



**Resource Management
Agency
COUNTY OF TULARE
AGENDA ITEM**

BOARD OF SUPERVISORS

KUYLER CROCKER
District One
PETE VANDER POEL
District Two
AMY SHUKLIAN
District Three
EDDIE VALERO
District Four
DENNIS TOWNSEND
District Five

AGENDA DATE: November 19, 2019

Public Hearing Required	Yes	<input type="checkbox"/>	N/A	<input checked="" type="checkbox"/>
Scheduled Public Hearing w/Clerk	Yes	<input type="checkbox"/>	N/A	<input checked="" type="checkbox"/>
Published Notice Required	Yes	<input type="checkbox"/>	N/A	<input checked="" type="checkbox"/>
Advertised Published Notice	Yes	<input type="checkbox"/>	N/A	<input checked="" type="checkbox"/>
Meet & Confer Required	Yes	<input type="checkbox"/>	N/A	<input checked="" type="checkbox"/>
Electronic file(s) has been sent	Yes	<input checked="" type="checkbox"/>	N/A	<input type="checkbox"/>
Budget Transfer (Aud 308) attached	Yes	<input type="checkbox"/>	N/A	<input checked="" type="checkbox"/>
Personnel Resolution attached	Yes	<input type="checkbox"/>	N/A	<input checked="" type="checkbox"/>
Agreements are attached and signature line for Chairman is marked with tab(s)/flag(s)	Yes	<input type="checkbox"/>	N/A	<input checked="" type="checkbox"/>
CONTACT PERSON: Celeste Perez PHONE: (559) 624-7010				

SUBJECT: Adopt the Categorical Exemption for Soult's Mutual Water Company Water System Improvement Project

- REQUEST(S):**
That the Board of Supervisors:
1. Adopt the Categorical Exemption prepared pursuant to the California Environmental Quality Act (CEQA) and the State CEQA Guidelines per Section 15302(c) Replacement or Reconstruction, Soult's Mutual Water Company Water System Improvement Project; and
 2. Authorize the Environmental Assessment Officer, or designee, to sign and file the Notice of Exemption with the County Clerk.

SUMMARY:
In accordance with the California Environmental Quality Act (CEQA), the County of Tulare, acting as the lead agency for the Soult's Mutual Water Company Water System Improvement Project, must adopt the Categorical Exemption (CE).

The Project is located within the community of Soult's, which encompasses 39 residential connections across approximately 20 acres located at W. Soult's Drive and North Enterprise Street (Road 84) immediately west of the Tulare city limits and south of West Inyo Avenue (State Route 137). It abuts single-family development within Tulare to the east and within the unincorporated Lone Oak Tract to the south. Areas to the west and north are largely agricultural.

The Project proposes to construct a new water delivery system to serve the Soult's Tract along with three abutting residences. The Project will install approximately 5,200

SUBJECT: Adopt the Categorical Exemption for Soults Mutual Water Company Water System Improvement Project

DATE: November 19, 2019

linear feet (LF) of 8-inch PVC water main, 1,200 LF of 12-inch PVC water main, and 20 LF of 6-inch PVC water main, plus valves, hydrants, approximately 39 individual water services and meters, and related appurtenances. It includes three points of connection to the City of Tulare water system: at the intersection Haven Street and West Sonora Avenue tying into the existing water main serving the Lone Oak Tract to the south; at the intersection Enterprise Street and West Alpine Avenue, tying into the end of the main serving the Lone Oak Tract; and at the intersection of West Inyo Avenue and Gemini Street within the Tulare city limits.

These locations ensure both that there are two unique points of connection to the City system and that the consolidated system loops within the Soults Tract-Lone Oak Tract area. The new water system will be constructed four (4) feet below grade within existing rights-of-way. The City of Tulare will own and operate the system, providing service via an extraterritorial service agreement approved by the Tulare County Local Agency Formation Commission (LAFCo). After the Project is complete, the Soults Mutual Water Company (SMWC) would likely be dissolved.

In accordance with CEQA, the County has determined that a categorical exemption is applicable to the proposed action: The proposed Project is constructing a new water delivery system to serve the Soults Tract along with three abutting residences. This system will replace the current system that serves the community of Soults. Therefore, it would be consistent with Class 2 Section 15302(c), Replacement or reconstruction of existing utility systems and/or facilities involving negligible or no expansion of capacity.

FISCAL IMPACT/FINANCING:

No Net County Cost to the General Fund. The construction will be funded by the Soults Tract Mutual Water Company as the applicant through the Clean/Drinking Water State Revolving Fund (SRF) through the State Water Resources Control Board Division of Financial Assistance.

LINKAGE TO THE COUNTY OF TULARE STRATEGIC BUSINESS PLAN:

This project will enhance the water quality and supply of Tulare County by improving the water infrastructure for both the Soults Tract and Lone Oak Tract using these improved City of Tulare facilities.

SUBJECT: Adopt the Categorical Exemption for Soult's Mutual Water Company Water System Improvement Project

DATE: November 19, 2019

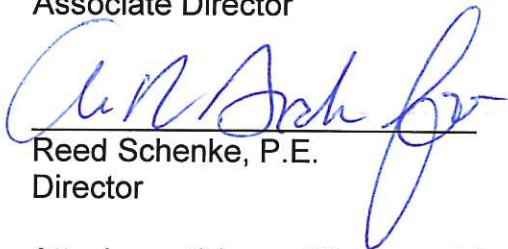
ADMINISTRATIVE SIGN-OFF:



Aaron R. Bock, MCRP, JD, LEED AP
Assistant Director



Michael Washam
Associate Director



Reed Schenke, P.E.
Director

Attachment(s) Attachment A – Categorical Exemption

**BEFORE THE BOARD OF SUPERVISORS
COUNTY OF TULARE, STATE OF CALIFORNIA**

IN THE MATTER OF ADOPT THE) Resolution No. _____
CATEGORICAL EXEMPTION FOR)
SOULTS MUTUAL WATER COMPANY)
WATER SYSTEM IMPROVEMENT)
PROJECT)

UPON MOTION OF SUPERVISOR _____, SECONDED BY
SUPERVISOR _____, THE FOLLOWING WAS ADOPTED BY THE
BOARD OF SUPERVISORS, AT AN OFFICIAL MEETING HELD NOVEMBER 19, 2019,
BY THE FOLLOWING VOTE:

AYES:
NOES:
ABSTAIN:
ABSENT:

ATTEST: JASON T. BRITT
COUNTY ADMINISTRATIVE OFFICER/
CLERK, BOARD OF SUPERVISORS

BY: _____
Deputy Clerk

* * * * *

1. Adopted the Categorical Exemption prepared pursuant to the California Environmental Quality Act (CEQA) and the State CEQA Guidelines per Section 15302(c) Replacement or Reconstruction, Soult's Mutual Water Company Water System Improvement Project; and
2. Authorized the Environmental Assessment Officer, or designee, to sign and file the Notice of Exemption with the County Clerk.

Attachment “A”

Categorical Exemption

NOTICE OF EXEMPTION

Fee Exempt per Government Code Section 6103

- To: Office of Planning and Research
 1400 Tenth Street, Room 121
 Sacramento, CA 95814
- Tulare County Clerk
 Room 105, Courthouse
 221 South Mooney Blvd.
 Visalia, CA 93291

Lead Agency: Tulare County Resource Management Agency
5961 South Mooney Blvd.
Visalia, CA 93277
(559) 624-7000
Attn: hguerra@co.tulare.ca.us

DATE RECEIVED FOR FILING AT TULARE COUNTY CLERK

Applicant(s): Soult's Mutual Water Company
2721 W. Soult's Drive
Tulare, CA 93274
559-688-6396

Project Title: Soult's Mutual Water Company Water System Improvement Project

Project Location - Specific: The Project is located within the community of Soult's, which encompasses 39 residential connections across approximately 20 acres located at W. Soult's Drive and North Enterprise Street (Road 84) immediately west of the Tulare city limits and south of West Inyo Avenue (State Route 137). It abuts single-family development within Tulare to the east and within the unincorporated Lone Oak Tract to the south. Areas to the west and north are largely agricultural.

Project Location- Section, Township, Range: Northwest Quarter of the Southwest Quarter of Section 9, Township 20, Range 24, MDB&M.

Project Location - County: Tulare

Description of Nature, Purpose, and Beneficiaries of Project: Soult's Mutual Water Company (SMWC) owns and operates the water system serving the community of Soult's. SMWC operates one well (Well No. 1) along with a 6,000-gallon hydro-pneumatic tank, water mains, valves, services, and hydrants. The system is aged and prone to leakage. For several years, SMWC has been subject to compliance orders related to nitrate.

The Project proposes to construct a new water delivery system to serve the Soult's Tract along with three abutting residences. The Project will install approximately 5,200 linear feet (LF) of 8-inch PVC water main, 1,200 LF of 12-inch PVC water main, and 20 LF of 6-inch PVC water main, plus valves, hydrants, approximately 39 individual water services and meters, and related appurtenances. It includes three points of connection to the City of Tulare water system: at the intersection Haven Street and West Sonora Avenue tying into the existing water main serving the Lone Oak Tract to the south; at the intersection Enterprise Street and West Alpine Avenue, tying into the end of the main serving the Lone Oak Tract; and at the intersection of West Inyo Avenue and Gemini Street within the Tulare city limits. These locations ensure both that there are two unique points of connection to the City system and that the consolidated system loops within the Soult's Tract-Lone Oak Tract area. The new water system will be constructed four (4) feet below grade within existing rights-of-way. The City of Tulare will own and operate the system, providing service via an extraterritorial service agreement approved by the Tulare County Local Agency Formation Commission LAFCo). After the Project is complete, the Soult's Mutual Water Company (SMWC) would likely be dissolved.

The existing SMWC water delivery system, along with an existing City of Tulare main within an easement across private property between West Alpine Avenue and West Sonora Avenue, will be abandoned in place. Existing hydrants will be removed, and their services capped below grade. SMCW's Well No. 1 will be abandoned and its equipment removed.

The Project will benefit the residents of the community of Souls, and to a lesser extent the residents of the Lone Oak Tract. The City of Tulare will provide a reliable source of potable water meeting State and federal requirements and additional looped connections will help maintain pressure and reduce the potential for loss of service in the event of emergency.

Exempt Status: *(check one)*

- Ministerial (Sec. 21080(b)(1); 15268);
- Declared Emergency (Sec. 21080(b)(3); 15269(a));
- Emergency Project (Sec. 21080(b)(4); 15269(b)(c));
- General Rule: CEQA Guidelines 15061(b)(3)
- Categorical Exemption: **CEQA Guidelines Section 15302(c), Replacement or Reconstruction**
- Statutory Exemptions:

Reasons why project is exempt: The proposed Project is constructing a new water delivery system to serve the Souls Tract along with three abutting residences. This system will replace the current system that serves the community of Souls. Therefore, it would be consistent with Class 2 Section 15302(c), Replacement or reconstruction of existing utility systems and/or facilities involving negligible or no expansion of capacity.

Name of Public Agency Approving Project: Tulare County Resource Management Agency

Project Planner/Representative: Hector Guerra, Chief Environmental Planner

Area Code/Telephone: (559) 624-7121

By: _____ Date: _____ Title: Chief Environmental Planner
Hector Guerra

By: _____ Date: _____ Title: Environmental Assessment Officer/
RMA Director
Reed Schenke, P.E.

- Signed by Lead Agency
- Signed by Applicant

**TULARE COUNTY
RESOURCE MANAGEMENT
AGENCY**



**CATEGORICAL EXEMPTION FOR
SOULTS MUTUAL WATER COMPANY-WATER
SYSTEM IMPROVEMENT PROJECT**

October 2019

ENVIRONMENTAL CONSIDERATIONS

DESCRIPTION OF PROJECT/ACTIVITY

The Project identified below is determined to be exempt from further environmental review under the California Environmental Quality Act (CEQA) of 1970 pursuant to CEQA Guidelines Section 15032(c) and Tulare County guidelines for the implementation of CEQA.

Location: The Project is located within the community of Soultis, which encompasses 39 residential connections across approximately 20 acres located at West Soultis Drive and North Enterprise Street (Road 84) immediately west of the Tulare city limits and south of West Inyo Avenue (State Route 137). It abuts single-family development within Tulare to the east and within the unincorporated Lone Oak Tract to the south. Areas to the west and north are largely agricultural. (See Figure 1 and 2)

Project Title: Soultis Mutual Water Company Water System Improvement Project

APN(s): APNs that will have connections to the new water system: 160-040-004, 168-090-002, 168-110-001, 168-110-002, 168-110-003, 168-110-004, 168-110-005, 168-110-006, 168-110-007, 168-110-008, 168-110-009, 168-110-010, 168-110-011, 168-110-012, 168-110-013, 168-110-014, 168-110-015, 168-110-016, 168-110-017, 168-110-018, 168-110-019, 168-110-020, 168-110-021, 168-110-022, 168-110-023, 168-110-024, 168-110-025, 168-120-001, 168-120-002, 168-120-003, 168-120-004, 168-120-005, 168-120-006, 168-120-007, 168-120-008, 168-120-009, 168-120-010, and 168-120-011. See Figure 2.

Project Description: Soultis Mutual Water Company (SMWC) owns and operates the water system serving the community of Soultis. SMWC operates one well (Well No. 1) along with a 6,000-gallon hydro-pneumatic tank, water mains, valves, services, and hydrants. The system is aged and prone to leakage. For several years, SMWC has been subject to compliance orders related to nitrate.

The Project proposes to construct a new water delivery system to serve the Soultis Tract along with three abutting residences. The Project will install approximately 5,200 linear feet (LF) of 8-inch PVC water main, 1,200 LF of 12-inch PVC water main, and 20 LF of 6-inch PVC water main, plus valves, hydrants, approximately 39 individual water services and meters, and related appurtenances. It includes three points of connection to the City of Tulare water system: at the intersection Haven Street and West Sonora Avenue tying into the existing water main serving the Lone Oak Tract to the south; at the intersection Enterprise Street and West Alpine Avenue, tying into the end of the main serving the Lone Oak Tract; and at the intersection of West Inyo Avenue and Gemini Street within the Tulare city limits. These locations ensure both that there are two unique points of connection to the City system and that the consolidated system loops within the Soultis Tract-Lone Oak Tract area. The new water system will be constructed four (4) feet below grade within existing rights-of-way. The City of Tulare will own and operate the system, providing service via an extraterritorial service agreement approved from the Tulare County Local Agency Formation Commission (LAFCo). The Soultis Mutual Water Company (SMWC) would likely be dissolved.

The existing SMWC water delivery system, along with an existing City of Tulare main within an easement across private property between West Alpine Avenue and West Sonora Avenue, will be abandoned in place. Existing hydrants will be removed and their services capped below grade. SMCW's Well No. 1 will be abandoned and its equipment removed.

The Project will benefit the residents of the community of Soult, and to a lesser extent the residents of the Lone Oak Tract. The City of Tulare will provide a reliable source of potable water meeting State and federal requirements and additional looped connections will help maintain pressure and reduce the potential for loss of service in the event of emergency.

REASON PROJECT IS EXEMPT: The proposed Project will replace the current system that serves the community of Soult. Therefore, it would be consistent with Class 2 Section 15302(c), Replacement or reconstruction of existing utility systems and/or facilities involving negligible or no expansion of capacity.

Exempt Status: (check one and describe in Section 1) below)

- Ministerial (Sec. 21080(b)(1) of the Public Resources Code)
- Declared Emergency (Sec. 21080(b)(3); 15269(a));
- Emergency Project (Sec. 21080(b)(4); 15269(b)(c));
- General Rule: CEQA guidelines 15061(b)(3)
- Categorical Exemption: **CEQA Guidelines Class 2 Section 15302(c), Replacement or Reconstruction**
- Statutory Exemptions:

1) Exemption Section Citation

The County of Tulare Board of Supervisors adopted an exemption for the construction of the aforementioned facilities per the Tulare County Guidelines for the Implementation of California Environmental Quality Act (CEQA), Article 19 Categorical Exemptions, Section 15302(c). Therefore, the application of CEQA Section 15302 (c) and Tulare County Guidelines for the Implementation of CEQA of 1970, Number 300 Section 111(e) are applicable and appropriate for this Activity/Project.

2) Reasons to support exemption findings

In accordance with California Code of Regulations Section 15060, Staff reviewed the Project and determined that the Project qualifies for an exemption pursuant to Section 15302(c).

Planning staff, in their analysis, found no substantial evidence that there are unusual circumstances (including future activities) resulting in (or which might reasonably result in) significant impacts. Therefore, no further environmental review is required.

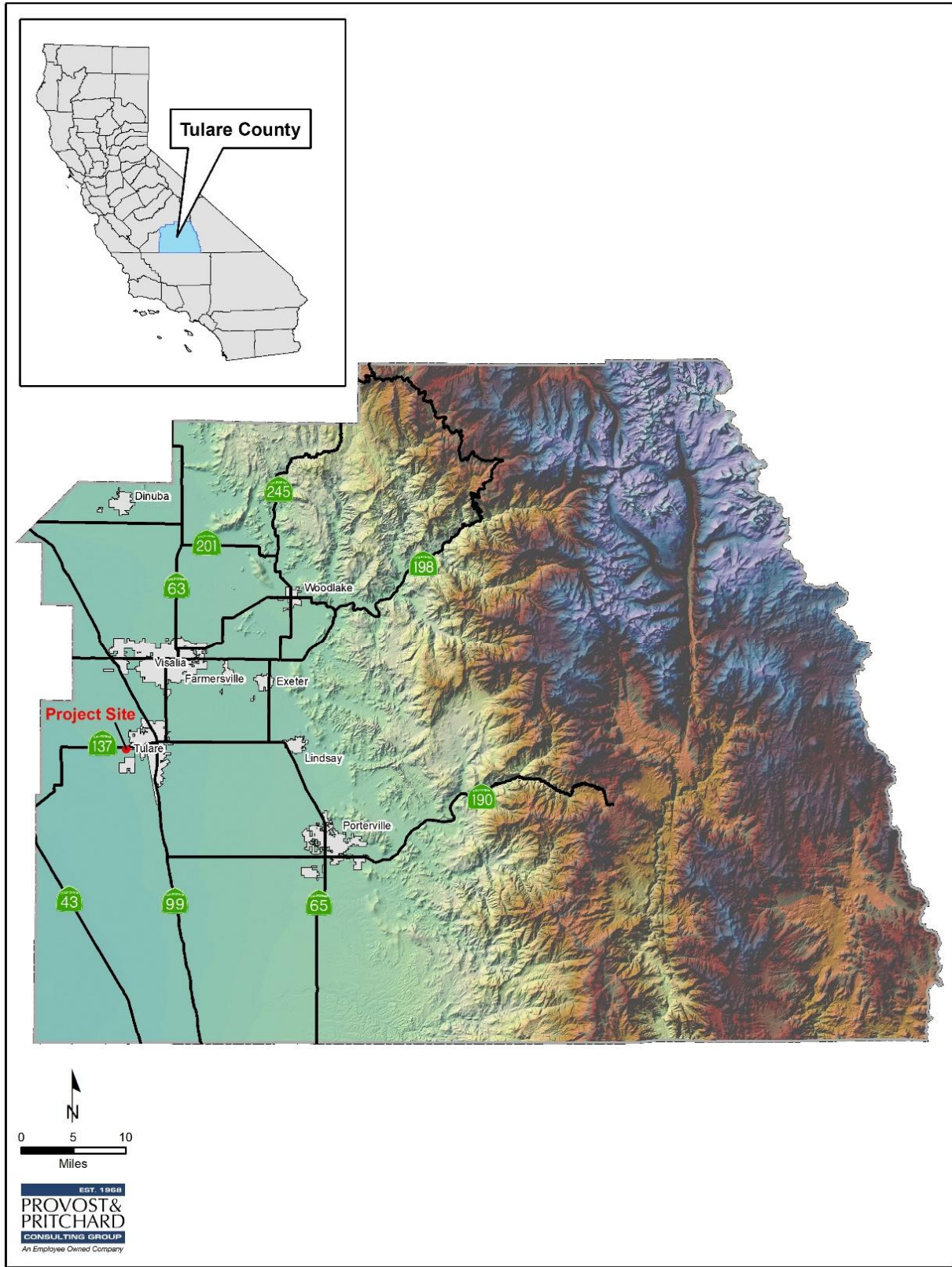
EXCEPTIONS TO CATEGORICAL EXEMPTIONS

The following list of Exceptions to Exemptions is reviewed during the preliminary CEQA analysis. The analysis looks at the following **Exceptions to Categorical Exemptions (a-f)**, under the CEQA Guidelines. Pursuant to Section 15300.2 of the State CEQA Guidelines, the *Exceptions* and Planning Staff's determination of no impact to these exemptions are listed below.

(a) Location. Classes 3, 4, 5, 6, and 11 are qualified by consideration of the Project's location. A project that is ordinarily insignificant in its impact on the environment *may*, in a particularly sensitive environment, be significant. If the Project is determined to be in one of these Classes, the scrutiny is increased in exempting the project under CEQA.

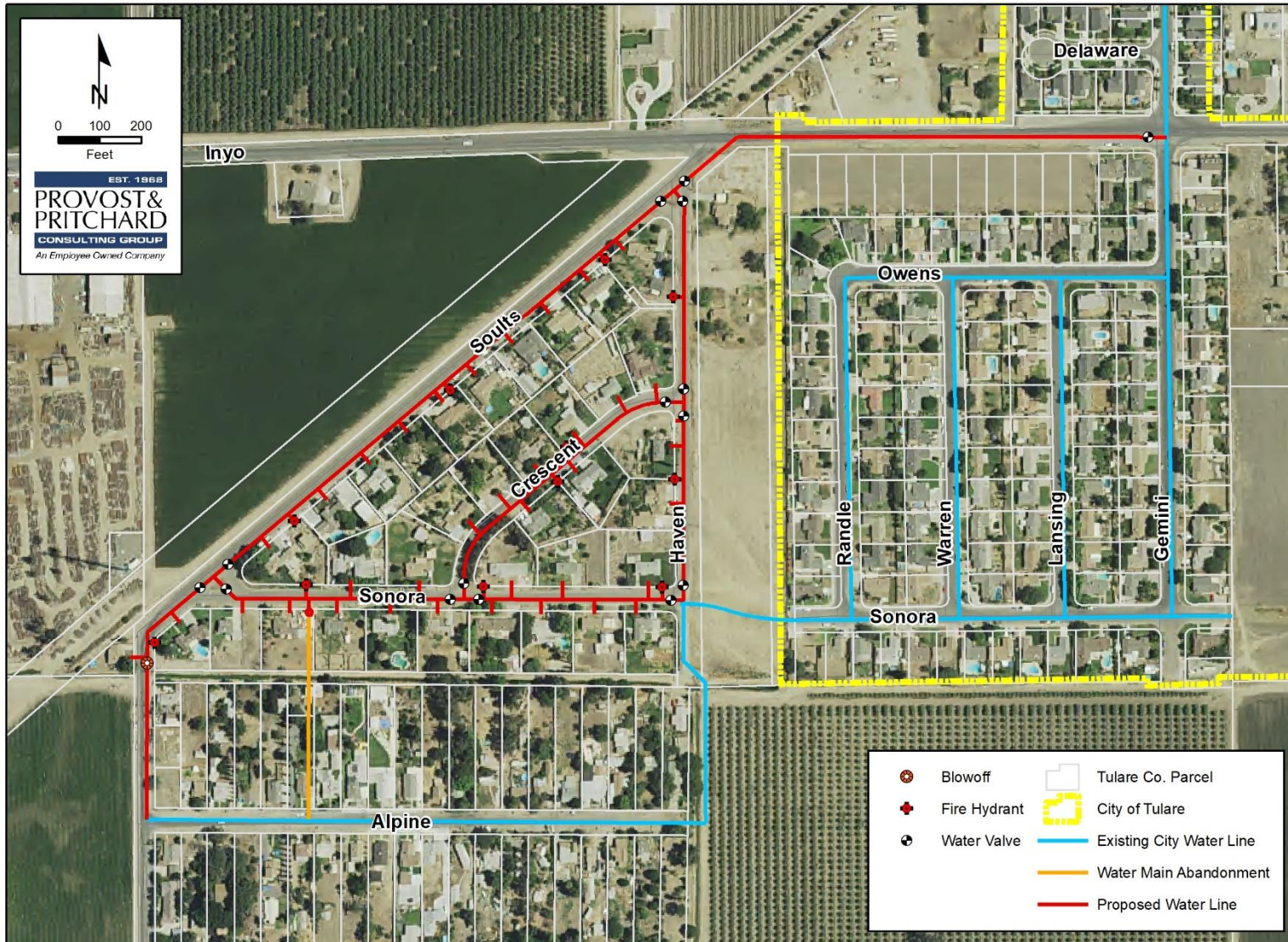
Not Applicable. This proposed Project does not involve any of the above cited Classes of categorical exemptions, and is an exempt Project to be carried out solely by the County of Tulare, and specifically, Mr. Reed Schenke, RMA Director/Public Works Director, within the purview of the Tulare County Resource Management Agency. No other categorical exemption's findings are necessary or applicable to the Project.

Figure 1. Regional Vicinity Map



4/29/2019 : G:\Souls MWC-2316\23161401-City of Tulare Consolidation\GIS\Map\Location Map_no title.mxd

Figure 2. Site Plan Map



9/10/2019 : \\ppeng.com\pzd\data\clients\Souths MWC-2316\23161401-City of Tulare Consolidation\GIS\Map\Proposed Facilities Site Plan blockless 20190909.mxd

Preliminary Environmental Analysis	Discussion of Reasons to Support Finding(s) of Exemption
Aesthetics	<p>No Significant Impact.</p> <p>The proposed Project will not have a direct or cumulative impact or create an unusual circumstance that will cause the proposed Project to have a significant effect on the aesthetic resources of the area. The aesthetics character of the Project area is a residential neighborhood surrounded by other neighborhoods to the east and south, and agricultural land to the west and the north. Project construction will be temporary in nature, lasting nine months. Once completed the proposed Project will be largely underground, any above ground features (fire hydrants, meter boxes, valves, etc.) would be consistent with the visual character of neighborhood. Additionally, the proposed Project would not create a new source of substantial light or glare. Based on a search for designated Scenic Highways and on April 26, 2019, the proposed Project is not located along or in the vicinity of a scenic highway, and thus, would not impact scenic resources such as rock outcroppings, or other natural features, pursuant to CEQA Guidelines Section 15300.2 (d).¹ Therefore, the proposed Project will have no significant impact on aesthetics.</p>
Agricultural Resources	<p>No Significant Impact.</p> <p>The proposed Project will not have a direct or cumulative impact or create an unusual circumstance that will cause the proposed Project to have a significant effect on the agricultural resources of the area. The proposed Project does not propose any new residential development or changes to the existing land uses. A search of Department of Conservation, Farmland Mapping and Monitoring Program (FMMP) maps on April 26, 2019 showed that the Project site is not located on Prime Farmland², nor is the Project under any Williamson Act contracts. The Project is not located on or near any forest land or timberland. As such, the proposed Project will have no significant impact on agricultural or forest lands.</p>
Air Quality	<p>No Significant Impact.</p> <p>The proposed Project will not have a significant direct or cumulative impact or create an unusual circumstance that will cause the proposed Project to have a significant effect on the air quality resources of the area. After reviewing the Project, staff finds that the construction equipment used to accomplish the Project will result in short-term, temporary air emissions. According to the San Joaquin Valley Unified Air Pollution Control District (Air District) <i>Guidance for Assessing and Mitigating Air Quality Impacts</i> (GAMAQI) construction-related thresholds of significance are: 10 tons per year (tpy) ROG, 10 tpy NOx, 15 tpy PM₁₀, 15 tpy PM_{2.5}; 27 tpy SOx; and 100 tpy CO.³ Staff evaluated the short-term construction-related emissions and long-term operational emissions using the California Emission Estimator Model (CalEEMod) on May 1, 2019 (See Attachment “A”). The model indicates that construction-related and operational emissions would not</p>

¹ Caltrans, http://www.dot.ca.gov/hq/LandArch/16_livability/scenic_highways/, accessed April 26, 2019.

² California Department of Conservation, FMMP, https://www.conservation.ca.gov/dlrp/fmmp/Pages/county_info.aspx accessed April 26, 2019.

³ San Joaquin Valley Unified Air Pollution Control District thresholds of significance can be online at <http://www.valleyair.org/transportation/0714-GAMAQI-Criteria-Pollutant-Thresholds-of-Significance.pdf>, accessed May 1, 2019.

Preliminary Environmental Analysis	Discussion of Reasons to Support Finding(s) of Exemption
	<p>exceed the Air District’s thresholds of significance for any criteria pollutant. Furthermore, the Project will be required to comply with all applicable Air District and Caltrans rules and regulations and will implement Best Management Practices (BMP) and project features as deemed appropriate by said Responsible Agencies. Construction of the Project will involve the use of a variety of gasoline- or diesel-powered equipment that would emit exhaust fumes. The exhaust fumes maybe considered objectionable by some people. However, the Project site is within the vicinity of parcels used for agricultural production, which includes the use of diesel-powered equipment and various odorous chemicals on a regular basis. Any construction activities will be short-term in nature. As such, the proposed Project will have no significant impact on air quality.</p>
Biological Resources	<p>No Significant Impact.</p> <p>The proposed Project will not have a direct or cumulative impact, or create an unusual circumstance that will cause the proposed Project to have a significant effect on the biological resources of the area. A Biological Evaluation Report (see Attachment “B”) was completed for the Project on May 9, 2018 by Live Oak Associates, Inc. Staff from Live Oak Associates, Inc. utilized the California Natural Diversity Data Base, the Online Inventory of Rare and Endangered Vascular Plants of California, the U.S Fish and Wildlife Service Information for Planning and Consultation system and several manuals/reports. Furthermore, a field survey was conducted. Based on this report, all habitats of the Project area are disturbed and of relatively low quality for most native wildlife. Additionally, the Project will not require removal of any native valley oaks or other trees.</p> <p>The Project will comply with all applicable California Department of Fish and Wildlife, State Water Resource Control Board, Regional Water Quality Control Board, U.S. Fish and Wildlife, and U.S. Army Corps of Engineers rules and regulations and will implement standard conditions, BMPs and project features for the protection of special status species, if the need arises.</p> <p>Therefore, the proposed Project will not significantly impact any biological plant or animal species.</p>
Cultural Resources	<p>No Significant Impact.</p> <p>The proposed Project will not have a direct or cumulative impact, or create an unusual circumstance that will cause the proposed Project to have a significant effect on the cultural resources of the area. A Cultural Resource Report was prepared by ASM Affiliates Inc. for the Project area and the vicinity (See Attachment “C”). An intensive Class III cultural resources inventory/Phase I survey was conducted for the Soult’s Mutual Water Company (SMWC), Water System Improvement Project, Tulare County, California. The Project area of potential effect (APE) is located immediately west of the City of Tulare, in Section 9, Township 20 South, Range 24 East (T20SS/R24E), Mount Diablo Base and Meridian (MDBM). ASM Affiliates, Inc., conducted this study, with David S. Whitley, Ph.D., RPA, serving as principal investigator. The study was undertaken to assist with compliance with Section 106 of the National Historic Preservation</p>

Preliminary Environmental Analysis	Discussion of Reasons to Support Finding(s) of Exemption
	<p>Act (NHPA) of 1966, as amended, and the California Environmental Quality Act (CEQA).</p> <p>A records search of site files and maps was conducted on 16 January 2018 at the Southern San Joaquin Valley Archaeological Information Center, California State University, Bakersfield. A Sacred Lands File records search was also received from the Native American Heritage Commission (NAHC) on 27 December 2017. Tribal organizations on the NAHC contact list were contacted by letter to determine whether tribal cultural resources are present within the study area, with follow-up phone calls on month later. These investigations determined that a portion of the study had been previously surveyed and that no cultural or tribal resources were known to exist within it. An additional seven surveys had been conducted within 0.5-miles of the study area, with no cultural resources recorded as a result. An examination of historical maps, however, indicated that a historical irrigation ditch, the Hooper Ditch, crosses the APE.</p> <p>The Class III inventory/Phase I survey fieldwork was conducted in February 2018 with parallel transects spaced at 15-meter intervals walked along the Project APE. During the study, one resource (the Hooper Ditch) was discovered within the APE and given the temporary designation SMWC-1. Site SMWC-1 is recommended as potentially NRHP/CRHR eligible, both as an individual resource and as a contributing component of the Tulare Irrigation District Historic District, which is also recommended as potentially eligible. Analysis of potential impacts to this resource and district as a result of the Project, however, indicates that no adverse effects will occur to the qualities and characteristics that contribute to their NRHP and CRHR eligibility. Based on these results, the Soultis Mutual Water Company, Water System Improvement Project does not have the potential to result in significant impacts or adverse effects to historical resources or historic properties, and no additional cultural resources work is recommended.</p> <p>As such, the Project will have no significant impact on any cultural or historical resources.</p>
Energy	<p>No Significant Impact.</p> <p>The proposed Project will not have a direct or cumulative impact or create an unusual circumstance that will cause the proposed Project to have a significant effect on the energy resources of the area. PG&E and Southern California Edison have sufficient energy supplies to serve the growth that has occurred in Tulare County. Much of the energy consumed in the region is for residential, commercial, and transportation purposes. Construction equipment and construction worker vehicles operated during Project construction would use fossil fuels. This increased fuel consumption would be temporary and would cease at the end of the construction activity, and it would not have a residual requirement for additional energy input beyond what is currently used by the water system now.</p> <p>Therefore, the Project would result in no significant impact to Energy.</p>
Geology/Soils	No Significant Impact.

Preliminary Environmental Analysis	Discussion of Reasons to Support Finding(s) of Exemption
	<p>The proposed Project will not have a direct or cumulative impact or create an unusual circumstance that will cause the proposed Project to have a significant effect on the geology and soils of the area.</p> <p>As noted in the Cultural Resources section, any excavation or other ground disturbance activities which may occur will be confined within the County’s existing roadway easement, which are highly disturbed areas. Any earthmoving activities associated with the Project may increase the likelihood of the erosion of topsoil, however, the applicant will be required to develop a Stormwater Pollution Prevention Plan (SWPPP). According to the Department of Conservation, the Project is not within the vicinity of a fault delineated by the Alquist-Priolo Earthquake Fault Zoning Act or have a fault pass through the Project.⁴ The nearest known faults likely to affect the proposed Project site is in the Poso Fault (approximately 31 miles to the south) and the San Andreas Fault System (approximately 60 miles to the southwest). The Project site is relatively flat thus, on-site soils are not subject to collapse or liquefaction; nor is there the possibility of off-site landslides, lateral spreading, subsidence, liquefaction, or collapse (See Attachment “D”). Soils onsite are classified as moderately well drained to well drained with a low to negligible run off class. The Project does not consist of structural development that would be affected by expansive soils or expose people to substantial risk to life or property. The Project will also be required to comply with all applicable federal and state rules and regulations pertaining to soil erosion and runoff and will implement BMPs. No septic tanks are proposed in the Project. According to Attachment “C”, there are no known paleontological resources or unique geological features have been identified at the Project site.</p> <p>Lastly, the Project would provide a public benefit by improving the water quality provided to the community of Souls, since it is currently in non-compliance with the SWRCBs nitrate MCL.</p> <p>Therefore, the Project will result in no significant impacts due to disturbance of or by any geological resources.</p>
Greenhouse Gases	<p>No Significant Impact:</p> <p>The proposed Project will not have a direct or cumulative impact or create an unusual circumstance that will cause the proposed Project to have a significant effect related to greenhouse gases. The equipment used in the construction of the Project will result in short-term, temporary GHG emissions. As the Project does not propose any new development or changes to the existing surrounding land uses, there will be no change in ongoing operational GHG emissions. An air quality model was completed for the Project May 1st, 2019 (Attachment A). According to the thresholds established by the Bay Area Air Quality Management District’s CEQA Air Quality Guidelines for short-term and operational CO2e emission, the Project is not in exceedance.</p>

⁴ Department of Conservation <https://www.conservation.ca.gov/cgs/alquist-priolo> Accessed May 1, 2019

Preliminary Environmental Analysis	Discussion of Reasons to Support Finding(s) of Exemption
	Therefore, the Project will not introduce significant amounts of GHG emissions and will have no significant impact to climate change.
Hazards/ Hazardous Materials	<p>No Significant Impact.</p> <p>The proposed Project will not have a direct or cumulative impact or create an unusual circumstance that will cause the proposed Project to have a significant effect related to hazards and hazardous materials. Online research was completed on April 30, 2019, which included the California Environmental Protection Agency (CalEPA) Cortese List Data Resources website, California Department of Toxic Substances Control (DTSC) <i>Envirostor</i> mapping system, and the State Water Resources Control Board (SWRCB) <i>GeoTracker</i> mapping system.⁵ Based on this search, the Project site is not included in any list of polluted or cleanup sites and there are no polluted or cleanup (closed or permitted) sites located within one mile of the Project site. During construction, the presence of hazardous materials is likely due to the use of diesel fuel, solvents, and lubricants. The Project will be required to comply with all applicable federal, state, regional, and local rules, regulations, and codes pertaining to the handling and disposal of hazardous materials. The Project will implement BMPs and project features, such as compliance with the Air District’s standards.</p> <p>Additionally, the Project is not located within two miles of any public or private use airport. The Project will not be impacting the entire rights-of-way, and will allow access to emergency vehicles, when needed. The Project does not propose any new development or changes to the existing surrounding land uses.</p> <p>Therefore, the Project would not pose a safety hazard for people residing or working in the area. It will have no significant impact in regard to hazards/hazardous materials.</p>
Hydrology/ Water Quality	<p>No Significant Impact.</p> <p>The proposed Project will not have a direct or cumulative impact or create an unusual circumstance that will cause the proposed Project to have a significant effect on the hydrology and water quality resources of the area. Short-term impacts to surface waters could occur during construction from exposure of loose soils, construction debris, or fuel spills and leaks during construction-related activities. However, the Project will be required to comply with all applicable federal, state, and County requirements pertaining to the protection of water quality, specifically, including those of State Water Resources Control Board and Regional Water Quality Control Board. The Project will implement Best Management Practices (BMPs) and project features in compliance with the National Pollutant Discharge Elimination System (NPDES) Construction General Permit, Stormwater Pollution Prevention Plan (SWPPP), and County grading and earthmoving ordinance/code to minimize potential for erosion and water contamination.</p>

⁵ CalEPA, <http://www.calepa.ca.gov/SiteCleanup/CorteseList/>; DTSC, <http://www.envirostor.dtsc.ca.gov/public/>; SWRCB, <https://geotracker.waterboards.ca.gov/>; accessed April 30, 2019.

Preliminary Environmental Analysis	Discussion of Reasons to Support Finding(s) of Exemption
	<p>The Project is intended to provide clean drinking water to the Soults community. It will not conflict with or obstruct implementation of any water quality control plan or sustainable groundwater management plan. There is no additional development proposed as part of this Project, therefore, water demand will not increase due to the implementation of the Project. There are no streams or rivers onsite or in the immediate vicinity. A man-made ditch is present on the Project site, Hooper Ditch. In order to minimize erosion and run-off during construction activities, the contractor will comply with all Cal/OSHA regulations regarding regular maintenance and inspection of equipment, spill prevention, and spill remediation.</p> <p>The Project will result in no significant impacts on water supply and water quality.</p>
Land Use/ Planning	<p>No Significant Impact.</p> <p>The proposed Project will not have a direct or cumulative impact or create an unusual circumstance that will cause the proposed Project to have a significant effect on the land use and planning resources of the area. As noted earlier, the Project consists of the abandonment of an existing water system, construction of a new water system that will be connected to the City of Tulare water system in order to better serve the residents of the Soults tract. The Project does not propose any new development or changes to the existing surrounding land uses.</p> <p>Therefore, the Project would result in no significant impact to Land Use/Planning.</p>
Mineral Resources	<p>No Significant Impact.</p> <p>The proposed Project will not have a direct or cumulative impact or create an unusual circumstance that will cause the proposed Project to have a significant effect on the mineral resources of the area. According to the Tulare County Environmental Resources Management Element in the General Plan 2030 Update, the Project is not located in a Mineral Resource Zone, which means the area is not located in an area where significant mineral deposits are likely to be located.⁶ As the Project consists of the replacement and construction of a new water system in order to better serve the residents of the Soults tract and connect to the City of Tulare water system, the Project will not have an impact on the availability of mineral resources in the area. Per the California Department of Conservation, Division of Oil, Gas, and Geothermal Resources (DOGGR), there are no known natural gas or oil fields on or within the vicinity of the Project site. There is one plugged oil and gas production wells approximately one 0.33 mile from the Project site. The Freeport Oil Company Well #1 is located west of the Project site in Tulare County.⁷</p> <p>As such, the Project will result in no significant impact any mineral resources.</p>
Noise	No Significant Impact.

⁶ Tulare County General Plan 2030 Update, <http://generalplan.co.tulare.ca.us/>, accessed April 26, 2019.

⁷ DOGGR, <https://maps.conservation.ca.gov/doggr/wellfinder/#close>, accessed April 26, 2019.

Preliminary Environmental Analysis	Discussion of Reasons to Support Finding(s) of Exemption
	<p>The proposed Project will not have a direct or cumulative impact or create an unusual circumstance that will cause the proposed Project to have a significant effect on the noises of the area.</p> <p>Short term, temporary noise during construction-related activities is inevitable; however, these activities would be restricted to weekday, daytime hours in compliance with the Tulare County General Plan, Health and Safety Element.⁸ Compliance with the General Plan will reduce the impact of noise and groundborne vibration affecting sensitive receptors and will ensure that the Project will not exceed operational noise standards as outlined in the General Plan.⁹.</p> <p>Therefore, the Project will result in no significant impact to Noise</p>
Population/Housing	<p>No Significant Impact.</p> <p>The proposed Project will not have a direct or cumulative impact or create an unusual circumstance that will cause the proposed Project to have a significant effect on the population, or housing of the area.</p> <p>The Project consists of the abandonment and construction of a new water system in order to better serve the residents of the Soults tract and connect them to the City of Tulare water system. The Project does not involve any housing development or zoning changes.</p> <p>As such, the Project will not displace an existing population or induce population growth and will result in no significant impact on Population/Housing.</p>
Public Services	<p>No Significant Impact.</p> <p>The proposed Project will not have a direct or cumulative impact or create an unusual circumstance that will cause the proposed Project to have a significant effect on the public services resources of the area. Based on a review of the Project’s demands, the Project will not significantly impact the capacity of the following services and public facilities: police, fire, schools, parks, and other public facilities. Ultimately, the Project would provide a public benefit by improving the reliability and quality of drinking water for the residents of the Soults tract.</p> <p>The existing water system is currently serving 39 un-metered customers or approximately 126 people. Construction will take place for approximately nine months. Detours will not be necessary, due to the fact that construction will not include the entire right-of-way. Overall, this Project will not permanently or significantly affect the level of service provided by any of the above facilities or services provided in the areas and will result in no significant impact to Public Services.</p>
Recreation	No Significant Impact.

⁸ Tulare County General Plan 2030 Update, <http://generalplan.co.tulare.ca.us/>, accessed April 29, 2019.

⁹ Ibid.

Preliminary Environmental Analysis	Discussion of Reasons to Support Finding(s) of Exemption
	<p>The proposed Project will not have a direct or cumulative impact or create an unusual circumstance that will cause the proposed Project to have a significant effect on the recreational facilities in the area. The Project will not result in new housing or the need for new recreational facilities and will not affect existing parks or any proposed new parks within the County. Therefore, the Project will result in no significant impact to the Recreational resources in Tulare County.</p>
Transportation/Traffic	<p>No Significant Impact.</p> <p>The proposed Project will not have a direct or cumulative impact or create an unusual circumstance that will cause the proposed Project to have a significant effect on the transportation resources of the area. The proposed system will have three connections points to the City’s water system. The Project does not propose any new development or changes to the existing surrounding land uses. Construction will take place in sections of residential roads throughout the Soult’s tract, it is not anticipated that any roads will be closed during construction. Overall, this Project will not permanently or significantly affect the level of service, and it will not increase the amount of vehicle miles traveled. Grading and resurfacing rights-of-way will comply with Tulare County and Caltrans standards.</p> <p>Therefore, it can reasonably be concluded the Project will have no significant impact on Transportation/Traffic.</p>
Tribal Cultural Resources	<p>No Significant Impact.</p> <p>The proposed Project will not have a significant direct or cumulative impact or create an unusual circumstance that will cause the proposed Project to have a significant effect on tribal cultural resources in the area. Pursuant to AB 52, consultation notification to Native American Tribes is not required for this Project because a Negative Declaration, Mitigated Negative Declaration, or Environmental Impact Report will not be prepared.¹⁰ However, a Cultural Resources Report was prepared by ASM Affiliates, Inc. for the Project site and the vicinity and included consultation with Native American Tribes via a Sacred Lands Files request. Letters requesting information on any tribal cultural resources were sent to organizations and individuals on the NAHC contact list on January 3, 2018. Follow-up phone calls were made to the contacted tribes/tribal organizations on February 2, 2018. No specific substantive comments were received in return. (See Attachment “C”). The Project will be required to comply with the State CEQA Guidelines, Public Resources Code (§5097.94), and California Health and Safety Code (§7050.5) in connection with addressing any archeological resources, Native American cultural resources, and human remains in the unlikely event of accidental discovery during construction-related activities. It is highly unlikely and tribal cultural resources are not expected to occur within the Project site. Therefore, the Project will result in no significant impact to Tribal Cultural resources.</p>

¹⁰ Public Resources Code § 21080.3.1

Preliminary Environmental Analysis	Discussion of Reasons to Support Finding(s) of Exemption
Utilities/Service Systems	<p>No Significant Impact.</p> <p>The proposed Project will not have a direct or cumulative impact, or create an unusual circumstance that will cause the proposed Project to have a significant effect on the utilities and service system resources of the area. Currently, the SMWC distribution system serves 39 un-metered customers. SMWC has received multiple compliance orders for system violations failure to comply with reporting requirements. Since the Project will replace the existing system, population is not expected to increase, therefore, not increasing demand for water. As such, the proposed Project will not have an impact on: wastewater (treatment or facilities), storm drainage, or solid waste. The City of Tulare water system has capacity to handle the additional 39 connections. The SMWC well will be abandoned in place and will no longer be drawing water from the subbasin. No new residences will be built as part of this project so there will be no new water users drawing from the subbasin as a part of this Project. Additionally, the SMWC does not provide wastewater services and the proposed Project does not include any work on the wastewater system. Therefore, there will be no significant impact to Utilities/Service Systems.</p>
Wildfires	<p>No Significant Impact.</p> <p>The proposed Project will not have a direct or cumulative impact or create an unusual circumstance that will cause the proposed Project to have a significant effect on the wildfire risk in the area. The proposed Project is not located in or near state responsibility areas or lands classified as very high fire hazard severity zones. The nearest State Responsibility Area (SRA) for the first phase is 16 miles to the northeast of the Project. Additionally, the Project is approximately 20 miles from the nearest Very High classification of Fire Hazard Severity Zone (FHSZ).¹¹ Therefore, further analysis of the Projects potential impacts to wildfire are not warranted. There would be no significant impacts.</p>
Mandatory Findings of Significance	<p>No Significant Impact.</p> <p>The proposed Project will not have a significant direct or cumulative impact, or create an unusual circumstance that will cause the proposed Project to significantly 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 a rare or endangered plant or animal, or eliminate important examples of the major periods of California prehistory or history. As discussed in the Biological Resources section, the Project will not result in any potentially significant impacts to biological resources. No special status plant species are expected to occur within the Project site. The Project will be required to comply with all applicable California Department of Fish and Wildlife, Regional Water Quality Control Board, U.S. Fish and Wildlife, and U.S. Army Corps of Engineers rules and regulations and will implement standard conditions, BMPs and project features for the protection of special status animal species.</p>

¹¹ Cal Fire http://www.fire.ca.gov/fire_prevention/fire_prevention_wildland_zones , Accessed May 2, 2019

Preliminary Environmental Analysis	Discussion of Reasons to Support Finding(s) of Exemption
	<p>As discussed in the Cultural Resources section, there are no historical or cultural resources within the Project area and design features and standard conditions in compliance with all applicable federal, state, and County rules and regulations will be implemented to reduce potential impacts in the event of accidental discovery during construction-related activities.</p> <p>The proposed Project will result in no significant direct or cumulative impact or create an unusual circumstance that will cause the proposed Project to have a significant effect on the environment, directly or incrementally. In addition, this Project will result in no adverse impact to the public health and safety. Rather, this Project would provide a public benefit by bringing the water system supplying the Soultz community, within compliance with the SWRCB's nitrate MCL.</p>

ATTACHMENT "A"
California Emissions Estimator Model (CalEEMod) Report

Soultis Mutual Water Company - Tulare County, Annual

**Soultis Mutual Water Company
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	2.20	Acre	2.20	95,832.00	0

1.2 Other Project Characteristics

Urbanization	Urban	Wind Speed (m/s)	2.2	Precipitation Freq (Days)	51
Climate Zone	3			Operational Year	2020
Utility Company	Southern California Edison				
CO2 Intensity (lb/MW hr)	702.44	CH4 Intensity (lb/MW hr)	0.029	N2O Intensity (lb/MW hr)	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use -

Construction Phase - The pipeline project will be constructed over 8 months.

Construction Off-road Equipment Mitigation -

Table Name	Column Name	Default Value	New Value
tblGrading	AcresOfGrading	43.00	3.00

2.0 Emissions Summary

Souls Mutual Water Company - Tulare County, Annual

Quarter	Start Date	End Date	Maximum Unmitigated ROG + NOX (tons/quarter)	Maximum Mitigated ROG + NOX (tons/quarter)
1	1-1-2020	3-31-2020	0.4027	0.4027
		Highest	0.4027	0.4027

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	8.2000e-003	0.0000	2.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	4.0000e-005	4.0000e-005	0.0000	0.0000	4.0000e-005
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	8.2000e-003	0.0000	2.0000e-005	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	4.0000e-005	4.0000e-005	0.0000	0.0000	4.0000e-005

Soultis Mutual Water Company - Tulare County, Annual

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	8.2000e-003	0.0000	2.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	4.0000e-005	4.0000e-005	0.0000	0.0000	4.0000e-005
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	8.2000e-003	0.0000	2.0000e-005	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	4.0000e-005	4.0000e-005	0.0000	0.0000	4.0000e-005

	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
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

Soultis Mutual Water Company - Tulare County, Annual

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Demolition	Demolition	1/1/2020	1/28/2020	5	20	
2	Site Preparation	Site Preparation	1/29/2020	1/31/2020	5	3	
3	Grading	Grading	2/1/2020	2/10/2020	5	6	
4	Paving	Paving	2/11/2020	2/24/2020	5	10	

Acres of Grading (Site Preparation Phase): 4.5

Acres of Grading (Grading Phase): 3

Acres of Paving: 2.2

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

OffRoad Equipment

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Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Paving	Cement and Mortar Mixers	1	8.00	9	0.56
Demolition	Concrete/Industrial Saws	1	8.00	81	0.73
Site Preparation	Graders	1	8.00	187	0.41
Paving	Pavers	1	8.00	130	0.42
Paving	Rollers	2	8.00	80	0.38
Demolition	Rubber Tired Dozers	1	8.00	247	0.40
Grading	Rubber Tired Dozers	1	8.00	247	0.40
Demolition	Tractors/Loaders/Backhoes	3	8.00	97	0.37
Grading	Tractors/Loaders/Backhoes	2	7.00	97	0.37
Paving	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Site Preparation	Tractors/Loaders/Backhoes	1	7.00	97	0.37
Grading	Graders	1	8.00	187	0.41
Paving	Paving Equipment	1	8.00	132	0.36
Site Preparation	Scrapers	1	8.00	367	0.48

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Demolition	5	13.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Site Preparation	3	8.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Grading	4	10.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Paving	6	15.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Water Exposed Area

Soult's Mutual Water Company - Tulare County, Annual

3.2 Demolition - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0213	0.2095	0.1466	2.4000e-004		0.0115	0.0115		0.0108	0.0108	0.0000	21.0677	21.0677	5.4200e-003	0.0000	21.2031
Total	0.0213	0.2095	0.1466	2.4000e-004		0.0115	0.0115		0.0108	0.0108	0.0000	21.0677	21.0677	5.4200e-003	0.0000	21.2031

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	6.1000e-004	4.1000e-004	4.1500e-003	1.0000e-005	1.0400e-003	1.0000e-005	1.0400e-003	2.8000e-004	1.0000e-005	2.8000e-004	0.0000	0.8896	0.8896	3.0000e-005	0.0000	0.8903
Total	6.1000e-004	4.1000e-004	4.1500e-003	1.0000e-005	1.0400e-003	1.0000e-005	1.0400e-003	2.8000e-004	1.0000e-005	2.8000e-004	0.0000	0.8896	0.8896	3.0000e-005	0.0000	0.8903

Soult's Mutual Water Company - Tulare County, Annual

3.2 Demolition - 2020

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0213	0.2095	0.1466	2.4000e-004		0.0115	0.0115		0.0108	0.0108	0.0000	21.0676	21.0676	5.4200e-003	0.0000	21.2030
Total	0.0213	0.2095	0.1466	2.4000e-004		0.0115	0.0115		0.0108	0.0108	0.0000	21.0676	21.0676	5.4200e-003	0.0000	21.2030

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	6.1000e-004	4.1000e-004	4.1500e-003	1.0000e-005	1.0400e-003	1.0000e-005	1.0400e-003	2.8000e-004	1.0000e-005	2.8000e-004	0.0000	0.8896	0.8896	3.0000e-005	0.0000	0.8903
Total	6.1000e-004	4.1000e-004	4.1500e-003	1.0000e-005	1.0400e-003	1.0000e-005	1.0400e-003	2.8000e-004	1.0000e-005	2.8000e-004	0.0000	0.8896	0.8896	3.0000e-005	0.0000	0.8903

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3.3 Site Preparation - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					2.3900e-003	0.0000	2.3900e-003	2.6000e-004	0.0000	2.6000e-004	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	2.4800e-003	0.0299	0.0169	4.0000e-005		1.1700e-003	1.1700e-003		1.0700e-003	1.0700e-003	0.0000	3.2290	3.2290	1.0400e-003	0.0000	3.2551
Total	2.4800e-003	0.0299	0.0169	4.0000e-005	2.3900e-003	1.1700e-003	3.5600e-003	2.6000e-004	1.0700e-003	1.3300e-003	0.0000	3.2290	3.2290	1.0400e-003	0.0000	3.2551

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	3.8000e-004	0.0000	1.0000e-004	0.0000	1.0000e-004	3.0000e-005	0.0000	3.0000e-005	0.0000	0.0821	0.0821	0.0000	0.0000	0.0822
Total	6.0000e-005	4.0000e-005	3.8000e-004	0.0000	1.0000e-004	0.0000	1.0000e-004	3.0000e-005	0.0000	3.0000e-005	0.0000	0.0821	0.0821	0.0000	0.0000	0.0822

Soultis Mutual Water Company - Tulare County, Annual

3.3 Site Preparation - 2020

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					1.0700e-003	0.0000	1.0700e-003	1.2000e-004	0.0000	1.2000e-004	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	2.4800e-003	0.0299	0.0169	4.0000e-005		1.1700e-003	1.1700e-003		1.0700e-003	1.0700e-003	0.0000	3.2290	3.2290	1.0400e-003	0.0000	3.2551
Total	2.4800e-003	0.0299	0.0169	4.0000e-005	1.0700e-003	1.1700e-003	2.2400e-003	1.2000e-004	1.0700e-003	1.1900e-003	0.0000	3.2290	3.2290	1.0400e-003	0.0000	3.2551

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	3.8000e-004	0.0000	1.0000e-004	0.0000	1.0000e-004	3.0000e-005	0.0000	3.0000e-005	0.0000	0.0821	0.0821	0.0000	0.0000	0.0822
Total	6.0000e-005	4.0000e-005	3.8000e-004	0.0000	1.0000e-004	0.0000	1.0000e-004	3.0000e-005	0.0000	3.0000e-005	0.0000	0.0821	0.0821	0.0000	0.0000	0.0822

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3.4 Grading - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.2605	0.0000	0.2605	0.1425	0.0000	0.1425	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	5.7700e-003	0.0640	0.0298	6.0000e-005		2.9700e-003	2.9700e-003		2.7300e-003	2.7300e-003	0.0000	5.4333	5.4333	1.7600e-003	0.0000	5.4773
Total	5.7700e-003	0.0640	0.0298	6.0000e-005	0.2605	2.9700e-003	0.2635	0.1425	2.7300e-003	0.1452	0.0000	5.4333	5.4333	1.7600e-003	0.0000	5.4773

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	1.4000e-004	9.0000e-005	9.6000e-004	0.0000	2.4000e-004	0.0000	2.4000e-004	6.0000e-005	0.0000	7.0000e-005	0.0000	0.2053	0.2053	1.0000e-005	0.0000	0.2055
Total	1.4000e-004	9.0000e-005	9.6000e-004	0.0000	2.4000e-004	0.0000	2.4000e-004	6.0000e-005	0.0000	7.0000e-005	0.0000	0.2053	0.2053	1.0000e-005	0.0000	0.2055

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3.4 Grading - 2020

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.1172	0.0000	0.1172	0.0641	0.0000	0.0641	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	5.7700e-003	0.0640	0.0298	6.0000e-005		2.9700e-003	2.9700e-003		2.7300e-003	2.7300e-003	0.0000	5.4333	5.4333	1.7600e-003	0.0000	5.4773
Total	5.7700e-003	0.0640	0.0298	6.0000e-005	0.1172	2.9700e-003	0.1202	0.0641	2.7300e-003	0.0669	0.0000	5.4333	5.4333	1.7600e-003	0.0000	5.4773

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	1.4000e-004	9.0000e-005	9.6000e-004	0.0000	2.4000e-004	0.0000	2.4000e-004	6.0000e-005	0.0000	7.0000e-005	0.0000	0.2053	0.2053	1.0000e-005	0.0000	0.2055
Total	1.4000e-004	9.0000e-005	9.6000e-004	0.0000	2.4000e-004	0.0000	2.4000e-004	6.0000e-005	0.0000	7.0000e-005	0.0000	0.2053	0.2053	1.0000e-005	0.0000	0.2055

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3.5 Paving - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	5.7700e-003	0.0579	0.0590	9.0000e-005		3.2800e-003	3.2800e-003		3.0300e-003	3.0300e-003	0.0000	7.7529	7.7529	2.4600e-003	0.0000	7.8143
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	5.7700e-003	0.0579	0.0590	9.0000e-005		3.2800e-003	3.2800e-003		3.0300e-003	3.0300e-003	0.0000	7.7529	7.7529	2.4600e-003	0.0000	7.8143

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	3.5000e-004	2.4000e-004	2.4000e-003	1.0000e-005	6.0000e-004	0.0000	6.0000e-004	1.6000e-004	0.0000	1.6000e-004	0.0000	0.5132	0.5132	2.0000e-005	0.0000	0.5136
Total	3.5000e-004	2.4000e-004	2.4000e-003	1.0000e-005	6.0000e-004	0.0000	6.0000e-004	1.6000e-004	0.0000	1.6000e-004	0.0000	0.5132	0.5132	2.0000e-005	0.0000	0.5136

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3.5 Paving - 2020

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	5.7700e-003	0.0579	0.0590	9.0000e-005		3.2800e-003	3.2800e-003		3.0300e-003	3.0300e-003	0.0000	7.7529	7.7529	2.4600e-003	0.0000	7.8143
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	5.7700e-003	0.0579	0.0590	9.0000e-005		3.2800e-003	3.2800e-003		3.0300e-003	3.0300e-003	0.0000	7.7529	7.7529	2.4600e-003	0.0000	7.8143

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	3.5000e-004	2.4000e-004	2.4000e-003	1.0000e-005	6.0000e-004	0.0000	6.0000e-004	1.6000e-004	0.0000	1.6000e-004	0.0000	0.5132	0.5132	2.0000e-005	0.0000	0.5136
Total	3.5000e-004	2.4000e-004	2.4000e-003	1.0000e-005	6.0000e-004	0.0000	6.0000e-004	1.6000e-004	0.0000	1.6000e-004	0.0000	0.5132	0.5132	2.0000e-005	0.0000	0.5136

4.0 Operational Detail - Mobile

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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

Land Use	Average Daily Trip Rate			Unmitigated	Mitigated
	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

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

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Other Non-Asphalt Surfaces	0.506900	0.034567	0.171206	0.149208	0.024362	0.005798	0.021031	0.077362	0.001819	0.001371	0.004402	0.001155	0.000818

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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

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	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	8.2000e-003	0.0000	2.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	4.0000e-005	4.0000e-005	0.0000	0.0000	4.0000e-005
Unmitigated	8.2000e-003	0.0000	2.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	4.0000e-005	4.0000e-005	0.0000	0.0000	4.0000e-005

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	2.0000e-003					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	6.1900e-003					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	0.0000	0.0000	2.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	4.0000e-005	4.0000e-005	0.0000	0.0000	4.0000e-005
Total	8.1900e-003	0.0000	2.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	4.0000e-005	4.0000e-005	0.0000	0.0000	4.0000e-005

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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	2.0000e-003					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	6.1900e-003					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	0.0000	0.0000	2.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	4.0000e-005	4.0000e-005	0.0000	0.0000	4.0000e-005
Total	8.1900e-003	0.0000	2.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	4.0000e-005	4.0000e-005	0.0000	0.0000	4.0000e-005

7.0 Water Detail

7.1 Mitigation Measures Water

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	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

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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

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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
----------------	--------	-----------	-----------	-------------	-------------	-----------

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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

**ATTACHMENT “B”
Biological Evaluation Report**



LIVE OAK ASSOCIATES, INC.

an Ecological Consulting Firm

SOULTS MUTUAL WATER COMPANY WATER SYSTEM IMPROVEMENT PROJECT BIOLOGICAL EVALUATION REPORT

By:

LIVE OAK ASSOCIATES, INC.

Austin Pearson, Director of Ecological Services
Anna Godinho, Staff Ecologist

For:

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May 9, 2018

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EXECUTIVE SUMMARY

The Soult's Mutual Water Company proposes to replace its existing water distribution system and connect it with that of the City of Tulare ("project"). The project is planned within and adjacent to the Soult's Tract, located immediately west of Tulare city limits in western Tulare County, California. All construction activities will be completed between September 1 and January 31. Live Oak Associates, Inc. (LOA) conducted an investigation of the biotic resources of the project area, and assessed potential impacts to those resources pursuant to both the California Environmental Quality Act (CEQA) and the National Environmental Policy Act (NEPA). The project area was surveyed on January 13, 2018 for its biotic habitats, the plants and animals occurring in those habitats, and significant habitat values that may be protected by state and federal law.

The project area consists of roads and road rights-of-way, an irrigation ditch, residences, and a mowed field. Four biotic habitat / land use types were identified on the project site: ruderal, mowed field, residential, and irrigation ditch. All habitats of the project area are disturbed and of relatively low quality for most native wildlife. The project area's irrigation ditch, the Lemos Ditch, is not hydrologically connected to downstream Waters of the U.S., and does not appear to be a Water of the U.S. subject to the jurisdiction of the U.S. Army Corps of Engineers.

The project will not result in any potentially significant impacts to biological resources. Mitigation is not warranted. Impacts would be less than significant for all locally occurring special status plant species, 14 locally occurring special status animal species that would not be expected to occur on the project site, tricolored blackbird, mountain plover, roosting bats including the special-status western mastiff bat, nesting birds and raptors including Swainson's hawk, wildlife movement corridors, designated critical habitat, Waters of the U.S., and local policies and habitat conservation plans. Loss of habitat for special status animal species would not be considered a significant impact of the project under NEPA and CEQA.

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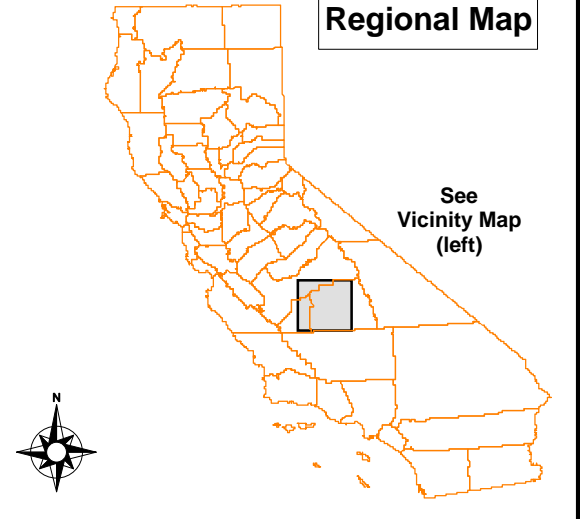
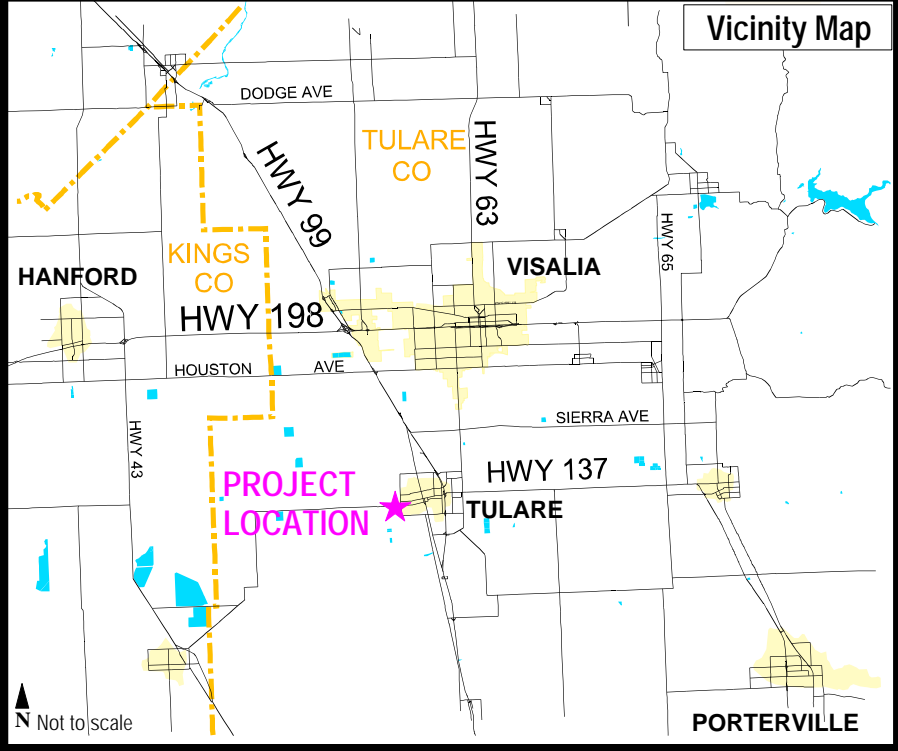
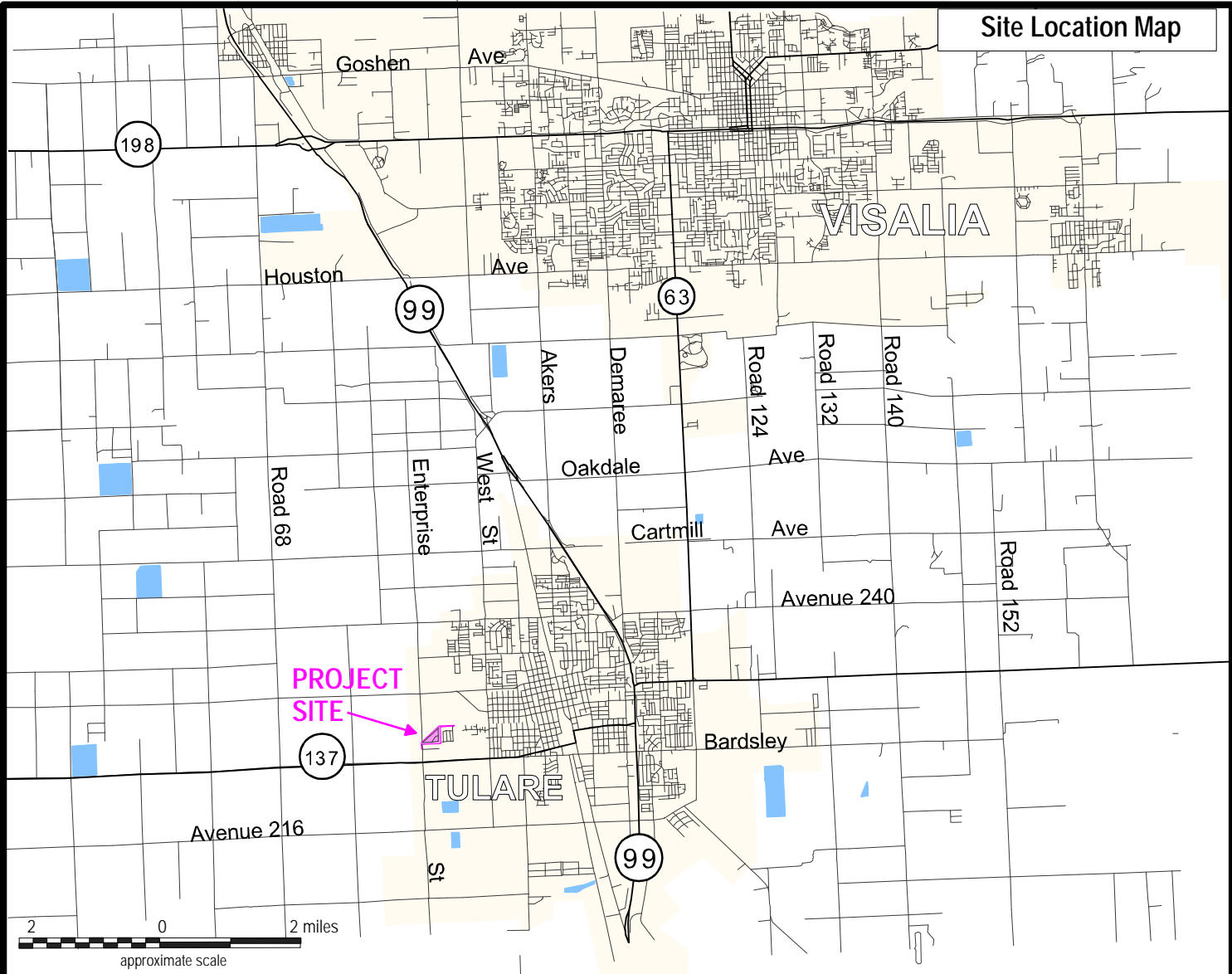
1.0 INTRODUCTION


The Soults Mutual Water Company (MWC) proposes to replace its existing water distribution system, which serves several dozen homes immediately adjacent to the City of Tulare (“City”), and connect it with that of the City in order to supply the homes with municipal water (“project”). Project impacts will occur within Tulare County and California Department of Transportation (Caltrans) rights-of-way along an approximately 1.5-mile route (“proposed water line”) within and adjacent to the approximately 26-acre Soults Tract. Collectively, these elements are referred to as the “project area.” The following technical report, prepared by Live Oak Associates, Inc. (LOA) in compliance with the California Environmental Quality Act (CEQA) and the National Environmental Policy Act (NEPA), describes the biotic resources of the project area, and evaluates potential impacts to those resources that could result from project development. The project area is located within and adjacent to the Soults Tract, located immediately west of Tulare city limits in western Tulare County (Figure 1), and can be found on the *Paige* U.S. Geological Survey (USGS) 7.5 minute quadrangle within Section 9 of Township 20 South, Range 24 East (Mt. Diablo Base and Meridian) (Figure 2).

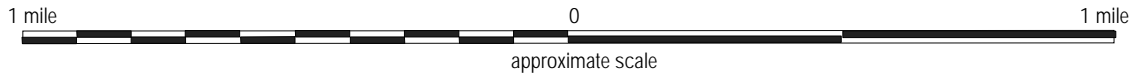
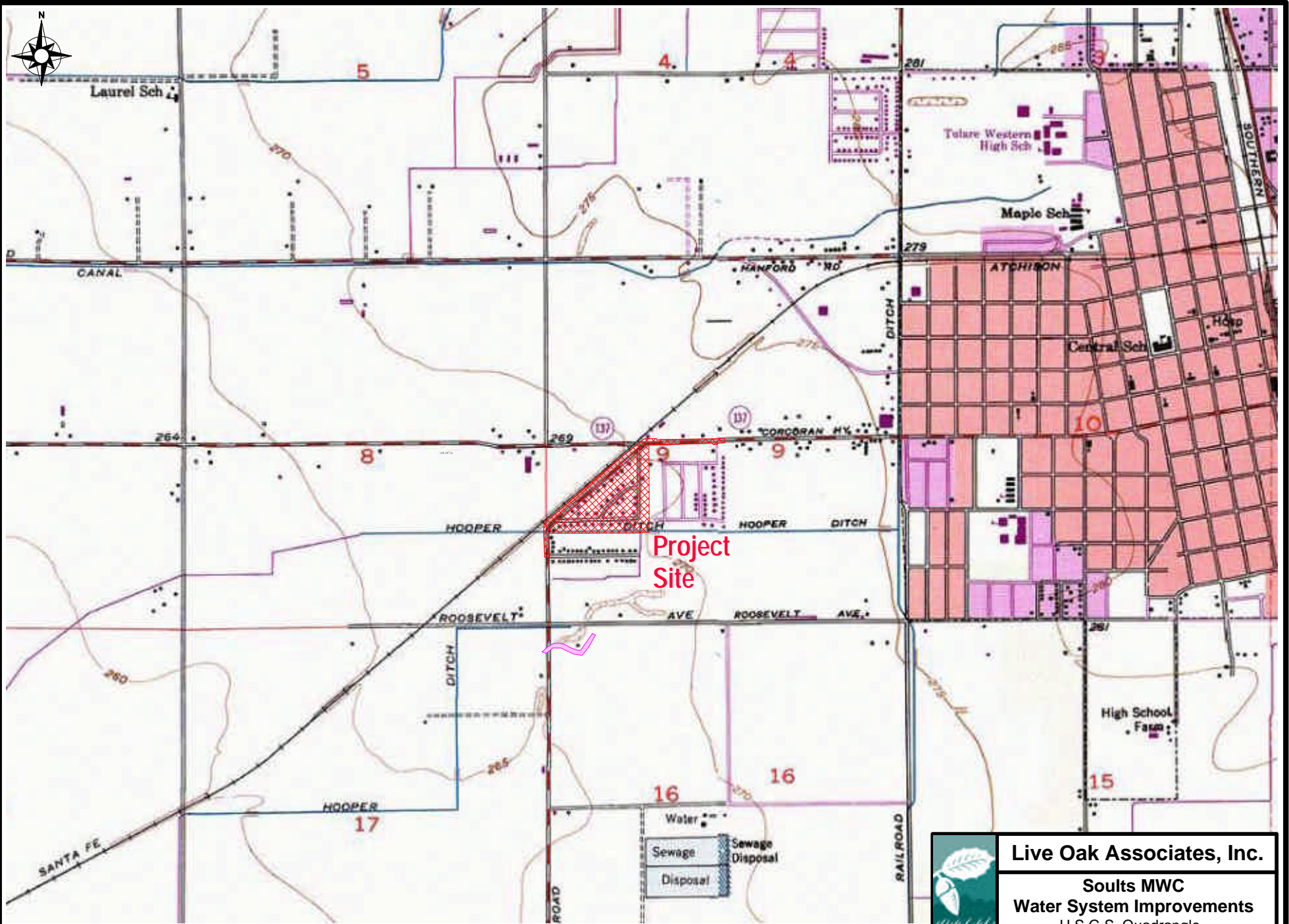
1.1 PROJECT DESCRIPTION

The Soults MWC Water System Improvement Project consists of the replacement of the Soults Tract’s existing water distribution system, and the consolidation of the new system with that of the City of Tulare. Replacement of the existing system will entail installing new water mains, services, hydrants, and other appurtenances within the residential streets of the Soults Tract. Consolidation with the City’s water supply will entail connecting the new distribution system with the City’s at several locations within and adjacent to the Soults Tract.

Three points of connection to tie into the City’s existing water system infrastructure are proposed. The first point of connection will be located at Haven Street and West Sonora Avenue within the Soults Tract. The second and third points of connection will be accomplished by constructing 12-inch water mains east along State Route 137/West Inyo Avenue to Gemini Street, and south along Road 84/Enterprise Street to West Alpine Avenue, respectively. Where the proposed pipeline route along Road 84/Enterprise Street crosses the Lemos Ditch, the pipeline will be installed through the ditch with the proposed pipe going



	Live Oak Associates, Inc.		
	Souls MWC Water System Improvements Site / Vicinity Map		
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From USGS
 Tulare 7.5' Quadrangle 1969
 Paige 7.5' Quadrangle 1969



Live Oak Associates, Inc.

Souls MWC
Water System Improvements
 U.S.G.S. Quadrangle

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underneath the existing culvert with adequate clearance per standard Tulare Irrigation District (TID) requirements.

The existing water system of the Soults Tract will be abandoned in place and replaced with a new distribution system. New water mains will be installed in road rights-of-way, terminating at the property line. Homeowners will be responsible for installing new onsite water lines to connect existing backyard services to the new front-yard water service. These private activities are not included in the Soults MWC Water System Improvement Project. Meters will be installed on all new services behind the existing curb or future curb location. Fire hydrants will be installed every 500 feet in residential areas and 1,000 feet along County roads.

The majority of the project area will experience temporary disturbance, as all proposed infrastructure will be installed underground. Permanent above-ground impacts will be limited to the nine fire hydrants to be installed within road rights-of-way. No trees or buildings are proposed for removal under current project design. All construction activities will be completed between September 1 and January 31. If construction cannot be completed between September 1 and January 31, then preconstruction surveys would be completed to locate and avoid any active avian nests that may be present.

1.2 REPORT OBJECTIVES

Water system consolidation projects such as that proposed by the Soults MWC may damage or modify biotic habitats used by sensitive plant and animal species. In such cases, projects may be regulated by state or federal agencies, subject to provisions of CEQA and/or NEPA, and/or subject to local policies and ordinances. In the case of the Soults MWC Water System Improvement Project, environmental review under both CEQA and NEPA are required.

This report addresses issues related to: 1) sensitive biotic resources occurring in the project area; 2) the federal, state, and local laws regulating such resources; and 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. As such, the objectives of this report are to:

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

- Make reasonable inferences about the biological resources that could occur on site based on habitat suitability and the proximity of the project area to a species' known range.
- Summarize all state and federal natural resource protection laws that may be relevant to project implementation.
- Identify and discuss project impacts to biological resources that may occur within the project area in the context of CEQA and NEPA guidelines and relevant state and federal laws.
- Identify avoidance and mitigation measures that would reduce the magnitude of project impacts in a manner consistent with the requirements of CEQA and NEPA and that are generally consistent with recommendations of the resource agencies regulating affected biological resources.

1.3 STUDY METHODOLOGY

A reconnaissance-level field survey of the project area was conducted on January 13, 2018 by Live Oak Associates, Inc. (LOA) staff ecologist Anna Godinho. The survey consisted of driving and walking through the project area while identifying principal land uses and biotic habitats, identifying plant and animal species encountered, and assessing the suitability of the project area's habitats for special status species.

LOA conducted an analysis of potential project impacts based on the known and potential biotic resources of the project area. Sources of information used in the preparation of this analysis included: (1) the *California Natural Diversity Data Base* (CDFW 2018), (2) the *Online Inventory of Rare and Endangered Vascular Plants of California* (CNPS 2018), (3) the U.S. Fish and Wildlife Service (USFWS) Information for Planning and Consultation (IPaC) system (USFWS 2018), and (4) manuals, reports, and references related to plants and animals of the San Joaquin Valley region.

LOA's field investigation did not include a wetland delineation or focused surveys for special status species. The field survey was sufficient to generally describe those features of the project area that could be subject to the jurisdiction of the U.S. Army Corps of Engineers (USACE), California Department of Fish and Wildlife (CDFW), and/or the Regional Water Quality Control Board (RWQCB), and to assess the significance of possible biological impacts associated with development of the project area.

2.0 EXISTING CONDITIONS

2.1 REGIONAL SETTING

The project area is located in the San Joaquin Valley of California. The valley is a large, nearly flat alluvial plain bordered by the Sierra Nevada to the east, the Tehachapi Mountains to the south, the California coast ranges to the west, and the Sacramento-San Joaquin Delta to the north. Like most of California, the San Joaquin Valley experiences a Mediterranean climate. Warm, dry summers are followed by cool, moist winters. Summer temperatures commonly exceed 90 degrees Fahrenheit, and the relative humidity is generally very low. Winter temperatures rarely exceed 70 degrees Fahrenheit, with daytime highs often below 60 degrees Fahrenheit. Annual precipitation in the project vicinity varies considerably from year to year, but averages approximately 10 inches, almost all of which falls between the months of October and March. Nearly all precipitation falls in the form of rain.

The principal drainage of the project vicinity is the natural and manmade distributary system of the Kaweah River, including Deep Creek and its downstream collector, the Tulare Main Canal, which passes within 2 miles of the project area's southern boundary. Deep Creek eventually joins the Tule River below the Elk Bayou junction, flowing southwest into the Tulare Lake Basin.

The project area is situated in a matrix of orchards, agricultural fields, and residential and industrial development. The project area is adjoined to the south and east by residential development associated with the City of Tulare. An orchard and the Lemos Ditch adjoin the project area's southeastern corner. The project area is adjoined to the northwest by a young walnut (*Jugans regia*) orchard, a plumbing supply warehouse and holding yard, and a transmitter tower. The portion of the project area that extends along Road 84/Enterprise Street is adjoined to the west by a tilled field. The portion of the project area that extends along State Route 137/West Inyo Avenue is adjoined to the north by industrial and residential development, and to the south by a ruderal field.

2.2 PROJECT AREA

At the time of the January 2018 field survey, the project area comprised roads and road shoulders, residences, a mowed field, and an irrigation ditch. The topography of the project area is nearly flat with elevations ranging from 260 to 270 feet National Geodetic Vertical Datum (NGVD).

One soil mapping unit was identified within the project area: Nord fine sandy loam, to 2 percent slopes. The soil of the project area formed in mixed alluvium dominantly from granitic and sedimentary alluvium of the Kaweah River Basin. The soil is well drained, nonsaline to slightly saline, and is not considered hydric. Furthermore, soils of the area have been highly modified through human activities. As a result, the onsite soils no longer support their native soil characteristics and would therefore have no particular significance to biological resources of the area.


2.3 BIOTIC HABITATS/LAND USES

Four biotic habitat/land use types were identified within the project area during the January 2018 field survey: ruderal, mowed field, residential, and irrigation ditch (Figure 3). A list of the vascular plant species observed within the project area and the terrestrial vertebrates using, or potentially using, the site are provided in Appendices A and B, respectively. Photos of the project area are presented in Appendix C.

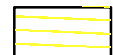
2.3.1 Ruderal

At the time of the field survey, the project area consisted primarily of ruderal (i.e. highly disturbed by human activities) habitats including paved and dirt roads, road shoulders, and barren to sparsely vegetated lands within road rights-of-way. All roadbeds of the project area were barren of vegetation. Road shoulders and adjacent areas within the rights-of-way were sparsely vegetated with common weeds such as asthmaweed (*Erigeron bonariensis*), Bermudagrass (*Cynodon dactylon*), common sunflower (*Helianthus annuus*), and Palmer's amaranth (*Amaranthus palmeri*). Trash was scattered throughout the road shoulders.

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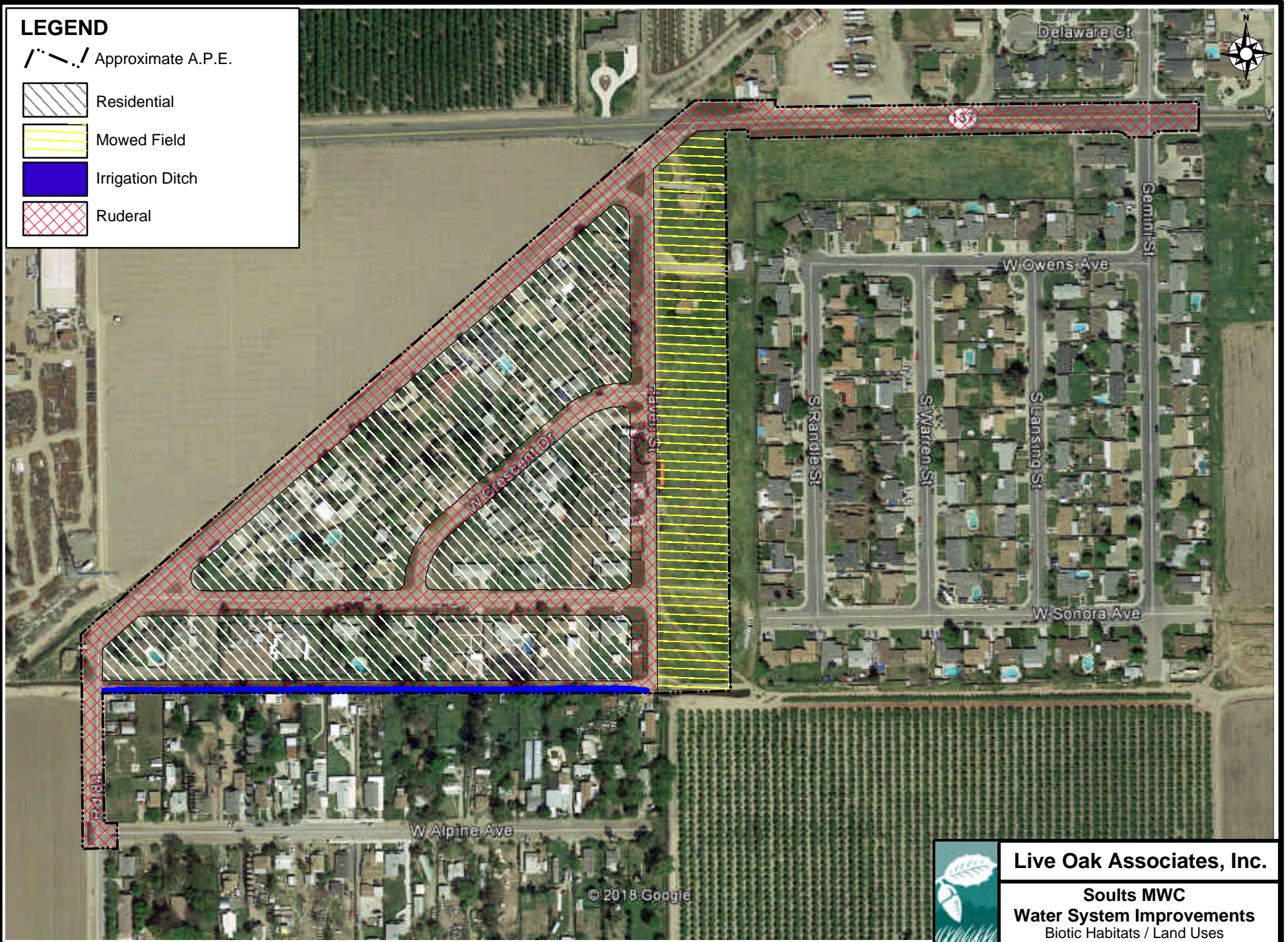
 Approximate A.P.E.

 Residential

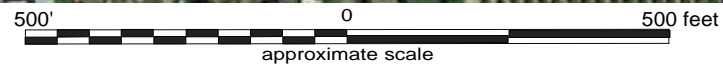
 Mowed Field

 Irrigation Ditch

 Ruderal



Aerial Photograph courtesy of Google Earth
Photo Date 4/1/2017



Live Oak Associates, Inc.

Souls MWC
Water System Improvements
Biotic Habitats / Land Uses

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Ruderal habitats of the project area are of relatively low value to native wildlife, in that they offer little vegetative cover and are subjected to regular human disturbance. However, species associated with adjacent land uses could make incidental use of the project area's ruderal habitats, and certain disturbance-tolerant species may actually be attracted to this habitat. For example, American robins (*Turdus migratorius*) and mourning doves (*Zenaida macroura*) using residences or orchards adjacent to the proposed water line may occasionally occur within the ruderal right-of-way. Savannah sparrows (*Passerculus sandwichensis*) and American pipits (*Anthus rubescens*), both winter migrants to the San Joaquin Valley, and the western kingbird (*Tyrannus verticalis*), a summer migrant, would be expected to use fields along the proposed water line, and could forage within the right-of-way from time to time. The killdeer (*Charadrius vociferus*) and Brewer's blackbird (*Euphagus cyanocephalus*) are common in degraded habitats, including disturbed roadside environments. Raccoons (*Procyon lotor*) frequent human-altered habitats and would be expected to regularly cross or forage along the proposed water line. Other mammals expected to occur in this habitat type are the California ground squirrel (*Otospermophilus beecheyi*), Botta's pocket gopher (*Thomomys bottae*), and deer mouse (*Peromyscus maniculatus*).

2.3.2 Mowed Field

At the time of the field survey, the project area contained a mowed field adjacent to Haven Street. Historical aerial imagery shows regular maintenance of this field for the past three decades, and dirt roads crossing the field allow vehicle access to the adjacent neighborhood and orchard. The field appears to have been mulched with hay. Vegetation in this field was sparse, but where present included foxtail barley (*Hordeum murinum* ssp. *leporinum*), mallow (*Malva* sp.), and London rocket (*Symbrium irio*).

Ground-disturbing practices in the field likely limit its value to wildlife; however, some wildlife species undoubtedly occur here. For example, during the winter and spring, amphibians such as Pacific chorus frogs (*Pseudacris regilla*) and western toads (*Bufo boreas*) may breed in nearby irrigation ditches, and subsequently disperse through the field. Side-blotched lizards (*Uta stansburiana*) likely occur in the field, and other common reptiles such as the Pacific gopher snake (*Pituophis catenifer catenifer*) may pass through the field from time to time.

The mowed field may provide foraging habitat for a number of avian species. Common resident species likely to forage in the field include mourning doves and American crows (*Corvus brachyrhynchos*), as well as mixed flocks of Brewer's blackbirds, brown-headed cowbirds (*Molothrus ater*), and European starlings (*Sturnus vulgaris*). Common summer migrants would include the western kingbird, while common winter migrants would include the savannah sparrow and American pipit.

A few small mammal species may also occur within the mowed field. Rodents such as deer mice, California voles (*Microtus californicus*), and Botta's pocket gophers would occur in fluctuating numbers depending on the season and yearly maintenance. At the time of the field survey, rodent burrows were sporadically observed within the mowed field. Other small mammals likely to occur from time to time within the mowed field include Audubon cottontail rabbits (*Sylvilagus audubonii*). Various species of bat may also forage over the field for flying insects.

The presence of amphibians, reptiles, birds and small mammals is likely to attract foraging raptors and mammalian predators. The red-tailed hawk (*Buteo jamaicensis*), observed foraging adjacent to the project area, and American kestrel (*Falco sparverius*) would be expected to routinely forage over the field. Mammalian predators occurring in the mowed field would most likely be limited to raccoons, striped skunks (*Mephitis mephitis*), opossums (*Didelphis virginianus*), and the occasional coyote (*Canis latrans*), as these species are relatively tolerant of human disturbance.

2.3.3 Irrigation Ditch

The project area includes a short segment of the Lemos Ditch where it will be crossed by the proposed water line along Road 84/Enterprise Street. Farther to the east, the project area is adjoined by the ditch to the south. This earthen ditch was dry in places, and saturated in others from a recent precipitation event. Vegetation observed within these ditches included sprangletop (*Leptochloa sp.*), annual bluegrass (*Poa annua*), and curly dock (*Rumex crispus*). Common weeds such as foxtail barley and mallow were observed on the banks.

Due to intensive maintenance practices, the ditch would be of limited value to native wildlife. However, the Pacific chorus frog and western toad may breed in the ditch during periods of inundation, incidentally attracting predatory wading birds such as the great blue heron (*Ardea*

herodias) and great egret (*Ardea alba*). Black phoebes (*Sayornis nigricans*) may hunt insects in flight over the ditches, or glean prey from the surface of the water. Black phoebes and cliff swallows may also use the ditches as a source of mud for their nests. Fossorial rodents including the Botta's pocket gopher and California ground squirrel may burrow in the banks of the ditches.

2.3.4 Residential

The project area contains several dozen residences associated with the Souls Tract. At the time of the field survey, the residential properties included homes, detached garages/sheds, paved areas, cut grass, and landscaping including ornamental trees and shrubs. Two residences on the east side of Haven Street appeared to be vacant.

The residential properties would attract a number of animal species that have become habituated to developed areas. Residential trees and shrubs provide cover and nesting habitat for resident birds such as western scrub jays (*Aphelocoma californica*) and northern mockingbirds (*Mimus polyglottos*). This landscaping can also be important to a number of migrant birds passing through the area during spring and fall. Larger trees in this area provide nesting habitat for raptors such as red-tailed hawks (*Buteo jamaicensis*), red-shouldered hawks (*Buteo lineatus*), and barn owls (*Tyto alba*). Cavity nesters such as Nuttall's woodpecker (*Picoides nuttallii*) would also be expected to utilize the larger residential trees. A few birds native to North America are known to nest in structures. Locally, these include the black phoebe and house finch (*Haemorhous mexicanus*), either of which could nest in the homes or detached garages of the residential properties. Similarly, a variety of native bat species have the potential to roost inside these buildings. Botta's pocket gophers and California ground squirrels may occasionally burrow in the residential yards, particularly in less frequently maintained areas. The presence of domestic dogs would be expected to discourage larger mammals such as raccoons and skunks from using the residential properties. Non-native species that might be associated with the residences include the house mouse (*Mus musculus*), house sparrow (*Passer domesticus*), and rock pigeon (*Columbia livia*).

2.4 SPECIAL STATUS PLANTS AND ANIMALS

Several species of plants and animals within the state of California have low populations, limited distributions, or both. Such species may be considered "rare" and are vulnerable to extirpation as

the state's human population grows and the habitats these species occupy are converted to agricultural and urban uses. As described more fully in Section 3.1, state and federal laws have provided the CDFW and the U.S. Fish and Wildlife Service (USFWS) with a mechanism for conserving and protecting the diversity of plant and animal species native to the state. A sizable number of native plants and animals have been formally designated as threatened or endangered under state and federal endangered species legislation. Still others have been designated as "species of special concern" by the CDFW. The California Native Plant Society (CNPS) has developed its own lists of native plants considered rare, threatened or endangered (CNPS 2018). Collectively, these plants and animals are referred to as "special status species."

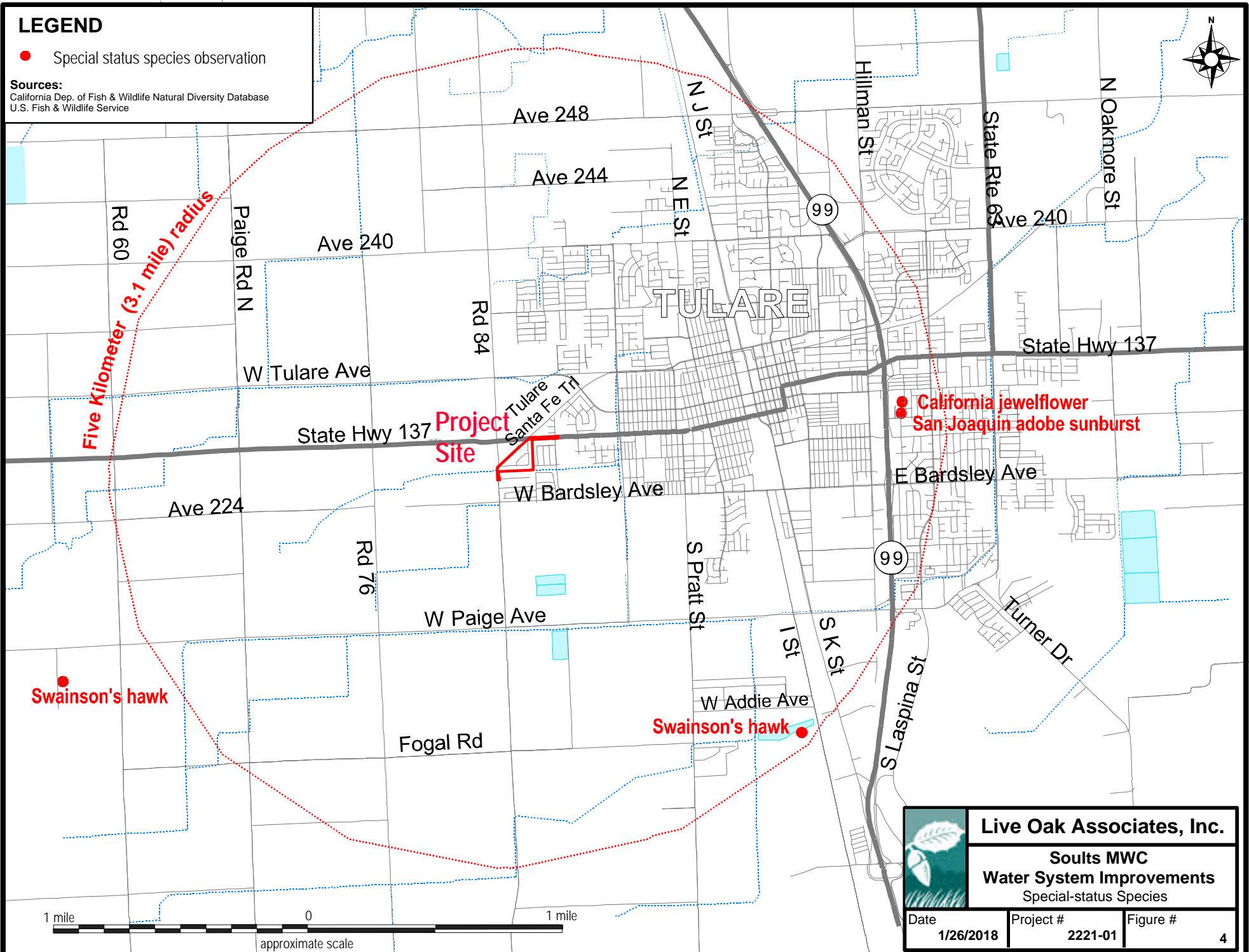
The California Natural Diversity Data Base (CDFW 2018) was queried for special status species occurrences in the nine USGS 7.5 minute quadrangles containing and immediately surrounding the project area (*Paige, Remroy, Goshen, Visalia, Waukena, Tulare, Corcoran, Taylor Weir, and Tipton*). An official species list was obtained using the USFWS Information for Planning and Consultation (IPaC) system for federally listed species with the potential to be affected by the project (USFWS 2018) (Appendix D). These species, and their potential to occur within the project area, are listed in Table 1 on the following pages. Sources of information for this table included *California's Wildlife, Volumes I, II, and III* (Zeiner et. al 1988), *California Natural Diversity Data Base* (CDFW 2018), and *the on-line version of California Native Plant Society's Inventory of Rare and Endangered Vascular Plants of California* (CNPS 2018).

Special status species occurrences within 3.1 miles (5 kilometers) of the project area are depicted in Figure 4 and San Joaquin kit fox (*Vulpes macrotis mutica*) occurrences within 10 miles of the project area are depicted in Figure 5.

LEGEND

● Special status species observation

Sources:
California Dep. of Fish & Wildlife Natural Diversity Database
U.S. Fish & Wildlife Service



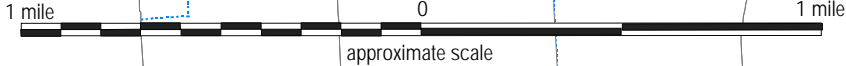
Five Kilometer (3.1 mile) radius

Project Site

● California jewelflower
● San Joaquin adobe sunburst

● Swainson's hawk

● Swainson's hawk

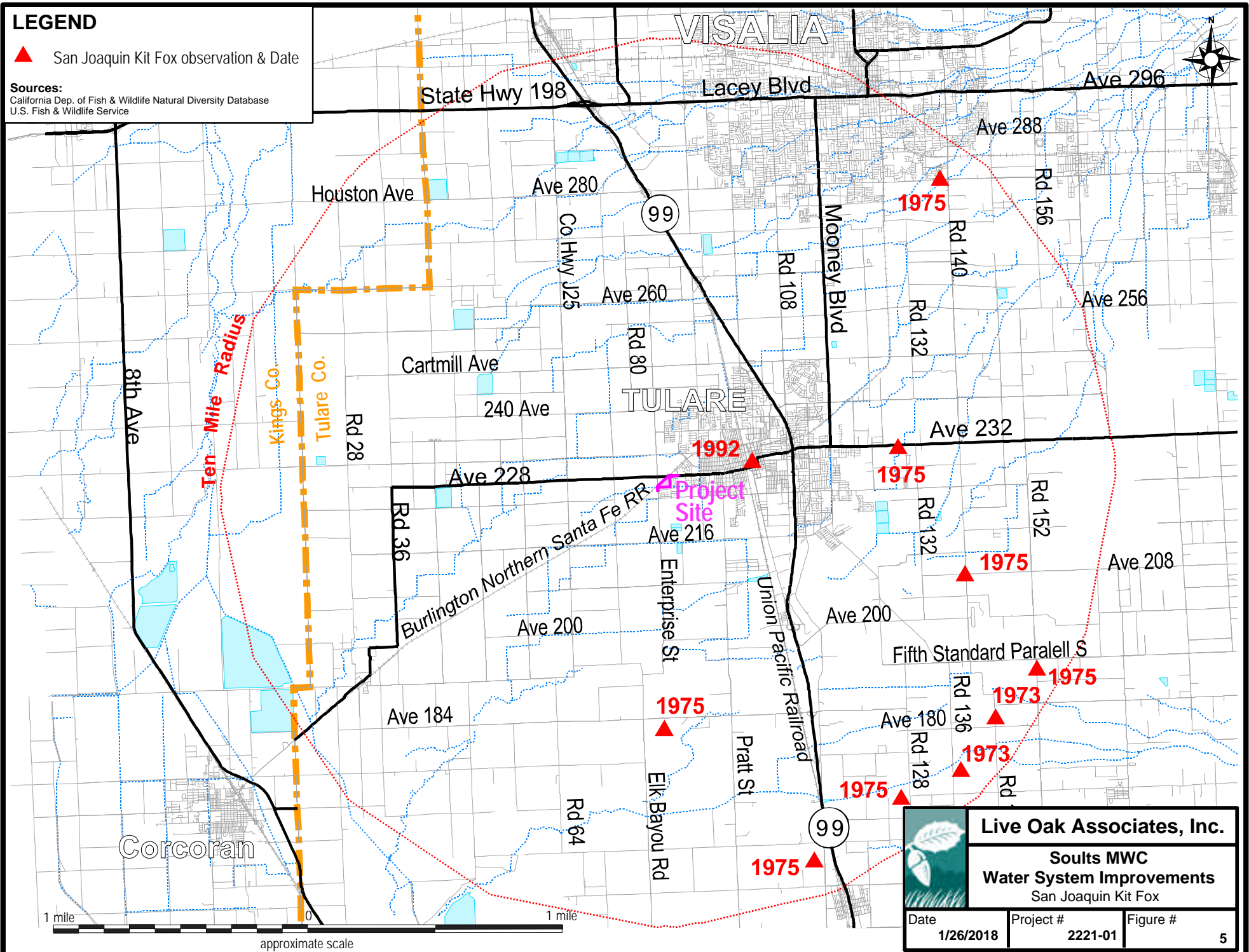


	Live Oak Associates, Inc.		
	Souls MWC Water System Improvements Special-status Species		
Date	Project #	Figure #	
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LEGEND

▲ San Joaquin Kit Fox observation & Date

Sources:
 California Dep. of Fish & Wildlife Natural Diversity Database
 U.S. Fish & Wildlife Service



	Live Oak Associates, Inc.		
	Souls MWC Water System Improvements San Joaquin Kit Fox		
Date	Project #	Figure #	
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TABLE 1. LIST OF SPECIAL STATUS SPECIES THAT COULD OCCUR IN THE PROJECT VICINITY

PLANTS (adapted from CDFW 2018 and CNPS 2018)

Species Listed as Threatened or Endangered under the State and/or Federal Endangered Species Act

Species	Status	Habitat	Occurrence within the Project Area
California Jewelflower (<i>Caulanthus californicus</i>)	FE, CE, CNPS 1B	Occurs in sandy, chenopod scrub, pinyon and juniper woodland, and valley and foothill grassland up to 3,280 ft. in elevation. Blooms February-May.	Absent. Suitable habitat for this species is absent from the project area. Any suitable habitat that may have been present has been modified by intensive human use. The closest known occurrence of this species is a 1932 population approximately 3 miles east of the project area; this population has since been extirpated by intensive agriculture and urban growth.
San Joaquin Adobe Sunburst (<i>Pseudobahia peirsonii</i>)	FT, CE, CNPS 1B	Occurs in grasslands of the Sierra Nevada foothills in heavy clay soils of the Porterville and Centerville series between 300 and 2,625 ft. in elevation. Blooms March-April.	Absent. Suitable habitat and soils are absent from the project area. Any suitable habitat that may have been present has been modified by intensive human use. The closest known occurrence of this species is an 1897 population located approximately 3 miles east of the project area.

CNPS Listed Plants

Heartscale (<i>Atriplex cordulata</i> var. <i>cordulata</i>)	CNPS 1B	Occurs in cismontane woodland and valley and foothill grasslands; saline or alkaline soils up to 1,850 ft. in elevation. Blooms April-October.	Absent. The project area does not contain suitable habitat for this species. Any suitable habitat that may have been present has been modified by intensive human use.
Earlimart Orache (<i>Atriplex cordulata</i> var. <i>erecticaulis</i>)	CNPS 1B	This annual occurs in valley and foothill grasslands between 130 and 330 ft. in elevation. Blooms August-September.	Absent. The project area does not contain suitable habitat for this species. Any suitable habitat that may have been present has been modified by intensive human use.
Brittlescale (<i>Atriplex depressa</i>)	CNPS 1B	Occurs in alkaline soils in barren areas within alkali grassland, meadow and scrub up to 1,000 ft. in elevation. Occasionally found around vernal pools. Blooms April-October.	Absent. The project area does not contain suitable habitat for this species. Any suitable habitat that may have been present has been modified by intensive human use.
Lesser Saltscale (<i>Atriplex minuscula</i>)	CNPS 1B	Occurs in cismontane woodland and valley and foothill grasslands of the San Joaquin Valley; alkaline/sandy soils below 700 ft. in elevation. Blooms May-October.	Absent. The project area does not contain suitable habitat for this species. Any suitable habitat that may have been present has been modified by intensive human use.
Subtle Orache (<i>Atriplex subtilis</i>)	CNPS 1B	Occurs in valley and foothill grasslands of the San Joaquin Valley between 130 and 330 ft. in elevation. Blooms August-October.	Absent. The project area does not contain suitable habitat for this species. Any suitable habitat that may have been present has been modified by intensive human use.
Recurved Larkspur (<i>Delphinium recurvatum</i>)	CNPS 1B	Occurs in cismontane woodland and valley and foothill grasslands; alkaline soils up to 2,500 ft. in elevation. Blooms March-June.	Absent. The project area does not contain suitable habitat for this species. Any suitable habitat that may have been present has been modified by intensive human use.

TABLE 1. LIST OF SPECIAL STATUS SPECIES THAT COULD OCCUR IN THE PROJECT VICINITY

PLANTS (cont'd)

CNPS Listed Plants

Species	Status	Habitat	Occurrence within the Project Area
California Alkali Grass (<i>Puccinellia simplex</i>)	CNPS 1B	Occurs in alkali sinks and flats within grassland and chenopod scrub habitats of the Central Valley, San Francisco Bay area and western Mojave Desert at elevations up to 3,000 ft. in elevation. Blooms March-May.	Absent. The project area does not contain suitable habitat for this species. Any suitable habitat that may have been present has been modified by intensive human use.
Sanford's Arrowhead (<i>Sagittaria sanfordii</i>)	CNPS 1B	Occurs in freshwater marshes, pond margins, sloughs, ditches, etc. of the Central Valley and low Sierra Nevada foothills between 25 and 4,165 ft. in elevation. Blooms May-October.	Possible. Suitable habitat for this species occurs within the project area in the Lemos Ditch. The closest known occurrence of this species is a 2017 observation in close proximity to three irrigation ditches along Ben Maddox Road approximately 10 miles northeast of the project area.

ANIMALS (adapted from CDFW 2018 and USFWS 2018)

Species Listed as Threatened or Endangered under the State and/or Federal Endangered Species Act

Species	Status	Habitat	Occurrence within the Project Area
Vernal Pool Fairy Shrimp (<i>Branchinecta lynchi</i>)	FT	Occurs in vernal pools, clear to tea-colored water in grass or mud-bottomed swales, and basalt depression pools.	Absent. Suitable vernal pool habitat for this species is absent from the project area and surrounding lands.
Vernal Pool Tadpole Shrimp (<i>Lepidurus packardii</i>)	FE	Primarily found in vernal pools, but may use other seasonal wetlands in mesic valley and foothill grasslands.	Absent. Suitable vernal pool habitat for this species is absent from the project area and surrounding lands.
Delta Smelt (<i>Hypomesus transpacificus</i>)	FT	This slender-bodied fish is endemic to the San Francisco Bay and Sacramento-San Joaquin Delta upstream through Contra Costa, Sacramento, San Joaquin, Solano, and Yolo Counties.	Absent. Aquatic habitat of the project area is limited to a portion of an irrigation ditch that does not directly connect to any natural drainages. Moreover, the project area is well outside of the known distribution of this species.
California Red-Legged Frog (<i>Rana aurora draytonii</i>)	FT	Perennial rivers, creeks and stock ponds of the Coast Range and northern Sierra foothills with overhanging vegetation.	Absent. The project area does not provide suitable habitat for this species and is outside of its current known range.
California Tiger Salamander (<i>Ambystoma californiense</i>)	FT	Found primarily in annual grasslands; requires vernal pools for breeding and rodent burrows for aestivation. Although most CTS aestivate within 0.4 mile of their breeding pond, outliers may aestivate up to 1.3 miles away (Orloff 2011).	Absent. Suitable breeding habitat for this species is absent from the project area and surrounding lands. The closest known occurrences of this species, historical or modern, are more than 10 miles north of the project area.

TABLE 1. LIST OF SPECIAL STATUS SPECIES THAT COULD OCCUR IN THE PROJECT VICINITY

ANIMALS – cont’d.

Species Listed as Threatened or Endangered under the State and/or Federal Endangered Species Act

Species	Status	Habitat	Occurrence within the Project Area
Blunt-Nosed Leopard Lizard (<i>Gambelia silus</i>)	FE, CE, CFP	Frequents grasslands, alkali meadows and chenopod scrub of the San Joaquin Valley from Merced south to Kern County.	Absent. The highly disturbed habitats of the project area and surrounding lands do not provide suitable habitat for this species. The project area is located at the easternmost limit of this species’ current known range. The closest known occurrence of BNLL, historical or modern, is located approximately 8 miles southwest of the project area, and was recorded in 1972.
Giant Garter Snake (GGS) (<i>Thamnophis gigas</i>)	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. GGS use small mammal burrows and soil crevices adjacent to aquatic habitats for overwintering and, in the summer, to escape excessive heat.	Absent. The project area contains portions of an irrigation ditch; however, the project area is located more than 70 miles southeast of the nearest known extant population of GGS at the Mendota Wildlife Management Area.
Swainson’s Hawk (<i>Buteo swainsoni</i>)	CT	This breeding migrant to California nests in mature trees in riparian areas and oak savannah, and occasionally in lone trees at the margins of agricultural fields. Requires adjacent suitable foraging areas such as grasslands or alfalfa fields supporting rodent populations.	Possible. Swainson’s hawks could forage within the mowed field of the project area, but would be unlikely to nest on-site. The project area’s only trees are located on residential properties of the Souls Tract, where the presence of humans and domestic dogs would be expected to discourage nesting by this species. The closest known nesting occurrence of this species was documented 3 miles southeast of the project area in 1994.
Western Yellow-Billed Cuckoo (<i>Coccyzus americanus occidentalis</i>)	FC, CE	Once a common breeding species in riparian habitats of lowland California, the western yellow-billed cuckoo today breeds consistently in only two California localities: along the Sacramento and South Fork Kern Rivers.	Absent. This species is believed to have been extirpated from the project vicinity.
Tipton Kangaroo Rat (<i>Dipodomys nitratoides nitratoides</i>)	FE, CE	Inhabits valley saltbrush scrub, valley sink scrub, and grassland habitats located from the Valley floor to 300 ft in elevation.	Absent. The highly disturbed habitats of the project area are unsuitable for this species. Moreover, the project area is surrounded in all directions by miles of unsuitable agricultural and residential habitat. The closest known occurrences of this species are museum specimens collected in 1927 and 1943, approximately 11 miles south of the project area.

TABLE 1. LIST OF SPECIAL STATUS SPECIES THAT COULD OCCUR IN THE PROJECT VICINITY

ANIMALS – cont’d.

Species Listed as Threatened or Endangered under the State and/or Federal Endangered Species Act

Species	Status	Habitat	Occurrence within the Project Area
San Joaquin Kit Fox (<i>Vulpes macrotis mutica</i>)	FE, CT	Frequents desert alkali scrub and annual grasslands and may forage in adjacent agricultural habitats. Utilizes enlarged (6 to 10 inches in diameter) ground squirrel burrows as denning habitat.	Absent. The highly disturbed habitats of the project area, which primarily consist of paved roads and maintained road shoulders, are unsuitable for this species. Moreover, the project area is surrounded in all directions by miles of unsuitable agricultural and residential habitat. Although the kit fox was historically documented in the project vicinity, modern kit fox occurrences are scarce. The CNDDDB lists ten kit fox occurrences within 10 miles of the project area; the only somewhat recent occurrence was from 1992, approximately 2 miles east of the project area “in the vicinity of Tulare.”

State Species of Special Concern or California Fully Protected

Western Spadefoot (<i>Spea hammondi</i>)	CSC	Mainly occurs in grasslands of San Joaquin Valley. Vernal pools or other temporary wetlands are required for breeding. Aestivates in underground refugia such as rodent burrows, typically within 1200 ft. of aquatic habitat.	Absent. Suitable breeding habitat for this species is absent from the project area and surrounding lands.
Western Pond Turtle (<i>Actinemys marmorata</i>)	CSC	Occurs in open slow-moving water or ponds with rocks and logs for basking. Nesting occurs in open areas, on a variety of soil types, and up to ¼ mile away from water. This species is almost extinct in the southern San Joaquin Valley.	Absent. Suitable aquatic habitat for this species is absent from the project area and surrounding lands. The Lemos Ditch lacks the perennial flow required by this species.
Northern California Legless Lizard (<i>Anniella pulchra</i>)	CSC	Occurs in sparsely vegetated areas of beach dunes, chaparral, pine-oak woodlands, desert scrub, sandy washes, and stream terraces with sycamores, cottonwoods, or oaks. Requires moist soils. Sometimes found in suburban gardens in southern California.	Absent. Any suitable habitat that may have been present has been modified by intensive human use.
Tricolored Blackbird (<i>Agelaius tricolor</i>)	CSC	Nests colonially near fresh water in dense cattails or tules, in thickets of willows or shrubs, and increasingly in grain fields. Forages in grassland and cropland areas.	Possible. The project area’s mowed field could potentially be used for foraging by the tricolored blackbird. Nesting habitat is absent. The closest nesting occurrence of this species was documented in an agricultural field approximately 7.5 miles southwest of the project area in 2000.

TABLE 1. LIST OF SPECIAL STATUS SPECIES THAT COULD OCCUR IN THE PROJECT VICINITY

ANIMALS – cont’d.

State Species of Special Concern or California Fully Protected

Species	Status	Habitat	*Occurrence within the Project Area
Burrowing Owl (<i>Athene cunicularia</i>)	CSC	Frequents open, dry annual or perennial grasslands, deserts, and scrublands characterized by low growing vegetation. Dependent upon burrowing mammals, most notably the California ground squirrel, for nest burrows.	Absent. All habitats of the project area and surrounding lands are unsuitable for this species, with the possible exception of the mowed field, which offers a small area of very marginal foraging habitat at best. No California ground squirrel burrows were observed within the project area. No sign of burrowing owl occupation was observed in the field. The closest known occurrence of this species is a 2000 observation in a pasture with non-native grasses approximately 8 miles southwest of the project area.
Mountain Plover (<i>Charadrius montanus</i>)	CSC	Forages in short grasslands and freshly plowed fields of the Central Valley. This species does not breed in California.	Possible. The mowed field of the project area provides winter foraging habitat for this species. The closest known occurrence of this species was documented approximately 11 miles southwest of the project area in 1987.
Western Mastiff Bat (<i>Eumops perotis</i> ssp. <i>californicus</i>)	CSC	Frequents open, semi-arid to arid habitats, including conifer, and deciduous woodlands, coastal scrub, grasslands, palm oasis, chaparral and urban. Roosts in cliff faces, high buildings, trees and tunnels.	Possible. This species could potentially forage over the project area. It could conceivably roost in large trees associated with the residential properties.

EXPLANATION OF OCCURRENCE DESIGNATIONS AND STATUS CODES

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

STATUS CODES

- | | | | |
|-----|---------------------------------|-----|---------------------------------------|
| FE | Federally Endangered | CE | California Endangered |
| FT | Federally Threatened | CT | California Threatened |
| FPE | Federally Endangered (Proposed) | CCT | California Threatened (Candidate) |
| FPT | Federally Threatened (Proposed) | CFP | California Fully Protected |
| FC | Federal Candidate | CSC | California Species of Special Concern |

CNPS LISTING

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

2.5 ENDANGERED, THREATENED, OR SPECIAL STATUS PLANT AND ANIMAL SPECIES MERITING FURTHER DISCUSSION

2.5.1 Sanford's Arrowhead (*Sagittaria sanfordii*). Federal Listing Status: None; State Listing Status: None; CNPS Listing Status: Rare.

Ecology of the species. The Sanford's arrowhead (*Sagittaria sanfordii*) is an emergent marsh plant endemic to California, where it is known from approximately 100 scattered occurrences from Shasta County to the north to Fresno County in the south. This species has no protections under the federal or state Endangered Species Acts, but is listed by the CNPS as 1B (Plants Rare, Threatened, or Endangered in California and Elsewhere). It has been extirpated from southern California and is uncommon in the Central Valley as the plant's aquatic habitat has been lost to human activity. Threats include grazing, development, recreational activities, non-native plants, road widening, and channel alteration and maintenance. This species occurs in marshes, swamps, and assorted shallow freshwater. Other documented occurrences are reported in canals, ditches, and detention basins in and around the Fresno/Clovis area (CDFW 2018).

Potential to occur onsite. Although the Sanford's arrowhead was not observed during the field survey, the Lemos Ditch provides suitable habitat for this species. The closest known occurrence of this species is a 2017 observation in close proximity to three irrigation ditches along Ben Maddox Road approximately 10 miles northeast of the project area.

2.5.2 Swainson's Hawk (*Buteo swainsoni*). Federal Listing Status: None; State Listing Status: Threatened.

Ecology of the species. Swainson's hawks are large, long-winged, broad-tailed hawks with a high degree of mate and territorial fidelity. They are breeding season migrants to California, arriving at their nesting sites in March or April. The young hatch sometime between March and July and fledge 4 to 6 weeks later. By October, most birds have left for wintering grounds in South America. In the Central Valley, Swainson's hawks typically nest in large trees along riparian systems, but may also nest in oak groves, or lone, mature trees in agricultural fields or along roadsides. Swainson's hawk nest site selection is closely linked to the local availability of suitable foraging habitat (Estep 1989).

Swainson's hawks forage in large, open fields with abundant prey, including grasslands or lightly grazed pastures, alfalfa and other hay crops, and certain grain and row crops, primarily during or immediately after harvest (Estep 1989, Estep and Dinsdale 2012). In the Central Valley, California voles (*Microtus californicus*) account for about 45% of non-insect prey taken by the Swainson's hawk, followed by ground birds (32%) and pocket gophers, deer mice, and other small mammals (20%) (Estep 1989). Insects comprise a large proportion of individual prey items, but a negligible proportion of total prey biomass. The designation of the Swainson's hawk as Threatened under the California Endangered Species Act is based on population decline due in part to loss of foraging habitat to urban development (CDFG 1994).

Potential to occur onsite. Swainson's hawks are known from the project vicinity. The CNDDDB lists several nesting occurrences of this species within 5 miles of the project area; the closest of these (Occurrence No. 794) was documented in a large valley oak tree adjacent to Bates Slough approximately 3 miles southeast of the project area in 1994. While some of these occurrences are located close to developed lands including a dairy (Occurrence No. 706) and the Highway 99 corridor (Occurrence No. 1797), all are in locations that are essentially rural, and are primarily adjoined by agricultural fields and other suitable foraging habitats. By contrast, the project area consists primarily of the Soult's Tract, a high-density residential development in the outskirts of Tulare. Although the Soult's Tract contains a number of mature trees that are structurally suitable for nesting by the Swainson's hawk, high levels of anthropogenic disturbance and lack of nearby foraging habitat would almost certainly preclude Swainson's hawk nesting on site, as well as on adjoining residential and industrial lands.

Because Swainson's hawks are known to nest in the region, there is some potential for individuals of this species to fly over the project area from time to time. Should Swainson's hawks occur in the project vicinity, they could conceivably forage in the project area's mowed field. At the time of the field survey, the field appeared likely to support sufficient prey for this species, and vegetative characteristics were compatible with Swainson's hawk foraging strategies. The field's proximity to Haven Street and high-density residential development somewhat reduce the chances that it would be foraged upon, however.

2.5.3 San Joaquin Kit Fox (*Vulpes macrotus mutica*). Federal Listing Status: Endangered; State Listing Status: Threatened.

Ecology of the species. By the time the San Joaquin kit fox (SJKF) was listed as federally endangered in 1967 and California threatened in 1971, it had been extirpated from much of its historic range. The smallest North American member of the dog family (Canidae), the kit fox historically occupied the dry plains of the San Joaquin Valley, from San Joaquin County to southern Kern County (Grinnell et al. 1937). Local surveys, research projects, and incidental sightings indicate that kit fox currently occupy available habitat on the San Joaquin Valley floor and in the surrounding foothills. Core SJKF populations are located in the natural lands of western Kern County, the Carrizo Plain Natural Area in San Luis Obispo County, and the Ciervo-Panoche Natural Area in western Fresno and eastern San Benito Counties (USFWS 1998).

The SJKF prefers habitats of open or low vegetation with loose soils. In the southern and central portion of the Central Valley, kit fox are found in valley sink scrub, valley saltbrush scrub, upper Sonoran subshrub scrub, and annual grassland (USFWS 1998). Kit fox may also be found in grazed grasslands, urban settings, and in areas adjacent to tilled or fallow fields (USFWS 1998). They require underground dens to raise pups, regulate body temperature, and avoid predators and other adverse environmental conditions (Golightly and Ohmart 1984). In the central portion of their range, they usually occupy burrows excavated by small mammals such as California ground squirrels. The SJKF is primarily carnivorous, feeding on black-tailed hares, desert cottontails, rodents, insects, reptiles, and some birds.

Potential to occur onsite. The project area primarily consists of paved roads and maintained road shoulders, which would be unsuitable for the San Joaquin kit fox due to high levels of anthropogenic disturbance, and a lack of prey. Although there is a small portion of the project area that consists of a mowed field, the field is adjoined by a busy street and residences that would discourage its use by foraging kit foxes. The field would not be suitable for kit fox denning due to intensive maintenance activities.

Moreover, for the SJKF to occur within the project area, it must first have some potential to occur in the project vicinity. Although the SJKF has been historically documented in the vicinity, modern kit fox occurrences are scarce. The most recent occurrence of this species within 10 miles

of the project area was record in 1992 approximately two miles to the east. The remaining nine CNDDDB occurrences within the 10-mile vicinity were recorded in 1973 and 1975. As discussed, the project area is adjoined by orchards, industrial development, and the residential outskirts of Tulare, all of which are unsuitable for this species. The general unsuitability of the project area and surrounding lands, the lack of recent detections, and the fact that the project area is situated over 50 miles from the nearest kit fox core population in the Ciervo-Panoche region, suggest that kit fox are absent from project vicinity and within the project area itself.

2.6 JURISDICTIONAL WATERS

Jurisdictional waters are those rivers, creeks, drainages, lakes, ponds, reservoirs, and wetlands that are subject to the authority of the USACE, CDFW, and/or the RWQCB. In general, the USACE regulates navigable waters, tributaries to navigable waters, and wetlands adjacent to these waters, where wetlands are defined by the presence of hydric soils, hydrophytic vegetation, and wetland hydrology. The CDFW has jurisdiction over waters in California that have a defined bed and bank, and the RWQCB has jurisdiction over California surface water and groundwater. The regulation of jurisdictional waters is discussed in more detail in Section 3.2.5.

The project area contains a short segment of the Lemos Ditch, an artificial waterway operated by TID for agricultural irrigation. The Lemos Ditch intersects the proposed water line along Road 84/Enterprise Street. East of Road 84/Enterprise Street, the ditch forms the southern boundary of the project area. The Lemos Ditch appears to originate from the Railroad Ditch approximately 1 mile east of the project area. The Railroad Ditch, in turn, is fed by Cameron Creek, a potential Water of the U.S. Approximately 1 mile west of the project area, the Lemos Ditch appears to terminate in agricultural lands. Because the Lemos Ditch is an artificial waterway that does not represent or replace a natural drainage, and because it lacks downstream connectivity to Waters of the U.S., it is unlikely to, itself, be considered a Water of the U.S. It is important to note that the USACE is the final arbiter of the jurisdictional status of water features within a project site. A jurisdictional determination is made by the USACE upon review and verification of a wetland delineation prepared for the site.

2.7 NATURAL COMMUNITIES OF SPECIAL CONCERN

Natural communities of special concern are those that are of limited distribution, distinguished by significant biological diversity, home to special status plant and animal species, of importance in maintaining water quality or sustaining flows, etc. Examples of natural communities of special concern include various types of wetlands and riparian habitat.

Natural communities of special concern are absent from the project area.

2.8 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, rivers and creeks supporting riparian vegetation, and ridgelines.

The project area does not contain features that would be likely to function as wildlife movement corridors. However, the Pacific flyway, one of four major bird migration routes in North America, passes over the project site and much of the rest of California.

2.9 DESIGNATED CRITICAL HABITAT

The USFWS often designates areas of “critical habitat” when it lists species as threatened or endangered. Critical habitat is a specific geographic area(s) that contains features essential for the conservation of a threatened or endangered species and that may require special management and protection.

Designated critical habitat is absent from the project area and adjacent lands.

3.0 IMPACTS AND MITIGATIONS

3.1 SIGNIFICANCE CRITERIA

NEPA

Federal projects are subject to the provisions of NEPA. The purpose of NEPA is to assess the effects of a proposed action on the human environment, assess the significance of those effects, and recommend measures that if implemented would mitigate those effects. As used in NEPA, a determination that certain effects on the human environment are “significant” requires considerations of both context and intensity (see 40 CFR 1508.27).

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

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

The effects of an action on some biological resources are generally considered to be “significant.” Actions that adversely affect federally listed threatened and endangered species and waters of the United States are two examples. Other effects may, however, be considered significant as well. An action that impedes the migratory movements of fish and wildlife, for example, may be considered “significant.” An action that substantially reduces the areal extent of fish and wildlife habitat may be considered “significant,” especially if habitat loss occurs in areas identified by state and federal governments as ecologically sensitive or of great scenic value.

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

- (a) Avoiding the impact altogether by not taking a certain action or parts of an action.
- (b) Minimizing impacts by limiting the degree or magnitude of the action and its implementation.
- (c) Rectifying the impact by repairing, rehabilitating, or restoring the affected environment.
- (d) Reducing or eliminating the impact over time by preservation and maintenance operations during the life of the project.
- (e) Compensating for the impact by replacing or providing substitute resources or environments.

This report identifies likely project impacts, identifies those that may be considered “significant” per the provisions of NEPA, and recommends mitigation measures that would avoid adverse effects to biological resources.

CEQA

General plans, area plans, and specific projects are subject to the provisions of CEQA. The purpose of CEQA is to assess the impacts of proposed projects on the environment before they are constructed. For example, site development may require the removal of some or all of its existing vegetation and animals associated with this vegetation could be destroyed or displaced. Disturbance-tolerant species adapted to humans, roads, buildings, pets, etc. 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 while sensitive habitats such as wetlands and riparian woodlands may be altered or destroyed. These impacts may or may not be considered significant. CEQA defines a “significant effect on the environment” as 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 will:

- 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, and 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, or coastal) 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 areas. Impacts would also be significant if they reduce substantially the habitat of a fish or wildlife species, including causing a fish or wildlife population to drop below self-sustaining levels or threaten to eliminate an animal community.
- Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance.
- Conflict with the provisions of an adopted Habitat Conservation Plan, or other approved local, regional, or state habitat conservation plan.

Furthermore, CEQA Guidelines Section 15065 states that a project may trigger the requirement to make “mandatory findings of significance” if: “the project has the potential to subsequently 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 on an endangered, rare or threatened species, or eliminate important examples of the major periods of California history or prehistory.”

3.2 RELEVANT GOALS, POLICIES, AND LAWS

3.2.1 General Plan Policies of County of Tulare

In compliance with CEQA, the lead agency must consider conformance with applicable goals and policies of the General Plan of the County of Tulare. The primary biological resources goal of the Tulare County General Plan is “to preserve and protect sensitive significant habitats, enhance biodiversity, and promote healthy ecosystems throughout the County.” This goal is to be accomplished through a set of policies outlined in the General Plan (Appendix E).

Relevant biological resources policies in the Tulare County General Plan include:

- protecting rare and endangered species;
- limiting development in environmentally sensitive areas;
- requiring open space buffers between development projects and significant watercourse, riparian vegetation, wetlands, and other sensitive habitats and natural communities;
- coordinating with other government land management agencies to preserve and protect biological resources;
- implementing pesticide controls to limit effects on natural resources; and
- supporting the establishment and administration of a mitigation banking program.

3.2.2 Threatened and Endangered Species

In California, imperiled plants and animals may be afforded special legal protections under the California Endangered Species Act (CESA) and/or Federal Endangered Species Act (FESA). Species may be listed as “threatened” or “endangered” under one or both Acts, and/or as “rare” under CESA. Under both Acts, “endangered” means a species is in danger of extinction throughout all or a significant portion of its range, and “threatened” means a species is likely to become endangered within the foreseeable future. Under CESA, “rare” means a species may become endangered if their present environment worsens. Both Acts prohibit “take” of listed species, defined under CESA as “to hunt, pursue, catch, capture, or kill, or attempt to hunt, pursue,

catch, capture or kill” (California Fish and Game Code, Section 86), and more broadly defined under FESA to include “harm” (16 USC, Section 1532(19), 50 CFR, Section 17.3).

When state and federally listed species have the potential to be impacted by a project, the USFWS and CDFW must be included in the CEQA process. These agencies review the environmental document to determine the adequacy of its treatment of endangered species issues and to make project-specific recommendations for the protection of listed species. Similarly, NEPA projects that may impact federally listed species must include the USFWS in the environmental review process. Projects that may result in the “take” of listed species must generally enter into consultation with the USFWS and/or CDFW pursuant to FESA and CESA, respectively. In some cases, incidental take authorization(s) from these agencies may be required before the project can be implemented.

3.2.3 Migratory Birds

The Federal Migratory Bird Treaty Act (FMBTA: 16 USC 703-712) prohibits killing, possessing, or trading in any bird species covered in one of four international conventions to which the United States is a party, except in accordance with regulations prescribed by the Secretary of the Interior. The name of the act is misleading, as it actually covers almost all birds native to the United States, even those that are non-migratory. The FMBTA 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 FMBTA (Section 3513), as well as any other native non-game bird (Section 3800).

3.2.4 Birds of Prey

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

3.2.5 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. Jurisdictional waters generally include:

- All waters which are currently used, or were used in the past, or may be susceptible to use in interstate or foreign commerce, including all waters which are subject to the ebb and flow of the tide;
- All interstate waters including interstate wetlands;
- All other waters such as intrastate lakes, rivers, streams (including intermittent streams), mudflats, sandflats, wetlands, sloughs, prairie potholes, wet meadows, playa lakes, or natural ponds, the use, degradation or destruction of which could affect interstate or foreign commerce;
- All impoundments of waters otherwise defined as waters of the United States under the definition;
- Tributaries of waters identified in paragraphs (a)(1)-(4) (i.e. the bulleted items above).

As determined by the United States Supreme Court in its 2001 *Solid Waste Agency of Northern Cook County v. U.S. Army Corps of Engineers* (SWANCC) decision, channels and wetlands isolated from other jurisdictional waters cannot be considered jurisdictional on the basis of their use, hypothetical or observed, by migratory birds. Similarly, in its 2006 consolidated *Carabell/Rapanos* decision, the U.S. Supreme Court ruled that a significant nexus between a wetland and other navigable waters must exist for the wetland itself to be considered a navigable and therefore jurisdictional water.

The USACE regulates the filling or grading of Waters of the U.S. under the authority of Section 404 of the Clean Water Act. The extent of jurisdiction within drainage channels is defined by “ordinary high water marks” on opposing channel banks. All activities that involve the discharge of dredge or fill material into Waters of the U.S. are subject to the permit requirements of the USACE. Such permits are typically issued on the condition that the applicant agrees to provide mitigation that result in no net loss of wetland functions or values. No permit can be issued until

the RWQCB issues a Section 401 Water Quality Certification (or waiver of such certification) verifying that the proposed activity will meet state water quality standards.

Under the Porter-Cologne Water Quality Control Act of 1969, the State Water Resources Control Board has regulatory authority to protect the water quality of all surface water and groundwater in the State of California (“Waters of the State”). Nine RWQCBs oversee water quality at the local and regional level. The RWQCB for a given region regulates discharges of fill or pollutants into Waters of the State through the issuance of various permits and orders. Discharges into Waters of the State that are also Waters of the U.S. require a Section 401 Water Quality Certification from the RWQCB as a prerequisite to obtaining certain federal permits, such as a Section 404 Clean Water Act permit. Discharges into all Waters of the State, even those that are not also Waters of the U.S., require Waste Discharge Requirements (WDRs), or waivers of WDRs, from the RWQCB. The RWQCB also administers the Construction Storm Water Program and the federal National Pollution Discharge Elimination System (NPDES) program. Projects that disturb one or more acres of soil must obtain a Construction General Permit under the Construction Storm Water Program. A prerequisite for this permit is the development of a Storm Water Pollution Prevention Plan (SWPPP) by a certified Qualified SWPPP Developer. Projects that discharge wastewater, storm water, or other pollutants into a Water of the U.S. may require a NPDES permit.

CDFW has jurisdiction over the bed and bank of natural drainages and lakes according to provisions of Section 1601 and 1602 of the California Fish and Game Code. Activities that may substantially modify such waters through the diversion or obstruction of their natural flow, change or use of any material from their bed or bank, or the deposition of debris require a Notification of Lake or Streambed Alteration. If CDFW determines that the activity may adversely affect fish and wildlife resources, a Lake or Streambed Alteration Agreement will be prepared. Such an agreement typically stipulates that certain measures will be implemented to protect the habitat values of the lake or drainage in question.

3.3. POTENTIALLY SIGNIFICANT PROJECT IMPACTS AND MITIGATIONS

As described in Section 1.0 of this report, the proposed project is the replacement of the water distribution system of the Soult's Tract, and the consolidation of the Soult's Tract's system with that

of the City of Tulare. The majority of the project area will experience temporary disturbance, as most of the proposed infrastructure will be installed underground. Permanent impacts will be limited to nine proposed fire hydrants to be installed within road rights-of-way.

The project will not result in any potentially significant impacts to biological resources. Mitigation is not warranted.

3.4 LESS THAN SIGNIFICANT PROJECT IMPACTS

3.4.1 Project Impacts to Special Status Plant Species

Potential Impacts. Ten special status plant species have been documented in the project vicinity (see Table 1). Nine of these plant species are considered absent from the project area due to past and ongoing disturbance, the absence of suitable habitat, and/or the project area's being situated outside of the elevational range of the species. Therefore, the proposed project would have no effect on individuals or regional populations of these special status plant species.

Although the project area contains marginally suitable habitat for Sanford's arrowhead within the Lemos Ditch, project activities will impact the ditch minimally. The Lemos Ditch will experience temporary disturbance only where a pipe will be installed underneath an existing culvert at Road 84/Enterprise Street.

Mitigation. Mitigation measures are not warranted.

3.4.2 Project Impacts to Special Status Animal Species Absent from, or Unlikely to Occur within, the Project Area

Potential Impacts. Fourteen regionally occurring special status animal species are considered absent or unlikely to occur within the project area due to past and ongoing disturbance of the project area and surrounding lands, the absence of suitable habitat, and/or the project area's being situated outside of the species' known distribution. These comprise the vernal pool fairy shrimp (*Branchinecta lynchi*), vernal pool tadpole shrimp (*Lepidurus packardi*), Delta smelt (*Hypomesus transpacificus*), California red-legged frog (*Rana aurora draytonii*), California tiger salamander (*Ambystoma californiense*), blunt-nosed leopard lizard (*Gambelia silus*), giant garter snake (*Thamnophis gigas*), western yellow-billed cuckoo (*Coccyzus americanus occidentalis*), Tipton

kangaroo rat (*Dipodomys nitratoides nitratoides*), San Joaquin kit fox (*Vulpes macrotis mutica*), western spadefoot (*Spea hammondi*), western pond turtle (*Actinemys marmorata*), northern California legless lizard (*Anniella pulchra*), and burrowing owl (see Table 1). The project would have no effect on the remaining 13 species through construction mortality or loss of habitat because there is little or no likelihood that they are present.

Mitigation. Mitigation is not warranted.

3.4.3 Potential Project Impacts to Nesting Migratory Birds and Raptors including the Swainson's Hawk

Potential Impacts. Although the project area would be of relatively low value for nesting birds, certain disturbance-tolerant birds protected under the FMBTA could be expected to nest on-site. For example, the killdeer may nest on bare dirt or gravel surfaces of the road rights-of-way, and the mourning dove may nest in ground vegetation within the mowed field. The ornamental trees and shrubs associated with the residences could be used by a number of common species including the American robin and northern mockingbird, and the buildings could be used by the black phoebe or house finch. Other trees and shrubs located within and adjacent to the project area represent potential nesting habitat for migratory birds and raptors. However, because the project will be constructed between September 1 and January 31, outside of the nesting season, there is no potential for nesting birds or raptors, including Swainson's hawk, to be affected by the project.

The project will not result in the loss of potential nesting or foraging habitat for special status avian species. If Swainson's hawks were to forage in the project area's mowed field, their foraging activities may be temporarily disturbed by construction activities on the adjacent Haven Street, however, no direct impacts are proposed for the field. After construction, this field is expected to have equivalent Swainson's hawk foraging value as under existing conditions. Loss of habitat for special status birds is not a significant impact of the project under CEQA and NEPA.

Mitigation. Mitigation is not warranted.

3.4.4 Project Impacts to the Tricolored Blackbird and Mountain Plover

Potential Impacts. The tricolored blackbird (*Agelaius tricolor*) and mountain plover (*Charadrius montanus*) both have the potential to forage in the project area's mowed field from time to time, but would not nest on site. Tricolored blackbirds and mountain plovers would not be at risk of construction-related injury or mortality because they are highly mobile while foraging, and would be expected to simply fly away from construction disturbance. Although the mowed field on the project area may be temporarily unavailable to foraging blackbirds during pipeline installation on the adjacent Haven Street, it will experience no permanent project-related impacts. Tricolored blackbird and mountain plover individuals and local populations would not be affected by this or any other component of the project, and potential project impacts to this species are considered less than significant under CEQA and NEPA.

Mitigation. Mitigation is not warranted.

3.4.5 Project Impacts to Roosting Bats

Potential Impacts. Habitat potentially suitable for roosting by the western mastiff bat (*Eumops perotis* spp. *californicus*), a California Species of Special Concern, and other native bat species occurs in the trees and/or buildings of the on-site residential area. However, no trees or buildings will be removed under the current project design. Roosting bats do not have the potential to be injured or killed as a result of project activities, and project impacts to roosting bats are considered less than significant under CEQA and NEPA.

Mitigation. Mitigation is not warranted.

3.4.6 Project Impacts to Wildlife Movement Corridors

Potential Impacts. The project area does not contain features likely to function as a wildlife movement corridor. The project will have no effect on the Pacific flyway; birds using the flyway will continue to do so during and following project development.

Mitigation. The project will have no effect on wildlife movement corridors. Mitigation is not warranted.

3.4.7 Project Impacts to Critical Habitat

Potential Impacts. The project will have no effect on designated critical habitat because critical habitat is absent from the project area and adjacent lands.

Mitigation. Mitigation is not warranted.

3.4.8 Potential Project Impacts to Waters of the U.S.

Potential Impacts. As discussed in Section 2.6, the project area contains a short segment of the Lemos Ditch, an artificial waterway operated by TID. For the reasons discussed, this ditch is not likely to be claimed by the USACE. Moreover, the project will impact the ditch minimally. In coordination with TID, construction will take place outside of the irrigation season to avoid disrupting the water conveyance of the ditch. Where the proposed water main crosses the ditch along Road 84/Enterprise Street, the pipeline will be installed across the ditch using an open-cut trench with the proposed pipe going underneath the existing culvert. The culvert will be supported and all construction will be completed per standard TID requirements. Proposed impacts within the channel will encompass an area of no more than 200 ft². Because of the limited extent and duration of proposed impacts to the Lemos Ditch, and because the ditch is unlikely to fall under the jurisdiction of the USACE, project impacts to Waters of the U.S. are considered less than significant under CEQA and NEPA.

Mitigation. No mitigation is warranted.

3.4.9 Local Policies or Habitat Conservation Plans

Potential Impacts. Proposed project design is consistent with the goals and policies of the Tulare County General Plan.

Mitigation. No mitigation is required.

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APPENDIX A: VASCULAR PLANTS OF THE PROJECT AREA

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APPENDIX A: VASCULAR PLANTS OF THE PROJECT AREA

The plant species listed below were observed within or adjacent to the project area by LOA during a field survey conducted on January 13, 2018. The U.S. Fish and Wildlife Service wetland indicator status of each plant has been shown following its common name.

OBL - Obligate
 FACW - Facultative Wetland
 FAC - Facultative
 FACU - Facultative Upland
 UPL - Upland

AGAVACEAE—Century-Plant Family		
<i>Yucca harrimaniae</i>	Spanish bayonet	UPL
AMARANTHACEAE—Amaranth Family		
<i>Amaranthus palmeri</i>	Palmer’s amaranth	FACU
ARECACEAE—Palm Family		
<i>Washingtonia filifera</i>	California fan palm	FAC
ASTERACEAE – Sunflower Family		
<i>Erigeron bonariensis</i>	asthmaweed	FACU
<i>Helianthus annuus</i>	common sunflower	FACU
BRASSICACEAE – Mustard Family		
<i>Sisymbrium irio</i>	London rocket	UPL
CUPRESSACEAE—Cypress Family		
<i>Cupressus sempervirens</i>	Italian cypress	UPL
CYCADACEAE—Cycad Family		
<i>Cycas revoluta</i>	sago palm	UPL
HAMAMELIDACEAE—Witch-Hazel Family		
<i>Liquidambar styraciflua</i>	sweetgum	FAC
MALVACEAE – Mallow Family		
<i>Malva</i> sp.	mallow	UPL
MORACEAE—Mulberry Family		
<i>Morus alba</i>	white mulberry	FACU
MYRTACEAE—Myrtle Family		
<i>Eucalyptus</i> sp.	gum	
OLEACEAE—Olive Family		
<i>Fraxinus</i> sp.	ash	
PINACEAE—Pine Family		
<i>Pinus canariensis</i>	Canary Island pine	UPL
POACEAE – Grass Family		
<i>Cynodon dactylon</i>	Bermuda grass	FACU
<i>Hordeum murinum</i> ssp. <i>leporinum</i>	foxtail barley	FACU
<i>Leptochloa</i> sp.	sprangletop	FACW
<i>Poa annua</i>	annual bluegrass	FAC
POLYGONACEAE – Buckwheat Family		
<i>Rumex crispus</i>	curly dock	FACW

PUNICACEAE—Pomegranate Family

Punica granatum

pomegranate

UPL

RUTACEAE—Rue Family

Citrus sp.

citrus

SALICACEAE—Willow Family

Salix babylonica

weeping willow

FAC

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**APPENDIX B: TERRESTRIAL VERTEBRATE SPECIES THAT POTENTIALLY
OCCUR WITHIN THE PROJECT AREA**

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APPENDIX B: TERRESTRIAL VERTEBRATE SPECIES THAT POTENTIALLY OCCUR WITHIN THE PROJECT AREA

The species listed below are those that may reasonably be expected to use the habitats of the project area routinely or from time to time. The list was not intended to include birds that are vagrants or occasional transients. Terrestrial vertebrate species observed in or adjacent to the project area by LOA on January 13, 2018 have been noted with an asterisk.

CLASS: AMPHIBIA

ORDER: ANURA (Frogs and Toads)

FAMILY: BUFONIDAE (True Toads)

Western Toad (*Bufo boreas*)

FAMILY: HYLIDAE (Treefrogs and Relatives)

Pacific Tree Frog (*Pseudacris regilla*)

FAMILY: RANIDAE (True Frogs)

American bullfrog (*Lithobates catesbeianus*)

CLASS: REPTILIA

ORDER: SQUAMATA (Lizards and Snakes)

SUBORDER: SAURIA (Lizards)

FAMILY: PHRYNOSOMATIDAE

Western Fence Lizard (*Sceloporus occidentalis*)

Side Blotched Lizard (*Uta stansburiana*)

FAMILY: TEIIDAE (Whiptails and relatives)

Western Whiptail (*Cnemidophorus tigris*)

SUBORDER: SERPENTES (Snakes)

FAMILY: COLUBRIDAE (Colubrids)

Pacific Gopher Snake (*Pituophis melanoleucus*)

Common Kingsnake (*Lampropeltis getula*)

FAMILY: VIPERIDAE (Vipers)

Western Rattlesnake (*Crotalus viridis*)

CLASS: AVES

ORDER: CICONIIFORMES (Hérons, Storks, Ibises and Relatives)

FAMILY: ARDEIDAE (Bitterns, Herons, and Egrets)

Great Blue Heron (*Ardea herodias*)

Great Egret (*Ardea alba*)

Snowy Egret (*Egretta thula*)

Cattle Egret (*Bubulcus ibis*)

FAMILY: CATHARTIDAE (New World Vultures)

Turkey Vulture (*Cathartes aura*)

ORDER: FALCONIFORMES (Vultures, Hawks, and Falcons)

FAMILY: ACCIPITRIDAE (Hawks, Old World Vultures, and Harriers)

*Red-tailed Hawk (*Buteo jamaicensis*)

Red-shouldered Hawk (*Buteo lineatus*)

FAMILY: FALCONIDAE (Caracaras and Falcons)

American Kestrel (*Falco sparverius*)

ORDER: GALLIFORMES (Megapodes, Currassows, Pheasants, and Relatives)

FAMILY: ODONTOPHORIDAE (New World Quails)
 California Quail (*Callipepla californica*)

ORDER: GRUIFORMES (Cranes and Rails)
FAMILY: RALLIDAE (Rails, Gallinules, and Coots)
 American Coot (*Fulica americana*)

ORDER: CHARADRIIFORMES (Shorebirds, Gulls, and relatives)
FAMILY: CHARADRIIDAE (Plovers and relatives)
 Killdeer (*Charadrius vociferus*)

FAMILY: RECURVIROSTRIDAE (Stilts and Avocets)
 Black-necked Stilt (*Himantopus mexicanus*)

FAMILY: SCOLOPACIDAE (Sandpipers and Allies)
 Greater Yellowlegs (*Tringa melanoleuca*)
 Lesser Yellowlegs (*Tringa flavipes*)
 Least Sandpiper (*Calidris minutilla*)

ORDER: COLUMBIFORMES (Pigeons and Doves)
FAMILY: COLUMBIDAE (Pigeons and Doves)
 Rock Pigeon (*Columba livia*)
 *Mourning Dove (*Zenaida macroura*)
 Eurasian Collared Dove (*Streptopelia decaocto*)

ORDER: STRIGIFORMES (Owls)
FAMILY: TYTONIDAE (Barn Owls)
 Barn Owl (*Tyto alba*)

FAMILY: STRIGIDAE (Typical Owls)
 Great Horned Owl (*Bubo virginianus*)

ORDER: APODIFORMES (Swifts and Hummingbirds)
FAMILY: TROCHILIDAE (Hummingbirds)
 Black-chinned Hummingbird (*Archilochus alexandri*)
 Anna's Hummingbird (*Calypte anna*)

ORDER: PASSERIFORMES (Perching Birds)
FAMILY: TYRANNIDAE (Tyrant Flycatchers)
 Black Phoebe (*Sayornis nigricans*)
 Say's Phoebe (*Sayornis saya*)
 Western Kingbird (*Tyrannus verticalis*)

FAMILY: CORVIDAE (Jays, Magpies, and Crows)
 Western Scrub Jay (*Aphelocoma coerulescens*)
 American Crow (*Corvus brachyrhynchos*)
 *Common Raven (*Corvus corax*)

FAMILY: ALAUDIDAE (Larks)
 Horned Lark (*Eremophila alpestris*)

FAMILY: HIRUNDINIDAE (Swallows)
 Cliff Swallow (*Petrochelidon pyrrhonota*)
 Barn Swallow (*Hirundo rustica*)

FAMILY: TROGLODYTIDAE (Wrens)
 House Wren (*Troglodytes aedon*)

FAMILY: TURDIDAE (Thrushes)
 Western Bluebird (*Sialia mexicana*)

American Robin (*Turdus migratorius*)

FAMILY: MIMIDAE (Mockingbirds and Thrashers)

Northern Mockingbird (*Mimus polyglottos*)

FAMILY: STURNIDAE (Starlings and Allies)

*European Starling (*Sturnus vulgaris*)

FAMILY: MOTACILLIDAE (Wagtails and Pipits)

American Pipit (*Anthus rubescens*)

FAMILY: EMBERIZIDAE (Emberizines)

Savannah Sparrow (*Passerculus sandwichensis*)

*White-crowned Sparrow (*Zonotrichia leucophrys*)

FAMILY: ICTERIDAE (Blackbirds, Orioles and Allies)

Western Meadowlark (*Sturnella neglecta*)

Brewer's Blackbird (*Euphagus cyanocephalus*)

Brown-headed Cowbird (*Molothrus ater*)

FAMILY: FRINGILLIDAE (Finches)

House Finch (*Carpodacus mexicanus*)

Lesser Goldfinch (*Carduelis psaltria*)

FAMILY: PASSERIDAE (Old World Sparrows)

*House Sparrow (*Passer domesticus*)

ORDER: PICIFORMES (Woodpeckers and relatives)

FAMILY: PICIDAE (Woodpeckers)

Northern Flicker (*Colaptes auratus*)

CLASS: MAMMALIA

ORDER: DIDELPHIMORPHIA (Marsupials)

FAMILY: DIDELPHIDAE (Opossums)

Virginia Opossum (*Didelphis virginiana*)

ORDER: INSECTIVORA (Shrews and Moles)

FAMILY: TALPIDAE (Moles)

Broad-footed Mole (*Scapanus latimanus*)

ORDER: CHIROPTERA (Bats)

FAMILY: VESPERTILIONIDAE (Vespertilionid Bats)

Yuma Myotis (*Myotis yumanensis*)

California Myotis (*Myotis californicus*)

Western Pipistrelle (*Pipistrellus hesperus*)

Big Brown Bat (*Eptesicus fuscus*)

Pale Big-eared Bat (*Corynorhinus townsendii pallescens*)

FAMILY: MOLOSSIDAE (Free-tailed Bat)

Brazilian Free-tailed Bat (*Tadarida brasiliensis*)

Western Mastiff Bat (*Eumops perotis*)

ORDER: LAGOMORPHA (Rabbits, Hares, and Pikas)

FAMILY: LEPORIDAE (Rabbits and Hares)

Desert Cottontail (*Sylvilagus audubonii*)

ORDER: RODENTIA (Rodents)

FAMILY: SCIURIDAE (Squirrels, Chipmunks, and Marmots)

California Ground Squirrel (*Otospermophilus beecheyi*)

FAMILY: GEOMYIDAE (Pocket Gophers)

Botta's Pocket Gopher (*Thomomys bottae*)

FAMILY: MURIDAE (Mice, Rats and Voles)

Western Harvest Mouse (*Reithrodontomys megalotis*)

Deer Mouse (*Peromyscus maniculatus*)

Norway Rat (*Rattus norvegicus*)

House Mouse (*Mus musculus*)

California Vole (*Microtus californicus*)

FAMILY: HETEROMYIDAE (Kangaroo Rats)

Heermann's Kangaroo Rat (*Dipodomys heermanni*)

ORDER: CARNIVORA (Carnivores)

FAMILY: CANIDAE (Foxes, Wolves, and Relatives)

Coyote (*Canis latrans*)

*Domestic Dog (*Canis lupus familiaris*)

Red Fox (*Vulpes vulpes*)

FAMILY: PROCYONIDAE (Raccoons and Relatives)

Raccoon (*Procyon lotor*)

FAMILY: MUSTELIDAE (Weasels and Relatives)

Striped Skunk (*Mephitis mephitis*)

FAMILY: FELIDAE (Cats)

*Feral Cat (*Felis catus*)

APPENDIX C: SELECTED PHOTOGRAPHS OF THE PROJECT AREA

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Photo 1 (above): Residential development along proposed water line in West Crescent Drive. **Photo 2 (below):** Looking north at the mowed field adjacent to Haven Street.





Photo 3 (above): Looking south at the mowed field adjacent to Haven Street. **Photo 4 (below):** Patchy non-native annual vegetation between Lemos Ditch and mowed field is shown in the foreground, and the adjacent orchard is shown in the background.





Photo 5 (above): Small mammal burrows within the mowed field of the project area. **Photo 6 (below):** Looking west at the Lemos Ditch.





Photo 7 (above): Looking southwest at residences along West Souls Avenue and the adjacent orchard.
Photo 8 (below): Looking east along State Route 137/West Inyo Avenue at the ruderal field adjacent to the proposed water main comprising the second point of connection.





Photo 9: Looking south along Road 84/Enterprise Street at the tilled field adjacent to the proposed water main comprising the third point of connection.

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APPENDIX D: U.S. FISH AND WILDLIFE SERVICE SPECIES LIST

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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:

January 26, 2018

Consultation Code: 08ESMF00-2018-SLI-1009

Event Code: 08ESMF00-2018-E-02957

Project Name: Soults Mutual Water Company Water System Improvement Project

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

To Whom It May Concern:

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

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

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

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

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

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

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

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

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

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

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

Attachment(s):

- Official Species List

Official Species List

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

This species list is provided by:

Sacramento Fish And Wildlife Office

Federal Building

2800 Cottage Way, Room W-2605

Sacramento, CA 95825-1846

(916) 414-6600

Project Summary

Consultation Code: 08ESMF00-2018-SLI-1009

Event Code: 08ESMF00-2018-E-02957

Project Name: Soults Mutual Water Company Water System Improvement Project

Project Type: WATER SUPPLY / DELIVERY

Project Description: Update project area

Project Location:

Approximate location of the project can be viewed in Google Maps: <https://www.google.com/maps/place/36.20131242514372N119.38110594496618W>



Counties: Tulare, CA

Endangered Species Act Species

There is a total of 9 threatened, endangered, or candidate species on this species list. Species on this list should be considered in an effects analysis for your project and could include species that exist in another geographic area. For example, certain fish may appear on the species list because a project could affect downstream species. 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.

Mammals

NAME	STATUS
San Joaquin Kit Fox <i>Vulpes macrotis mutica</i> No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/2873	Endangered
Tipton Kangaroo Rat <i>Dipodomys nitratoides nitratoides</i> 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 <i>Gambelia silus</i> No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/625	Endangered
Giant Garter Snake <i>Thamnophis gigas</i> 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 <i>Rana draytonii</i> There is final critical habitat for this species. Your location is outside the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/2891	Threatened
California Tiger Salamander <i>Ambystoma californiense</i> Population: U.S.A. (Central CA DPS) There is final critical habitat for this species. Your location is outside the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/2076	Threatened

Fishes

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

Crustaceans

NAME	STATUS
Vernal Pool Fairy Shrimp <i>Branchinecta lynchi</i> There is final critical habitat for this species. Your location is outside the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/498	Threatened

Flowering Plants

NAME	STATUS
San Joaquin Adobe Sunburst <i>Pseudobahia peirsonii</i> No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/2931	Threatened

Critical habitats

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

APPENDIX E: TULARE COUNTY GENERAL PLAN POLICIES

DRAFT

8. Environmental Resources Management

the assurance of rail transport for commodities such as grain, row crops, and fruit, a number of farming colonies soon appeared throughout the region.

The colonies grew to become cities such as Tulare, Visalia, Porterville, and Hanford. Visalia, the County seat, became the service, processing, and distribution center for the growing number of farms, dairies, and cattle ranches. By 1900, Tulare County boasted a population of about 18,000. New transportation links such as SR 99 (completed during the 1950s), affordable housing, light industry, and agricultural commerce brought steady growth to the valley. The U.S. Census Bureau estimated the 2003 Tulare County population to be 390,791.

8.1 Biological Resources

ERM-1

To preserve and protect sensitive significant habitats, enhance biodiversity, and promote healthy ecosystems throughout the County.
[New Goal]

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. [New Policy based on ERME IV-C; Biological Resources; Issue 12, and ERME; Pg 32]

ERM-1.2 Development in Environmentally Sensitive Areas

The County shall limit or modify proposed development within areas that contain sensitive habitat for special status species and direct development into less significant habitat areas. Development in natural habitats shall be controlled so as to minimize erosion and maximize beneficial vegetative growth. [New Policy based on EMRE; Water; Issue 3; Recommendation 3, ERME; Pg 28]

ERM-1.3 Encourage Cluster Development

When reviewing development proposals, the County shall encourage cluster development in

areas with moderate to high potential for sensitive habitat. [New Policy]

ERM-1.4 Protect Riparian Areas

The County shall protect riparian areas through habitat preservation, designation as open space or recreational land uses, bank stabilization, and development controls. [New Policy]

ERM-1.5 Riparian Management Plans and Mining Reclamation Plans

The County shall require mining reclamation plans and other management plans include measures to protect, maintain and restore riparian resources and habitats. [New Policy]

ERM-1.6 Management of Wetlands

The County shall support the preservation and management of wetland and riparian plant communities for passive recreation, groundwater recharge, and wildlife habitats. [New Policy]

ERM-1.7 Planting of Native Vegetation

The County shall encourage the planting of native trees, shrubs, and grasslands in order to preserve the visual integrity of the landscape, provide habitat conditions suitable for native vegetation and wildlife, and ensure that a maximum number and variety of well-adapted plants are maintained. [New Policy]

ERM-1.8 Open Space Buffers

The County shall require buffer areas between development projects and significant watercourses, riparian vegetation, wetlands, and other sensitive habitats and natural communities. These buffers should be sufficient to assure the continued existence of the waterways and riparian habitat in their natural state. [New Policy based on EMRE policies]

ERM-1.9 Coordination of Management on Adjacent Lands

The County shall work with other government land management agencies (such as the Bureau of Land Management, US Forest Service, National Park Service) to preserve and protect biological resources while maintaining the ability to utilize and enjoy the natural resources in the County. [New Policy]

ERM-1.10 Appropriate Access for Recreation

The County shall encourage appropriate access to resource-managed lands. *[New Policy]*

ERM-1.11 Hunting and Fishing

The County shall provide opportunities for hunting and fishing activities within the County pursuant to appropriate regulations of the California Fish & Game Code. *[New Policy]*

ERM-1.12 Management of Oak Woodland Communities

The County shall support the conservation and management of oak woodland communities and their habitats. *[New Policy]*

ERM-1.13 Pesticides

The Tulare County Agricultural Commissioner/Sealer will cooperate with State and federal agencies in evaluating the side effects of new materials and techniques in pesticide controls to limit effects on natural resources. *[ERME IV-C; Pesticides; Recommendation 1] [ERME; Pg 131, Modified]*

ERM-1.14, Mitigation and Conservation Banking Program

The County shall support the establishment and administration of a mitigation banking program, including working cooperatively with TCAG, federal, State, not-for-profit and other agencies and groups to evaluate and identify appropriate lands for protection and recovery of threatened and endangered species impacted during the land development process. *[New Policy]*

8.2 Mineral Resources - Surface Mining

ERM-2

To conserve protect and encourage the development of areas containing mineral deposits while considering values relating to water resources, air quality, agriculture, traffic, biotic, recreation, aesthetic enjoyment, and other public interest values. *[New Goal based on MRPAC June 28, 2006]*

ERM-2.1 Conserve Mineral Deposits

Emphasize the conservation of identified and/or potential mineral deposits, recognizing the need for identifying, permitting, and maintaining a 50 year supply of locally available PCC grade aggregate. *[MRPAC June 28, 2006]*

ERM-2.2 Recognize Mineral Deposits

Recognize as a part of the General Plan those areas which have identified and/or potential mineral deposits. *[MRPAC June 28, 2006]*

ERM-2.3 Future Resource Development

Provide for the conservation of identified and/or potential mineral deposits within Tulare County as areas for future resource development. Recognize that mineral deposits are significantly limited within Tulare County and that they play an important role in support of the economy of the County. *[MRPAC June 28, 2006]*

ERM-2.4 Identify New Resources

Encourage exploration, evaluation, identification, and development of previously unrecognized but potentially significant hard rock resources for production of crushed stone aggregate. *[MRPAC June 28, 2006]*

ERM-2.5 Resources Development

The County will promote the responsible development of identified and/or potential mineral deposits. *[MRPAC June 28, 2006]*

ERM-2.6 Streamline Process

Create a streamlined and timely permitting process for the mining industry, which will help encourage long-range planning and the reasonable amortization of investments. *[MRPAC June 28, 2006]*

ERM-2.8 Minimize Adverse Impacts

Minimize the adverse effects on environmental features such as water quality and quantity, air quality, flood plains, geophysical characteristics, biotic, archaeological and aesthetic factors. *[MRPAC June 28, 2006]*

8. Environmental Resources Management

ERM-2.9 Minimize Hazards and Nuisances

Minimize the hazards and nuisances to persons and properties in the area during extraction, processing and reclamation operations. [MRPAC June 28, 2006]

ERM-2.10 Compatibility

Develop mineral deposits in a manner compatible with surrounding land uses. [MRPAC June 28, 2006]

ERM-2.11 Incompatible Development

Proposed incompatible land uses shall not be on lands containing, or adjacent to identified mineral deposits, or along key access roads, unless adequate mitigation measures are adopted or a statement of overriding considerations stating public benefits and overriding reasons for permitting the proposed use are adopted. [MRPAC June 28, 2006]

ERM-2.12 Conditions of Approval

Procedures shall be established to ensure compliance with conditions of approval on all active and idle mines. [MRPAC June 28, 2006]

ERM-2.13 Approved Limits

Procedures shall be established to ensure that vested interest mining operations remain within their approved area and/or production limits. [MRPAC June 28, 2006]

ERM-2.14 SMARA Requirements

All surface mines, unless otherwise exempted, shall be subject to reclamation plans that meet SMARA requirements. Reclamation procedures shall restore the site for future beneficial use of the land. Mine reclamation costs shall be borne by the mine operator, and guaranteed by financial assurances set aside for restoration procedures. [MRPAC June 28, 2006]

8.3 Mineral Resources

ERM-3

To protect the current and future extraction of mineral resources that are important to the County's economy while minimizing impacts of this use on the public and the environment. [ERME IV-B; Land; Issue 8] [ERME; Pg 30, Modified]

ERM-3.1 Environmental Contamination

All mining operations shall be required to take precautions to avoid contamination from wastes or incidents related to the storage and disposal of hazardous materials, or general operating activity at the site. [New Policy]

ERM-3.2 Limited In-City Mining

Within UDBs, new commercial mining operations should be limited due to environmental and compatibility concerns. [New Policy]

ERM-3.3 Small-Scale Oil and Gas Extraction

The County shall permit by special use permit small-scale oil and gas extraction activities and facilities that can be demonstrated to not have a significant adverse effect on surrounding or adjacent land and are within an established oil and gas field outside of a UDB. [New Policy]

ERM-3.4 Oil and Gas Extraction

Facilities related to oil and gas extraction and processing may be allowed in identified oil and gas fields subject to a special use permit. The extraction shall demonstrate that it will be compatible with surrounding land uses and land use designations. [New Policy]

ERM-3.5 Reclamation of Oil and Gas Sites

The County shall require the timely reclamation of oil and gas development sites upon termination of such activities to facilitate the conversion of the land to its primary land use as designated by the General Plan. Reclamation costs shall be borne by the mine operator, and guaranteed by financial assurances set aside for restoration procedures. [New Policy, MRPAC Goals, Policies, Implementation Measures, and Development Standards, Goal F and associated policies]

8.4 Energy Resources

ERM-4

To encourage energy conservation in new and existing developments throughout the County. [New Goal]

ERM-4.1 Energy Conservation and Efficiency Measures

The County shall encourage the use of solar energy, solar hot water panels, and other energy conservation and efficiency features in new

**APPENDIX F: U.S. FISH AND WILDLIFE SERVICE 2011 STANDARDIZED
RECOMMENDATIONS FOR THE PROTECTION OF THE ENDANGERED SAN
JOAQUIN KIT FOX PRIOR TO OR DURING GROUND DISTURBANCE**

DRAFT

**U.S. FISH AND WILDLIFE SERVICE
STANDARDIZED RECOMMENDATIONS
FOR PROTECTION OF THE ENDANGERED SAN JOAQUIN KIT FOX
PRIOR TO OR DURING GROUND DISTURBANCE**

Prepared by the Sacramento Fish and Wildlife Office
January 2011

INTRODUCTION

The following document includes many of the San Joaquin kit fox (*Vulpes macrotis mutica*) protection measures typically recommended by the U. S. Fish and Wildlife Service (Service), prior to and during ground disturbance activities. **However, incorporating relevant sections of these guidelines into the proposed project is not the only action required under the Endangered Species Act of 1973, as amended (Act) and does not preclude the need for section 7 consultation or a section 10 incidental take permit for the proposed project.** Project applicants should contact the Service in Sacramento to determine the full range of requirements that apply to your project; the address and telephone number are given at the end of this document. Implementation of the measures presented in this document may be necessary to avoid violating the provisions of the Act, including the prohibition against "take" (defined as killing, harming, or harassing a listed species, including actions that damage or destroy its habitat). These protection measures may also be required under the terms of a biological opinion pursuant to section 7 of the Act resulting in incidental take authorization (authorization), or an incidental take permit (permit) pursuant to section 10 of the Act. The specific measures implemented to protect kit fox for any given project shall be determined by the Service based upon the applicant's consultation with the Service.

The purpose of this document is to make information on kit fox protection strategies readily available and to help standardize the methods and definitions currently employed to achieve kit fox protection. The measures outlined in this document are subject to modification or revision at the discretion of the Service.

IS A PERMIT NECESSARY?

Certain acts need a permit from the Service which includes destruction of any known (occupied or unoccupied) or natal/pupping kit fox dens. Determination of the presence or absence of kit foxes and /or their dens should be made during the environmental review process.

All surveys and monitoring described in this document must be conducted by a qualified biologist and these activities do not require a permit. A qualified biologist (biologist) means any person who has completed at least four years of university training in wildlife biology or a related science and/or has demonstrated field experience in the identification and life history of the San Joaquin kit fox. In addition, the biologist(s) must be able to identify coyote, red fox,

gray fox, and kit fox tracks, and to have seen a kit fox in the wild, at a zoo, or as a museum mount. Resumes of biologists should be submitted to the Service for review and approval prior to any survey or monitoring work occurring.

SMALL PROJECTS

Small projects are considered to be those projects with small foot prints, of approximately one acre or less, such as an individual in-fill oil well, communication tower, or bridge repairs. These projects must stand alone and not be part of, or in any way connected to larger projects (i.e., bridge repair or improvement to serve a future urban development). The Service recommends that on these small projects, the biologist survey the proposed project boundary and a 200-foot area outside of the project footprint to identify habitat features and utilize this information as guidance to situate the project to minimize or avoid impacts. If habitat features cannot be completely avoided, then surveys should be conducted and the Service should be contacted for technical assistance to determine the extent of possible take.

Preconstruction/preactivity surveys shall be conducted no less than 14 days and no more than 30 days prior to the beginning of ground disturbance and/or construction activities or any project activity likely to impact the San Joaquin kit fox. Kit foxes change dens four or five times during the summer months, and change natal dens one or two times per month (Morrell 1972). Surveys should identify kit fox habitat features on the project site and evaluate use by kit fox and, if possible, assess the potential impacts to the kit fox by the proposed activity. The status of all dens should be determined and mapped (see Survey Protocol). Written results of preconstruction/preactivity surveys must be received by the Service within five days after survey completion and prior to the start of ground disturbance and/or construction activities.

If a natal/pupping den is discovered within the project area or within 200-feet of the project boundary, the Service shall be immediately notified and under no circumstances should the den be disturbed or destroyed without prior authorization. If the preconstruction/preactivity survey reveals an active natal pupping or new information, the project applicant should contact the Service immediately to obtain the necessary take authorization/permit.

If the take authorization/permit has already been issued, then the biologist may proceed with den destruction within the project boundary, except natal/pupping den which may not be destroyed while occupied. A take authorization/permit is required to destroy these dens even after they are vacated. Protective exclusion zones can be placed around all known and potential dens which occur outside the project footprint (conversely, the project boundary can be demarcated, see den destruction section).

OTHER PROJECTS

It is likely that all other projects occurring within kit fox habitat will require a take authorization/permit from the Service. This determination would be made by the Service during the early evaluation process (see Survey Protocol). These other projects would include, but are not limited to: Linear projects; projects with large footprints such as urban development; and projects which in themselves may be small but have far reaching impacts (i.e., water storage or conveyance facilities that promote urban growth or agriculture, etc.).

The take authorization/permit issued by the Service may incorporate some or all of the protection measures presented in this document. The take authorization/permit may include measures specific to the needs of the project and those requirements supersede any requirements found in this document.

EXCLUSION ZONES

In order to avoid impacts, construction activities must avoid their dens. The configuration of exclusion zones around the kit fox dens should have a radius measured outward from the entrance or cluster of entrances due to the length of dens underground. The following distances are **minimums**, and if they cannot be followed the Service must be contacted. Adult and pup kit foxes are known to sometimes rest and play near the den entrance in the afternoon, but most above-ground activities begin near sunset and continue sporadically throughout the night. Den definitions are attached as Exhibit A.

Potential den**	50 feet
Atypical den**	50 feet
Known den*	100 feet
Natal/pupping den (occupied <u>and</u> unoccupied)	Service must be contacted

***Known den:** To ensure protection, the exclusion zone should be demarcated by fencing that encircles each den at the appropriate distance and does not prevent access to the den by kit foxes. Acceptable fencing includes untreated wood particle-board, silt fencing, orange construction fencing or other fencing as approved by the Service as long as it has openings for kit fox ingress/egress and keeps humans and equipment out. Exclusion zone fencing should be maintained until all construction related or operational disturbances have been terminated. At that time, all fencing shall be removed to avoid attracting subsequent attention to the dens.

****Potential and Atypical dens:** Placement of 4-5 flagged stakes 50 feet from the den entrance(s) will suffice to identify the den location; fencing will not be required, but the exclusion zone must be observed.

Only essential vehicle operation on existing roads and foot traffic should be permitted. Otherwise, all construction, vehicle operation, material storage, or any other type of surface-disturbing activity should be prohibited or greatly restricted within the exclusion zones.

DESTRUCTION OF DENS

Limited destruction of kit fox dens may be allowed, if avoidance is not a reasonable alternative, provided the following procedures are observed. The value to kit foxes of potential, known, and natal/pupping dens differ and therefore, each den type needs a different level of protection.

Destruction of any known or natal/pupping kit fox den requires take authorization/permit from the Service.

Destruction of the den should be accomplished by careful excavation until it is certain that no kit foxes are inside. The den should be fully excavated, filled with dirt and compacted to ensure that kit foxes cannot reenter or use the den during the construction period. If at any point during excavation, a kit fox is discovered inside the den, the excavation activity shall cease immediately and monitoring of the den as described above should be resumed. Destruction of the den may be completed when in the judgment of the biologist, the animal has escaped, without further disturbance, from the partially destroyed den.

Natal/pupping dens: Natal or pupping dens which are occupied will not be destroyed until the pups and adults have vacated and then only after consultation with the Service. Therefore, project activities at some den sites may have to be postponed.

Known Dens: Known dens occurring within the footprint of the activity must be monitored for three days with tracking medium or an infra-red beam camera to determine the current use. If no kit fox activity is observed during this period, the den should be destroyed immediately to preclude subsequent use.

If kit fox activity is observed at the den during this period, the den should be monitored for at least five consecutive days from the time of the observation to allow any resident animal to move to another den during its normal activity. Use of the den can be discouraged during this period by partially plugging its entrances(s) with soil in such a manner that any resident animal can escape easily. Only when the den is determined to be unoccupied may the den be excavated under the direction of the biologist. If the animal is still present after five or more consecutive days of plugging and monitoring, the den may have to be excavated when, in the judgment of a biologist, it is temporarily vacant, for example during the animal's normal foraging activities.

The Service encourages hand excavation, but realizes that soil conditions may necessitate the use of excavating equipment. However, extreme caution must be exercised.

Potential Dens: If a take authorization/permit has been obtained from the Service, den destruction may proceed without monitoring, unless other restrictions were issued with the take authorization/permit. If no take authorization/permit has been issued, then potential dens should be monitored as if they were known dens. If any den was considered to be a potential den, but is later determined during monitoring or destruction to be currently, or previously used by kit fox (e.g., if kit fox sign is found inside), then all construction activities shall cease and the Service shall be notified immediately.

CONSTRUCTION AND ON-GOING OPERATIONAL REQUIREMENTS

Habitat subject to permanent and temporary construction disturbances and other types of ongoing project-related disturbance activities should be minimized by adhering to the following activities. Project designs should limit or cluster permanent project features to the smallest area possible while still permitting achievement of project goals. To minimize temporary disturbances, all project-related vehicle traffic should be restricted to established roads, construction areas, and other designated areas. These areas should also be included in preconstruction surveys and, to the extent possible, should be established in locations disturbed by previous activities to prevent further impacts.

1. Project-related vehicles should observe a daytime speed limit of 20-mph throughout the site in all project areas, except on county roads and State and Federal highways; this is particularly important at night when kit foxes are most active. Night-time construction should be minimized to the extent possible. However if it does occur, then the speed limit should be reduced to 10-mph. Off-road traffic outside of designated project areas should be prohibited.
2. To prevent inadvertent entrapment of kit foxes or other animals during the construction phase of a project, all excavated, steep-walled holes or trenches more than 2-feet deep should be covered at the close of each working day by plywood or similar materials. If the trenches cannot be closed, one or more escape ramps constructed of earthen-fill or wooden planks shall be installed. Before such holes or trenches are filled, they should be thoroughly inspected for trapped animals. If at any time a trapped or injured kit fox is discovered, the Service and the California Department of Fish and Game (CDFG) shall be contacted as noted under measure 13 referenced below.
3. Kit foxes are attracted to den-like structures such as pipes and may enter stored pipes and become trapped or injured. All construction pipes, culverts, or similar structures with a diameter of 4-inches or greater that are stored at a construction site for one or more overnight periods should be thoroughly inspected for kit foxes before the pipe is subsequently buried, capped, or otherwise used or moved in any way. If a kit fox is

- discovered inside a pipe, that section of pipe should not be moved until the Service has been consulted. If necessary, and under the direct supervision of the biologist, the pipe may be moved only once to remove it from the path of construction activity, until the fox has escaped.
4. All food-related trash items such as wrappers, cans, bottles, and food scraps should be disposed of in securely closed containers and removed at least once a week from a construction or project site.
 5. No firearms shall be allowed on the project site.
 6. No pets, such as dogs or cats, should be permitted on the project site to prevent harassment, mortality of kit foxes, or destruction of dens.
 7. Use of rodenticides and herbicides in project areas should be restricted. This is necessary to prevent primary or secondary poisoning of kit foxes and the depletion of prey populations on which they depend. All uses of such compounds should observe label and other restrictions mandated by the U.S. Environmental Protection Agency, California Department of Food and Agriculture, and other State and Federal legislation, as well as additional project-related restrictions deemed necessary by the Service. If rodent control must be conducted, zinc phosphide should be used because of a proven lower risk to kit fox.
 8. A representative shall be appointed by the project proponent who will be the contact source for any employee or contractor who might inadvertently kill or injure a kit fox or who finds a dead, injured or entrapped kit fox. The representative will be identified during the employee education program and their name and telephone number shall be provided to the Service.
 9. An employee education program should be conducted for any project that has anticipated impacts to kit fox or other endangered species. The program should consist of a brief presentation by persons knowledgeable in kit fox biology and legislative protection to explain endangered species concerns to contractors, their employees, and military and/or agency personnel involved in the project. The program should include the following: A description of the San Joaquin kit fox and its habitat needs; a report of the occurrence of kit fox in the project area; an explanation of the status of the species and its protection under the Endangered Species Act; and a list of measures being taken to reduce impacts to the species during project construction and implementation. A fact sheet conveying this information should be prepared for distribution to the previously referenced people and anyone else who may enter the project site.
 10. Upon completion of the project, all areas subject to temporary ground disturbances, including storage and staging areas, temporary roads, pipeline corridors, etc. should be

re-contoured if necessary, and revegetated to promote restoration of the area to pre-project conditions. An area subject to "temporary" disturbance means any area that is disturbed during the project, but after project completion will not be subject to further disturbance and has the potential to be revegetated. Appropriate methods and plant species used to revegetate such areas should be determined on a site-specific basis in consultation with the Service, California Department of Fish and Game (CDFG), and revegetation experts.

11. In the case of trapped animals, escape ramps or structures should be installed immediately to allow the animal(s) to escape, or the Service should be contacted for guidance.
12. Any contractor, employee, or military or agency personnel who are responsible for inadvertently killing or injuring a San Joaquin kit fox shall immediately report the incident to their representative. This representative shall contact the CDFG immediately in the case of a dead, injured or entrapped kit fox. The CDFG contact for immediate assistance is State Dispatch at (916)445-0045. They will contact the local warden or Mr. Paul Hoffman, the wildlife biologist, at (530)934-9309. The Service should be contacted at the numbers below.
13. The Sacramento Fish and Wildlife Office and CDFG shall be notified in writing within three working days of the accidental death or injury to a San Joaquin kit fox during project related activities. Notification must include the date, time, and location of the incident or of the finding of a dead or injured animal and any other pertinent information. The Service contact is the Chief of the Division of Endangered Species, at the addresses and telephone numbers below. The CDFG contact is Mr. Paul Hoffman at 1701 Nimbus Road, Suite A, Rancho Cordova, California 95670, (530) 934-9309.
14. New sightings of kit fox shall be reported to the California Natural Diversity Database (CNDDDB). A copy of the reporting form and a topographic map clearly marked with the location of where the kit fox was observed should also be provided to the Service at the address below.

Any project-related information required by the Service or questions concerning the above conditions or their implementation may be directed in writing to the U.S. Fish and Wildlife Service at:

Endangered Species Division
2800 Cottage Way, Suite W2605
Sacramento, California 95825-1846
(916) 414-6620 or (916) 414-6600

EXHIBIT "A" - DEFINITIONS

"Take" - Section 9 of the Endangered Species Act of 1973, as amended (Act) prohibits the "take" of any federally listed endangered species by any person (an individual, corporation, partnership, trust, association, etc.) subject to the jurisdiction of the United States. As defined in the Act, take means " . . . to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or attempt to engage in any such conduct". Thus, not only is a listed animal protected from activities such as hunting, but also from actions that damage or destroy its habitat.

"Dens" - San Joaquin kit fox dens may be located in areas of low, moderate, or steep topography. Den characteristics are listed below, however, the specific characteristics of individual dens may vary and occupied dens may lack some or all of these features. Therefore, caution must be exercised in determining the status of any den. Typical dens may include the following: (1) one or more entrances that are approximately 5 to 8 inches in diameter; (2) dirt berms adjacent to the entrances; (3) kit fox tracks, scat, or prey remains in the vicinity of the den; (4) matted vegetation adjacent to the den entrances; and (5) manmade features such as culverts, pipes, and canal banks.

"Known den" - Any existing natural den or manmade structure that is used or has been used at any time in the past by a San Joaquin kit fox. Evidence of use may include historical records, past or current radiotelemetry or spotlighting data, kit fox sign such as tracks, scat, and/or prey remains, or other reasonable proof that a given den is being or has been used by a kit fox. The Service discourages use of the terms "active" and "inactive" when referring to any kit fox den because a great percentage of occupied dens show no evidence of use, and because kit foxes change dens often, with the result that the status of a given den may change frequently and abruptly.

"Potential Den" - Any subterranean hole within the species' range that has entrances of appropriate dimensions for which available evidence is insufficient to conclude that it is being used or has been used by a kit fox. Potential dens shall include the following: (1) any suitable subterranean hole; or (2) any den or burrow of another species (e.g., coyote, badger, red fox, or ground squirrel) that otherwise has appropriate characteristics for kit fox use.

"Natal or Popping Den" - Any den used by kit foxes to whelp and/or rear their pups. Natal/pupping dens may be larger with more numerous entrances than dens occupied exclusively by adults. These dens typically have more kit fox tracks, scat, and prey remains in the vicinity of the den, and may have a broader apron of matted dirt and/or vegetation at one or more entrances. A natal den, defined as a den in which kit fox pups are actually whelped but not necessarily reared, is a more restrictive version of the pupping den. In practice, however, it is difficult to distinguish between the two, therefore, for purposes of this definition either term applies.

"Atypical Den" - Any manmade structure which has been or is being occupied by a San Joaquin kit fox. Atypical dens may include pipes, culverts, and diggings beneath concrete slabs and buildings.

ATTACHMENT “C”
Cultural Resources Report
C O N F I D E N T I A L R E P O R T

ATTACHMENT “D”
NRCS Custom Soil Resource Report



United States
Department of
Agriculture

NRCS

Natural
Resources
Conservation
Service

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

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



Preface

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

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

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

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

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

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

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

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

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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

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

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

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

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

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

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

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

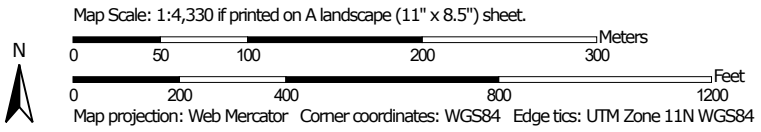
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identified each as a specific map unit. Aerial photographs show trees, buildings, fields, roads, and rivers, all of which help in locating boundaries accurately.

Soil Map

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

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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 12, Sep 12, 2018

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

Date(s) aerial images were photographed: Data not available.

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
108	Colpien loam, 0 to 2 percent slopes	0.7	2.4%
130	Nord fine sandy loam, 0 to 2 percent slopes	26.6	97.6%
Totals for Area of Interest		27.3	100.0%

Map Unit Descriptions

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

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

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

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

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onsite investigation is needed to define and locate the soils and miscellaneous areas.

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

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

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

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

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

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

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

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

Tulare County, Western Part, California

108—Colpien loam, 0 to 2 percent slopes

Map Unit Setting

National map unit symbol: hp4b

Elevation: 220 to 550 feet

Mean annual precipitation: 8 to 12 inches

Mean annual air temperature: 63 to 64 degrees F

Frost-free period: 250 to 300 days

Farmland classification: Prime farmland if irrigated and either protected from flooding or not frequently flooded during the growing season

Map Unit Composition

Colpien and similar soils: 85 percent

Minor components: 15 percent

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

Description of Colpien

Setting

Landform: Fan remnants

Landform position (two-dimensional): Shoulder

Landform position (three-dimensional): Side slope

Down-slope shape: Linear

Across-slope shape: Linear

Parent material: Alluvium derived from granitic rock sources

Typical profile

Ap - 0 to 6 inches: loam

Bt - 6 to 24 inches: loam

Btk - 24 to 60 inches: loam

C - 60 to 65 inches: sandy loam

Properties and qualities

Slope: 0 to 2 percent

Depth to restrictive feature: More than 80 inches

Natural drainage class: Moderately well drained

Runoff class: Low

Capacity of the most limiting layer to transmit water (Ksat): Moderately high (0.20 to 0.60 in/hr)

Depth to water table: More than 80 inches

Frequency of flooding: Rare

Frequency of ponding: None

Calcium carbonate, maximum in profile: 5 percent

Salinity, maximum in profile: Nonsaline to slightly saline (0.5 to 4.0 mmhos/cm)

Sodium adsorption ratio, maximum in profile: 12.0

Available water storage in profile: High (about 10.7 inches)

Interpretive groups

Land capability classification (irrigated): 1

Land capability classification (nonirrigated): 4c

Hydrologic Soil Group: C

Hydric soil rating: No

Minor Components

Gambogy

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

Hanford

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

Biggriz

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

Tujunga

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

Nord

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

Akers, saline-sodic

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

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: About 50 inches to abrupt textural change; About 38 inches to abrupt textural change
Natural 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 in profile: 4 percent
Salinity, maximum in profile: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)
Sodium adsorption ratio, maximum in profile: 10.0
Available water storage in profile: 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

Grangeville, saline-sodic

Percent of map unit: 3 percent
Landform: Alluvial fans, flood plains
Hydric soil rating: Yes

Hanford

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

Tujunga

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

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Tagus

Percent of map unit: 2 percent

Landform: Fan remnants

Hydric soil rating: No

Akers

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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