorded within the Project APE; (ii) if the APE had been systematically surveyed by archaeologists prior to the initiation of this field study; and/or (iii) whether the region of the field project was known to contain archaeological sites and to thereby be archaeologically 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.

According to the IC records search (Confidential Appendix B), the Project area had not been previously surveyed and no known resources had been recorded in it. Three previous surveys have been conducted in a 0.5-mi radius of the Project (Table 1) and these surveys had not resulted in the identification of the any cultural resource in the 0.5-mi radius. A search of the Native American Heritage Commission (NAHC Sacred Lands Files was also obtained on 26 June 2023. According to the NAHC records no sacred sites or tribal cultural resources are known in or near the project area.

Table 1. Survey Reports within 0.5-miles of the APE

Report No.	Year	Author (s)/Affiliation	Title
FR-00327	1990	Cartier, Robert / Archaeological Resource Management	Cultural Resource Evaluation for Tract 4211 in the City of Caruthers County of Fresno
FR-01956	2001	Billat, Lorna Beth/ EarthTouch, LLC	Nextel Communications Wireless Telecommunications Service Facilities, Fresno County
FR-02927	2017	Whitley, David and Carey, Peter/ ASM Affiliates	Class III Inventory/Phase I Survey, Caruthers CSD Water Treatment System Project, Fresno County, California

ASM Affiliates sent out letters to tribal organizations on the NAHC contact list to determine whether any organization wished to consult under Assembly Bill 52. ASM Affiliates received one response from Samantha McCarty, Cultural Specialist II, for the Santa Rosa Rancheria Tachi-Yokut Tribe deferring to tribes that are more local to the area. No other responses were received. Tribal coordination attempts between ASM and the list of tribes provided in the Sacred Lands Files are presented in Confidential Appendix A.

Historical USGS topographical quadrangles and aerial photographs, extending back to 1925 and 1957, respectively, were examined to identify historical use or development of the Project APE. The Caruthers, CA 1925 (HTMC, 1925 ed.) 1:31,680 quadrangle shows Caruthers Avenue charted by that time with no other significant development in the immediate area; however, the City of Caruthers, approximately 1-mi directly east, was already established by this time. By the mid-20th century, tract development had occurred along Mark Avenue to the west of the Project APE as

3. Archival Records Search

seen in the Caruthers, CA 1946 (HTMC, 1959 ed.) 1:31,680 quadrangle. The Caruthers, CA 1963 (HTMC, 1964 ed.) 1:24,000 quadrangle shows minor post-war development changes in the APE area. Historic aerial photography from 1957 to 1984 shows no significant development has occurred within the APE itself.

Based on the records search results, the APE appeared to have low archaeological and tribal cultural resources sensitivity.

4. METHODS AND RESULTS

4.1 FIELD METHODS

An intensive Class III inventor/Phase I survey of the Caruthers Storage Tank Project APE was conducted by ASM Assistant Archaeologist Daniel Ware, B.A. The survey was completed on 23 June 2023. 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.

The entirety of the approximately 2.4-ac Project APE was intensively surveyed.

4.2 SURVEY RESULTS

The Project APE is located at 3143 West Caruthers Avenue in Caruthers, and it is surrounded by mixed agricultural and residential lots. The APE is located in an agricultural field, and it is on the south side of West Caruthers Avenue and east of an unnamed drive (Figure 2 and 3). It is immediately bordered on the south by a private residence, and a private residence is on the west side of the southwest corner. A private residence is also located on the east side of the northeast corner of the APE.

Vegetation within the APE consisted of invasive weeds and seasonal grasses in an inactive but recently disced agricultural field. The orchard on the north side of West Caruthers Avenue consisted of mature almond trees. Ground surface visibility varied from very good to excellent within most of the proposed APE with thicker vegetation only in areas along the fence lines. Therefore, special attention was paid to any exposed ground surface areas where the better ground surface visibility was improved. Survey spacing was reduced to 5-m in areas of poor visibility.

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



Figure 2. Overview of the Caruthers Project APE, looking south.



Figure 3. Overview of the Caruthers Project APE, looking east.

5. SUMMARY AND RECOMMENDATIONS

An intensive Class III archaeological inventory/Phase I survey was conducted for the Caruthers Storage Tank Project APE, Caruthers, Fresno County, California. A records search was conducted at the SSJVIC, California State University, Bakersfield. This indicated that no previous studies had taken place within the APE and that no historic cultural resources were known to exist within it. A records search of the NAHC Sacred Lands Files was also conducted and contacts with designated tribal organizations were also completed. No tribal cultural resources or sacred sites have been identified within the APE.

The Class III inventory/Phase I survey fieldwork was conducted on 23 June 2023, with parallel transects spaced at 15-meter intervals walked across the entire project area and bisecting dirt roads. No archaeological or built environment resources of any kind were identified within the Project APE

5.1 RECOMMENDATIONS

An intensive Class III inventory/Phase I survey demonstrated that the Caruthers Storage Tank Project APE does not contain archaeological or built environment resources. The proposed Project therefore does not have the potential to result in adverse impacts or effects to significant historical resources or historic properties. In the unlikely event that cultural resources are encountered during project construction or use, however, it is recommended that an archaeologist be contacted to assess the discovery. No further archaeological work is recommended at this time.

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