Tract 92 Community Services District

Tract 92 Water System Upgrade and Consolidation Project

Draft Initial Study / Mitigated Negative Declaration

July 2021

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Self-Help Enterprises

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Acronyms and Abbreviations

AB	Assembly Bill
AMSL	Above Mean Sea Level
APE	Area of Potential Effect
APN	Assessor's Parcel Number
ARB	Air Resources Board
ASM	ASM Affiliates, Inc.
BAAQMD	Bay Area Air Quality Management District
BPS	Best Performance Standards
CalEEMod	California Emissions Estimator Modeling (software)
CalEPA	California Environmental Protection Agency
CAP	Climate Action Plan
CARB	California Air Resources Board
CCAA	California Clean Air Act
CCAP	Climate Change Action Plan
CCR	California Code of Regulations
CDFW	California Fish and Wildlife
CEQA	California Environmental Quality Act
CFC	Chlorofluorocarbons
CFR	Code of Federal Regulations
CNDDB	California Natural Diversity Database
CNPS	California Native Plant Society
CO	Carbon Monoxide
County	Tulare County
CRHR	California Register of Historical Resources
CWA	Clean Water Act
CWS	California Water Service
CWSRF	Clean Water State Revolving Fund
dBA	A-weighted decibels
District	Tract 92 Community Services District
DOC	California Department of Conservations
DPM	Diesel Particulate Matter
DTSC	(California) Department of Toxic Substances Control

DWR ..... Department of Water Resources
EA ..... Environmental Assessment
EFH ..... Essential Fish Habitat
EIR ..... Environmental Impact Report
EIS ..... Environmental Impact Statement
EO ..... Executive Order
EPA ..... Environmental Protection Agency
ESA ..... Environmental Site Assessment
FEMA ..... Federal Emergency Management Agency
FMMP ..... Farmland Mapping and Monitoring Program
FPPA ..... Farmland Protection and Policy Act
FPP ..... Farmland Preservation Program
GC ..... Government Code
GCP ..... General Construction Permit
GHG ..... Greenhouse Gas
GIS ..... Geographic Information System
Gpm ..... gallons per minute
GWP ..... Global Warming Potential
HFC ..... Hydrofluorocarbons
hp ..... Horsepower
HUC ..... Hydrologic Unit Code
IPaC ..... United States Fish and Wildlife Service's Information for Planning and Consultation system
IPCC ..... Intergovernmental Panel on Climate Change
IS ..... Initial Study
IS/MND ..... Initial Study/Mitigated Negative Declaration
km ..... kilometers
LRA ..... Local Responsibility Area
MBTA ..... Migratory Bird Treaty Act
MMRP ..... Mitigation Monitoring and Reporting Program
MND ..... Mitigated Negative Declaration
NAAQS ..... National Ambient Air Quality Standards
NAHC ..... Native American Heritage Commission
ND ..... Negative Declaration
NMFS ..... National Marine Fisheries Services
NOx ..... Nitrogen oxides

NO_2 ..... Nitrogen Dioxide
NRCS ..... Natural Resources Conservation Service
NRHP ..... National Register of Historic Places
O_3 ..... Ozone
Pb ..... Lead
PFC ..... Perfluorocarbons
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
Project ..... Tract 92 Water System Upgrade and Consolidation Project
QSP ..... Qualified Sediment Developer
Reclamation ..... United States Bureau of Reclamation
ROG ..... Reactive Organic Gases
RWQCB ..... Regional Water Quality Control Board
SB ..... Senate Bill
SCE ..... Southern California Edison Company
SF_6 ..... Sulfur hexafluoride
SHPO ..... (CA) State Historic Preservation Officer
SIP ..... State Implementation Plan
SJKF ..... San Joaquin Kit Fox
SJVAB ..... San Joaquin Valley Air Basin
SJVAPCD ..... San Joaquin Valley Air Pollution Control District
SLIC ..... Spills-Leaks-Investigations-Cleanups
SO_2 ..... Sulfur Dioxide
SOx ..... sulfur oxide
SOWA ..... Safe Drinking Water Act
SR ..... State Route
SRA ..... State Responsibility Area
SSA ..... Sole Source Aquifer
SSJVIC ..... Southern San Joaquin Valley Information Center
SWPPP ..... Storm Water Pollution Prevention Plan
SWRCB ..... State Water Resources Control Board
TAC ..... Toxic Air Contaminants
TCFD ..... Tulare County Fire Department

TID ..... Tulare Irrigation District
Tons/Year..... Tons per Year
TPY ..... tons per year
USACE..... United States Army Corps of Engineers
USC ..... United States Code
USDA ..... United States Department of Agriculture
USEPA ..... United States Environmental Protection Agency
USFWS ..... United States Fish and Wildlife Service
UST ..... Underground Storage Tanks
µg/m3..... micrograms per cubic meter
WEAP..... Worker Environmental Awareness Program

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Chapter 1 Introduction

Provost & Pritchard Consulting Group (Provost & Pritchard) has prepared this Initial Study/Mitigated Negative Declaration (IS/MND) for use by Lead Agency Tract 92 Community Services District (District) to address the potential environmental effects of the District's proposed Tract 92 Water System Upgrade and Consolidation Project (Project). This document has been prepared in accordance with the California Environmental Quality Act (CEQA), Public Resources Code Section 21000 *et seq.*

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

1.1 Regulatory Information

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

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

b. The IS identified potentially significant effects, but:

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

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

1.2 Document Format

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

The CalEEMod Air Pollutant and Greenhouse Gas Modeling Output Files, Biological Evaluation, and Class III Inventory/Phase I Cultural Resources 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 and Objectives

2.1.1 Project Title

Tract 92 Community Services District Water System Upgrade and Consolidation Project

2.1.2 Lead Agency Name and Address

Tract 92 Community Services District
P.O. Box 276
Farmersville, CA 93223

2.1.3 Contact Person and Phone Number

Lead Agency Contact

Joleen Palmer and Monroe Self
Tract 92 Community Services District
(559) 799-1135

CEQA Consultant

Provost & Pritchard Consulting Group
Amy Wilson, Environmental Project Manager
(559) 636- 1166 x511

2.1.4 Project Location

The Project site consists principally of Tract 92, a rural residential subdivision consisting of 98 lots, within the northwestern portion unincorporated Tulare County, approximately 0.5 miles southeast of the City of Visalia and 200 miles south of Sacramento off State Route 99 (SR 99) (see **Figure 2-1** and **Figure 2-2**). The Project will involve Lot 25 (vacant), the southerly portion of Lot 38 (developed), existing rights-of-way within Tract 92 and roughly 5,300 linear feet (lf) of Road 148 right-of-way. The Project's proposed and existing well sites and associated pipeline alignments (constituting the Area of Potential Effect or APE) are shown in **Figure 2-3**.

2.1.5 Latitude and Longitude

The centroid of the Project area is 36° 17' 25.1916" N (36.290331), 119° 14' 26.6496" W (-119.240736).

2.1.6 General Plan and Zoning Designation

The Project is covered by the Tulare County General Plan and Tulare County Zoning Ordinance. **Table 2-1** provides a list of land use designations and **Figure 2-4** shows the locations of the General Plan designations for Project site. **Table 2-2** provides a list of the zone districts and **Figure 2-5** shows the locations of the zone districts for the Project site.

Table 2-1. General Plan Designation

Project Features	General Plan Designation
Water main, distribution pipeline, and lateral alignments, meters, and fire hydrants	None (located in right-of-way)
Existing and new well sites	RR, Rural Residential - Low Density

Table 2-2. County Zone District

Project Features	Zone District	Zone District Description
Water main, distribution pipeline, and lateral alignments, meters, and fire hydrants	-	None (located in right-of-way)
Existing and new well sites	A-1	Agriculture

2.1.7 Description of Project

2.1.7.1 Project Background and Purpose

Tract 92 Community Services District (District) owns and operates a community water system that serves a residential community between Visalia and Farmersville, along Road 148 south of Avenue 280/Caldwell Avenue.

There are 98 lots and 93 unmetered service connections serving a population of approximately 330 people in the District. The water system was installed in 1961, and consists of two wells, approximately 7,800 linear feet of 4 and 6-inch asbestos cement (AC transite) pipe, wharf hydrants, and shared house connections between adjacent lots.

The existing Tract 92 well site is located on APN 127-072-27, a 25-foot by 90-foot piece of property south of 14837 Oscar Avenue (Lot 38). There are two wells, a 5,000-gallon hydropneumatic tank, an emergency generator with diesel fuel tank, and a chlorination system. Well 1 is approximately 250 feet deep and is equipped with a 40-hp vertical turbine motor. Well 2 is approximately 180 feet deep and is equipped with a 15-hp submersible pump. As detailed below, the existing water system has had water quality and capacity violations and appears to have reached the end of its useful life.

The water system has a history of bacteriological pathogens (total coliform) detected in the system. Since 2007, the District has added a chlorination system, however Tulare County Health and Human Services Agency continued to issue Notices of Violation for total coliform despite the addition of the chlorination system. There were also issues regarding maintenance of the exiting chlorination system. Sodium-hypochlorite solution, stored in a 35-gallon plastic tank and dosage pump housed in a garden shed, is injected into the pipeline leaving the pressure tank and entering the distribution system. A California Water Service (CWS or Cal Water) evaluation noted that the existing facilities are questionably secure and improperly protected for the safety of operators and protection of public health.

The water system was also determined to be unable to provide adequate flow or pressure to meet Tulare County Fire Department (TCFD) requirements for fire flow. Because of the existing pipe material and lack of isolation valves, repairs would be costly and the entire system must be shut down to affect repairs, and then disinfected in its entirety following repairs. For these reasons, it was determined that replacement of the existing distribution system, including isolation valves, service meters, Tulare County standard fire hydrants, and sampling stations should be included with all alternatives.

A Well Remediation Feasibility Report prepared in 2012 analyzed five alternatives from which to define a preferred project to correct the water system's identified deficiencies. Alternative 3, described as a partial consolidation with the City of Visalia water system owned and operated by private water purveyor Cal Water, with a new District well and an emergency connection to a Cal Water pipeline in Road 148, was originally

selected as the preferred Alternative. After further analysis in subsequent years, the District Board determined that Alternative 4 from the original Feasibility Report, described as a full consolidation of the District water system with the nearby Cal Water system, was the preferred alternative. Alternative 4 is further described below and is the proposed Project evaluated by this IS/MND.

2.1.7.2 Project Description

The existing well site (Well 01-East & Well 02-West) will be abandoned per Tulare County well abandonment standards, and appurtenances unfit for reuse will be disposed of at an approved landfill, hazardous materials waste collection and/or materials recovery recycling facilities, where appropriate. The proposed new well site located on Lot 25 (APN: 127-073-12) will be acquired, and a new well drilled to an estimated depth of 550 below ground surface (bgs). Associated chlorination treatment and hydropneumatics pressure systems and other appurtenances necessary for the production and treatment of domestic water will be installed. A drainage basin, approximately 40' by 110' in area, will be designed and constructed to accommodate the increased stormwater run-off from the new impermeable surfaces at the new well site. Noise-generating equipment will be stored in a fully enclosed structure.

Approximately 5,300 linear feet of new 12-inch transmission main will be installed within Road 148 right of way, connecting the Tract 92 water system to the Cal Water system. The transmission main is sized to provide improved fire flow capacity, and acts as a backup for the new well in cases of emergency, and provide a small percentage increase in water quantities to better meet existing monthly domestic demand. The system is not designed to accommodate new connections or growth outside of Tract 92. This transmission main line within Road 148 will cross Extension Ditch, an agricultural irrigation water canal owned by Tulare Irrigation District (TID), as well as Avenue 280 (also known as Caldwell Avenue). Construction methods may consist of jack and bore and/or open trenching.

The looped distribution system consisting of approximately 7,800 linear feet of 4- to 6-inch diameter lines will be upgraded to 8-inch diameter water lines to serve the community of Tract 92. Water laterals will be replaced if existing services are found to be constructed with lead. New service connections and water meters will be installed within road rights-of-way at the front of each property. Water meters for vacant lots will be provided at a future date. Existing fire hydrants will be replaced pursuant to County of Tulare standards.

2.1.7.3 Construction

Excavation during construction would generate spoils that would be used as backfill or hauled off-site to approved locations. For all excavation in roadway areas, once filled and compacted, the roadways would be resurfaced to County standards. Excavations in bare ground areas would be resurfaced with hardscape (pavement or concrete) or revegetated with native grasses indigenous to the disturbed area or landscaped in accordance with County-approved building permit plans.

Construction of the Project would require equipment including, but not limited to: cranes, excavators, backhoes, front-end loaders, dump trucks, skid loader, compactors, double transfer trucks for soil hauling, concrete trucks, concrete/industrial saws, rollers, and paving equipment. Equipment and staging areas for the pipeline activities would be determined by the contractor, if needed, and on District-owned property. Construction activities would generally be limited to weekdays from 6 a.m. to 6 p.m. Nighttime construction is not expected to be necessary. Construction is expected to begin Summer 2023 and take approximately ten months including site preparation and restoration.

Project construction would involve the storage, use, and transport of small amounts of hazardous materials (e.g., asphalt, fuel, lubricants, and other substances) on roadways. Regulations governing hazardous materials transport are stated in Title 22 CCR and the California Vehicle Code (Title 13 CCR).

2.1.7.4 Operation and Maintenance

The new water system infrastructure would be maintained similar to how existing staff operate and maintain the existing water system and associated infrastructure. Operations of the water system would consist of

standard routine maintenance and inspections. Pipelines would only require routine inspections and maintenance activities on an as-needed basis.

2.1.8 Site and Surrounding Land Uses and Setting

The Project site is located in the Central Valley of California, in the unincorporated jurisdiction of Tulare County southeast of the City of Visalia and west of the City of Farmersville south of Avenue 280/Road 148. The Project site is surrounded by low density residential and agricultural land uses per the Tulare County General Plan. A major Southern California Edison (SCE) transmission system (lines and towers) bisects the Tract north to south on a slightly southeasterly skew. SCE has an easement for their equipment and the area under the SCE lines is considered uninhabitable land. Tulare Irrigation Canal, an irrigation canal owned and operated by TID lies southeast of the southerly boundary of Tract 92, and Extension Ditch, also owned and operate by TID crosses Road 148 between Oscar Avenue and Avenue 280. See **Figure 2-4** and **Figure 2-5** for the general plan designations and zoning, respectively.

2.1.9 Other Public Agencies Whose Approval May Be Required

The District, as the Lead Agency, has jurisdiction over the approval of this Project and would be requested to take action on the following:

- Adoption of the Mitigated Negative Declaration with appropriate findings; and
- Adoption of the Mitigation Monitoring and Reporting Program

Tulare County may issue the following ministerial permits for the Project if and once the above listed actions are taken:

- Building Permit and Grading Permit
- Road Encroachment Permit

Other agencies, including but not limited to the following, may have authority to issue approvals or permits prior to Project implementation, including but not limited to:

- SWRCB Notice of Intent for coverage under Statewide Construction Stormwater Permit
- San Joaquin Valley Air Pollution Control District, Indirect Source Review (Rule 9510)

2.1.10 "CEQA–Plus" Assessment

The District is applying to the California State Water Resources Control Board (SWRCB) for financial assistance to implement the Project through the Clean Water State Revolving Fund (CWSRF). The CWSRF Program is a low-interest financing program partially funded by the U.S. Environmental Protection Agency (USEPA) which delegates administration and oversight to the SWRCB, Division of Finance.

In addition to meeting the requirements of CEQA, and because the financial assistance originates from the Federal government (USEPA, in this case), the Project is also subject to "federal cross-cutting authority" requirements of other federal laws and Executive Orders that apply in federal financial assistance programs, such as, in this case, the CWSRF. (This process is frequently referred to as "CEQA-Plus".) Therefore, the District must also complete certain studies and analyses to satisfy various federal environmental requirements. These federal cross-cutting analyses must be documented in the SWRCB-required "Environmental Package"[1]. Once the CEQA document is approved by the District, it is attached to the completed Environmental Package and submitted to the SWRCB. As the USEPA-designated, "non-federal" State agency representative responsible for consultation with appropriate federal agencies, the SWRCB will review materials for compliance with relevant federal cross-cutting topics.

[1] Website: https://www.waterboards.ca.gov/drinking_water/services/funding/documents/srf/dwsrf_policy/h4_dwsrf_application_const_environmental.pdf. Accessed May 2021.

2.1.11 Consultation with California Native American Tribes

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

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

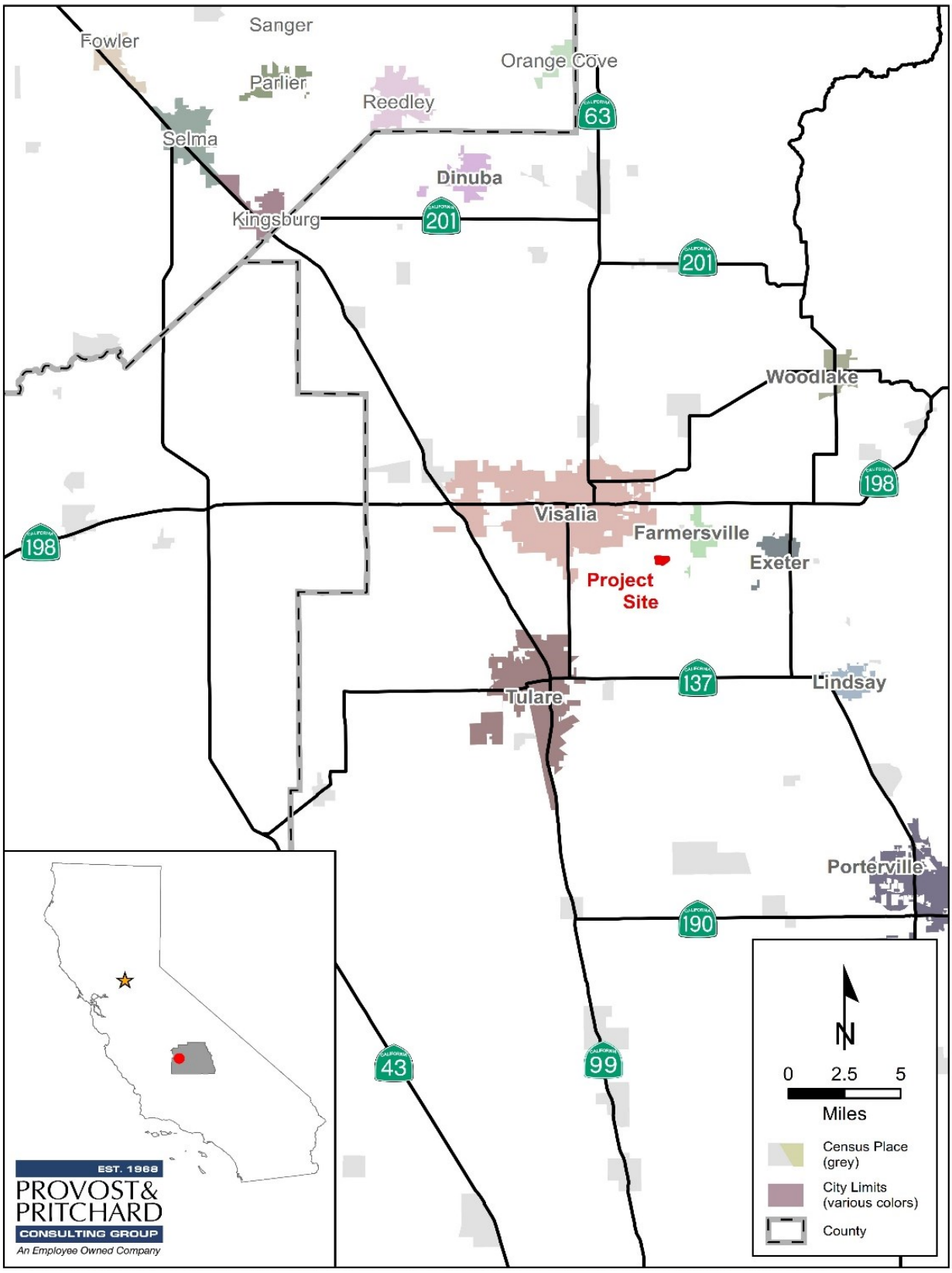

Figure 2-1. Regional Location Map

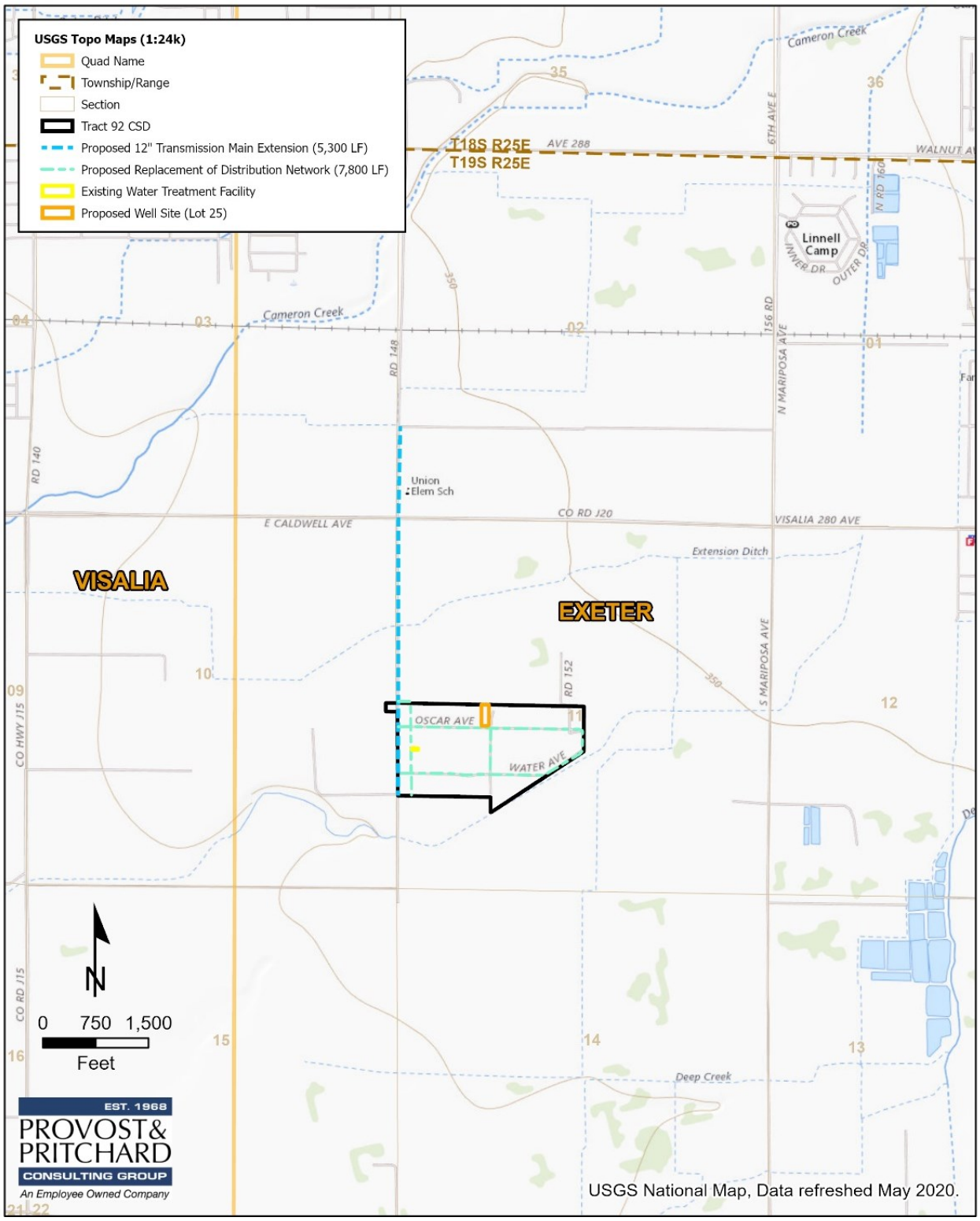

Figure 2-2. Topographic Quadrangle Map

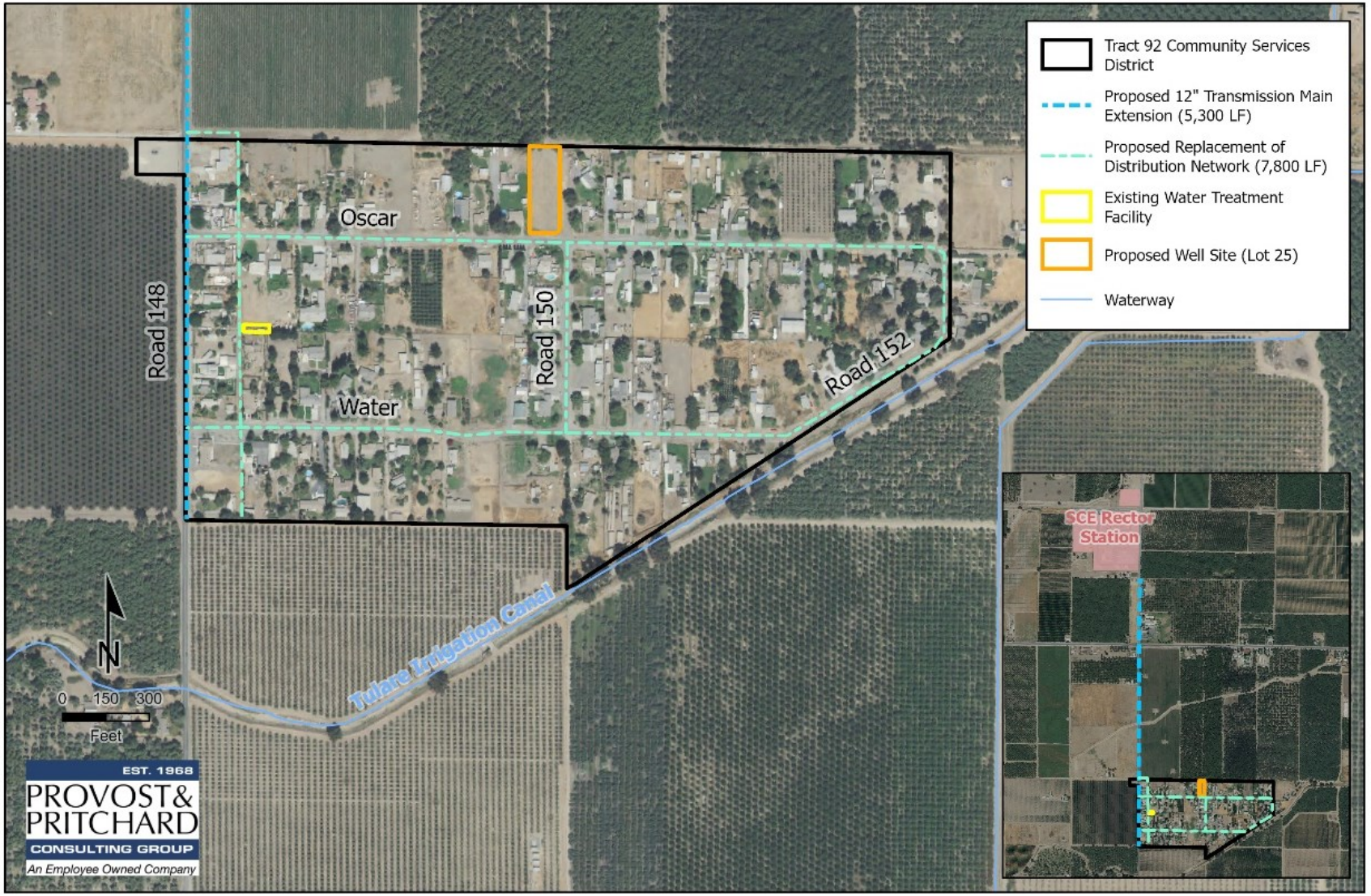

Figure 2-3. Area of Potential Effect

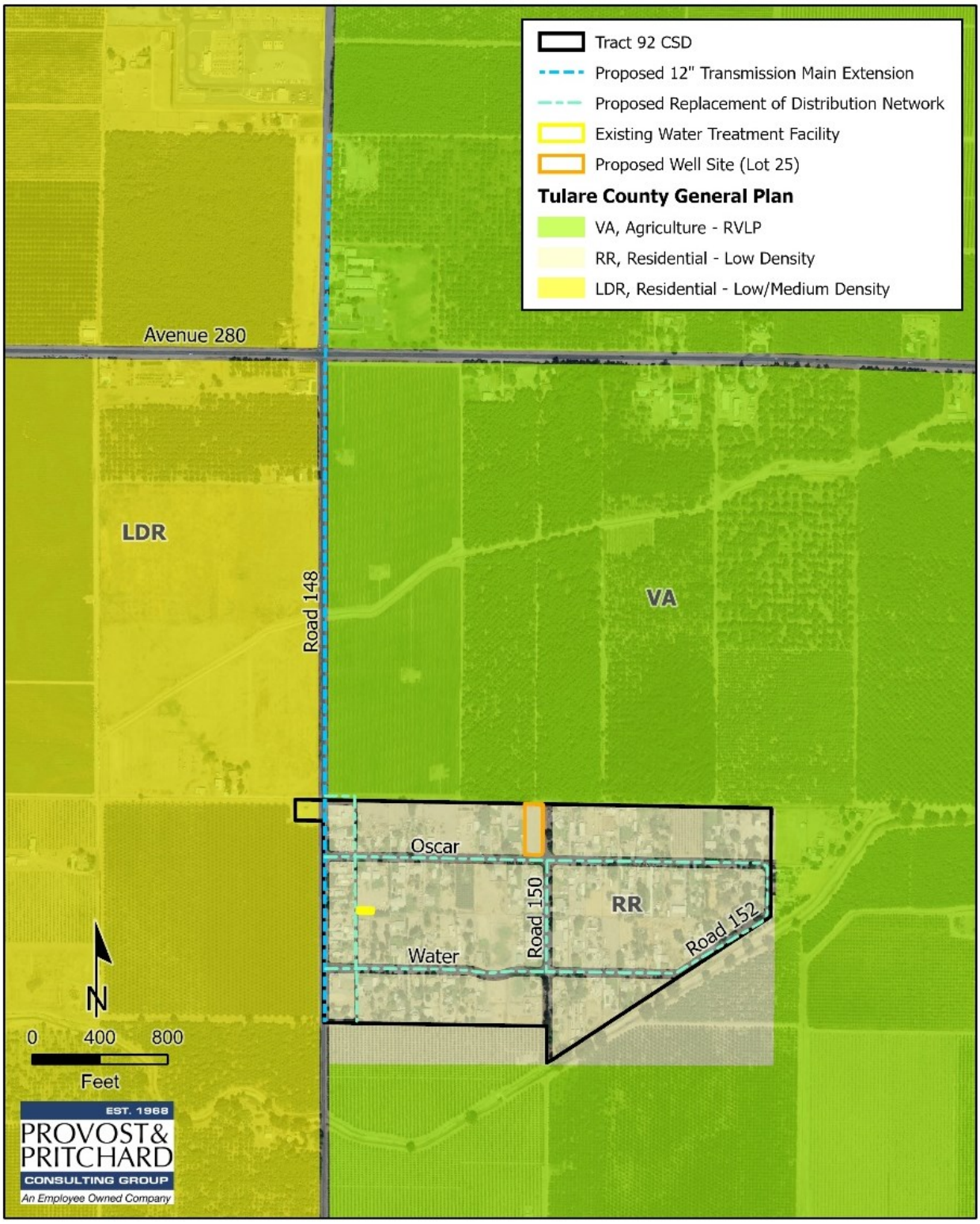

Figure 2-4. General Plan Land Use Designation Map

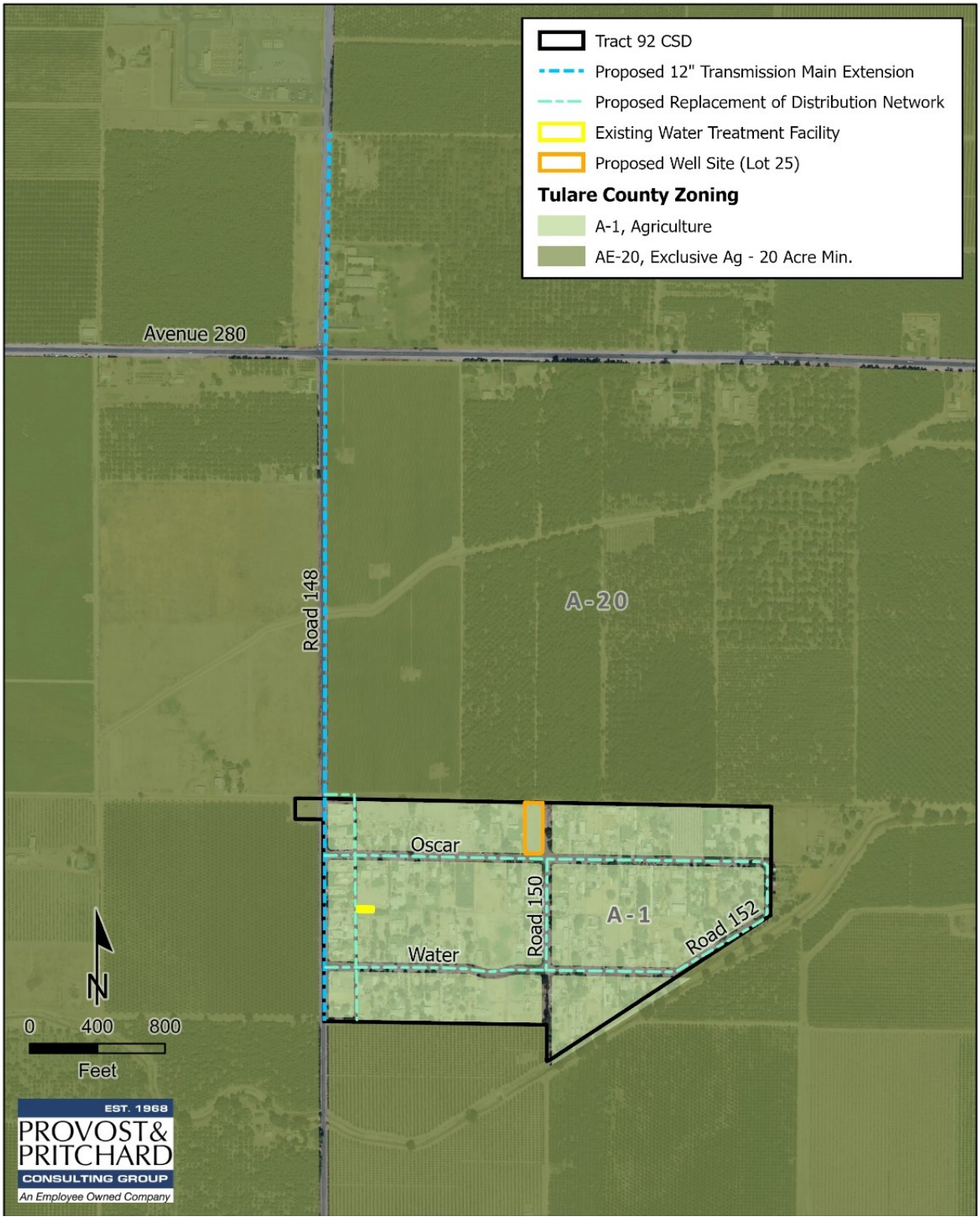

Figure 2-5. Tulare County Zone District Map

Chapter 3 Impact Analysis

3.1 Environmental Factors Potentially Affected

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

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

The analyses of environmental impacts here in **Chapter 3 Impact Analysis** are separated into the following categories:

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

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

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

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

3.2 Aesthetics

Table 3-1. Aesthetics Impacts

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

3.2.1 Environmental Setting and Baseline Conditions

The topography of the site is relatively flat, with the Sierra Nevada mountains to the east being the primary visible scenic feature. Intermittent glimpses of the mountains are possible from ground level between houses and along roadways within Tract 92. Two Tulare Irrigation District canals abut and/or intersect the Project site. The proposed well site is on Lot 25 at the intersection of Oscar Avenue and Road 150, is currently a vacant lot and bordered by residential homes to the east and west and a walnut orchard to the north. The existing water well and treatment facility site, located on the southerly portion of Lot 38, is accessed using a dirt alleyway off of Oscar Avenue, and is surrounded by residential homes to the north, south, and east. The property to the east of existing well site also has domestic farm animals such as pigs and chickens. The east and west sides of Road 148 from the northwest corner of Tract 92 north to the SCE Rector Station is surrounded by orchards, residential homes, vineyards, TID Extension Ditch and a school. The Blue Oak Academy Charter school is located on the northeast intersection of Avenue 280 and Road 148 and a vacant lot is located on the northwest corner.

3.2.2 Impact Assessment

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

Less than Significant Impact. Scenic vistas are generally considered as long-range views of a scenic feature (oceans, mountains, open spaces). The primary scenic vista from the site would be of the Sierra Nevada Mountains. The proposed well site would involve construction of low-profile (below 6-ft. fence height), above-ground appurtenances and would be located between two existing developed residential lots. Oscar Avenue, upon which the well site fronts, runs east-west and therefore development on the well site itself would not obstruct public views of the Sierra Nevada mountain range traveling this roadway. The remaining water main, distribution pipelines, laterals and meters would be installed underground and so would not be visible after construction and would not alter any views. Therefore, impacts would be less than significant.

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

No Impact. There are no scenic highways located within the immediate vicinity of the Project site.[2] In addition, the Project would therefore not impact any scenic resources including but not limited to trees, rock outcroppings, or historical buildings affiliated with a scenic highway. Therefore, there would be no impact.

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

Less than Significant Impact. The Project site is located within a non-urbanized, rural residential subdivision (Tract 92) within Tulare County. The majority of streets run in an east-west direction, and thus only a small portion of those houses which have a visual backdrop to the east of mountains in the area. Road 152 abuts a Tulare Irrigation District canal and provides some views of the mountains, however these views may be immediately obstructed by the adjacent farmland, when planted with orchards or other vertical-obstructing crops. The proposed buried pipelines and meters would not degrade the existing visual character of the Project site or surroundings and the new well and appurtenant facilities will be sufficiently low profile as to not result in any significant scenic vista obstructions; less so than if a residence were to be constructed. The Project would not conflict with applicable zoning and other regulations that govern scenic value or quality. Therefore, impacts would be less than significant.

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

Less than Significant Impact. This Project replaces an existing well and water treatment site, water transmission and lateral lines, and hydrants and constructs a new transmission main and service meters. Security lights installed at the new well site will be downward facing to prevent light spillage and only operated when motion is detected or maintenance crews are needed for evening repairs, which are expected to only occur during emergency situations. Therefore, impacts would be less than significant.

3.2.3 Federal Cross-Cutting Topic

Wild, Scenic, and Recreational Rivers Act

The National Wild and Scenic Rivers Act was established in 1968, to maintain the natural beauty, biology, and wildness of federally designated "wild," "scenic," or "recreational" rivers that may be threatened by construction of dams, diversions, and canals. The act seeks to preserve these designated rivers in their free-flowing condition, and to protect their immediate environments for the benefit and enjoyment of present and future generations. There are no "wild" or "scenic" rivers within or proximate to the proposed project site.

[2] California Department of Transportation. State Scenic Highways. https://dot.ca.gov/programs/design/lap-landscape-architecture-and-community-livability/lap-liv-i-scenic-highways Accessed January 2021.

3.3 Agriculture and Forestry Resources

Table 3-2. Agriculture and Forest Impacts

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

3.3.1 Environmental Setting and Baseline Conditions

The Project site lies within the urbanized unincorporated community of Tract 92, in a relatively flat area and within existing rights-of-way. The surrounding area consists of rural residential and irrigated farmland.

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

The California DOC's 2016 FMMP is a non-regulatory program that produces "Important Farmland" maps and statistical data used for analyzing impacts on California's agricultural resources. The Important Farmland maps identify eight land use categories, five of which are agriculture related: prime farmland, farmland of statewide importance, unique farmland, farmland of local importance, and grazing land – rated according to soil quality and irrigation status. Each is summarized below:

• PRIME FARMLAND (P): Farmland with the best combination of physical and chemical features able to sustain long term agricultural production. This land has the soil quality, growing season, and moisture supply

needed to produce sustained high yields. Land must have been used for irrigated agricultural production at some time during the four years prior to the mapping date.

• FARMLAND OF STATEWIDE IMPORTANCE (S): Farmland similar to Prime Farmland but with minor shortcomings, such as greater slopes or less ability to store soil moisture. Land must have been used for irrigated agricultural production at some time during the four years prior to the mapping date.

• UNIQUE FARMLAND (U): Farmland of lesser quality soils used for the production of the state's leading agricultural crops. This land is usually irrigated but may include non- irrigated orchards or vineyards as found in some climatic zones in California. Land must have been cropped at some time during the four years prior to the mapping date.

• FARMLAND OF LOCAL IMPORTANCE (L): Land of importance to the local agricultural economy as determined by each county's board of supervisors and a local advisory committee.

• GRAZING LAND (G): Land on which the existing vegetation is suited to the grazing of livestock. The minimum mapping unit for Grazing Land is 40 acres.

• URBAN AND BUILT-UP LAND (D): Land occupied by structures with a building density of at least 1 unit to 1.5 acres, or approximately 6 structures to a 10-acre parcel. This land is used for residential, industrial, commercial, institutional, public administrative purposes, railroad and other transportation yards, cemeteries, airports, golf courses, sanitary landfills, sewage treatment, water control structures, and other developed purposes.

• OTHER LAND (X): Land not included in any other mapping category. Common examples include low density rural developments; brush, timber, wetland, and riparian areas not suitable for livestock grazing; confined livestock, poultry or aquaculture facilities; strip mines, borrow pits; and water bodies smaller than 40 acres. Vacant and nonagricultural land surrounded on all sides by urban development and greater than 40 acres is mapped as Other Land.

•WATER (W): Perennial water bodies with an extent of at least 40 acres.

As demonstrated in **Figure 3-1**, the FMMP for Tulare County designates the well site as Urban and Built-Up Land. The transmission main alignment runs through existing developed road right-of-way and is designated Urban and Built-Up Land, Prime Farmland, and Farmland of Local Importance.

3.3.2 Impact Assessment

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

No Impact. Construction of the Project will occur in the road right-of-way and on land designated as Urban and Built-Up Land, thus no Important Farmland will be converted. There will be no impact.

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

No Impact. The road right-of-way and project well site are not subject to a Williamson Act contract. The project well site is zoned A-1 (Agriculture), however the site area is approximately 0.73 acres in size. The minimum site area for a lot in the A-1 zone district is 5 acres.[3] Furthermore, Government Code Section 53091(e) states,

[3] Tulare County Resource Management Agency. SECTION 10: "A-1" AGRICULTURAL ZONE. Website: https://tularecounty.ca.gov/rma/index.cfm/rma-documents/planning-documents/tulare-county-zoning-ordinance/chapter-3-section-10-a1/. Accessed January 2021.

"[z]oning ordinances of a county or city shall not apply to the location or construction of facilities for the production, generation, storage, treatment, or transmission of water"[4] and therefore cannot conflict with zoning for agricultural uses. Therefore, there will be no impact.

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

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

No Impact. The well site is vacant, devoid of vegetation, and zoned A-1 (Agriculture). The A-1 zone district does not allow for forest or timberland uses. The remaining portions of the Project site are located within the public right-of-way. Therefore, there will be no impact.

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

No Impact. The project consists of constructing a well on a 0.73-acre lot surrounded by rural residential uses and water pipelines in existing right-of-way. The water system will not be designed for future growth. There will be no impact.

3.3.3 Federal Cross-Cutting Topic

Farmland Protection Act

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

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

As previously concluded, the proposed project is not located on land classified by the DOC as Prime Farmland, Farmland of Statewide Importance, Unique Farmland, and Farmland of Local Importance. These classifications recognize a land' s suitability for agricultural production by considering the physical and chemical characteristics of the soil, such as soil temperature range, depth of the groundwater table, flooding potential, rock fragment content, and rooting depth. The classifications also consider location, growing season, and moisture available to sustain high-yield crops. Together, Important Farmland and Grazing Land are defined by the DOC as "Agricultural Land."

The proposed project would be on land that is classified as "Other Lands," which consists of lands supporting miscellaneous uses, such as low-density rural developments; brush, timber, wetland, and riparian areas not suitable for livestock grazing; confined livestock, poultry or aquaculture facilities; and water bodies smaller than forty acres. The pipeline alignment is located within the existing right-of-way, and therefore no farmland would be converted as a result of the pipeline installation. Therefore, the proposed project would not conflict with the Farmland Protection and Policy Act or adversely affect prime or unique farmland.

[4] California Government Code. Section 53091. Website: https://leginfo.legislature.ca.gov/faces/codes_displaySection.xhtml?lawCode=GOV&sectionNum=53091. Accessed 5 February 2021.

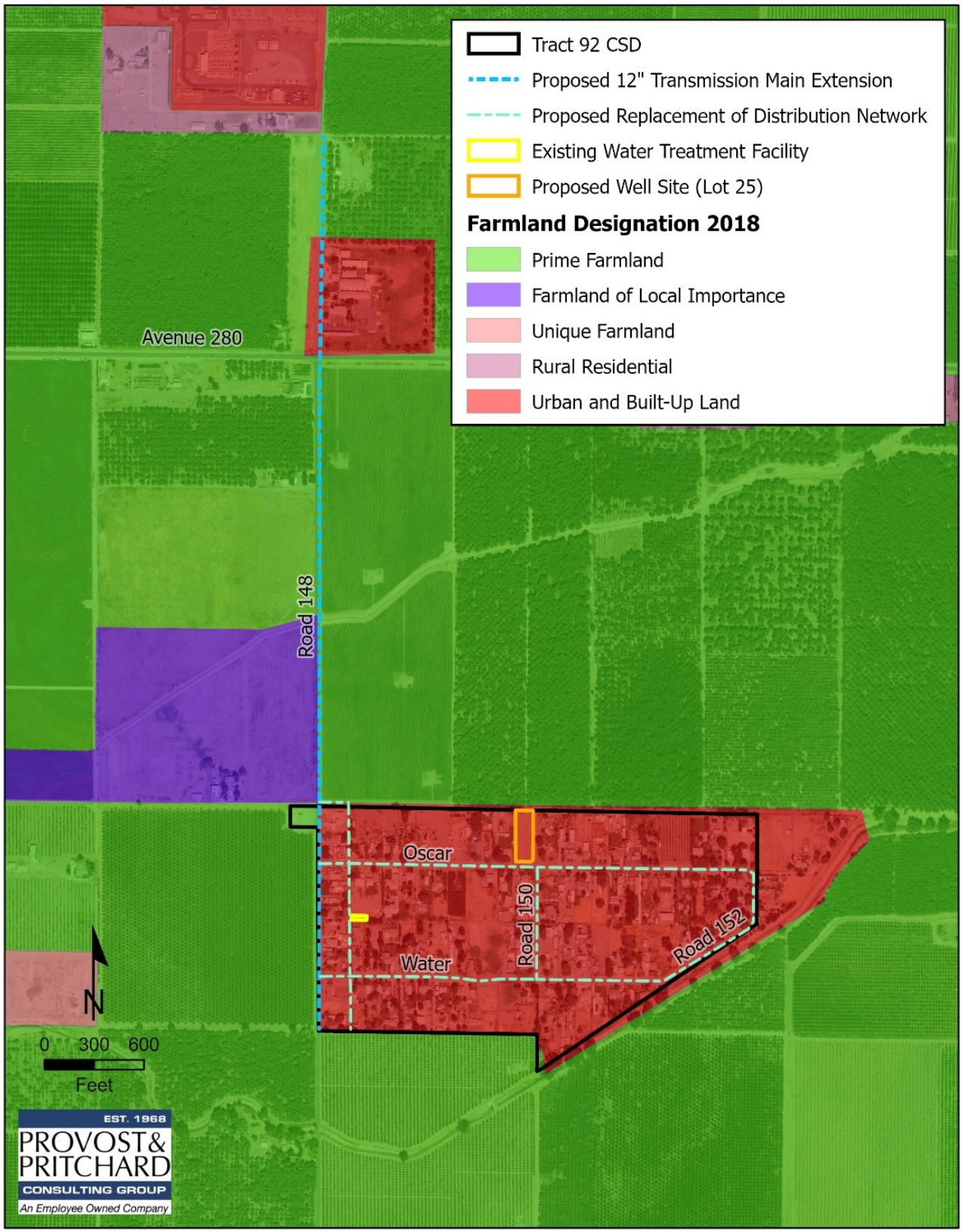

Figure 3-1. Farmland Designation Map

3.4 Air Quality

Table 3-3. Air Quality Impacts

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

3.4.1 Environmental Setting and Baseline Conditions

3.4.1.1 Regulatory Attainment Designations

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

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

The State and national attainment status designations pertaining to the SJVAB are summarized in **Table 3-5**. The SJVAB is currently designated as a nonattainment area with respect to the State PM_{10} standard, ozone, and $PM_{2.5}$ standards. The SJVAB is designated nonattainment for the NAAQS 8-hour ozone and $PM_{2.5}$ standards. On September 25, 2008, the EPA re-designated the San Joaquin Valley to attainment status for the PM_{10} NAAQS and approved the PM_{10} Maintenance Plan. California's ambient air monitoring network is one of the

most extensive in the world, with more than 250 sites and 700 individual monitors measuring air pollutant levels across a diverse range of topography, meteorology, emissions, and air quality. Existing levels of ambient air quality and historical trends and projections in the Project are best documented by measurements made by these monitoring sites. The nearest monitoring site to the Project is approximately 4 miles southeast of the Project in the City of Visalia at 310 North Church Street. The site measures O_3, PM_{10}, and $PM_{2.5}$. Data presented in **Table 3-4** summarize monitoring data from the CARB's Aerometric Data Analysis and Management System for the Visalia-N Church Street location, published from 2017 to 2019.

Table 3-4. Ambient Air Quality Monitoring Summary

Air Pollutant	Averaging Time	Item	2017	2018	2019
Ozone	1-hour	Max 1 Hour (ppm)	.109	.112	.093
		Days > State Standard (0.09 ppm)	9	8	0
	8-hour	Max 8 Hour (ppm)	.091	.094	.082
		Days > State Standard (0.070 ppm)	65	58	26
		Days > National Standard (0.070 ppm)	61	53	22
		Days > National Standard (0.075 ppm)	32	27	5
Inhalable coarse particles (PM10)	Annual	National Annual Average (µg/m3)	47.4	52.5	45.7
	24-hour	National 24 Hour (µg/m3)	144.8	153.4	411.1
		Days > State Standard (50 µg/m3)	0	0	5
		Days > National Standard (150 µg/m3)	135.9	164.4	115.8
Fine particulate matter (PM2.5)	Annual	National Annual Average (µg/m3)	16.3	17.3	12.9
	24-hour	24 Hour (µg/m3)	86.1	86.8	47.2
		Days > National Standard (35 µg/m3)	26.7	42.3	19.9

Table 3-5. 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_2S)	1-hour	0.03 ppm (42 µg/m^3)	Unclassified		
Vinyl Chloride (C_2H_3Cl)	24-hour	0.01 ppm (26 µg/m^3)	Attainment		
Visibility-Reducing Particle Matter	8-hour	Extinction coefficient: 0.23/km-visibility of 10 miles or more due to particles when the relative humidity is less than 70%.	Unclassified		

** For more information on standards visit: 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: CARB 2015; SJVAPCD 2015

3.4.2 Impact Assessment

3.4.2.1 Short-Term Construction-Generated Emissions

Short-term construction emissions associated with the Project were calculated CalEEmod, Version 2016.3.2 and the Sacramento Metropolitan Air Quality Management District Road Construction Emissions Model, Version 9.0.0 for the proposed Project in March 2021. These output files can be found in **Appendix A,** The sections below detail the methodology of the air quality and greenhouse gas emissions analysis and its conclusions.

The emissions modeling includes emissions generated by off-road equipment, haul trucks, and worker commute trips. Emissions were quantified based on anticipated construction schedules and construction equipment requirements provided by the Project applicant. All remaining assumptions were based on the default parameters contained in the model. Localized air quality impacts associated with the Project would be minor and were qualitatively assessed.

3.4.2.2 Long-Term Operational Emissions

Long-term operational emissions associated with the Project are estimated to be minimal in nature, and similar to existing conditions. Therefore, operational emissions were not analyzed.

3.4.2.3 Thresholds of Significance

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

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

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

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

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

Conflict with or Obstruct Implementation of Applicable Air Quality Plan: Due to the region's nonattainment status for ozone, $PM_{2.5}$, and PM_{10}, if the project-generated emissions of either of the ozone precursor pollutants (i.e., ROG and NO_x) or PM_{10} would exceed the SJVAPCD's significance thresholds, then the project would be considered to conflict with the attainment plans. In addition, if the project would result in a change in land use and corresponding increases in vehicle miles traveled, the project may result in an increase in vehicle miles traveled that is unaccounted for in regional emissions inventories contained in regional air quality control plans.

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

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

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

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

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. Estimated construction-generated emissions are summarized in **Table 3-6** below and will be less than the SJVAPCD established thresholds of significance. Construction-related air quality emissions are below the SJVAPCD Rule 9510 threshold to reduce construction emissions. Impacts will be less than significant.

Table 3-6. Unmitigated Short-Term Construction-Generated Emissions of Criteria Air Pollutants

	Annual Emissions (Tons/Year) (1)					
Source	ROG	NO_X	CO	PM_{10}	$PM_{2.5}$	SO_x
Pipeline Construction	0.02	0.21	0.19	0.02	0.01	<0.01
Well Site	0.0481	0.4871	0.4344	0.0375	0.0261	.0009
Total	*0.0681*	*0.6971*	*0.6244*	*0.0575*	*0.0361*	*0.0109*
SJVAPCD Significance Thresholds:	*10*	*10*	*100*	*15*	*15*	*27*
Exceed SJVAPCD Thresholds?	*No*	*No*	*No*	*No*	*No*	*No*

1. *Refer to **Appendix A** for modeling results and assumptions. Totals may not sum due to rounding.*

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

Less than Significant Impact. Implementation of the Project would not result in the long-term operation of any major onsite stationary sources of TACs. However, construction of the Project may result in temporary increases in emissions of diesel particulate matter (DPM) associated with the use of off-road diesel equipment. Health-related risks associated with diesel-exhaust emissions are primarily associated with long-term exposure and associated risk of contracting cancer. As such, cancer risks associated with exposure of to TACs are typically calculated based on a long-term (e.g., 70-year) period of exposure. However, the use of diesel-powered construction equipment would be temporary and episodic.

Construction activities would occur over approximately 2 months, which would constitute approximately 0.2 percent of the typical 70-year exposure period. The Project's pipeline trenching phase is estimated to be approximately 25 days and has the longest duration of any phase. Construction activity areas during this phase would be constantly changing as progress is made on pipeline installation; thus, sensitive receptors would not be exposed to TACs for an extended amount of time. For these reasons and given the relatively high dispersive properties of DPM, exposure to construction-generated DPM would not be anticipated to exceed applicable thresholds (i.e., incremental increase in cancer risk of 10 in one million).

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. Land uses that commonly emit odorous compounds include dairies, agricultural uses, wastewater treatment plants, chemical plants, food processing facilities, composting, refineries, and

fiberglass molding facilities. The Project includes the construction of a well site and installation of pipelines to deliver clean drinking water to residences, which would not result in the emission of odorous compounds. The operational phase of the Project would not emit any odorous compounds. Impacts would be less than significant.

3.4.3 Federal Cross-Cutting Topic

Clean Air Act (CAA)

Under the federal CAA, federal actions conducted in air basins that are not in attainment with the federal ozone standard (such as the SJVAB) must demonstrate conformity with the SIP. Conformity to a SIP is defined in the federal CAA as meaning conformity to a SIP's purpose of eliminating or reducing the severity and number of violations of the national standards and achieving an expeditious attainment of such standards. The SJVAPCD has published Regulation IX, Rule 9110 (referred as the General Conformity Rule) that indicates how most federal agencies can make such a determination.[5]

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

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

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

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

3.5 Biological Resources

Table 3-7. Biological Resources Impacts

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

3.5.1 Environmental Setting and Baseline Conditions

A reconnaissance-level field survey of the APE (See **Figure 2-3)** and surrounding areas was conducted on January 15, 2021. The full written report of biological findings is contained in **Appendix B**. The Project's Area of Potential Effect (APE) for biological purposes is 82.8 acres and is illustrated in **Figure 2-3**. The field survey consisted of walking and driving the APE while identifying and noting land uses, biological habitats and communities, and plant and animal species encountered. Furthermore, the APE was assessed for suitable habitats of various wildlife species.

The Project site is located in the northwestern portion of Tulare County within the lower San Joaquin Valley, part of the Great Valley of California. The Valley is bordered by the Sierra Nevada Mountain Ranges to the

east, the Coast Ranges to the west, the Klamath Mountains and Cascade Range to the north, and the Transverse Ranges and Mojave Desert to the south.

According to the California Natural Diversity Database (CNDDB), there are no recorded observations of natural communities of special concern with potential to occur within the Project area or vicinity. Furthermore, biological communities observed onsite during the field survey were significantly disturbed, degraded by the presence of invasive species, and therefore provide relatively low-quality habitat for most native wildlife species. Photographs of the Project areas and vicinity are available in **Appendix B** at the end of this document.

Special Status Plants and Animals

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

A thorough search of the CNDDB and IPaC for published accounts of special status plant and animal species was conducted for *Exeter* 7.5-minute quadrangle that contains the APE in its entirety, and for the eight surrounding quadrangles: *Visalia, Woodlake, Rocky Hill, Lindsay, Cairns Corner, Ivanhoe, Tulare, and Monson*. These species, and their potential to occur within the Project area are listed in **Table 3-8** and **Table 3-9** on the following pages. Raw data obtained from CNDDB and IPaC are available in **Appendix B** at the end of this document. All relevant sources of information, as discussed in the Study Methodology section of this report (above), were used to determine if any special status species are known to be within the Project APE. **Figure 2-2** shows the Project's 7.5-minute quadrangle, according to USGS Topographic Maps.

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

Species	Status	Habitat	Occurrence on Project Site
American badger *(Taxidea taxus)*	CSC	Grasslands, savannas, and mountain meadows near timberline are preferred. Most abundant in drier open spaces of shrub and grassland. Burrows in soil.	**Unlikely:** The APE is surrounded by existing roadways and residential homes and frequently disturbed agricultural land. The area is lacking in undisturbed unopen spaces. Habitats of the Project area are considered marginal, at best, for this species. The closest observation was in 1994 approximately 6.4 miles northwest of the APE.
blunt-nosed leopard lizard *(Gambelia sila)*	FE, CE, CFP	Inhabits semi-arid grasslands, alkali flats, low foothills, canyon floors, large washes, and arroyos, usually on sandy, gravelly, or loamy substrate, sometimes on hardpan. Often found where there are abundant rodent burrows in dense vegetation or tall grass. Cannot survive on lands under cultivation. Known to bask on kangaroo rat mounds and often seeks shelter at the base of shrubs, in small mammal burrows, or in rock piles. Adults may excavate shallow burrows but rely on deeper pre-existing rodent burrows for hibernation and reproduction.	**Unlikely:** The APE is surrounded by existing roadways and disturbed habitat. Foraging habitat is limited for this species.
burrowing owl *(Athene cunicularia)*	CSC	Resides in open, dry annual or perennial grasslands, deserts, and scrublands with	**Possible:** The APE contains suitable habitat as the species is known to use banks in

Species	Status	Habitat	Occurrence on Project Site
		low growing vegetation. Nests underground in existing burrows created by mammals, most often ground squirrels.	canals and man-made structures as burrows. Foraging in the habitat would support the species.
California red-legged frog *(Rana draytonii)*	FT, CSC	Inhabits perennial rivers, creeks, and stock ponds with vegetative cover within the Coast Range and northern Sierra foothills.	**Absent:** The species requires a constant water supply. Although the Tulare Irrigation Canal is near the APE it remains dry most of the year and is not suitable habitat for this species.
California tiger salamander *(Ambystoma californiense)*	FT, CT, CWL	Requires vernal pools or seasonal ponds for breeding and small mammal burrows for aestivation. Generally found in grassland and oak savannah plant communities in central California from sea level to 1500 feet in elevation.	**Absent:** The Tulare Irrigation Canal and the Extension Ditch could provide breeding areas; however, suitable vernal pool habitat and lack of pooling water in the canal makes the site unsuitable for this species.
Crotch bumble bee (*Bombus crotchii*)	CCE	Occurs throughout coastal California, as well as east to the Sierra-Cascade crest, and south into Mexico. Food plant genera include *Antirrhinum, Phacelia, Clarkia, Dendromecon, Eschscholzia*, and *Eriogonum*.	**Unlikely:** Although the Project is located within the historical range of this species, vegetative cover is dominated by weedy, non-native plants. Furthermore, the ongoing use of commercial honeybees, herbicides, and pesticides in adjacent agricultural lands makes the Project area unsuitable for native pollinators. The last observation of the species around the APE was made in 1961 and presumed to be extant.
Delta smelt *(Hypomesus transpacificus)*	FT, CE	This pelagic and euryhaline species is Endemic to the Sacramento-San Joaquin River Delta, upstream through Contra Costa, Sacramento, San Joaquin, and Solano Counties.	**Absent:** The species requires a constant water supply. Although the Tulare Irrigation Canal in near the APE it remains dry most of the year and does not contain suitable water habitat for this species.
foothill yellow-legged frog *(Rana boylii)*	CCT, CSC	Frequents rocky streams and rivers with rocky substrate and open, sunny banks in forests, chaparral, and woodlands. Occasionally found in isolated pools, vegetated backwaters, and deep, shaded, spring-fed pools.	**Unlikely:** The species requires a constant water supply and riparian habitat. Although the Tulare Irrigation Canal is near the APE it remains dry most of the year and is not suitable habitat for this species. The last observation made of the species around the APE was in 1941. Presumed extant.
giant gartersnake *(Thamnophis gigas)*	FT, CT	Occurs in marshes, sloughs, drainage canals, irrigation ditches, rice fields, and adjacent uplands. Prefers locations with emergent vegetation for cover and open areas for basking. This species uses small mammal burrows adjacent to aquatic habitats for hibernation in the winter and to escape from excessive heat in the summer.	**Unlikely:** The Tulare Irrigation Canal in the APE does not have a constant water supply and lacks emergent vegetative cover and therefore, would not support the habitat this species requires.
northern California legless lizard *(Anniella pulchra)*	CSC	Found primarily underground, burrowing in loose, sandy soil. Forages in loose soil and leaf litter during the day. Occasionally observed on the surface at dusk and night.	**Possible**: The APE has habitat that could support the species; however, the last observation was made in 2015 in the Kaweah reserve approximately 19 miles north-west of the APE.
northern leopard frog (Lithobates pipiens)	CSC	Inhabits grassland, wet meadows, potholes, forests, woodland, brushlands, springs, canals, bogs, marshes, and reservoirs. Generally, prefers permanent water with abundant riparian vegetation.	**Unlikely:** The Tulare Irrigation Canal does not have a constant water supply to support wet vegetative habitat this species requires. The last observation was in 1961 15 miles north of the APE. This species is presumed extant.
pallid bat *(Antrozous pallidus)*	CSC	Found in grasslands, chaparral, and woodlands, where it feeds on ground- and vegetation-dwelling arthropods, and occasionally takes insects in flight. Prefers to roost in rock crevices, but may also use	**Possible:** The APE contains trees and man-made structures that could provide roosting prospects. The agricultural lands could provide ideal foraging for the species.

Species	Status	Habitat	Occurrence on Project Site
		tree cavities, caves, bridges, and other man-made structures.	
San Joaquin kit fox *(Vulpes macrotis mutica)*	FE, CT	Underground dens with multiple entrances in alkali sink, valley grassland, and woodland in valleys and adjacent foothills.	**Possible:** The species has been known to den in agricultural lands and man-made structures such as the canal banks. Although adjacent to a residential neighborhood, there are agricultural lands around the APE for foraging and the canal bank could be used as a migration corridor to other more suitable foraging areas.
Swainson's hawk *(Buteo swainsoni)*	CT	Nests in large trees in open areas adjacent to grasslands, grain or alfalfa fields, or livestock pastures suitable for supporting rodent populations.	**Possible:** The APE contains trees large enough to support nesting for the species. Small mammal burrows were observed in the area and could be a food source for this species.
Tipton kangaroo rat *(Dipodomys nitratoides nitratoides)*	FE, CE	Burrows in soil. Often found in grassland and shrubland.	**Unlikely:** Although this species could be found near the canal and agricultural lands, the last observation was made in 1943 and the species is presumed extant around the APE.
tricolored blackbird *(Agelaius tricolor)*	CT, CSC	Nests colonially near fresh water in dense cattails or tules, or in thickets of riparian shrubs. Forages in grassland and cropland. Large colonies are often found on dairy farm forage fields.	**Absent:** Suitable nesting habitat was not observed on-site or within the adjacent lands. At most, this species could potentially forage over grasslands; however, there is a lack of riparian cover to house a colony. The last observation was made in 2000 and presumed extant.
valley elderberry longhorn beetle *(Desmocerus californicus dimorphus)*	FT	Lives in mature elderberry shrubs of the Central Valley and foothills. Adults are active March to June.	**Absent:** Suitable elderberry habitat is absent from the APE and is necessary for the species survival.
vernal pool fairy shrimp *(Branchinecta lynchi)*	FT	Occupies vernal pools, clear to tea-colored water, in grass or mud-bottomed swales, and basalt depression pools.	**Absent:** Soils in this area are made up of a fine sandy loam which would not allow pooling water which is necessary for this species.
vernal pool tadpole shrimp *(Lepidurus packardi)*	FE	Occurs in vernal pools, clear to tea-colored water, in grass or mud-bottomed swales, and basalt depression pools.	**Absent:** Soils in this area are made up of a fine sandy loam which would not allow pooling water which is necessary for this species. .
western mastiff bat *(Eumops perotis californicus)*	CSC	Found in open, arid to semi-arid habitats, including dry desert washes, flood plains, chaparral, oak woodland, open ponderosa pine forest, grassland, and agricultural areas, where it feeds on insects in flight. Roosts most commonly in crevices in cliff faces but may also use high buildings and tunnels.	**Possible**: The APE contains suitable roosting habitat and foraging habitat in the nearby agricultural land around the APE.
western pond turtle *(Emys marmorata)*	CSC	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:** The species requires a constant water supply. Although the Tulare Irrigation Canal in near the APE it remains dry and not suitable habitat for this species.
western spadefoot *(Spea hammondii)*	CSC	Prefers open areas with sandy or gravelly soils, in a variety of habitats including mixed woodlands, grasslands, coastal sage scrub, chaparral, sandy washes, lowlands, river floodplains, alluvial fans, playas, alkali flats, foothills, and mountains. Vernal pools or temporary wetlands, lasting a minimum of three weeks, which do not contain bullfrogs, fish, or crayfish are necessary for breeding.	**Unlikely:** The APE is surrounded by existing roads, residential homes and agricultural lands and does not provide wetlands or vernal pools that the species requires.

Species	Status	Habitat	Occurrence on Project Site
western, yellow-billed cuckoo *(Coccyzus americanus occidentalis)*	FT, CE	Suitable nesting habitat in California includes dense riparian willow-cottonwood and mesquite habitats along a perennial river. Once a common breeding species in riparian habitats of lowland California, this species currently breeds consistently in only two locations in the State: along the Sacramento and South Fork Kern Rivers.	**Absent:** The Tulare Irrigation Canal near the APE does not have a constant water supply needed for the riparian habitat that the species requires.

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

Species	Status	Habitat	Occurrence on Project Site
alkali-sink goldfields (*Lasthenia chrysantha*)	CNPS 1B	Found in vernal pool and wet saline flat habitats. Occurrences documented in the San Joaquin and Sacramento Valleys at elevations below 656 feet. Blooms February - April.	**Absent:** The habitat and soil in the APE are dry and sandy and would not support this species.
brittlescale *(Atriplex depressa)*	CNPS 1B	Found in the San Joaquin Valley and Sacramento Valley in alkaline or clay soils, typically in meadows or annual grassland in at elevations below 1050 feet. Sometimes associated with vernal pools. Blooms June–October.	**Absent:** The habitat and soil in the APE are dry and sandy and would not support this species. The last observation of this species was in 1968 and it is presumed to be extant around the APE.
calico monkeyflower *(Diplacus pictus / Mimulus pictus / Eunanus pictus)*	CNPS 1B	Found in the Sierra Nevada foothills and the Tehachapi mountains in bare, sunny, shrubby areas, and around granite outcrops within foothill woodland communities at elevations between 450 feet and 4100 feet. Blooms March – May.	**Absent:** The elevation is too low, and the appropriate shrub covered mountains do not exist in the APE for this species. The last observation is historical from 1935. Species presumed extant in the area.
California alkali grass *(Puccinellia simplex)*	CNPS 1B	Found in the San Joaquin Valley and other parts of California in saline flats and mineral springs within valley grassland and wetland-riparian communities at elevations below 3000 feet. Blooms March–May.	**Absent:** The APE lacks saline flats, mineral springs, and wetland vegetation. The last observation was in 1998 approximately 20 miles south of APE. Presumed extant.
California jewelflower *(Caulanthus californicus)*	FE, CE, CNPS 1B	Found in the San Joaquin Valley and Western Transverse Ranges in sandy soils. Occurs on flats and slopes, generally in non-alkaline grassland at elevations between 230 feet and 6100 feet. Blooms February–April.	**Unlikely:** The species was last observed around the APE in 1986 and is presumed extirpated due to heavy agricultural activity.
California satintail *(Imperata brevifolia)*	CNPS 2B	Although this facultative species is equally likely to occur in wetlands and non-wetlands, it is often found in wet springs, meadows, streambanks, and floodplains at elevations below 1600 feet. Blooms September – May.	**Unlikely:** The habitat and soil in the APE are dry and sandy and would not support this species. The last observation of this species was in 1895 and is presumed extant around the APE.
Coulter's goldfields *(Lasthenia glabrata ssp. coulteri)*	CNPS 1B	Found on alkaline or saline soils in vernal pools and playas in grassland at elevations below 4500 feet. Blooms April–May.	**Absent:** The lack of alkaline or saline soil and vernal pools within the APE does not provide the necessary habitat for this species. The last observation was in 2015 approximately 18 miles north of the APE. Species is presumed extant.
Earlimart orache *(Atriplex cordulata var. erecticaulis)*	CNPS 1B	Found in the San Joaquin Valley in saline or alkaline soils, typically within valley and foothill grassland at elevations below 375 feet. Blooms August–September.	**Absent:** The lack of alkaline or saline soil and vernal pools within the APE does not provide the necessary habitat for this species. The last observation was in 2015 approximately 18 miles north of the APE. Species is presumed extant.

Species	Status	Habitat	Occurrence on Project Site
Greene's tuctoria *(Tuctoria greenei)*	FE, CR, CNPS 1B	Found in the San Joaquin Valley and other parts of California in vernal pools within valley grassland, wetland, and riparian communities at elevations below 3500 feet. Blooms May – September.	**Absent:** Suitable vernal pool habitat is absent from the APE. This species was last observed in 1936 and presumed extirpated.
Hoover's spurge *(Euphorbia hooveri)*	FT, CNPS 1B	Found in the San Joaquin Valley and Sacramento Valley in vernal pools within valley grassland, freshwater wetland, and riparian communities at elevations below 800 feet. Blooms July – September.	**Unlikely:** The APE is surrounded by existing roads, residential houses, agricultural lands, and a dry canal bed most of the year, which does not support wetland or riparian communities needed for the survival of the species.
Kaweah brodiaea *(Brodiaea insignis)*	CE, CNPS 1B	Found in the Sierra Nevada foothills in foothill woodland and valley grassland communities at elevations between 650 feet and 1650 feet. Blooms May – June.	**Absent:** The elevation and vegetation community of the APE is not suitable for this species.
lesser saltscale *(Atriplex minuscula)*	CNPS 1B	Found in the San Joaquin Valley in sandy, alkaline soils in alkali scrub, valley and foothill grassland, and alkali sink communities at elevations below 750 feet. Blooms April–October.	**Absent:** The elevation and vegetation community of the APE is not suitable for this species.
recurved larkspur *(Delphinium recurvatum)*	CNPS 1B	Occurs in poorly drained, fine, alkaline soils in grassland and alkali scrub communities at elevations between 100 feet and 2600 feet. Blooms March–June.	**Absent:** The soil in the APE is that of a sandy loam and does not support alkali scrub communities and is poor habitat for this species.
San Joaquin adobe sunburst *(Pseudobahia peirsonii)*	FT, CE, CNPS 1B	Found in the San Joaquin Valley and the Sierra Nevada Foothills in bare dark clay soils in valley and foothill grassland and cismontane woodland communities at elevations between 325 feet and 2950 feet. Blooms March–May.	**Absent**: The soil in the APE is that of a sandy loam and not the dark clay soils required for this species.
San Joaquin Valley Orcutt grass *(Orcuttia inaequalis)*	FT, CE, CNPS 1B	Found in the eastern San Joaquin Valley and the Sierra Nevada foothills in vernal pools within valley grassland, freshwater wetland, and wetland-riparian communities at elevations below 2600 feet. Blooms April – September.	**Absent:** Suitable vernal pools, wetlands, and/or riparian communities are absent from the APE.
Sanford's arrowhead *(Sagittaria sanfordii)*	CNPS 1B	Found in the San Joaquin Valley and other parts of California in freshwater-marsh, primarily ponds and ditches, at elevations below 1000 feet. Blooms May–October.	**Absent:** Suitable vernal pools, wetlands, and/or riparian communities are absent from the APE.
spiny-sepaled button-celery *(Eryngium spinosepalum)*	CNPS 1B	Found in the Sierra Nevada Foothills and the San Joaquin Valley. Occurs in vernal pools, swales, and roadside ditches. Often associated with clay soils in vernal pools within grassland communities. Occurs at elevations between 50 feet and 4160 feet. Blooms April–July.	**Absent:** Suitable vernal pools, wetlands, and/or riparian communities are absent from the APE.
striped adobe-lily *(Fritillaria striata)*	CT, CNPS 1B	Found in the Sierra Nevada foothills in adobe soil within valley grassland and foothill woodland communities at elevations below 3300 feet. Blooms February – April.	**Absent:** The soil in the APE is Nord sandy loam and would not support the soil requirements for this species.

Species	Status	Habitat	Occurrence on Project Site
subtle orache *(Atriplex subtilis)*	CNPS 1B	Found in the San Joaquin Valley in saline depressions in alkaline soils within valley and foothill grassland communities at elevations below 330 feet. Blooms June–October.	**Absent:** The APE lacks saline depressions and alkaline soils. The last observation was made in 1999 approximately 15 miles from the APE. It is presumed extant
vernal pool smallscale *(Atriplex persistens)*	CNPS 1B	Occurs in the San Joaquin Valley and Sacramento Valley in alkaline vernal pools at elevations below 375 feet. Blooms June–September.	**Absent:** Suitable vernal pools are absent from the APE. The last observation was in 2010 in a natural reserve 18 miles north of the APE. Presumed extant.
Winter's sunflower *(Helianthus winteri)*	CNPS 1B	Found in the Sierra Nevada foothills on steep, south-facing grassy slopes, rock outcrops, and road-cuts at elevations ranging from 600 feet to 1500 feet. Blooms year-round.	**Absent:** Suitable habitat is absent from the APE and is located outside of the altitudinal range of this species.

EXPLANATION OF OCCURRENCE DESIGNATIONS AND STATUS CODES

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

STATUS CODES

FE Federally Endangered
FT Federally Threatened
FPE Federally Endangered (Proposed)
FPT Federally Threatened (Proposed)
FC Federal Candidate

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

CNPS LISTING

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

3.5.2 Impact Assessment

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 Game or U.S. Fish and Wildlife Service?

Less than Significant Impact with Mitigation Incorporated. Species identified as candidate, sensitive, or special status species in local or regional plans, policies, or regulations by CDFW or USFWS that have the potential to be impacted by the Project are identified below with corresponding mitigation measures. There are six species: burrowing owl (*Athene cunicularia*), Northern California legless lizard (*Anniella pulchra*), pallid bat (*Antrozous pallidus*), San Joaquin kit fox (*Vulpes macrotis mutica*), Swainson's hawk (*Buteo swainsoni*), and western mastiff bat (*Eumops perotis californicus*). These species are discussed below with the corresponding mitigation measures.

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

The Project site contains suitable nesting and/or foraging habitat for a variety of avian species. Suitable nesting trees were observed within the vicinity of the Project Area and include oak, juniper, walnut, cedar, pine, and palm. Ground nesting birds such as the killdeer (*Charadrius vociferus*) could nest on the bare ground or compacted dirt roads onsite. Black phoebe (*Sayornis nigricans*) and cliff swallow (*Petrochelidon pyrrhonota*) could nest on

structures within or adjacent to canals. At the time of the field survey, no nests were observed. There was, however, nesting activity observed from several avian species.

If it were determined that the proposed vegetation removal would result in a significant loss of nesting and/or foraging habitat, this could potentially be considered a significant impact under CEQA. Project activities do not include tree removal within the Project Area. Some non-native, weedy vegetation would be removed at various locations along the pipeline route. Raptors, such as Swainson's hawk or red-tailed hawk (*Buteo jamaicensis*) could conceivably nest or forage near the Project Area. Furthermore, construction activities could disturb birds nesting within or adjacent to work areas, resulting in nest abandonment. Project construction activities that adversely affect the nesting success of raptors and migratory birds or result in the mortality of individual birds constitutes a violation of State and federal laws and is considered a significant impact under CEQA.

Nesting bird season is generally accepted as February 1 through August 31; however, raptor nesting season is generally accepted as March 1 through September 15. For simplicity, these time frames have been combined. Implementation of the following measures, will reduce potential impacts to nesting raptors, migratory birds, and special status birds, including Swainson's hawk to a less than significant level under CEQA, and will ensure compliance with State and federal laws protecting these avian species.

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

3.5.2.1 Mitigation Measures

Nesting Bird Mitigation

NEST-1a (Avoidance): The Project's construction activities shall occur, if feasible, between September 16 and January 31 (outside of nesting bird season) in an effort to avoid impacts to nesting birds.

NEST-1b (Pre-construction Surveys): If activities must occur within nesting bird season (February 1 to September 15), a qualified biologist will conduct pre-construction surveys for Swainson's hawk nests onsite and within a 0.5-mile radius and migratory birds within a 50-foot buffer zone of proposed construction activities. The Swainson's hawk survey will be conducted in accordance with CDFW's *Recommended Timing and Methodology for Swainson's Hawk Nesting Surveys in California's Central Valley*, or current guidance. In addition to the Swainson's hawk survey, a qualified biologist will conduct a pre-construction survey for all other nesting birds including burrowing owl within 30 days prior to the start of construction. All raptor nests will be considered "active" upon the nest-building stage.

NEST-1c (Establish Buffers): On discovery of any active nests near work areas, the biologist will determine appropriate construction setback distances based on applicable CDFW and/or USFWS guidelines and/or the biology of the species in question. Specifically, a 0.5-mile disturbance-free buffer shall be implemented around active Swainson's hawk nests, and a 500-foot buffer for burrowing owl. Buffer zones can be adjusted in consultation with the CDFW. Construction buffers will be identified with flagging, fencing, or other easily visible means, and will be maintained until the biologist has determined that the nestlings have fledged and are no longer dependent on the nest.

Project-Related Impacts to Special Status Animal Species Possible on the Project site.

General Mitigation

GEN-1 (WEAP Training): Prior to initiating construction activities (including staging and mobilization), all personnel associated with Project construction will attend mandatory Worker Environmental Awareness Program (WEAP) training, conducted by a qualified biologist, to aid workers in identifying special status resources that may occur in the Project area. The specifics of this program shall include identification of the sensitive species and suitable habitats, a description of the

regulatory status and general ecological characteristics of sensitive resources, and review of the limits of construction and mitigation measures required to reduce impacts to biological resources within the work area. This training will specifically discuss the conservation status of the burrowing owl, Northern California legless lizard, pallid bat, San Joaquin kit fox, Swainson's hawk, and western mastiff bat., and describe the laws and regulations in place to provide protection of these species, identify the penalties for violation of applicable environmental laws and regulations, and a list of required protective measures to avoid "take." A fact sheet conveying this information, along with photographs or illustrations of sensitive species with potential to occur onsite, will also be prepared for distribution to all contractors, their employees, and all other personnel involved with construction of the Project. All employees will sign a form documenting that they have attended WEAP training and understand the information presented to them.

Bat Mitigation Measures

BATS 1-a (Pre-construction Survey-Special Status Bats): A qualified biologist will conduct pre-construction bat surveys within 30 days prior to the start of construction activities. Goals of this survey include detection of bat roosts within 100 feet of the Project areas. Acceptable methods of detection include the use of bat a detection device, waiting for evening emergence or morning return, or observation of the presence of individuals or sign (staining or guano).

BATS 1-b (Avoidance-Special Status Bats): Where feasible, a 100-foot no-disturbance buffer will be enforced around active bat roosts. If this buffer cannot be maintained, the Project proponent shall contact CDFW for guidance on how to proceed.

BATS 1-c (Roost Replacement-Special Status Bats): Prior to removal of any trees larger than four (4) inches in diameter at breast height, a qualified biologist shall carefully inspect the tree for any potential bat roosts using the acceptable methods described in BAT-1a. If roosting bats or maternal colonies are detected within a tree planned for removal, the Project proponent shall stop work and initiate consultation with CDFW. Bats will not be evicted from roosts without first receiving approval from CDFW. If bats are evicted, the Project proponent shall provide replacement roosts at a ratio determined by CDFW.

Reptile Mitigation

REP 1-a (Pre-construction Reptiles & Amphibians Survey): A qualified biologist/herpetologist shall conduct pre-construction survey for Northern California legless lizard individuals and suitable habitat. If special status species are identified, the qualified biologist will provide an appropriate buffer zone and guidance to avoid construction related impacts to the species.

San Joaquin Kit Fox

SJKF 1-a (Preconstruction Surveys): Preconstruction surveys for the San Joaquin Kit Fox (SJKF) shall be conducted on and within 100 feet of the project site, no less than 14 days and no more than 30 days prior to the start of ground disturbance activities on the site. The primary objective is to identify kit fox habitat features (e.g., potential dens and refugia) on and adjacent to the site and evaluate their use by kitfoxes. If an active kit fox den is detected within or immediately adjacent to the construction area, the qualified biologist will determine appropriate exclusion zones based on the USFWS guidance document *Standardized Recommendation for Protection of the Endangered San Joaquin Kit Fox Prior to or During Ground Disturbance* (January 2011). Preconstruction surveys will be repeated following any lapses in construction of 30 days or more.

***SJKF 1-b (Avoidance)*:** If active kit fox dens be detected during preconstruction surveys, the Sacramento Field Office of the USFWS and the Fresno Field Office of CDFW will be notified. A disturbance-free buffer will be established around the burrows in consultation with the USFWS and

CDFW, to be maintained until an agency-approved biologist has determined that the burrows have been abandoned.

SJKF 1-c (Minimization): The project will observe all minimization measures presented in the USFWS *Standardized Recommendations for the Protection of the Endangered San Joaquin Kit Fox Prior to or During Ground Disturbance* (2011). Such measures include but are not limited to restriction of construction-related vehicle traffic to established roads, construction areas, and other designated areas; inspection and covering of structures (e.g., pipes), as well as installation of escape structures, to prevent the inadvertent entrapment of kit foxes; restriction of rodenticide and herbicide use; and proper disposal of food items and trash.

SJKF 1-d (Mortality reporting): The Sacramento Field Office of the USFWS and the Fresno Field Office of CDFW will be notified in writing within three working days in case of the accidental death or injury to a San Joaquin kit fox during construction. Notification must include the date, time, location of the incident or of the finding of a dead or injured animal, and any other pertinent information.

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?

Less than Significant Impact. There are no CNDDB-designated "natural communities of special concern" recorded within the Project site or surrounding lands. The Project Area consists of man-made canals, orchards, vineyards, agricultural lands, residential homes. The Project Area is dominated by ornamental landscape and non-native vegetation. Therefore, impacts will be less than significant.

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

Less than Significant Impact. The Project does not involve alterations to waters of the State or waters of the United States. The most recent guidance from the SWRCB, *State Wetland Definition and Procedures for Discharge of Dredged or Fill Material to Waters of the State,* indicates that artificial wetlands used as retention/detention basins for stormwater runoff and/or settling ponds and agricultural ditches excavated in upland are typically not considered Waters of the State. Since construction will involve ground disturbance over an area greater than one acre, the Project proponent will 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. Therefore, mitigation is not warranted.

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

Less than Significant Impact. The Project Area is bounded by intensively cultivated agricultural lands, residential development, and paved roads. Therefore, the Project Area does not contain features that would likely function as a wildlife movement corridor. Furthermore, the Project is in a region often disturbed by intensive agricultural cultivation practices and human disturbance which would discourage dispersal and migration. At most, domestic dogs, coyotes, and common gray foxes may utilize the canal banks to travel between agricultural lands while foraging nocturnally. The Project does not propose the removal of the canal banks, and outside of construction hours and after construction completion, these species would continue to travel along the banks of the Tulare Irrigation Canal and Extension Ditch. For these reasons, implementation of the Project would not have a significant impact on wildlife movement corridors. Impacts would be less than significant.

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

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

Less than Significant Impact. The Project is consistent with the goals and policies of the Tulare County General Plan and there are no Habitat Conservation Plans coving the Project Area. Impacts would be less than significant.

3.5.3 Federal Cross-Cutting Topic

Federal Endangered Species Act

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

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

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

The take prohibition in Section 9 applies only to fish and wildlife species. However, Section 9 also prohibits the unlawful removal and possession, or malicious damage or destruction, of any endangered plant from federal land. Section 9 prohibits acts to remove, cut, dig up, damage, or destroy an endangered plant species in non-federal areas in knowing violation of any state law or in the course of criminal trespass. Candidate species and species that are proposed for or under petition for listing receive no protection under Section 9.

See discussion under checklist item a.

Fish and Wildlife Conservation Act

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

species, and not marine mammals within the meaning of the Marine Mammal Protection Act. The original Act authorized $5 million for each of Fiscal Years 1982 through 1985, for grants for development and implementation of comprehensive State nongame fish and wildlife plans and for administration of the Act.

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

Migratory Bird Treaty Act

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

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

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

See discussion under checklist item a.

Bald and Golden Eagle Protection Act

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

See discussion under checklist item a).

Magnuson-Stevens Fishery Conservation and Management Act

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

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

Clean Water Act

Section 404

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

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

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

Section 402

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

Section 401

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

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

3.6 Cultural Resources

Table 3-10. Cultural Resources Impacts

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

3.6.1 Environmental Setting and Baseline Conditions

The Project area is located within a rural residential subdivision within the northwestern portion of Tulare County. The Project is located on open flats of the San Joaquin Valley, a large interior and relatively low-lying valley that drains northwards to the San Francisco Bay.

An intensive Class III inventory/Phase I cultural resources survey was conducted for the Project by ASM Affiliates, Inc., on February 25, 2021, with David S. Whitley, Ph.D., RPA, serving as principal investigator. The Project consists of approximately 1.8 miles (mi.) of pipeline replacement within Tract 92, approximately 0.8 mi. of new water main along Road 148 and the installation of a well. The horizontal APE, which includes a 50-ft buffer, includes approximately 96-acres. The horizontal area of potential effect (APE) for the project was defined as all areas of potential ground-surface disturbance along the pipeline corridor and the well site location, including work, staging and lay-down areas. The vertical APE is 10 feet (ft), the maximum excavation depth for the pipeline. Elevation within the largely flat APE is approximately 345-ft. above mean sea level (amsl).

Records Search

On January 19, 2021, ASM Affiliates, Inc. (ASM) received 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. The records search encompassed the Project APE as well as a 0.5-mile radius surrounding the various locations. SSJVIC staff examined site record files, maps, and other materials to identify previously recorded resources and prior surveys within the delineated area. Additional sources included the State Office of Historic Preservation (SHPO) Historic Properties Directory, Archaeological Determinations of Eligibility, and the California Inventory of Historic Resources. (**Appendix C**)

Native American Outreach

In January of 2021, ASM contacted the Native American Heritage Commission (NAHC) in Sacramento and provided NAHC a brief description of the Project and a map showing its location and requested that the NAHC perform a search of the Sacred Lands File to determine if any Native American resources have been recorded in the immediate study area. The results were negative. (**Appendix C**)

3.6.2 Impact Assessment

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

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. A records search from the California Historical Resources Information System (CHRIS) at the Southern San Joaquin Valley Information Center (SSJVIC) dated January 19, 2021. According to the IC records, four previous studies (one of which resulted in three related documents) have been completed that are adjacent to or intersect some portion of the Project APE. However, the majority of the APE had not be subject to intensive survey prior to the current study. An additional five previous studies had been conducted within 0.5 mi. of the APE. A total of three cultural resources have been recorded within the APE, with nine documented within the 0.5-mi. search radius. These resources are from the historical period, and are primarily residential structures or related to infrastructure such as energy or irrigation. (See **Appendix C**)

To identify any historic properties, the SSJVIC examined the current inventories of the National Register of Historic Places (NRHP), California Register of Historical Resources (CRHR), California Historical Landmarks (CHL), California Points of Historical Interest (CPHI), California Inventory of Historic Resources (CIHR), California State Historic Landmarks, and other pertinent historical data available at the SSJVIC. There are no recorded cultural resources within the Project area or radius that are listed in the National Register of Historic Places, the California Register of Historical Resources, the California Points of Historical Interest, California Inventory of Historic Resources, or the California State Historic Landmarks. Therefore, Mitigation Measure **CUL-1** as outlined below has been incorporated into the Project.

Although it is unlikely that archeological resources would be encountered during construction or operation of the proposed Project, **CUL-1** as outline below is to be considered.

Mitigation Measure

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

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

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

Mitigation Measure

> **CUL-2 (*Human Remains*):** If human remains are uncovered, or in any other case when human remains are discovered during construction, the Tulare County Coroner is to be notified to arrange proper treatment and disposition. If the remains are identified—on the basis of archaeological context, age, cultural associations, or biological traits—as those of a Native American origin, California Health and Safety Code 7050.5 and Public Resource Code 5097.98 require that the coroner notify the NAHC

within 24 hours of discovery. The NAHC will then identify the Most Likely Descendent (MLD) who will determine the manner in which the remains are treated.

3.6.3 Federal Cross-Cutting Topic

National Historic Preservation Act

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

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

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

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

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

3.7 Energy

Table 3-11. Energy Impacts

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

3.7.1 Environmental Setting and Baseline Conditions

Current site operations require diesel and gasoline fuel to make maintenance visits, as necessary. Operational energy consumption is composed of electricity consumption to power the existing water production well and its associated appurtenances. There are no applicable State or local plans for renewable energy or energy efficiency applicable to the Project.

3.7.2 Impact Assessment

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?

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

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

Construction is estimated to consume a total of 9,789 gallons of diesel fuel and 553 gallons of gasoline fuel. California Code of Regulations Title 13, Motor Vehicles, Section 2449(d)(2), Idling, limits idling times of construction vehicles to no more than 5 minutes, thereby precluding unnecessary and wasteful consumption of fuel because of unproductive idling of construction equipment.

Operational energy usage would remain unchanged from baseline conditions, as the Project consists of the replacement of existing pipeline and interconnection to existing water mains and does not involve the construction of any new wells or pumps. Impacts would therefore be less than significant.

Construction of the Project is anticipated to use of approximately 41,635 gallons of diesel and 204 gallons of gasoline, according to analysis performed by Provost & Pritchard Consulting Group utilizing data utilizing the CalEEMod Output Files (**Appendix A**). California Code of Regulations 13 (CCR) § 2485 prohibits the idling of commercial diesel equipment for greater than five minutes, and will ensure that energy usage remains efficient. Project operational energy consumption would be similar to current operations and maintenance

activities require. Therefore, the Project would not conflict with State or local plans for energy efficiency or renewable energy. Impacts would be less than significant.

3.8 Geology and Soils

Table 3-12. Geology and Soils Impacts

Geology and Soils Impacts				
Would the project:	**Potentially Significant Impact**	**Less than Significant with Mitigation Incorporated**	**Less than Significant Impact**	**No Impact**
a) Directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving: i) Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publication 42.	☐	☐	☒	☐
ii) Strong seismic ground shaking?	☐	☐	☒	☐
iii) Seismic-related ground failure, including liquefaction?	☐	☐	☒	☐
iv) Landslides?	☐	☐	☐	☒
b) Result in substantial soil erosion or the loss of topsoil?	☐	☐	☐	☐
c) Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction or collapse?	☐	☐	☒	☐
d) Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994) creating substantial direct or indirect risks to life or property?	☐	☐	☒	☐
e) Have soils incapable of adequately supporting the use of septic tanks or alternative waste water disposal systems where sewers are not available for the disposal of wastewater?	☐	☐	☒	☐
f) Directly or indirectly destroy a unique paleontological resource or site or unique geological feature?	☐	☒	☐	☐

3.8.1 Environmental Setting and Baseline Conditions

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

metamorphic rocks and consolidated marine sediments in the surrounding mountains have been transported into the Valley by streams.

3.8.1.1 Geology and Soils

The USDA NRCS soil survey of the Project site, (see Appendix C of **Appendix B**). reveals that soils in the Project area consist of Nord fine sandy loam, 0 to 2 percent slopes. (See Appendix C of **Appendix B**). Characteristics of these soil types are described in **Table 3-13** below.

Table 3-13. Soils of the Study Area

Soils Series	Parent Material	Runoff Class	Drainage Class	Percent of Project site
Nord fine sandy loam, 0 to 2 percent slopes	Alluvium derived from mixed	Negligible	Well drained	100

3.8.1.2 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. There are no known active faults in Tulare County.[6] The nearest major fault is the San Andreas Fault that runs through Los Angeles County along the northside of the San Gabriel Mountains, located approximately 60 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 Poso Fault is approximately 20 miles southwest of the Project

3.8.1.3 Liquefaction

The potential for liquefaction, which is the loss of soil strength due to seismic forces, is dependent on soil types and density, the groundwater table, and the duration and intensity of ground shaking. Although no specific liquefaction hazard areas have been identified in the county, this potential is recognized throughout the San Joaquin Valley where unconsolidated sediments and a high water table coincide. It is reasonable to assume that due to the depth to groundwater within the southern portion of Tulare County, liquefaction hazards would be negligible. Soil conditions are key factors in selecting locations for direct groundwater recharge projects. Using the USDA NRCS soil survey of Tulare County, an analysis of the soils onsite was performed. The predominate soil in the Project area consists of Nord fine sandy loam, 0 to 2 percent slopes (See Appendix D of the **Appendix B Biological Evaluation**) and well-drained.

3.8.1.4 Soil Subsidence

Subsidence occurs when a large land area settles due to over-saturation or extensive withdrawal of ground water, oil, or natural gas. These areas are typically composed of open-textured soils that become saturated. These areas are high in silt or clay content. The Project site is dominated by Nord fine sandy loam, 0 to 2 percent slopes, with a low to moderate risk of subsidence.

3.8.1.5 Dam and Levee Failure

Lake Success is located approximately 16 miles northeast of the Project site; although the Project site, in its entirety, is outside of the inundation zone for Success Dam.

6 Tulare County General Plan 2012, http://generalplan.co.tulare.ca.us/ Accessed February 25, 2021.

3.8.2 Impact Assessment

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

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

a-ii) Strong seismic ground shaking?

Less than Significant Impacts. 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 50 miles south-southwest of the Project site. A smaller fault zone, the Poso Fault, is approximately 20 miles southwest of the site. The Project involves water system improvements and relocation of an existing well site, and thus does not propose the development of habitable residential, agricultural, commercial or industrial structures. Operation of the proposed Project would not require any additional maintenance beyond what is currently required. Implementation of the Project would not result in an increase of people on-site. Any impact would be less than significant.

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

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

a-iv) Landslides?

No Impact. The proposed Project is located on the Valley floor, no major geologic landforms exist on or near the site that could result in a landslide event. The potential landslide impact at this location is minimal as the site is more than ten miles from the foothills and the local topography is essentially flat and level. There will be no impact.

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

Less than Significant Impact. There are no streams or rivers onsite or in the immediate vicinity. The Project does not propose significant alteration of the topography of the site. The Project will disturb more than one acre of soil and therefore will be required to obtain coverage under the Statewide General Permit for Discharges of Storm Water Associated with Construction Activity (Construction General Permit Order 2009-0009-DWQ). Construction activity subject to this permit includes clearing, grading and disturbances to the ground such as stockpiling, or excavation, and construction of linear underground or overhead facilities associated with trail construction, but does not include regular maintenance activities performed to restore the original lines, grade, or capacity of the overhead or underground facilities. The Construction General Permit requires the development of a Storm Water Pollution Prevention Plan (SWPPP) by a certified Qualified SWPPP Developer. Impacts will 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 Impacts. Soil onsite is predominately Nord fine sandy loam, 0 to 2 percent slopes (see Custom Soil Resource Report in Appendix D of the **Appendix B Biological Evaluation**.) These soils are well-drained with very rare frequency of flooding. These soils are categorized as Prime Farmland if irrigated and either protected from flooding or not frequently flooding during the growing season. 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 does not propose significant alteration of the topography of the site. Furthermore, the Project will 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 proposed or necessary for the Project. The proposed groundwater well is spaced away from surrounding septic tanks per Cal Water standards. Therefore, there will be no impact.

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

Less than Significant Impact with Mitigation. There are no known unique geological features on the Project site. While the Project will occur in the public right-of-way and in a rural residential subdivision, there is a remote possibility that unique paleontological resources could be destroyed, a significant impact, as a result of excavation during construction activities. Implementation of **GEO-1** will ensure impacts remain less than significant.

3.8.2.1 Mitigation Measures

GEO-1 (Unique Paleontological Resources) If during construction a paleontological resource has been discovered, construction activities shall halt within a 50-foot radius of the discovery. A qualified paleontologist shall be consulted to determine if the paleontological resource is unique. If the resource is unique, the Project Proponent shall cover all expenses to have the resource archived. If the resource is not unique, construction activity within the discovery shall be allowed to commence.

3.9 Greenhouse Gas Emissions

Table 3-14. Greenhouse Gas Emissions Impacts

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

3.9.1 Environmental Setting and Baseline Conditions

Commonly identified GHG emissions and sources include the following:

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

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

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

Carbon dioxide equivalent (CO_2e), CO2e is the summation of CO_2, CH_4, and N_2O, multiplied by each greenhouse gases' global warming potential (GWP). For purposes of this analysis, CH_4 and N_2O are assigned a multiplier of 25 and 298, respectively, based on longevity in the atmosphere and the intensity of infrared absorbed. This is consistent with CARB's calculation and the 2007 Intergovernmental Panel on Climate Change (IPCC) fourth assessment report (AR4).

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

Ozone (O_3) is known as a photochemical pollutant and is a greenhouse gas; however, unlike other greenhouse gases, ozone in the troposphere is relatively short-lived and, therefore, is not global in nature. Ozone is not emitted directly into the atmosphere but is formed by a complex series of chemical reactions between volatile organic compounds, nitrogen oxides, and sunlight.

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

Chlorofluorocarbons (CFCs) are nontoxic, nonflammable, insoluble, and chemically unreactive in the troposphere (the level of air at the earth's surface). CFCs were first synthesized in 1928 for use as refrigerants, aerosol propellants, and cleaning solvents. CFCs destroy stratospheric ozone; therefore, their production was stopped as required by the Montreal Protocol in 1987.

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

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

Sulfur hexafluoride (SF_6) is an inorganic, odorless, colorless, nontoxic, nonflammable gas. It has the highest global warming potential of any gas evaluated. Sulfur hexafluoride is used for insulation in electric power transmission and distribution equipment, in the magnesium industry, in semiconductor manufacturing, and as a tracer gas for leak detection.

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

Emissions of GHGs contributing to global climate change are largely attributable to human activities associated with the industrial/manufacturing, utility, transportation, residential, and agricultural sectors. About three-quarters of human emissions of CO_2 to the global atmosphere during the past 20 years are due to fossil fuel burning. Atmospheric concentrations of CO_2, CH_4, and N_2O have increased 31 percent, 151 percent, and 17 percent respectively since the year 1750 (CEC 2008). GHG emissions are typically expressed in carbon dioxide-equivalents (CO_2e), based on the GHG's Global Warming Potential (GWP). The GWP is dependent on the lifetime, or persistence, of the gas molecule in the atmosphere. For example, one ton of CH_4 has the same contribution to the greenhouse effect as approximately 21 tons of CO_2. Therefore, CH_4 is a much more potent GHG than CO_2.

The Air Quality Output Files were prepared in March 2021, and are contained in **Appendix A**.

3.9.2 Impact Assessment

3.9.2.1 Thresholds of Significance

In accordance with SJVAPCD's *CEQA Greenhouse Gas Guidance for Valley Land-use Agencies in Addressing GHG Emission Impacts for New Projects*[7], proposed projects complying with Best Performance Standards (BPS) would be determined to have a less-than-significant impact. Projects not complying with BPS would be considered less than significant if operational GHG emissions would be reduced or mitigated by a minimum of 29 percent, in comparison to business-as-usual (year 2004) conditions. In addition, project-generated emissions complying with an approved plan or mitigation program would also be determined to have a less-than-significant impact.

[7] Guidance for Valley Land-use Agencies in Addressing GHG Emission Impacts for New Projects under CEQA. http://www.valleyair.org/Programs/CCAP/12-17-09/3%20CCAP%20-%20FINAL%20LU%20Guidance%20-%20Dec%2017%202009.pdf Accessed 22 February 2021.

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. Construction of the Project would result in GHG emissions from operation of both on-road and off-road equipment. 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. As shown in **Table 3-15**, the Project would be below the Bay Area Air Quality Management District (BAAQMD) thresholds for total Project emissions and well below the thresholds after amortizing the construction emissions. Therefore, the GHG emissions from the proposed Project would not have significant impacts on climate change.

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

Year	Emissions (MT CO_2e)[1]
Pipeline Construction	*31.19*
Well Site Construction	*76.1242*
Total	*107.3142*
Amortized over Life of Project (30 years)	*3.57714*
*AB 32 Consistency Threshold for Land-Use Development Projects**	*1,100*
Exceed Threshold?	*No*

1. Refer to ***Appendix A*** for modeling results and assumptions. Totals may not sum due to rounding.

* As published in the Bay Area Air Quality Management District's CEQA Air Quality Guidelines. Available online at http://www.baaqmd.gov/~/media/files/planning-and-research/ceqa/ceqa_guidelines_may2017-pdf.pdf?la=en Accessed 22 February 2021.

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 would not generate any new emissions during operations. 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 2017 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.

3.10 Hazards and Hazardous Materials

Table 3-16. Hazards and Hazardous Materials Impacts

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

3.10.1 Environmental Setting and Baseline Conditions

3.10.1.1 Hazardous Materials

The Hazardous Waste and Substances Sites (Cortese) List is a planning document used by the State, local agencies, and developers to comply with CEQA requirements in providing information about the location of hazardous materials release sites. Government Code (GC) Section 65962.5 requires the California Environmental Protection Agency (CalEPA) to develop at least annually an updated Cortese List. The Department of Toxic Substances Control (DTSC) is responsible for a portion of the information contained in the Cortese List. Other State and local government agencies are required to provide additional hazardous material release information for the Cortese List. DTSC's EnviroStor database provides DTSC's component of Cortese List data (DTSC, 2010). In addition to the EnviroStor database, the State Water Resources Control Board (SWRCB) Geotracker database provides information on regulated hazardous waste facilities in

California, including underground storage tank (UST) cases and non-UST cleanup programs, including Spills-Leaks-Investigations-Cleanups (SLIC) sites, Department of Defense (DOD) sites, and Land Disposal program. A search of the DTSC EnviroStor database and the SWRCB Geotracker performed on February 19, 2021 determined that there are no known active hazardous waste generators or hazardous material spill sites within the Project site or immediate surrounding vicinity.

3.10.1.2 Airports

The nearest active public airport is the Visalia Municipal Airport, approximately eight (8) miles northwest of the Project site. The nearest private airport is in Exeter, approximately 5.5 miles southeast of the Project site.

3.10.1.3 Emergency Response Plan

The Tulare County Office of Emergency Services coordinates the development and maintenance of the Tulare County Operational Area Master Emergency Services Plan.

3.10.1.4 Sensitive Receptors

Sensitive receptors, consisting of residences, are located immediately adjacent to the Project.

3.10.2 Impact Assessment

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

Less than Significant Impact. Project construction would involve the storage, use, and transport of small amounts of hazardous materials (e.g., asphalt, fuel, lubricants, and other substances) on roadways. Regulations governing hazardous materials transport are stated in Title 22 CCR and the California Vehicle Code (Title 13 CCR). The transportation of hazardous materials also is subject to other applicable local and federal regulations, which have been specifically designed to minimize the risk of upset during routine construction activities. The State agencies with primary responsibility for enforcing federal and State regulations, and for responding to hazardous materials transportation emergencies, are the California Highway Patrol and the Caltrans. Together, these agencies determine container types to be used and license hazardous waste haulers for transportation of hazardous waste on public roads. Various local entities or agencies are generally delegated first responder responsibilities in the event of a hazardous material spill or release.

Construction and operation of the Project would be required by law to implement and comply with existing hazardous material regulations. Each of these regulations is specifically designed to protect public health through improved procedures for handling hazardous materials, better technology in equipment used to transport these materials, and a more coordinated, quicker response to emergencies. By implementing measures needed to be consistent with existing regulations, impacts would be less than significant.

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?

Less than Significant Impact. The Project consists of replacing an existing well and installing a water pipeline and interconnecting to existing water mains. Power sources for operational purposes would be all electric. This infrastructure is not designed to convey or store hazardous materials. Project construction would temporarily involve the storage, use, and transport of small amounts of hazardous materials (e.g., asphalt, fuel, lubricants, and other substances) on roadways. Therefore, in the event of a reasonably-foreseeable upset or accident during construction or operational maintenance activities, minimal hazardous materials may be released into the environment. Construction and operation of the Project would be required by law to implement and comply with existing hazardous material regulations. By implementing measures needed to be consistent with existing regulations, impacts would be less than significant.

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

Less than Significant Impact. Schools in the project area include Blue Oak Academy, located adjacent to the Project site. The Project would install a new well and water distribution pipeline and would not result in the routine use, transport or disposal of substantial quantities of hazardous materials. Therefore, the Project would not emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school and 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 DTSC. A search of the DTSC EnviroStor database and the SWRCB Geotracker performed in January 2021, determined that there are no known active hazardous waste generators or hazardous material spill sites within the Project site or immediate surrounding vicinity. 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. Tulare County has an adopted airport land use plan, however the Project site is not located within it. The Project site is not located within two miles of a public or public use airport. Therefore, there will be no impact.

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

No Impact. The Project does not provide any physical barriers or disturb any roadways in such a way that would impede emergency or hazards response; all work conducted in public rights-of-way will require an Encroachment Permit from the County of Tulare and a traffic control plan. Temporary traffic controls are required to comply with the Federal Highway Administration's Manual on Uniform Traffic Control Devices (MUTCD). Therefore, the proposed Project would not interfere with implementation of an emergency response plan or evacuation plan.

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

Less than Significant Impact. The Project site is located in a rural residential community and adjacent to farmland. Construction equipment will utilize internal combustion engines in an existing right-of-way, where vehicles utilizing internal combustion engines exist. Project operations will utilize existing methods of transportation and power. Impacts will be less than significant.

3.11 Hydrology and Water Quality

Table 3-17. Hydrology and Water Quality Impacts

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

3.11.1 Environmental Setting and Baseline Conditions

The Project is located in Tulare County, in the Central San Joaquin Valley, part of the Great Valley of California. Like most of California, the San Joaquin Valley experiences a Mediterranean climate. Warm, dry summers are followed by cool, moist winters. Summer temperatures often reach above 90 degrees Fahrenheit, and the humidity is generally low. Winter temperatures are often below 60 degrees Fahrenheit during the day and rarely exceed 70 degrees. The Central Valley receives an average of 12 inches of precipitation in the form of rainfall yearly, most of which occurs between October and March.

The Project site is split between two water sheds: the Bates Slough watershed; Hydrologic Unit Code (HUC) 180300060901, and the Cameron Creek watershed, HUC: 180300071402. There are two water conveyance systems in the vicinity: Tulare Irrigation Canal and Extension Ditch.

The Project lies entirely within the Tule Groundwater Subbasin of the San Joaquin Valley Groundwater Basin.[8] There are no tributaries, or distributaries located within the site boundaries or adjacent to the site.

The water system supplies drinking water to the neighborhood through its one groundwater well within the District.

3.11.2 Impact Assessment

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 Permit 2009-0009-DWQ (GCP) guidelines implementing a SWPPP, performed and approved by a qualified sediment practitioner (QSP) or a qualified sediment developer (QSD), would be required prior to construction, handling, and transportation of hazardous materials within the Project site 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 QSP/QSD, the Project would design and utilize best management practices in order to stabilize any sedimentation and erosion from leaving the Project site. Construction is temporary and would result in a new well site and pipeline that will improve overall water quality for the surrounding community. 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?

No Impact. The Project proposes to replace an existing well serving an existing community. Meters will be installed and are anticipated to reduce water consumption by approximately 30 percent. No planned growth is anticipated. There will be no impact.

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:

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

Less than Significant Impact. The Project is located in the immediate vicinity of a waterway and could result in direct infiltration of erosion or siltation during construction. Impact can be minimized by following California GCP 2009-0009-DWQ guidelines and implementing a SWPPP in accordance with the SWRCB prior to construction activities beginning. The Project will involve construction activities that include trenching, grading, and excavation over an area exceeding one (1) acre. Projects that have such activities over an area of 1 acre must develop and implement a SWPPP. The Project will improve water quality and adhere to drinking water standards set forth by the SWRCB. Because the Project area is located on flat land, with low potential for soil erosion, the Project complies with SWRCB requirements. By following GCP and SWRCB standards and the use of best management practices for any possible soil and erosion pollution, impacts would be less than significant.

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

Less than Significant Impact. The Project will likely result in a no net increase in impermeable surfaces, due to the removal and replacement of the existing well site. Impacts will be less than significant.

[8] DWR Bulletin 118 Groundwater Basin Boundary Assessment Tool. https://gis.water.ca.gov/app/bbat/ Accessed March 2021.

c-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

c-iv) impede or redirect flood flows?

Less than Significant Impact. There are no existing or planned storm drainage systems in the area. The Project will not impede or redirect flood flows. Site runoff will flow through to a new drainage basin appropriately sized for the increased amount of impermeability. Roads, grade, drainage flow patterns, and storm drain runoff areas that are disturbed by the project would be repaired to pre-construction quality. These areas existed for these uses before the Project and would continue being utilized for their respective uses after the Project is completed. Therefore, impacts would be less than significant.

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

No Impact. The Project is not located within any flood hazard, tsunami, or seiche zones that would cause the risk of released pollutants due to inundations. Therefore, there would be no impact.

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

No Impact. The Project would not conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan. The installation of the new water treatment system and water meters would improve water quality and reduce water consumption. Therefore, there would be no impact.

3.11.3 Federal Cross-Cutting Topic

Flood Plain Management- Executive Order Number 11988

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

Rivers and Harbors Act

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

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

Safe Drinking Water Act, Sole Source Aquifer Protection

The Safe Drinking Water Act (SOWA) required USEPA to establish criteria through which an aquifer may be declared a critical aquifer protection area. Since 1977, it has been used by communities to help prevent contamination of groundwater from federally funded projects. These aquifers are defined as "sole source aquifers." USEPA's Sole Source Aquifer (SSA) Program was established under Section 1424(e) of the SOWA. These are, essentially, aquifers that are the only drinking water supply for the population of a region.

SSA designation protects an area's groundwater resources by requiring USEPA to review all proposed projects within the designated area that will receive federal financial assistance. The SSA Program states that if USEPA determines an area to have an aquifer which is the sole or principal drinking water source for the area, that if contaminated would create a significant hazard to public health, a notice of that determination needs to be

published in the Federal Register. After publication of any such notice, no commitment for federal financial aid may be applied for any project that the Administrator determines may contaminate the aquifer through a recharge zone, so as to create a significant hazard to public health (US EPA 2019).

The Project is not located in a Sole Source Aquifer.

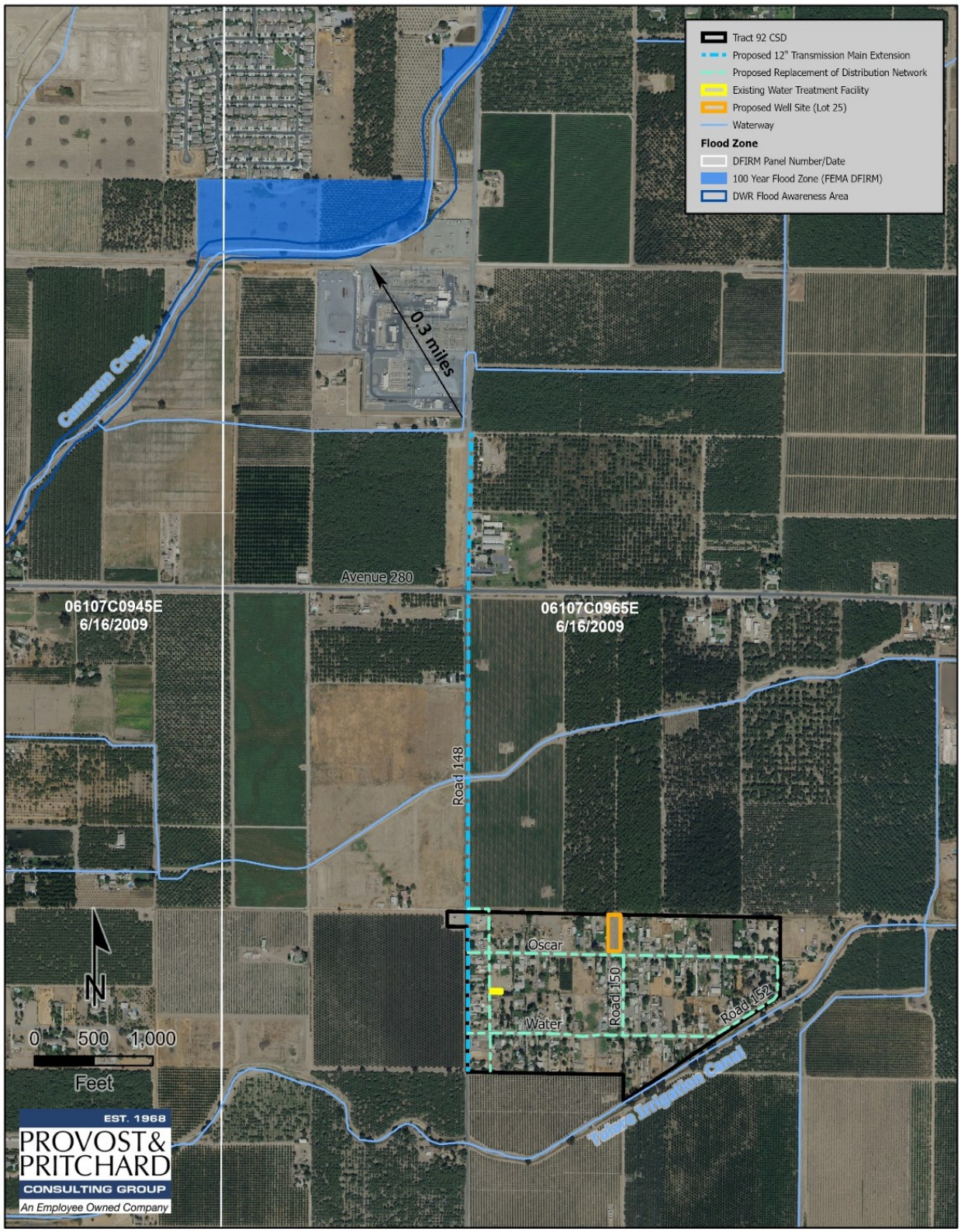

Figure 3-2. FEMA Flood Map

3.12 Land Use and Planning

Table 3-18. Land Use and Planning Impacts

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

3.12.1 Environmental Setting and Baseline Conditions

The Project is located in northwestern unincorporated Tulare County. As found across the Central Valley in California, the Project site is surrounded by farmland and open space outside of urban planned areas. The Project proposes to relocate an existing well site and install water infrastructure within the existing development and connect it to existing urban services.

General Plan Land Use Designations and Zone Districts are illustrated in **Figure 2-4** and **Figure 2-5**, respectively.

3.12.2 Impact Assessment

a) Would the project physically divide an established community?

No Impact. The Project will occur in existing road right-of-way and on vacant land in an existing rural residential subdivision. No new barriers would be constructed, and no rights-of-way are proposed to be abandoned. Construction may cause partial street closures, but impacts would be temporary. There will be no impact.

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

No Impact. The Project would not cause a significant environmental conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect. The Project would not be in conflict with any Tulare County General Plan policies. Therefore, there would be no impact.

3.12.3 Federal Cross-Cutting Topic

Coastal Zone Management Act

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

3.13 Mineral Resources

Table 3-16. Mineral Resources Impacts

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

3.13.1 Environmental Setting and Baseline Conditions

The bulk of Tulare County's mineral extraction activities focus on aggregate (sand, gravel, and crushed stone), which is primarily used in building materials. Historically, the Kaweah River, Lewis Creek, and the Tule River have provided the main sources of high-quality sand and gravel in Tulare County. The highest quality deposits are located at the Kaweah and Tule Rivers. According to the Tulare County General Plan Background Report, all of the known potential mineral resource locations are mapped within the foothills and/or along major watercourses. Similarly, the only active oil and gas fields are located in the foothills along Deer Creek. [9] The Tulare County General Plan indicates that the Project site is not zoned for mineral resources, nor would the Project site affect the availability of a mineral resource important to the State or local area.

3.13.2 Impact Assessment

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

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

No Impact. The Project site is not identified as containing any mineral resources. Moreover, the Project is replacing an existing well and installing water infrastructure under road existing rights-of-way—land that has already been disturbed. As a result, the Project will not 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. Therefore, there would be no impact.

[9] Tulare County General Plan Background Report. http://generalplan.co.tulare.ca.us/documents/GeneralPlan2010/BackgroundReport.pdf accessed February 25, 2021.

3.14 Noise

Table 3-19. Noise Impacts

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

3.14.1 Environmental Setting and Baseline Conditions

The Project site is situated within a region dominated by agricultural uses. Surrounding land uses include agricultural and residential uses. Noise levels around the Project area are therefore associated with farm equipment and associated activities, as well as rural traffic noise. While much of unincorporated Tulare County is composed of discrete small communities and remote rural residences, the primary source of noise generation comes from major highways, such as SR 99, as well as other State highways, several airports, and industrial facilities. Maximum noise levels generated by farm-related tractors typically range from 77 to 85 decibels (dB) at a distance of 50 feet from the tractor, depending on the horsepower of the tractor and the operating conditions. Due to the seasonal nature of the agricultural industry, there are often extended periods of time when little to no noise is generated at the Project site, followed by short-term periods of intensive mechanical equipment usage and corresponding noise generation. The Tulare County General Plan sets forth the following goals and policies regarding noise and which have potential relevance to the Project's CEQA review:

- The County shall limit noise generating activities, such as construction, to hours of normal business operation (7 a.m. to 7 p.m.). No peak noise generating activities shall be allowed to occur outside of normal business hours without County approval.

- The County shall seek to limit the potential noise impacts of construction activities by limiting construction activities to the hours of 7 am to 7pm, Monday through Saturday when construction activities are located near sensitive receptors. No construction shall occur on Sundays or national holidays without a permit from the County to minimize noise impacts associated with development near sensitive receptors.

- The County shall ensure that construction contractors implement best practices guidelines (i.e. berms, screens, etc.) as appropriate and feasible to reduce construction-related noise-impacts on surrounding land uses.

3.14.2 **Impact Assessment**

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 will involve temporary noise sources, originating predominately from off-road equipment, such as backhoes, drilling rigs, scrapers, and tractors. Noise from construction activities would not exceed Tulare County Noise Element standards of 60 decibels adjusted (dBA). The Project is located in a rural residential development surrounded by agricultural lands, where noises associated with farm equipment are prevalent. Operational maintenance activities would continue to be on an as-needed basis with routine monitoring performed by existing staff and would not generate significant new noise. Noise-generating stationary equipment will be located in enclosures. Any impacts would be 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 will have excavation and grading as part of development of the new well and storm drainage basin for a duration of approximately two (2) months.

The Project is located within 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 nearby. 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. Tulare County has an adopted airport land use plan, however the Project site is not located within it. The Project site is not located within two miles of a public or public use airport. Therefore, there will be no impact.

3.15 Population and Housing

Table 3-20. Population and Housing Impacts

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

3.15.1 Environmental Setting and Baseline Conditions

The Project site is located in a rural residential subdivision, approximately seven miles southeast of Visalia.

3.15.2 Impact Assessment

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

Less than Significant Impact. The proposed Project would connect the Tract 92 water system to the City of Visalia and upgrading the existing water systems will provide more reliable and safe drinking water for the surrounding community. The proposed Project would not directly induce population growth because it does not propose any new housing or land use changes; any impacts would be less than significant.

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

No Impact. No housing or habitable structures would be built, nor will any be removed. Construction and implementation of the Project will not result in displacement of people or existing housing. Therefore, there will be no impact.

3.15.3 Federal Cross-Cutting Topic

Environmental Justice Executive Order 12898

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

USEPA has developed a mapping and screening tool called EJSCREEN that uses nationally consistent data to identify minority or low-income communities. According to EJSCREEN, the proposed project site is not in an environmental justice community (US EPA 2015). In addition, the purpose of the project would be to supply

clean, reliable water to residents of the District. Because the proposed project would directly benefit the local community only, no disproportional health of environmental effect would be imposed on minority or low income populations. The proposed project would not conflict with the purpose and objectives of EO 12898.

3.16 Public Services

Table 3-21. Public Services Impacts

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

3.16.1 Environmental Setting and Baseline Conditions

The Project site is currently served by Tulare County Sheriff and Fire Department. The nearest school in the Project site district boundary is Union Elementary, located adjacent to the proposed pipeline, east of the Project site.

3.16.2 Impact Assessment

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:

No Impact. The Project proposes to replace an existing well and construct water infrastructure in existing road right-of-way, all of which serves an existing residential development. The infrastructure is not designed to increase capacity or serve future growth. No additional public services will be required in order to provide police or fire protection, nor educational or recreational opportunities, to the water infrastructure or its beneficiaries. There will be no impact.

3.17 Recreation

Table 3-22. Recreation Impacts

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

3.17.1 Environmental Setting and Baseline Conditions

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

Federal lands, such as wilderness, national forests, monuments, and parks occupy 52.2 percent of land area within Tulare County. Agricultural uses encompass 43 percent of the County's land. The remainder comprises miscellaneous uses, such as County parks, urban uses in cities, unincorporated communities, and hamlets, and infrastructure rights-of-way. The Tulare County General Plan sets forth guidelines in order to maintain an overall standard of five or more acres of public County parkland per 1,000 population in unincorporated areas, regional parks at one-acre per 1,000 population, neighborhood parks at three to six acres per 1,000 population and community parks at one to two acres per 1,000 population.[10]

3.17.2 Impact Assessment

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

No Impact. The Project would construct a new water transmission and main lines and a new well site. The Project does not propose any residential development or job-creating commercial or industrial development and therefore is not expected to generate an increase in the demand for recreational facilities or put a strain on the existing recreational facilities in or around the area. There would be no impact.

[10] Tulare County General Plan. http://generalplan.co.tulare.ca.us/ Accessed 5 February 2021.

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

No Impact. The Project does not include recreational facilities, nor the construction or expansion of any existing or new recreational facilities. There is no housing or population growth associated with the Project that could result in accelerated substantial physical deterioration of any such facilities. There would be no impact.

3.18 Transportation

Table 3-23. Transportation Impacts

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

3.18.1 Environmental Settings and Baseline Conditions

The Project site is surrounded by agriculture and rural residential. No State or interstate highways are in the immediate vicinity.

3.18.2 Impact Assessment

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

Less than Significant Impact. The Project site and the surrounding area lacks pedestrian and bicycle facilities. Transit service does not stop near the Project site. Impacts to the existing roadway will be temporary. The Project will thus not conflict with plans, policies, or ordinances addressing the circulation system. Therefore, impacts will be less than significant.

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

Less than Significant Impact. Project operations will not generate additional vehicle miles traveled, as operations and maintenance trips are not anticipated to increase as part of the Project. Project construction trips will be generated, but will be below the County's significance threshold of 500 daily trips. Impacts will be less than significant.

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

No Impact. The Project would not alter the roadway geometrics of existing roads or introduce incompatible uses to the existing community. Construction equipment will be utilized to make the necessary infrastructure improvements. There will be no impact.

d) Would the project result in inadequate emergency access?

Less than Significant Impact. Construction of the Project will cause temporary street closures. The Project will require work in the public road right-of-way, and thus an Road Encroachment Permit will required to be obtained by the Tulare County Public Works Department. Permit conditions will require that adequate noticing and signage be placed in and near the Project site. Impacts will be less than significant.

3.19 Tribal Cultural Resources

Table 3-24. Tribal Cultural Resources Impacts

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

3.19.1 Environmental Setting and Baseline Conditions

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

The project area is located within a rural residential subdivision area in northwestern portion of unincorporated Tulare County at an elevation of approximately 345 feet msl. The Project lies largely within Tract 92, a census-designated place situated less than two miles southeast of the City of Visalia. Tract 92 is bounded on the southeast by the Tulare Irrigation Canal, on the west by Road 148, and on the north and south by agricultural

lands. Another portion of the proposed Project involves pipeline placement along the east edge of Road 148 terminating just south of Rector. The APE for tribal cultural resources purposes is 96 acres.

3.19.2 Impact Assessment

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

a-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

a-ii) A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Public Resources Code Section 5024.1. 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 a public lead agency has not received any formal requests for notification from any State tribes, pursuant to AB52. However, on February 25, 2021, ASM archaeologists completed the Class III inventory/Phase I survey fieldwork of the Project APE. All accessible areas within Tract 92 along the proposed pipeline replacement alignments and potential well location were surveyed, while surveyors flanked each side of the section of new pipeline along Road 148.

In addition to the record search of the Sacred Lands File received January 26, 2021, NAHC provided a list of ten local Native American Tribes who may have knowledge of cultural resources in the vicinity or general interest in the Project. The following ten Tribes were contacted in writing via U.S. Mail with a letter dated January 28, 2021 informing them of the proposed Project and general consultation.

1. *Big Sandy Rancheria of Western Mono Indians, Elizabeth D Kipp, Chairperson*
2. *Dunlap Band of Mono Indians, Benjamin Charley Jr., Tribal Chair*
3. *Dunlap Band of Mono Indians, Dick Charley, Tribal Secretary*
4. *Kern Valley Indian Community, Julie Turner, Secretary*
5. *Kern Valley Indian Community, Robert Robinson, Chairperson*
6. *Kern Valley Indian Community, Brandy Kendricks*
7. *Santa Rosa Rancheria Tachi Yokut Tribe, Leo Sisco, Chairperson*
8. *Tubatulabals of Kern Valley, Robert L. Gomez Jr., Tribal Chairperson*
9. *Tule River Indian Tribe, Neil Peyron, Chairperson*
10. *Wuksache Indian Tribe, Eshom Valley Band, Kenneth Woodrow, Chairperson*

A copy of Tribal correspondence has been made a part of Confidential Appendix A omitted from **Appendix C**.

No archaeological or other cultural resources were identified as a result of either cultural resources assessment. No Native American areas of concern were identified as a result of consultation with the Native American Heritage Commission and local Native American groups. Analysis of soil characteristics for the proposed sites suggest there is a low probability of buried archaeological deposits within the APE. Therefore, it is unlikely that the proposed Project will have an effect on important archaeological, historical, or other cultural resources. In the unlikely event that buried archaeological deposits are encountered within the project area, the finds must be evaluated by a qualified archaeologist.

Therefore, it is concluded, barring evidence to the contrary, that there is little or no chance the proposed Project will cause a substantial adverse change to the significance of a tribal cultural resource as defined. Nonetheless, Mitigation Measures **CUL-1** and **CUL-2**, described above in **Section 3.6**, are recommended in the event cultural materials or human remains are unearthed during excavation or construction.

Mitigation Measure

Refer to **CUL-1** and **CUL-2** in **Section 3.6**

3.20 Utilities and Service Systems

Table 3-25. Utilities and Service Systems Impacts

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

3.20.1 Environmental Setting and Baseline Conditions

3.20.1.1 Water Supply

The Project site is located within the Kaweah subbasin of the San Joaquin Valley Groundwater Basin, as defined by the California Department of Water Resources Groundwater Bulletin 118. Declines in groundwater basin storage and groundwater overdraft are recurring problems in Tulare County. 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.

3.20.1.2 Wastewater Collection and Treatment

No wastewater is currently generated by the existing facility. The existing residential subdivision is served by individual septic tanks.

3.20.1.3 Landfills

The closest landfill to the Project site is the Visalia Landfill located approximately 15 miles northwest of the site. No significant solid waste will be generated during Project construction or operation.

3.20.2 **Impact Assessment**

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

No Impact. The Project itself is a water infrastructure replacement and redundancy project. Environmental effects from the Project will be temporary or same as existing conditions. There will be no impact.

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

No Impact. The Project proposes to replace a well that serves an existing community. No new water consumption is anticipated due to the installation of water meters. There will be no impact.

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

No Impact. The Project will not generate wastewater, and thus no wastewater treatment capacity is necessary. There will be no impact.

d) Would the project generate solid waste in excess of State or local standards, or in excess of the capacity of local infrastructure, or otherwise impair the attainment of solid waste reduction goals? 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. The Project will generate solid waste during the construction process. Project operations are not anticipated to generate additional solid waste than what is already generated. The Project would be required to demonstrate compliance with all Tulare County Solid Waste regulations by filing a Construction and Demolition Debris Recycling Plan. Impacts will be less than significant.

3.21 Wildfire

Table 3-26. Wildfire Impacts

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

3.21.1 Environmental Setting and Baseline Conditions

According to CalFIRE the Project site is not zoned in a Local Responsibility Area (LRA) or State Responsibility Area (SRA). The nearest SRA is 11 miles east of the Project site.

3.21.2 Impact Assessment

If located in or near state responsibility areas or lands classified as very high fire hazard severity zones, would the project:

a) Substantially impair an adopted emergency response plan or emergency evacuation plan?

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

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

d) Expose people or structures to significant risks, including downslope or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes?

No Impact. The Project is located in an unzoned Local Responsibility Area, and is approximately 11 miles west of the nearest State Responsibility Area or very high severity fire hazard zone. The Project is therefore not located in or near an SRA or lands classified as a Very High Fire Hazard Severity Zone. There will be no impact.

3.22 CEQA Mandatory Findings of Significance

Table 3-27. Mandatory Findings of Significance Impacts

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

3.22.1 Impact Assessment

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

Less than Significant Impact with Mitigation Incorporated. The analysis conducted in this IS/MND results in a determination that the proposed Project, with incorporation of mitigation measures, will have a less than significant effect on the environment. The potential for impacts to biological resources, geological, cultural and tribal cultural resources from the implementation of the proposed Project will be less than significant with the incorporation of the mitigation measures discussed in **Chapter 4 Mitigation Monitoring and Reporting Program**. Accordingly, the proposed Project will involve no potential for significant impacts through the degradation of the quality of the environment, the reduction in the habitat or population of fish or wildlife, including endangered plants or animals, the elimination of a plant or animal community or example of a major period of California history or prehistory.

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

Less than Significant Impact. CEQA Guidelines Section 15064(i) States that a Lead Agency shall consider whether the cumulative impact of a project is significant and whether the effects of the project are cumulatively considerable. The assessment of the significance of the cumulative effects of a project must, therefore, be conducted in connection with the effects of past projects, other current projects, and probable future projects. The proposed Project would upgrade existing water mains, replace an existing well, install water meters, and provide a transmission main for redundancy purposes. No additional roads would be constructed as a result of the Project, nor would any additional public services be required. The proposed Project is intended to improve water quality and reliability and would not result in direct or indirect population growth. Therefore, implementation of the proposed Project would not result in significant cumulative impacts and all potential impacts would be reduced to less than significant through the implementation of mitigation measures and basic regulatory requirements incorporated into future Project design.

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

Less than Significant Impact. The Project proposes to replace an existing well and water infrastructure, and connect to an existing water system to improve water quality and reliability. The Project in and of itself would not create a significant hazard to the public or the environment. Project implementation would improve water quality. 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 proposed Project would not have any direct or indirect adverse impacts on humans. This impact would be less than significant.

3.23 Determination: (To be completed by the Lead Agency)

On the basis of this initial evaluation:

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

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

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

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

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

Monroe Self
Signature

7/6/2021
Date

Monroe Self - President
Printed Name/Position

Chapter 4 Mitigation Monitoring and Reporting Program

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

Table 4-1 presents the mitigation measures identified for the proposed Project. Each mitigation measure is numbered with a symbol indicating the topical section to which it pertains, a hyphen, and the impact number. For example, AIR-2 would be the second mitigation measure identified in the Air Quality analysis of the IS/MND.

The first column of **Table 4-1** identifies the mitigation measure. The second column, entitled "When Monitoring is to Occur," identifies the time the mitigation measure should be initiated. The third column, "Frequency of Monitoring," identifies the frequency of the monitoring of the mitigation measure. The fourth column, "Agency Responsible for Monitoring," names the party ultimately responsible for ensuring that the mitigation measure is implemented. The last columns will be used by the District to ensure that individual mitigation measures have been complied with and monitored.

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Table 4-1. Mitigation Monitoring and Reporting Program

Mitigation Measure/Condition of Approval	When Monitoring is to Occur	Frequency of Monitoring	Agency Responsible for Monitoring	Method to Verify Compliance	Verification of Compliance
Biological Resources					
NEST-1a (Avoidance)					
The Project's construction activities shall occur, if feasible, between September 16 and January 31 (outside of nesting bird season) in an effort to avoid impacts to nesting birds.	Prior to the start of construction activities	Prior to ground disturbing activities and the start of construction	The District with assistance of a qualified biological subconsultant		
NEST-1b (Pre-construction Surveys):					
If activities must occur within nesting bird season (February 1 to September 15), a qualified biologist will conduct pre-construction surveys for Swainson's hawk nests onsite and within a 0.5-mile radius and migratory birds within a 50-foot buffer zone of proposed construction activities. The Swainson's hawk survey will be conducted in accordance with CDFW's *Recommended Timing and Methodology for Swainson's Hawk Nesting Surveys in California's Central Valley*, or current guidance. In addition to the Swainson's hawk survey, a qualified biologist will conduct a pre-construction survey for all other nesting birds including burrowing owl within 30 days prior to the start of construction. All raptor nests will be considered "active" upon the nest-building stage.	March 1 and September 15, then within 10 days prior to the start of construction activities	Prior to ground disturbing activities and the start of construction	The District with assistance of a qualified biological subconsultant		
NEST-1c (Establish Buffers):					
On discovery of any active nests near work areas, the biologist will determine appropriate construction setback distances based on applicable CDFW and/or USFWS guidelines and/or the biology of the species in question. Specifically, a 0.5-mile disturbance-free buffer shall be implemented around active Swainson's hawk nests, and a 500-foot buffer for burrowing owl. Buffer zones can be adjusted in consultation with the CDFW. Construction buffers will be identified with flagging, fencing, or other easily visible means, and will be maintained until the biologist has determined that the nestlings have fledged and are no longer dependent on the nest.	On discovery of active nests	Once, per nest, or more frequently as determined by biologist	District		

Mitigation Measure/Condition of Approval	When Monitoring is to Occur	Frequency of Monitoring	Agency Responsible for Monitoring	Method to Verify Compliance	Verification of Compliance
GEN-1 (WEAP Training):					
Prior to initiating construction activities (including staging and mobilization), all personnel associated with Project construction will attend mandatory Worker Environmental Awareness Program (WEAP) training, conducted by a qualified biologist, to aid workers in identifying special status resources that may occur in the Project area. The specifics of this program shall include identification of the sensitive species and suitable habitats, a description of the regulatory status and general ecological characteristics of sensitive resources, and review of the limits of construction and mitigation measures required to reduce impacts to biological resources within the work area. This training will specifically discuss the conservation status of the burrowing owl, Northern California legless lizard, pallid bat, San Joaquin kit fox, Swainson's hawk, and western mastiff bat., and describe the laws and regulations in place to provide protection of these species, identify the penalties for violation of applicable environmental laws and regulations, and a list of required protective measures to avoid "take." A fact sheet conveying this information, along with photographs or illustrations of sensitive species with potential to occur onsite, will also be prepared for distribution to all contractors, their employees, and all other personnel involved with construction of the Project. All employees will sign a form documenting that they have attended WEAP training and understand the information presented to them.	Prior to the start of construction	Prior to construction and whenever new construction employees enter the Project site	The District		
BATS 1-a (Pre-construction Survey-Special Status Bats):					
A qualified biologist will conduct pre-construction bat surveys within 30 days prior to the start of construction activities. Goals of this survey include detection of bat roosts within 100 feet of the Project areas. Acceptable methods of detection include the use of bat a detection device, waiting for evening emergence or morning return, or observation of the presence of individuals or sign (staining or guano).	Prior to the start of construction activities	Prior to ground disturbing activities and the start of construction	The District with assistance of a qualified biological subconsultant		

Mitigation Measure/Condition of Approval	When Monitoring is to Occur	Frequency of Monitoring	Agency Responsible for Monitoring	Method to Verify Compliance	Verification of Compliance
BATS 1-b (Avoidance-Special Status Bats):					
Where feasible, a 100-foot no-disturbance buffer will be enforced around active bat roosts. If this buffer cannot be maintained, the Project proponent shall contact CDFW for guidance on how to proceed.	Prior to the start of construction activities	Prior to ground disturbing activities and the start of construction	The District with assistance of a qualified biological subconsultant		
BATS 1-c (Roost Replacement-Special Status Bats):					
Prior to removal of any trees larger than four (4) inches in diameter at breast height, a qualified biologist shall carefully inspect the tree for any potential bat roosts using the acceptable methods described in BAT-1a. If roosting bats or maternal colonies are detected within a tree planned for removal, the Project proponent shall stop work and initiate consultation with CDFW. Bats will not be evicted from roosts without first receiving approval from CDFW. If bats are evicted, the Project proponent shall provide replacement roosts at a ratio determined by CDFW.	Prior to removal of any trees larger than four (4) inches in diameter at breast height	Prior to ground disturbing activities and the start of construction	The District with assistance of a qualified biological subconsultant		
REP 1-a (Pre-construction Reptiles & Amphibians Survey):					
A qualified biologist/herpetologist shall conduct pre-construction survey for Northern California legless lizard individuals and suitable habitat. If special status species are identified, the qualified biologist will provide an appropriate buffer zone and guidance to avoid construction related impacts to the species.	Prior to the start of construction activities	Prior to ground disturbing activities and the start of construction	The District with assistance of a qualified biological subconsultant		

Mitigation Measure/Condition of Approval	When Monitoring is to Occur	Frequency of Monitoring	Agency Responsible for Monitoring	Method to Verify Compliance	Verification of Compliance
SJKF 1-a (Preconstruction Surveys):					
Preconstruction surveys for the SJKF shall be conducted on and within 100 feet of the project site, no less than 14 days and no more than 30 days prior to the start of ground disturbance activities on the site. The primary objective is to identify kit fox habitat features (e.g., potential dens and refugia) on and adjacent to the site and evaluate their use by kitfoxes. If an active kit fox den is detected within or immediately adjacent to the construction area, the qualified biologist will determine appropriate exclusion zones based on the USFWS guidance document *Standardized Recommendation for Protection of the Endangered San Joaquin Kit Fox Prior to or During Ground Disturbance* (January 2011). Preconstruction surveys will be repeated following any lapses in construction of 30 days or more.	No less than 14 days and no more than 30 days prior to the start of ground disturbance activities on the site	Prior to ground disturbing activities and the start of construction	The District with assistance of a qualified biological subconsultant		
SJKF 1-b (Avoidance)					
If active kit fox dens be detected during preconstruction surveys, the Sacramento Field Office of the USFWS and the Fresno Field Office of CDFW will be notified. A disturbance-free buffer will be established around the burrows in consultation with the USFWS and CDFW, to be maintained until an agency-approved biologist has determined that the burrows have been abandoned.	Prior to the start of construction activities	Prior to ground disturbing activities and the start of construction	The District with assistance of a qualified biological subconsultant		
SJKF 1-c (Minimization):					
The project will observe all minimization measures presented in the USFWS *Standardized Recommendations for the Protection of the Endangered San Joaquin Kit Fox Prior to or During Ground Disturbance* (2011). Such measures include but are not limited to restriction of construction-related vehicle traffic to established roads, construction areas, and other designated areas; inspection and covering of structures (e.g., pipes), as well as installation of escape structures, to prevent the inadvertent entrapment of kit foxes; restriction of rodenticide and herbicide use; and proper disposal of food items and trash.	Prior to the start of construction activities	Prior to ground disturbing activities and the start of construction	The District with assistance of a qualified biological subconsultant		

Mitigation Measure/Condition of Approval	When Monitoring is to Occur	Frequency of Monitoring	Agency Responsible for Monitoring	Method to Verify Compliance	Verification of Compliance
SJKF 1-d (Mortality reporting):					
The Sacramento Field Office of the USFWS and the Fresno Field Office of CDFW will be notified in writing within three working days in case of the accidental death or injury to a San Joaquin kit fox during construction. Notification must include the date, time, location of the incident or of the finding of a dead or injured animal, and any other pertinent information.	Prior to the start of construction activities	Prior to ground disturbing activities and the start of construction	The District with assistance of a qualified biological subconsultant		
Cultural and Tribal Cultural Resources					
CUL-1 (Archaeological Resources):					
In the event that archaeological resources are encountered at any time during construction, development or any ground-moving activities within the entire project area, all work in the vicinity of the find shall halt until a qualified archaeologist can assess the discovery. The District shall implement all recommendations of the archaeologist necessary to avoid or reduce to a less than significant level potential impacts to cultural resource. Appropriate actions could include a Data Recovery Plan or preservation in place.	In the event cultural material is encountered	During excavation	The District		
CUL-2 (Human Remains):					
If human remains are uncovered, or in any other case when human remains are discovered during construction, the Tulare County Coroner is to be notified to arrange proper treatment and disposition. If the remains are identified—on the basis of archaeological context, age, cultural associations, or biological traits—as those of a Native American origin, California Health and Safety Code 7050.5 and Public Resource Code 5097.98 require that the coroner notify the NAHC within 24 hours of discovery. The NAHC will then identify the Most Likely Descendent (MLD) who will determine the manner in which the remains are treated.	In the event human remains are encountered	During excavation	The District		

Mitigation Measure/Condition of Approval	When Monitoring is to Occur	Frequency of Monitoring	Agency Responsible for Monitoring	Method to Verify Compliance	Verification of Compliance
Geology and Soils					
GEO-1 (Unique Paleontological Resources)					
If during construction a paleontological resource has been discovered, construction activities shall halt within a 50-foot radius of the discovery. A qualified paleontologist shall be consulted to determine if the paleontological resource is unique. If the resource is unique, the Project Proponent shall cover all expenses to have the resource archived. If the resource is not unique, construction activity within the discovery shall be allowed to commence.	In the event paleontological material is encountered	During excavation	The District		

Appendix A

CalEEMod Air Pollution and Greenhouse Gas Emissions Modeling Output Files

Tract 92 CSD Consolidation Well Site

Tulare County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Other Non-Asphalt Surfaces	31.71	1000sqft	0.73	31,710.00	0

1.2 Other Project Characteristics

Urbanization	Rural	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	51
Climate Zone	3			**Operational Year**	2022
Utility Company	Southern California Edison				
CO2 Intensity (lb/MWhr)	702.44	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use -

Construction Phase -

Grading -

Architectural Coating - No parking lot striping

Area Coating - No parking lot striping

Table Name	Column Name	Default Value	New Value
tblArchitecturalCoating	EF_Parking	150.00	0.00
tblAreaCoating	Area_EF_Parking	150	0
tblConstructionPhase	PhaseEndDate	12/20/2021	12/6/2021
tblConstructionPhase	PhaseEndDate	12/6/2021	11/22/2021
tblConstructionPhase	PhaseEndDate	7/19/2021	7/5/2021
tblConstructionPhase	PhaseEndDate	12/13/2021	11/29/2021
tblConstructionPhase	PhaseEndDate	7/15/2021	7/1/2021
tblConstructionPhase	PhaseStartDate	12/14/2021	11/30/2021
tblConstructionPhase	PhaseStartDate	7/20/2021	7/6/2021
tblConstructionPhase	PhaseStartDate	7/16/2021	7/2/2021
tblConstructionPhase	PhaseStartDate	12/7/2021	11/23/2021
tblConstructionPhase	PhaseStartDate	7/15/2021	7/1/2021
tblGrading	MaterialExported	0.00	1,650.00
tblProjectCharacteristics	UrbanizationLevel	Urban	Rural

2.0 Emissions Summary

2.1 Overall Construction

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2021	0.0481	0.4871	0.4344	8.5000e-004	0.0132	0.0243	0.0375	3.7300e-003	0.0224	0.0261	0.0000	75.6745	75.6745	0.0180	0.0000	76.1242
Maximum	**0.0481**	**0.4871**	**0.4344**	**8.5000e-004**	**0.0132**	**0.0243**	**0.0375**	**3.7300e-003**	**0.0224**	**0.0261**	**0.0000**	**75.6745**	**75.6745**	**0.0180**	**0.0000**	**76.1242**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2021	0.0481	0.4871	0.4344	8.5000e-004	0.0132	0.0243	0.0375	3.7300e-003	0.0224	0.0261	0.0000	75.6744	75.6744	0.0180	0.0000	76.1242
Maximum	**0.0481**	**0.4871**	**0.4344**	**8.5000e-004**	**0.0132**	**0.0243**	**0.0375**	**3.7300e-003**	**0.0224**	**0.0261**	**0.0000**	**75.6744**	**75.6744**	**0.0180**	**0.0000**	**76.1242**

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

Quarter	Start Date	End Date	Maximum Unmitigated ROG + NOX (tons/quarter)	Maximum Mitigated ROG + NOX (tons/quarter)
1	7-1-2021	9-30-2021	0.3269	0.3269
		Highest	0.3269	0.3269

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	2.0800e-003	0.0000	2.9000e-004	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	5.7000e-004	5.7000e-004	0.0000	0.0000	6.0000e-004
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Mobile	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Waste						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Water						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**2.0800e-003**	**0.0000**	**2.9000e-004**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**5.7000e-004**	**5.7000e-004**	**0.0000**	**0.0000**	**6.0000e-004**

2.2 Overall Operational

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	2.0800e-003	0.0000	2.9000e-004	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	5.7000e-004	5.7000e-004	0.0000	0.0000	6.0000e-004
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Mobile	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Waste						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Water						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**2.0800e-003**	**0.0000**	**2.9000e-004**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**5.7000e-004**	**5.7000e-004**	**0.0000**	**0.0000**	**6.0000e-004**

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

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Site Preparation	Site Preparation	7/1/2021	7/1/2021	5	1	
2	Grading	Grading	7/2/2021	7/5/2021	5	2	
3	Building Construction	Building Construction	7/6/2021	11/22/2021	5	100	
4	Paving	Paving	11/23/2021	11/29/2021	5	5	
5	Architectural Coating	Architectural Coating	11/30/2021	12/6/2021	5	5	

Acres of Grading (Site Preparation Phase): 0.5

Acres of Grading (Grading Phase): 0

Acres of Paving: 0.73

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 0; Non-Residential Outdoor: 0; Striped Parking Area: 1,903 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Architectural Coating	Air Compressors	1	6.00	78	0.48
Paving	Cement and Mortar Mixers	4	6.00	9	0.56
Grading	Concrete/Industrial Saws	1	8.00	81	0.73
Building Construction	Cranes	1	4.00	231	0.29
Building Construction	Forklifts	2	6.00	89	0.20
Site Preparation	Graders	1	8.00	187	0.41
Paving	Pavers	1	7.00	130	0.42
Paving	Rollers	1	7.00	80	0.38
Grading	Rubber Tired Dozers	1	1.00	247	0.40
Building Construction	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Grading	Tractors/Loaders/Backhoes	2	6.00	97	0.37
Paving	Tractors/Loaders/Backhoes	1	7.00	97	0.37
Site Preparation	Tractors/Loaders/Backhoes	1	8.00	97	0.37

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Site Preparation	2	5.00	0.00	206.00	16.80	6.60	20.00	LD_Mix	HDT_Mix	HHDT
Grading	4	10.00	0.00	0.00	16.80	6.60	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	5	13.00	5.00	0.00	16.80	6.60	20.00	LD_Mix	HDT_Mix	HHDT
Paving	7	18.00	0.00	0.00	16.80	6.60	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	3.00	0.00	0.00	16.80	6.60	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

3.2 Site Preparation - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					3.6000e-004	0.0000	3.6000e-004	4.0000e-005	0.0000	4.0000e-005	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	3.2000e-004	3.9100e-003	2.0100e-003	0.0000		1.5000e-004	1.5000e-004		1.4000e-004	1.4000e-004	0.0000	0.4276	0.4276	1.4000e-004	0.0000	0.4310
Total	**3.2000e-004**	**3.9100e-003**	**2.0100e-003**	**0.0000**	**3.6000e-004**	**1.5000e-004**	**5.1000e-004**	**4.0000e-005**	**1.4000e-004**	**1.8000e-004**	**0.0000**	**0.4276**	**0.4276**	**1.4000e-004**	**0.0000**	**0.4310**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	7.8000e-004	0.0265	4.5500e-003	8.0000e-005	1.7600e-003	9.0000e-005	1.8400e-003	4.8000e-004	8.0000e-005	5.7000e-004	0.0000	7.7285	7.7285	2.5000e-004	0.0000	7.7349
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	2.0000e-005	1.0000e-005	1.0000e-004	0.0000	3.0000e-005	0.0000	3.0000e-005	1.0000e-005	0.0000	1.0000e-005	0.0000	0.0255	0.0255	0.0000	0.0000	0.0255
Total	**8.0000e-004**	**0.0265**	**4.6500e-003**	**8.0000e-005**	**1.7900e-003**	**9.0000e-005**	**1.8700e-003**	**4.9000e-004**	**8.0000e-005**	**5.8000e-004**	**0.0000**	**7.7540**	**7.7540**	**2.5000e-004**	**0.0000**	**7.7604**

3.2 Site Preparation - 2021

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					3.6000e-004	0.0000	3.6000e-004	4.0000e-005	0.0000	4.0000e-005	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	3.2000e-004	3.9100e-003	2.0100e-003	0.0000		1.5000e-004	1.5000e-004		1.4000e-004	1.4000e-004	0.0000	0.4276	0.4276	1.4000e-004	0.0000	0.4310
Total	**3.2000e-004**	**3.9100e-003**	**2.0100e-003**	**0.0000**	**3.6000e-004**	**1.5000e-004**	**5.1000e-004**	**4.0000e-005**	**1.4000e-004**	**1.8000e-004**	**0.0000**	**0.4276**	**0.4276**	**1.4000e-004**	**0.0000**	**0.4310**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	7.8000e-004	0.0265	4.5500e-003	8.0000e-005	1.7600e-003	9.0000e-005	1.8400e-003	4.8000e-004	8.0000e-005	5.7000e-004	0.0000	7.7285	7.7285	2.5000e-004	0.0000	7.7349
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	2.0000e-005	1.0000e-005	1.0000e-004	0.0000	3.0000e-005	0.0000	3.0000e-005	1.0000e-005	0.0000	1.0000e-005	0.0000	0.0255	0.0255	0.0000	0.0000	0.0255
Total	**8.0000e-004**	**0.0265**	**4.6500e-003**	**8.0000e-005**	**1.7900e-003**	**9.0000e-005**	**1.8700e-003**	**4.9000e-004**	**8.0000e-005**	**5.8000e-004**	**0.0000**	**7.7540**	**7.7540**	**2.5000e-004**	**0.0000**	**7.7604**

3.3 Grading - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					7.5000e-004	0.0000	7.5000e-004	4.1000e-004	0.0000	4.1000e-004	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	8.0000e-004	7.2500e-003	7.5700e-003	1.0000e-005		4.1000e-004	4.1000e-004		3.9000e-004	3.9000e-004	0.0000	1.0409	1.0409	1.9000e-004	0.0000	1.0458
Total	**8.0000e-004**	**7.2500e-003**	**7.5700e-003**	**1.0000e-005**	**7.5000e-004**	**4.1000e-004**	**1.1600e-003**	**4.1000e-004**	**3.9000e-004**	**8.0000e-004**	**0.0000**	**1.0409**	**1.0409**	**1.9000e-004**	**0.0000**	**1.0458**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	6.0000e-005	4.0000e-005	4.2000e-004	0.0000	1.2000e-004	0.0000	1.2000e-004	3.0000e-005	0.0000	3.0000e-005	0.0000	0.1020	0.1020	0.0000	0.0000	0.1021
Total	**6.0000e-005**	**4.0000e-005**	**4.2000e-004**	**0.0000**	**1.2000e-004**	**0.0000**	**1.2000e-004**	**3.0000e-005**	**0.0000**	**3.0000e-005**	**0.0000**	**0.1020**	**0.1020**	**0.0000**	**0.0000**	**0.1021**

3.3 Grading - 2021

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					7.5000e-004	0.0000	7.5000e-004	4.1000e-004	0.0000	4.1000e-004	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	8.0000e-004	7.2500e-003	7.5700e-003	1.0000e-005		4.1000e-004	4.1000e-004		3.9000e-004	3.9000e-004	0.0000	1.0409	1.0409	1.9000e-004	0.0000	1.0458
Total	**8.0000e-004**	**7.2500e-003**	**7.5700e-003**	**1.0000e-005**	**7.5000e-004**	**4.1000e-004**	**1.1600e-003**	**4.1000e-004**	**3.9000e-004**	**8.0000e-004**	**0.0000**	**1.0409**	**1.0409**	**1.9000e-004**	**0.0000**	**1.0458**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	6.0000e-005	4.0000e-005	4.2000e-004	0.0000	1.2000e-004	0.0000	1.2000e-004	3.0000e-005	0.0000	3.0000e-005	0.0000	0.1020	0.1020	0.0000	0.0000	0.1021
Total	**6.0000e-005**	**4.0000e-005**	**4.2000e-004**	**0.0000**	**1.2000e-004**	**0.0000**	**1.2000e-004**	**3.0000e-005**	**0.0000**	**3.0000e-005**	**0.0000**	**0.1020**	**0.1020**	**0.0000**	**0.0000**	**0.1021**

3.4 Building Construction - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0388	0.3993	0.3632	5.7000e-004		0.0224	0.0224		0.0206	0.0206	0.0000	50.0410	50.0410	0.0162	0.0000	50.4456
Total	**0.0388**	**0.3993**	**0.3632**	**5.7000e-004**		**0.0224**	**0.0224**		**0.0206**	**0.0206**	**0.0000**	**50.0410**	**50.0410**	**0.0162**	**0.0000**	**50.4456**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	7.6000e-004	0.0266	5.0500e-003	6.0000e-005	1.4900e-003	7.0000e-005	1.5700e-003	4.3000e-004	7.0000e-005	5.0000e-004	0.0000	6.1559	6.1559	2.9000e-004	0.0000	6.1632
Worker	3.9100e-003	2.6900e-003	0.0271	7.0000e-005	8.0500e-003	5.0000e-005	8.1000e-003	2.1400e-003	5.0000e-005	2.1900e-003	0.0000	6.6311	6.6311	1.8000e-004	0.0000	6.6356
Total	**4.6700e-003**	**0.0293**	**0.0321**	**1.3000e-004**	**9.5400e-003**	**1.2000e-004**	**9.6700e-003**	**2.5700e-003**	**1.2000e-004**	**2.6900e-003**	**0.0000**	**12.7870**	**12.7870**	**4.7000e-004**	**0.0000**	**12.7988**

3.4 Building Construction - 2021

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0388	0.3993	0.3632	5.7000e-004		0.0224	0.0224		0.0206	0.0206	0.0000	50.0410	50.0410	0.0162	0.0000	50.4456
Total	**0.0388**	**0.3993**	**0.3632**	**5.7000e-004**		**0.0224**	**0.0224**		**0.0206**	**0.0206**	**0.0000**	**50.0410**	**50.0410**	**0.0162**	**0.0000**	**50.4456**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	7.6000e-004	0.0266	5.0500e-003	6.0000e-005	1.4900e-003	7.0000e-005	1.5700e-003	4.3000e-004	7.0000e-005	5.0000e-004	0.0000	6.1559	6.1559	2.9000e-004	0.0000	6.1632
Worker	3.9100e-003	2.6900e-003	0.0271	7.0000e-005	8.0500e-003	5.0000e-005	8.1000e-003	2.1400e-003	5.0000e-005	2.1900e-003	0.0000	6.6311	6.6311	1.8000e-004	0.0000	6.6356
Total	**4.6700e-003**	**0.0293**	**0.0321**	**1.3000e-004**	**9.5400e-003**	**1.2000e-004**	**9.6700e-003**	**2.5700e-003**	**1.2000e-004**	**2.6900e-003**	**0.0000**	**12.7870**	**12.7870**	**4.7000e-004**	**0.0000**	**12.7988**

3.5 Paving - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	1.8000e-003	0.0168	0.0177	3.0000e-005		8.8000e-004	8.8000e-004		8.2000e-004	8.2000e-004	0.0000	2.3481	2.3481	6.8000e-004	0.0000	2.3652
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**1.8000e-003**	**0.0168**	**0.0177**	**3.0000e-005**		**8.8000e-004**	**8.8000e-004**		**8.2000e-004**	**8.2000e-004**	**0.0000**	**2.3481**	**2.3481**	**6.8000e-004**	**0.0000**	**2.3652**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	2.7000e-004	1.9000e-004	1.8700e-003	1.0000e-005	5.6000e-004	0.0000	5.6000e-004	1.5000e-004	0.0000	1.5000e-004	0.0000	0.4591	0.4591	1.0000e-005	0.0000	0.4594
Total	**2.7000e-004**	**1.9000e-004**	**1.8700e-003**	**1.0000e-005**	**5.6000e-004**	**0.0000**	**5.6000e-004**	**1.5000e-004**	**0.0000**	**1.5000e-004**	**0.0000**	**0.4591**	**0.4591**	**1.0000e-005**	**0.0000**	**0.4594**

3.5 Paving - 2021

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	1.8000e-003	0.0168	0.0177	3.0000e-005		8.8000e-004	8.8000e-004		8.2000e-004	8.2000e-004	0.0000	2.3481	2.3481	6.8000e-004	0.0000	2.3652
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**1.8000e-003**	**0.0168**	**0.0177**	**3.0000e-005**		**8.8000e-004**	**8.8000e-004**		**8.2000e-004**	**8.2000e-004**	**0.0000**	**2.3481**	**2.3481**	**6.8000e-004**	**0.0000**	**2.3652**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	2.7000e-004	1.9000e-004	1.8700e-003	1.0000e-005	5.6000e-004	0.0000	5.6000e-004	1.5000e-004	0.0000	1.5000e-004	0.0000	0.4591	0.4591	1.0000e-005	0.0000	0.4594
Total	**2.7000e-004**	**1.9000e-004**	**1.8700e-003**	**1.0000e-005**	**5.6000e-004**	**0.0000**	**5.6000e-004**	**1.5000e-004**	**0.0000**	**1.5000e-004**	**0.0000**	**0.4591**	**0.4591**	**1.0000e-005**	**0.0000**	**0.4594**

3.6 Architectural Coating - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	5.5000e-004	3.8200e-003	4.5400e-003	1.0000e-005		2.4000e-004	2.4000e-004		2.4000e-004	2.4000e-004	0.0000	0.6383	0.6383	4.0000e-005	0.0000	0.6394
Total	**5.5000e-004**	**3.8200e-003**	**4.5400e-003**	**1.0000e-005**		**2.4000e-004**	**2.4000e-004**		**2.4000e-004**	**2.4000e-004**	**0.0000**	**0.6383**	**0.6383**	**4.0000e-005**	**0.0000**	**0.6394**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	5.0000e-005	3.0000e-005	3.1000e-004	0.0000	9.0000e-005	0.0000	9.0000e-005	2.0000e-005	0.0000	3.0000e-005	0.0000	0.0765	0.0765	0.0000	0.0000	0.0766
Total	**5.0000e-005**	**3.0000e-005**	**3.1000e-004**	**0.0000**	**9.0000e-005**	**0.0000**	**9.0000e-005**	**2.0000e-005**	**0.0000**	**3.0000e-005**	**0.0000**	**0.0765**	**0.0765**	**0.0000**	**0.0000**	**0.0766**

3.6 Architectural Coating - 2021

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	5.5000e-004	3.8200e-003	4.5400e-003	1.0000e-005		2.4000e-004	2.4000e-004		2.4000e-004	2.4000e-004	0.0000	0.6383	0.6383	4.0000e-005	0.0000	0.6394
Total	**5.5000e-004**	**3.8200e-003**	**4.5400e-003**	**1.0000e-005**		**2.4000e-004**	**2.4000e-004**		**2.4000e-004**	**2.4000e-004**	**0.0000**	**0.6383**	**0.6383**	**4.0000e-005**	**0.0000**	**0.6394**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	5.0000e-005	3.0000e-005	3.1000e-004	0.0000	9.0000e-005	0.0000	9.0000e-005	2.0000e-005	0.0000	3.0000e-005	0.0000	0.0765	0.0765	0.0000	0.0000	0.0766
Total	**5.0000e-005**	**3.0000e-005**	**3.1000e-004**	**0.0000**	**9.0000e-005**	**0.0000**	**9.0000e-005**	**2.0000e-005**	**0.0000**	**3.0000e-005**	**0.0000**	**0.0765**	**0.0765**	**0.0000**	**0.0000**	**0.0766**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

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

4.2 Trip Summary Information

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

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Other Non-Asphalt Surfaces	14.70	6.60	6.60	0.00	0.00	0.00	0	0	0

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Other Non-Asphalt Surfaces	0.525564	0.032657	0.173666	0.133675	0.020482	0.005111	0.020758	0.078919	0.001825	0.001263	0.004259	0.001112	0.000710

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

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

5.2 Energy by Land Use - NaturalGas

Unmitigated

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

Mitigated

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

5.3 Energy by Land Use - Electricity

Unmitigated

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

Mitigated

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

6.0 Area Detail

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	2.0800e-003	0.0000	2.9000e-004	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	5.7000e-004	5.7000e-004	0.0000	0.0000	6.0000e-004
Unmitigated	2.0800e-003	0.0000	2.9000e-004	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	5.7000e-004	5.7000e-004	0.0000	0.0000	6.0000e-004

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	2.0500e-003					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	3.0000e-005	0.0000	2.9000e-004	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	5.7000e-004	5.7000e-004	0.0000	0.0000	6.0000e-004
Total	**2.0800e-003**	**0.0000**	**2.9000e-004**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**5.7000e-004**	**5.7000e-004**	**0.0000**	**0.0000**	**6.0000e-004**

6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	2.0500e-003					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	3.0000e-005	0.0000	2.9000e-004	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	5.7000e-004	5.7000e-004	0.0000	0.0000	6.0000e-004
Total	**2.0800e-003**	**0.0000**	**2.9000e-004**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**5.7000e-004**	**5.7000e-004**	**0.0000**	**0.0000**	**6.0000e-004**

7.0 Water Detail

7.1 Mitigation Measures Water

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

7.2 Water by Land Use

Unmitigated

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

7.2 Water by Land Use

Mitigated

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

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

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

8.2 Waste by Land Use

Unmitigated

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

Mitigated

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

9.0 Operational Offroad

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

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

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

Boilers

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

User Defined Equipment

Equipment Type	Number

11.0 Vegetation

Appendix B

Biological Evaluation

Biological Evaluation

SELF HELP ENTERPRISES

TRACT 92 COMMUNITY SERVICE DISTRICT WATER SYSTEM UPGRADE AND CONSOLIDATION PROJECT

FEBRUARY 2021

Brittany Gummo, Biologist
PROVOST & PRITCHARD CONSULTING GROUP | 286 CROMWELL, FRESNO CA 93711

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I. Introduction

The following technical report, prepared by Provost & Pritchard Consulting Group, is in compliance with the California Environmental Quality Act (CEQA), includes a description of the biological resources present or with potential to occur within the Tract 92 Community Services District (CSD) Water System Upgrade and Consolidation Project (Project) and surrounding areas, and evaluates potential Project-related impacts to those resources. As illustrated in **Figure 3**, the Area of Potential Effect (APE) includes approximately 82.8 acres south-east of the City of Visalia, in Tulare County. The land surrounding the APE is rural residential and agricultural development.

Project Description

The Project proposes the consolidation of the CSD's water system with the City of Visalia water system managed by California Water Service (Cal Water) Company (see **Figure 3**). The Project would include construction on Assessor Parcel Number (APN) 127-073-012 (Lot 25, currently vacant) of a new municipal standard domestic production well, sound enclosure, hydropneumatics pressure tank, chlorine disinfection system, chemical building, and a stormwater collection basin to serve the new well site. The Project would also replace approximately 7,800 linear feet of 4-inch and 6-inch aging water transmission pipeline with new 8-inch distribution network within the Project roadways, upgraded lateral tie-in connections and meters for the local homes in the Project area. Existing wharf hydrants would be replaced with Tulare County standard fire hydrants and isolation valves, service meters, and sampling stations. A mounted radio antenna would be installed to tie the site to Cal Water's Supervisory Control and Data Acquisition (SCADA) system.

Additionally, a new 5,300-foot long, 12-inch diameter main pipeline would also be constructed within Road 148 from the westerly edge of the Project boundary south of Water Avenue north to the south edge of the Southern California Edison Rector Transmission Station located at 28361 Road 148, Visalia, CA.

The two existing wells located within Assessor Parcel Number (APN) 127-072-027 (the southerly portion of Lot 38), would be abandoned in-place in accordance with County well abandonment requirements. The wells' appurtenant water treatment facility, emergency generator, motor control, chlorinator, and 5,000-gallon pressure tank also located within APN 127-072-027, would be demolished.

Report Objectives

Construction activities, such as that proposed by the Project, could potentially damage biological resources, or modify habitats that are crucial for sensitive plant and wildlife species. In cases such as these, water system upgrades may be regulated by State or federal agencies, subject to provisions of CEQA and addressed by local regulatory agencies.

This report addresses issues related to the following:

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

Therefore, the objectives of this report are:

1. Summarize all site-specific information related to existing biological resources.

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

Study Methodology

A reconnaissance-level field survey of the APE and surrounding areas was conducted on January 15, 2021, by Provost & Pritchard's biologist, Brittany Gummo. The survey consisted of walking and driving through the APE while identifying and noting land uses, biological habitats and communities, and plant and animal species encountered. Furthermore, the APE was assessed for suitable habitats of various wildlife species (see **Figure 2**).

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

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

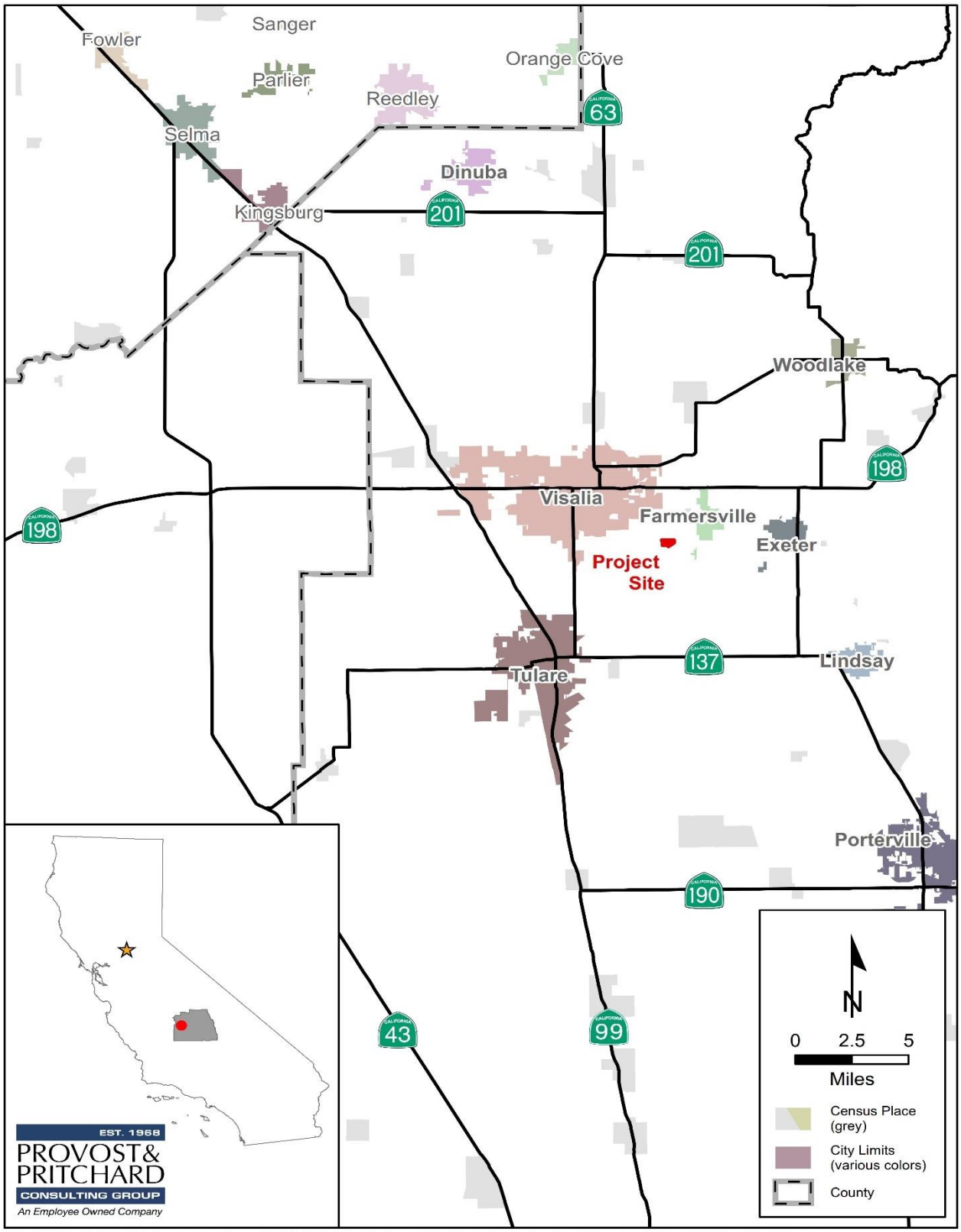

Figure 1. **Regional Location**

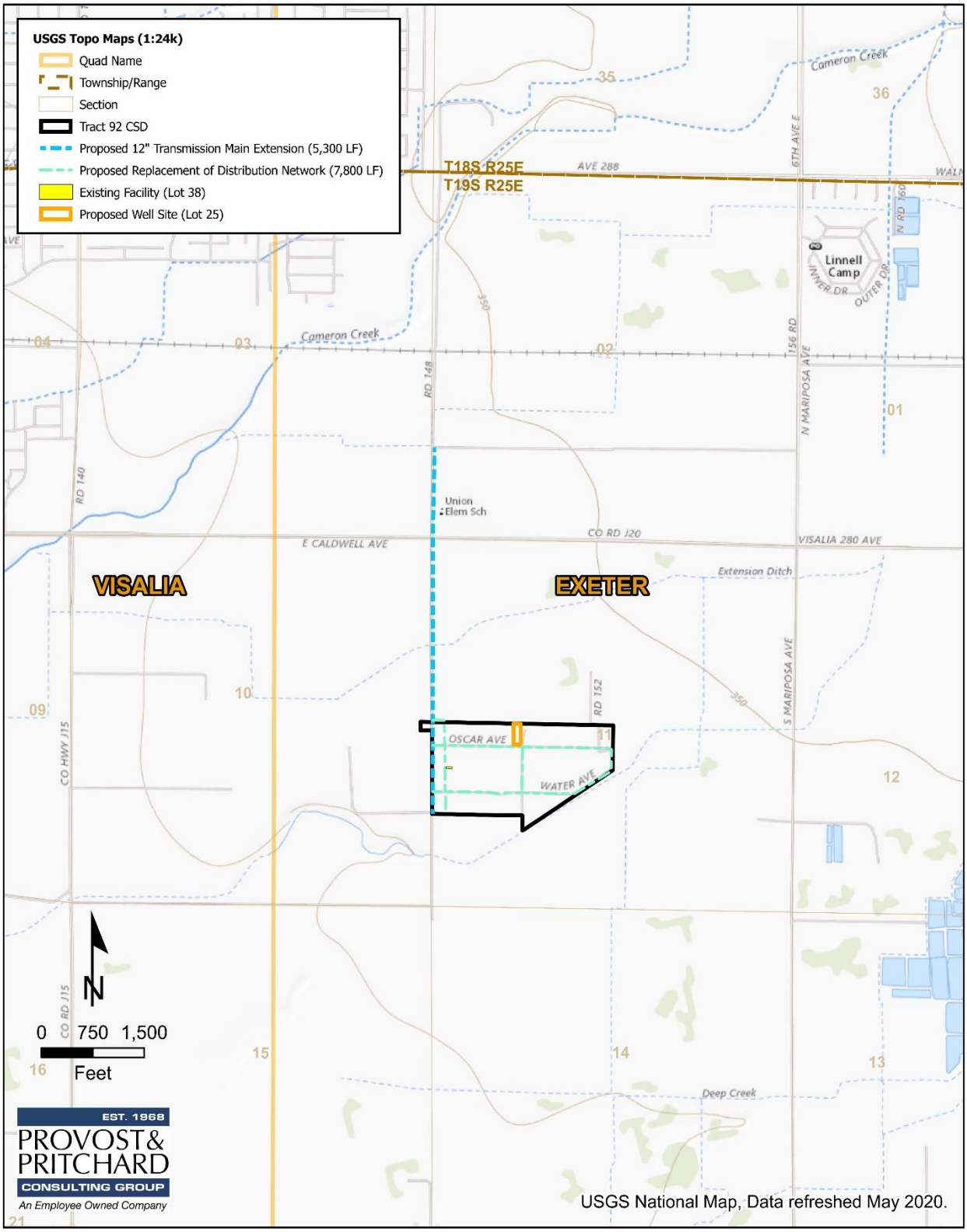

Figure 2. Topographic Quadrangle Map

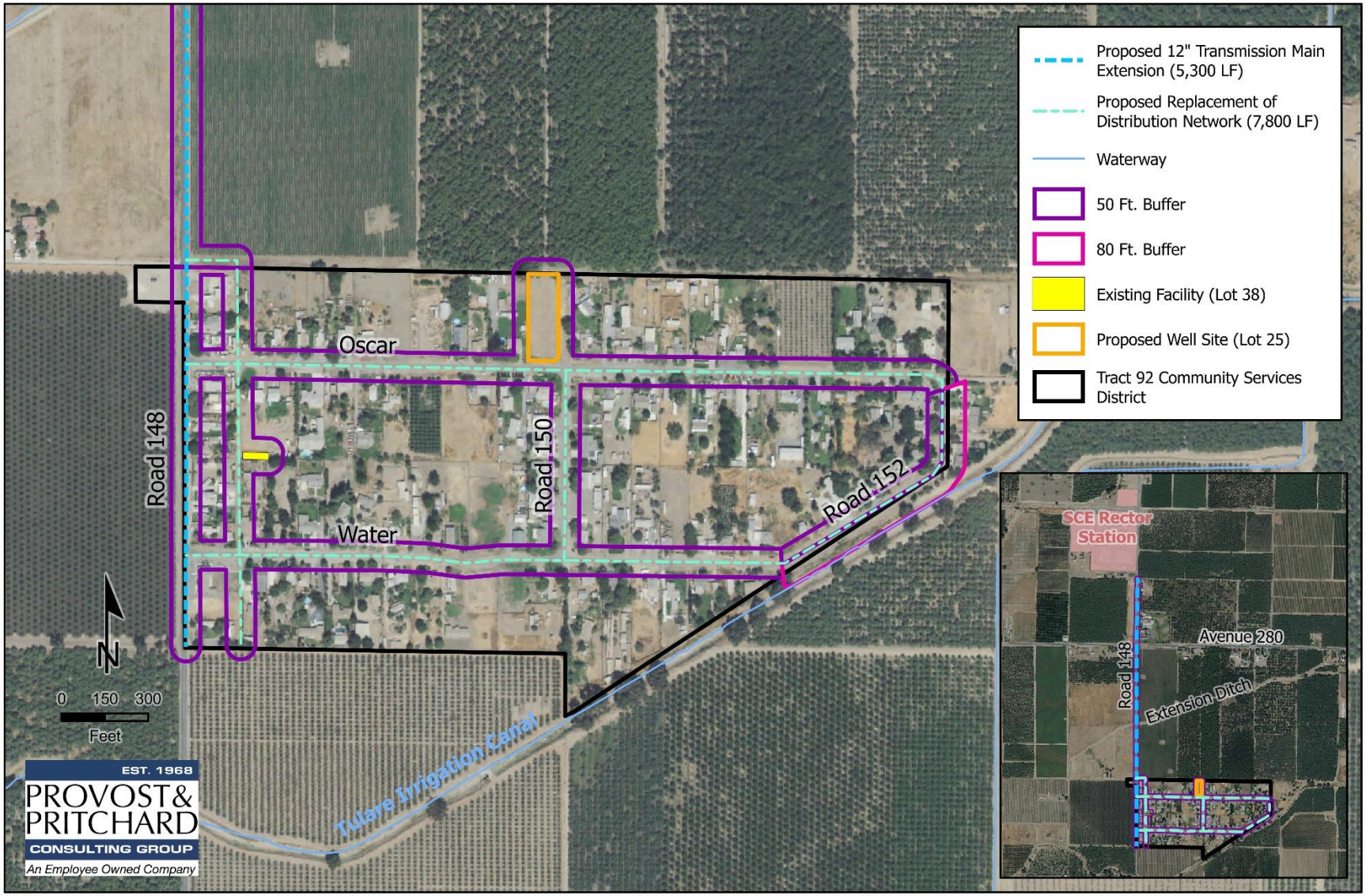

***Figure 3.* Area of Potential Effect**

II. Existing Conditions

Regional Setting

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

Like most of California, the San Joaquin Valley experiences a Mediterranean climate. Warm, dry summers are followed by cool, moist winters. Summer temperatures often reach above 90 degrees Fahrenheit, and the humidity is generally low. Winter temperatures are often below 60 degrees Fahrenheit during the day and rarely exceed 70 degrees. On average, the Central Valley receives approximately 10 inches of precipitation in the form of rainfall yearly, most of which occurs between October and March.

The Project site is split between two water sheds. The Bates Slough watershed; Hydrologic Unit Code (HUC): 180300060901, and of the Cameron Creek watershed; HUC: 180300071402. There are two water conveyance systems in the vicinity: Tulare Irrigation Canal and Extension Ditch (Figure 3)

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

Project Site

As illustrated in **Figure 3**, the APE includes approximately 82.8 acres approximately 5 miles south-west of the City of Visalia. The APE is surrounded by existing paved roads, rural residential homes, and agricultural lands.

The biological reconnaissance survey was conducted by walking and driving the APE. The survey area consisted of a 50-foot buffer around all proposed Project activities. An additional 30-foot buffer zone (totaling 80-feet) was provided adjacent to Road 152 to include a portion of Tulare Irrigation Canal. The area around the Tulare Irrigation Canal may have habitat that could sustain several sensitive species; therefore, it was important to include this area within the APE. **Figure 3** identifies the extended 80-foot buffer along the canal. At the time of the survey the canal was dry and lined with riprap. There was debris within the canal including tires and leaf litter. Five large Oak trees (*Quercus spp*) were observed on the banks of the canal. Bird species observed included mountain chickadee (*Poecile gambeli*), acorn woodpecker (*Melanerpes formicivorus*), mourning dove (*Zenaida macroura*), and starlings (*Sturnidea spp*). Although nests where not viewed along the canal, courtship and nest building behavior was observed.

Vegetation identified around the Tulare Irrigation Canal and Road 152 included: tobacco trees (*Nicotiana glauca*), Freemont cottonwood (*Populus fremontii*), Sweet gum trees (*Liquidambar styraciflua*), Cedars (*Cedrus* spp), pine trees (*Pinus spp*), magnolia trees (*Magnolia spp*), and English ivy (*Hedera helix*). The pipeline would be installed within the utility easement along the southside of Road 152. There would be no tree or native vegetation removal during the pipeline installation.

Water Avenue, Oscar Avenue and Road 150 have residential homes on both sides of the road. Houses along those routes contain ornamental and landscape vegetation consisting of cedars, sweet gum, fruit, magnolia, juniper (*Juniperus spp*), palm (*Arecaceae spp*) trees and rose (*Rosa spp*) shrubs. Animals observed included; domestic dogs (*Canis lupus familiaris*), horses (*Equus ferus caballus*), goats (*Capra aegagrus hircus*), and pigs

(*Sus spp*). Avian species observed included: mourning doves , shrike (*Laniidae spp*), starlings, and house finch (*Carpodacus mexicanus*). Although nests where not viewed along the streets, courtship and nest building behavior was observed.

The proposed well site is located at the intersection of Oscar Avenue and Road 150 in empty lot and is boarded by residential homes to the east and west and a walnut orchard (*Juglans nigra*) to the north. The proposed well site was surveyed by walking transects of 15-feet spans. Vegetation observed at the location includes English oak tree (*Quercus robur*), red filaree (*Erodium cicutarium*), wild rye (*Elymus glaucus*), ripgut (*Bromus diandrus*), and malva (*Malva spp*). Some ground vegetation such as grasses and non-native species may be removed for installation of the new well and associated buildings; however, the oak tree would not be disturbed.

The existing water treatment facility is accessed using a dirt alleyway surrounded by residential homes to the north south and east. The property to the east has domestic farm animals such as pigs and chickens (*Gallus domesticus*).

The large 12-inch main waterline would be installed on the east side of Road 148 and is surrounded by orchards, residential homes, vineyards, and a school. The pipeline would cross Extension Ditch canal. At the time of the survey the canal was completely dry and lined with riprap. Two dead pocket gophers (*Geomyidae spp*) were observed on the bed of the canal. The Blue Oak Academy Charter school is located on the northeast intersection of Road 280 and Road 148 and an empty lot is located on the northwest corner, where several burrow complexes where observed. The burrows where not of adequate size or dimension required to house a San Joaquin kit fox or burrowing owl species and were observed being occupied by several California ground squirrels (*Otospermophilus beecheyi*). Additionally, tracks, and scat were not observed.

Soils

One soil map unit was generated identifying one soil type within the Project area: Nord fine sandy loam, 0 to 2 percent slope represents the whole 82.8 acres of the APE. Nord fine sandy loam forms in flood plains and alluvial fans. Sandy loam soils have a high concentration of sand that gives them a gritty feel. Sandy loam soils are capable of quickly draining excess water but cannot hold significant amounts of water or nutrients for plants. The complete NRCS Web Soil Survey report is available **Appendix D** at the end of this document.

Natural Communities of Special Concern

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

According to CNDDB, there are no recorded observations of natural communities of special concern with potential to occur within the Project area or vicinity. Furthermore, biological communities observed onsite during the field survey were significantly disturbed, degraded by the presence of invasive species, and therefore provide relatively low-quality habitat for most native wildlife species.

Designated Critical Habitat of the APE

The USFWS often designates areas of "Critical Habitat" when it lists species as threatened or endangered. Critical Habitat is a specific geographic area that contains features essential for the conservation of a threatened

or endangered species and that may require special management and protection. According to CNDDB and IPaC, designated critical habitat is absent from the Project area and vicinity.

Wildlife Movement Corridors

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

Tulare Irrigation Canal is highly disturbed near the APE and surrounded by residential and agricultural development. While ornamental landscaping is present surrounding residential homes in the area, vegetation within the canal bed and banks is absent or dominated by non-native species with scattered oak trees and lacking in native riparian vegetation. The canal itself can function as a wildlife movement corridor; however, Project components would not impede wildlife movement along the canal banks, at most, domestic dogs, coyotes, and common gray foxes may utilize the canal banks to travel between agricultural lands while foraging nocturnally.

Special Status Plants and Animals

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

A thorough search of the CNDDB and IPaC for published accounts of special status plant and animal species was conducted for *Exeter* 7.5-minute quadrangle that contains the APE in its entirety, and for the eight surrounding quadrangles: *Visalia, Woodlake, Rocky Hill, Lindsay, Cairns Corner, Ivanhoe, Tulare, and Monson*. These species, and their potential to occur within the Project area are listed in **Table 1** and **Table 2** on the following pages. Raw data obtained from CNDDB and IPaC are available in **Appendix B and Appendix C** at the end of this document. All relevant sources of information, as discussed in the Study Methodology section of this report (above), were used to determine if any special status species are known to be within the Project APE. **Figure 2** shows the Project's 7.5-minute quadrangle, according to USGS Topographic Maps.

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

Species	*Status*	*Habitat*	*Occurrence on Project Site*
American badger *(Taxidea taxus)*	CSC	Grasslands, savannas, and mountain meadows near timberline are preferred. Most abundant in drier open spaces of shrub and grassland. Burrows in soil.	**Unlikely:** The APE is surrounded by existing roadways and residential homes and frequently disturbed agricultural land. The area is lacking in undisturbed unopen spaces. Habitats of the Project area are considered marginal, at best, for this species. The closest observation was in 1994 approximately 6.4 miles northwest of the APE.
blunt-nosed leopard lizard *(Gambelia sila)*	FE, CE, CFP	Inhabits semi-arid grasslands, alkali flats, low foothills, canyon floors, large washes, and arroyos, usually on sandy, gravelly, or loamy substrate, sometimes on hardpan. Often found where there are abundant rodent burrows in dense vegetation or tall grass. Cannot survive on lands under cultivation. Known to bask on kangaroo rat mounds and often seeks shelter at the base of shrubs, in small mammal burrows, or in rock piles. Adults may excavate shallow burrows but rely on deeper pre-existing rodent burrows for hibernation and reproduction.	**Unlikely:** The APE is surrounded by existing roadways and disturbed habitat. Foraging habitat is limited for this species.
burrowing owl *(Athene cunicularia)*	CSC	Resides in open, dry annual or perennial grasslands, deserts, and scrublands with low growing vegetation. Nests underground in existing burrows created by mammals, most often ground squirrels.	**Possible:** The APE contains suitable habitat as the species is known to use banks in canals and man-made structures as burrows. Foraging in the habitat would support the species.
California red-legged frog *(Rana draytonii)*	FT, CSC	Inhabits perennial rivers, creeks, and stock ponds with vegetative cover within the Coast Range and northern Sierra foothills.	**Absent:** The species requires a constant water supply. Although the Tulare Irrigation Canal is near the APE it remains dry most of the year and is not suitable habitat for this species.

Species	Status	Habitat	Occurrence on Project Site
California tiger salamander *(Ambystoma californiense)*	FT, CT, CWL	Requires vernal pools or seasonal ponds for breeding and small mammal burrows for aestivation. Generally found in grassland and oak savannah plant communities in central California from sea level to 1500 feet in elevation.	**Absent:** The Tulare Irrigation Canal and the Extension Ditch could provide breeding areas; however, suitable vernal pool habitat and lack of pooling water in the canal makes the site unsuitable for this species.
Crotch bumble bee (*Bombus crotchii*)	CCE	Occurs throughout coastal California, as well as east to the Sierra-Cascade crest, and south into Mexico. Food plant genera include *Antirrhinum, Phacelia, Clarkia, Dendromecon, Eschscholzia*, and *Eriogonum*.	**Unlikely:** Although the Project is located within the historical range of this species, vegetative cover is dominated by weedy, non-native plants. Furthermore, the ongoing use of commercial honeybees, herbicides, and pesticides in adjacent agricultural lands makes the Project area unsuitable for native pollinators. The last observation of the species around the APE was made in 1961 and presumed to be extant.
Delta smelt *(Hypomesus transpacificus)*	FT, CE	This pelagic and euryhaline species is Endemic to the Sacramento-San Joaquin River Delta, upstream through Contra Costa, Sacramento, San Joaquin, and Solano Counties.	**Absent:** The species requires a constant water supply. Although the Tulare Irrigation Canal in near the APE it remains dry most of the year and does not contain suitable water habitat for this species.
foothill yellow-legged frog *(Rana boylii)*	CCT, CSC	Frequents rocky streams and rivers with rocky substrate and open, sunny banks in forests, chaparral, and woodlands. Occasionally found in isolated pools, vegetated backwaters, and deep, shaded, spring-fed pools.	**Unlikely:** The species requires a constant water supply and riparian habitat. Although the Tulare Irrigation Canal is near the APE it remains dry most of the year and is not suitable habitat for this species. The last observation made of the species around the APE was in 1941. Presumed extant.
giant gartersnake *(Thamnophis gigas)*	FT, CT	Occurs in marshes, sloughs, drainage canals, irrigation ditches, rice fields, and adjacent uplands. Prefers locations with emergent vegetation for cover and open areas for basking. This species uses small mammal burrows adjacent to aquatic habitats for hibernation in the winter	**Unlikely:** The Tulare Irrigation Canal in the APE does not have a constant water supply and lacks emergent vegetative cover and therefore, would not support the habitat this species requires.

Species	Status	Habitat	Occurrence on Project Site
		and to escape from excessive heat in the summer.	
northern California legless lizard *(Anniella pulchra)*	CSC	Found primarily underground, burrowing in loose, sandy soil. Forages in loose soil and leaf litter during the day. Occasionally observed on the surface at dusk and night.	**Possible**: The APE has habitat that could support the species; however, the last observation was made in 2015 in the Kaweah reserve approximately 19 miles north-west of the APE.
northern leopard frog (Lithobates pipiens)	CSC	Inhabits grassland, wet meadows, potholes, forests, woodland, brushlands, springs, canals, bogs, marshes, and reservoirs. Generally, prefers permanent water with abundant riparian vegetation.	**Unlikely:** The Tulare Irrigation Canal does not have a constant water supply to support wet vegetative habitat this species requires. The last observation was in 1961 15 miles north of the APE. This species is presumed extant.
pallid bat *(Antrozous pallidus)*	CSC	Found in grasslands, chaparral, and woodlands, where it feeds on ground- and vegetation-dwelling arthropods, and occasionally takes insects in flight. Prefers to roost in rock crevices, but may also use tree cavities, caves, bridges, and other man-made structures.	**Possible:** The APE contains trees and man-made structures that could provide roosting prospects. The agricultural lands could provide ideal foraging for the species.
San Joaquin kit fox *(Vulpes macrotis mutica)*	FE, CT	Underground dens with multiple entrances in alkali sink, valley grassland, and woodland in valleys and adjacent foothills.	**Possible:** The species has been known to den in agricultural lands and man-made structures such as the canal banks. Although adjacent to a residential neighborhood, there are agricultural lands around the APE for foraging and the canal bank could be used as a migration corridor to other more suitable foraging areas.
Swainson's hawk *(Buteo swainsoni)*	CT	Nests in large trees in open areas adjacent to grasslands, grain or alfalfa fields, or livestock pastures suitable for supporting rodent populations.	**Possible:** The APE contains trees large enough to support nesting for the species. Small mammal burrows were observed in the area and could be a food source for this species.

Species	*Status*	*Habitat*	*Occurrence on Project Site*
Tipton kangaroo rat *(Dipodomys nitratoides nitratoides)*	FE, CE	Burrows in soil. Often found in grassland and shrubland.	**Unlikely:** Although this species could be found near the canal and agricultural lands, the last observation was made in 1943 and the species is presumed extant around the APE.
tricolored blackbird *(Agelaius tricolor)*	CT, CSC	Nests colonially near fresh water in dense cattails or tules, or in thickets of riparian shrubs. Forages in grassland and cropland. Large colonies are often found on dairy farm forage fields.	**Absent:** Suitable nesting habitat was not observed on-site or within the adjacent lands. At most, this species could potentially forage over grasslands; however, there is a lack of riparian cover to house a colony. The last observation was made in 2000 and presumed extant.
valley elderberry longhorn beetle *(Desmocerus californicus dimorphus)*	FT	Lives in mature elderberry shrubs of the Central Valley and foothills. Adults are active March to June.	**Absent:** Suitable elderberry habitat is absent from the APE and is necessary for the species survival.
vernal pool fairy shrimp *(Branchinecta lynchi)*	FT	Occupies vernal pools, clear to tea-colored water, in grass or mud-bottomed swales, and basalt depression pools.	**Absent:** Soils in this area are made up of a fine sandy loam which would not allow pooling water which is necessary for this species.
vernal pool tadpole shrimp *(Lepidurus packardi)*	FE	Occurs in vernal pools, clear to tea-colored water, in grass or mud-bottomed swales, and basalt depression pools.	**Absent:** Soils in this area are made up of a fine sandy loam which would not allow pooling water which is necessary for this species. .
western mastiff bat *(Eumops perotis californicus)*	CSC	Found in open, arid to semi-arid habitats, including dry desert washes, flood plains, chaparral, oak woodland, open ponderosa pine forest, grassland, and agricultural areas, where it feeds on insects in flight. Roosts most commonly in crevices in cliff faces but may also use high buildings and tunnels.	**Possible**: The APE contains suitable roosting habitat and foraging habitat in the nearby agricultural land around the APE.

Species	*Status*	*Habitat*	*Occurrence on Project Site*
western pond turtle *(Emys marmorata)*	CSC	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:** The species requires a constant water supply. Although the Tulare Irrigation Canal in near the APE it remains dry and not suitable habitat for this species.
western spadefoot *(Spea hammondii)*	CSC	Prefers open areas with sandy or gravelly soils, in a variety of habitats including mixed woodlands, grasslands, coastal sage scrub, chaparral, sandy washes, lowlands, river floodplains, alluvial fans, playas, alkali flats, foothills, and mountains. Vernal pools or temporary wetlands, lasting a minimum of three weeks, which do not contain bullfrogs, fish, or crayfish are necessary for breeding.	**Unlikely:** The APE is surrounded by existing roads, residential homes and agricultural lands and does not provide wetlands or vernal pools that the species requires.
western, yellow-billed cuckoo *(Coccyzus americanus occidentalis)*	FT, CE	Suitable nesting habitat in California includes dense riparian willow-cottonwood and mesquite habitats along a perennial river. Once a common breeding species in riparian habitats of lowland California, this species currently breeds consistently in only two locations in the State: along the Sacramento and South Fork Kern Rivers.	**Absent:** The Tulare Irrigation Canal near the APE does not have a constant water supply needed for the riparian habitat that the species requires.

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

Species	*Status*	*Habitat*	*Occurrence on Project Site*
alkali-sink goldfields (*Lasthenia chrysantha*)	CNPS 1B	Found in vernal pool and wet saline flat habitats. Occurrences documented in the San Joaquin and Sacramento Valleys at elevations below 656 feet. Blooms February - April.	**Absent:** The habitat and soil in the APE are dry and sandy and would not support this species.
brittlescale *(Atriplex depressa)*	CNPS 1B	Found in the San Joaquin Valley and Sacramento Valley in alkaline or clay soils, typically in meadows or annual grassland in at elevations below 1050 feet. Sometimes associated with vernal pools. Blooms June–October.	**Absent:** The habitat and soil in the APE are dry and sandy and would not support this species. The last observation of this species was in 1968 and it is presumed to be extant around the APE.
calico monkeyflower *(Diplacus pictus / Mimulus pictus / Eunanus pictus)*	CNPS 1B	Found in the Sierra Nevada foothills and the Tehachapi mountains in bare, sunny, shrubby areas, and around granite outcrops within foothill woodland communities at elevations between 450 feet and 4100 feet. Blooms March – May.	**Absent:** The elevation is too low, and the appropriate shrub covered mountains do not exist in the APE for this species. The last observation is historical from 1935. Species presumed extant in the area.
California alkali grass *(Puccinellia simplex)*	CNPS 1B	Found in the San Joaquin Valley and other parts of California in saline flats and mineral springs within valley grassland and wetland-riparian communities at elevations below 3000 feet. Blooms March–May.	**Absent:** The APE lacks saline flats, mineral springs, and wetland vegetation. The last observation was in 1998 approximately 20 miles south of APE. Presumed extant.
California jewelflower *(Caulanthus californicus)*	FE, CE, CNPS 1B	Found in the San Joaquin Valley and Western Transverse Ranges in sandy soils. Occurs on flats and slopes, generally in non-alkaline grassland at elevations between 230 feet and 6100 feet. Blooms February–April.	**Unlikely:** The species was last observed around the APE in 1986 and is presumed extirpated due to heavy agricultural activity.
California satintail *(Imperata brevifolia)*	CNPS 2B	Although this facultative species is equally likely to occur in wetlands and non-wetlands, it is often found in wet springs, meadows, streambanks, and floodplains at elevations below 1600 feet. Blooms September – May.	**Unlikely:** The habitat and soil in the APE are dry and sandy and would not support this species. The last observation of this species was in 1895 and is presumed extant around the APE.

Species	Status	Habitat	Occurrence on Project Site
Coulter's goldfields *(Lasthenia glabrata ssp. coulteri)*	CNPS 1B	Found on alkaline or saline soils in vernal pools and playas in grassland at elevations below 4500 feet. Blooms April–May.	**Absent:** The lack of alkaline or saline soil and vernal pools within the APE does not provide the necessary habitat for this species. The last observation was in 2015 approximately 18 miles north of the APE. Species is presumed extant.
Earlimart orache *(Atriplex cordulata var. erecticaulis)*	CNPS 1B	Found in the San Joaquin Valley in saline or alkaline soils, typically within valley and foothill grassland at elevations below 375 feet. Blooms August–September.	**Absent:** The lack of alkaline or saline soil and vernal pools within the APE does not provide the necessary habitat for this species. The last observation was in 2015 approximately 18 miles north of the APE. Species is presumed extant.
Greene's tuctoria *(Tuctoria greenei)*	FE, CR, CNPS 1B	Found in the San Joaquin Valley and other parts of California in vernal pools within valley grassland, wetland, and riparian communities at elevations below 3500 feet. Blooms May – September.	**Absent:** Suitable vernal pool habitat is absent from the APE. This species was last observed in 1936 and presumed extirpated.
Hoover's spurge *(Euphorbia hooveri)*	FT, CNPS 1B	Found in the San Joaquin Valley and Sacramento Valley in vernal pools within valley grassland, freshwater wetland, and riparian communities at elevations below 800 feet. Blooms July – September.	**Unlikely:** The APE is surrounded by existing roads, residential houses, agricultural lands, and a dry canal bed most of the year, which does not support wetland or riparian communities needed for the survival of the species.
Kaweah brodiaea *(Brodiaea insignis)*	CE, CNPS 1B	Found in the Sierra Nevada foothills in foothill woodland and valley grassland communities at elevations between 650 feet and 1650 feet. Blooms May – June.	**Absent:** The elevation and vegetation community of the APE is not suitable for this species.
lesser saltscale *(Atriplex minuscula)*	CNPS 1B	Found in the San Joaquin Valley in sandy, alkaline soils in alkali scrub, valley and foothill grassland, and alkali sink communities at elevations below 750 feet. Blooms April–October.	**Absent:** The elevation and vegetation community of the APE is not suitable for this species.
recurved larkspur *(Delphinium recurvatum)*	CNPS 1B	Occurs in poorly drained, fine, alkaline soils in grassland and alkali scrub communities at elevations between 100 feet and 2600 feet. Blooms March–June.	**Absent:** The soil in the APE is that of a sandy loam and does not support alkali scrub communities and is poor habitat for this species.

Species	Status	Habitat	Occurrence on Project Site
San Joaquin adobe sunburst *(Pseudobahia peirsonii)*	FT, CE, CNPS 1B	Found in the San Joaquin Valley and the Sierra Nevada Foothills in bare dark clay soils in valley and foothill grassland and cismontane woodland communities at elevations between 325 feet and 2950 feet. Blooms March–May.	**Absent**: The soil in the APE is that of a sandy loam and not the dark clay soils required for this species.
San Joaquin Valley Orcutt grass *(Orcuttia inaequalis)*	FT, CE, CNPS 1B	Found in the eastern San Joaquin Valley and the Sierra Nevada foothills in vernal pools within valley grassland, freshwater wetland, and wetland-riparian communities at elevations below 2600 feet. Blooms April – September.	**Absent:** Suitable vernal pools, wetlands, and/or riparian communities are absent from the APE.
Sanford's arrowhead *(Sagittaria sanfordii)*	CNPS 1B	Found in the San Joaquin Valley and other parts of California in freshwater-marsh, primarily ponds and ditches, at elevations below 1000 feet. Blooms May–October.	**Absent:** Suitable vernal pools, wetlands, and/or riparian communities are absent from the APE.
spiny-sepaled button-celery *(Eryngium spinosepalum)*	CNPS 1B	Found in the Sierra Nevada Foothills and the San Joaquin Valley. Occurs in vernal pools, swales, and roadside ditches. Often associated with clay soils in vernal pools within grassland communities. Occurs at elevations between 50 feet and 4160 feet. Blooms April–July.	**Absent:** Suitable vernal pools, wetlands, and/or riparian communities are absent from the APE.
striped adobe-lily *(Fritillaria striata)*	CT, CNPS 1B	Found in the Sierra Nevada foothills in adobe soil within valley grassland and foothill woodland communities at elevations below 3300 feet. Blooms February – April.	**Absent:** The soil in the APE is Nord sandy loam and would not support the soil requirements for this species.
subtle orache *(Atriplex subtilis)*	CNPS 1B	Found in the San Joaquin Valley in saline depressions in alkaline soils within valley and foothill grassland communities at elevations below 330 feet. Blooms June–October.	**Absent:** The APE lacks saline depressions and alkaline soils. The last observation was made in 1999 approximately 15 miles from the APE. It is presumed extant
vernal pool smallscale *(Atriplex persistens)*	CNPS 1B	Occurs in the San Joaquin Valley and Sacramento Valley in alkaline vernal pools at elevations below 375 feet. Blooms June–September.	**Absent:** Suitable vernal pools are absent from the APE. The last observation was in 2010 in a natural reserve 18 miles north of the APE. Presumed extant.

Species	Status	Habitat	Occurrence on Project Site
Winter's sunflower *(Helianthus winteri)*	CNPS 1B	Found in the Sierra Nevada foothills on steep, south-facing grassy slopes, rock outcrops, and road-cuts at elevations ranging from 600 feet to 1500 feet. Blooms year-round.	**Absent:** Suitable habitat is absent from the APE and is located outside of the altitudinal range of this species.

Explanation of Occurrence Designations and Status Codes

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

Status Codes

FE	Federally Endangered	CE	California Endangered
FT	Federally Threatened	CT	California Threatened
CSC	California Species of Special Concern	CWL	California Watch List
CCE	California Endangered (Candidate)	CR	California Rare

CNPS Listing

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

III. Impacts and Mitigation

Significance Criteria

CEQA

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

- Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the CDFW or USFWS;
- Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the CDFW or USFWS;

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

If significant impacts are identified, those impacts would require reasonable and feasible mitigation to avoid the impact or reduce the impact to less than significant.

Furthermore, CEQA Guidelines Section 15065(a) states that a project may trigger the requirement to make a "mandatory finding of significance" if the project has the potential to:

> "Substantially degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, reduce the number or restrict the range of an endangered, rare, or threatened species, or eliminate important examples of the major periods of California history or prehistory."

Relevant Goals, Policies, and Laws

Tulare County General Plan

The Tulare County General Plan sets forth the following goals and policies that protect biological resources and which have potential relevance to the Project's environmental review: The following policies can be found in Tulare County General Plan Chapter 8 - Environmental Resource Management (February 2010)

ERM-1.1 Protection of Rare and Endangered Species.

- The County shall ensure the protection of environmentally sensitive wildlife and plant life, including those species designated as rare, threatened, and/or endangered by State and/or Federal government, through compatible land use development.
- The County shall review development proposals against the California Natural Diversity Data Base, and other available studies provided by the California Department of Fish and Game, and consult, as appropriate, with the California Department of Fish and Game[1] and United States Fish and Wildlife to assist in identifying potential conflicts with sensitive natural communities or special status species [New Program] [Amended per Staff Comments.
- On project sites that have the potential to contain species of local or regional concern, sensitive natural communities or special-status species, the County shall require the project applicant to have the site surveyed and mapped by a qualified biologist. A report on the finding of this survey shall be submitted to the County as part of the application and environmental review process.

[1] California Department of Fish and Game changed their name to California Department of Fish and Wildlife on January 1, 2012.

- Where sensitive habitat for special status species is found to exist on a site and biological survey validates that such habitat does exist and there is the potential for occurrences of special status species to be found, the County shall require a plan to protect these areas, with assurances to protect these areas to be submitted prior to the time of construction. Such plan shall first recommend avoidance where at all feasible. When avoidance is infeasible, the County shall consider a variety of optional measures to limit the loss of habitat, including modification of the proposal or other such acceptable practice as identified in a biological study conducted by an environmental professional.

Threatened and Endangered Species

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

Designated Critical Habitat

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

Migratory Birds

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

Birds of Prey

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

Nesting Birds

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

Wetlands and other "Jurisdictional Waters"

Natural drainage channels and adjacent wetlands may be considered "waters of the United States." or "jurisdictional waters" subject to the jurisdiction of the USACE. The extent of jurisdiction has been defined in the Code of Federal Regulations but has also been subject to interpretation of the federal courts. As of April 2020, jurisdictional waters generally include:

- The territorial seas, and waters which are currently used, or were used in the past, or may be susceptible to use in interstate or foreign commerce, including waters which are subject to the ebb and flow of the tide;
- Traditional Navigable Waters: Perennial and Intermittent tributaries that contain surface water flow to such waters;
- Lake and ponds, and impoundments of jurisdictional waters; and
- Wetlands adjacent to jurisdictional waterways.

On June 22, 2020 the United States Environmental Protection Agency (USEPA) and the United States Department of the Army (USACE) (together, "the agencies") published the Navigable Waters Protection Rule defining the scope of waters subject to federal regulation under the Clean Water Act (CWA or the Act). In this final rule, the agencies interpret the term "waters of the United States" to encompass: The territorial seas and traditional navigable waters; perennial and intermittent tributaries that contribute surface water flow to such waters; certain lakes, ponds, and impoundments of jurisdictional waters; and wetlands adjacent to other jurisdictional waters.

The USACE regulates the filling or grading of waters of the United States under the authority of Section 404 of the Clean Water Act. The extent of jurisdiction within drainage channels is defined by "ordinary high-water marks" on opposing channel banks. All activities that involve the discharge of dredge or fill material into waters of the 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 and implemented by a Qualified SWPPP Practitioner. 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.

Potentially Significant Project-Related Impacts and Mitigation

Species identified as candidate, sensitive, or special status species in local or regional plans, policies, or regulations by CDFW or USFWS that have the potential to be impacted by the Project are identified below with corresponding mitigation measures. There are six species: burrowing owl (*Athene cunicularia*), Northern California legless lizard (*Anniella pulchra*), pallid bat (*Antrozous pallidus*), San Joaquin kit fox (*Vulpes macrotis mutica*), Swainson's hawk (*Buteo swainsoni*), and western mastiff bat (*Eumops perotis californicus*). These species are discussed below with the corresponding mitigation measures.

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

The Project site contains suitable nesting and/or foraging habitat for a variety of avian species. Suitable nesting trees were observed within the vicinity of the APE and include oak, juniper, walnut, cedar, pine, and palm. Ground nesting birds such as the killdeer (*Charadrius vociferus*) could nest on the bare ground or compacted dirt roads onsite. Black phoebe (*Sayornis nigricans*) and cliff swallow (*Petrochelidon pyrrhonota*) could nest on structures within or adjacent to canals.

At the time of the field survey, no nests were observed. There was, however, nesting activity observed from several avian species.

If it were determined that the proposed vegetation removal would result in a significant loss of nesting and/or foraging habitat, this could potentially be considered a significant impact under CEQA. Project activities do not include tree removal within the APE. Some non-native, weedy vegetation would be removed at various locations along the pipeline route. Raptors, such as Swainson's hawk or red-tailed hawk (*Buteo jamaicensis*) could conceivably nest or forage near the APE. Furthermore, construction activities could disturb birds nesting within or adjacent to work areas, resulting in nest abandonment. Project construction activities that adversely affect the nesting success of raptors and migratory birds or result in the mortality of individual birds constitutes a violation of State and federal laws and is considered a significant impact under CEQA.

Nesting bird season is generally accepted as February 1 through August 31; however, raptor nesting season is generally accepted as March 1 through September 15. For simplicity, these time frames have been combined.

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

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

Nesting Bird Mitigation

Mitigation Measure NEST-1a (Avoidance): The Project's construction activities shall occur, if feasible, between September 16 and January 31 (outside of nesting bird season) in an effort to avoid impacts to nesting birds.

Mitigation Measure NEST-1b (Pre-construction Surveys): If activities must occur within nesting bird season (February 1 to September 15), a qualified biologist will conduct pre-construction surveys for Swainson's hawk nests onsite and within a 0.5-mile radius and migratory birds within a 50-foot buffer zone of proposed construction activities. The Swainson's hawk 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. In addition to the Swainson's hawk survey, a qualified biologist will conduct a pre-construction survey for all other nesting birds including burrowing owl within 30 days prior to the start of construction. All raptor nests will be considered "active" upon the nest-building stage.

Mitigation Measure NEST-1c (Establish Buffers): On discovery of any active nests near work areas, the biologist will determine appropriate construction setback distances based on applicable CDFW and/or USFWS guidelines and/or the biology of the species in question. Specifically, a 0.5-mile disturbance-free buffer shall be implemented around active Swainson's hawk nests, and a 500-foot buffer for burrowing owl. Buffer zones can be adjusted in consultation with the CDFW. Construction buffers will be identified with flagging, fencing, or other easily visible means, and will be maintained until the biologist has determined that the nestlings have fledged and are no longer dependent on the nest.

Project-Related Impacts to Special Status Animal Species Possible on the Project site.

General Mitigation

Mitigation Measure GEN-1 (WEAP Training): Prior to initiating construction activities (including staging and mobilization), all personnel associated with Project construction will attend mandatory Worker Environmental Awareness Program (WEAP) training, conducted by a qualified biologist, to aid workers in identifying special status resources that may occur in the Project area. The specifics of this program shall include identification of the sensitive species and suitable habitats, a description of the regulatory status and general ecological characteristics of sensitive resources, and review of the limits of construction and mitigation measures required to reduce impacts to biological resources within the work area. This training will specifically discuss the conservation status of the burrowing owl, Northern California legless lizard, pallid bat, San Joaquin kit fox, Swainson's hawk, and western mastiff bat., and describe the laws and regulations in place to provide protection of these species, identify the penalties for violation of applicable environmental laws and regulations, and a list of required protective measures to avoid "take." A fact sheet conveying this information, along with photographs or illustrations of sensitive species with potential to occur onsite, will also be prepared for distribution to all contractors, their employees, and all other personnel involved with construction of the Project. All employees will

sign a form documenting that they have attended WEAP training and understand the information presented to them.

Bat Mitigation.

Mitigation Measure BATS 1-a (Pre-construction Survey-Special Status Bats): A qualified biologist will conduct pre-construction bat surveys within 30 days prior to the start of construction activities. Goals of this survey include detection of bat roosts within 100 feet of the Project areas. Acceptable methods of detection include the use of bat a detection device, waiting for evening emergence or morning return, or observation of the presence of individuals or sign (staining or guano).

Mitigation Measure BATS 1-b (Avoidance-Special Status Bats): Where feasible, a 100-foot no-disturbance buffer will be enforced around active bat roosts. If this buffer cannot be maintained, the Project proponent shall contact CDFW for guidance on how to proceed.

Mitigation Measure BATS 1-c (Roost Replacement-Special Status Bats): Prior to removal of any trees larger than four (4) inches in diameter at breast height, a qualified biologist shall carefully inspect the tree for any potential bat roosts using the acceptable methods described in BAT-1a. If roosting bats or maternal colonies are detected within a tree planned for removal, the Project proponent shall stop work and initiate consultation with CDFW. Bats will not be evicted from roosts without first receiving approval from CDFW. If bats are evicted, the Project proponent shall provide replacement roosts at a ratio determined by CDFW.

Reptile Mitigation

Mitigation Measure REP 1-a (Pre-construction Reptiles & Amphibians Survey): A qualified biologist/herpetologist shall conduct pre-construction survey for Northern California legless lizard individuals and suitable habitat. If special status species are identified, the qualified biologist will provide an appropriate buffer zone and guidance to avoid construction related impacts to the species.

San Joaquin Kit Fox

Mitigation Measure SJKF 1-a (Preconstruction Surveys): Preconstruction surveys for the SJKF shall be conducted on and within 100 feet of the project site, no less than 14 days and no more than 30 days prior to the start of ground disturbance activities on the site. The primary objective is to identify kit fox habitat features (e.g., potential dens and refugia) on and adjacent to the site and evaluate their use by kitfoxes. If an active kit fox den is detected within or immediately adjacent to the construction area, the qualified biologist will determine appropriate exclusion zones based on the USFWS guidance document *Standardized Recommendation for Protection of the Endangered San Joaquin Kit Fox Prior to or During Ground Disturbance* (January 2011). Preconstruction surveys will be repeated following any lapses in construction of 30 days or more.

*Mitigation Measure SJKF 1-*b *(Avoidance)*: If active kit fox dens be detected during preconstruction surveys, the Sacramento Field Office of the USFWS and the Fresno Field Office of CDFW will be notified. A disturbance-free buffer will be established around the burrows in consultation with the USFWS and CDFW, to be maintained until an agency-approved biologist has determined that the burrows have been abandoned.

Mitigation Measures SJKF 1-c (Minimization): The project will observe all minimization measures presented in the USFWS *Standardized Recommendations for the Protection of the Endangered San Joaquin Kit Fox Prior to or During Ground Disturbance* (2011). Such measures include but are not limited to restriction of construction-related vehicle traffic to established roads, construction areas, and other designated areas; inspection and covering of structures (e.g., pipes), as well as installation of escape structures, to

prevent the inadvertent entrapment of kit foxes; restriction of rodenticide and herbicide use; and proper disposal of food items and trash.

Mitigation Measures SJKF 1-d (Mortality reporting): The Sacramento Field Office of the USFWS and the Fresno Field Office of CDFW will be notified in writing within three working days in case of the accidental death or injury to a San Joaquin kit fox during construction. Notification must include the date, time, location of the incident or of the finding of a dead or injured animal, and any other pertinent information.

Less Than Significant Project-Related Impacts

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

Of the twenty-three regionally occurring special status species, seventeen are considered absent from or unlikely to occur within the APE due to past or ongoing disturbance and/or the absence of suitable habitat. As explained in Table 1, the following species were deemed absent from the APE: American badger (*Taxidea taxus*), California tiger salamander (*Ambystoma californiense*), Crotch bumble bee (*Bombus crotchii*),Delta smelt (*Hypomesus transpacificus*), foothill yellow-legged frog (*Rana boyii*), northern leopard frog (*Lithobates pipiens*), Tipton kangaroo rat (*Dipodomys nitratoides nitratoides*), tricolored blackbird (*Agelaius tricolor*), valley elderberry longhorn beetle (*Desmocerus californicus dimorphus*), vernal pool fairy shrimp (*Branchinecta lynchi*), vernal pool tadpole shrimp (*Lepidurus packardi*), western pond turtle (*Emys marmorata*), western spadefoot (*Spea hammondii*), western yellow-billed cuckoo (*Coccyzus americanus occidentalis*), giant gartersnake (*Thamnophis gigas*), blunt nosed leopard lizard (*Gambelia sila*), and California red-legged frog (*Rana draytonii*). Mitigation is not warranted.

Project-Related Impacts to Special Status Plant Species

Twenty-one of the special status plant species in the Project vicinity are considered absent from or unlikely to occur within the APE due to past or ongoing disturbance and/or the absence of suitable habitat. As explained in Table 2, the following species were deemed absent from the APE: alkali-sink goldfields (*Lasthenia chrysantha*), brittlescale (*Atriplex depressa*), calico monkeyflower (*Diplacus pictus*), California alkali grass (*Puccinellia simplex*), California jewelflower (*Caulanthus californicus*), California satintail (*Imperata brevifolia*), Coulter's goldfields (*Lasthenia glabrata spp coulteri*), Earlimart orache (*Atriplex cordulata var. erecticaulis*), Greene's tuctoria (*Tuctoria greenei*), Hoover's spurge (*Euphorbia hooveri*), Kaweah brodiaea (*Brodiaea insignis*), lesser saltscale (*Atriplex minuscula*), recurved larkspur (*Delphinium recurvatum*), San Joaquin adobe sunburst (*Pseudobahia peirsonii*), San Joaquin Valley Orcutt grass (*Orcuttia inaequalis*), Sanford's arrowhead (*Sagittaria sanfordii*), spiney sepaled button-celery (*Eryngium spinosepalum*), striped adobe-lily (*Fritillaria striata*), subtle orache (*Atriplex subtilis*), vernal pool smallscale (*Atriplex persistens*), and Winter's sunflower (*Helianthus winteri*). Mitigation is not warranted.

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

There are no CNDDB-designated "natural communities of special concern" recorded within the APE or surrounding lands. The APE consists of man-made canals, orchards, vineyards, agricultural lands, residential homes. The APE is dominated by ornamental landscape and non-native vegetation.

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

The Project does not involve alterations to waters of the State or waters of the United States. The most recent guidance from the SWRCB, *State Wetland Definition and Procedures for Discharge of Dredged or Fill Material to Waters of the State* (SWRCB, 2019), indicates that artificial wetlands used as retention/detention basins for stormwater runoff and/or settling ponds and agricultural ditches excavated in upland are typically not considered Waters of the State. Since construction will involve ground disturbance over an area greater than one acre, the Project proponent will 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. Therefore, mitigation is not warranted.

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

The APE is bounded by intensively cultivated agricultural lands, residential development, and paved roads. Therefore, the APE does not contain features that would likely function as a wildlife movement corridor. Furthermore, the Project is in a region often disturbed by intensive agricultural cultivation practices and human disturbance which would discourage dispersal and migration. At most, domestic dogs, coyotes, and common gray foxes may utilize the canal banks to travel between agricultural lands while foraging nocturnally. The Project does not propose the removal of the canal banks, and outside of construction hours and after construction completion, these species would continue to travel along the banks of the Tulare Irrigation Canal and Extension Ditch. For these reasons, implementation of the Project would not have a significant impact on wildlife movement corridors. Potential impacts to migratory birds and nesting birds are discussed in detail above, and additional mitigation is not warranted.

Project-Related Impacts to Critical Habitat.

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

Local Policies or Habitat Conservation Plans.

The Project appears to be consistent with the goals and policies of the Tulare County General Plan and there are no Habitat Conservation Plans coving the Project APE. Mitigation is not warranted.

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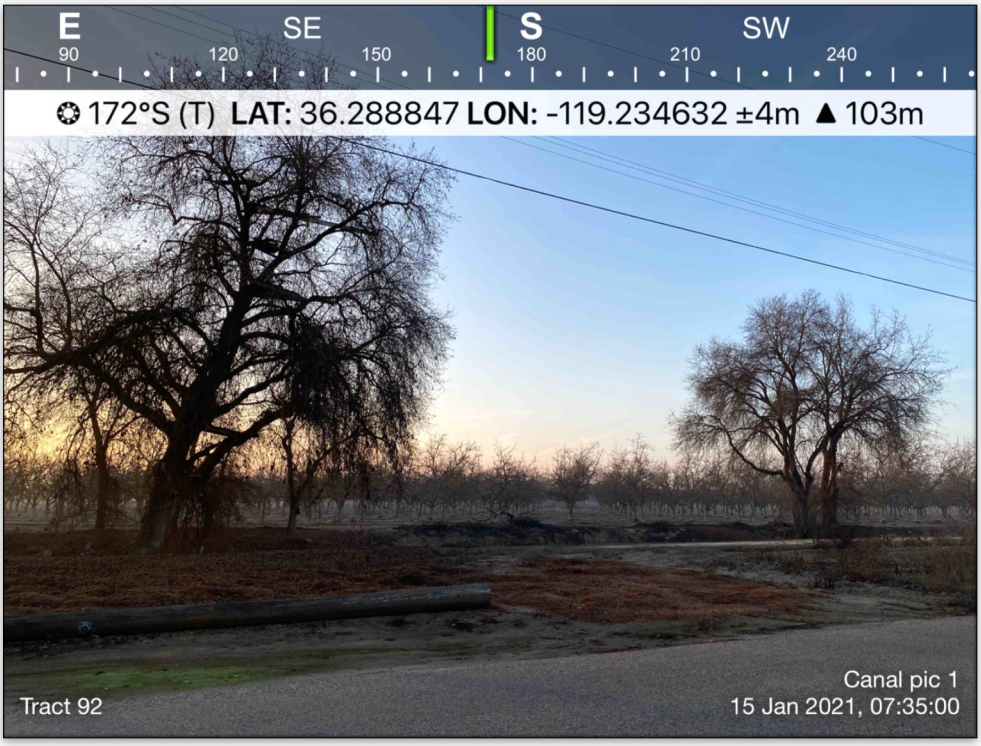
Appendix A: Study Area Photos

SELF HELP ENTERPRISES

TRACT 92 CSD WATER SYSTEM UPGRADE AND CONSOLIDATION PROJECT.



Photograph 1

Photograph was taken facing south. Photograph shows oak trees (Quercus spp) that are on the banks of the Tulare Irrigation Canal that is open to Tract 92. Photograph was taken from Canal Drive.

Photograph 2

Photograph was taken facing south to southwest. Photograph shows the bottom and banks if the Tulare Irrigation Canal.

Photograph 3

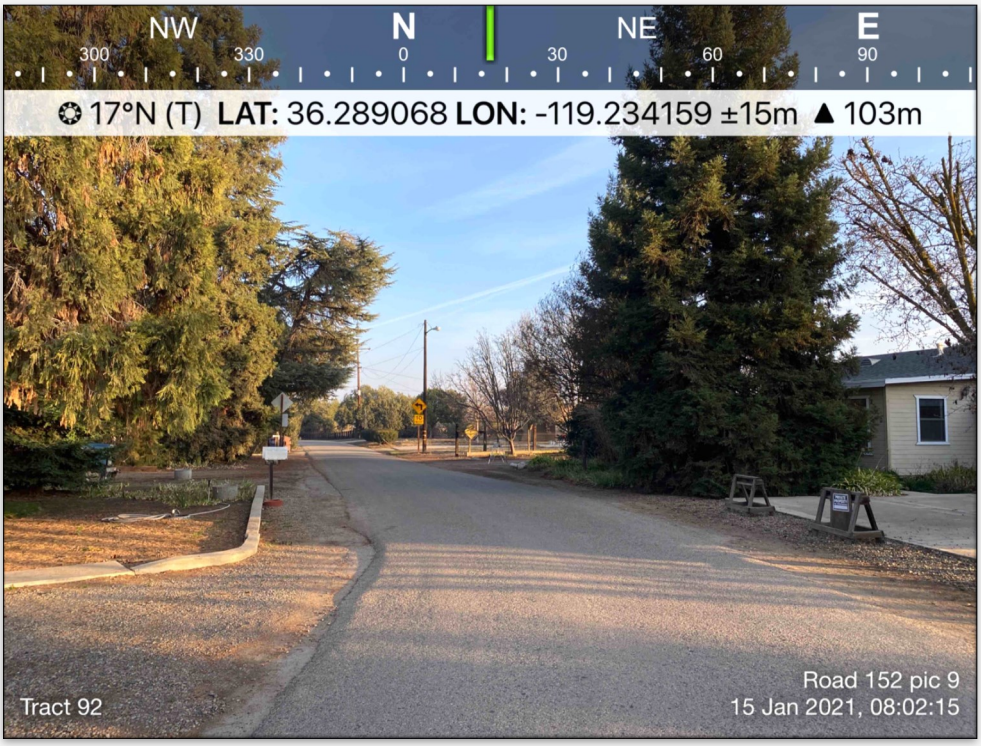
Photograph was taken facing northeast. Photograph shows the Tulare Irrigation Canal banks. To the east of this photograph is and orchard and to the west is Canal Drive.

Photograph 4

Photograph was taken facing northeast Photograph shows the non-native vegetation on the side of Tulare Irrigation Canal.

Photograph 5

Photograph was taken facing southwest. Photograph shows Road 152/Canal Drive. The Tulare Irrigation Canal is to the east in the photograph and residential properties to the west



Photograph 6

Photograph was taken facing north. Photograph shows Road 152. Residential properties are located on both sides of the road

Photograph 7

Photograph was taken facing south Photograph shows Water Avenue and the residential properties located on each side of the road. Photograph was taken from Road 148.

Photograph 8

Photograph was taken facing west. Photograph shows Water Avenue and the residential properties located on each side of the road . The waterline will be installed on the south side of the road.

Photograph 9

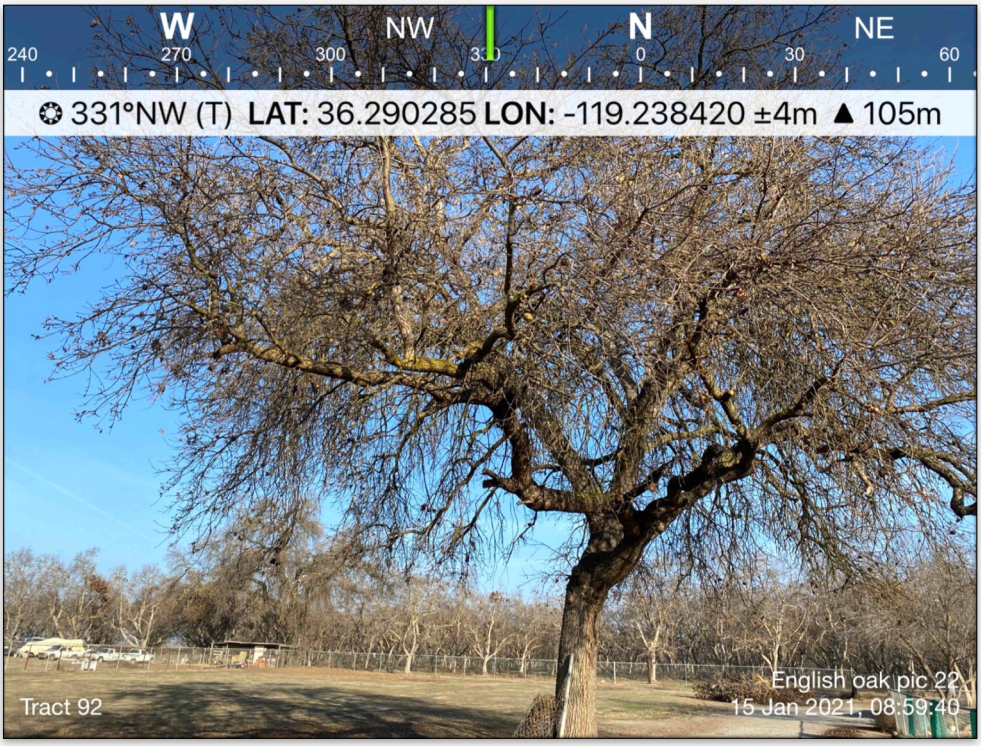
Photograph was taken facing west. Photograph shows Oscar Avenue and the residential properties located on each side of the road. Ornamental trees are sweet gum (Liquidambar styraciflua), juniper trees (Juniperus spp), cedar trees (Cedrus spp).

Photograph 10

Photograph was taken facing south. Photograph shows Oscar Avenue and the residential properties. The pipeline will be installed along the north side of the road.

Photograph 11

Photograph was taken facing north Photograph shows the empty lot that will be the new well and associated building site. Photograph was taken from Oscar Avenue.



Photograph 12

Photograph was taken facing northwest. Photograph shows the English oak (Quecrus robus) in the empty lot where the new well site will be.

Photograph 13

Photograph was taken facing south to southwest. Photograph shows an overview of the proposed well site. Residential properties are located to the east and west of this photograph.

Photograph 14

Photograph was taken facing south to southeast. Photograph shows an overview of the proposed well site. Orchard is located directly behind the photograph. Residential property to the west.

Photograph 15

Photograph was taken facing northeast. Photograph shows an overview of the proposed well site.

Photograph 16

Photograph was taken facing northwest. Photograph shows the black walnut (Juglans nigra) orchard located to the north of the proposed well site.

Photograph 17

Photograph was taken facing south. Photograph shows Road 150 and the residential properties on each side of the road. Road 150 goes from Oscar Avenue to Water Avenue.

Photograph 18

Photograph was taken facing south. Photograph shows the water hydrants that will be replaced.

Photograph 19

Photograph was taken facing east. Photograph shows the existing water treatment facility. The access route to the facility is a hard pact alleyway. The waterline will continue along the alleyway from the north side of Tract 92 to the south side. It is surrounded by residential properties.

Photograph 20

Photograph was taken facing east. Photograph shows an overview of the existing water treatment facility. The property to the south of the facility has chickens (Gallus gallus domesticus) and pigs (Sus)

Photograph 21

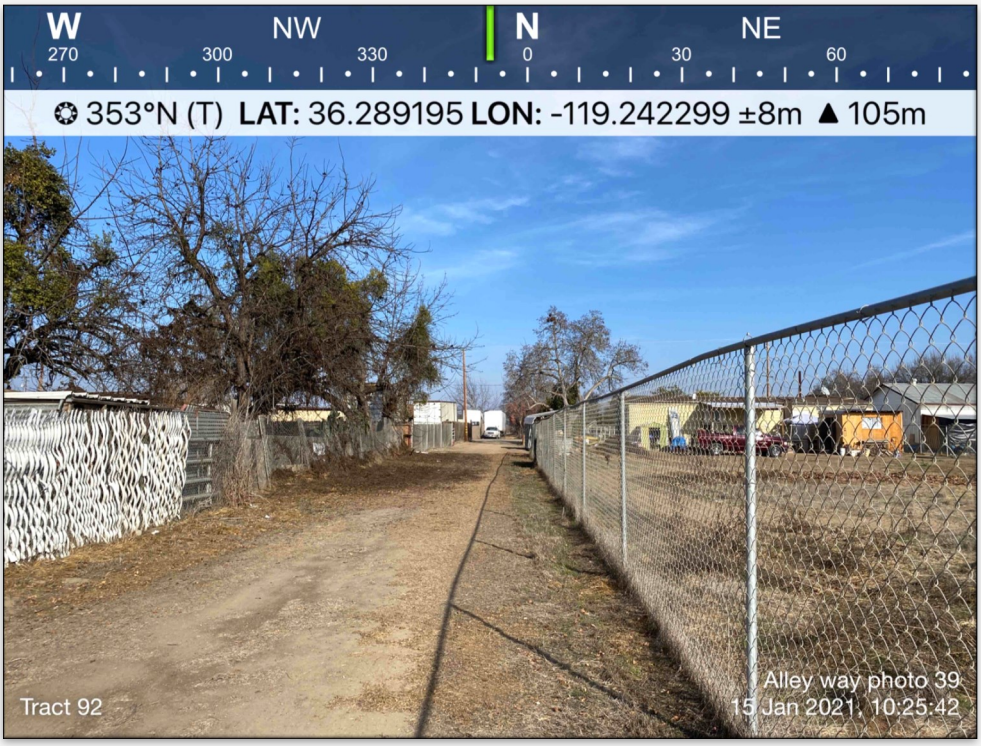
Photograph was taken facing southwest. Photograph shows the water treatment facility and the associated equipment.

Photograph 22

Photograph was taken facing southwest. Photograph shows the water treatment facility equipment and associated equipment.

Photograph 23

Photograph was taken facing east. Photograph shows the alleyway and the water treatment facility.



Photograph 24

Photograph was taken facing north. Photograph shows the alleyway between residential properties. The alleyway is hard packed dirt and reaches between Oscar Avenue and Water Avenue.

Photograph 25

Photograph was taken facing south. Photograph shows the alleyway headed south to Water Avenue.

Photograph 26

Photograph was taken facing south to southeast. Photograph shows the alleyway headed south towards Water Avenue.

Photograph 27

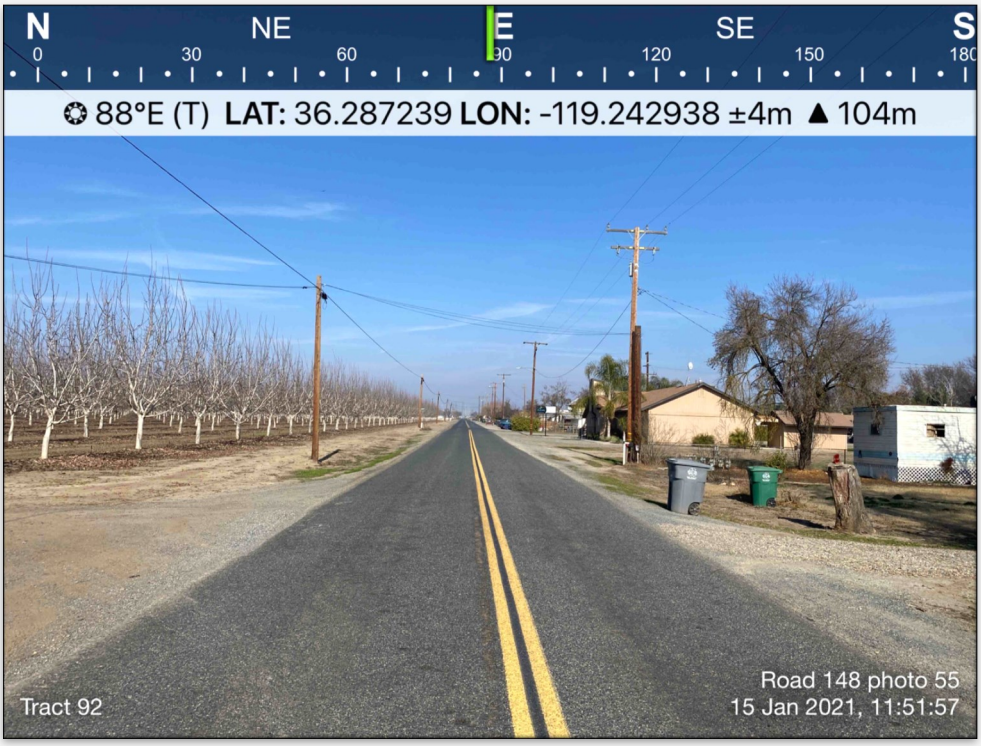
Photograph was taken facing west. Photograph shows the alleyway and the residential properties.

Photograph 28

Photograph was taken facing south. Photograph shows the path the waterline will take between Water Avenue and Tulare Irrigation Canal. There is a church located to the west of this photograph .

Photograph 29

Photograph was taken facing south. Photograph shows Road 148. Residential properties are located to the east of the road and an orchard is located to the west of the road.



Photograph 30

Photograph was taken facing east. Photograph shows Road 148. The main waterline will be installed on the south side of the road.

Photograph 31

Photograph was taken facing north to northeast. Photograph shows the section of pipeline from Tract 92 that ties into Road 148.

Photograph 32

Photograph was taken facing southwest. Photograph shows an empty field that boarders Road 148.

Photograph 33

Photograph was taken facing east. Photograph shows the Extension Ditch that the main waterline will cross. There are vineyards on each side of the Ditch and the photograph is taken from Road 148.

Photograph 34

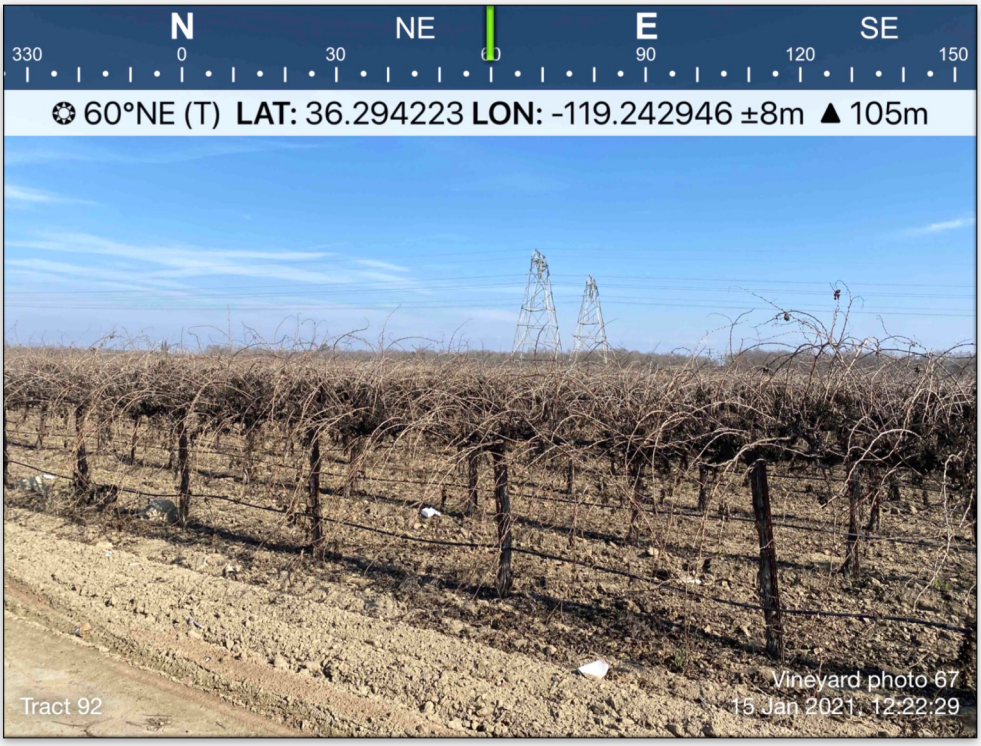
Photograph was taken facing west to southwest. Photograph shows the Extension Ditch that Road 148 crosses.

Photograph 35

Photograph was taken facing down into the canal. Photograph shows a dead gopher (Geomys bursarius) found in the bottom of the Extension Ditch.

Photograph 36

Photograph was taken facing west. Photograph shows an empty filed bordering Road 148.



Photograph 37

Photograph was taken facing northeast. Photograph shows a vineyard bordering Road 148.

Photograph 38

Photograph was taken facing northeast. Photograph shows an orchard bordering Road 148. small mammal burrows where observed. There where not the size or dimensions needed for a kit fox burrow.

Photograph 39

Photograph was taken facing east. Photograph shows the mammal burrows observed.

Photograph 40

Photograph was taken facing south. Photograph shows Road 148 and the water main alignment.

Photograph 41

Photograph was taken facing south. Photograph shows the main water line alignment along Road 148.

Photograph 42

Photograph was taken facing northeast. Photograph shows the school located on the southeast corner of Road 148 and Road 280.

Photograph 43

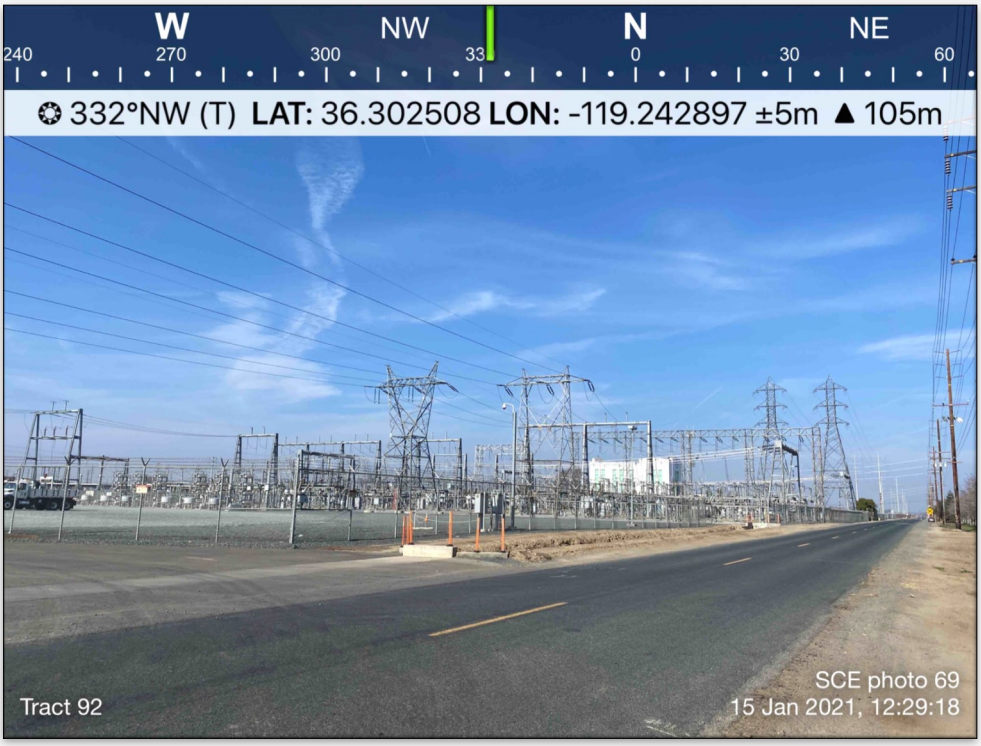
Photograph was taken facing south. Photograph shows the intersection of Road 148 and Road 280. The main water line will need to cross here.

Photograph 44

Photograph was taken facing west to southwest. Photograph shows the empty field located on the southwest corner of Road 148. There area small mammal burrows observed and California ground squirrel (Otospermophilus beecheyi) were seen.

Photograph 45

Photograph was taken facing east. Photograph shows an orchard that borders Road 148.



Photograph 56

Photograph was taken facing northwest. Photograph shows the SCE Rector Station where the main water line ends. It ties into the existing City of Visalia water line.

Appendix B: CNDDB Quad Search

SELF HELP ENTERPRISES

TRACT 92 CSD WATER SYSTEM UPGRADE AND CONSOLIDATION PROJECT

Selected Elements by Common Name

California Department of Fish and Wildlife

California Natural Diversity Database

Query Criteria: Quad IS (Exeter (3611932) OR Visalia (3611933) OR Woodlake (3611941) OR Rocky Hill (3611931) OR Lindsay (3611921) OR Cairns Corner (3611922) OR Ivanhoe (3611942) OR Tulare (3611923) OR Monson (3611943))

Species	Element Code	Federal Status	State Status	Global Rank	State Rank	Rare Plant Rank/CDFW SSC or FP
alkali-sink goldfields *Lasthenia chrysantha*	PDAST5L030	None	None	G2	S2	1B.1
American badger *Taxidea taxus*	AMAJF04010	None	None	G5	S3	SSC
An andrenid bee *Andrena macswaini*	IIHYM35130	None	None	G2	S2	
brittlescale *Atriplex depressa*	PDCHE042L0	None	None	G2	S2	1B.2
burrowing owl *Athene cunicularia*	ABNSB10010	None	None	G4	S3	SSC
calico monkeyflower *Diplacus pictus*	PDSCR1B240	None	None	G2	S2	1B.2
California alkali grass *Puccinellia simplex*	PMPOA53110	None	None	G3	S2	1B.2
California jewelflower *Caulanthus californicus*	PDBRA31010	Endangered	Endangered	G1	S1	1B.1
California linderiella *Linderiella occidentalis*	ICBRA06010	None	None	G2G3	S2S3	
California satintail *Imperata brevifolia*	PMPOA3D020	None	None	G4	S3	2B.1
California tiger salamander *Ambystoma californiense*	AAAAA01180	Threatened	Threatened	G2G3	S2S3	WL
Coulter's goldfields *Lasthenia glabrata ssp. coulteri*	PDAST5L0A1	None	None	G4T2	S2	1B.1
Crotch bumble bee *Bombus crotchii*	IIHYM24480	None	Candidate Endangered	G3G4	S1S2	
Earlimart orache *Atriplex cordulata var. erecticaulis*	PDCHE042V0	None	None	G3T1	S1	1B.2
foothill yellow-legged frog *Rana boylii*	AAABH01050	None	Endangered	G3	S3	SSC
great blue heron *Ardea herodias*	ABNGA04010	None	None	G5	S4	
Great Valley Valley Oak Riparian Forest *Great Valley Valley Oak Riparian Forest*	CTT61430CA	None	None	G1	S1.1	
Greene's tuctoria *Tuctoria greenei*	PMPOA6N010	Endangered	Rare	G1	S1	1B.1
Hoover's spurge *Euphorbia hooveri*	PDEUP0D150	Threatened	None	G1	S1	1B.2

Species	Element Code	Federal Status	State Status	Global Rank	State Rank	Rare Plant Rank/CDFW SSC or FP
Hopping's blister beetle *Lytta hoppingi*	IICOL4C010	None	None	G1G2	S1S2	
Kaweah brodiaea *Brodiaea insignis*	PMLIL0C060	None	Endangered	G1	S1	1B.2
lesser saltscale *Atriplex minuscula*	PDCHE042M0	None	None	G2	S2	1B.1
molestan blister beetle *Lytta molesta*	IICOL4C030	None	None	G2	S2	
Moody's gnaphosid spider *Talanites moodyae*	ILARA98020	None	None	G1G2	S1S2	
Northern California legless lizard *Anniella pulchra*	ARACC01020	None	None	G3	S3	SSC
Northern Claypan Vernal Pool *Northern Claypan Vernal Pool*	CTT44120CA	None	None	G1	S1.1	
Northern Hardpan Vernal Pool *Northern Hardpan Vernal Pool*	CTT44110CA	None	None	G3	S3.1	
northern leopard frog *Lithobates pipiens*	AAABH01170	None	None	G5	S2	SSC
pallid bat *Antrozous pallidus*	AMACC10010	None	None	G5	S3	SSC
recurved larkspur *Delphinium recurvatum*	PDRAN0B1J0	None	None	G2?	S2?	1B.2
San Joaquin adobe sunburst *Pseudobahia peirsonii*	PDAST7P030	Threatened	Endangered	G1	S1	1B.1
San Joaquin kit fox *Vulpes macrotis mutica*	AMAJA03041	Endangered	Threatened	G4T2	S2	
San Joaquin Valley Orcutt grass *Orcuttia inaequalis*	PMPOA4G060	Threatened	Endangered	G1	S1	1B.1
Sanford's arrowhead *Sagittaria sanfordii*	PMALI040Q0	None	None	G3	S3	1B.2
spiny-sepaled button-celery *Eryngium spinosepalum*	PDAPI0Z0Y0	None	None	G2	S2	1B.2
striped adobe-lily *Fritillaria striata*	PMLIL0V0K0	None	Threatened	G1	S1	1B.1
subtle orache *Atriplex subtilis*	PDCHE042T0	None	None	G1	S1	1B.2
Swainson's hawk *Buteo swainsoni*	ABNKC19070	None	Threatened	G5	S3	
Sycamore Alluvial Woodland *Sycamore Alluvial Woodland*	CTT62100CA	None	None	G1	S1.1	
Tipton kangaroo rat *Dipodomys nitratoides nitratoides*	AMAFD03152	Endangered	Endangered	G3T1T2	S1S2	

Species	Element Code	Federal Status	State Status	Global Rank	State Rank	Rare Plant Rank/CDFW SSC or FP
tricolored blackbird *Agelaius tricolor*	ABPBXB0020	None	Threatened	G2G3	S1S2	SSC
Tulare cuckoo wasp *Chrysis tularensis*	IIHYM72010	None	None	G1G2	S1S2	
valley elderberry longhorn beetle *Desmocerus californicus dimorphus*	IICOL48011	Threatened	None	G3T2	S3	
Valley Sacaton Grassland *Valley Sacaton Grassland*	CTT42120CA	None	None	G1	S1.1	
vernal pool fairy shrimp *Branchinecta lynchi*	ICBRA03030	Threatened	None	G3	S3	
vernal pool smallscale *Atriplex persistens*	PDCHE042P0	None	None	G2	S2	1B.2
vernal pool tadpole shrimp *Lepidurus packardi*	ICBRA10010	Endangered	None	G4	S3S4	
western mastiff bat *Eumops perotis californicus*	AMACD02011	None	None	G5T4	S3S4	SSC
western pond turtle *Emys marmorata*	ARAAD02030	None	None	G3G4	S3	SSC
western spadefoot *Spea hammondii*	AAABF02020	None	None	G3	S3	SSC
western yellow-billed cuckoo *Coccyzus americanus occidentalis*	ABNRB02022	Threatened	Endangered	G5T2T3	S1	
Winter's sunflower *Helianthus winteri*	PDAST4N260	None	None	G2?	S2?	1B.2

Record Count: 52

Appendix C: IPaC Database Search

SELF HELP ENTERPRISES

TRACT 92 CSD WATER SYSTEM UPGRADE AND CONSOLIDATION PROJECT

United States Department of the Interior

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

In Reply Refer To:
Consultation Code: 08ESMF00-2021-SLI-0724
Event Code: 08ESMF00-2021-E-02105
Project Name: Tract 92

January 14, 2021

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

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

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

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

The purpose of the Act is to provide a means whereby threatened and endangered species and the ecosystems upon which they depend may be conserved. Under sections 7(a)(1) and 7(a)(2) of the Act and its implementing regulations (50 CFR 402 *et seq.*), Federal agencies are required to

utilize their authorities to carry out programs for the conservation of threatened and endangered species and to determine whether projects may affect threatened and endangered species and/or designated critical habitat.

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

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

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

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

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

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

Attachment(s):

- Official Species List

Official Species List

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

This species list is provided by:

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

Project Summary

Consultation Code: 08ESMF00-2021-SLI-0724
Event Code: 08ESMF00-2021-E-02105
Project Name: Tract 92
Project Type: WATER SUPPLY / DELIVERY
Project Description: water system
Project Location:

Approximate location of the project can be viewed in Google Maps: https://www.google.com/maps/@36.28907205,-119.23876053735596,14z

Counties: Tulare County, California

Endangered Species Act Species

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

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

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

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

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

Mammals

NAME	STATUS
San Joaquin Kit Fox *Vulpes macrotis mutica* No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/2873	Endangered
Tipton Kangaroo Rat *Dipodomys nitratoides nitratoides* No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/7247	Endangered

Reptiles

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

Amphibians

NAME	STATUS
California Red-legged Frog *Rana draytonii*	Threatened

There is **final** critical habitat for this species. The location of the critical habitat is not available.
Species profile: https://ecos.fws.gov/ecp/species/2891

California Tiger Salamander *Ambystoma californiense*	Threatened

Population: U.S.A. (Central CA DPS)
There is **final** critical habitat for this species. The location of the critical habitat is not available.
Species profile: https://ecos.fws.gov/ecp/species/2076

Fishes

NAME	STATUS
Delta Smelt *Hypomesus transpacificus*	Threatened

There is **final** critical habitat for this species. The location of the critical habitat is not available.
Species profile: https://ecos.fws.gov/ecp/species/321

Crustaceans

NAME	STATUS
Vernal Pool Fairy Shrimp *Branchinecta lynchi*	Threatened

There is **final** critical habitat for this species. The location of the critical habitat is not available.
Species profile: https://ecos.fws.gov/ecp/species/498

Critical habitats

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

Appendix D: NRCS Soils Report

SELF HELP ENTERPRISES

TRACT 92 CSD WATER SYSTEM UPGRADE AND CONSOLIDATION PROJECT

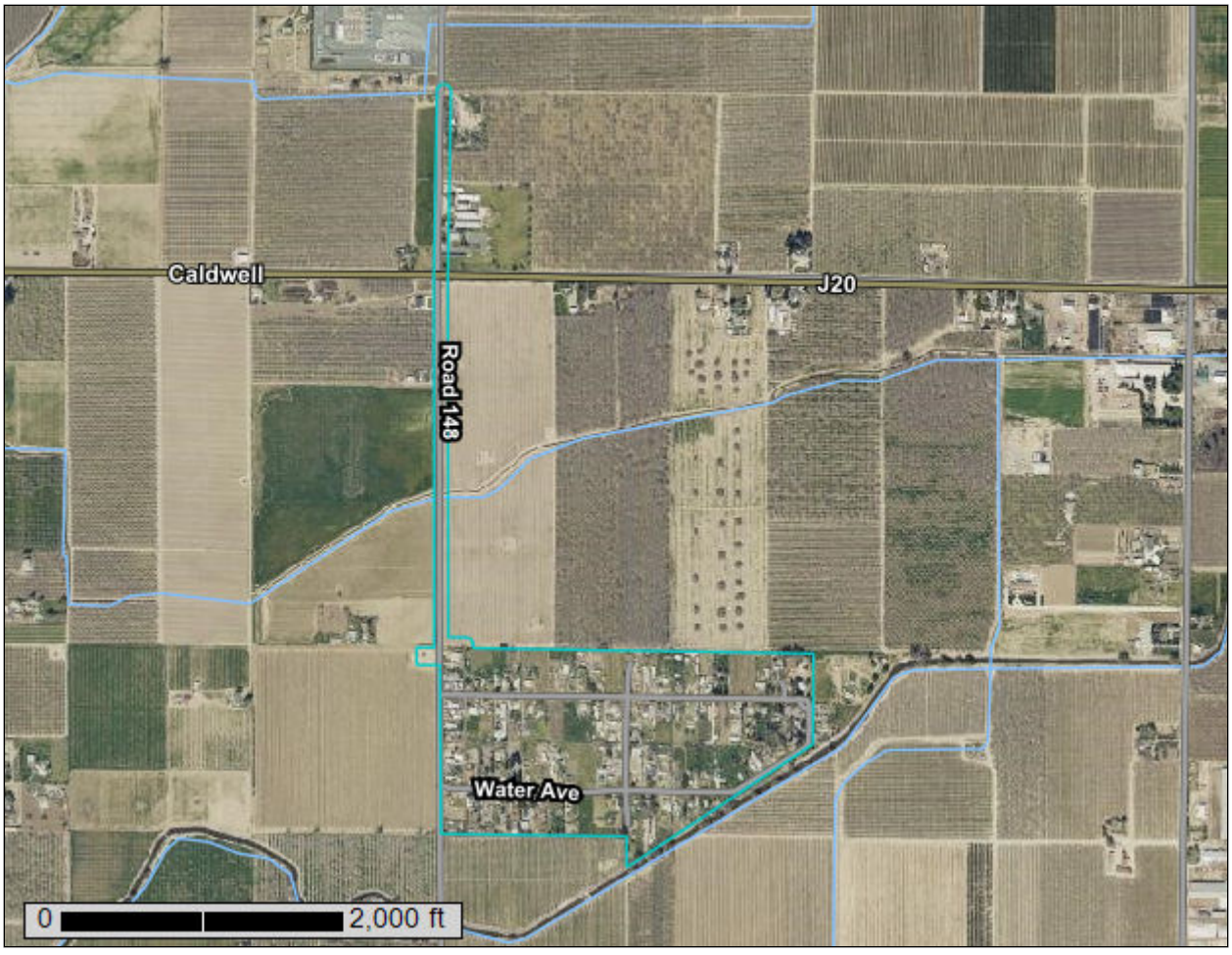
United States Department of Agriculture

NRCS

Natural Resources Conservation Service

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

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



January 19, 2021

Preface

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

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

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

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

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

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

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

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How Soil Surveys Are Made

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

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

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

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

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

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

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

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

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

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

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

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

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

Soil Map

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

Custom Soil Resource Report
Soil Map

Map Scale: 1:9,870 if printed on A portrait (8.5" x 11") sheet.

N

Meters: 0 100 200 400 600

Feet: 0 450 900 1800 2700

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

MAP LEGEND

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

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

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

Water Features
- Streams and Canals

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

Background
- Aerial Photography

MAP INFORMATION

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

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

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

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

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

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

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

Soil Survey Area: Tulare County, Western Part, California
Survey Area Data: Version 14, May 29, 2020

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

Date(s) aerial images were photographed: Mar 17, 2019—Mar 24, 2019

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

Map Unit Legend

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
130	Nord fine sandy loam, 0 to 2 percent slopes	82.8	100.0%
Totals for Area of Interest		**82.8**	**100.0%**

Map Unit Descriptions

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

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

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

The presence of minor components in a map unit in no way diminishes the usefulness or accuracy of the data. The objective of mapping is not to delineate pure taxonomic classes but rather to separate the landscape into landforms or landform segments that have similar use and management requirements. The delineation of such segments on the map provides sufficient information for the development of resource plans. If intensive use of small areas is planned, however, onsite investigation is needed to define and locate the soils and miscellaneous areas.

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

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

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

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

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

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

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

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

Tulare County, Western Part, California

130—Nord fine sandy loam, 0 to 2 percent slopes

Map Unit Setting

National map unit symbol: hp51
Elevation: 190 to 520 feet
Mean annual precipitation: 8 to 12 inches
Mean annual air temperature: 61 to 64 degrees F
Frost-free period: 250 to 275 days
Farmland classification: Prime farmland if irrigated and either protected from flooding or not frequently flooded during the growing season

Map Unit Composition

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

Description of Nord

Setting

Landform: Flood plains, alluvial fans
Landform position (two-dimensional): Toeslope, footslope
Landform position (three-dimensional): Base slope
Down-slope shape: Linear
Across-slope shape: Linear, convex
Parent material: Alluvium derived from mixed

Typical profile

Ap - 0 to 11 inches: fine sandy loam
C1 - 11 to 38 inches: stratified sandy loam to loam
C2 - 38 to 50 inches: stratified loamy coarse sand to coarse sandy loam
2Btb - 50 to 72 inches: stratified sandy loam to silt loam

Properties and qualities

Slope: 0 to 1 percent
Depth to restrictive feature: More than 80 inches; More than 80 inches
Drainage class: Well drained
Runoff class: Negligible
Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high (0.60 to 2.00 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: Very rare
Frequency of ponding: None
Calcium carbonate, maximum content: 4 percent
Maximum salinity: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)
Sodium adsorption ratio, maximum: 10.0
Available water capacity: Low (about 4.9 inches)

Interpretive groups

Land capability classification (irrigated): 1
Land capability classification (nonirrigated): 4c
Hydrologic Soil Group: B
Hydric soil rating: No

Minor Components

Hanford

Percent of map unit: 3 percent
Landform: Flood plains, alluvial fans
Hydric soil rating: No

Grangeville, saline-sodic

Percent of map unit: 3 percent
Landform: Flood plains, alluvial fans
Hydric soil rating: Yes

Tujunga

Percent of map unit: 3 percent
Landform: Flood plains
Hydric soil rating: No

Akers

Percent of map unit: 2 percent
Landform: Fan remnants
Hydric soil rating: No

Tagus

Percent of map unit: 2 percent
Landform: Fan remnants
Hydric soil rating: No

Colpien

Percent of map unit: 2 percent
Landform: Fan remnants
Hydric soil rating: No

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Appendix C

Class III Inventory/Phase I Cultural Resources Survey

CLASS III INVENTORY/PHASE I SURVEY, TRACT 92 WATER SYSTEM CONSOLIDATION AND UPGRADE PROJECT, TULARE COUNTY, CALIFORNIA

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MANAGEMENT SUMMARY

An intensive Class III inventory/Phase I cultural resources survey was conducted for the Self-Help Enterprises, Tract 92 Water System Consolidation and Upgrade Project (Project), near Visalia, Tulare County, California. This study was conducted by ASM Affiliates, Inc., with David S. Whitley, Ph.D., RPA, serving as principal investigator. Background studies and fieldwork for the survey were completed in January and February 2021. The study was undertaken to assist with compliance with the California Environmental Quality Act (CEQA) and Section 106 of the National Historic Preservation Act (NHPA). The Project consists of approximately 1.8 miles (mi.) of pipeline replacement within Tract 92, approximately 0.8 mi. of new water main along Road 148 and the installation of a well. The horizontal APE, which includes a 50-ft buffer, includes approximately 96-acres. The horizontal area of potential effect (APE) for the project was defined as all areas of potential ground-surface disturbance along the pipeline corridor and the well site location, including work, staging and lay-down areas. The vertical APE is 10 feet (ft), the maximum excavation depth for the pipeline.

A records search of site files and maps was conducted on January 19, 2021, at the Southern San Joaquin Valley Information Center (IC), California State University, Bakersfield, to determine if any cultural resources had been previously recorded within the study area, or if any such resources are eligible for inclusion in the National Register of Historic Places (NRHP) or the California Register of Historical Resources (CRHR). The IC results indicated that the majority of the study area had not been previously surveyed. Three historical-period cultural resources have been previously documented within or adjacent to it. In addition, a search of the Native American Heritage Commission (NAHC) Sacred Lands File (SLF) was completed on January 26, 2021. Based on the NAHC records, no sacred sites or traditional cultural places had been identified within or adjacent to the study area. Outreach letters and follow-up emails were sent to each of the tribal organizations on the contact list provided by the NAHC; no information on possible tribal cultural resources or concerns have been received to date.

The Class III inventory/Phase I survey fieldwork was conducted on February 25, 2021. All accessible areas within Tract 92 along the proposed pipeline replacement alignments and potential well location were surveyed, while surveyors flanked each side of the section of new pipeline along Road 148.

One historical-period cultural resource was identified and documented during the survey: a segment of the early nineteenth century Extension Ditch. This ditch segment is recommended as not eligible for the National Register of Historic Places (NRHP) or California Register of Historical Resources (CRHR). Based on these findings, the construction of the proposed Project does not have the potential to result in adverse impacts to significant historical resources or historic properties, and no additional cultural resource studies are recommended.

1. INTRODUCTION AND REGULATORY CONTEXT

ASM Affiliates, Inc. was retained by Provost & Pritchard Consulting to conduct an intensive Class III inventory/Phase I cultural resources survey for the Self-Help Enterprises, Tract 92 Water System Consolidation and Upgrade Project, near Visalia, Tulare County, California. The purpose of this investigation was to assist with compliance with Section 106 of the NHPA of 1966, as amended (54 USC § 300101 et seq.; 36 CFR Part 800), and the CEQA. The investigation was undertaken, specifically, to ensure that no significant adverse effects or impacts to historical resources or historic properties may occur as a result of the construction of this project.

This current study included:

- A background records search and literature review to determine whether the APE had previously been systematically surveyed and/or if any known cultural resources were previously documented within it;
- A search of the Sacred Lands File held by the Native American Heritage Commission (NAHC) to determine if any traditional cultural places or cultural landscapes have been identified within the area with outreach letters and follow-up emails sent to the NAHC tribal contact list;
- An on-foot, intensive inventory of the Project 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.

This study was conducted by the ASM Tehachapi office in January and February 2021. David S. Whitley, Ph.D., RPA, served as principal investigator. ASM Associate Archaeologist/Crew Chief Robert Azpitarte, B.A., conducted the fieldwork with the aid of ASM Assistant Archaeologist Stacey Escamilla, B.A.

This manuscript 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; 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 Project is located on open flats of the San Joaquin Valley, a large interior and relatively low-lying valley that drains northwards to the San Francisco Bay. Elevation within the largely flat APE is approximately 345-ft. above mean sea level (amsl). The APE lies within sections 2, 10, and 11, Township 19 South, Range 25 East, Mt. Diablo Base Meridian as shown on the USGS Exeter, California 7.5-minute topographic quadrangle (Figure 1). The Project lies largely within Tract 92, a census-designated place situated less than 2-mi. southeast of the City of Visalia. Tract 92 is bounded on the southeast by the Tulare Irrigation Canal, on the west by Road 148, and on the north and south by agricultural lands. Another portion of the proposed Project involves pipeline placement along the east edge of Road 148 terminating just south of Rector.

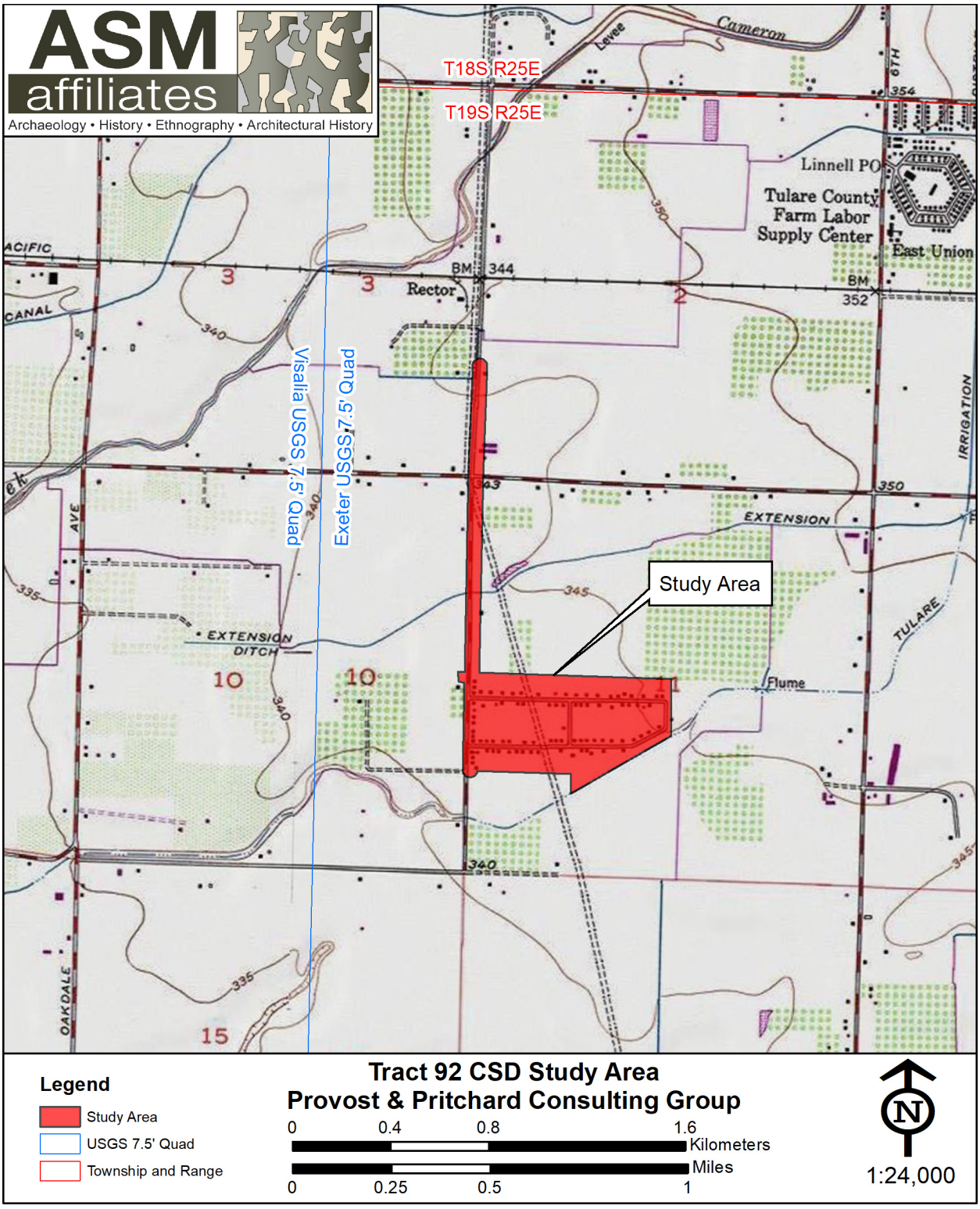

Figure 1. Location of the Self-Help Enterprises, Tract 92 Water System Consolidation and Upgrade Project study area, Tulare County, California.

1.2 PROJECT DESCRIPTION AND APE

The Project consists of approximately 1.8-mi. of pipeline replacement within Tract 92, approximately 0.8-mi. of new water main along Road 148, and the installation of a well. The horizontal area of potential effect (APE) for the project was defined as all areas of potential ground-surface disturbance along the pipeline corridor and the well site location, including work, staging and lay-down areas. With an applied buffer of 50-ft, the horizontal APE totals approximately 96-acres. The vertical APE is 10-ft, the maximum excavation depth for the pipeline.

1.3 REGULATORY CONTEXT

1.3.1 NHPA

NHPA is the primary federal legislation that outlines the federal government's responsibility to consider the effects of its actions on historic properties and affords the Advisory Council on Historic Preservation a reasonable opportunity to comment. NHPA Section 106 and its implementing regulations at 36 CFR Part 800 describes the process that the federal agency shall take to identify cultural resources and assess the level of effect that the proposed undertaking will have on historic properties. An undertaking is defined as a "…project, activity or program funded in whole or in part, under the direct or indirect jurisdiction of a federal agency." This includes projects that are carried out by, or on behalf of, the agency; those carried out with federal assistance; those requiring a federal permit, license, or approval; and those subject to state or local regulation administered pursuant to a delegation, or approval by, a federal agency.

A cultural resource is a broad term that includes prehistoric, historic, architectural, and traditional cultural properties. Those cultural resources that are listed on, or are eligible for inclusion in, the NRHP are referred to as historic properties. The criteria for NRHP eligibility are outlined at 36 CFR Part 60. Other applicable federal cultural resources laws and regulations that could apply include, but are not limited to, the Native American Graves Protection and Repatriation Act (NAGPRA) and the Archaeological Resources Protection Act (ARPA).

Compliance with NHPA Section 106 following 36 CFR Part 800 includes a series of steps that are designed to identify and consult with interested parties, determine the APE, determine if historic properties are present within the APE, and assess the effects the undertaking will have on historic properties. Section 106 requires consultation with Indian Tribes concerning the identification of sites of religious or cultural significance and with individuals or groups who are entitled, or requested, to be consulting parties. The regulations at 36 CFR Part 800.5 require federal agencies to apply the criteria of adverse effect to the historic properties identified within the APE. The criteria of adverse effect, defined at 36 CFR Part 800.5(a)(1), states that:

> An adverse effect is found when an undertaking may alter, directly or indirectly, any of the characteristics of a historic property that qualify the property for inclusion in the National Register in a manner that would diminish the integrity of the property's location, design, setting, materials, workmanship, feeling, or association.

The 36 CFR Part 800 regulations include consultation with the State Historic Preservation Officer (SHPO) to provide an opportunity to comment on, and concur with, a federal agency's determinations. If the undertaking would result in adverse effects to historic properties, these adverse effects must be resolved in consultation with the SHPO and other parties identified during the Section 106 process before the undertaking can proceed to implementation.

1.3.2 National Register Criteria for Evaluation

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

(A) be associated with events that have made a significant contribution to the broad patterns of history; or

(B) be associated with the lives of people significant in our past; or

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

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

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

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

1.3.3 CEQA

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 impacted, 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 CRHR. In practice, the federal NRHP criteria for significance applied under Section 106 are generally (although not entirely) consistent with CRHR criteria (see PRC § 5024.1, Title 14 CCR, Sections § 4852 and § 15064.5(a)(3)).

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

> (1) Are associated with events that have made a significant contribution to the broad patterns of California's history and cultural heritage;
>
> (2) Are associated with the lives of persons important in our past;
>
> (3) 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
>
> (4) 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:

- Contains information needed to answer important scientific research questions and that there is a demonstrable public interest in that information.
- Has a special and particular quality such as being the oldest of its type or the best available example of its type.
- 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.

2. ENVIRONMENTAL AND CULTURAL BACKGROUND

2.1 ENVIRONMENTAL BACKGROUND

At the time of the Class III Inventory/Phase I survey, the APE consisted of a residential tract and a well-used road surrounded by agricultural land (Figures 2-4). Historical and recent land-use have changed the vegetation that was once present within and near the APE. Prior to development, oak groves and Tule marshlands would have dominated (Preston 1981:70) with riparian environments present along the drainages, waterways, and marshes that were naturally occurring in the area. The APE and immediate surroundings have been farmed and grazed for many years, and more recently suburbanized, 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 study area prior to cultivation.

Figure 2. Tract 92, Oscar Avenue and Water Avenue, looking west.

Figure 3. Tract 92, Oscar Avenue and Water Avenue, looking south.

Figure 4. Road 148 corridor from south end, looking north.

2.2 GEOARCHAEOLOGICAL CONTEXT

The project is located on the San Joaquin Valley flats, a deep basin that has been filled primarily with sediment originating in the Sierra Nevada to the east. More accurately, the project is located on the Kaweah River alluvial fan, which itself is broad and, in the immediate project area, gentle in slope. Preston describes the geomorphological and hydrological setting as follows:

> The Kaweah River…enters the basin south of the Kings River. Its discharge into the basin is second only to the Kings but less reliable: during dry periods the Kaweah may disappear underground near the apex of its fan…The Kaweah's channels briefly reunite south of the Venice Hills [northeast of the Project APE], then divide again into eight or ten shallow channels…and overflow to form an extensive swamp during the high-water stage. The fertile alluvial deposits of the Kaweah nearly coalesce with the Kings River dan and are crossed by evenly spaced distributaries that proved a valuable irrigation resource for early basin farmers (1981:16-17).

The implications are that the project area historically and prehistorically was a dynamic geomorphological environment, at least periodically, due to seasonal flooding. Historical records and meteorological modeling allow us to estimate the impact this flooding may have had on the landscape though, due to changing climatic conditions prehistorically, this likely varied over time, with greater dynamism occurring during wetter periods. Second, this occasional flooding has sporadically inundated the area, depositing alluvial soils.

The USGS (2010) ARkStorm analysis used geological evidence (thickness of age-dated sediment deposition off the California coast), local and global historical records and meteorological modeling to predict major storm events for the state. The geological evidence combined with global historical records indicate that major "atmospheric rivers" associated with El Niño/Southern Oscillation (ENSO) events—megastorms—occurred in AD 212, 440, 603, 1029, 1418, 1605, and 1861, or roughly every 260 years. Historical records from the winter of 1861 – 1862 describe this event:

> The great central valley of the state is under water--the Sacramento and San Joaquin valleys--a region 250 to 300 miles long and an average of at least twenty miles wide, or probably three to three and a half millions of acres!..Thousands of farms are entirely under water—cattle starving and drowning (Brewer 2003:242).

The state capitol was temporarily moved from Sacramento to San Francisco during the storm and, as Brewer (ibid:243) reports, even the tops of telegraph poles were underwater in parts of the Sacramento Valley. Yet, as the USGS (2010:2) notes, the geological record indicates that the 1861 – 1862 event was not the most severe storm experienced in the last two millennia. While these storms would have the potential to either destroy (if in a dynamic geomorphic environment) or bury (if in a protected location) archaeological deposits, village sites would most likely have been located on higher ground exactly to avoid flooding during their season of occupation: rainy California winters when the prehistoric population was aggregated into communal villages.

A Caltrans geoarchaeological study that included the Project APE classified this location as having Moderately High sensitivity for subsurface sites (Meyer et al. 2010). This study involved first determining the location and ages of late Pleistocene (>25,000 years old) landforms in the southern San Joaquin Valley. These were identified by combining a synthesis of 2,400 published paleontological, soils and archaeological chronometric dates with geoarchaeological field testing. The ages of surface landforms were then mapped to provide an assessment for the potential for buried archaeological deposits. These ages were derived primarily from the Soil Survey Geographic Database (SSURGO) and the State Soils Geographic (STATSGO) database. A series of maps were created from this information that ranked locations in 7 ordinal classes for sensitivity for buried soils, from Very Low to Very High.

No significant ground-surface excavation in areas that have not been previously disturbed is anticipated for the pipeline replacement and installation, however, indicating that it would be unlikely that subsurface archaeological deposits, if present, would be intact within the APE. Based on these factors and conditions, the project area is considered to have a low to moderate archaeological sensitivity, with limited potential for subsurface archaeological remains.

2.3 ETHNOGRAPHIC CONTEXT

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 to the north. The result is an unfortunate scarcity of ethnographic detail on southern Valley tribes, especially in relation to the rich information collected from the central foothills tribes where native speakers of the Yokuts dialects are still found. Regardless, the general details of indigenous life-ways were similar across the broad expanse of Yokuts territory, particularly in terms of environmentally influenced subsistence and adaptation and with regard to religion and belief, which were similar everywhere.

This scarcity of specific detail is particularly apparent in terms of southern valley tribal group distribution. Kroeber (1925), Gayton (1948) and Latta (1977) place the Project area in Telamni territory, and none of them locate historical villages in the general area, however, with village locations instead concentrated to the east, in the foothills, or west, closer to the Tulare Lake shore. Regardless of tribal affiliation, historical village distribution was similar across the region. 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, 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 continue to live in Tulare, Fresno, and Kings counties to this day.

2.3.1 Significant Themes

The ethnographic period in the southern San Joaquin Valley extended from first Euro-American contact, in AD 1772, to 1853, when tribal populations were first moved onto reservations. The major significant historic 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); and, ultimately, the adoption of the Euro-American society's economic system and subsistence practices and acculturation into that society.

2.3.2 Associated Property Types

Site types that have been identified in the southern San Joaquin Valley in the general vicinity of the study area dating to the ethnographic period of significance primarily include villages and habitations, some of which contain cemeteries. 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; 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. 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 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 Criterion 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.

2.4 PREHISTORIC BACKGROUND

The 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 YBP (years before present). 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. (In each case, these are locations many miles distant from the study area.)

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 southwest of the study area, 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 a 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 of California first occurs during the middle Holocene, roughly 7500 to 4000 YBP. This period is known as the *Early Horizon*, or alternatively as the Early Millingstone along the Santa Barbara Channel. In the south, populations 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 4000 YBP during the *Middle Horizon* (or Intermediate Period). This period known climatically as the Holocene Maximum (circa 3800 YBP) and was characterized by significantly warmer and wetter conditions than previously experienced. Archaeologically, it was marked by large population increase and radiation into new

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

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

The beginning of the *Late Horizon* is set variously at 1500 and 800 YBP, with a 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. This corresponds to the so-called Medieval Climatic Anomaly, a period of climatic instability that included major droughts and resulted in demographic disturbances across much of the west (Jones et al. 1999). It is also believed to have resulted in major population decline and abandonments across south-central California, involving as much as 90 percent of the interior populations in some regions including the Carrizo Plain (Whitley et al. 2007). It is not clear whether site abandonment was accompanied by a true reduction in population or an agglomeration of the same numbers of peoples

into fewer but larger villages. What is clear is that Middle Period villages and settlements were widely dispersed across the landscape; many at locations that lack contemporary evidence of fresh water sources. Late Horizon sites, in contrast, are typically located where fresh water was available during the historical period, if not currently.

One extensively studied site that shows evidence of intensive occupation during the Middle-Late Horizons transition (~1500 to 500 YBP) is the Redtfeldt Mound (CA-KIN-66/H), located near the Santa Rosa Rancheria, northwest of the study area. 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 subsequent Late Horizon can be best 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 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 can be expected 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.

2.4.1 Significant Themes

Previous research and the nature of the prehistoric archaeological record suggest two significant themes, both of which fall under the general *Prehistoric Archaeology* area of significance. These are the *Expansion of Prehistoric Populations and Their Adaptation to New Environments*; and *Adaptation to Changing Environmental Conditions*.

The *Expansion of Prehistoric Populations and Their Adaptation to New Environments* theme primarily concerns the Middle Horizon/Holocene Maximum. Its period of significance runs from about 4000 to 1500 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 4000 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.

2.4.2 Associated Property Types

Given the physiographic and hydrographic nature of the San Joaquin Valley (low-lying alluvial flats prehistorically containing streams, sloughs, swamps and lakes), two primary site types can be expected for both themes: villages and camps, and resource exploitation/special activity areas. Archaeological evidence potentially pertinent to these themes could include settlement locations and sizes, trade patterns, and especially subsistence evidence.

Prehistoric sites would be primarily eligible under NRHP Criterion D, research potential. Eligibility would require integrity in the form of intact archaeological deposits, including preserved stratigraphic relationships, internal site features, and artifact associations.

2.5 HISTORICAL BACKGROUND

Spanish explorers first visited the southern end of 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 pigs (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 (SPRR) 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 (3 ft. wide by 2 ft. deep), pulled by a 40-mule team, which was used for ditch digging. Haggin and Carr were largely responsible for reclaiming the beds of the Buena Vista and Kern lakes, and for creating the Calloway Canal, which drained through the Rosedale area in Bakersfield to Goose Lake (Morgan 1914). Miller and Lux ultimately became one of the biggest private property holders in the country, controlling the rights to over 22,000 square miles, and their impacts were widespread. 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 (http://en.wikipedia.org/wiki/Henry_Miller(rancher)). 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 (http://exiledonline.com/california-class-war-history-meet-the-oligarch-family-thats-been-scamming-taxpayers-for-150-years-and-counting/).

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 toward 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 a 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 and Visalia where their descendants live today (Boyd 1997).

The town of Visalia, originally called Four Creeks, was founded in 1852 and is believed to be the earliest settlement in the San Joaquin Valley between Los Angeles and the Stockton area. It was made the county seat of Tulare County in 1853 and became a stop on the Butterfield Overland Mail stage route, which ran from Los Angeles to Stockton, in 1858. Camp Babbitt was created 1 mi. outside of Visalia during the Civil War, due to a significant number of southern sympathizers in the area. In 1874, the town was incorporated. Visalia has continued to grow due to industry and agriculture in the surrounding area, currently having a population of over 130,000 people (https://www.visalia.city/about/history_of_visalia.asp).

2.5.1 Significant Themes

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 an increasing 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 1964 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, 1852-1964 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, 1852-1964 will be eligible under NRHP Criterion B/CRHR Criterion 2 for their association with this significant theme if they:

- associated with an important person's productive life ***and*** 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 below 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.

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 1964 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, 1852-1964 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).

3. ARCHIVAL RECORDS SEARCH

An archival records search was conducted at the California State University, Bakersfield, Southern San Joaquin Valley Information Center (IC), by IC staff members to determine: (i) if prehistoric or historical archaeological sites had previously been recorded within the study area; (ii) if the project area 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. Additionally, a search of the NAHC SLF was conducted in order to ascertain whether tribal cultural resources were known within the APE. The results of these records searches are summarized below.

According to the IC records, four previous studies (one of which resulted in three related documents) have been completed that are adjacent to or intersect some portion of the Project APE (Table 1). However, the majority of the APE had not be subject to intensive survey prior to the current study. An additional five previous studies had been conducted within 0.5 mi. of the APE (Table 2). A total of three cultural resources have been recorded within the APE (Table 3), with nine documented within the 0.5-mi. search radius. All of the resources are from the historical period, and are primarily residential structures or related to infrastructure such as energy or irrigation. A map of previous reports and recorded cultural resources in and around the study area is presented in Confidential Appendix A.

Table 1. Survey reports within the APE

Report No.	Year	Author (s)/Affiliation	Title
TU-00134	1998	R.E. Parr and M.Q. Sutton / Center for Archaeological Research, California State University, Bakersfield	Archaeological Assessment of the Tulare Irrigation District Main Canal Lining Project, Tulare County, California
TU-01383	2010	R.E. Parr / Cal Heritage	Cultural Resource Assessment for the Southern California Edison Company Rector Substation Waterline Improvement Project near the City of Visalia, Tulare County, California (WO 800249915)
TU-01659	2009	K. Haley / ICF Jones & Stokes	Historic Property Survey Report for Avenue 280 Road Widening Project, Tulare County, California
TU-01659A	2009	K. Haley / ICF Jones & Stokes	Avenue 280 Road Widening Project Historic Resources Evaluation Report
TU-01659B	2009	T. O'Brien / ICF Jones & Stokes	Avenue 280 Road Widening Project Archaeological Survey Report
TU-01764	2017	S.E. Foglia, T.G. Cooley, and C. Miller / AECOM	Cultural Resources Survey Report for the Proposed Southern California Edison North of Magunden Transmission Line Rating Remediation Project, Kern and Tulare Counties, California

Table 2. Survey reports within 0.5 mile of the APE

Report No.	Year	Author (s)/Affiliation	Title
TU-01371	2009	R.E. Parr / Cal Heritage	Cultural Resource Assessment for the Replacement of Two Deteriorated Power Poles on the Southern California Edison Company Nickerson and St. Johns 12 kV Circuits, Tulare County, California

Report No.	Year	Author (s)/Affiliation	Title
TU-01456	2007	S.L. Henrikson / Center for Archaeological Research, California State University, Bakersfield	Archaeological Survey for the Southern California Edison Company Replacement of 11 Deteriorated Power Poles on the El Mirador, Ducor, Chinowith, Nickerson, Gill, Roeding, and Caratan 12 kV Distribution Circuits, Tulare County, California
TU-01500	2010	R.S. Orfila / RSO Consulting	Archaeological Survey for the Southern California Edison Company: Replacement of Nineteen Deteriorated Power Poles on the Doran 12 kV, El Mirador 12 kV, Gillette 12 kV, Merit 12 kV, Nickerson 12 kV, Success 12 kV, Tarusa 12 kV, Tungsten 12 kV, Twin Butte 12 kV, Vandalia 12 kV, and Virgil 12 kV Circuits in Kern and Tulare Counties, California (WO 6051-4800 0-4838 and 6051-4800 0-4866)
TU-01690	2014	A. Travers / EBI Consulting	Avenue 280 Road Widening Project Archaeological Survey Report
TU-01770	2017	E. Chandler / Paleo Solutions, Inc.	Archaeological Survey Report for the Southern California Edison Company Transmission Line Rating Remediation (TLRR) Project for the Rector Material Yard, Tulare County, California

Table 3. Resources documented within the APE

Primary # (P-54-)	Type	Description
004832	Structure; Element of District	Big Creek East & West Transmission Line; National Register - 16000468
005289*	Structure	Bliss Ditch
005296*	Structure	Tulare Irrigation District Canal

*resource mapped adjacent to the APE but do not actually intersect any proposed project components.

Table 4. Resources documented within 0.5 mile of the APE

Primary # (P-54-)	Type	Description
004626	Structure	Historic Southern Pacific Railroad
004877	Structure	Cameron Creek Channel and Levees
005067	Building	3800 E. Caldwell Av.
005068	Building	14783 Avenue 280
005069	Building	14766 Avenue 280
005070	Building	14199/14939 Avenue 280
005071	Building	15102 Avenue 280
005072	Building	15157 Avenue 280
005221	Building; Structure; Element of District	Rector Substation

The results of the NAHC SLF results were negative (Confidential Appendix A). The NAHC also included a list of 10 tribal contacts who might have additional information related to the study area. Outreach letters were then sent to the individuals and organizations on the tribal contact list. Follow-up emails were sent one month later. A response received from the Santa Rosa Indian Community of the Santa Rosa Rancheria expressed concern and indicated that they would like to be notified of any and all discoveries related to this project. Responses received from two other tribes, the Big Sandy Rancheria of the Western Mono Indians and the Tubatulabals of Kern County, indicated that they had no comments. No other responses were received, and no information was provided about potential tribal cultural resources within the APE.

4. METHODS AND RESULTS

The project consists of the construction or replacement of approximately 2.6 mi. of pipeline and installation of a well. Where accessible, the proposed pipeline corridors and the well location were examined with the field crew walking parallel transects spaced at 15-meter intervals. In areas where this spacing was not logistically possible, surveyors walked on each side of the corridor, approximately 15 meters offset from the centerline. In the case of the alignment along Rd 148, this resulted in the surveyors walking along each side of the road.

This intensive pedestrian survey methodology was designed to identify surface artifacts, archaeological indicators (e.g., shellfish, animal bone), and/or archaeological deposits (e.g., organically enriched midden soil); 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, using DPR 523 forms. As such, special attention was paid to rodent burrow back dirt piles or any other areas of ground surface visibility, in the hope of identifying subsurface soil conditions that might be indicative of archaeological features or remains.

The study area was surveyed by ASM Associate Archaeologist Robert Azpitarte, B.A., Crew Chief, with the help of ASM Assistant Archaeologist Stacey Escamilla, M.A. Fieldwork was conducted on February 25, 2021. Soils throughout the study area are quaternary deposits. The study area is characterized by existing previously disturbed paved and unpaved roads with residential development and agricultural land consisting primarily of field crops and orchards. Surface visibility was good to excellent throughout the accessible portions of the Project APE.

ASM conducted limited archival research to assess the eligibility of any identified resources. ASM reviewed Caltrans's *Water Conveyance Systems in California Historic Context Development and Evaluation Procedures* (Caltrans 2000). Recommendations of eligibility were based on ASM's assessment of integrity and the eligibility framework established by Caltrans in that historic context document, as well as previous recommendations for identified resources, where available. Historic USGS topographic maps from historicaerials.com and other historic maps were reviewed as necessary to assess the historical alignment of any linear resources in the Project area.

4.1 INVENTORY RESULTS

Previously documented resource P-54-005289 (Bliss Ditch) is mapped as lying adjacent and perpendicular to a small portion of the APE along Road 148. However, survey revealed that the resource does not intersect the proposed alignment and is thus outside of the current Project APE. Similarly, P-54-005296 (Tulare Irrigation District Canal) runs along the southeastern edge of Tract 92 but does not intersect any portion of the APE. Previously documented resource P-54-004832 (Big Creek East and West Transmission Line) runs north-south along the west edge of Road 148 and then runs northwest-southeast across Tract 92. This resource will not be impacted by pipeline construction and its prior documentation was determined adequate and no site record update was completed.

One previously undocumented historical resource was identified during the Class III inventory/Phase I survey: a segment of Extension Ditch, a late nineteenth century irrigation ditch. A site record form for this resource is included in Confidential Appendix B. No additional cultural resources were identified during the Class III inventory/Phase I survey.

4.1.1 Extension Ditch

The single newly documented resource is a short segment of Extension Ditch, a late nineteenth century irrigation ditch. The segment is located just north of the Tract 92 community and is perpendicular to Road 148. The recorded segment measures 20-ft by 35-ft by 3-ft deep and situated at an elevation of approximately 340-ft amsl. The resource is in good condition. The ditch is narrow and shallow, consisting of earthen slopes and bed with adjacent dirt roads on either side. Culvert components are contemporary in age where the ditch passes under Road 148, though it is not known when these components were updated. No historic artifacts or features were identified on or near the resource.

Grunksy (1898:26) refers to Extension Ditch as "one of the principal branches of the Peoples Ditch. It has a southwesterly course, and, with its branches, commands the region to the west and northward of Farmersville. It was built by the farmers whose lands it waters." According to USGS topographic quadrangles, historic aerials, and Google Earth, the newly recorded ditch segment appears to have retained its current course since at least 1927. Multiple modifications to associated irrigation features (e.g., culverts, weirs, adjacent reservoirs) have occurred since that time. The ditch branches off from the Consolidated Peoples Ditch located approximately 10 mi. northeast. From the recorded location, the ditch continues east and north for approximately 1.5 mi. before consolidating with Cameron Creek.

Figure 5. Segment of Extension Ditch passing beneath Road 148, looking west.

5. SUMMARY, NRHP/CRHR ELIGIBILITY EVALUATION, AND RECOMMENDATIONS

An intensive Class III inventory/Phase I cultural resources survey was conducted for the Self-Help Enterprises, Tract 92 Water System Consolidation and Upgrade Project, near Visalia, Tulare County, California. The horizontal APE for the project was defined as all areas of potential ground-surface disturbance along the pipeline corridor and the well site location, whereas the vertical APE is 10-ft, the maximum depth of pipeline excavation.

A records search conducted at the Southern San Joaquin Valley Information Center, California State University, Bakersfield, and a search of the NAHC's Sacred Lands File indicated that no prehistoric resources, sacred sites, or tribal cultural resources had been identified within or adjacent to the study area; three historical-period resources were identified within or adjacent to the study area, none of which will be impacted by the proposed Project. Outreach letters and follow-up emails were sent to each of the tribal organizations on the contact list provided by the NAHC; no responses have been received to date.

One historical-period cultural resource was identified and documented during the survey: a segment of the early nineteenth century Extension Ditch with a culvert that passes beneath Road 148.

5.1 EVALUATION OF EXTENSION DITCH SEGMENT

The section of Extension Ditch documented within the Tract 92 Project APE is recommended not eligible for the NRHP or CRHR either individually nor as a contributor to a potential historic district under all four NRHP/CRHR criteria. No eligible historic district was identified to which the ditch would be a contributor. Under consideration of individual eligibility, the section of Extension Ditch encountered during the current study has the potential for association with events that have made a significant contribution to the broad patterns of history, specifically the Development of Irrigated Agriculture in the San Joaquin Valley, 1852-1964. This theme begins with the earliest developments of irrigated agriculture in the San Joaquin Valley and extends up to a period of 50 years ago. As a minor conduit, it does not have an important association with this significant theme. This segment of Extension Ditch is recommended not eligible under NRHP/CRHR Criteria A/1.

No historically significant individuals were identified that were associated with Extension Ditch, so it is recommended not eligible under NRHP/CRHR Criteria B/2.

The section of Extension Ditch encountered during this Project has the potential for eligibility under the theme of Technological Innovation in Irrigated Agriculture in California, 1852-1964. This theme begins with the earliest technological innovations in agricultural irrigation in California and extends up to a period of 50 years ago. However, Extension Ditch does not appear to have unique values, is not a good example of the property type as a minor feature of a water conveyance, is not the earliest, best preserved, largest, or sole surviving example of the water conveyance

property type; nor is it a design innovation of evolutionary trends in engineering. Furthermore, the ditch has no known association with a figure of acknowledged greatness in the design field or by someone unknown whose workmanship is distinguishable from others by its style and quality. This segment of Extension Ditch is recommended not eligible under NRHP/CRHR Criteria C/3.

Finally, this segment of Extension Ditch is not recommended eligible under NRHP/CRHR Criteria D/4. It is a common property type that does not have the potential to provide information about history or prehistory that is not available through historic research.

5.2 RECOMMENDATIONS

An archival records search, background studies, and an intensive, on-foot surface survey of the Self-Help Enterprises, Tract 92 Water System Consolidation and Upgrade Project study area, Tulare County, California, were conducted as part of a Class III inventory/Phase I archaeological survey. One cultural resource, a segment of the historical-period Extension Ditch, was identified and documented during the survey. This resource is recommended as not NRHP/CRHR eligible.

The proposed Tract 92 Project therefore does not have the potential to result in adverse effects or impacts to historic properties or historical resources as defined by the NRHP or CEQA, and no additional archaeological work is recommended. However, in the unlikely event that archaeological resources are discovered during the construction or use of the pipeline or other project facilities and features, it is recommended that an archaeologist be contacted to assess the find and provide further recommendations.

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CONFIDENTIAL APPENDICES