DRAFT Initial Study and Mitigated Negative Declaration for Deer Creek - Friant Kern Canal Water Bank Project

August 2019

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Prepared For:

Saucelito Irrigation District
20712 Avenue 120
Porterville, CA 93257

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Saucelito Irrigation District
20712 Avenue 120
Porterville, CA 93257

SECTION 1
CEQA Review Process

Project Title: Deer Creek – Friant Kern Canal Water Bank Project

1.1 California Environmental Quality Act Guidelines

Section 15063 of the California Environmental Quality Act (CEQA) Guidelines requires that the Lead Agency prepare an Initial Study to determine whether a discretionary project will have a significant effect on the environment. All phases of the project planning, implementation, and operation must be considered in the Initial Study. The purposes of an Initial Study, as listed under Section 15063(c) of the CEQA Guidelines, include:

(1) Provide the lead agency with information to use as the basis for deciding whether to prepare an EIR or negative declaration;

(2) Enable an applicant or lead agency to modify a project, mitigating adverse impacts before an EIR is prepared, thereby enabling the project to qualify for a negative declaration;

(3) Assist the preparation of an EIR, if one is required, by:

(A) Focusing the EIR on the effects determined to be significant,

(B) Identifying the effects determined not to be significant,

(C) Explaining the reasons for determining that potentially significant effects would not be significant, and

(D) Identifying whether a program EIR, tiering, or another appropriate process can be used for analysis of the project's environmental effects.

(4) Facilitate environmental assessment early in the design of a project;

(5) Provide documentation of the factual basis for the finding in a negative declaration that a project will not have a significant effect on the environment

(6) Eliminate unnecessary EIRs;

(7) Determine whether a previously prepared EIR could be used with the project.

1.2 Initial Study

This document is the Initial Study for the proposed construction and operation of a new pipeline from an existing Saucelito Irrigation District (SID) turnout on the Friant-Kern Canal (FKC) to three recharge basins within Tulare County. This project encompasses 69 acres of existing recharge basins (62 net acres) and one existing irrigation well. The project will include the construction and operation of four new wells and 12" to 24" diameter collection pipelines to bank water that is periodically available above current needs from the Friant Division of the Central Valley Project (Friant), and to make that water available to lawful recipients when needed. The project will be constructed on approximately 3 acres of land that have already been developed with groundwater recharge basins. Homer, LLC ("Homer") is the owner and operator of the proposed project in accordance with district policies. Saucelito Irrigation District will act as the Lead Agency for this project pursuant to the California Environmental Quality Act (CEQA) and the CEQA Guidelines.

1.3 Environmental Checklist

The Lead Agency may use the CEQA Environmental Checklist Form [CEQA Guidelines, Section 15063(d)(3) and (f)] in preparation of an Initial Study to provide information for determination if there are significant effects of the project on the environment. A copy of the completed Environmental Checklist is set forth in **Section Three**.

1.4 Notice of Intent to Adopt a Negative Declaration

The Lead Agency shall provide a Notice of Intent to Adopt a Negative Declaration (CEQA Guidelines, Section 15072) to the public, responsible agencies, trustee agencies and the County Clerk within which the project is located, sufficiently prior to adoption by the Lead Agency of the Negative Declaration to allow the public and agencies the review period. The public review period (CEQA Guidelines, Section 15105) shall not be less than 45 days when the Initial Study/Negative Declaration is submitted to the State Clearinghouse unless a shorter period, not less than 30 days, is approved by the State Clearinghouse.

Prior to approving the project, the Lead Agency shall consider the proposed Negative Declaration together with any comments received during the public review process, and shall adopt the proposed Negative Declaration only if it finds on the basis of the whole record before it, that there is no substantial evidence that the project will have a significant effect on the environment and that the Negative Declaration reflects the Lead Agency's independent judgment and analysis.

The written and oral comments received during the public review period will be considered by Saucelito Irrigation District prior to adopting the Negative Declaration. Regardless of the type of CEQA document that must be prepared, the overall purpose of the CEQA process is to:

1. Assure that the environment and public health and safety are protected in the face of discretionary projects initiated by public agencies or private concerns;

2. Provide for full disclosure of the project's environmental effects to the public, the agency decision-makers who will approve or deny the project, and the responsible trustee agencies charged with managing resources (e.g. wildlife, air quality) that may be affected by the project; and

3. Provide a forum for public participation in the decision-making process pertaining to potential environmental effects.

According to Section 15070, a public agency shall prepare or have prepared a proposed negative declaration or mitigated negative declaration for a project subject to CEQA when:

(a) The initial study shows that there is no substantial evidence, in light of the whole record before the agency, that the project may have a significant effect on the environment, or

(b) The initial study identifies potentially significant effects, but:

(1) Revisions in the project plans or proposals made by, or agreed to by the applicant before a proposed mitigated negative declaration and initial study are released for public review would avoid the effects or mitigate the effects to a point where clearly no significant effects would occur, and

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

The Environmental Checklist Discussion contained in Section Three of this document has determined that the environmental impacts of the project are less than significant with mitigation measures and that a Mitigated Negative Declaration is adequate for adoption by the Lead Agency.

1.5 Negative Declaration or Mitigated Negative Declaration

The Lead Agency shall prepare or have prepared a proposed Negative Declaration or Mitigated Negative Declaration (CEQA Guidelines Section 15070) for a project subject to CEQA when the Initial Study shows that there is no substantial evidence, in light of the whole record before the agency, that the project may have a significant effect on the environment.

The proposed Negative Declaration or Mitigated Negative Declaration circulated for public review shall include the following:

(a) A brief description of the project, including a commonly used name for the project.

(b) The location of the project, preferably shown on a map.

(c) A proposed finding that the project will not have a significant effect on the environment.

(d) An attached copy of the Initial Study documenting reasons to support the finding.

(e) Mitigation measures, if any.

1.6 Intended Uses of Initial Study/Negative Declaration documents

The Initial Study/Negative Declaration document is an informational document that is intended to inform decision-makers, other responsible or interested agencies, and the general public of potential environmental effects of the proposed project. The environmental review process has been established to enable the public agencies to evaluate environmental consequences and to examine and implement methods of eliminating or reducing any adverse impacts. While CEQA requires that consideration be given to avoiding environmental damage, the Lead Agency must balance any potential environmental effects against other public objectives, including economic and social goals.

Saucelito Irrigation District, as Lead Agency, will make a determination, based on the environmental review for the Environmental Study, Initial Study and comments from the general public, if there are less than significant impacts from the proposed project and the requirements of CEQA can be met by adoption of a Mitigated Negative Declaration.

1.7 Notice of Determination (NOD)

The Lead Agency shall file a Notice of Determination within five working days after deciding to approve the project. The Notice of Determination (CEQA Guidelines, Section 15075) shall include the following:

(1) An identification of the project including the project title as identified on the proposed negative declaration, its location, and the State Clearinghouse identification number for the proposed negative declaration if the notice of determination is filed with the State Clearinghouse.

(2) A brief description of the project.

(3) The agency's name and the date on which the agency approved the project.

(4) The determination of the agency that the project will not have a significant effect on the environment.

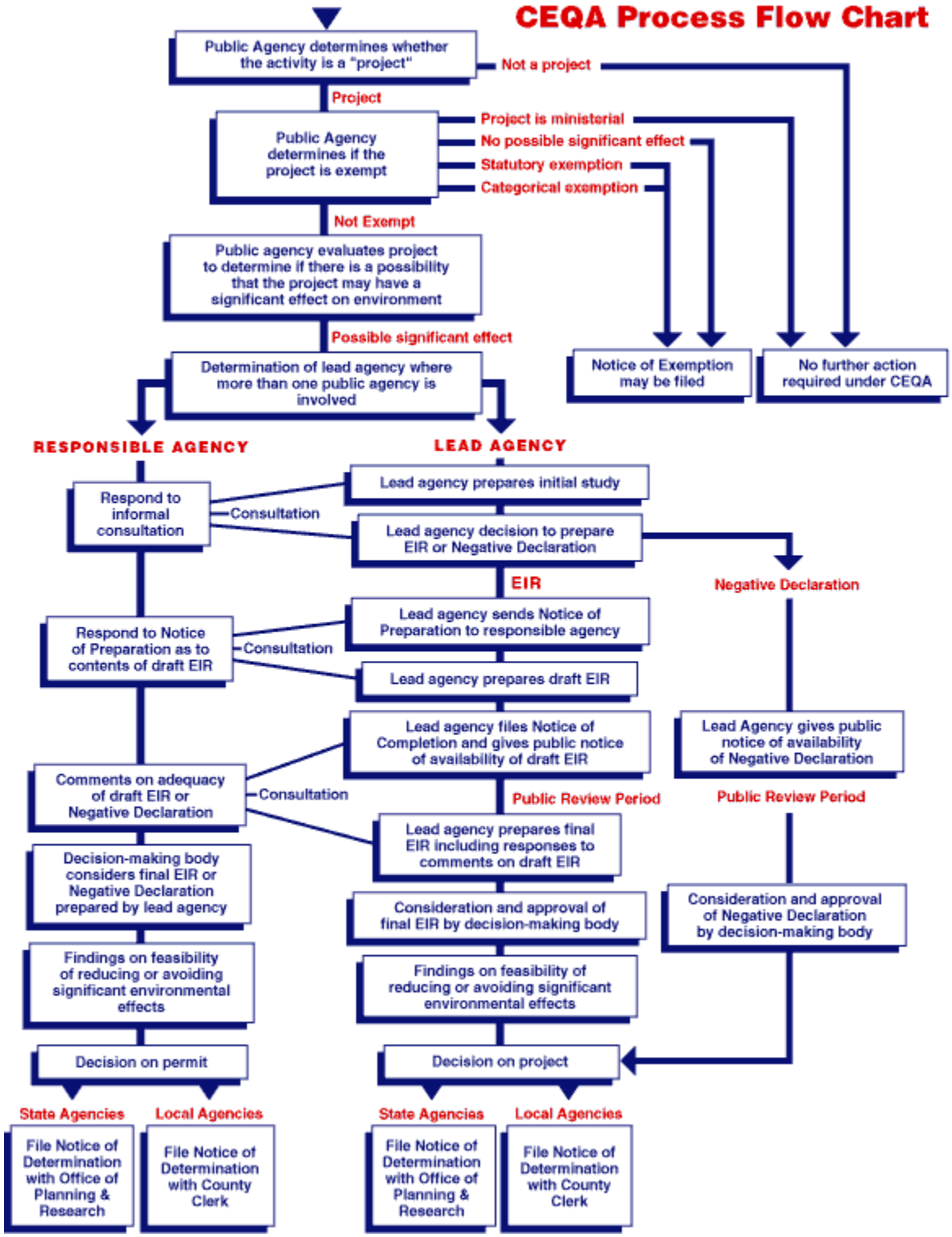
(5) A statement that a negative declaration or a mitigated negative declaration was adopted pursuant to the provisions of CEQA.

(6) A statement indicating whether mitigation measures were made a condition of the approval of the project, and whether a mitigation monitoring plan/program was adopted.

(7) The address where a copy of the negative declaration or mitigated negative declaration may be examined.

(8) The identity of the person undertaking a project which is supported, in whole or in part, through contracts, grants, subsidies, loans, or other forms of assistance from one or more public agencies or the identity of the person receiving a lease, permit, license, certificate, or other entitlement for use from one or more public agencies.

1.8 CEQA Process Flow Chart



Section 2

Project Description

Saucelito Irrigation District
20712 Avenue 120
Porterville, CA 93257

SECTION 2
Project Description

Project Title: Deer Creek – Friant Kern Canal Water Bank Project

2.1 Project Description & Purpose

The purpose of the proposed project is to bank water that is periodically available above current needs from the Friant Division of the Central Valley Project (Friant), and to make that water available to lawful recipients during times when it is needed. The project objectives are as follows:

- **Increase water supply:** The Project would increase supplies available to SID, the property owner and other participants.
- **Improve groundwater conditions:** The Project would reduce aquifer overdraft in the SID, East Tule Groundwater Sustainability Agency (GSA), Tule Sub Basin and in other areas that receive recovered water.
- **Reduce costs to produce groundwater:** The Project would cause water levels to rise, thus reducing groundwater pumpage costs.
- **Increase diversification and availability of water supplies:** The Project would increase the diversity of water supplies available to the District, its landowners and other participants.
- **Facilitate compliance with the Sustainable Groundwater Management Act (SGMA):** The Project would significantly advance the District's efforts to comply with SGMA.
- **Subsidence reduction:** The Project would help to reduce ground subsidence by accruing more water to the local aquifer system and by reducing groundwater pumpage in the places of use.

The proposed project will involve the construction of new pipelines, use of existing recharge basins, use of one existing irrigation well and construction of four new wells. The project does not entail any modifications to the Friant Kern Canal (FKC). The Project will incorporate 69 acres of existing permanent recharge basins into project operations. Homer, LLC ("Homer") is the owner and operator of the proposed project in accordance with district policies.

The project proposes the installation of a two-way, 48" diameter pipeline that would initially tie into an existing 60" diameter SID pipeline that conveys water from the SID turnout from the FKC. Future recharge operations from the FKC would be performed via gravity flow through the proposed 48" pipeline. The proposed 48" pipeline would run south from the existing SID pipeline along the eastern side of the Grapery Property (APN 302-260-017), under Deer Creek and to the north-east corner of the existing basins where conveyed water would be recharged (see Figure 3-3).

The proposed water recovery wells will be used to recover banked water into the proposed two-way 48" diameter pipeline for conveyance north into the existing 60" diameter SID irrigation pipeline. Water

would be delivered from the wells to the proposed 48" pipeline via collection pipelines ranging from 12" to 24". In the future, following approval from the Bureau of Reclamation and the Friant Water Authority, the northern terminus of the 48" diameter pipeline would be extended east and tied-into the SID turnout from the FKC. All pumps would be operated using electrical motors drawing from existing farm power service lines.

Recharge Operations: It is anticipated that the proposed project would predominantly bank water from the FKC, it is possible however that the project may bank water from other systems, but separate approvals would be required. As required by the SID's "Policy Principles for Saucelito Irrigation District Groundwater Banking Program" (June 14, 2018, "Banking Policy"), 10% to 30% of the banked water would be allocated to SID's storage account. The project would convey and bank water from the FKC through SID's turnout from the FKC. In all cases, the landowner's ability to divert and convey water would be contingent on approval from SID to ensure that the landowner's operations do not impair district operations and comply with district policies, rules and regulations.

Hydrogeologic studies by the district and landowner indicate that while the upper 40 to 50 feet of the subsurface consists of very permeable sands and gravels, they are underlain by several hundred feet of lower permeability, interbedded sand, silt and clay which overlie the aquifer from which the majority of irrigation wells pump (top of screen averages 362 feet below the surface in this area). Therefore, to facilitate recharge, the project wells would be equipped with an upper screen interval from 20 to 60 feet below the surface and then a second, more traditional screened interval in the underlying aquifer. The upper screen interval would provide a conduit for banked water to enter the wells (after being filtered through the upper 20 feet of sands and gravels) and cascade down into the aquifer which is traditionally exploited.

Use of the Project wells for both recharge and recovery purposes would require a permit variance from the Tulare County of Environmental Health Division, which issues well permits and normally requires isolation of the upper 50 feet to prevent groundwater contamination. In anticipation of that variance process, consultants working for the landowner and the District have installed and sampled monitoring wells. Results from those investigations indicate that the shallow and deeper groundwater systems have virtually identical groundwater quality which will only be further improved by the additional of very high-quality Friant water.

Recovery Operations: The project would recover banked water as follows (all constrained by lawful places of use) and in compliance with district policies, rules and regulations:

Recovery within SID: Banked water may be recovered for use in SID through two means as follows:

- *Direct Usage*: Both project wells and any other wells within SID may recover banked water for use within SID in accordance with the "Policy Principles for Saucelito Irrigation District Landowner Groundwater Recharge Program" (January 17, 2017, "Recharge Policy"), and the Banking Policy
- *Pump-In*: Project wells may recover water into the existing SID Avenue 104 pipeline (60" diameter) or into the existing SID Road 208 pipeline (21" diameter).

Recovery to Pixley ID: Banked water may be recovered to Pixley ID as follows:

- *Direct Pump-In to Deer Creek*: Pixley ID uses Deer Creek as a conveyance for Friant Water. Project wells may be used to deliver recovered water directly into Deer Creek.
- *Operational Exchange*: Following approval from SID, project wells may recover water into the SID system for delivery to SID in exchange for water in Millerton or the FKC that would be delivered to Pixley ID; or
- *SGMA Credit (potentially available in the future*): The project would be operated in compliance with requirement of the East Tule GSA Groundwater Sustainability Plan (GSP). That plan, to be finalized by January 2020, may include procedures in which recharge water be transferred between the East Tule GSA and the Pixley ID GSA.

Recovery within the East Tule GSA: The project would be operated in compliance with requirements of the East Tule GSA GSP. That plan, to be finalized by January 2020, may include procedures in which recharge water be recovered from other wells within the GSA that are outside of SID.

Recovery within the Tule Subbasin (as defined in DWR Bulletin 118): The project would be operated in compliance with requirements of each GSP within the Tule Subbasin. Those plans, to be finalized by January 2020, may include procedures in which banked water can be recovered from other wells within the various GSAs that are outside of SID.

Recovery to the Other Districts on the FKC: The project may recover banked water for delivery to others within the lawful place of use through operational exchange. Following approval from SID or Pixley ID and contingent on authorization from the US Bureau of Reclamation (Reclamation) and Friant Water Authority (FWA), project wells may recover water into the SID or Pixley ID systems in exchange for water in Millerton Reservoir or the FKC that would be delivered to the entity desiring delivery of banked water. Transfers would be performed in compliance with then current Reclamation Accelerated Water Transfer and Exchange Program for Friant Division and Cross Valley Contractors (Accelerated Transfer Program).

Friant water's total dissolved solids (TDS) concentrations average 45 mg/I and native groundwater TDS concentrations in the Project area average 160 mg/I. This quality is anticipated to improve over time as a consequence of recharge. This water quality is compliant with the most stringent standard of the existing Reclamation, "Policy for Accepting Non-Project Water into the Friant-Kern and Madera Canals" (Reclamation Pump-In Policy, March 2008). However, there are concerns regarding recovery of any water into the FKC that has different quality than water normally conveyed in the FKC. Reclamation and the FWA are performing water quality studies, evaluating the adequacy of current policies and are in discussions with districts that have voiced concerns. In recognition of these on-going efforts, the Project will not perform pump-in to the FKC until new policies that are acceptable to the stakeholders have been developed. In the meantime, all Project wells capable of recovering water into the FKC would be sampled on an annual basis for the complete list of parameters required by the existing Reclamation Pump-In Policy.

Monitoring and Operational Constraint Plan (MOCP): The Project would implement the following procedures to prevent significant unacceptable impacts to the aquifer, groundwater levels, groundwater quality, water quality in the FKC, or adjacent landowners relative to conditions that would have occurred absent the Project.

Formation of a Monitoring Committee: A monitoring committee would be formed to ensure that district interests, adjacent landowners and FKC interests are protected. The monitoring committee would oversee Homer's implementation of the MOCP, and would be responsible for resolution of disputes in which Homer and a 3rd party are unable to reach agreement on appropriate responses to complaints. The 5 member monitoring committee would be composed as follows:

- 1 seat for Homer;
- 2 seats for SID directors (potentially including the General Manger if desired by the SID Board);
- 1 seat for an adjacent land owner; and
- 1 seat for a land owner from another location within SID.

Homer may make operational adjustments in response to data evaluations, complaints by 3rd parties or recommendations from the Monitoring Committee. Examples of potential operational adjustments may include, but are not limited to:

- Shifting the locations, schedules and rates at which recharge and recovery are being performed;
- Reimbursement for higher pumping costs;
- Well rehabilitation;
- Lowering a pump further down a well;
- Reimbursement for treatment costs;
- Installation of treatment systems;
- Providing an alternate water supply; and
- Installation of a new well.

Data Collection: The Project would include the following data collection to ensure accurate measurement of recharged, evaporated, banked and recovered water:

- Instantaneous and totalizing flow meters on each conveyance delivering water into recharge basins (make/ type of each meter subject to approval from SID);
- Instantaneous and totalizing flow meters on each recovery well; and
- Use of data from the nearest California Irrigation Management Information System (CIMIS) meteorological station to estimate evaporative loss of applied water before it percolates into the ground.

Each flow meter would be equipped with a data logger to ensure a continuous record of operations. In addition, readings would be manually recorded on a daily basis during operating periods. Each meter would be calibrated annually or as requested by SID. To the degree there is a discrepancy between Homer data and district records that cannot be reconciled, the record would be modified to reflect whichever records the parties deem most reliable.

Banked Water Accounting: The amount of water recharged would be computed on daily increments. The volume of applied water lost to evaporation prior recharge would be estimated using data from the nearest CIMIS Station. The remaining volume after subtraction of evaporative losses would be reported to SID as the recharged volume.

Water Level Monitoring: The lowest end of the recharge basin system would be equipped with an automatic water level monitoring device that is set to call the operator (and 2 back-up operators) if the water level in the basin rises to within 1 foot of the basin berm crest. Homer would establish procedures to ensure that the alerted on-call operator adjusts or shuts off recharge operations to prevent basin overfilling.

Groundwater levels would be measured in the nearest 3rd party wells (both irrigation and domestic, contingent on well owner approval) on a monthly basis during periods of recharge and recovery and twice a year at other times. During recharge, operations would be constrained or shut down in the event that offsite water levels rise to within 15 feet of the ground surface. During recovery, if operations cause unacceptable drops in 3rd party well water levels, operations would be adjusted in accordance with the procedures summarized above.

Water Quality Monitoring: Banked water, groundwater and recovered water quality would be monitored to ensure that water quality remains appropriate for designated beneficial uses as follows:

- *Baseline sampling:* all operable wells (irrigation and domestic) within a 1/4 mile radius of Project recharge facilities would be initially sampled for Analytical Suite 1 (See Page 11 of Deer Creek - Friant Kern Canal Water Banking Report, Appendix E) (contingent on well owner approval);
- *On-going sampling:* the nearest operable wells (irrigation and domestic) on properties immediately adjacent to Project recharge facilities would be sampled once a year for Analytical Suite 2 (See Page 12 of Deer Creek - Friant Kern Canal Water Banking Report, Appendix E); and
- *Banked and Recovered water:* all Project wells would be sampled once a year for Analytical Suite 2 (See Page 12 of Deer Creek - Friant Kern Canal Water Banking Report, Appendix E).

Subsidence Monitoring: Significant subsidence (sinking of the ground surface) has occurred along the FKC due to dewatering of silty and clayey formations by pumpage from wells. While the Project would cause a net gain of 10% to 30% of banked water to the aquifer, this potential impact needs to be monitored. Subsidence is measured by comparing sequential measurements of land surface elevation at a location. This comparison is predicated on the assumption that the reference bench mark for computation of elevation is outside of the area within which subsidence would potentially occur. Subsidence monitoring would include the following elements:

- *Base Station:* Reference of all elevation measurements to a base station approved by SID;
- *Perimeter Benchmarks:* Placement of permanent bench-marks in four directions on the perimeter of the Project property;

- *Recovery Well Benchmarks:* Placement of permanent measurement points on each Project recovery well;
- *Baseline Measurements:* Measurement of the elevations prior to commencement of banked water recovery operations; and
- *Annual Measurements:* Measurement of the elevations of each benchmark annually.

Benchmarks would be constructed and monitored using procedures approved by the California Board for Professional Engineers and Land Surveyors and using appropriate guidelines promulgated by the National Geodetic Survey and the California Spatial Reference Center. Annual subsidence monitoring reports would be submitted to the monitoring committee, the FWA and Reclamation.

Reporting: During operating periods Homer would submit monthly reports to SID which include the following information:

- The beginning volumes of water in the Homer and SID banked water accounts;
- The sources of water sent to each recharge basin turnout;
- Volumes of water discharged to recharge basins (daily basis);
- Percolation rates (daily basis);
- Losses to evaporation (daily basis);
- Net volumes of banked water (daily basis);
- The volumes of banked water allocated into the Homer and SID accounts in accordance with the Banking Policy leave behind requirements;
- Volumes of Homer's banked water extracted or transferred to others, including the places of use;
- The ending volumes of water in the Homer and SID banked water accounts; and
- Depth to water graphs for key wells approved by the District.

By January 15 of each year, regardless of whether there were any Project operations, Homer would submit an annual report for the prior year running from October 1 through September 30. This report, submitted to SID and the Monitoring Committee, would include the annual totals for the information listed above and additionally would include the following information:

- A chronological summary of operations and response to Monitoring Committee issues, if any;
- Tabulations of all water level, water quality, water volumes and subsidence monitoring data;
- A map presenting the distributions of total dissolved solids in monitored wells;
- A map presenting the results of subsidence monitoring;
- Maps presenting the spring and fall elevations of water levels in wells, including interpreted directions of groundwater flow; and
- Maps presenting the spring and fall depths to water in wells.

Limitations and Commitments

- Water would be banked, returned, exchanged, or transferred in compliance with all federal, state, local, and tribal laws, and requirements imposed for protection of the environment and Indian Trust Assets, including the Central Valley Project Improvement Act;
- The Project would not be used to place untilled or new lands into agricultural production, or to convert undeveloped land to other uses. Specifically, no native or untilled land (fallow for three consecutive years or more) would be cultivated with the water managed through this Project;
- Transfers and/or exchanges would be limited to existing supply and would not increase overall consumptive use;
- Operations to bank, return, transfer and/or exchange the water would not result in new Delta exports above those already scheduled for normal CVP or State Water Project (SWP) operations;
- The Project would not interfere with the normal CVP or SWP operations;
- Transfers and/or exchanges cannot alter the flow regime of natural water bodies such as rivers, streams, creeks, ponds, pools, wetlands, etc., so as to not have a detrimental effect on fish or wildlife, or their habitats; and
- The Project would be operated in compliance with the SID Recharge Policy and Banking Policy; the pending East Tule GSA SGMA GSP; the then current Accelerated Transfer Program; and all applicable district policies, rules and regulations.

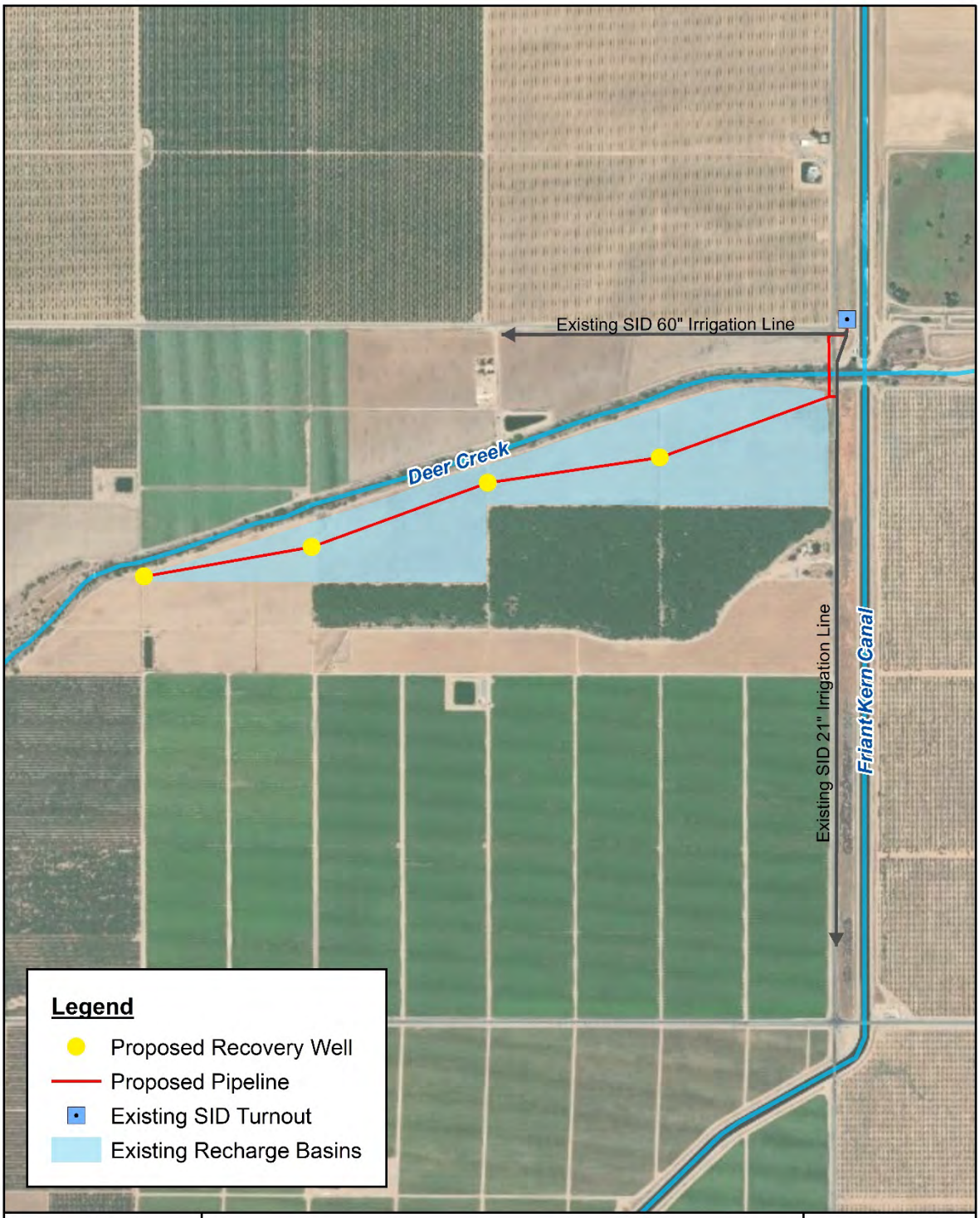
2.2 Project Location

The proposed project site is located within the south-west portion of Tulare County, approximately four miles north-west of the Terra Bella Community and 15 miles north of the southern Tulare County border on parcels 302-260-016 and 302-260-012. Topographically, the site is relatively flat. The properties on which the proposed project would be located are designated by Tulare County as Rural Valley Lands Plan under the County General Plan and zoned AE-40 (Agriculture Exclusive with a 40-acre minimum lot size). Properties to the north, south, east and west of the project are also designated as Rural Valley lands Plan under the County General Plan and are zoned AE-40 and AE-20.

2.3 Other Permits and Approvals

No discretionary approvals through Tulare County are required for the Deer Creek Water Bank Project.


Exeter
Tulare
Lindsay
Porterville
Kings County
Tulare County
Saucelito ID
Pixley
Project Site
Tulare County
Kern County
Delano
Wasco
Shafter
Sacramento
San Francisco
San Jose
California
Fresno
Tulare County
Project Site
Los Angeles
1 in = 10 miles
Regional Location
Deer Creek - Friant Kern Canal Water Bank
Saucelito Irrigation District
Figure 2-1



Vicinity Map

Deer Creek - Friant Kern Canal Water Bank

Saucelito Irrigation District

Figure 2-2

Section 3

Evaluation of Environmental Impacts

Saucelito Irrigation District
20712 Avenue 120
Porterville, CA 93257

SECTION 3
Evaluation of Environmental Impacts

Project Title: Deer Creek – Friant Kern Canal Water Bank Project

This document is the Initial Study/Mitigated Negative Declaration for the proposed construction and operation of four water recovery wells, approximately 0.2 miles of two-way 48" pipeline to tie into an existing 60" SID irrigation pipeline, and approximately 1.3 miles of collection pipelines ranging from 12" to 24". The project will incorporate 69 acres of existing recharge basins into project operations. The project is located in the south-west portion of Tulare County within the SID Boundary. SID will act as the Lead Agency for this project pursuant to the California Environmental Quality Act (CEQA) and the CEQA Guidelines.

3.1 PURPOSE

The purpose of this environmental document is to implement the California Environmental Quality Act (CEQA). Section 15002(a) of the CEQA Guidelines describes the basic purposes of CEQA as follows.

(1) Inform governmental decision-makers and the public about the potential, significant environmental effects of proposed activities.
(2) Identify the ways that environmental damage can be avoided or significantly reduced.
(3) Prevent significant, avoidable damage to the environment by requiring changes in projects through the use of alternatives or mitigation measures when the governmental agency finds the changes to be feasible.
(4) Disclose to the public the reasons why a governmental agency approved the project in the manner the agency chose if significant environmental effects are involved.

This Initial Study of environmental impacts has been prepared to conform to the requirements of the California Environmental Quality Act (CEQA) (Public Resources Code Section 21000 et seq.) and the State CEQA Guidelines (California Code of Regulations Section 15000 et seq.).

According to Section 15070, a public agency shall prepare or have prepared a proposed negative declaration or mitigated negative declaration for a project subject to CEQA when:

(a) The initial study shows that there is no substantial evidence, in light of the whole record before the agency, that the project may have a significant effect on the environment, or

(b) The initial study identifies potentially significant effects, but:

(1) Revisions in the project plans or proposals made by, or agreed to by the applicant before a proposed mitigated negative declaration and initial study are released for public review would

avoid the effects or mitigate the effects to a point where clearly no significant effects would occur, and

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

3.2 INITIAL STUDY/MITIGATED NEGATIVE DECLARATION

1. **Project Title:** Deer Creek – Friant Kern Canal Water Bank

2. **Lead Agency:** Saucelito Irrigation District
20712 Avenue 120
Porterville, CA 93257
(559) 784-1208

3. **Applicant:** Saucelito Irrigation District
Contact Person: Sean Geivet
20712 Avenue 120
Porterville, CA 93257
(559) 784-1208

4. **Project Location:** The proposed project site is located within the south-west portion of Tulare County, approximately four miles north-west of the Terra Bella Community and 15 miles north of the southern Tulare County Border. The proposed project would involve construction on approximately 3 acres within parcels 302-260-016 and 302-260-012.

5. **General Plan Designation:** The parcels involved in the proposed project are designated by the Tulare County General Plan as Rural Valley Lands Plan.

6. **Zoning Designation:** The project site is currently zoned by Tulare County as AE-40, or Exclusive Agriculture with a 40-acre minimum lot size.

7. **Project Description:** The proposed project will involve the construction of new pipelines, use of existing recharge basins, use of one existing irrigation well and construction of four new wells. The project does not entail any modifications to the Friant Kern Canal (FKC). The Project will incorporate 69 acres of existing permanent recharge basins into project operations.

   The project proposes the installation of a two-way, 48” diameter pipeline that would initially tie into an existing 60” diameter SID pipeline that conveys water from the SID turnout from the FKC. Future recharge operations from the FKC would be performed via gravity flow. The proposed 48” pipeline would run south from the existing SID pipeline along the eastern side of the Grapery Property (APN 302-260-017), under Deer Creek and to the north-east corner of the existing basins where conveyed water would be banked.

   The proposed water recovery wells will be used to recover banked water into the proposed two-way 48” diameter pipeline for conveyance north into the existing 60” diameter SID irrigation pipeline. Water would be delivered from the wells to the proposed 48” pipeline via collection pipelines ranging

from 12" to 24". In the future, following approval from the Bureau of Reclamation and the Friant Water Authority, the northern terminus of the 48" diameter pipeline would be extended east and tie-into the SID turnout from the FKC. All pumps would be operated using electrical motors drawing from existing farm power service lines.

The recharge operations, recovery operations, and Monitoring and Operational Constraints Plan of the proposed project are discussed in Section 2.1 - Project Description and Purpose. Figure 3-1, below, provides an overview of the proposed and existing facilities. A full site plan and detail sheets are provided in Appendix D.

8. **Surrounding Land Uses and Settings:**
   North Agriculture (Tulare County General Plan)
   South Agriculture (Tulare County General Plan)
   East Agriculture (Tulare County General Plan)
   West Agriculture (Tulare County General Plan)

9. **Required Approvals:** No discretionary approvals are required from Tulare County for the proposed project.

10. **Native American Consultation:** No tribes have requested to be notified of projects within SID for AB 52 tribal consultation.

11. **Parking and access:** Vehicular access to the project will be available via Road 208. During construction, workers will utilize existing facility parking areas and/or temporary construction staging areas for parking of vehicles and equipment.

12. **Landscaping and Design:** The landscape and design plans will be required during building permit submittal.

13. **Utilities and Electrical Services:** All pumps would be operated using electrical motors drawing from existing farm power service lines. No other utility services will be required for the project. No wastewater will be generated and all stormwater will be contained on-site.

Acronyms

BMP	Best Management Practices
CAA	Clean Air Act
CCR	California Code of Regulation
CDFG	California Department of Fish and Game
CEQA	California Environmental Quality Act
CWA	California Water Act
DHS	Department of Health Services
FEIR	Final Environmental Impact Report
FKC	Friant Kern Canal
FPPA	Farmland Protection Policy Act
GSA	Groundwater Sustainability Agency
GSP	Groundwater Sustainability Plan
ISMND	Initial Study Mitigated Negative Declaration
MCL	Maximum Contaminant Level
ND	Negative Declaration
NAC	Noise Abatement Criteria
RCRA	Resource Conservation and Recovery Act of 1976
RWQCB	Regional Water Quality Control Board
SID	Saucelito Irrigation District
SGMA	Sustainable Groundwater Management Act
SHPO	State Historic Preservation Office
SJVAPCD	San Joaquin Valley Air Pollution Control District
SWPPP	Storm Water Pollution Prevention Plan
TDS	Total Dissolved Solids


Existing SID 60" Irrigation Line
Deer Creek
Existing SID 21" Irrigation Line
Friant-Kern Canal
Legend
Proposed Recovery Well
Proposed Pipeline
Existing SID Turnout
Existing Recharge Basins
N
1 in = 1,500 feet
Vicinity Map
Deer Creek - Friant Kern Canal Water Bank
Saucelito Irrigation District
Figure 3-1

3.3 EVALUATION OF ENVIRONMENTAL IMPACTS

1. A brief explanation is required for all answers except "no Impact" answers that are adequately supported by the information sources a lead agency cites, in the parentheses following each question. A "No Impact" answer is adequately supported if the reference information sources show that the impact simply does not apply to projects like the one involved (e.g., the project falls outside a fault rupture zone). A "No Impact" answer should be explained where it is based on project-specific factors as well as general standards (e.g., the project will not expose sensitive receptors to pollutants, based on a project-specific screening analysis).

2. All answers must take account of the whole action involved, including off-site as well as on-site, cumulative as well as project-level, indirect as well as direct, and construction as well as operational impacts.

3. Once the lead agency has determined that a particular physical impact may occur, then the checklist answers must indicate whether the impact is potentially significant, less than significant with mitigation, or less than significant. "Potentially Significant Impact" is appropriate if there is substantial evidence that an effect may be significant. If there are one or more "Potentially Significant Impact" entries when the determination is made, an EIR if required.

4. "Negative Declaration: Less Than Significant With Mitigation Incorporated" applies where the incorporation of mitigation measures has reduced an effect from "Potentially Significant Impact" to a "Less Than Significant Impact." The lead agency must describe the mitigation measures, and briefly explain how they reduce the effect to a less than significant level (mitigation measures from "Earlier Analyses," as described in (5) below, may be cross-referenced).

5. Earlier analyses may be used where, pursuant to the tiering, program EIR, or other CEQA process, an effect has been adequately analyzed in an earlier EIR or negative declaration. Section 15063(c) (3)(D). In this case, a brief discussion should identify the following.

    - Earlier Analysis Used. Identify and state where they are available for review.
    - Impacts Adequately Addressed. Identify which effects from the above checklist were within the scope of and adequately analyzed in an earlier document pursuant to applicable legal standards, and state whether such effects were addressed by mitigation measures based on the earlier analysis.
    - Mitigation Measures. For effects that are "Less than Significant with Mitigation Measures Incorporated." Describe and mitigation measures which were incorporated or refined from the earlier document and the extent to which they address site-specific conditions for the project.

6. Lead agencies are encouraged to incorporate into the checklist references to information sources for potential impacts (e.g., general plans, zoning ordinances). Reference to a previously prepared or outside document should, where appropriate, include a reference to the page or pages where the statement is substantiated.

3.4 ENVIRONMENTAL FACTORS POTENTIALLY AFFECTED

The environmental factors checked below would be potentially affected by this project, involving at least one impact that is a "Potentially Significant Impact" as indicated by the checklist on the following pages.

☐ Aesthetics	☐ Greenhouse Gas Emissions	☐ Public Services
☐ Agriculture and Forest Resources	☐ Hazards and Hazardous Materials	☐ Recreation
☐ Air Quality	☐ Hydrology and Water Quality	☐ Transportation
☑ Biological Resources	☐ Land Use and Planning	☑ Tribal Cultural Resources
☑ Cultural Resources	☐ Mineral Resources	☐ Utilities and Service System
☐ Energy	☐ Noise	☐ Wildfire
☑ Geology and soils	☐ Population	☐ Mandatory Findings of Significance

DETERMINATION: (To be completed by the Lead Agency) Where potential impacts are anticipated to be significant, mitigation measures will be required, so that impacts may be avoided or reduced to insignificant levels.

On the basis of this initial evaluation:

☐ I find that the proposed project COULD NOT have a significant effect on the environment, and a NEGATIVE DECLARATION WILL BE PREPARED.

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

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

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

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

_____ _____

SIGNATURE DATE

Sean Geivet, General Manager Saucelito Irrigation District

PRINTED NAME AGENCY

3.5 ENVIRONMENTAL ANALYSIS

The following section provides an evaluation of the impact categories and questions contained in the checklist and identify mitigation measures, if applicable.

I. AESTHETICS

Except as provided in Public Resource Code Section 210999, would the project:	Potentially Significant Impact	Less Than Significant With Mitigation Incorporation	Less than Significant Impact	No Impact
a) Have a substantial adverse effect on a scenic vista?	☐	☐	☐	☑
b) Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within state scenic highway?	☐	☐	☐	☑
c) In non-urbanized areas, substantially degrade the existing visual character or quality of public views of the site and its surroundings? (Public views are those that are experienced from a publicly accessible vantage point). If the project is in an urbanized area, would the project conflict with applicable zoning and other regulations governing scenic quality?	☐	☐	☐	☑
d) Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?	☐	☐	☐	☑

Environmental Setting

The EIR for Tulare County's General Plan Updates identifies the views of the Sierra Nevada Mountains, scenic roadways, and historic settlements and places as important aesthetic resources within Tulare County.

Sierra Nevada Mountains: The Sierra Nevada mountain range and its foothills stretch along the east area of the county and are a valuable aesthetic resource. Additionally, Sequoia National Park is located within the stretch of the Sierra Nevada Mountains located in Tulare County. Sequoia National Forest is a U.S. National Forest known for its mountain scenery and natural resources. Located directly north of Sequoia National Park is Kings Canyon National Park, a U.S. National Park also known for its towering sequoia trees and scenic vistas. The Sierra Nevada Mountains are approximately 35 miles east of the proposed project site but views of the mountains are often not visible due to poor air quality.

The following photos demonstrate the aesthetic character of the project area. As shown, the proposed project site is located in a relatively flat area with agricultural development.

Deer Creek. View of the Northeast Corner of the Project Site.
Source: 4-Creeks, Inc. May 29, 2019

View of the Southeast Corner of the Project Site.
Source: 4-Creeks, Inc. May 29, 2019

Northeast Corner of Project Site looking south.
Source: 4-Creeks, Inc. May 29, 2019

View of the Exisiting Groundwater Recharge Basin.
Source: 4-Creeks, Inc. May 29, 2019

Regulatory Setting

Scenic Roadways: The California Scenic Highway Program was established in 1963 by the state Legislature for the purpose of protecting and enhancing the natural beauty of California highways and adjacent corridors through conservation strategies. The State Scenic Highway System includes a list of highways that have either been officially designated, or are eligible for designation. State laws affiliated with governing the scenic highway program can be found in Sections 260-263 in The Street and Highways Code. The Open Space and Conservation Element of the County General Plan identifies the following County Designated Scenic Roadways:

> **Tulare County Designated Scenic Highways and Drives:** Scenic highways and drives are roads bordered by mature and consistent landscaping that have area wide significance. They can be classified as rural roads that traverse land with outstanding natural scenic qualities, or ones which provide access to regionally significant scenic and recreational areas. The Tulare General Plan Update identifies preserving the rural agricultural characters of SR 99 and SR 65 following County-designated landscaped drives as valuable to the County and its communities.

State Scenic Highways: The State Scenic Highway Program is implemented by Caltrans and was developed to preserve the aesthetic quality of certain highway corridors. Highways included in this program are designated as scenic highways. A highway is designated as scenic based on how much of the natural landscape is visible to travelers, the quality of that landscape, and the extent to which development obstructs views of the landscape. The California Scenic Highway Mapping System identifies the following officially designated State Scenic Highways and highways eligible for designation:

- State Route 198 from Visalia to Three Rivers
- State Route 190 from Porterville to Ponderosa
- State Route 180 extending through Federal land into northern Tulare County

Tulare County General Plan: The Tulare County General Plan includes the following aesthetic resource goals and policies that are potentially applicable to the proposed project and Tulare County's aesthetic value:

- LU-7.12 Historic Buildings and Areas: The County shall encourage preservation of buildings and areas with special and recognized historic, architectural, or aesthetic value. New development should respect architecturally and historically significant buildings and areas. Landscaping, original roadways, sidewalks, and other public realm features of historic buildings or neighborhoods shall be restored or repaired where ever feasible.

- SL-1.2 Working Landscapes: The County shall require that new non-agricultural structures and infrastructure located in or adjacent to croplands, orchards, vineyards, and open rangelands be sited so as to not obstruct important viewsheds and to be designed to reflect unique relationships with the landscape by:

    1. Referencing traditional agricultural building forms and materials,
    2. Screening and breaking up parking and paving with landscaping, and
    3. Minimizing light pollution and bright signage.

- SL-1.3 Watercourses: The County shall protect visual access to, and the character of, Tulare County's scenic rivers, lakes, and irrigation canals by:

    1. Locating and designing new development to minimize visual impacts and obstruction of views of scenic watercourses from public lands and right-of-ways, and
    2. Maintaining the rural and natural character of landscape viewed from trails and watercourses used for public recreation.

Discussion

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

No Impact: A scenic vista is defined as a viewpoint that provides expansive views of highly valued landscape for the benefit of the general public. The Scenic Landscapes Element of the County General Plan identifies the Sierra Nevada Mountains as the primary scenic vista within the County. The proposed project site is located approximately 35 miles east of the Sierra Nevada Foothills.

The low profile of the proposed facilities, in conjunction with the distance between the proposed facilities to the scenic mountain range, would prevent any impacts to scenic vistas from occurring. There is *no impact.*

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

No Impact: There are three officially Designated State Scenic Highways within Tulare County. State Route 190 is the nearest Eligible State Scenic Highway and is located approximately 17 miles of the project site. Significant urban development between the project site and Highway 190 completely eliminates visibility of the project site from the highway. There will be *no impact.*

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

No Impact: The proposed project site is located in a non-urbanized area characterized by agricultural activity. The proposed project does not include any components which would substantially degrade the existing visual character or quality of the site or its surroundings there is *no impact.*

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

No Impact: The proposed project does not include outdoor lighting or include any notable reflective materials that could result in impacts to day or nighttime view. There is no impact.

II. AGRICULTURE AND FOREST RESOURCES:

In determining whether impacts to agricultural resources are significant environmental effects, lead agencies may refer to the California Agricultural Land Evaluation and Site Assessment Model (1997) prepared by the California Department of Conservation as an optional model to use in assessing impacts on agriculture and farmland. In determining whether impacts to forest resources, including timberland, are significant environmental effects, lead agencies may refer to information compiled by the California Department of Forestry and Fire Protection regarding the state's inventory of forest land, including the Forest and Range Assessment Project and the Forest Legacy Assessment project; and forest carbon measurement methodology provided in the Forest Protocols adopted by the California Air Resources Board. Would the project:	Potentially Significant Impact	Less Than Significant With Mitigation Incorporation	Less than Significant Impact	No Impact
a) Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?	☐	☐	☐	☑
b) Conflict with existing zoning for agricultural use, or a Williamson Act Contract?	☐	☐	☐	☑
c) Conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code section 12220(g)), timberland (as defined by Public Resources Code section 4526), or timberland zoned timberland Production (as defined by Government Code section 51104(g)?	☐	☐	☐	☑
d) Result in the loss of forestland or conversion of forest land to non-forest use?	☐	☐	☐	☑
e) Involve other changes in the existing environment, which, due to their location or nature, could result in conversion of Farmland, to non-agricultural use or conversion of forestland to non-forest use?	☐	☐	☐	☑

Environmental Setting

Agriculture is a vital component of the Tulare County's economy and is a significant source of the County's cultural identity. As such, preserving the productivity of agricultural lands is integral to maintaining the County's culture and economic viability.

The project site is currently operated as a groundwater recharge basin. Activities on surrounding properties include various types of agricultural orchards surrounding the basins. *A portion of the proposed project site is designated as Prime Farmland under the Important Farmland Mapping and Monitoring Program (FMMP) but is not under a Williamson Act Contract.*

Regulatory Setting

California Land Conservation Act of 1965: The California Land Conservation Act of 1965, commonly referred to as the Williamson Act, allows local governments to enter into contracts with private landowners to restrict the activities on specific parcels of land to agricultural or open space uses. The landowners benefit from the contract by receiving greatly reduced property tax assessments. The California Land Conservation Act is overseen by the California Department of Conservation; however local governments are responsible for determining specific allowed uses and enforcing the contract. The City of Tulare General Plan states that the City encourages the use of Williamson Act contracts on parcels located outside the urban development boundary.

California Farmland Mapping and Monitoring Program (FMMP): The FMMP is implemented by the California Department of Conservation (DOC) to conserve and protect agricultural lands within the State. Land is included in this program based on soil type, annual crop yields, and other factors that influence the quality of farmland. The FMMP mapping categories for the most important statewide farmland are as follows:

- ***Prime Farmland*** has the ideal physical and chemical composition for crop production. It has been used for irrigated production in the four years prior to classification and is capable of producing sustained yields.
- ***Farmland of Statewide Importance*** has also been used for irrigated production in the four years prior to classification and is only slightly poorer quality than Prime Farmland.
- ***Unique Farmland*** has been cropped in the four years prior to classification and does not meet the criteria for Prime Farmland or Farmland of Statewide Importance but has produced specific crops with high economic value.
- ***Farmland of Local Importance*** encompasses farmland that does not meet the criteria for the previous three categories. These may lack irrigation, produce major crops, be zoned as agricultural, and/or support dairy.
- ***Grazing Land*** has vegetation that is suitable for grazing livestock.

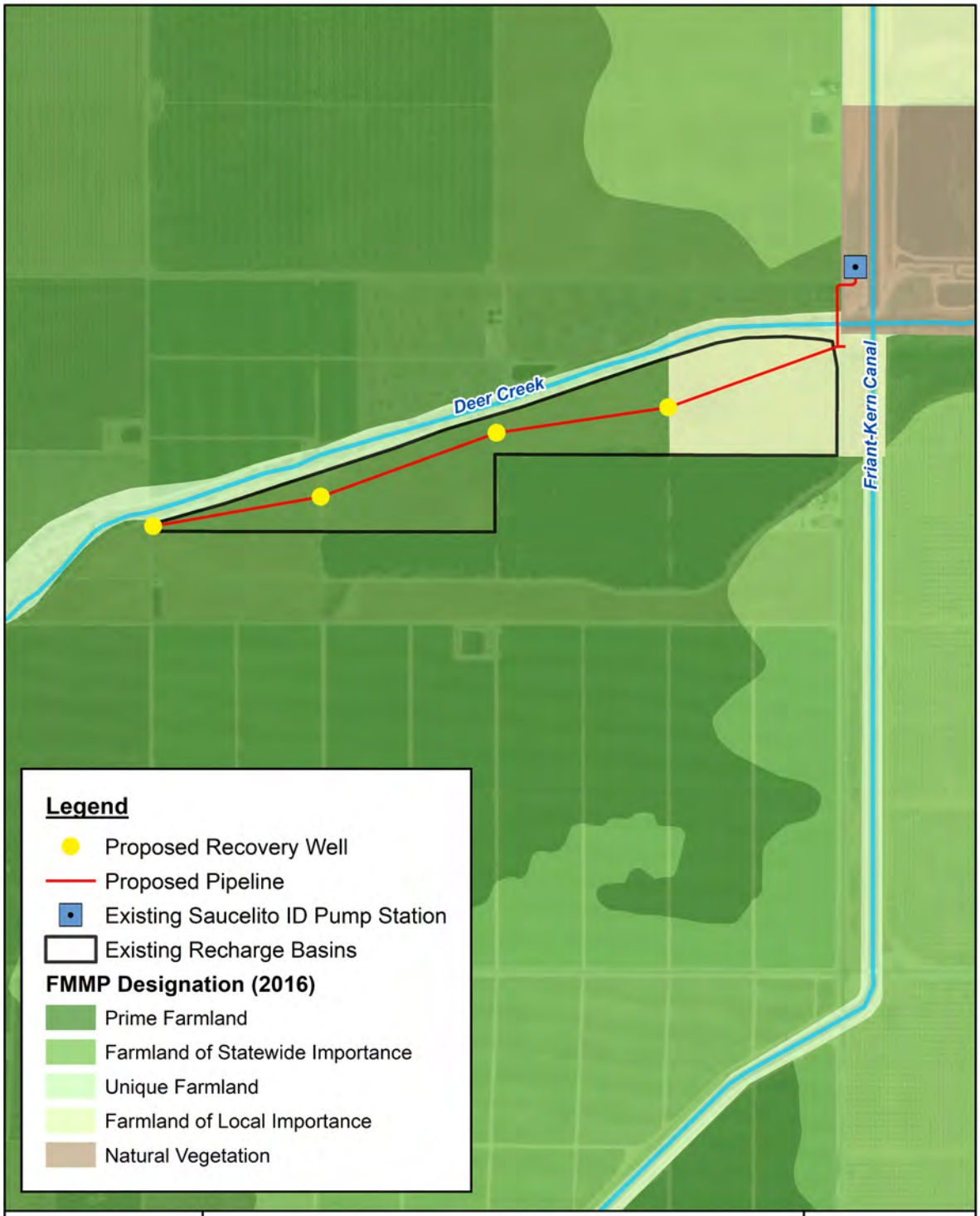
Tulare County General Plan: The Agriculture Element of the Tulare County General Plan includes the following agricultural resource goals and policies that are potentially applicable to the proposed project:

> **Goal AG-1 To promote the long-term conservation of productive and potentially- productive agricultural lands and to accommodate agricultural-support services and agriculturally-related activities that support the viability of agriculture and further the County's economic development goals.**

- AG-1.3 Williamson Act: The County should promote the use of the California Land Conservation Act (Williamson Act) on all agricultural lands throughout the County located outside established UDBs and HDBs. However, this policy carries with it a caveat that support for the Williamson Act as a tax reduction component is premised on continued funding of the State subvention program that offsets the loss of property taxes.
- AG-1.14 Right-to-Farm Noticing: The County shall condition discretionary permits for special uses and residential development within or adjacent to agricultural areas upon the recording of a Right-to-Farm Notice (Ordinance Code of Tulare County, Part VII, Chapter 29, Section 07-29-1000 and following) which is an acknowledgment that residents in the area should be prepared to accept the inconveniences and discomfort associated with normal farming activities and that an established agricultural operation shall not be considered a nuisance due to changes in the surrounding area.

Tulare County Right to Farm Notice: Tulare County Ordinance No. 2931, also known as the Right-to-Farm Ordinance, was adopted to promote a good neighbor policy between agriculturalists and other residents. By making clear what rights each has when they live near one another, the ordinance protects agricultural land uses from conflicts with non-agricultural uses. It also helps purchasers and residents understand the inconveniences that may occur as the natural result of living in or near agricultural areas. The *Ordinance Code of Tulare County*, Part VII, Chapter 29, Section 07-29-1000 states the following:

> TULARE COUNTY RIGHT-TO-FARM NOTICE
>
> The County shall condition discretionary permits for special uses and residential development within or adjacent to agricultural areas upon the recording of a Right-to-Farm Notice (Ordinance Code of Tulare County, Part VII, Chapter 29, Section 07-29-1000 and following) which is an acknowledgment that residents in the area should be prepared to accept the inconveniences and discomfort associated with normal farming activities and that an established agricultural operation shall not be considered a nuisance due to changes in the surrounding area.



Farmland Designations

Deer Creek - Friant Kern Canal Water Bank

Saucelito Irrigation District

Figure 3-2

Discussion

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

No Impact: The proposed project would involve construction on lands designated as Prime Farmland, however the project would not convert the land to non-agricultural use. The purpose of the project is to support agricultural activity by improving groundwater conditions and water supply. Additionally, the site will continue to be used for grazing of sheep when not being used for banking purposes.

The project site is located within the Tule River Basin Integrated Regional Water Management (IRWMP) planning area. The IRWMP identifies declining water supply as one of the region's most significant climate change vulnerabilities due to the region's dependence on a reliable water supply for agriculture. The region receives the vast majority of its agricultural water supply from snowmelt, which is becoming an increasingly unreliable resource as a result of climate change. The ability to store excess surface water during wet years for use during dry years is imperative to sustaining agricultural viability in the region.

Because the proposed project site will continue to serve an agricultural purpose, implementation of the project would not result in the conversion of farmland to nonagricultural use and there is no impact.

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

No Impact: The project site is currently zoned for agricultural use by Tulare County as AE-40, however the project does not conflict with this zoning. The project is not under a Williamson Act Contract. There is *no impact.*

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

No Impact: The project site is not zoned for forest or timberland production and there is no zone change proposed for the site. Therefore, *no impacts* would occur.

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

No Impact: No conversion of forestland, as defined under Public Resource Code or General Code, will occur as a result of the project and there would be *no impacts*.

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

No Impact: As discussed above, the proposed project site is presently serving as groundwater recharge basins and implementation of the proposed project would keep the existing environment as it currently is. There would be no disturbance of existing farming activities as a result of the proposed project. Adjacent farmland will not be converted to non-agricultural use as a result of the proposed project. Therefore, there is *no impact*.

III. AIR QUALITY

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

Environmental Setting

Air pollution is directly related to regional topography. Topographic features can either stimulate the movement of air or restrict air movement. California is divided into regional air basins based on topographic air drainage features. The proposed project site is within the San Joaquin Valley Air Basin, which is bordered by the Sierra Nevada Mountains to the east, Coastal Ranges to the west, and the Tehachapi Mountains to the south.

The mountain ranges surrounding the San Joaquin Valley Air Basin (SJVAB) serve to restrict air movement and prevent the dispersal of pollution. As a result, the SJVAB is highly susceptible to pollution accumulation over time. As shown in the Table 3-1, the SJVAB is in nonattainment for several pollutant standards.

Pollutant	Designation/Classification	
	Federal Standards	State Standards
Ozone – One hour	No Federal Standard[f]	Nonattainment/Severe
Ozone – Eight hour	Nonattainment/Extreme[e]	Nonattainment
PM 10	Attainment[c]	Nonattainment
PM 2.5	Nonattainment[d]	Nonattainment
Carbon Monoxide	Attainment/Unclassified	Attainment/Unclassified
Nitrogen Dioxide	Attainment/Unclassified	Attainment
Sulfur Dioxide	Attainment/Unclassified	Attainment
Lead (Particulate)	No Designation/Classification	Attainment
Hydrogen Sulfide	No Federal Standard	Unclassified
Sulfates	No Federal Standard	Attainment
Visibility Reducing Particles	No Federal Standard	Unclassified
Vinyl Chloride	No Federal Standard	Attainment

[a] See 40 CFR Part 81
[b] See CCR Title 17 Sections 60200-60210
[c] On September 25, 2008, EPA redesignated the San Joaquin Valley to attainment for the PM10 National Ambient Air Quality Standard (NAAQS) and approved the PM10 Maintenance Plan.
[d] The Valley is designated nonattainment for the 1997 PM2.5 NAAQS. EPA designated the Valley as nonattainment for the 2006 PM2.5

NAAQS on November 13, 2009 (effective December 14, 2009).
[e] Though the Valley was initially classified as serious nonattainment for the 1997 8-hour ozone standard, EPA approved Valley reclassification to extreme nonattainment in the Federal Register on May 5, 2010 (effective June 4, 2010).
[f] Effective June 15, 2005, the U.S. Environmental Protection Agency (EPA) revoked the federal 1-hour ozone standard, including associated designations and classifications. EPA had previously classified the SJVAB as extreme nonattainment for this standard. EPA approved the 2004 Extreme Ozone Attainment Demonstration Plan on March 8, 2010 (effective April 7, 2010). Many applicable requirements for extreme 1-hour ozone nonattainment areas continue to apply to the SJVAB.

Table 3-1. San Joaquin Valley Attainment Status; Source: SJVAPCD

Valley Fever: Valley Fever is an illness caused by a fungus (*Coccidioides immitis* and *C. posadasii*) that grows in soils under certain conditions. Favorable conditions for the Valley Fever fungus include low rainfall, high summer temperatures, and moderate winter temperatures. In California, the counties with the highest incident of Valley Fever are Fresno, Kern and Kings counties. When soils are disturbed by wind or activities like construction and farming, Valley Fever fungal spores can become airborne. The spores present a potential health hazard when inhaled. Individuals in occupations such as construction, agriculture, and archaeology have a higher risk of exposure due to working in areas of disturbed soils which may have the Valley Fever fungus.

Regulatory Setting

Federal Clean Air Act – The 1977 Federal Clean Air Act (CAA) authorized the establishment of the National Ambient Air Quality Standards (NAAQS) and set deadlines for their attainment. The Clean Air Act identifies specific emission reduction goals, requires both a demonstration of reasonable further progress and an attainment demonstration, and incorporates more stringent sanctions for failure to meet interim milestones. The U.S. EPA is the federal agency charged with administering the Act and other air quality-related legislation. EPA's principal functions include setting NAAQS; establishing minimum national emission limits for major sources of pollution; and promulgating regulations. Under CAA, the NCCAB is identified as an attainment area for all pollutants.

California Clean Air Act – California Air Resources Board coordinates and oversees both state and federal air pollution control programs in California. As part of this responsibility, California Air Resources Board monitors existing air quality, establishes California Ambient Air Quality Standards, and limits allowable emissions from vehicular sources. Regulatory authority within established air basins is provided by air pollution control and management districts, which control stationary-source and most categories of area-source emissions and develop regional air quality plans. The project is located within the jurisdiction of the San Joaquin Valley Air Pollution Control District.

The state and federal standards for the criteria pollutants are presented in Section 8.4 of The San Joaquin Valley Unified Air Pollution Control District's 2015 "Guidance for Assessing and Mitigating Air Quality Impacts". These standards are designed to protect public health and welfare. The "primary" standards have been established to protect the public health. The "secondary" standards are intended to protect the nation's welfare and account for air pollutant effects on soils, water, visibility, materials, vegetation and other aspects of general welfare. The U.S. EPA revoked the national 1-hour ozone standard on June 15, 2005, and the annual PM_{10} standard on September 21, 2006, when a new $PM_{2.5}$ 24-hour standard was established.

Pollutant	Averaging Time	California Standards[1]		National Standards[2]		
		Concentration[3]	Method[4]	Primary[3,5]	Secondary[3,6]	Method[7]
Ozone (03)	1 Hour	0.09 ppm (180 µg/m^3)	Ultraviolet Photometry	--	Same as Primary Standard	Ultraviolet 8 Hour Photometry
	8 Hour	0.070 ppm (137 µg/m^3)		0.075 ppm (147 µg/m^3)		
Respirable Particulate Matter (PM_{10})	24 Hour	50 µg/m	Gravimetric or Beta Attenuation	150 µg/m^3	Same as Primary Standard	Inertial Separation and Gravimetric Annual Analysis
	Annual Arithmetic Mean	20 µg/m3		--		
Fine Particulate Matter ($PM_{2.5}$)	24 Hour		Gravimetric or Beta Attenuation	35 µg/m^3	Same as Primary Standard	Inertial Separation and Gravimetric Annual Analysis
	Annual Arithmetic Mean	12 µg/m^3		15 µg/m^3		
Carbon Monoxide (CO)	1 Hour	20 ppm (23 mg/m^3)	Non-Dispersive Infrared Photometry (NDIR)	35 ppm (40 mg/m^3)	--	Non-Dispersive Infrared Photometry (NDIR)
	8 Hour	9.0 ppm (10 mg/m^3)		9 ppm (10 mg/m^3)	--	
	8 Hour (Lake Tahoe)	6 ppm (7 mg/m^3)		--	--	
Nitrogen Dioxide (NO_2) [8]	1 Hour	0.18 ppm (339 µg/m^3)	Gas Phase Chemiluminescence	100 ppb (188 µg/m^3)	--	Gas Phase Annual Chemiluminescence
	Arithmetic Mean	0.030 ppm (57 µg/m^3)		53 ppb (100 µg/m^3)	Same as Primary Standard	
Sulfur Dioxide	1 Hour	0.25 ppm (655 µg/m^3)	Ultraviolet Fluorescence	75 ppb (196 µg/m^3)	--	Ultraviolet Fluorescence; Spectrophotometry (Pararosaniline Method)
	3 Hour	--		--	0.5 ppm (1300 µg/m^3)	
	24 Hour	0.04 ppm (105 µg/m^3)		0.14 ppm (for certain areas)9	--	
	Annual Arithmetic Mean	--		0.030 ppm (for certain areas)9	--	
Lead[10,11]	30 Day Average	1.5 µg/m^3	Atomic Absorption	--	--	High Volume Sampler and Atomic Absorption
	Calendar Quarter	--		1.5 µg/m3 (for certain areas)11	Same as Primary Standard	
	Rolling 3-Month Average	--		0.15 µg/m^3		

Pollutant	Averaging Time	California Standards[1]		National Standards[2]		
		Concentration[3]	Method[4]	Primary[3,5]	Secondary[3,6]	Method[7]
Visibility Reducing Particles[12]	8 Hour	See footnote 12	Beta Attenuation and Transmittance through Filter Tape	No National Standard		
Sulfates	24 Hour	25 µg/m^3	Ion Chromatography			
Hydrogen Sulfide	1 Hour	0.03 ppm (42 µg/m^3)	Ultraviolet Fluorescence			
Vinyl Chloride[10]	24 Hour	0.01 ppm (26 µg/m^3)	Gas Chromatography			

1. California standards for ozone, carbon monoxide (except 8-hour Lake Tahoe), sulfur dioxide (1 and 24 hour), nitrogen dioxide, and particulate matter (PM10, PM2.5, and visibility reducing particles), are values that are not to be exceeded. All others are not to be equaled or exceeded. California ambient air quality standards are listed in the Table of Standards in Section 70200 of Title 17 of the California Code of Regulations.
2. National standards (other than ozone, particulate matter, and those based on annual arithmetic mean) are not to be exceeded more than once a year. The ozone standard is attained when the fourth highest 8-hour concentration measured at each site in a year, averaged over three years, is equal to or less than the standard. For PM10, the 24 hour standard is attained when the expected number of days per calendar year with a 24-hour average concentration above 150 µg/m3 is equal to or less than one. For PM2.5, the 24 hour standard is attained when 98 percent of the daily concentrations, averaged over three years, are equal to or less than the standard. Contact the U.S. EPA for further clarification and current national policies.
3. Concentration expressed first in units in which it was promulgated. Equivalent units given in parentheses are based upon a reference temperature of 25°C and a reference pressure of 760 torr. Most measurements of air quality are to be corrected to a reference temperature of 25°C and a reference pressure of 760 torr; ppm in this table refers to ppm by volume, or micromoles of pollutant per mole of gas.
4. Any equivalent measurement method which can be shown to the satisfaction of the ARB to give equivalent results at or near the level of the air quality standard may be used.
5. National Primary Standards: The levels of air quality necessary, with an adequate margin of safety to protect the public health.
6. National Secondary Standards: The levels of air quality necessary to protect the public welfare from any known or anticipated adverse effects of a pollutant.
7. Reference method as described by the U.S. EPA. An "equivalent method" of measurement may be used but must have a "consistent relationship to the reference method" and must be approved by the U.S. EPA.
8. To attain the 1-hour national standard, the 3-year average of the annual 98th percentile of the 1-hour daily maximum concentrations at each site must not exceed 100 ppb. Note that the national standards are in units of parts per billion (ppb). California standards are in units of parts per million (ppm). To directly compare the national standards to the California standards the units can be converted from ppb to ppm. In this case, the national standards of 53 ppb and 100 ppb are identical to 0.053 ppm and 0.100 ppm, respectively.
9. On June 2, 2010, a new 1-hour SO2 standard was established and the existing 24-hour and annual primary standards were revoked. To attain the 1-hour national standard, the 3-year average of the annual 99th percentile of the 1-hour daily maximum concentrations at each site must not exceed 75 ppb. The 1971 SO2 national standards (24-hour and annual) remain in effect until one year after an area is designated for the 2010 standard, except that in areas designated nonattainment for the 1971 standards, the 1971 standards remain in effect until implementation plans to attain or maintain the 2010 standards are approved. Note that the 1-hour national standard is in units of parts per billion (ppb). California standards are in units of parts per million (ppm). To directly compare the 1-hour national standard to the California standard the units can be converted to ppm. In this case, the national standard of 75 ppb is identical to 0.075 ppm.
10. The ARB has identified lead and vinyl chloride as 'toxic air contaminants' with no threshold level of exposure for adverse health effects determined. These actions allow for the implementation of control measures at levels below the ambient concentrations specified for these pollutants.
11. The national standard for lead was revised on October 15, 2008 to a rolling 3-month average. The 1978 lead standard (1.5 µg/m3 as a quarterly average) remains in effect until one year after an area is designated for the 2008 standard, except that in areas designated nonattainment for the 1978 standard, the 1978 standard remains in effect until implementation plans to attain or maintain the 2008 standard are approved.
12. In 1989, the ARB converted both the general statewide 10-mile visibility standard and the Lake Tahoe 30-mile visibility standard to instrumental equivalents, which are "extinction of 0.23 per kilometer" and "extinction of 0.07 per kilometer" for the statewide and Lake Tahoe Air Basin standards, respectively.

Table 3-2. Ambient Air Quality Standards; Source: SJVAPCD

San Joaquin Valley Air Pollution Control District (SJVAPCD) – The SJVAPCD is responsible for enforcing air quality standards in the project area. To meet state and federal air quality objectives, the SJVAPCD adopted the following thresholds of significance for projects:

Pollutant/Precursor	Construction Emissions	Operational Emissions	
		Permitted Equipment and Activities	Non-Permitted Equipment and Activities
	Emissions (tpy)	Emissions (tpy)	Emissions (tpy)
CO	100	100	100
Nox	10	10	10
ROG	10	10	10
SOx	27	27	27
PM10	15	15	15
PM2.5	15	15	15

Table 3-3. SJVAPCD Thresholds of Significance for Criteria Pollutants; Source: SJVAPCD

The following SJVAPCD rules and regulations may apply to the proposed project:

- **Rule 3135:** Dust Control Plan Fee. All projects which include construction, demolition, excavation, extraction, and/or other earth moving activities as defined by Regulation VIII (Described below) are required to submit a Dust Control Plan and required fees to mitigate impacts related to dust.
- **Rule 4101:** Visible Emissions. District Rule 4101 prohibits visible emissions of air contaminants that are dark in color and/or have the potential to obstruct visibility.
- **Rule 9510:** Indirect Source Review (ISR). This rule reduces the impact PM10 and NOX emissions from growth on the SJVB. This rule places application and emission reduction requirements on applicable development projects in order to reduce emissions through onsite mitigation, offsite SJVAPCD administered projects, or a combination of the two. This project will submit an Air Impact Assessment (AIA) application in accordance with Rule 9510's requirements.
- **Regulation VIII:** Fugitive PM10 Prohibitions. Regulation VIII is composed of eight rules which together aim to limit PM10 emissions by reducing fugitive dust. These rules contain required management practices to limit PM10 emissions during construction, demolition, excavation, extraction, and/or other earth moving activities.

Discussion

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

No Impact: The proposed project is located within the boundaries of the San Joaquin Valley Air Pollution Control District (SJVAPCD) and would result in air pollutant emissions that are regulated by the air district during both its construction and operational phases. The SJVAPCD is responsible for bringing air quality in Tulare County into compliance with federal and state air quality standards. The air district has Particulate Matter (PM) plans, Ozone Plans, and Carbon Monoxide Plans that serve as the clean air plan for the basin.

Together, these plans quantify the required emission reductions to meet federal and state air quality standards and provide strategies to meet these standards. The SJVAPCD adopted the

Indirect Source Review (ISR) Rule in order to fulfill the District's emission reduction commitments in its PM10 and Ozone (NOx) attainment plans and has since determined that implementation and compliance with ISR would reduce the cumulative PM10 and NOx impacts anticipated in the air quality plans to a less than significant level.

Construction Phase. The project would entail construction of a new 48" diameter pipeline form the SID turnout on the FKC to the existing recharge basins the pipeline is being installed under. The project would generate pollutant emissions from the following activities: site preparation, grading, trenching, and building construction. The construction related emissions from these activities were calculated using CalEEMod. The full CalEEMod Report can be found in Appendix A. As shown in Table 3-4 below, project construction related emissions do not exceed the thresholds established by the SJVAPCD.

	CO (tpy)	ROG (tpy)	SOx (tpy)*	Nox (tpy)	PM10 (tpy)	PM2.5 (tpy)
Emissions Generated from Project Construction	**2.0427**	**0.3417**	**0.00381**	**3.5806**	**0.9892**	**0.6061**
SJVAPCD Air Quality Thresholds of Significance	**100**	**10**	**27**	**10**	**15**	**15**
*Threshold established by SJVAPCD for SOx, however emissions are reported as SO2 by CalEEMod.						

Table 3-4. Projected Project Emissions Compared to SJVAPCD Thresholds of Significance for Criteria Pollutants related to Construction; Source: SJVAPCD, CalEEMod Analysis (Appendix A)

Operational Phase. Implementation of the proposed project would result in some long-term emissions due to the operation of pumps to transport water. Recovery of banked water would involve the use of four proposed recovery wells. It is anticipated that the proposed recovery wells would typically operate 10 months out of the year during dry years.

The Full CalEEMod Report can be found in Appendix A. As shown in Table 3-5 below, the project's operational emissions do not exceed the thresholds established by the SJVAPCD.

	CO (tpy)	ROG (tpy)	SOx (tpy)*	Nox (tpy)	PM10 (tpy)	PM2.5 (tpy)
Operational Emissions (Dry Years)	**2.2444**	**0.2394**	**0.00395**	**1.9260**	**0.1066**	**0.1066**
SJVAPCD Air Quality Thresholds of Significance	**100**	**10**	**27**	**10**	**15**	**15**
*Threshold established by SJVAPCD for SOx, however emissions are reported as SO2 by CalEEMod.						

Table 3-5. Projected Project Emissions Compared to SJVAPCD Thresholds of Significance for Criteria Pollutants related to Operations; Source: SJVAPCD, CalEEMod Analysis (Appendix A)

Because the emissions from both construction and operation of the proposed project would be below the thresholds of significance established by the SJVAPCD, the project would not conflict with or obstruct implementation of an applicable air quality plan and there is *no impact.*

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

Less Than Significant Impact: The SJVAPCD is responsible for bringing air quality in Tulare County into compliance with federal and state air quality standards. The significance thresholds and rules developed by the SJVAPCD are designed to prevent projects from violating air quality standards or significantly contributing to existing air quality violations. As discussed above, construction related emissions from the project will not exceed thresholds established by the SJVAPCD, and emissions related to project operations would be minimal. The project will comply with all applicable SJVAPCD rules and regulations, which will further reduce the potential for any significant impacts related to air quality as a result of project implementation. Because these thresholds and regulations are designed to achieve and/or maintain federal and state air quality standards, and the project is compliant with these thresholds and regulations, the project will not violate an air quality standard or significantly contribute to an existing air quality violation. The impact is *less than significant.*

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

No Impact: Emissions will be generated during construction and (less so) operation of the proposed project. Emissions generated during construction and operation will be regulated by the SJVAPCD and there are no sensitive receptors directly adjacent to the project site. The project does not include any project components identified by the California Air Resources Board that could potentially impact any sensitive receptors. These include heavily traveled roads, distribution centers, fueling stations, and dry-cleaning operations.

Furthermore, the project would not expose sensitive receptors to substantial pollutant concentrations. The project site is surrounded by agricultural land uses and is not located near land designated for residential use. Because the project will comply with all thresholds and regulations established by the SJVAPCD, and there are no sensitive receptors adjacent to the project site, there would be *no impact.*

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

Less Than Significant Impact: Standing water does have the potential to be a source of odor. However, this odor would be temporary, typical to other agricultural odors and would not impact a substantial number of people. Odors from standing water would be temporary, as water would only be diverted into the existing groundwater recharge basins during flood events, and all diverted water would infiltrate through the soil to replenish groundwater resources. The project would also result in typical construction odors during construction. However, there are no sensitive receptors adjacent to the project site and any odors generated would be temporary and common to any construction activity.

Because odors generated during project construction and operation would be temporary, relatively insignificant, and would not affect a significant number of people, the impact is *less than significant.*

IV. BIOLOGICAL RESOURCES

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

Discussion for this section originates from the Biological Evaluation that was prepared for this project by Live Oak Associates, Inc. to identify sensitive biological resources, provide project impact analysis, and suggest mitigation measures. The full document can be found in Appendix B.

Environmental Setting

LOA conducted a reconnaissance-level field survey of the project site on May 31, 2019. The survey consisted of walking and driving through the project site while identifying its principal biotic habitats and associated flora and fauna, evaluating the suitability of these habitats for special status plant and animal species, and noting the presence of any sensitive biological resources on or adjacent to the site. At the time of the field survey, the site consisted of existing recharge basins, fallow fields, a short segment of Deer Creek, and roads, road shoulders, and other ruderal (disturbed) areas.

Based on LOA's field survey and a California Natural Diversity Data Base (CNDDB) query of the nine U.S. Geological Survey (USGS) 7.5-minute quadrangles containing and surrounding the project site, eight special status animal species have some potential to occur on the project site from time to time. Three of these species have protections under the federal and/or California Endangered Species Acts (FESA and CESA, respectively), while the remaining five have been designated Species of Special Concern (SSC) by the California Department of Fish and Wildlife (CDFW). These animals are as follows:

- Swainson's hawk (Buteo swainsoni) – CESA Threatened
- San Joaquin kit fox (Vulpes macrotis mutica) – FESA Endangered, CESA Threatened
- Tricolored blackbird (Agelaius tricolor) – CESA Candidate Endangered
- Northern harrier (Circus cyaneus) – SSC
- Burrowing owl (Athene cunicularia) – SSC
- Pallid bat (Antrozous pallidus) – SSC
- Townsend's big-eared bat (Corynorhinus townsendii) – SSC
- Western mastiff bat (Eumops perotis californicus) – SSC

The project site contains a short segment of Deer Creek, a seasonal drainage channel that supports riparian vegetation and may represent an important corridor for wildlife movement. Like all surface water and groundwater in the State of California ("Waters of the State"), Deer Creek is subject to the regulatory authority of the State Water Resources Control Board and local Regional Water Quality Control Board (RWQCB) per the provisions of the Porter-Cologne Water Quality Control Act of 1969. It is also likely to fall under the jurisdiction of CDFW. Deer Creek is not likely to be considered a Water of the U.S., based on its having been previously disclaimed by the U.S. Army Corps of Engineers (USACE) in a jurisdictional determination issued in 2015. The project site also contains portions of existing recharge basins that, although not subject to the jurisdiction of the USACE or CDFW, would fall under the jurisdiction of the RWQCB as Waters of the State.

Regulatory Setting

Federal Endangered Species Act (FESA): defines an *endangered species* as "any species or subspecies that is in danger of extinction throughout all or a significant portion of its range." A threatened species is defined as "any species or subspecies that is likely to become an endangered species within the foreseeable future throughout all or a significant portion of its range."

The Federal Migratory Bird Treaty Act (FMBTA: 16 USC 703-712): FMBTA 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.

Although the USFWS and its parent administration, the U.S. Department of the Interior, have traditionally interpreted the FMBTA as prohibiting incidental as well as intentional "take" of birds, a January 2018 legal opinion issued by the Department of the Interior now states that incidental take of migratory birds while engaging in otherwise lawful activities is permissible under the FMBTA. However, 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), even if incidental to lawful activities.

Birds of Prey (CA Fish and Game Code Section 3503.5): 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.

Clean Water Act: Section 404 of the Clean Water Act of (1972) is to maintain, restore, and enhance the physical, chemical, and biological integrity of the nation's waters. Under Section 404 of the Clean Water Act, the US Army Corps of Engineers (USACE) regulates discharges of dredged and fill materials into "waters of the United States" (jurisdictional waters). Waters of the US including navigable waters of the United States, interstate waters, tidally influenced waters, and all other waters where the use, degradation, or destruction of the waters could affect interstate or foreign commerce, tributaries to any of these waters, and wetlands that meet any of these criteria or that are adjacent to any of these waters or their tributaries.

California Endangered Species Act (CESA): prohibits the take of any state-listed threatened and endangered species. CESA defines *take* as "any action or attempt to hunt, pursue, catch, capture, or kill any listed species." If the proposed project results in a take of a listed species, a permit pursuant to Section 2080 of CESA is required from the CDFG.

Discussion

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

Less Than Significant Impact with Mitigation:

Eight special status animal species may occur on the site from time to time. Of these, there are three species for which mitigation measures would be required to ensure significant impacts do not occur. These special status species and their respective mitigation measures are described below.

Pallid bat and Townsend's big-eared bat: The project site contains a short segment of Deer Creek where the creek will be crossed by one of the proposed pipelines. Deer Creek supports riparian trees with the potential to be used for roosting by native bats including the pallid bat and Townsend's big-eared bat. If pipeline installation requires the removal of riparian trees, any bats roosting within could be injured or killed. Construction-related mortality of roosting pallid bats and Townsend's big-eared bats is considered a potentially significant impact of the project under CEQA. Individuals of these species may also forage on the site, but would not be at risk of construction-related injury or mortality during this activity because bats are highly mobile while foraging and would be expected to simply fly away from construction disturbance. The following mitigation measures will be implemented to prevent significant impacts from occurring to the pallid bat and Townsend's big-eared bat.

Mitigation Measures for Pallid Bat and Townsend's Big-Eared Bat

Mitigation Measure BIO-1a: Construction Timing. To avoid potential impacts to pallid bat and Townsend's big-eared bat maternity roosts, tree removal should occur outside of the period between April 16 and August 31, the time frame within which colony-roosting bats generally assemble, give birth, nurse their young, and ultimately disperse.

Mitigation Measure BIO-1b: Preconstruction Surveys. If tree removal is to occur between April 16 and August 31 (general maternity bat roost season), a qualified biologist will survey suitable trees for the presence of bats within 30 days prior to their removal. The biologist will look for individuals, guano, and staining, and will listen for bat vocalizations. If necessary, the biologist will wait for nighttime emergence of bats from roost sites. If no bats are observed to be roosting or breeding, then no further action would be required, and construction could proceed.

Mitigation Measure BIO-1c: Minimization. If a non-breeding bat roost is found in disturbance areas, the individuals will be humanely evicted via two-stage removal of trees, under the direction of a qualified biologist to ensure that no harm or "take" of any bats occurs as a result of construction activities.

Mitigation Measure BIO-1d: Avoidance of Maternity Roosts. If a maternity colony is detected during preconstruction surveys, a disturbance-free buffer will be established around the colony and remain in place until a qualified biologist determines that the nursery is no longer active. The disturbance-free buffer will range from 50 to 100 feet as determined by the biologist.

Implementation of the above measures will reduce potential project impacts to pallid bat and Townsend's big-eared bat to a less than significant level and will ensure compliance with state laws protecting these species.

Swanison's hawk: The Swainson's hawk is relatively uncommon along the eastern margin of the San Joaquin Valley, where the project site is located. However, this wide-ranging species has some potential to nest in the site's riparian trees and forage over the site's fallow fields, recharge basins, and ruderal areas. If pipeline installation across Deer Creek requires the removal of riparian trees, any Swainson's hawks nesting within could be injured or killed. Swainson's hawks nesting in trees adjacent to the site or in on-site trees to be retained could be disturbed by construction activities such that they would abandon their nests. Construction-related injury, mortality, or disturbance of nesting Swainson's hawks is considered potentially significant impact of the project under CEQA. The project does not have the potential to injure or kill foraging Swainson's hawks because the Swainson's hawk is highly mobile while foraging and would be expected to simply fly away from construction disturbance. The following mitigation measures will be implemented to prevent significant impacts from occurring to the Swainson's hawk.

Mitigation Measures for Swainson's hawk

Mitigation Measure BIO-2a: Construction Timing. If feasible, the project will be constructed outside the Swainson's hawk nesting season, typically defined as March 1-September 15.

Mitigation Measure BIO-2b: Preconstruction Surveys. If the project must be constructed between March 1 and September 15, a qualified biologist will conduct preconstruction surveys for Swainson's hawk nests on and within ½ mile of the project site within 10 days of the onset of these activities.

Mitigation Measure BIO-2c: Avoidance. Should any active nests be discovered in or near proposed construction zones, the biologist will identify a suitable construction-free buffer around the nest. This buffer will be identified on the ground with flagging or fencing, and will be maintained until the biologist has determined that the young have fledged.

Mitigation Measure BIO-2d: Nest Monitoring. Should construction activity be necessary within the designated buffer around an active Swainson's hawk nest, a qualified biologist will monitor the nest daily for one week, and thereafter once a week, for the duration of the activity or until the nest is no longer active, whichever comes first. Should construction activity within the buffer change such that a higher level of disturbance will be generated, monitoring will occur daily for one week and then resume the once-a-week regimen. If, at any time, the biologist determines that construction activity may be compromising nesting success, construction activity within the buffer will be altered or suspended until the biologist determines that the nest is no longer at risk of failing.

Implementation of the above measures will reduce potential project impacts to Swainson's hawk to a less than significant level and will ensure compliance with state laws protecting this species.

San Joaquin kit fox: The site consists primarily of existing recharge basins of limited value for the San Joaquin kit fox (SJKF), and this species has not been documented in the project vicinity for over 25 years. However, because the SJKF is wide-ranging and adaptable, there is some potential for it to pass through the site from time to time, possibly denning or foraging in the site's fallow fields or ruderal habitats and foraging in the recharge basins during dry periods. If one or more individuals of this species are present on site at the time of construction, they could be injured or killed by construction activities. Construction-related injury or mortality of the SJKF is considered a potentially significant impact of the project under CEQA. The following mitigation measures will be implemented to prevent significant impacts from occurring to the San Joaquin kit fox.

Mitigation Measures for San Joaquin Kit Fox

Mitigation Measure BIO-3a: Preconstruction Surveys. Preconstruction surveys for the SJKF shall be conducted on and within 200 feet of the project site, no less than 14 days and no more than 30 days prior to the start of ground disturbance activities on the site. The primary objective is to identify kit fox habitat features (e.g., potential dens and refugia) on and adjacent to the site and evaluate their use by kit foxes. If an active kit fox den is detected within or immediately adjacent to the construction area, the USFWS shall be contacted immediately to determine the best course of action. Preconstruction surveys will be repeated following any lapses in construction of 30 days or more.

Mitigation Measure BIO-3b: Avoidance. Should active kit fox dens be detected during preconstruction surveys, the Sacramento Field Office of the USFWS and the Fresno Field Office of CDFW will be notified. A disturbance-free buffer will be established around the

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

Mitigation Measure BIO-3c: Minimization. The project will observe all minimization measures presented in the USFWS (2011) Standardized Recommendations for the Protection of the Endangered San Joaquin Kit Fox Prior to or During Ground Disturbance. Such measures include, but are not limited to: restriction of construction-related vehicle traffic to established roads, construction areas, and other designated areas; inspection and covering of structures (e.g., pipes), as well as installation of escape structures, to prevent the inadvertent entrapment of kit foxes; restriction of rodenticide and herbicide use; and proper disposal of food items and trash.

Mitigation Measure BIO-3d: Employee Education Program. Prior to the start of construction, the applicant will retain a qualified biologist to conduct a tailgate training for all construction staff on the San Joaquin kit fox. This training will include a description of the kit fox and its habitat needs; a report of the occurrence of kit fox in the project vicinity; an explanation of the status of the species and its protection under the Endangered Species Act; and a list of the measures being taken to reduce impacts to the species during construction. Attendees will be provided a handout with all of the training information included in it. The applicant will use this handout to train any construction personnel that were not in attendance at the first meeting, prior to those personnel starting work on the site.

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

Implementation of the above measures will reduce potential project impacts to San Joaquin kit fox to a less than significant level and will ensure compliance with state laws protecting this species.

Tricolored blackbirds: At the time of the field survey, some of the existing recharge basins contained dense vegetation with the potential to support nesting tricolored blackbirds. This species could also forage over the site's basins and ruderal areas. Tricolored blackbirds are highly mobile while foraging and would be expected to simply fly away from construction disturbance. However, if this species is nesting on site at the time of construction, individuals could be at risk of construction-related injury, mortality, or disturbance leading to nest abandonment. Construction activities may also disturb individuals of these species nesting adjacent to the site. Construction-related injury, mortality, or disturbance of the tricolored blackbird are considered potentially significant impacts of the project under CEQA. The following mitigation measures will be implemented to prevent significant impacts from occurring to Tricolored blackbirds.

Mitigation Measures for Tricolored B**lackbirds**

Mitigation Measure BIO-4a: Construction Timing. If feasible, project construction will take place outside of the avian nesting season, typically defined as February 1 to August 31.

Mitigation Measure BIO-4b: Preconstruction Surveys. If the project must be constructed between February 1 and August 31, then within 10 days prior to the start of construction, a qualified biologist will conduct a preconstruction survey for tricolored blackbird nests in suitable habitats on and within 500 feet of construction zones. Inaccessible portions of the survey area will be surveyed using binoculars.

Mitigation Measure BIO-4c: Avoidance. Should tricolored blackbird nests be discovered in or near proposed construction zones, the biologist will identify a suitable construction-free buffer around the nest. This buffer will be identified on the ground with flagging or fencing, and will be maintained until the biologist has determined that the young have fledged.

Implementation of the above measures will reduce potential project impacts to Tricolored Blackbirds to a less than significant level and will ensure compliance with state laws protecting this species.

The burrowing owl: The burrowing owl has never been documented in the immediate project vicinity; the closest known occurrence is nearly 10 miles to the southeast. However, should this species occur in the area, there is some potential for it to nest, roost, or forage in the site's fallow fields and ruderal areas, and forage in the recharge basins during dry periods. The project does not have the potential to injure or kill foraging burrowing owls because this species is highly mobile while foraging and would be expected to simply fly away from construction disturbance. However, if burrowing owls are occupying burrows on site at the time of construction, owls could be injured or killed by construction activities. If construction occurs during the nesting season, burrowing owls could be disturbed by construction activities such that they would abandon their young. Construction-related injury, mortality, or disturbance of burrowing owls is considered a potentially significant impact of the project under CEQA. The following mitigation measures will be implemented to prevent significant impacts from occurring to burrowing owls.

Mitigation Measures for the Burrowing Owl

Mitigation Measure BIO-5a: Take Avoidance Survey. A take avoidance survey for burrowing owls will be conducted by a qualified biologist between 14 and 30 days prior to the start of construction. This take avoidance survey will be conducted according to methods described in the Staff Report on Burrowing Owl Mitigation (CDFG 2012). The survey area will include all potential roosting and nesting habitat on and within 200 meters of project impact areas, where accessible.

Mitigation Measure BIO-5b: Avoidance of Nest Burrows. If project activities are undertaken during the breeding season (February 1-August 31) and active nest burrows are identified within or near project impact areas, a 200-meter disturbance-free buffer will be established around these burrows. The buffers will be enclosed with temporary fencing to prevent construction equipment and workers from entering the setback area. Buffers will remain in place for the duration of the breeding season, unless otherwise arranged with CDFW. After the breeding season, passive relocation of any remaining owls may take place as described below.

Mitigation Measure BIO-5c: Avoidance or Passive Relocation of Resident Owls. During the non-breeding season (September 1-January 31), resident owls occupying burrows in project

impact areas may either be avoided, or passively relocated to alternative habitat. If the applicant chooses to avoid active owl burrows within the impact area during the non-breeding season, a 50-meter disturbance-free buffer will be established around these burrows. The buffers will be enclosed with temporary fencing, and will remain in place until a qualified biologist determines that the burrows are no longer active. If the applicant chooses to passively relocate owls during the non-breeding season, this activity will be conducted in accordance with a relocation plan prepared by a qualified biologist.

Implementation of the above measures will reduce potential project impacts to Tricolored Blackbirds to a less than significant level and will ensure compliance with state laws protecting this species.

Implementation of Mitigation Measures BIO-1a, BIO-1b, BIO-1c, BIO-1d, BIO-2a, BIO-2b, BIO-2c, BIO-2d, BIO-2e, BIO-3a, BIO-3b, BIO-3c, BIO-3d, BIO-3e, BIO-4a, BIO-4b, BIO-4c, BIO-5a, BIO-5b, and BIO-5c will ensure that impacts to species identified as a candidate, sensitive, or special status will be less than significant with mitigation incorporation.

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

Less than Significant Impact with Mitigation: The proposed pipeline between the FKC and recharge basins will intersect Deer Creek, a natural drainage that supports riparian habitat considered sensitive on the basis of its value to native wildlife and limited distribution in the Central Valley. To accommodate pipeline installation across Deer Creek, riparian trees and shrubs may need to be removed. Riparian habitat is a diminishing resource in the Central Valley, with an estimated 90% of the Valley's original extent of riparian forests lost to development, water diversions, and other anthropogenic uses. Retaining and restoring the habitat that remains is integral to the conservation of California's flora and fauna, many species of which are found only in riparian systems. Project-related loss of riparian trees and shrubs is considered a *less than significant impact with mitigation.*

Mitigation Measure for Riparian Habitat

Mitigation Measure BIO-6a: Tree Survey. Prior to project construction, a qualified biologist will survey all riparian habitats of the project site, and will record the species, location, and diameter at breast height (DBH) of each native tree and shrub 2 inches DBH or greater. Upon project completion, a qualified biologist will survey the site to determine if any surveyed trees/shrubs were removed.

Mitigation Measure BIO-6b: Revegetation. The project applicant will provide compensation for removal of any native riparian trees or shrubs 4 inches DBH or greater. Replacement plantings will be installed at a ratio of 3:1 for trees/shrubs with a DBH between 4 and 24 inches, and at a ratio of 10:1 for trees/shrubs with a DBH greater than 24 inches. A revegetation plan will be prepared for the project that will detail the methods for planting, irrigating, and maintaining the replacement trees/shrubs.

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

Less than Significant Impact: The project site contains a short segment of Deer Creek, which is not likely to be considered a Water of the U.S., but is subject to the regulatory authority of the RWQCB and is also likely to fall under the jurisdiction of CDFW. Pipeline installation across Deer Creek will be accomplished when the creek is dry, through trenching, resulting in up to 1/10 acre of temporary disturbance within this waterway. Following construction, the work area within the creek will be restored to pre-project conditions. The project is not expected to substantially alter the creek's function and value, and impacts are considered *less than significant* under CEQA. Because the creek is not expected to fall under the jurisdiction of the USACE, work within the creek is unlikely to require Clean Water Act permitting. However, the RWQCB and CDFW should be notified prior to work within Deer Creek. A Section 1602 Streambed Alteration Agreement will likely be required by CDFW.

The project site also contains existing recharge basins that would fall under the jurisdiction of the RWQCB as Waters of the State. Minor impacts to these basins are expected from the construction of new pipelines and recovery wells. These impacts will be localized and largely temporary, with most of the impacted areas allowed to return to pre-project condition following construction. Impacts to these basins are considered *less than significant* under CEQA. Moreover, because the RWQCB does not typically regulate activities in manmade features like recharge basins, no permitting or notification requirements are anticipated.

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

Less than Significant Impact with Mitigation: Deer Creek in the project vicinity represents a corridor of relatively natural habitat, including riparian trees and shrubs, within a matrix of intensive agricultural uses generally inhospitable to native wildlife. As such, Deer Creek is expected to be used regularly for wildlife movements, and likely represents an important wildlife movement corridor. Construction-related disturbance within and adjacent to Deer Creek may temporarily disrupt wildlife movements along this corridor. However, project activities near Deer Creek will be short-term, small-scale, and limited to daytime hours, and are not expected to interfere substantially with wildlife movements.

The project site contains, and is adjoined by, existing recharge basins, portions of which support dense vegetation that could be used by wetland-adapted, colonially-nesting birds such as the red-winged blackbird (Agelaius phoeniceus). If nest colonies of this or other species are present at the time of construction, many individual birds could be injured or killed by construction activities or disturbed such that they would abandon their nests. Moreover, project-related disturbance associated with pipeline installation will occur in close proximity to a known nesting colony of cliff swallows (Petrochelidon pyrrhonota) located at the existing FKC pumping station at Deer Creek. Although the pumping station will not be physically disturbed, swallows nesting at this location at the time of construction could be disturbed such that they would abandon their nests. Construction-related injury, mortality, or disturbance of colonially-nesting birds would constitute an impediment to the use of native wildlife nursery sites, which is considered a potentially significant impact of the project under CEQA. The following mitigation measures will be implemented to ensure impacts are *less than significant with mitigation.*

Mitigation Measure for Avian Nest Colonies

Mitigation Measure BIO-7a: Construction Timing. If feasible, project construction will take place outside of the avian nesting season, typically defined as February 1 to August 31.

Mitigation Measure BIO-7b: Preconstruction Surveys. If the project must be constructed between February 1 and August 31, then within 10 days prior to the start of construction, a qualified biologist will conduct preconstruction surveys for avian nest colonies in suitable habitats on and within 250 feet of construction zones. Inaccessible portions of the survey area will be surveyed using binoculars.

Mitigation Measure BIO-7c: Avoidance. Should active avian nest colonies be discovered in or near proposed construction zones, the biologist will identify suitable construction-free buffers around the colonies. Buffers will be identified on the ground with flagging or fencing and will be maintained until the biologist has determined that the young have fledged and the nests are no longer active.

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

No Impact: The proposed project is consistent with the goals and policies of the Tulare County General Plan. The project does not conflict with any local policies or ordinances protecting biological resources and there is *no impact.*

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

No Impact: There are no known Habitat Conservation Plans or Natural Community Conservation Plans in effect within the vicinity of the project. There is *no impact.*

V. CULTURAL RESOURCES

Would the project:	Potentially Significant Impact	Less Than Significant With Mitigation Incorporation	Less than Significant Impact	No Impact
a) Cause a substantial adverse change in the significance of a historical resource pursuant to Section 15064.5?	☐	☑	☐	☐
b) Cause a substantial adverse change in the significance of an archaeological resource pursuant to Section 15064.5?	☐	☑	☐	☐
c) Disturb any human remains, including those interred outside of formal cemeteries?	☐	☑	☐	☐

Environmental Setting

The history of early settlement in the Tulare County area focused primarily on farming and ranching. European settlement did not occur until the arrival into southern California of land-based expeditions originating from Spanish Mexico starting in the 1760s. European-American settlement of this region began in 1851 with the building of Fort Miller on the San Joaquin River. Unfortunately, hostility grew between American settlers and Native inhabitants, which initially prevented widespread settlement of the area. By the 1860s, such stresses between the two groups were reduced and settlers began to inhabit more regions.

In April, 1852, Tulare County was created, with the county seat initially located at Woodsville. In 1853 the county seat was removed to Fort Visalia, located in the area bounded by Oak, Center, Garden and Bridge streets. In 1872, the Southern Pacific Railroad founded the City of Tulare by beginning construction of the railroad within Tulare County, connecting the San Joaquin Valley with markets in the north and east. During this time, valley residents constructed a series of water conveyance systems (canals, dams, and ditches) across the valley. Ample water supplies and assured rail transport were very important for the new colonies making their living off of fruit, grain and dairy farming.

A Cultural Resources Records Search was conducted by the Southern San Joaquin Valley Information Center on May 28, 2019. The records search stated there has been no previous cultural resource studies conducted within the project area and three studies were conducted within a one-half mile radius of the project. According to the records search, there are no recorded cultural resources within the project area and there are four recorded resources within a one-half mile radius. These consist of a historic era canal, two historic era ditches, and a historic era trash scatter. The full findings of the cultural records search can be found in Appendix C.

Regulatory Setting

National Historic Preservation Act: The National Historic Preservation Act was adopted in 1966 to preserve historic and archeological sites in the United States. The Act created the National Register of Historic Places, the list of National Historic Landmarks, and the State Historic Preservation offices.

California Historic Register: The California Historic Register was developed as a program to identify, evaluate, register, and protect Historical Resources in California. California Historical Landmarks are sites, buildings, features, or events that are of statewide significance and have anthropological, cultural, military, political, architectural, economic, scientific, religious, experimental, or other value. In order for a resource to be designated as a historical landmark, it must meet the following criteria:

- The first, last, only, or most significant of its type in the state or within a large geographic region (Northern, Central, or Southern California).
- Associated with an individual or group having a profound influence on the history of California.
- A prototype of, or an outstanding example of, a period, style, architectural movement or construction or is one of the more notable works or the best surviving work in a region of a pioneer architect, designer or master builder.

Tulare County General Plan: The Environmental Resource Management element of the Tulare County General Plan includes the following Goal and Policies pertaining to cultural and historic resources:

Goal ERM-6: To manage and protect sites of cultural and archaeological importance for the benefit of present and future generations.

- Policy ERM-6.1. The County shall participate in and support efforts to identify its significant cultural and archaeological resources using appropriate State and Federal standards.
- Policy ERM-6.2. The County shall protect cultural and archaeological sites with demonstrated potential for placement on the National Register of Historic Places and/or inclusion in the California State Office of Historic Preservation's California Points of Interest and California Inventory of Historic Resources. Such sites may be of Statewide or local significance and have anthropological, cultural, military, political, architectural, economic, scientific, religious, or other values as determined by a qualified archaeological professional.
- Policy ERM-6.3. When planning any development or alteration of a site with identified cultural or archaeological resources, consideration should be given to ways of protecting the resources. Development can be permitted in these areas only after a site specific investigation has been conducted pursuant to CEQA to define the extent and value of resource, and mitigation measures proposed for any impacts the development may have on the resource.
- Policy ERM-6.4. If preservation of cultural resources is not feasible, every effort shall be made to mitigate impacts, including relocation of structures, adaptive reuse, preservation of facades, and thorough documentation and archival of records.
- Policy ERM-6.5. The County should support local, State, and national education programs on cultural and archaeological resources.
- Policy ERM-6.6. The County shall support public and private efforts to preserve, rehabilitate, and continue the use of historic structures, sites, and parks. Where applicable, preservation efforts shall conform to the current Secretary of the Interior's Standards for the Treatment of Historic Properties and Guidelines for Preserving, Rehabilitating, Restoring, and Reconstructing Historic Buildings.
- Policy ERM-6.7. The County should encourage the cooperation of property owners to treat cultural resources as assets rather than liabilities, and encourage public support for the preservation of these resources.
- Policy ERM-6.8. The County shall continue to solicit input from the local Native American communities in cases where development may result in disturbance to sites containing evidence of Native American activity and/or to sites of cultural importance.

- Policy ERM-6.9. The County shall, within its power, maintain confidentiality regarding the locations of archaeological sites in order to preserve and protect these resources from vandalism and the unauthorized removal of artifacts.
- Policy ERM-6.10. The County shall ensure all grading activities conform to the County's Grading Ordinance and California Code of Regulations, Title 20, § 2501 et. seq.

Discussion

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

Less Than Significant Impact with Mitigation: A records search was conducted on behalf of the Applicant at the Southern San Joaquin Valley Archaeological Information Center (AIC), to determine if historical or archaeological sites had previously been recorded within the study area, if the project area had been systematically surveyed by archaeologists prior to the initial study, and/or whether the region of the field project was known to contain archaeological sites and to thereby be archaeologically sensitive.

The records search stated that there have been no previous cultural resource studies conducted within the project area, however two studies were conducted within a one-half mile radius of the project. According to the records search, there are no recorded cultural resources within the project area; however there are two recorded cultural resources within a one-half mile radius of the project site. These resources consist of two historic era canal and one historic era transmission line. The historic era canal is the Friant-Kern Canal, which has been given a National Register status code of 2S2, indicating the FKC has been determined eligible for listing in the National Register of Historic Places by a consensus through the Section 106 process. It is also listed under the California Register for Historical Resources.

Based on the results of the records search and historic resources, no other previously recorded cultural resources are located within the project site. Although no historical resources were identified, the presence of remains or unanticipated cultural resources under the ground surface is possible. Implementation of Mitigation Measures CUL-1 and CUL-2 will ensure that impacts to this checklist item will be *less than significant with mitigation* incorporation.

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

Less Than Significant Impact with Mitigation: There are no known archaeological resources located within the project area. Implementation of Mitigation Measures CUL-1 and CUL-2 will ensure that potential impact will be *less than significant with mitigation* incorporation.

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

Less Than Significant Impact with Mitigation: There are no known human remains buried in the project vicinity. If human remains are unearthed during development, there is a potential for a

significant impact. As such, implementation of Mitigation Measure CUL-2 will ensure that impacts remain *less than significant with mitigation* incorporation.

Mitigation Measures for Impacts to Cultural Resources

Mitigation Measure CUL-1: If cultural resources are encountered during ground-disturbing activities, work in the immediate area must halt and an archaeologist meeting the Secretary of the Interior's Professional Qualifications Standards for archaeology (NPS 1983) should be contacted immediately to evaluate the find. If the discovery proves to be significant under CEQA, additional work such as data recovery excavation and Native American consultation may be warranted to mitigate any adverse effects.

Mitigation Measure CUL-2: The discovery of human remains is always a possibility during ground disturbing activities. If human remains are found, the State of California Health and Safety Code Section 7050.5 states that no further disturbance shall occur until the County Coroner has made a determination of origin and disposition pursuant to Public Resources Code Section 5097.98. In the event of an unanticipated discovery of human remains, the County Coroner must be notified immediately. If the human remains are determined to be prehistoric, the coroner will notify the Native American Heritage Commission (NAHC), which will determine and notify a most likely descendant (MLD). The MLD shall complete the inspection of the site within 48 hours of notification and may recommend scientific removal and nondestructive analysis of human remains and items associated with Native American burials.

VI. ENERGY

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

Environmental Setting

Southern California Edison (SCE) provides electricity services to the region. SCE serves approximately 15 million people throughout a 50,000 square-mile service area in central, coastal, and southern California. SCE supplies electricity to its customers through a variety of renewable and nonrenewable sources. Table 3-6 below shows the proportion of each energy resource sold to California consumers by PG&E in 2017 as compared to the statewide average.

Fuel Type		PG&E Power Mix	California Power Mix
Coal		0%	4%
Large Hydroelectric		8%	15%
Natural Gas		20%	34%
Nuclear		6%	9%
Other (Oil/Petroleum Coke/Waste Heat)		0%	<1%
Unspecified Sources of Power[1]		34%	9%
Eligible Renewables	Biomass	0%	2%
	Geothermal	8%	4%
	Small Hydro	1%	3%
	Solar	13%	10%
	Wind	10%	10%
	Total Eligible Renewable	**32%**	**29%**
1. "Unspecified sources of power" means electricity from transactions that are not traceable to specific generation sources.			

Table 3-6. 2017 SCE and State average power resources; Source: California Energy Commission

SCE also offers Green Rate Options, which allow consumers to indirectly purchase up to 100% of their energy from renewable sources. To accomplish this, SCE purchases the renewable energy necessary to meet the needs of Green Rate participants from solar renewable developers.

Southern California Gas (SoCalGas) Company provides natural gas services to the project area, however natural gas will not be required to operate the proposed project.

Regulatory Setting

California Code of Regulations, Title 20: Title 20 of the California Code of Regulations establishes standards and requirements for appliance energy efficiency. The standards apply to a broad range of appliances sold in California.

California Code of Regulations, Title 24: Title 24 of the California Code of Regulations is a broad set of standards designed to address the energy efficiency of new and altered homes and commercial buildings. These standards regulate energy consumed for heating, cooling, ventilation, water heating, and lighting. Title 24 requirements are enforced locally by the City of Selma Building Department.

California Green Building Standards Code (CALGreen): CalGreen is a mandatory green building code that sets minimum environmental standards for new buildings. It includes standards for volatile organic compound (VOC) emitting materials, water conservation, and construction waste recycling

Tulare County Climate Action Plan: The Tulare County Climate Action Plan serves as a guiding document for to reduce greenhouse gas emissions and adapt to the potential effects of climate change. The Tulare County Climate Action Plan identifies water conservation, and in particular the expansion of groundwater recharge to capture runoff and water available during wet years, as a way to save energy.

5.1.2 – Building Energy Efficiency. Energy consumption from buildings through electricity and natural gas usage is one of the largest sources of greenhouse gases. Policies that encourage the installation of the most energy efficient technologies can substantially reduce energy use and related emissions.

- Policy AQ-3.5. Alternative Energy Design. The County shall encourage all new development, including rehabilitation, renovation, and redevelopment, to incorporate energy conservation and green building practices to maximum extent feasible. Such practices include, but are not limited to: building orientation and shading, landscaping, and the use of active and passive solar heating and water systems.
- Policy LU-7.15. Energy Conservation. The County shall encourage the use of solar power and energy conservation building techniques in all new development.
- Policy 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 construction and renovation of existing structures in accordance with State law.
- Policy ERM-4.2. Streetscape and Parking Area Improvements for Energy Conservation. The County shall promote the planting and maintenance of shade trees along streets and within parking areas of new urban development to reduce radiation heating.
- Policy ERM-4.3. Local and State Programs. The County shall participate, to the extent feasible, in local and State programs that strive to reduce the consumption of natural or man-made energy sources.
- Policy ERM-4.4. Promote Energy Conservation Awareness. The County should coordinate with local utility providers to provide public education on energy conservation programs.

- Policy HS-1.4. Building and Codes. Except as otherwise allowed by State law, the County shall ensure that all new buildings intended for human habitation are designed in compliance with the latest edition of Tulare County Climate Action Plan General Plan Policies County of Tulare 75 the California Building Code, California Fire Code, and other adopted standards based on risk (e.g., seismic hazards, flooding), type of occupancy, and location (e.g., floodplain, fault).
- Policy ERM-4.6. Renewable Energy. The County shall support efforts, when appropriately sited, for the development and use of alternative energy resources, including renewable energy such as wind and solar, biofuels and co-generation.
- Policy ERM-4.7. Reduce Energy Use in County Facilities. Continue to integrate energy efficiency and conservation into all County functions.
- Policy ERM-4.8. Energy Efficiency Standards. The County shall encourage renovations and new development to incorporate energy efficiency and conservation measures that exceed State Title 24 standards. When feasible, the County shall offer incentives for use of energy reduction measures such as expedited permit processing, reduced fees, and technical assistance.

5.1.3 – Water Conservation Energy Saving. Water conservation saves energy required to pump and treat water for use and reduces energy required for wastewater treatment. Specific measures to conserve water include:

- Policy WR-1.5. Expand Use of Reclaimed Wastewater. To augment groundwater supplies and to conserve potable water for domestic purposes, the County shall seek opportunities to expand groundwater recharge efforts.
- Policy WR-1.6. Expand Use of Reclaimed Water. The County shall encourage the use of tertiary treated wastewater and household gray water for irrigation of agricultural lands, recreation and open space areas, and large landscaped areas as a means of reducing demand for groundwater resources.
- Policy WR-3.5. Use of Native and Drought Tolerant Landscaping. The County shall encourage the use of low water consuming, drought-tolerant and native landscaping and emphasize the importance of utilizing water conserving techniques, such as night watering, mulching, and drip irrigation.
- 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 General Plan Policies Tulare County Climate Action Plan 76 County of Tulare conditions suitable for native vegetation and wildlife, and ensure that a maximum number and variety of well-adapted plants are maintained.

Discussion

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

Less Than Significant Impact: While construction of the proposed project will result in additional energy consumption, this energy use is not unnecessary or inefficient.

During project construction there would be an increase in energy consumption related to worker trips and operation of construction equipment. This energy use would be limited to the greatest

extent possible through compliance with local, state, and federal regulations and is justified by the project's benefit.

The project site is located within the Tule River Basin Integrated Regional Water Management (IRWMP) planning area. The IRWMP identifies declining water supply as one of the region's most significant climate change vulnerabilities due to the region's dependence on a reliable water supply for agriculture. The region receives the vast majority of its surface water from snowmelt, which is becoming an increasingly unreliable resource as a result of climate change. The ability to store excess surface water during wet years for use during dry years is imperative to the region's success in achieving climate change resilience. The proposed project actively seeks to facilitate this goal through the construction of groundwater recharge basins. Additionally, the proposed project will increase groundwater levels, which will reduce the energy required to pump groundwater during dry years.

Although project construction and operation of water recovery wells during dry years would result in some energy consumption, it would not be considered a wasteful, inefficient, or unnecessary consumption of energy resources. The impact is *less than significant*.

b) Conflict with or obstruct a state or local plan for renewable energy or energy efficiency?

No Impact: The proposed project will not conflict with or obstruct any state or local plans for renewable energy or energy efficiency. The project is consistent with the Tulare County Climate Action Plan, which seeks to increase groundwater recharge to reduce energy demands from excess pumping and water treatment. There is *no impact*.

VII. GEOLOGY AND SOILS

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

Environmental Setting

Geologic Stability and Seismic Activity

- **Seismicity**: Tulare County is considered to be a low to moderate earthquake hazard area. The San Andreas Fault is the longest and most significant fault zone in California and is approximately 40 miles west of the Tulare County Boundary. Owens Valley fault zone is the only active fault located within Tulare County. Section 5 of the 2017 Tulare Multi-Jurisdictional Local Hazard Mitigation Plan identifies the project site as likely to experience low to moderate shaking from earthquakes, and may experience higher levels if an earthquake were to occur in or near the County. Ground

shaking can result in other geological impacts, including liquefaction, landslides, lateral spreading, subsidence, or collapse.

- **Liquefaction**: Liquefaction is a phenomenon whereby unconsolidated and/or near-saturated soils lose cohesion and are converted to a fluid state as a result of severe vibratory motion. The relatively rapid loss of soil shear strength during strong earthquake shaking results in temporary, fluid-like behavior of the soil, which can result in landslides and lateral spreading. No specific countywide assessment of liquefaction has been performed; however the 2017 Tulare Multi-Jurisdictional Local Hazard Mitigation Plan identifies the risk of liquefaction within the county as low because the soil types in the area either too coarse or too high in clay content to be suitable for liquefaction.

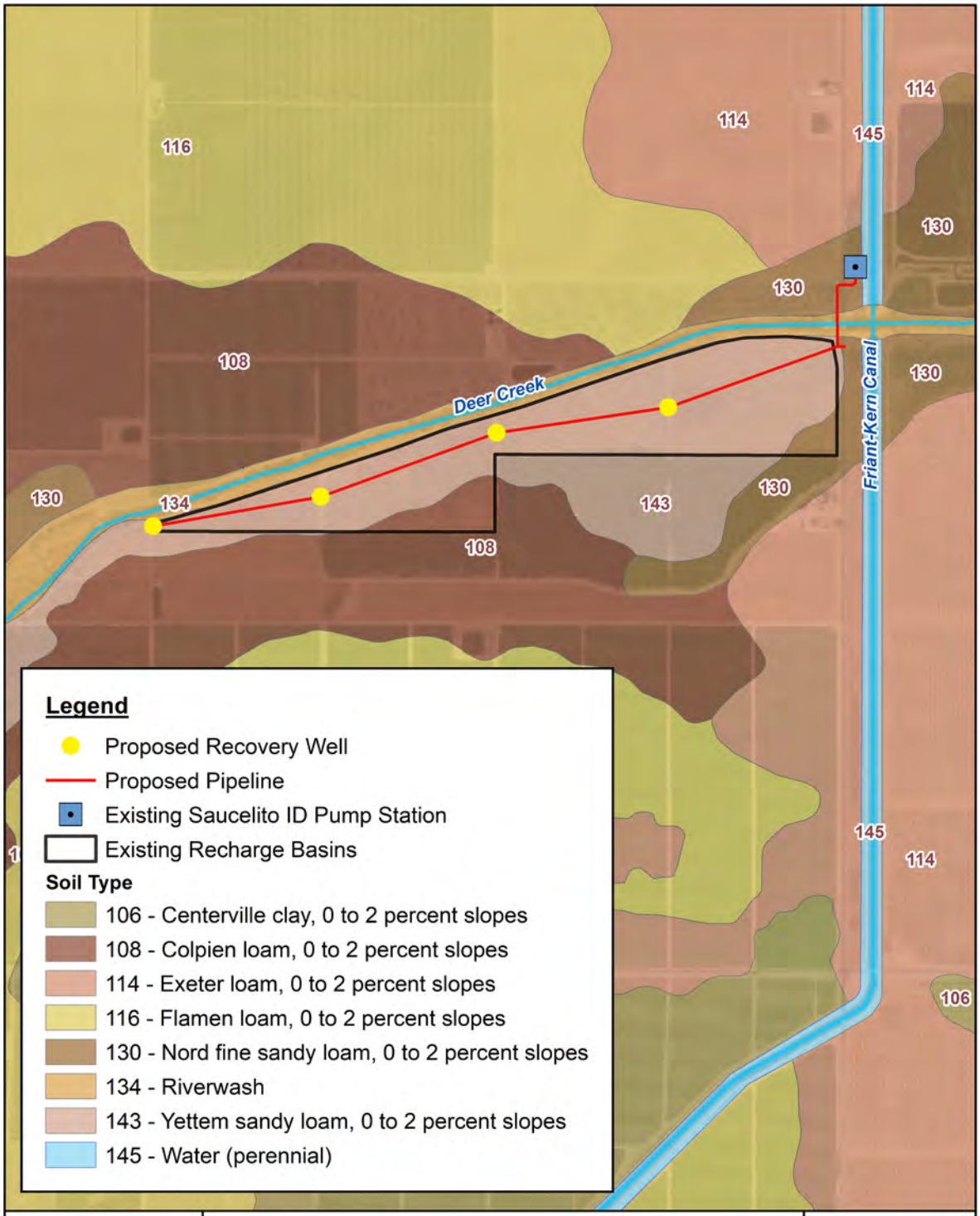
- **Landslides**: Landslides refer to a wide variety of processes that result in the downward and outward movement of soil, rock, and vegetation under gravitational influence. Landslides can be caused by both natural and human-induced changes in slope stability and often accompany other natural hazard events, such as floods, wildfire, or earthquake. Eastern portions of the County are considered to be at a higher risk of landslides where steep slopes are present. However, the majority of the County, including the proposed project site, is considered to be at low risk of landslides and mudslides because of its flat topography. The 2017 Tulare Multi-Jurisdictional Local Hazard Mitigation Plan states that occurrence of landslide events within populated areas of Tulare County is unlikely.

- **Subsidence**: Land Subsidence refers to the vertical sinking of land as a result of either manmade or natural underground voids. Subsidence has occurred throughout the Central Valley at differing rates since the 1920's as a result of groundwater, oil, and gas withdrawal. During drought years, Tulare County is prone to accelerated subsidence, with some areas sinking up to 28 feet. Although western portions of the County show signs of deep and shallow subsidence, the majority of the County, including the proposed project site, is not considered to be at risk of subsidence related hazards.

Soils Involved in Project: The proposed project involves construction on two soil types. The properties of these soils are described briefly below:

- **Yettem Sandy Loam:** The majority of the project is located on Yettem Sandy Loam soils. The Yettem series is a member of the Coarse-loamy, mixed, superactive, thermic Entic Haploxerolls taxanomic class. These soils are very deep, well draining soils with negligible to very low runoff and moderately rapid permeability.

- **Nord Fine Sandy Loam:** A small portion of the proposed project would be located on Nord Fine Sandy Loam soils. The Nord series is a member of the Coarse-loamy, mixed, superactive, thermic Cumulic Haploxerolls taxanomic class. These soils are very deep, well draining soils with negligible to low runoff and moderate permeability. Permeability can be moderately slow in saline-sodic


116
114
114
145
130
130
108
Deer Creek
Friant-Kern Canal
130
130
134
143
130
108
Legend
Proposed Recovery Well
Proposed Pipeline
Existing Saucelito ID Pump Station
Existing Recharge Basins
Soil Type
106 - Centerville clay, 0 to 2 percent slopes
108 - Colpien loam, 0 to 2 percent slopes
114 - Exeter loam, 0 to 2 percent slopes
116 - Flamen loam, 0 to 2 percent slopes
130 - Nord fine sandy loam, 0 to 2 percent slopes
134 - Riverwash
143 - Yettem sandy loam, 0 to 2 percent slopes
145 - Water (perennial)
145
114
106
N
1 in = 1,500 ft
Soils Map
Deer Creek - Friant Kern Canal Water Bank
Saucelito Irrigation District
Figure 3-3

Regulatory Setting

California Building Code: The California Building Code contains general building design and construction requirements relating to fire and life safety, structural safety, and access compliance. CBC provisions provide minimum standards to safeguard life or limb, health, property and public welfare by regulating and controlling the design, construction, quality of materials, use and occupancy, location and maintenance of all buildings and structures and certain equipment.

Tulare County General Plan: The Health and Safety Element of the Tulare County General Plan includes the following goals and policies regarding soils and geology.

- HS-1.11 Site Investigations: The County shall conduct site investigations in areas planned for new development to determine susceptibility to landslides, subsidence/settlement, contamination, and/or flooding.
- HS-2.1 Continued Evaluation of Earthquake Risks: The County shall continue to evaluate areas to determine levels of earthquake risk.

Discussion

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

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

No Impact: Although the project is located in an area of relatively low seismic activity, the project site could be affected by ground shaking from nearby faults. The potential for strong seismic ground shaking on the project site is not a significant environmental concern due to the infrequent seismic activity of the area and distance to the faults. The project does not propose any components which could cause substantial adverse effects in the event of an earthquake. Additionally, the project has no potential to indirectly or directly cause the rupture of an earthquake fault. Therefore, there is *no impact* related to the risk of loss, injury or death involving a rupture of a known earthquake fault.

ii. Strong seismic ground shaking?

No Impact: According to the Tulare County Multi-Jurisdictional Local Hazard Mitigation Plan, the project site is located in an area of relatively low seismic activity. The proposed project does not include any activities or components which could feasibly cause strong seismic ground shaking, either directly or indirectly. There is *no impact.*

iii. Seismic-related ground failure, including liquefaction?

No Impact: No specific countywide assessment of liquefaction has been performed; however the Tulare County Multi-Hazard Mitigation Plan identifies the risk of liquefaction within the county as low because the soil types are unsuitable for liquefaction. The area's low potential for seismic

activity would further reduce the likelihood of liquefaction occurrence. Because the project site is within an area of low seismic activity, and the soils associated with the project area not suitable for liquefaction, there are *no impacts*.

iv. Landslides?

No Impact: Although the majority of Tulare County is considered at moderate risk of small landslides, project site is generally flat and there are no hill slopes in the area. As a result, there is almost no potential for landslides. No geologic landforms exist on or near the site that would result in a landslide event. Therefore, there is no impact.

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

Less Than Significant Impact: Minimal soil will be removed from the project site to construct the proposed pipeline and recovery wells. Although these construction activities will result in a loss of topsoil, any soil erosion impacts would be temporary and subject to best management practices required by SWPPP. These best management practices are developed to prevent significant impacts related to erosion from construction. Because impacts related to erosion would be temporary and limited to construction and required best management practices would prevent significant impacts related to erosion, the impact will remain *less than significant.*

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

Less than Significant Impact with Mitigation: Significant subsidence (sinking of the ground surface) has occurred along the FKC due to dewatering of silty and clayey formations by pumpage from wells. While the Project would cause a net gain of 10% to 30% of banked water to the aquifer, this potential impact needs to be monitored. Subsidence is measured by comparing sequential measurements of land surface elevation at a location. This comparison is predicated on the assumption that the reference bench mark for computation of elevation is outside of the area within which subsidence would potentially occur. Subsidence monitoring and reporting will be implemented as part of the Project's Monitoring and Operational Constraints Plan (MOCP). The MOCP also has provisions to constrain Project operations as necessary. Implementation of the MOCP will be used as a mitigation measure for potential impacts to subsidence. Therefore, there is a *less than significant impact with mitigation* incorporated.

Mitigation Measures for Impacts to Subsidence

Mitigation Measure GEO-1: The proposed project will comply with the Project's Monitoring and Operational Constraints Plan as detailed in Section 2.2 of this Initial Study. The MOCP includes the following subsidence monitoring and reporting procedures.

Subsidence Monitoring: Benchmarks would be constructed and monitored using procedures approved by the California Board for Professional Engineers and Land Surveyors and using appropriate guidelines promulgated by the National Geodetic Survey and the California Spatial Reference Center. Subsidence monitoring would include the following elements:

- *Base Station:* Reference of all elevation measurements to a base station approved by SID;
- *Perimeter Benchmarks:* Placement of permanent bench-marks in four directions on the perimeter of each Project property;
- *Recovery Well Benchmarks:* Placement of permanent measurement points on each Project recovery well;
- *Baseline Measurements:* Measurement of the elevations prior to commencement of banked water recovery operations; and
- *Annual Measurements:* Measurement of the elevations of each benchmark annually.

Subsidence Reporting: Homer would submit annual subsidence monitoring reports to SID, the Monitoring Committee, and Reclamation. The annual report will include a map presenting the results of subsidence monitoring.

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

No Impact: Expansive soils contain large amounts of clay, which absorb water and cause the soil to increase in volume. Conversely, the soils associated with the proposed project site are granular, well-draining, and therefore have a limited ability to absorb water or exhibit expansive behavior. Because the soils associated with the project are not suitable for expansion, implementation of the project will pose no direct or indirect risk to life or property caused by expansive soils and there is *no impact.*

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

No Impact: Wastewater will not be generated as a result of project implementation and no septic tanks or alternative wastewater disposal systems are proposed. There is *no impact.*

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

Less Than Significant Impact with Mitigation: There are no unique geologic features and no known paleontological resources located within the project area. However, there is always the possibility that paleontological resources may exist below the ground surface. Implementation of Mitigation Measures CUL-1 and CUL-2 will ensure that any impacts resulting from project implementation remain *less than significant with mitigation incorporation.*

VIII. GREENHOUSE GAS EMISSIONS

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

Environmental Setting

Natural processes and human activities emit greenhouse gases. The presence of GHGs in the atmosphere affects the earth's temperature. Without the natural heat-trapping effect of GHGs, the earth's surface would be about 34ºC cooler. However, it is believed that emissions from human activities, such as electricity production and vehicle use, have elevated the concentration of these gases in the atmosphere beyond the level of naturally occurring concentrations.

The effect of greenhouse gasses on earth's temperature is equivalent to the way a greenhouse retains heat. Common GHGs include water vapor, carbon dioxide, methane, nitrous oxide, ozone, chlorofluorocarbons, hydro chlorofluorocarbons, and hydro fluorocarbons, per fluorocarbons, sulfur and hexafluoride. Some gases are more effective than others. The Global Warming Potential (GWP) has been calculated for each greenhouse gas to reflect how long it remains in the atmosphere, on average, and how strongly it absorbs energy. Gases with a higher GWP absorb more energy, per pound, than gases with a lower GWP, and thus contribute more to global warming. For example, one pound of methane is equivalent to twenty-one pounds of carbon dioxide.

GHGs as defined by AB 32 include the following gases: carbon dioxide, methane, nitrous oxide, hydrofluorocarbons, perfluorocarbons, and sulfur hexafluoride. GHGs as defined by AB 32 are summarized in Table 3-7. Each gas's effect on climate change depends on three main factors. The first being the quantity of these gases are in the atmosphere, followed by how long they stay in the atmosphere and finally how strongly they impact global temperatures.

Greenhouse Gas	Description and Physical Properties	Lifetime	GWP	Sources
Methane (CH4)	Is a flammable gas and is the main component of natural gas	12 years	21	Emitted during the production and transport of coal, natural gas, and oil. Methane emissions also result from livestock and other agricultural practices and by the decay of organic waste in municipal solid waste landfills.

Greenhouse Gas	Description and Physical Properties	Lifetime	GWP	Sources
Carbon dioxide (CO2)	An odorless, colorless, natural greenhouse gas.	30-95 years	1	Enters the atmosphere through burning fossil fuels (coal, natural gas and oil), solid waste, trees and wood products, and also as a result of certain chemical reactions (e.g., manufacture of cement). Carbon dioxide is removed from the atmosphere (or "sequestered") when it is absorbed by plants as part of the biological carbon cycle.
Chloro-fluorocarbons	Gases formed synthetically by replacing all hydrogen atoms in methane or ethane with chlorine and/or fluorine atoms. They are non-toxic nonflammable, insoluble and chemically unreactive in the troposphere (the level of air at the earth's surface).	55-140 years	3,800 to 8,100	Were synthesized in 1928 for use as refrigerants, aerosol propellants, and cleaning solvents. They destroy stratospheric ozone.
Hydro-fluorocarbons	A man-made greenhouse gas. It was developed to replace ozone-depleting gases found in a variety of appliances. Composed of a group of greenhouse gases containing carbon, chlorine an at least one hydrogen atom.	14 years	140 to 11,700	Powerful greenhouse gases that are emitted from a variety of industrial processes. Fluorinated gases are sometimes used as substitutes for stratospheric ozone-depleting substances. These gases are typically emitted in smaller quantities, but because they are potent greenhouse gases.
Nitrous oxide (N2O)	Commonly known as laughing gas, is a chemical compound with the formula N2O. It is an oxide of nitrogen. At room temperature, it is a colorless, non-flammable gas, with a slightly sweet odor and taste. It is used in surgery and dentistry for its anesthetic and analgesic effects.	120 years	310	Emitted during agricultural and industrial activities, as well as during combustion of fossil fuels and solid waste.
Pre-fluorocarbons	Has a stable molecular structure and only breaks down by ultraviolet rays about 60 kilometers above Earth's surface.	50,000 years	6,500 to 9,200	Two main sources of pre-fluorocarbons are primary aluminum production and semiconductor manufacturing.
Sulfur hexafluoride	An inorganic, odorless, colorless, and nontoxic nonflammable gas.	3,200 years	23,900	This gas is manmade and used for insulation in electric power transmission equipment, in the magnesium industry, in semiconductor manufacturing and as a tracer gas.

Table 3-7. Greenhouse Gasses; Source: EPA, Intergovernmental Panel on Climate Change

In regards to the quantity of these gases are in the atmosphere, we first must establish the amount of particular gas in the air, known as Concentration, or abundance, which are measured in parts per million, parts per billion and even parts per trillion**.** To put these measurements in more relatable terms, one part per million is equivalent to one drop of water diluted into about 13 gallons of water, roughly a full tank of gas in a compact car. Therefore, it can be assumed larger emission of greenhouse gases lead to a higher concentration in the atmosphere.

Each of the designated gases described above can reside in the atmosphere for different amounts of time, ranging from a few years to thousands of years. All of these gases remain in the atmosphere long enough to become well mixed, meaning that the amount that is measured in the atmosphere is roughly the same all over the world regardless of the source of the emission.

Regulatory Setting

AB 32: AB 32 set the 2020 greenhouse gas emissions reduction goal into law. It directed the California Air Resources Board to begin developing discrete early actions to reduce greenhouse gases while also preparing a scoping plan to identify how best to reach the 2020 limit. The reduction measures to meet the 2020 target are to be adopted by the start of 2011.

SB 1078, SB 107 and Executive Order S-14-08: SB 1078, SB 107, and Executive Order S-14-08 require California to generate 20% of its electricity from renewable energy by 2017. SB 107 then changes the 2017 deadline to 2010. Executive Order S-14-08 required that all retail sellers of electricity serve 33 percent of their load with renewable energy by 2020.

Tulare County Climate Action Plan: The Tulare County Climate Action Plan serves as a guiding document for to reduce greenhouse gas emissions and adapt to the potential effects of climate change. The Tulare County Climate Action Plan identifies water conservation, and in particular the expansion of groundwater recharge to capture runoff and water available during wet years, as a way to save energy.

Discussion

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

Less Than Significant Impact: Greenhouse gas emissions for the construction and operation of the proposed pipeline and recovery wells were modeled using the California Emissions Estimator Model (CalEEMod). The full CalEEMod report can be found in Appendix A.

Construction: Greenhouse gas emissions, generated during construction, would include activities such as demolition, site preparation, trenching to accommodate the proposed pipeline, and construction of the proposed water recovery wells. The CalEEMod Emissions report predicts that this project will create a maximum of 345.17 MT of CO2e emissions per year during construction. Because the SJVAPCD does not have numeric thresholds for assessing the significance of construction-related GHG emissions, predicted emissions from project construction were compared to SCAQMD thresholds for construction related GHG emissions. The SCAQMD currently has a threshold of 10,000 metric tons of CO2e per year for construction emissions amortized over a 30-year project lifetime. Because project construction would generate far less GHG emissions

than this threshold, impacts related to GHG emissions during project construction would be less than significant.

Operation: The project's operational GHG emissions were calculated using CalEEMod. The U.S. Environmental Protection Agency published a rule for the mandatory reporting of greenhouse gases (GHG) from sources that in general emit 25,000 MT or more of CO2e per year. Implementation of the proposed project would result in some long-term GHG emissions due to the operation of water recovery wells to transport water.

The proposed recovery wells will be used to recover banked water into the existing SID pipeline during dry years. It is anticipated that these would be operated an average of 10 months out of the year. It is anticipated that these activities would generate approximately 339.59 MT of CO2e emissions per year, which is well below the 25,000 MT thresholds for greenhouse gas emissions.

Because the GHG emissions related to construction are below accepted thresholds of significance, and the project would generate very little GHG emissions while under operation, the impact is *less than significant.*

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

No Impact: The proposed project will comply with all Federal, State, and Local rules pertaining to the regulation of greenhouse gas emissions. In addition, the project will implement Best Performance Standards developed by the SJVAPCD. Projects implementing Best Performance Standards are determined to have a less than significant impact on global climate change. The project will not conflict with any plan, policy, or regulation developed to reduce GHG emissions. There is *no impact.*

IX. HAZARDS AND HAZARDOUS MATERIALS

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

Environmental Setting

The proposed project site is located approximately 3 miles northwest from the nearest school (Saucelito Elementary School) and 4 miles southwest from the nearest public airport (Porterville Municipal Airport).

The Department of Toxic Substances Control's (DTSC's) Envirostor was used to identify any sites known to be associated with releases of hazardous materials or wastes within the project area. This research confirmed that the project would not be located on a site that is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5.

Regulatory Setting

Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (42 U.S. Code [U.S.C.] §9601 et seq.). The Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA,

or the Superfund Act) authorizes the President to respond to releases or threatened releases of hazardous substances into the environment.

Occupational Safety and Health Administration. The Occupational Safety and Health Administration (OSHA) sets and enforces Occupational Safety and Health Standards to assure safe working conditions. OSHA provides training, outreach, education, and compliance assistance to promote safe workplaces. The proposed Project would be subject to OSHA requirements during construction, operation, and maintenance.

Toxic Substances Control Act of 1976 (15 U.S.C. §2601 et seq.). The Toxic Substance Control Act was enacted by Congress in 1976 and authorizes the EPA to regulate any chemical substances determined to cause an unreasonable risk to public health or the environment.

Hazardous Waste Control Law, Title 26. The Hazardous Waste Control Law creates hazardous waste management program requirements. The law is implemented by regulations contained in Title 26 of the California Code of Regulations (CCR), which contains requirements for the following aspects of hazardous waste management:

- Identification and classification;
- Generation and transportation;
- Design and permitting of recycling, treatment, storage, and disposal facilities;
- Treatment standards;
- Operation of facilities and staff training; and
- Closure of facilities and liability requirements.

California Code of Regulations, Title 22, Chapter 11. Title 22 of the California Code of Regulations contains regulations for the identification and classification of hazardous wastes. The CCR defines a waste as hazardous if it has any of the following characteristics: ignitability, corrosivity, reactivity, and/or toxicity.

California Emergency Services Act. The California Emergency Services Act created a multi-agency emergency response plan for the state of California. The Act coordinates various agencies, including CalEPA, Caltrans, the California Highway Patrol, regional water quality control boards, air quality management districts, and county disaster response offices.

Hazardous Materials Release Response Plans and Inventory Law of 1985. Pursuant to the Hazardous Materials Release Response Plans and Inventory Law of 1985, local agencies are required to develop "area plans" for response to releases of hazardous materials and wastes. Tulare County maintains a Hazardous Material Incident Response Plan to coordinate emergency response agencies for incidents and requires the submittal of business plans by persons who handle hazardous materials.

Tulare County General Plan: The Health and Safety Element of the Tulare County General Plan includes the following policies pertaining to hazards and hazardous materials:

> **Goal HS-1: To protect residents, visitors, and property from hazardous materials through their safe use, storage, transport, and disposal.**

- Policy HS-1.4. The County shall strive to ensure hazardous materials are used, stored, transported, and disposed of in a safe manner, in compliance with local, State, and Federal safety standards, including the Hazardous Waste Management Plan, Emergency Operations Plan, and Area Plan
- Policy HS-1.5. The County shall continue to promote awareness and education among residents regarding possible natural hazards, including soil conditions, earthquakes, flooding, fire hazards, and emergency procedures
- Policy HS-1.6. The County shall promote public safety programs, including neighborhood watch programs, child identification and fingerprinting, public awareness and prevention of fire hazards, and other public education efforts

Goal HS-4: To protect residents, visitors, and property from hazardous materials through their safe use, storage, transport, and disposal.

- Policy HS-4.1. The County shall strive to ensure hazardous materials are used, stored, transported, and disposed of in a safe manner, in compliance with local, State, and Federal safety standards, including the Hazardous Waste Management Plan, Emergency Operations Plan, and Area Plan
- Policy HS-4.5. The County shall review new development proposals to protect soils, air quality, surface water, and groundwater from hazardous materials contamination
- Policy HS-4.8. The County shall ensure that the proponents of new development projects address hazardous materials concerns through the preparation of Phase I or Phase II hazardous materials studies for each identified site as part of the design phase for each project. Recommendations required to satisfy federal or State cleanup standards outlined in the studies will be implemented as part of the construction phase for each project

Goal HS-7: To provide effective emergency response to natural or human-made hazards and disasters.

- Policy HS-7.8. The County incorporates the adopted Tulare County Multi-Jurisdiction Hazard Mitigation Plan into the Tulare County General Plan Health and Safety Element. The plan provides guidance and insight into the hazards that exist in Tulare County and suggests possible mitigation projects. The plan should be consulted when addressing known hazards to ensure the general health and safety of Tulare County residents

Goal HS-E: To minimize the exposure of the public to high noise levels and safety hazards through land use controls and policies for property in the vicinity of airports; and to limit urban encroachment around airports in order to preserve the safety of flight operations and the continued viability of airport facilities.

- Policy HS-E.2. The County shall ensure that new development, including public infrastructure projects, does not create safety hazards such as glare from direct or reflective sources, smoke, electrical interference, hazardous chemicals, or fuel storage in violation of adopted safety standards

Goal HS-F: To minimize the risk of loss of life, injury, serious illness, and damage to property resulting from the use, transport, treatment, and disposal of hazardous materials and hazardous wastes.

- Policy HS-F.6. The County shall work cooperatively with the State Department of Toxic Substances Control and Regional Water Quality Control Board to promote the timely and efficient cleanup of contaminated sites under the regulatory oversight of these agencies

Discussion

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

Less than Significant Impact: Project construction activities may involve the use, storage, and transport of hazardous materials. During construction, the contractor will use fuel trucks to refuel onsite equipment, and may use paints and solvents to a limited degree. The storage, transport, and use of these materials will comply with Local, State, and Federal regulatory requirements. There is the potential for small leaks due to refueling of construction equipment, however standard construction Best Management Practices (BMPs) included in the SWPPP will reduce the potential for the release of construction related fuels and other hazardous materials by controlling runoff from the site, and requiring proper disposal or recycling of hazardous materials. The impact is *less than significant.*

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

No Impact: The proposed project is not anticipated to create a significant hazard to the public or the public as the proposed project would not routinely transport, use, dispose, or discharge hazardous materials into the environment. Therefore, there would be no impact.

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

No Impact: The project is not located within ¼ mile of an existing or proposed school, and there is no reasonably foreseeable condition or incident involving the emission, handling, or disposal of hazardous materials, substances, or waste that would affect areas within ¼ miles of existing or proposed school sites. There is *no impact.*

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

No Impact: The project site is not listed as a hazardous materials site pursuant to Government Code Section 65962.5 and is not included on a list compiled by the Department of Toxic Substances Control. There would be *no impact.*

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

No Impact: The proposed project is located approximately 4 miles away from the nearest public airport (Porterville Municipal Airport) and is not located in an airport land use plan. Implementation

of the proposed project would not result in a safety hazard for people residing or working in the project area. There is no impact.

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

No Impact: The County's design and environmental review procedures shall ensure compliance with emergency response and evacuation plans. In addition, the site plan will be reviewed by the Fire Department per standard City procedure to ensure consistency with emergency response and evacuation needs. Therefore, the proposed project would have *no impact* on emergency evacuation.

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

No Impact: The land surrounding the project site is developed with urban, suburban, and agricultural uses and are not considered to be wildlands. Additionally, the 2017 Tulare County Multi-Jurisdictional Local Hazard Mitigation Plan finds that fire hazards within the County, including the proposed project site, have low frequency, limited extent, limited magnitude, and low significance. The proposed project would not expose people or structures to significant risk of loss, injury or death involving wildland fires and there is *no impact.*

X. HYDROLOGY AND WATER QUALITY

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

Environmental Setting

Hydrologic System: The proposed project site is located in the Tulare Lake Hydrologic Region, which covers 10.9 million acres south of the San Joaquin River. The proposed project site lies within the San Joaquin Valley Groundwater Basin. The San Joaquin Valley Groundwater Basin is divided into seven sub basins. The proposed project site is located within the Tule Subbasin. The Subbasin comprises an area of approximately 467,000 acres in Tulare County. It is bordered by the Kaweah Subbasin to the north, Kern Subbasin to the south, the Tulare Lake Subbasin to the west, and the Sierra Nevada Foothills to the east. Major rivers in the Subbasin include Deer Creek and the Tule River.

Groundwater: SID receives groundwater supplies from the Tule Sub-basin. Groundwater typically flows with the direction of the ground surface gradient, from east to west. The eastern area of the Basin contains unconfined aquifer that is deeper and has a higher specific yield, while the western portion of the Basin contains areas of both confined and unconfined aquifer. Alluvial sediments are found within the Tule Sub-basin and are bounded on the east by the granite from the Sierra Nevada Mountains and bounded on the west by the Tulare Lake bed, which contains a layer of diatomaceous clay (E-Clay also known as the

Corcoran Clay). The alluvium within the Basin is a heterogeneous mix of clay, silt, sand, and gravel. The proposed project is located in an area of coarse-grained material with high percolation rates.

Surface Waters: SID is within the Upper Deer-Upper White Watershed. The District has a maximum annual entitlement of 31,102 AF/Year with the U.S. Bureau of Reclamation via the Friant Division of the Central Valley Project. Additional Friant supplies are commonly available during uncontrolled seasons.

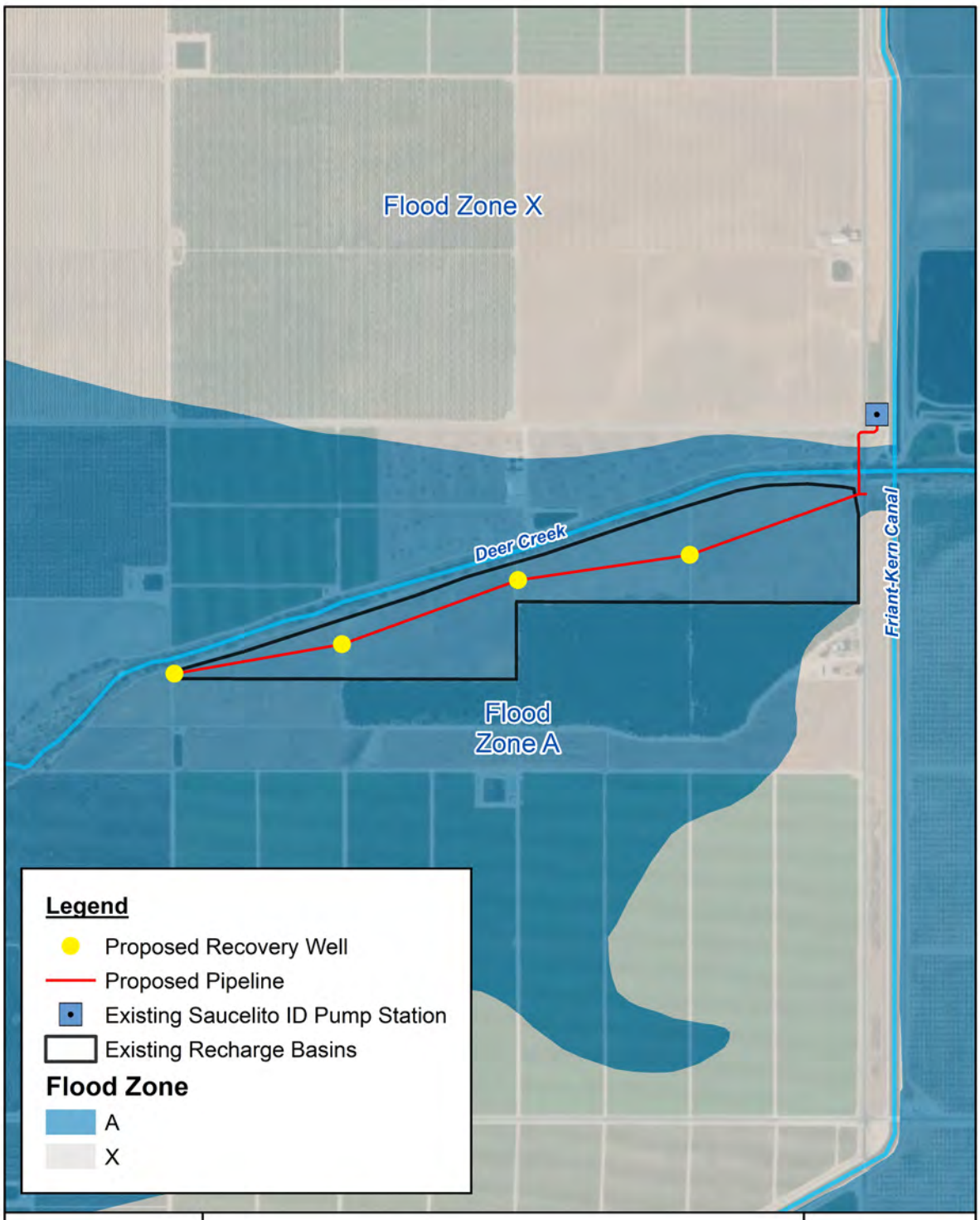
Regulatory Setting

Clean Water Act: The Clean Water Act (CWA) is enforced by the U.S. EPA and was developed in 1972 to regulate discharges of pollutants into the waters of the United States. The Act made it unlawful to discharge any pollutant from a point source into navigable waters unless a National Pollution Discharge Elimination System (NPDES) Permit is obtained.

Central Valley RWQCB: The proposed project site is within the jurisdiction of the Central Valley Regional Water Quality Control Board (RWQCB). The Central Valley TWQCB requires a National Pollution Discharge Elimination System (NPDES) Permit and Stormwater Pollution Prevention Plan (SWPPP) for projects disturbing more than one acre of total land area. Because the project is greater than one acre, a NPDES Permit and SWPPP will be required.

Tulare County General Plan: The Tulare County General Plan identifies the following hydrologic resource goals and policies that are potentially applicable to the proposed project:

- Policy PFS-2.1 Water Supply: The County shall work with agencies providing water service to ensure that there is an adequate quantity and quality of water for all uses, including water for fire protection, by, at a minimum, requiring a demonstration by the agency providing water service of sufficient and reliable water supplies and water management measures for proposed urban development
- Policy HS-5.4 Multi-Purpose Flood Control Measures: The County shall encourage multipurpose flood control projects that incorporate recreation, resource conservation, preservation of natural riparian habitat, and scenic values of the County's streams, creeks, and lakes. Where appropriate, the County shall also encourage the use of flood and/or stormwater retention facilities for use as groundwater recharge facilities
- Policy WR-1.8 Groundwater Basin Management: The County shall take an active role in cooperating in the management of the County’s groundwater resources
- Policy WR-2.4 Construction Site Sediment Control: The County shall continue to enforce provisions to control erosion and sediment from construction sites
- Policy WR-3.1 Develop Additional Water Sources: The County shall encourage, support and, as warranted, require the identification and development of additional water sources through the expansion of water storage reservoirs, development of groundwater banking for recharge and infiltration, and promotion of water conservation programs, and support of other projects and programs that intend to increase the water resources available to the County and reduce the individual demands of urban and agricultural users
- Policy WR-3.10 Diversion of Surface Water: Diversions of surface water or runoff from precipitation should be prevented where such diversions may cause a reduction in water available for groundwater recharge



Flood Zones

Deer Creek - Friant Kern Canal Water Bank

Saucelito Irrigation District

Figure 3-4

Discussion

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

Less than Significant Impact: This project will not generate any wastewater or violate any waste discharge requirements. A Stormwater Pollution Prevention Plan (SWPPP) will be required for the project. A SWPPP identifies all potential sources of pollution that could affect stormwater discharge during construction and identifies best management practices (BMPs) related to stormwater runoff. The project will implement ongoing water quality monitoring, reporting, and constraint of operations if necessary, as detailed in the Monitoring and Operational Constraint Plan (Section 2.2). Implementation of the MOCP will further reduce the potential for impacts to water quality as a result of the proposed project. The impact is *less than significant.*

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

Less than Significant Impact: The purpose of the proposed project is to bank water that is periodically available above current needs from the Friant Division of the Central Valley Project (Friant), and to make that water available to lawful recipients when that water is needed. Although the project would result in the recovery of banked water when needed, water recovery operations will be done in such a way as to prevent substantial groundwater depletion. The proposed wells that will be used to recover banked water will be located throughout the project site, rather than concentrated in one area. This will ensure that water levels are able to equalize so that no specific area is depleted. These wells would be operated on an as-needed basis to supply lawful recipients when needed.

The proposed project includes implementation of an MOCP (Section 2.2), which includes procedures to monitor impacts to neighboring wells, and if necessary, to adjust or constrain operations. This will further reduce the potential for impacts related to groundwater supplies or groundwater recharge. The impact is *less than significant.*

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

i. Result in substantial erosion or siltation on- or off-site?

Less than Significant Impact: The proposed pipelines would be used to bank water that is periodically available through existing SID pipelines. This would not be considered an alteration of existing drainage patterns. Additionally, any water that falls within the existing groundwater basin area will remain in the basins for groundwater recharge and no runoff from the basins will occur. A Stormwater Pollution Prevention Plan (SWPPP) will be implemented during project construction. SWPPPs include mandated erosion control measures, which are developed to prevent significant impacts related to erosion caused by runoff during construction. The impact is *less than significant.*

ii. Substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or offsite?

Less than Significant Impact: The proposed pipelines would be used to bank water that is periodically available from existing SID pipelines. This would not be considered an alteration of existing drainage patterns. Additionally, any water that falls within the existing groundwater basin area will remain in the basins for groundwater recharge. The project would not result in substantial surface runoff or contribute to flooding on- or off-site. While there is the potential for runoff to occur during project construction, implementation of required SWPPP BMPs will reduce any impacts related to stormwater runoff, including flooding, to less than significant. The project will have a *less than significant impact.*

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

No Impact: The proposed project will not create or contribute runoff water and there would be no impacts to existing or planned stormwater drainage systems. All stormwater will remain on-site, as the basins will be constructed to retain water for groundwater recharge. Additionally, implementation of SWPPP BMPs will further reduce the potential for stormwater-related impacts to occur. No chemicals or surfactants will be used during project maintenance or operations, so there will be no ongoing discharge that could impact water quality. There is *no impact.*

iv. Impede or redirect flood flows?

No Impact: The proposed pipelines would direct excess surface waters from an existing SID pipeline into the existing groundwater recharge basins for groundwater recharge. This would not be considered a redirection of flood flows. There is *no impact.*

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

No Impact: The proposed project is located inland and not near an ocean or large body of water, therefore, would not be affected by a tsunami. The proposed project is located in a relatively flat area and would not be impacted by inundation related to mudflow. Since the project is located in an area that is not susceptible to inundation, the project would not risk release of pollutants due to project inundation. As such, there is *no impact.*

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

No Impact: The project would not conflict with or obstruct the implementation of a water quality control plan or sustainable groundwater management plan given that the project would create substantial degradation of water quality. No chemicals or surfactants will be used during project maintenance or operations, so there will be no ongoing discharge that could impact water quality. There is *no impact.*

XI. LAND USE AND PLANNING

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

Environmental Setting

The proposed project site is located in an unincorporated area of Tulare County, approximately six miles southwest of the city of Porterville and three miles northwest of the census-designated community of Terra Bella. The site and surrounding properties are within the Valley Agricultural land use planning area and are zoned AE-40.

The existing groundwater recharge basins are bounded by Road 208 to the east, Deer Creek along the northern edge of the parcels, and agricultural orchards to the south. The project site is currently operating as a groundwater recharge basin area and will continue to do so after the installation of the proposed pipelines and wells.

Regulatory Setting

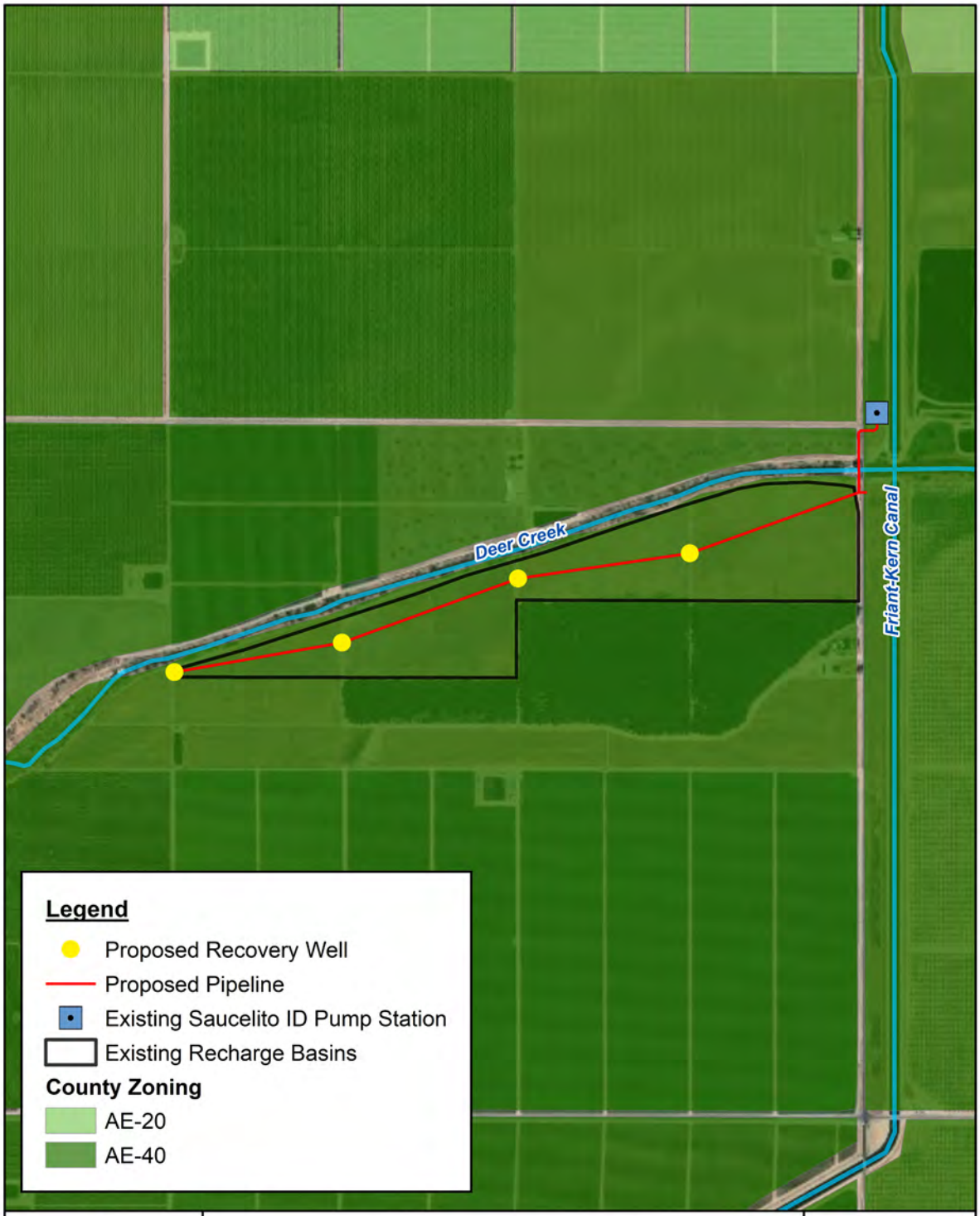
Tulare County General Plan: The proposed project site and surrounding properties are within the County's Valley Agricultural land use planning area and are zoned AE-20 and AE-40.

> **Valley Agriculture (VA)**: This designation establishes areas for intensive agricultural activities on prime valley agricultural soils and other productive or potentially productive valley lands where commercial agricultural uses can exist without conflicting with other uses, or where conflicts can be mitigated. Uses typically allowed include irrigated crop production, orchards and vineyards; livestock; resource extraction activities and facilities that directly support agricultural operations, such as processing; and other necessary public utility and safety facilities. Allowable residential development includes one principal and one secondary dwelling unit per parcel for relative, caretaker/employee, or farm worker housing. This designation is located primarily outside UDBs on the valley floor. The RVLP generally applies to the central valley below the 600-foot elevation contour line outside the County's UDBs and HDBs (see RVLP Part II page 1-1). The following standards apply to all parcels designated as valley agriculture except those parcels deemed non-viable in accordance with the procedures set forth in Part II-Chapter 1 (RVLP). Maximum density, intensity, and parcel size for non-viable parcels is determined in accordance with the procedures set forth in Part II-Chapter 1 (RVLP).
>
> - Minimum Parcel Size: 10-80 Acres
> - Maximum Density: 1 dwelling unit per 10 acres. One additional unit may be allowed for every 20 additional acres over the minimum parcel size
> - Maximum Intensity: 0.02 FAR

The following goals and policies in the Tulare County General Plan are applicable to the project site's agricultural land use designation:

- Policy AG-1.17 Agricultural Water Resources: The County shall seek to protect and enhance surface water and groundwater resources critical to agriculture
- Policy LU-2.5 Agricultural Support Facilities: The County shall encourage beneficial reuse of existing or vacant agricultural support facilities for new businesses (including non-agricultural uses)
- Policy HS-5.4 Multi-Purpose Flood Control Measures: The County shall encourage multipurpose flood control projects that incorporate recreation, resource conservation, preservation of natural riparian habitat, and scenic values of the County's streams, creeks, and lakes. Where appropriate, the County shall also encourage the use of flood and/or stormwater retention facilities for use as groundwater recharge facilities
- Policy WR-1.5 Expand Use of Reclaimed Wastewater: To augment groundwater supplies and to conserve potable water for domestic purposes, the County shall seek opportunities to expand groundwater recharge efforts

Tulare County Zoning Ordinance: The proposed project site and surrounding properties are zoned as AG-20 and AG 20, General Agricultural-20 District and General Agricultural-40 District. This district is intended for intensive agricultural uses of land. This area should be reserved for commercial agricultural uses due to its high soil quality. The minimum parcel size in the AG-20 and AG-40 zoning districts are between 20 to 40 acres in size.


Deer Creek
Friant-Kern Canal
Legend
Proposed Recovery Well
Proposed Pipeline
Existing Saucelito ID Pump Station
Existing Recharge Basins
County Zoning
AE-20
AE-40
N
1 in = 1,500 ft
Zoning Designation
Deer Creek Water Bank
Saucelito Irrigation District
Figure 3-5

Discussion

a) Would the project physically divide an established community?

No Impact: The proposed project will not physically divide an established community. The proposed water recovery wells and a majority of the proposed pipeline will be located within existing groundwater recharge basins. The pipeline is proposed to cross Road 208 in the future, however this will not divide an established community. The pipe will be installed under roads by method of jack-and-bore. In this method, pits are dug on each side of the road and a ram is placed in one pit to punch a steel casing pipe underneath. Once the steel casing is received on the other side, the operational pipe is slid into the casing and connected on each side. This will allow traffic flow to be maintained during project construction. The project will not physically divide an established community and there will be *no impacts.*

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

No Impact: The project site is located on land designated for agricultural use. The Tulare County General Plan states that agricultural support activities are permitted on lands designated for agricultural use. The proposed project will be used to support agricultural activities within SID and is not in conflict with any land use plans, policies, or regulations adopted for the purpose of avoiding or mitigating an environmental effect. There is *no impact.*

XII. MINERAL RESOURCES

Would the project:	Potentially Significant Impact	Less Than Significant With Mitigation Incorporation	Less than Significant Impact	No Impact
a) Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state?	☐	☐	☐	☑
b) Result in the loss of availability of a locally - important mineral resource recovery site delineated on a local general plan, specific plan or other lands use plan?	☐	☐	☑	☐

Environmental Setting

There are no mineral resource zones in Tulare County and there is no mineral extraction occurring on or adjacent to the proposed project site. Historical mines within the County include mineral deposits of tungsten, copper, gold, magnesium and lead, however most of these mines are now closed – leaving only 30 active mining claims.

Regulatory Setting

California State Surface Mining and Reclamation Act: The California State Surface Mining and Reclamation Act was adopted in 1975 to regulate surface mining to prevent adverse environmental impacts and to preserve the state's mineral resources. The Act is enforced by the California Department of Conservation's Division of Mine Reclamation.

Tulare County General Plan: The following mineral resource goals and policies in the Environmental Resource Management Element of the Tulare County General Plan are potentially applicable to the proposed project.

Goal 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.

- Policy ERM-2.1: The County will encourage 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
- Policy ERM-2.2: The County will recognize as a part of the General Plan those areas of identified and/or potential mineral deposits
- Policy ERM-2.3: The County will 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
- Policy ERM-2.9: The County will encourage the development of mineral deposits in a manner compatible with surrounding land uses

- Policy ERM-2.10: Proposed incompatible land uses in the County 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
- Policy ERM-2.11: The County shall establish procedures to ensure compliance with conditions of approval on all active and idle mines
- Policy ERM-2.12: Tulare County will establish procedures to ensure that vested interest mining operations remain within their approved area and/or production limits
- Policy ERM-2.13: All surface mines in the County, 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 consistent with the Tulare County General Plan, subsequent to the completion of surface mining activities. Mine reclamation costs shall be borne by the mine operator, and guaranteed by financial assurances set aside for restoration procedures

Goal 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.

- Policy ERM-3.1: All mining operations in the County 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
- Policy ERM-3.2: Within the County UDBs and HDBs, new commercial mining operations should be limited due to environmental and compatibility concerns
- Policy ERM-3.3: The County shall allow 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
- Policy ERM-3.4: Facilities related to oil and gas extraction and processing in the County 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
- Policy ERM-3.5: 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

Discussion

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

No Impact: The project site has no known mineral resources that would be of a value to the region and the residents of the state, therefore the proposed project would not result in the loss of impede the mining of regionally or locally important mineral resources. There is *no impact.*

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

Less than Significant Impact: The project site is located within MRZ-3a zone, as designated under the Tulare County General Plan. These areas are known for containing mineral deposits that may qualify as mineral resources. MRZ-3 zones are divided on the basis of knowledge of economic characteristics of the resources. MRZ-3a areas are considered to have a moderate potential for the discovery of economic mineral deposits. An example of a MRZ-3a area would be where there is direct evidence of a surface exposure of a geologic unit, such as a limestone body, known to be or to contain a mineral resource elsewhere but has not been sampled or tested at the current location. For that reason, the proposed project would not result in the loss of availability of known regionally or locally important mineral resources. There is a *less than significant impact.*

XIII. NOISE

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

Environmental Setting

Noise is often described as unwanted sound. Sound is the variation in air pressure that the human ear can detect. If the pressure variations occur at least 20 times per second, they can be detected by the human ear. The number of pressure variations per second is called the frequency of sound, and is expressed as cycles per second, called Hertz (Hz).

Ambient noise is the "background" noise of an environment. Ambient noise levels on the proposed project site are primarily due to agricultural activities and traffic. Construction activities usually result in an increase in sound above ambient noise levels.

The properties surrounding the project site are under agricultural use. Terra Bella Elementary School is the nearest sensitive receptor and is approximately 5 miles from the project site.

Regulatory Setting

Tulare County General Plan: The Health and Safety Element of the Tulare County General Plan is responsible for establishing noise standards within the county and includes the following goals and policies related to noise that may be applicable to the project.

- HS-8.11 Peak Noise Generators: The County shall limit noise generating activities, such as construction, to hours of normal business operation (7 a.m. to 7 p.m.). No peak noise generating activities shall be allowed to occur outside of normal business hours without County approval.
  HS-8.18 Construction Noise: The County shall seek to limit the potential noise impacts of construction activities by limiting construction activities to the hours of 7 am to 7pm, Monday through Saturday when construction activities are located near sensitive receptors. No

construction shall occur on Sundays or national holidays without a permit from the County to minimize noise impacts associated with development near sensitive receptors.

- HS-8.19 Construction Noise Control: The County shall ensure that construction contractors implement best practices guidelines (i.e. berms, screens, etc.) as appropriate and feasible to reduce construction-related noise impacts on surrounding land uses.

Discussion

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

Less than Significant Impact: Project construction is anticipated to last approximately 6 months and will result in a temporary increase in noise levels within the immediate vicinity. Saucelito Elementary School is the nearest sensitive receptor and is approximately 3 miles from the project site. The average noise levels generated by construction equipment that will be use in the proposed project are shown below.

Type of Equipment	dBA at 50 feet
Bore/Drill Rigs	82
Excavators	81
Tractors	84
Loaders	85
Backhoes	80
Trenchers	80
Cement and Morter Mixers	85
Welders	74

Table 3-8. Noise levels of noise-generating construction equipment. Source: Federal Highway Administration Construction Noise Handbook.

The County's Noise Control Ordinance requires noise-producing equipment used during construction to be restricted to the hours between 7:00 a.m. to 7:00 p.m. Construction would not occur outside of these hours. Compliance with county noise control measures will prevent significant impacts related to increased ambient noise levels as a result of construction.

Long term noise levels would be minimal and limited to noise generated during maintenance and operational tasks, including site visits, operation of the proposed recovery wells, and maintenance activities. There will be no permanent personnel on-site or continuous operation of noise-generating equipment. As stated in the General Plan, the normally acceptable noise thresholds for agricultural land use areas is 75 dB.

Because noise generated during project operations will not exceed noise thresholds established by the Tulare County General Plan for Agricultural uses, and the project will comply with all regulations regarding construction hours, implementation of the proposed project will not expose persons to noise levels exceeding established standards and there is *no impact.*

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

No Impact: The City of Tulare General Plan states that projects that use vibration-intensive construction activities, such as pile drivers, jack hammers, and vibratory rollers, near sensitive receptors must be evaluated for potential vibration. Because the proposed project would not use this type of equipment, the project would not generate excessive ground-borne vibration or ground-borne noise levels and there is *no impact.*

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

No Impact: The proposed project is not located within an airport land use plan. Porterville Municipal Airport is the nearest public airport and is located approximately 4 miles away from the project site. Therefore, there is *no impact*.

XIV. POPULATION AND HOUSING

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

Environmental Setting

The United States Census Bureau estimated the population in Tulare County to be 459,863 in 2015. This is an increase from the 2010 census, which counted the population in Tulare County to be 443,081. Factors that influence population growth include job availability, housing availability, and the capacity of existing infrastructure.

Regulatory Setting

The Tulare County population size is controlled by the development code and Land Use Element of the General Plan. These documents regulate the number of dwelling units per acre allowed on various land uses and establish minimum and maximum lot sizes. These factors have a direct impact on the County's population size.

Discussion

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

No Impact: The proposed project will not have an effect on population growth within Tulare County. Project operations would not require any long-term, on-site employees and maintenance activities would be conducted by existing SID employees. The project would not create any long-term employment opportunities that would lead to population growth. There is *no impact*.

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

No Impact: There project would not require the removal of any existing structures. The project would not displace substantial numbers of existing housing; therefore, there is *no impact.*

XV. PUBLIC SERVICES

Would the Project:	Potentially Significant Impact	Less than Significant With Mitigation Incorporation	Less than Significant Impact	No Impact
a) Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable serve ratios, response times of other performance objectives for any of the public services:				
a. Fire protection?	☐	☐	☐	☑
b. Police protection?	☐	☐	☐	☑
c. Schools?	☐	☐	☐	☑
d. Parks?	☐	☐	☐	☑
e. Other public facilities?	☐	☐	☐	☑

Environmental Setting

Fire: The project site is served by the Tulare County Fire Protection Department which operates 27 fire stations within unincorporated areas of the County and is headquartered in Farmersville, CA. The FCFPD responds to over 12,000 calls annually.

Police: Law enforcement services are provided to the project site via the Tulare County Sheriff's Department. Tulare County will continue to provide police protection services to the proposed project site upon development. The nearest Tulare County Sheriff's Office is located in Porterville, approximately 8.5 miles northeast of the proposed project site.

Schools: The proposed project site is located within the Terra Bella Union Elementary School District. The nearest school within that district is Terra Bella Elementary, which is located approximately four miles southeast of the project site.

Regulatory Setting

School Districts in Tulare County are regulated by the California Department of Education and the Tulare County Sheriff's Department is regulated by the California Department of Justice. Objectives and Policies relating to Law Enforcement, Fire Protection, and School Facilities are included in the Public Facilities and Services Element of the Tulare County General Plan. The Goals and Policies potentially applicable to the proposed project are as follows:

- PFS-7.2 Fire Protection Standards: The County shall require all new development to be adequately served by water supplies, storage, and conveyance facilities supplying adequate volume, pressure, and capacity for fire protection.

- PFS-7.7 Cost Sharing: The County shall require new development to pay public facility fees associated with new sheriff/fire station facilities and equipment necessary to maintain the County's service standards in that area. New development may also be required to create or join a special assessment district, or other funding mechanism, to pay the costs associated with the operation of a sheriff/fire station.

Discussion

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

a. Fire protection?

No Impact: Implementation of the proposed project will not result in increased demand for fire protection services. There is *no impact.*

b. Police protection?

No Impact: Implementation of the proposed project will not result in increased demand for fire protection services. There is *no impact*.

c. Schools?

No Impact: The proposed project does not include any residential developments and would not result in any permanent, on-site employees. The project will not result in additional residents to Tulare County, and will not increase the number of students in the school district. Therefore, there is *no impact.*

d. Parks?

No Impact: The proposed project will not create any additional residents and there will not be a need for additional parkland. There is no *impact.*

e. Other public facilities?

No Impact: The proposed project will not result in addition residents or create additional jobs. The project will have *no impact* on other public facilities.

XVI. PARKS AND RECREATION

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

Environmental Setting

There are 13 parks that are owned and operated by Tulare County. Porterville Sports Complex is the closest recreational area to the project site and is located approximately four miles northeast of the project site within the City of Porterville.

Regulatory Setting

Tulare County General Plan: The Environmental Resources Management Element of the Tulare County General Plan contains the following recreational resource goals and policies potentially applicable to the project.

- Policy ERM-5.3. Park Dedication Requirements: The County shall require the dedication of land and/or payment of fees, in accordance with local authority and State law (for example the Quimby Act), to ensure funding for the acquisition and development of public recreation facilities.

- Policy ERM-5.7. Public Water Access: The County shall give a high priority to the acquisition of public access rights to water courses. Acquisition of multi-purpose sites, such as the protection of drainage ways, wildlife habitats, and scenic assets, shall be encouraged. In the lakefront areas of Lake Success and Lake Kaweah, special consideration should be given to matching recreational needs of the community with lake access.

- Policy ERM-5.8. Watercourse Development: The County, in approving recreational facilities along major watercourses, shall require a buffer of at least 100 feet from the high-water line edge/bank and screening vegetation as necessary to address land use compatibility issues. The establishment of a buffer may not be required when mitigated or may not apply to industrial uses that do not impact adjoining uses identified herein.

Discussion

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

No Impact: The proposed project does not include any residential developments and would not result in any permanent, on-site employees resulting in additional residents to Tulare County. Because the project will not result in an increased population in Tulare County, the project will not increase the use of existing parkland or create need for additional parkland. There is no *impact.*

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

No Impact: There are no parkland or recreational facilities associated with the project. The project will not result in additional residents and the project will not create need for additional parkland. Therefore, there is no *impact.*

XVII. TRANSPORTATION

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

Environmental Setting

Vehicular Access: Vehicular access to the project is available on Road 208. Tulare County is the primary authority for local roads. Other transportation facilities include a network of unpaved, private roads within the proposed project site property. These provide full access to the project.

Parking: During construction, workers will utilize existing facility parking areas and/or temporary construction staging areas for parking of vehicles and equipment. During project operations, there will be no permanent personnel on-site and no additional parking facilities will be required.

Regulatory Setting

Tulare County Improvement Standards: The Tulare County Improvement Standards are developed and enforced by the Tulare County Public Works Department to guide the development and maintenance of County Roads. The cross section drawings contained in the County Improvement Standards dictate the development of roads within the county.

Tulare County General Plan: The County assesses the acceptability of roadways using Level of Service (LOS). The County has an LOS threshold of "D" for County roads.

Discussion

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

No Impact: The proposed project consists of the construction and operation of pipelines and four recovery wells within an existing groundwater recharge basin. The project will not require any changes to existing transportation systems and will have no impact on any plans, ordinances, or policies related to the effectiveness or performance of the circulation system. There would *no impact*.

b) Would the project conflict or be inconsistent with CEQA Guidelines Section 15064.3, Subdivision (b)?

No Impact: The proposed project would have no impact on vehicle miles traveled and is therefore consistent with CEQA Guidelines Section 15064.3. There is no impact.

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

No Impact: The proposed pipeline will cross public Right of Way (R-O-W) on Road 208 at two points. The pipe will be installed under roads by method of jack-and-bore. In this method, pits are dug on each side of the road and a ram is placed in one pit to punch a steel casing pipe underneath. Once the steel casing is received on the other side, the operational pipe is slid into the casing and connected on each side. This will allow traffic flow to be maintained during project construction. Additionally, no public roadway design features or incompatible uses are included in the proposed project. The project would not increase transportation-related hazards and there is *no impact.*

d) Would the project result in inadequate emergency access?

No Impact: The proposed pipeline will cross public R-O-W on Road 208 at two points. The pipe will be installed under roads by method of jack-and-bore. In this method, pits are dug on each side of the road and a ram is placed in one pit to punch a steel casing pipe underneath. Once the steel casing is received on the other side, the operational pipe is slid into the casing and connected on each side. This will allow traffic flow to be maintained during project construction. The project will have no impact on traffic or emergency access during project operations because the proposed pipeline will be located entirely below ground and the proposed recovery wells will be located outside of the public R-O-W. There is *no impact.*

XVIII. TRIBAL CULTURAL RESOURCES

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

Environmental Setting

Studies of the prehistory of Tulare County show inhabitants of the San Joaquin Valley maintained fairly dense populations situated along the banks of major waterways, wetlands, and streams. The area has been occupied inhabited by aboriginal California Native American groups consisting of the Southern Valley Yokuts, Foothill Yokuts, Monache, and Tubatulabal for over 10,000 years.

Of the main groups inhabiting the Tulare County area, the Southern Valley Yokuts occupied the largest territory. The Yokuts numbered about 25,000, and were clustered into about fifty independent local sub-tribes. Historians believe approximately 22 villages stretched from Stockton northerly to the Tehachapi Mountains southerly, although most were concentrated around Tulare Lake, Kaweah River and its tributaries. As a result, numerous of cultural resource sites have been identified in Tulare County.

Cultural Resources Record Search: A Cultural Resources Records Search was conducted by the Southern San Joaquin Valley Information Center on May 28, 2019. The records search stated that there have been no previous cultural resource studies conducted within the project area, however two studies were conducted within a one-half mile radius of the project. According to the records search, there are no recorded cultural resources within the project area and there are two recorded resources within a one half mile radius. These consist of a historic era canal and a historic era transmission line. The full findings

of the cultural records search can be found in Appendix C. No Tribal Cultural Resources were identified by the records search.

Native American Consultation: No tribes have requested to be notified of projects within SID for AB 52 tribal consultation.

Definitions

- **Historical Resources**: Historical resources are defined by CEQA as resources that are listed in or eligible for the California Register of Historical Resources, resources that are listed in a local historical resource register, or resources that are otherwise determined to be historical under California Public Resources Code Section 21084.1 or California Code of Regulations Section 15064.5. Under these definitions Historical Resources can include archaeological resources, Tribal cultural resources, and Paleontological Resources.

- **Archaeological Resources:** As stated above, archaeological resources may be considered historical resources. If they do not meet the qualifications under the California Public Resources Code 21084.1 or California Code of Regulations Section 15064.5, they are instead determined to be "unique" as defined by the CEQA Statute Section 21083.2. A unique archaeological resource is an artifact, object, or site that: (1) contains information (for which there is a demonstrable public interest) needed to answer important scientific research questions; (2) has a special and particular quality, such as being the oldest of its type or the best available example of its type; or (3) is directly associated with a scientifically recognized important prehistoric or historic event or person.

- **Tribal Cultural Resource (TCR):** Tribal Cultural Resources can include site features, places, cultural landscapes, sacred places, or objects, which are of cultural value to a Tribe. It is either listed on or eligible for the CA Historic Register or a local historic register, or determined by the lead agency to be treated as TCR.

- **Paleontological Resources:** For the purposes of this section, "paleontological resources" refers to the fossilized plant and animal remains of prehistoric species. Paleontological Resources are a limited scientific and educational resource and are valued for the information they yield about the history of the earth and its ecology. Fossilized remains, such as bones, teeth, shells, and leaves, are found in geologic deposits (i.e., rock formations). Paleontological resources generally include the geologic formations and localities in which the fossils are collected.

<u>Regulatory Setting</u>

Historical Resources: Historical resources are defined by CEQA as resources that are listed in or eligible for the California Register of Historical Resources, resources that are listed in a local historical resource register, or resources that are otherwise determined to be historical under California Public Resources Code Section 21084.1 or California Code of Regulations Section 15064.5. Under these definitions Historical Resources can include archaeological resources, Tribal cultural resources, and Paleontological Resources.

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National Historic Preservation Act: The National Historic Preservation Act was adopted in 1966 to preserve historic and archeological sites in the United States. The Act created the National Register of Historic Places, the list of National Historic Landmarks, and the State Historic Preservation offices.

California Historic Register: The California Historic Register was developed as a program to identify, evaluate, register, and protect Historical Resources in California. California Historical Landmarks are sites, buildings, features, or events that are of statewide significance and have anthropological, cultural, military, political, architectural, economic, scientific, religious, experimental, or other value. In order for a resource to be designated as a historical landmark, it must meet the following criteria:

- The first, last, only, or most significant of its type in the state or within a large geographic region (Northern, Central, or Southern California).
- Associated with an individual or group having a profound influence on the history of California.
- A prototype of, or an outstanding example of, a period, style, architectural movement or construction or is one of the more notable works or the best surviving work in a region of a pioneer architect, designer or master builder.

Tulare County General Plan: The Resource Land Use Designations of the 2035 Tulare County General Plan includes the following objective pertaining to cultural and historic resources:

Goal PF-6: To work with agencies, districts, utilities, and Native American tribes to promote consistency with the County's General Plan.

- Policy PF-6.1: Plans for Jurisdictions, Agencies, District, Utilities, and Native American Tribes The County shall work with Tulare County cities; adjacent counties and cities; Federal, State, and regional agencies; local districts; utility providers; Native American tribes; and the military to ensure that their plans are consistent with Tulare County's General Plan to the greatest extent possible

- PF-6.2 Intergovernmental Coordination The County shall work with Federal, State, and regional agencies; local districts; utility providers; Native American tribes; and the military to ensure that the County and the public are involved, as appropriate, throughout any planning process and that agency and public input is requested

Goal ERM-6: To manage and protect sites of cultural and archaeological importance for the benefit of present and future generations.

- Policy ERM-6.8. The County shall continue to solicit input from the local Native American communities in cases where development may result in disturbance to sites containing evidence of Native American activity and/or to sites of cultural importance

Paleontological Resources: Paleontological resources are any fossilized remains, traces, or imprints of organisms, preserved in or on the earth's crust, that are of paleontological interest and that provide information about the history of life on earth, with the exception of materials associated with an archaeological resource [as defined in Section 3(1) of the Archaeological Resources Protection Act of 1979 (16 U.S.C. 470bb[1]), or any cultural item as defined in Section 2 of the Native American Graves Protection and Repatriation Act (25 U.S.C. 3001)].

Native American Reserve (NAR): This designation recognizes tribal trust and reservation lands managed by a Native American Tribe under the United States Department of the Interior's Bureau of Indian Affairs over which the County has no land use jurisdiction. The County encourages adoption of tribal management plans for these areas that consider compatibility and impacts upon adjacent area facilities and plans.

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

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

Discussion

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

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

Less Than Significant Impact with Mitigation: The project would not cause a substantial adverse change in the significance of a tribal cultural resource, nor is it listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources. Based on the results of the records search, no previously recorded tribal cultural resources are located within the project site. Although no cultural resources were identified, the presence of remains

or unanticipated cultural resources under the ground surface is possible. Implementation of Mitigation Measures TCR-1, TCR-2, and TCR-3 will ensure that impacts to this checklist item will be *less than significant with mitigation* incorporation.

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

Less Than Significant Impact with Mitigation: The lead agency has not determined there to be any known tribal cultural resources located within the project area. Additionally, there are not believed to be any paleontological resources or human remains buried within the project area's vicinity. However, if resources were found to be significant pursuant to criteria set forth in subdivision (c) of Public Resources Code Section 5024.1, the lead agency shall consider the significance of the resources to a California Native American Tribe. Implementation of Mitigation Measures TCR-1, TCR-2, and TCR-3 will ensure that any impacts resulting from project implementation remain *less than significant with mitigation* incorporation.

Mitigation Measures for Impacts to Cultural Resources:

Mitigation Measure TCR-1: If cultural resources are encountered during ground-disturbing activities, work in the immediate area must halt and an archaeologist meeting the Secretary of the Interior's Professional Qualifications Standards for archaeology (NPS 1983) shall be contacted immediately to evaluate the find. If the discovery proves to be significant under CEQA, additional work such as data recovery excavation and Native American consultation may be warranted to mitigate any adverse effects.

Mitigation Measure TCR-2: The discovery of human remains is always a possibility during ground disturbing activities. If human remains are found, the State of California Health and Safety Code Section 7050.5 states that no further disturbance shall occur until the County Coroner has made a determination of origin and disposition pursuant to Public Resources Code Section 5097.98. In the event of an unanticipated discovery of human remains, the County Coroner must be notified immediately. If the human remains are determined to be prehistoric, the coroner will notify the Native American Heritage Commission (NAHC), which will determine and notify a most likely descendant (MLD). The MLD shall complete the inspection of the site within 48 hours of notification and may recommend scientific removal and nondestructive analysis of human remains and items associated with Native American burials.

Mitigation Measure TCR-3: Upon coordination with the Tulare County Resource Management Agency, any archaeological artifacts recovered shall be donated to an appropriate Tribal custodian or a qualified scientific institution where they would be afforded long-term preservation. Documentation for the work shall be provided in accordance with applicable cultural resource laws and guidelines.

XIX. UTILITIES AND SERVICE SYSTEMS

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

Environmental Setting

Wastewater: The proposed project does not include permanent restroom facilities or other wastewater sources. No additional wastewater treatment services will be required as a result of project implementation.

Solid Waste: Solid waste disposal will be provided by the Tulare County Solid Waste Department, which operates two landfills and six transfer stations within the county. Combined, these landfills receive approximately 300,000 tons of solid waste per day.

Water: Existing water entitlements currently provide water to the proposed project site. Implementation of the proposed project will not require additional water entitlements.

Regulatory Setting

CalRecycle: California Code of Regulations, Title 14, Natural Resources – Division 7 contains all current CalRecycle regulations regarding nonhazardous waste management in the state. These regulations include standards for the handling of solid waste, standards for the handling of compostable materials, design standards for disposal facilities, and disposal standards for specific types of waste.

Central Valley RWQCB: The Central Valley RWQCB requires a Stormwater Pollution Prevention Plan (SWPPP) for projects disturbing more than one acre of total land area. Because the project is greater than one acre, a SWPPP to manage stormwater generated during project construction will be required.

The Central Valley RWQCB regulates Wastewater Discharges to Land by establishing thresholds for discharged pollutants and implementing monitoring programs to evaluate program compliance. This program regulates approximately 1500 dischargers in the region.

The Central Valley RWQCB is also responsible for implementing the federal program, the National Pollutant Discharge Elimination System (NPDES). The NPDES Program is the federal permitting program that regulates discharges of pollutants to surface waters of the U.S. Under this program, a NPDES permit is required to discharge pollutants into Water's of the U.S. There are 350 permitted facilities within the Central Valley Region.

Discussion

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

No Impact: The proposed project would not result in the relocation or construction of new or expanded wastewater treatment facilities, stormwater drainage facilities, power plants, natural gas extraction facilities, or telecommunication facilities. In the event that any of these facilities become required, they would be subject to separate environmental review and approval. There is *no impact.*

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

No Impact: The purpose of the water banking project is to ensure water availability for agricultural water users during normal, dry, and multiple dry years. The proposed pipeline will be used to divert waters from an existing SID pipeline into existing basins for groundwater recharge when water is available above current needs, and to recover banked water from the proposed water recovery wells to support SID Water users. The proposed project will not use water but will instead act as a water conveyance and storage system. Existing entitlements are sufficient to divert water for groundwater banking and there is *no impact.*

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

No Impact: No wastewater will be generated as a result of project implementation and no new water entitlements will be required. There will be no change to facilities or operations at existing water or wastewater treatment facilities. There is *no impact.*

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

No Impact: Waste Management will be provided by the Tulare County Solid Waste Department. Given that the proposed project is only the installation and operation of a groundwater banking pipeline, very little solid waste is anticipated as a result of project implementation and the landfills have sufficient permitted capacity to accommodate the project's solid waste disposal needs. Therefore, there is *no impact*.

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

No Impact: This proposed project conforms to all applicable statutes and regulations related to solid waste disposal. The proposed project will comply with the adopted policies related to solid waste, and will comply with all applicable federal, state, and local statutes and regulations pertaining to disposal of solid waste, including recycling. Therefore, the proposed project would have *no impact* on solid waste regulations.

XX. WILDFIRE

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

Environmental Setting

The proposed project site is not located Areas within Tulare County that are wildfire threat areas are identified by the 2017 Tulare Multi-Jurisdictional Local Hazard Mitigation Plan. The proposed project site is not located near one of those

Regulatory Setting

Fire Hazard Severity Zones: geographical areas designated pursuant to California Public Resources Codes Sections 4201 through 4204 and classified as Very High, High, or Moderate in State Responsibility Areas or as Local Agency Very High Fire Hazard Severity Zones designated pursuant to California Government Code, Sections 51175 through 51189.

Tulare Unit Strategic Fire Plan Key Goals and Objectives:

- Support the implementation and maintenance of defensible space inspections around structures
- Analyze trends in fire cause and focus prevention and education efforts to modify behaviors and effect change to reduce ignitions within Tulare County
- Identify and evaluate wildland fire hazards and recognize assets at risk, collecting and analyzing data to determine fuel reduction project, and other projects.
- Assist landowners and local government in the evaluation of the need to retain and utilize features (e.g. roads, fire lines, water sources) developed during fire suppression efforts, taking into consideration those identified in previous planning efforts .

Tulare County Disaster Preparedness Guide (2011): The Tulare County Preparedness Guide provides guidelines regarding disaster preparedness and evacuation planning for Tulare County residents.

Discussion

a) Would the project substantially impair an adopted emergency response plan or emergency evacuation plan?

No Impact: The project would not substantially impair an adopted emergency response plan or emergency evacuation plan, including the Tulare Unit Strategic Fire Plan and the Tulare County Disaster Preparedness Guide. The proposed project will cross public R-O-W on Road 208 at two points, however the project will have no impact on traffic or emergency access because the pipeline will be installed under Road 208 by method of jack-and bore. In this method, pits are dug on each side of the road and a ram is placed in one pit to punch a steel casing pipe underneath. Once the steel casing is received on the other side, the operational pipe is slid into the casing and connected on each side. This will allow traffic flow to be maintained during project construction. The project will also be reviewed by the Tulare County Fire Chief to ensure the project does not impair emergency response or emergency evacuation. *There is no impact.*

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

No Impact: The project is located on a flat area of land with little risk of fire. The Tulare County Multi-Jurisdictional Local Hazard Mitigation Plan identifies the risk of fire within the City of Tulare as having unlikely frequency, limited extent, limited magnitude, and low significance. The project would not exacerbate wildfire risks and expose project occupants to pollutant concentrations from a wildfire or the uncontrolled spread of wildfire. There is *no impact.*

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

No Impact: The proposed project would not require the installation or maintenance of roads, fuel breaks, emergency water sources, power lines or other utilities that could exacerbate fire risk or result in temporary or ongoing impacts to the environment. There is *no impact.*

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

No Impact: The land surrounding the project site is designated for agricultural land use and is not considered to be wildland. Additionally, the proposed project site is not in a wildfire threat area as identified by the 2017 Tulare Multi-Jurisdictional Local Hazard Mitigation Plan. The surrounding properties are all under agricultural production and the area is routinely maintained for weed control. Installation and maintenance of the project would result in a reduction of brush at the project site and would therefore reduce the threat of wildfire in the area. For these reasons, the proposed project would have *no impact* to wildland fires.

XXI. MANDATORY FINDINGS OF SIGNIFICANCE

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

Discussion

a) Does the project have the potential to 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 history or prehistory?

Less than Significant Impact with Mitigation: This initial study/mitigated negative declaration found the project could have significant impacts on biological, historical, and Tribal cultural resources. However, implementation of the identified mitigation measures for each respective section would ensure that impacts are *less than significant with mitigation* incorporation.

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

Less than Significant Impact: CEQA Guidelines Section 15064(h) states that a Lead Agency shall consider whether the cumulative impact of a project is significant and whether the effects of the

project are cumulatively considerable. The assessment of the significance of the cumulative effects of a project must, therefore, be conducted in connection with the effects of past projects, other current projects, and probable future projects. Due to the nature of the project and consistency with environmental policies, incremental contributions to impacts are considered less than cumulatively considerable. The proposed project would not contribute substantially to adverse cumulative conditions, or create any substantial indirect impacts (i.e., increase in population could lead to an increase need for housing, increase in traffic, air pollutants, etc). Impacts would be *less than significant*.

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

Less Than Significant Impact: The analyses of environmental issues contained in this Initial Study indicate that the project is not expected to have substantial impact on human beings, either directly or indirectly. Mitigation measures have been incorporated in the project design to reduce all potentially significant impacts to less than significant, which results in a *less than significant* impact to this checklist item.

3.6 MITIGATION MONITORING AND REPORTING PROGRAM

As required by Public Resources Code Section 21081.6, subd. (a)(1), a Mitigation Monitoring and Reporting Program (MMRP) has been prepared for the project in order to monitor the implementation of the mitigation measures that have been adopted for the project. This Mitigation Monitoring and Reporting Program (MMRP) has been created based upon the findings of the Initial Study/Mitigated Negative Declaration (IS/MND) for the Deer Creek – Friant Kern Canal Water Bank Project proposed by SID in the County of Tulare.

The first column of the table identifies the mitigation measure. The second column names the party responsible for carrying out the required action. The third column, "Timing of Mitigation Measure" identifies the time the mitigation measure should be initiated. The fourth column, "Responsible Party for Monitoring," names the party ensuring that the mitigation measure is implemented. The last column will be used by the Irrigation District to ensure that the individual mitigation measures have been monitored.

Plan checking and verification of mitigation compliance shall be the responsibility of the Saucelito Irrigation District.

Mitigation Measure	Responsible Party for Implementation	Implementation Timing	Responsible Party for Monitoring	Verification
Mitigation Measure BIO-1a: Construction Timing. To avoid potential impacts to pallid bat and Townsend's big-eared bat maternity roosts, tree removal should occur outside of the period between April 16 and August 31, the time frame within which colony-roosting bats generally assemble, give birth, nurse their young, and ultimately disperse.	Project Sponsor	Ongoing during construction	Saucelito Irrigation District	
Mitigation Measure BIO-1b: Preconstruction Surveys. If the project must be constructed between March 1 and September 15, a qualified biologist will conduct preconstruction surveys for Swainson's hawk nests on and within ½ mile of the project site within 30 days of the onset of these activities.	Project Sponsor	Within 30 days prior to the start of construction	Saucelito Irrigation District	
Mitigation Measure BIO-1c: Minimization. If a non-breeding bat roost is found in disturbance areas, the individuals will be humanely evicted via two-stage removal of trees, under the direction of a qualified biologist to ensure that no harm or "take" of any bats occurs as a result of construction activities.	Project Sponsor	Prior to the start of construction and ongoing during construction	Saucelito Irrigation District	
Mitigation Measure BIO-1d: Avoidance of Maternity Roosts. If a maternity colony is detected during preconstruction surveys, a disturbance-free buffer will be established around the colony and remain in place until a qualified biologist determines that the nursery is no longer active. The disturbance-free buffer will range from 50 to 100 feet as determined by the biologist.	Project Sponsor	Ongoing during construction	Saucelito Irrigation District	
Mitigation Measure BIO-2a: Construction Timing. If feasible, the project will be constructed outside the Swainson's hawk nesting season, typically defined as	Project Sponsor	Ongoing during construction	Saucelito Irrigation District	

Mitigation Measure	Responsible Party for Implementation	Implementation Timing	Responsible Party for Monitoring	Verification
March 1-September 15.				
Mitigation Measure BIO-2b: Preconstruction Surveys. If the project must be constructed between March 1 and September 15, a qualified biologist will conduct preconstruction surveys for Swainson's hawk nests on and within ½ mile of the project site within 10 days of the onset of these activities.	Project Sponsor	Within 10 days prior to the start of construction	Saucelito Irrigation District	
Mitigation Measure BIO-2c: Avoidance. Should any active nests be discovered in or near proposed construction zones, the biologist will identify a suitable construction-free buffer around the nest. This buffer will be identified on the ground with flagging or fencing, and will be maintained until the biologist has determined that the young have fledged.	Project Sponsor	Prior to the start of construction	Saucelito Irrigation District	
Mitigation Measure BIO-2d: Nest Monitoring. Should construction activity be necessary within the designated buffer around an active Swainson's hawk nest, a qualified biologist will monitor the nest daily for one week, and thereafter once a week, for the duration of the activity or until the nest is no longer active, whichever comes first. Should construction activity within the buffer change such that a higher level of disturbance will be generated, monitoring will occur daily for one week and then resume the once-a-week regimen. If, at any time, the biologist determines that construction activity may be compromising nesting success, construction activity within the buffer will be altered or suspended until the biologist determines that the nest is no longer at risk of failing.	Project Sponsor	Ongoing during construction	Saucelito Irrigation District	
Mitigation Measure BIO-2e: Management Authorization for Loss of Nest Tree. If a known Swainson's hawk nest tree must be removed, the applicant will obtain a Management Authorization from CDFW and comply with all associated avoidance, minimization, and mitigation measures. It is assumed that provision of replacement Swainson's hawk nesting habitat will be required.	Project Sponsor	Prior to the start of construction and ongoing during construction	Saucelito Irrigation District	
Mitigation Measure BIO-3a: Preconstruction *Surveys.* Preconstruction surveys for the SJKF shall be conducted on and within 200 feet of the project site, no less than 14 days and no more than 30 days prior to the start of ground disturbance activities on the site. The primary objective is to identify kit fox habitat features (e.g., potential dens and refugia) on and adjacent to the site and evaluate their use by kit foxes. If an active kit fox den is detected within or immediately adjacent to the construction area, the USFWS shall be contacted immediately to determine the best course of action. Preconstruction surveys	Project Sponsor	Between 14 and 30 days prior to the start of construction and ongoing during construction	Saucelito Irrigation District	

Mitigation Measure	Responsible Party for Implementation	Implementation Timing	Responsible Party for Monitoring	Verification
will be repeated following any lapses in construction of 30 days or more.				
Mitigation Measure BIO-3b: Avoidance. Should active kit fox dens be detected during preconstruction surveys, the Sacramento Field Office of the USFWS and the Fresno Field Office of CDFW will be notified. A disturbance-free buffer will be established around the burrows in consultation with the USFWS and CDFW, to be maintained until an agency-approved biologist has determined that the burrows have been abandoned.	Project Sponsor	Prior to the start of construction	Saucelito Irrigation District	
Mitigation Measure BIO-3c: Minimization. The project will observe all minimization measures presented in the USFWS (2011) Standardized Recommendations for the Protection of the Endangered San Joaquin Kit Fox Prior to or During Ground Disturbance. Such measures include, but are not limited to: restriction of construction-related vehicle traffic to established roads, construction areas, and other designated areas; inspection and covering of structures (e.g., pipes), as well as installation of escape structures, to prevent the inadvertent entrapment of kit foxes; restriction of rodenticide and herbicide use; and proper disposal of food items and trash.	Project Sponsor	Ongoing during construction	Saucelito Irrigation District	
Mitigation Measure BIO-3d: Employee Education Program. Prior to the start of construction, the applicant will retain a qualified biologist to conduct a tailgate training for all construction staff on the San Joaquin kit fox. This training will include a description of the kit fox and its habitat needs; a report of the occurrence of kit fox in the project vicinity; an explanation of the status of the species and its protection under the Endangered Species Act; and a list of the measures being taken to reduce impacts to the species during construction. Attendees will be provided a handout with all of the training information included in it. The applicant will use this handout to train any construction personnel that were not in attendance at the first meeting, prior to those personnel starting work on the site.	Project Sponsor	Prior to the start of construction	Saucelito Irrigation District	
Mitigation Measure BIO-3e: Morality Reporting. The Sacramento Field Office of the USFWS and the Fresno Field Office of CDFW will be notified in writing within three working days in case of the accidental death or injury to a San Joaquin kit fox during construction. Notification must include the date, time, location of the incident or of the finding of a dead or injured animal, and any other pertinent information.	Project Sponsor	Ongoing during construction	Saucelito Irrigation District	

Mitigation Measure	Responsible Party for Implementation	Implementation Timing	Responsible Party for Monitoring	Verification
Mitigation Measure BIO-4a: Construction Timing. If feasible, project construction will take place outside of the avian nesting season, typically defined as February 1 to August 31.	Project Sponsor	Ongoing during construction	Saucelito Irrigation District	
Mitigation Measure BIO-4b: Preconstruction Surveys. If the project must be constructed between February 1 and August 31, then within 10 days prior to the start of construction, a qualified biologist will conduct a preconstruction survey for tricolored blackbird nests in suitable habitats on and within 500 feet of construction zones. Inaccessible portions of the survey area will be surveyed using binoculars.	Project Sponsor	Prior to the start of construction	Saucelito Irrigation District	
Mitigation Measure BIO-4c: Avoidance. Should tricolored blackbird nests be discovered in or near proposed construction zones, the biologist will identify a suitable construction-free buffer around the nest. This buffer will be identified on the ground with flagging or fencing, and will be maintained until the biologist has determined that the young have fledged.	Project Sponsor	Prior to the start of construction	Saucelito Irrigation District	
Mitigation Measure BIO-5a: Take Avoidance Survey. A take avoidance survey for burrowing owls will be conducted by a qualified biologist between 14 and 30 days prior to the start of construction. This take avoidance survey will be conducted according to methods described in the Staff Report on Burrowing Owl Mitigation (CDFG 2012). The survey area will include all potential roosting and nesting habitat on and within 200 meters of project impact areas, where accessible.	Project Sponsor	Prior to start of construction	Saucelito Irrigation District	
Mitigation Measure BIO-5b: Avoidance of Nest Burrows. If project activities are undertaken during the breeding season (February 1-August 31) and active nest burrows are identified within or near project impact areas, a 200-meter disturbance-free buffer will be established around these burrows. The buffers will be enclosed with temporary fencing to prevent construction equipment and workers from entering the setback area. Buffers will remain in place for the duration of the breeding season, unless otherwise arranged with CDFW. After the breeding season, passive relocation of any remaining owls may take place as described below.	Project Sponsor	Ongoing during construction	Saucelito Irrigation District	
Mitigation Measure BIO-5c: Avoidance or Passive Relocation of Resident Owls. During the non-breeding season (September 1-January 31), resident owls occupying burrows in project impact areas may either be avoided, or passively relocated to alternative habitat. If the applicant chooses to avoid active owl burrows within the impact area during the non-breeding season, a 50-meter disturbance-free	Project Sponsor	Prior to start of construction	Saucelito Irrigation District	

Mitigation Measure	Responsible Party for Implementation	Implementation Timing	Responsible Party for Monitoring	Verification
buffer will be established around these burrows. The buffers will be enclosed with temporary fencing, and will remain in place until a qualified biologist determines that the burrows are no longer active. If the applicant chooses to passively relocate owls during the non-breeding season, this activity will be conducted in accordance with a relocation plan prepared by a qualified biologist.				
Mitigation Measure BIO-6a: Tree Survey. Prior to project construction, a qualified biologist will survey all riparian habitats of the project site, and will record the species, location, and diameter at breast height (DBH) of each native tree. Upon project completion, a qualified biologist will survey the site to determine if any surveyed trees were removed.	Project Sponsor	Prior to start of construction	Saucelito Irrigation District	
Mitigation Measure BIO-6b: Revegetation. The project applicant will provide compensation for removal of any native riparian trees. Replacement plantings will be installed at a ratio of 3:1 for trees with a DBH between 4 and 24 inches, and at a ratio of 10:1 for trees with a DBH greater than 24 inches. A revegetation plan will be prepared for the project that will detail the methods for planting, irrigating, and maintaining the replacement trees.	Project Sponsor	Prior to the start of construction and ongoing during construction	Saucelito Irrigation District	
Mitigation Measure BIO-7a: Construction Timing. If feasible, project construction will take place outside of the avian nesting season, typically defined as February 1 to August 31.	Project Sponsor	Ongoing during construction	Saucelito Irrigation District	
Mitigation Measure BIO-7b: Preconstruction Surveys. If the project must be constructed between February 1 and August 31, then within 10 days prior to the start of construction, a qualified biologist will conduct preconstruction surveys for avian nest colonies in suitable habitats on and within 250 feet of construction zones. Inaccessible portions of the survey area will be surveyed using binoculars.	Project Sponsor	Within 10 days prior to start of construction	Saucelito Irrigation District	
Mitigation Measure BIO-7c: Avoidance. Should active avian nest colonies be discovered in or near proposed construction zones, the biologist will identify suitable construction-free buffers around the colonies. Buffers will be identified on the ground with flagging or fencing and will be maintained until the biologist has determined that the young have fledged and the nests are no longer active.	Project Sponsor	Prior to start of construction	Saucelito Irrigation District	
Mitigation Measure CUL-1: If cultural resources are encountered during ground-disturbing activities, work in the immediate area must halt and an archaeologist meeting the Secretary of the Interior's Professional Qualifications Standards for archaeology (NPS 1983) should be contacted immediately to evaluate the find. If the discovery	Project Sponsor	Ongoing during construction	Saucelito Irrigation District	

Mitigation Measure	Responsible Party for Implementation	Implementation Timing	Responsible Party for Monitoring	Verification
proves to be significant under CEQA, additional work such as data recovery excavation and Native American consultation may be warranted to mitigate any adverse effects.				
Mitigation Measure CUL-2: The discovery of human remains is always a possibility during ground disturbing activities. If human remains are found, the State of California Health and Safety Code Section 7050.5 states that no further disturbance shall occur until the County Coroner has made a determination of origin and disposition pursuant to Public Resources Code Section 5097.98. In the event of an unanticipated discovery of human remains, the County Coroner must be notified immediately. If the human remains are determined to be prehistoric, the coroner will notify the Native American Heritage Commission (NAHC), which will determine and notify a most likely descendant (MLD). The MLD shall complete the inspection of the site within 48 hours of notification and may recommend scientific removal and nondestructive analysis of human remains and items associated with Native American burials.	Project Sponsor	Ongoing during construction	Saucelito Irrigation District	
Mitigation Measure GEO-1: The proposed project will comply with the Project's Monitoring and Operational Constraints Plan as detailed in Section 2.2 of this Initial Study. The MOCP includes the following subsidence monitoring and reporting procedures. Subsidence Monitoring: Benchmarks would be constructed and monitored using procedures approved by the California Board for Professional Engineers and Land Surveyors and using appropriate guidelines promulgated by the National Geodetic Survey and the California Spatial Reference Center. Subsidence monitoring would include the following elements: • Base Station: Reference of all elevation measurements to a base station approved by SID; • Perimeter Benchmarks: Placement of permanent bench-marks in four directions on the perimeter of each Project property; • Recovery Well Benchmarks: Placement of permanent measurement points on each Project recovery well; • Baseline Measurements: Measurement of the elevations prior to commencement of banked water recovery operations; and • Annual Measurements: Measurement of the elevations of each benchmark annually.	Project Sponsor	Ongoing During Operations	Saucelito Irrigation District	

Mitigation Measure	Responsible Party for Implementation	Implementation Timing	Responsible Party for Monitoring	Verification
Subsidence Reporting: Homer would submit annual subsidence monitoring reports to SID, the Monitoring Committee, and Reclamation. The annual report will include a map presenting the results of subsidence monitoring.				
Mitigation Measure TCR-1: If cultural resources are encountered during ground-disturbing activities, work in the immediate area must halt and an archaeologist meeting the Secretary of the Interior's Professional Qualifications Standards for archaeology (NPS 1983) shall be contacted immediately to evaluate the find. If the discovery proves to be significant under CEQA, additional work such as data recovery excavation and Native American consultation may be warranted to mitigate any adverse effects.	Project Sponsor	Ongoing during construction	Saucelito Irrigation District	
Mitigation Measure TCR-2: The discovery of human remains is always a possibility during ground disturbing activities. If human remains are found, the State of California Health and Safety Code Section 7050.5 states that no further disturbance shall occur until the County Coroner has made a determination of origin and disposition pursuant to Public Resources Code Section 5097.98. In the event of an unanticipated discovery of human remains, the County Coroner must be notified immediately. If the human remains are determined to be prehistoric, the coroner will notify the Native American Heritage Commission (NAHC), which will determine and notify a most likely descendant (MLD). The MLD shall complete the inspection of the site within 48 hours of notification and may recommend scientific removal and nondestructive analysis of human remains and items associated with Native American burials.	Project Sponsor	Ongoing during construction	Saucelito Irrigation District	
Mitigation Measure TCR-3: Upon coordination with the Tulare County Resource Management Agency, any archaeological artifacts recovered shall be donated to an appropriate Tribal custodian or a qualified scientific institution where they would be afforded long-term preservation. Documentation for the work shall be provided in accordance with applicable cultural resource laws and guidelines.	Project Sponsor	Ongoing during construction	Saucelito Irrigation District	

3.7 Supporting Information and Sources

1. AB 3098 List
2. Tulare County General Plan
3. Tulare County General Plan EIR
4. Tulare County Climate Action Plan
5. Tulare County Zoning Ordinance
6. Engineering Standards, Tulare County
7. SJVAPCD Regulations and Guidelines
8. Flood Insurance Rate Maps
9. California Air Resources Board's (CARB's) Air Quality and Land Use Handbook
10. 2008 California Environmental Quality Act CEQA Guidelines
11. California Building Code
12. California Stormwater Pollution Prevention Program (SWPPP)
13. "Construction Noise Handbook." U.S. Department of Transportation/Federal Highway Administration.
14. Government Code Section 65962.5
15. California Environmental Protection Agency (CEPA)
16. California Energy Efficiency Strategic Plan: New Residential Zero Net Energy Action Plan 2015-2020, June 2015
17. San Joaquin Valley Air Pollution Control District Mitigation Measures (http://www.valleyair.org/transportation/Mitigation-Measures.pdf)
18. Saucelito Irrigation District 2012 Agricultural Water Management Plan

Section 4

List of Preparers

Saucelito Irrigation District
20712 Avenue 120
Porterville, CA 93257

SECTION 4
List of Preparers

Project Title: Deer Creek – Friant Kern Canal Water Bank Project

List of Preparers

4-Creeks Inc.
- David Duda, AICP, GISP
- Molly McDonnel, Associate Planner
- Saba Asghary, Assistant Planner

Persons and Agencies Consulted

The following individuals and agencies contributed to this Initial Study:

4-Creeks Inc.
- David De Groot, PE.
- Matt Razor, PE.
- Don Tucker, Assistant Engineering Designer

Porterville Irrigation District
- Sean Geivet, General Manager

California Historic Resources Information System
- Celeste Thomson, Coordinator

Live Oak and Associates
- Rebekah Jensen, Project Manager and Staff Ecologist
- Jeff Curule, Senior Project Manager

Appendix A

CalEEMod Report

Deer Creek-Friant Kern Canal Water Bank

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	3.00	Acre	3.00	130,680.00	0

1.2 Other Project Characteristics

Urbanization	Rural	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	51
Climate Zone	7			**Operational Year**	2021
Utility Company	Southern California Edison				
CO2 Intensity (lb/MWhr)	702.44	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use -

Construction Phase - Construction will take approximately 6 months to complete

Off-road Equipment - Demolition will utilize 2 pieces of other construction equipment

Off-road Equipment - Site Prep will utilize 1 bore/drill rig, 1 excavator, 1 tractors/loaders/backhoes, and 3 other construction equipment

Off-road Equipment - Trenching will utilize 1 bore/drill rig, 1 trencher, and 3 other construction equipment

Off-road Equipment - Building Construction will utilize 3 other construction equipment, 1 cement and morter mixer, and 2 welders.

Trips and VMT - Construction will average 15 worker trips per day and 2 vendor trips per day.

Operational Off-Road Equipment - The four proposed water recovery wells may operate 10 months out of the year during dry years

Deer Creek-Friant Kern Canal Water Bank - Tulare County, Annual

Table Name	Column Name	Default Value	New Value
tblConstructionPhase	NumDays	20.00	21.00
tblConstructionPhase	NumDays	3.00	88.00
tblConstructionPhase	NumDays	220.00	43.00
tblOffRoadEquipment	HorsePower	172.00	231.00
tblOffRoadEquipment	HorsePower	9.00	89.00
tblOffRoadEquipment	HorsePower	46.00	84.00
tblOffRoadEquipment	HorsePower	158.00	97.00
tblOffRoadEquipment	HorsePower	221.00	247.00
tblOffRoadEquipment	LoadFactor	0.42	0.29
tblOffRoadEquipment	LoadFactor	0.56	0.20
tblOffRoadEquipment	LoadFactor	0.45	0.74
tblOffRoadEquipment	LoadFactor	0.38	0.37
tblOffRoadEquipment	LoadFactor	0.50	0.40
tblOffRoadEquipment	LoadFactor	0.37	0.37
tblOffRoadEquipment	LoadFactor	0.42	0.42
tblOffRoadEquipment	LoadFactor	0.50	0.50
tblOffRoadEquipment	LoadFactor	0.50	0.50
tblOffRoadEquipment	LoadFactor	0.42	0.42
tblOffRoadEquipment	OffRoadEquipmentType	Cranes	Other Construction Equipment
tblOffRoadEquipment	OffRoadEquipmentType	Forklifts	Cement and Mortar Mixers
tblOffRoadEquipment	OffRoadEquipmentType	Tractors/Loaders/Backhoes	Excavators
tblOffRoadEquipment	OffRoadEquipmentType	Rubber Tired Dozers	Bore/Drill Rigs
tblOffRoadEquipment	OffRoadEquipmentType		Other Construction Equipment
tblOffRoadEquipment	OffRoadEquipmentType		Tractors/Loaders/Backhoes
tblOffRoadEquipment	OffRoadEquipmentType		Other Construction Equipment
tblOffRoadEquipment	OffRoadEquipmentType		Bore/Drill Rigs

tblOffRoadEquipment	OffRoadEquipmentType		Trenchers
tblOffRoadEquipment	OffRoadEquipmentType		Other Construction Equipment
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	4.00	1.00
tblOperationalOffRoadEquipment	OperDaysPerYear	260.00	300.00
tblOperationalOffRoadEquipment	OperFuelType	Diesel	Electrical
tblOperationalOffRoadEquipment	OperOffRoadEquipmentNumber	0.00	4.00
tblProjectCharacteristics	OperationalYear	2018	2021
tblProjectCharacteristics	UrbanizationLevel	Urban	Rural
tblTripsAndVMT	VendorTripNumber	21.00	2.00
tblTripsAndVMT	VendorTripNumber	0.00	2.00
tblTripsAndVMT	VendorTripNumber	0.00	2.00
tblTripsAndVMT	VendorTripNumber	0.00	2.00
tblTripsAndVMT	WorkerTripNumber	55.00	15.00
tblTripsAndVMT	WorkerTripNumber	23.00	15.00
tblTripsAndVMT	WorkerTripNumber	13.00	15.00

2.0 Emissions Summary

2.1 Overall Construction

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2019	0.3417	3.5806	2.0427	3.8100e-003	0.8099	0.1792	0.9892	0.4410	0.1651	0.6061	0.0000	342.6097	342.6097	0.1025	0.0000	345.1726
2020	0.0647	0.5717	0.5260	8.9000e-004	0.7993	0.0338	0.8331	0.4381	0.0323	0.4704	0.0000	77.1927	77.1927	0.0143	0.0000	77.5501
Maximum	**0.3417**	**3.5806**	**2.0427**	**3.8100e-003**	**0.8099**	**0.1792**	**0.9892**	**0.4410**	**0.1651**	**0.6061**	**0.0000**	**342.6097**	**342.6097**	**0.1025**	**0.0000**	**345.1726**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2019	0.3417	3.5806	2.0427	3.8100e-003	0.8099	0.1792	0.9892	0.4410	0.1651	0.6061	0.0000	342.6093	342.6093	0.1025	0.0000	345.1722
2020	0.0647	0.5717	0.5260	8.9000e-004	0.7993	0.0338	0.8331	0.4381	0.0323	0.4704	0.0000	77.1926	77.1926	0.0143	0.0000	77.5500
Maximum	**0.3417**	**3.5806**	**2.0427**	**3.8100e-003**	**0.8099**	**0.1792**	**0.9892**	**0.4410**	**0.1651**	**0.6061**	**0.0000**	**342.6093**	**342.6093**	**0.1025**	**0.0000**	**345.1722**

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

Quarter	Start Date	End Date	Maximum Unmitigated ROG + NOX (tons/quarter)	Maximum Mitigated ROG + NOX (tons/quarter)
1	9-1-2019	11-30-2019	3.1904	3.1904
2	12-1-2019	2-29-2020	1.3657	1.3657
		Highest	3.1904	3.1904

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	0.0112	0.0000	3.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	5.0000e-005	5.0000e-005	0.0000	0.0000	6.0000e-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
Offroad	0.2283	1.9260	2.2444	3.9500e-003		0.1066	0.1066		0.1066	0.1066	0.0000	339.1251	339.1251	0.0185	0.0000	339.5875
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	**0.2394**	**1.9260**	**2.2444**	**3.9500e-003**	**0.0000**	**0.1066**	**0.1066**	**0.0000**	**0.1066**	**0.1066**	**0.0000**	**339.1251**	**339.1251**	**0.0185**	**0.0000**	**339.5876**

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	0.0112	0.0000	3.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	5.0000e-005	5.0000e-005	0.0000	0.0000	6.0000e-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
Offroad	0.2283	1.9260	2.2444	3.9500e-003		0.1066	0.1066		0.1066	0.1066	0.0000	339.1251	339.1251	0.0185	0.0000	339.5875
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	**0.2394**	**1.9260**	**2.2444**	**3.9500e-003**	**0.0000**	**0.1066**	**0.1066**	**0.0000**	**0.1066**	**0.1066**	**0.0000**	**339.1251**	**339.1251**	**0.0185**	**0.0000**	**339.5876**

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

3.0 Construction Detail

Construction Phase

Deer Creek-Friant Kern Canal Water Bank - Tulare County, Annual

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Demolition	Demolition	9/1/2019	9/30/2019	5	21	
2	Site Preparation	Site Preparation	9/1/2019	1/1/2020	5	88	
3	Trenching	Trenching	10/1/2019	12/1/2019	5	44	
4	Building Construction	Building Construction	1/1/2020	2/28/2020	5	43	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 0

Acres of Paving: 3

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

OffRoad Equipment

Deer Creek-Friant Kern Canal Water Bank - Tulare County, Annual

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Architectural Coating	Other Construction Equipment	2	8.00	172	0.42
Site Preparation	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Demolition	Concrete/Industrial Saws	1	8.00	81	0.73
Demolition	Excavators	3	8.00	158	0.38
Building Construction	Other Construction Equipment	3	7.00	231	0.29
Building Construction	Cement and Mortar Mixers	1	8.00	89	0.20
Site Preparation	Other Construction Equipment	3	8.00	172	0.42
Trenching	Bore/Drill Rigs	1	8.00	221	0.50
Trenching	Trenchers	1	8.00	78	0.50
Demolition	Rubber Tired Dozers	2	8.00	247	0.40
Trenching	Other Construction Equipment	3	8.00	172	0.42
Building Construction	Cranes	1	7.00	231	0.29
Building Construction	Welders	2	8.00	84	0.74
Building Construction	Forklifts	3	8.00	89	0.20
Building Construction	Generator Sets	1	8.00	84	0.74
Site Preparation	Excavators	1	8.00	97	0.37
Site Preparation	Rubber Tired Dozers	3	8.00	247	0.40
Building Construction	Tractors/Loaders/Backhoes	3	7.00	97	0.37
Site Preparation	Bore/Drill Rigs	1	8.00	247	0.40

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
Trenching	5	15.00	2.00	0.00	16.80	6.60	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	14	15.00	2.00	0.00	16.80	6.60	20.00	LD_Mix	HDT_Mix	HHDT
Demolition	6	15.00	2.00	0.00	16.80	6.60	20.00	LD_Mix	HDT_Mix	HHDT
Site Preparation	9	15.00	2.00	0.00	16.80	6.60	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

3.2 Demolition - 2019

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	0.0369	0.3757	0.2316	4.1000e-004		0.0189	0.0189		0.0175	0.0175	0.0000	36.3577	36.3577	0.0101	0.0000	36.6105
Total	**0.0369**	**0.3757**	**0.2316**	**4.1000e-004**		**0.0189**	**0.0189**		**0.0175**	**0.0175**	**0.0000**	**36.3577**	**36.3577**	**0.0101**	**0.0000**	**36.6105**

3.2 Demolition - 2019

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	1.0000e-004	2.6900e-003	5.7000e-004	1.0000e-005	1.3000e-004	2.0000e-005	1.5000e-004	4.0000e-005	2.0000e-005	6.0000e-005	0.0000	0.5256	0.5256	3.0000e-005	0.0000	0.5263
Worker	1.1400e-003	8.4000e-004	8.3300e-003	2.0000e-005	1.9500e-003	1.0000e-005	1.9600e-003	5.2000e-004	1.0000e-005	5.3000e-004	0.0000	1.7114	1.7114	6.0000e-005	0.0000	1.7129
Total	**1.2400e-003**	**3.5300e-003**	**8.9000e-003**	**3.0000e-005**	**2.0800e-003**	**3.0000e-005**	**2.1100e-003**	**5.6000e-004**	**3.0000e-005**	**5.9000e-004**	**0.0000**	**2.2370**	**2.2370**	**9.0000e-005**	**0.0000**	**2.2391**

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	0.0369	0.3757	0.2316	4.1000e-004		0.0189	0.0189		0.0175	0.0175	0.0000	36.3576	36.3576	0.0101	0.0000	36.6105
Total	**0.0369**	**0.3757**	**0.2316**	**4.1000e-004**		**0.0189**	**0.0189**		**0.0175**	**0.0175**	**0.0000**	**36.3576**	**36.3576**	**0.0101**	**0.0000**	**36.6105**

3.2 Demolition - 2019

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	1.0000e-004	2.6900e-003	5.7000e-004	1.0000e-005	1.3000e-004	2.0000e-005	1.5000e-004	4.0000e-005	2.0000e-005	6.0000e-005	0.0000	0.5256	0.5256	3.0000e-005	0.0000	0.5263
Worker	1.1400e-003	8.4000e-004	8.3300e-003	2.0000e-005	1.9500e-003	1.0000e-005	1.9600e-003	5.2000e-004	1.0000e-005	5.3000e-004	0.0000	1.7114	1.7114	6.0000e-005	0.0000	1.7129
Total	**1.2400e-003**	**3.5300e-003**	**8.9000e-003**	**3.0000e-005**	**2.0800e-003**	**3.0000e-005**	**2.1100e-003**	**5.6000e-004**	**3.0000e-005**	**5.9000e-004**	**0.0000**	**2.2370**	**2.2370**	**9.0000e-005**	**0.0000**	**2.2391**

3.3 Site Preparation - 2019

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					0.7949	0.0000	0.7949	0.4370	0.0000	0.4370	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.2457	2.6423	1.3717	2.5400e-003		0.1319	0.1319		0.1213	0.1213	0.0000	228.5156	228.5156	0.0723	0.0000	230.3231
Total	**0.2457**	**2.6423**	**1.3717**	**2.5400e-003**	**0.7949**	**0.1319**	**0.9268**	**0.4370**	**0.1213**	**0.5583**	**0.0000**	**228.5156**	**228.5156**	**0.0723**	**0.0000**	**230.3231**

3.3 Site Preparation - 2019

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	4.1000e-004	0.0112	2.3700e-003	2.0000e-005	5.2000e-004	9.0000e-005	6.1000e-004	1.5000e-004	8.0000e-005	2.3000e-004	0.0000	2.1773	2.1773	1.2000e-004	0.0000	2.1802
Worker	4.7300e-003	3.4900e-003	0.0345	8.0000e-005	8.0800e-003	6.0000e-005	8.1400e-003	2.1500e-003	5.0000e-005	2.2000e-003	0.0000	7.0900	7.0900	2.4000e-004	0.0000	7.0961
Total	**5.1400e-003**	**0.0147**	**0.0369**	**1.0000e-004**	**8.6000e-003**	**1.5000e-004**	**8.7500e-003**	**2.3000e-003**	**1.3000e-004**	**2.4300e-003**	**0.0000**	**9.2673**	**9.2673**	**3.6000e-004**	**0.0000**	**9.2764**

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					0.7949	0.0000	0.7949	0.4370	0.0000	0.4370	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.2457	2.6423	1.3717	2.5400e-003		0.1319	0.1319		0.1213	0.1213	0.0000	228.5153	228.5153	0.0723	0.0000	230.3228
Total	**0.2457**	**2.6423**	**1.3717**	**2.5400e-003**	**0.7949**	**0.1319**	**0.9268**	**0.4370**	**0.1213**	**0.5583**	**0.0000**	**228.5153**	**228.5153**	**0.0723**	**0.0000**	**230.3228**

3.3 Site Preparation - 2019

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	4.1000e-004	0.0112	2.3700e-003	2.0000e-005	5.2000e-004	9.0000e-005	6.1000e-004	1.5000e-004	8.0000e-005	2.3000e-004	0.0000	2.1773	2.1773	1.2000e-004	0.0000	2.1802
Worker	4.7300e-003	3.4900e-003	0.0345	8.0000e-005	8.0800e-003	6.0000e-005	8.1400e-003	2.1500e-003	5.0000e-005	2.2000e-003	0.0000	7.0900	7.0900	2.4000e-004	0.0000	7.0961
Total	**5.1400e-003**	**0.0147**	**0.0369**	**1.0000e-004**	**8.6000e-003**	**1.5000e-004**	**8.7500e-003**	**2.3000e-003**	**1.3000e-004**	**2.4300e-003**	**0.0000**	**9.2673**	**9.2673**	**3.6000e-004**	**0.0000**	**9.2764**

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					0.7949	0.0000	0.7949	0.4370	0.0000	0.4370	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	2.6800e-003	0.0284	0.0155	3.0000e-005		1.4100e-003	1.4100e-003		1.3000e-003	1.3000e-003	0.0000	2.5710	2.5710	8.3000e-004	0.0000	2.5918
Total	**2.6800e-003**	**0.0284**	**0.0155**	**3.0000e-005**	**0.7949**	**1.4100e-003**	**0.7963**	**0.4370**	**1.3000e-003**	**0.4383**	**0.0000**	**2.5710**	**2.5710**	**8.3000e-004**	**0.0000**	**2.5918**

3.3 Site Preparation - 2020

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	1.2000e-004	2.0000e-005	0.0000	1.0000e-005	0.0000	1.0000e-005	0.0000	0.0000	0.0000	0.0000	0.0248	0.0248	0.0000	0.0000	0.0249
Worker	5.0000e-005	3.0000e-005	3.5000e-004	0.0000	9.0000e-005	0.0000	9.0000e-005	2.0000e-005	0.0000	3.0000e-005	0.0000	0.0790	0.0790	0.0000	0.0000	0.0790
Total	**5.0000e-005**	**1.5000e-004**	**3.7000e-004**	**0.0000**	**1.0000e-004**	**0.0000**	**1.0000e-004**	**2.0000e-005**	**0.0000**	**3.0000e-005**	**0.0000**	**0.1038**	**0.1038**	**0.0000**	**0.0000**	**0.1039**

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					0.7949	0.0000	0.7949	0.4370	0.0000	0.4370	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	2.6800e-003	0.0284	0.0155	3.0000e-005		1.4100e-003	1.4100e-003		1.3000e-003	1.3000e-003	0.0000	2.5710	2.5710	8.3000e-004	0.0000	2.5918
Total	**2.6800e-003**	**0.0284**	**0.0155**	**3.0000e-005**	**0.7949**	**1.4100e-003**	**0.7963**	**0.4370**	**1.3000e-003**	**0.4383**	**0.0000**	**2.5710**	**2.5710**	**8.3000e-004**	**0.0000**	**2.5918**

3.3 Site Preparation - 2020

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	1.2000e-004	2.0000e-005	0.0000	1.0000e-005	0.0000	1.0000e-005	0.0000	0.0000	0.0000	0.0000	0.0248	0.0248	0.0000	0.0000	0.0249
Worker	5.0000e-005	3.0000e-005	3.5000e-004	0.0000	9.0000e-005	0.0000	9.0000e-005	2.0000e-005	0.0000	3.0000e-005	0.0000	0.0790	0.0790	0.0000	0.0000	0.0790
Total	**5.0000e-005**	**1.5000e-004**	**3.7000e-004**	**0.0000**	**1.0000e-004**	**0.0000**	**1.0000e-004**	**2.0000e-005**	**0.0000**	**3.0000e-005**	**0.0000**	**0.1038**	**0.1038**	**0.0000**	**0.0000**	**0.1039**

3.4 Trenching - 2019

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	0.0501	0.5369	0.3749	6.9000e-004		0.0283	0.0283		0.0260	0.0260	0.0000	61.5453	61.5453	0.0195	0.0000	62.0321
Total	**0.0501**	**0.5369**	**0.3749**	**6.9000e-004**		**0.0283**	**0.0283**		**0.0260**	**0.0260**	**0.0000**	**61.5453**	**61.5453**	**0.0195**	**0.0000**	**62.0321**

3.4 Trenching - 2019

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	2.1000e-004	5.6500e-003	1.2000e-003	1.0000e-005	2.6000e-004	4.0000e-005	3.1000e-004	8.0000e-005	4.0000e-005	1.2000e-004	0.0000	1.1012	1.1012	6.0000e-005	0.0000	1.1027
Worker	2.3900e-003	1.7600e-003	0.0175	4.0000e-005	4.0900e-003	3.0000e-005	4.1200e-003	1.0900e-003	3.0000e-005	1.1100e-003	0.0000	3.5858	3.5858	1.2000e-004	0.0000	3.5889
Total	**2.6000e-003**	**7.4100e-003**	**0.0187**	**5.0000e-005**	**4.3500e-003**	**7.0000e-005**	**4.4300e-003**	**1.1700e-003**	**7.0000e-005**	**1.2300e-003**	**0.0000**	**4.6869**	**4.6869**	**1.8000e-004**	**0.0000**	**4.6915**

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	0.0501	0.5369	0.3749	6.9000e-004		0.0283	0.0283		0.0260	0.0260	0.0000	61.5452	61.5452	0.0195	0.0000	62.0320
Total	**0.0501**	**0.5369**	**0.3749**	**6.9000e-004**		**0.0283**	**0.0283**		**0.0260**	**0.0260**	**0.0000**	**61.5452**	**61.5452**	**0.0195**	**0.0000**	**62.0320**

3.4 Trenching - 2019

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	2.1000e-004	5.6500e-003	1.2000e-003	1.0000e-005	2.6000e-004	4.0000e-005	3.1000e-004	8.0000e-005	4.0000e-005	1.2000e-004	0.0000	1.1012	1.1012	6.0000e-005	0.0000	1.1027
Worker	2.3900e-003	1.7600e-003	0.0175	4.0000e-005	4.0900e-003	3.0000e-005	4.1200e-003	1.0900e-003	3.0000e-005	1.1100e-003	0.0000	3.5858	3.5858	1.2000e-004	0.0000	3.5889
Total	**2.6000e-003**	**7.4100e-003**	**0.0187**	**5.0000e-005**	**4.3500e-003**	**7.0000e-005**	**4.4300e-003**	**1.1700e-003**	**7.0000e-005**	**1.2300e-003**	**0.0000**	**4.6869**	**4.6869**	**1.8000e-004**	**0.0000**	**4.6915**

3.5 Building Construction - 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	0.0597	0.5367	0.4942	8.1000e-004		0.0323	0.0323		0.0309	0.0309	0.0000	70.0533	70.0533	0.0133	0.0000	70.3859
Total	**0.0597**	**0.5367**	**0.4942**	**8.1000e-004**		**0.0323**	**0.0323**		**0.0309**	**0.0309**	**0.0000**	**70.0533**	**70.0533**	**0.0133**	**0.0000**	**70.3859**

3.5 Building Construction - 2020

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	1.6000e-004	5.0300e-003	1.0000e-003	1.0000e-005	2.6000e-004	3.0000e-005	2.8000e-004	7.0000e-005	3.0000e-005	1.0000e-004	0.0000	1.0683	1.0683	5.0000e-005	0.0000	1.0696
Worker	2.1100e-003	1.5000e-003	0.0149	4.0000e-005	3.9900e-003	3.0000e-005	4.0200e-003	1.0600e-003	2.0000e-005	1.0900e-003	0.0000	3.3963	3.3963	1.0000e-004	0.0000	3.3988
Total	**2.2700e-003**	**6.5300e-003**	**0.0159**	**5.0000e-005**	**4.2500e-003**	**6.0000e-005**	**4.3000e-003**	**1.1300e-003**	**5.0000e-005**	**1.1900e-003**	**0.0000**	**4.4646**	**4.4646**	**1.5000e-004**	**0.0000**	**4.4685**

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	0.0597	0.5367	0.4942	8.1000e-004		0.0323	0.0323		0.0309	0.0309	0.0000	70.0532	70.0532	0.0133	0.0000	70.3858
Total	**0.0597**	**0.5367**	**0.4942**	**8.1000e-004**		**0.0323**	**0.0323**		**0.0309**	**0.0309**	**0.0000**	**70.0532**	**70.0532**	**0.0133**	**0.0000**	**70.3858**

3.5 Building Construction - 2020

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	1.6000e-004	5.0300e-003	1.0000e-003	1.0000e-005	2.6000e-004	3.0000e-005	2.8000e-004	7.0000e-005	3.0000e-005	1.0000e-004	0.0000	1.0683	1.0683	5.0000e-005	0.0000	1.0696
Worker	2.1100e-003	1.5000e-003	0.0149	4.0000e-005	3.9900e-003	3.0000e-005	4.0200e-003	1.0600e-003	2.0000e-005	1.0900e-003	0.0000	3.3963	3.3963	1.0000e-004	0.0000	3.3988
Total	**2.2700e-003**	**6.5300e-003**	**0.0159**	**5.0000e-005**	**4.2500e-003**	**6.0000e-005**	**4.3000e-003**	**1.1300e-003**	**5.0000e-005**	**1.1900e-003**	**0.0000**	**4.4646**	**4.4646**	**1.5000e-004**	**0.0000**	**4.4685**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

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

4.2 Trip Summary Information

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

4.3 Trip Type Information

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

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Other Non-Asphalt Surfaces	0.516727	0.033517	0.172440	0.141085	0.022326	0.005434	0.020884	0.078233	0.001822	0.001311	0.004327	0.001132	0.000761

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

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

5.2 Energy by Land Use - NaturalGas

Unmitigated

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

5.2 Energy by Land Use - NaturalGas

Mitigated

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

5.3 Energy by Land Use - Electricity

Unmitigated

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

5.3 Energy by Land Use - Electricity

Mitigated

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

6.0 Area Detail

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	0.0112	0.0000	3.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	5.0000e-005	5.0000e-005	0.0000	0.0000	6.0000e-005
Unmitigated	0.0112	0.0000	3.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	5.0000e-005	5.0000e-005	0.0000	0.0000	6.0000e-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	2.7300e-003					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	8.4500e-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	3.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	5.0000e-005	5.0000e-005	0.0000	0.0000	6.0000e-005
Total	**0.0112**	**0.0000**	**3.0000e-005**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**5.0000e-005**	**5.0000e-005**	**0.0000**	**0.0000**	**6.0000e-005**

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	2.7300e-003					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	8.4500e-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	3.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	5.0000e-005	5.0000e-005	0.0000	0.0000	6.0000e-005
Total	**0.0112**	**0.0000**	**3.0000e-005**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**5.0000e-005**	**5.0000e-005**	**0.0000**	**0.0000**	**6.0000e-005**

7.0 Water Detail

7.1 Mitigation Measures Water

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

7.2 Water by Land Use

Unmitigated

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

7.2 Water by Land Use

Mitigated

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

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

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

8.2 Waste by Land Use

Unmitigated

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

Mitigated

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

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type
Pumps	4	8.00	300	84	0.74	Electrical

UnMitigated/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
Equipment Type	tons/yr										MT/yr					
Pumps	0.2283	1.9260	2.2444	3.9500e-003		0.1066	0.1066		0.1066	0.1066	0.0000	339.1251	339.1251	0.0185	0.0000	339.5875
Total	**0.2283**	**1.9260**	**2.2444**	**3.9500e-003**		**0.1066**	**0.1066**		**0.1066**	**0.1066**	**0.0000**	**339.1251**	**339.1251**	**0.0185**	**0.0000**	**339.5875**

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

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

Boilers

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

User Defined Equipment

Equipment Type	Number

11.0 Vegetation

Appendix B

Biological Evaluation

LIVE OAK ASSOCIATES, INC.

an Ecological Consulting Firm

BIOLOGICAL EVALUATION FOR CEQA COMPLIANCE
DEER CREEK WATER BANK PROJECT
TULARE COUNTY, CALIFORNIA

Prepared by:

LIVE OAK ASSOCIATES, INC.

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Rebekah Jensen, Project Manager and Staff Ecologist

Prepared for:

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August 9, 2019 PN 2383-01

EXECUTIVE SUMMARY

Live Oak Associates, Inc. (LOA) conducted a biological resources investigation of an approximate 3-acre site proposed for the development of the Deer Creek Water Bank Project, and evaluated likely impacts to such resources resulting from project implementation. The project will entail the construction of pipelines and recovery wells to enable surplus water from the Friant-Kern Canal (FKC) to be banked at an existing groundwater recharge facility and retrieved during dry years to support downstream water users. On May 31, 2019, LOA ecologist Anna Godinho surveyed the project site 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.

At the time of the field survey, the project site consisted of portions of existing recharge basins, a short segment of Deer Creek, paved and unpaved roads, road shoulders, and other disturbed areas. Three land uses/biotic habitats were identified within the project site: recharge basin, ruderal, and natural drainage. The project site is situated within a matrix of agricultural and residential uses.

The project has the potential to result in mortality of the San Joaquin kit fox and burrowing owl, in the event that one or more individuals of this species occur on site at the time of construction. The project also has the potential to result in construction-related mortality/disturbance of nesting Swainson's hawks, nesting tricolored blackbirds, and other nesting birds, construction-related mortality of roosting bats, and loss of riparian trees and shrubs. These impacts, if they occur, would be considered significant under the California Environmental Quality Act (CEQA). Project avoidance of active nests, dens, and roost sites identified during preconstruction surveys, implementation of minimization measures consistent with the USFWS 2011 *Standardized Recommendations for Protection of the Endangered San Joaquin Kit Fox Prior to or During Ground Disturbance*, a survey for native riparian trees and shrubs, and replacement of impacted riparian trees/shrubs per the provisions of a revegetation plan will reduce the magnitude of these potential impacts to a less than significant level under CEQA.

No other biological resources would be significantly impacted by the project as defined by CEQA. Impacts associated with project development would be less than significant for all locally occurring special status plant species, seven special status animals absent from or unlikely to use the project site, two special status animals that would use the site for foraging only, wildlife movement corridors, jurisdictional waters and wetlands, and designated critical habitat. Loss of habitat for special status animal species is not considered a significant impact of the project under CEQA. The project does not appear to conflict with the goals and policies of the Tulare County General Plan, or with any other local policies.

TABLE OF CONTENTS

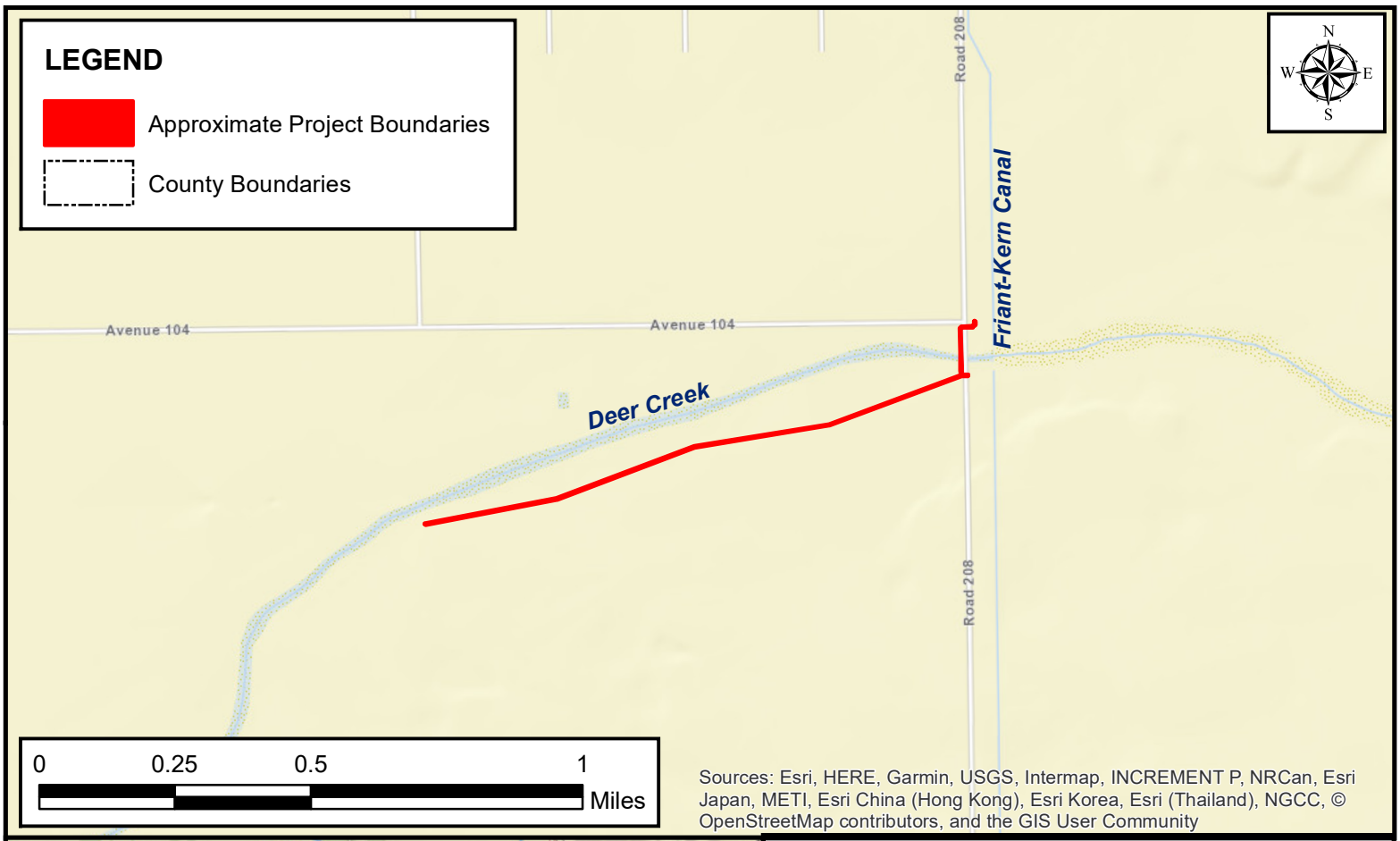
1.0 INTRODUCTION

Homer LLC ("Homer") proposes to develop a groundwater recharge facility ("project") on an approximate 3-acre property ("project site") located in rural Tulare County, California. The technical report that follows describes the biotic resources of the project site, and evaluates possible impacts to sensitive biological resources that could result from project implementation. The proposed project site is located in southwest Tulare County, approximately 4.5 miles southwest of Porterville city limits (Figure 1). The project site can be found on the *Ducor* U.S. Geological Survey (USGS) 7.5-minute quadrangle in Section 36 of Township 22 South, Range 26 East and Section 31 of Township 22 South, Range 27 East, Mount Diablo Base and Meridian (Figure 2).

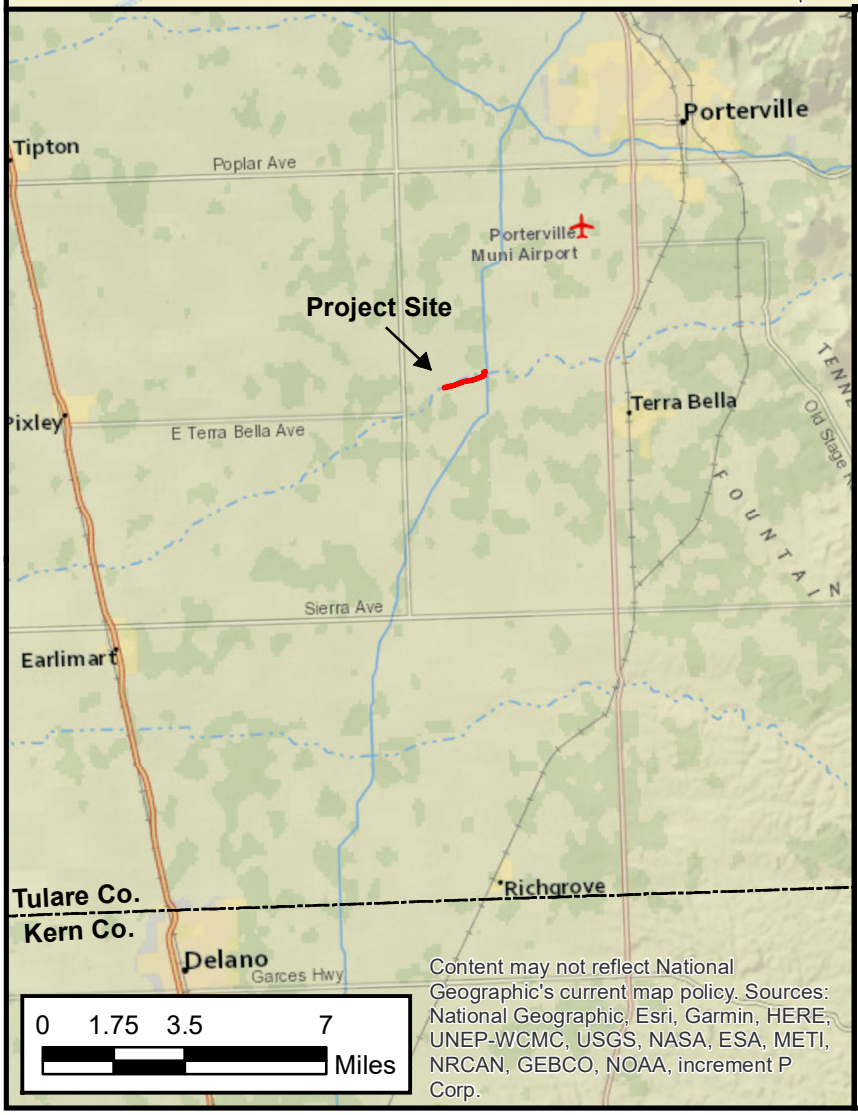
1.1 PROJECT DESCRIPTION

The purpose of this project is to divert excess surface waters from the Friant-Kern Canal (FKC) for groundwater recharge during wet years, and to make that water available to lawful recipients during dry years. The project objectives are as follows:

- ***Increase water supply***. The Project would increase supplies available to the Saucelito Irrigation District (SID), Homer, and other participants.
- ***Improve groundwater conditions***. The Project would reduce aquifer overdraft in the SID, East Tule Groundwater Sustainability Agency (GSA), Tule Sub Basin and in other areas that receive recovered water.
- ***Reduce costs to produce groundwater***. The Project would cause water levels to rise, thus reducing groundwater pumpage costs.
- ***Increase diversification and availability of water supplies***. The Project would increase the diversity of water supplies available to the District, its landowners and other participants.
- ***Facilitate compliance with the Sustainable Groundwater Management Act (SGMA)***. The Project would significantly advance the District's efforts to comply with SGMA.
- ***Subsidence reduction***. The Project would help to reduce ground subsidence by accruing more water to the local aquifer system and by reducing groundwater pumpage in the places of use.



Sources: Esri, HERE, Garmin, USGS, Intermap, INCREMENT P, NRCan, Esri Japan, METI, Esri China (Hong Kong), Esri Korea, Esri (Thailand), NGCC, © OpenStreetMap contributors, and the GIS User Community



Content may not reflect National Geographic's current map policy. Sources: National Geographic, Esri, Garmin, HERE, UNEP-WCMC, USGS, NASA, ESA, METI, NRCAN, GEBCO, NOAA, increment P Corp.

Live Oak Associates, Inc.

Homer LLC
Deer Creek Water Bank Project
Vicinity Map

Date	Project #	Figure #
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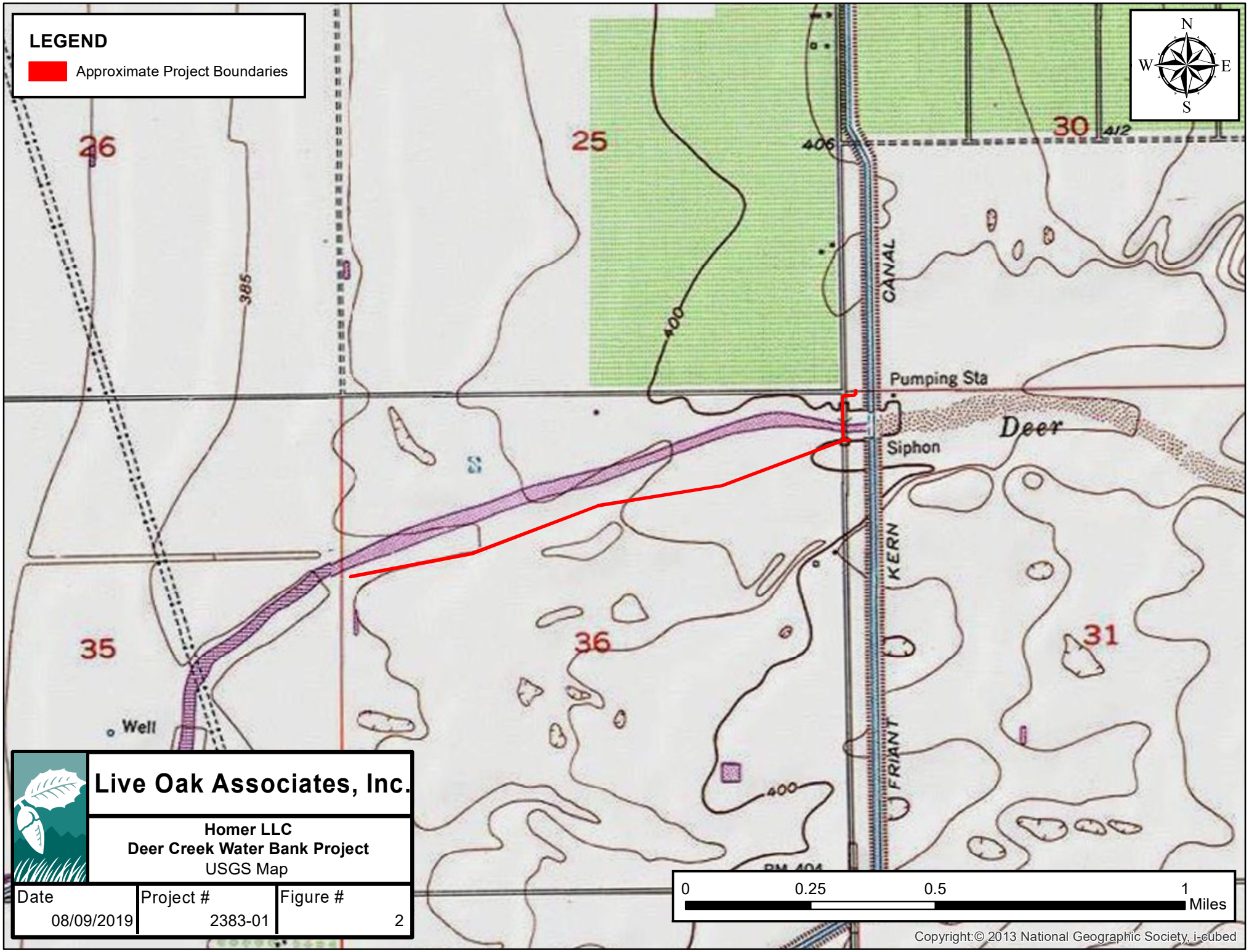


Live Oak Associates, Inc.

Homer LLC
Deer Creek Water Bank Project
USGS Map

Date	Project #	Figure #
08/09/2019	2383-01	2

The proposed project will be constructed on lands that have already been developed with groundwater recharge basins. Proposed project components are as follows:

- A new 48" diameter pipeline extending from the existing recharge basins to an existing SID 60" diameter pipeline, and ultimately to an existing SID pump station along the FKC
- Four new recovery wells
- A 12" to 24" diameter collection pipeline and controls to enable delivery of recovered water back into the new 48" pipeline, the FKC, and the existing SID 60" irrigation pipeline

In the near term, the proposed 48" pipeline will tie in to the existing SID 60" pipeline, which originates at an SID pump station on the FKC and will convey FKC water to the project facilities. Ultimately, the 48" pipeline will be extended to connect directly to the SID pump station, and will receive water directly from the FKC.

The proposed pipelines will be installed underground via trenching, within a temporary disturbance corridor up to 20' wide. Following construction, surface habitats will be allowed to return to pre-project conditions, such that no permanent impacts will result from the pipeline components. Installation of the pipelines across Deer Creek and through the existing recharge basins will occur when these features are naturally dry. Some removal of riparian vegetation within Deer Creek may be required within the temporary disturbance corridor across this waterway.

Temporary disturbance associated with construction of the proposed recovery wells will be limited to approximate 20' x 20' work zones centered on each well. Approximately 25 square feet (SF) of permanent impacts are anticipated at each well location, for a total of 100 SF of permanent impacts for this component and the project as a whole. The recovery wells will be used to pump accumulated groundwater to support downstream water users during dry years. All pumps will be operated using electrical motors drawing from existing farm power service lines.

1.2 REPORT OBJECTIVES

Construction of groundwater recharge infrastructure such as that proposed by Homer may modify biotic habitats used by sensitive plant and wildlife species. As such, site development

may be regulated by state or federal agencies, subject to provisions of the California Environmental Quality Act (CEQA), and/or covered by policies and ordinances of Tulare County. This report addresses issues related to: 1) sensitive biotic resources occurring on the project site; 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 onsite based on habitat suitability and the proximity of the site to a species' known range.
- Summarize all state and federal natural resource protection laws that may be relevant to possible future site development.
- Identify and discuss project impacts to biological resources likely to occur on the site within the context of CEQA and or any state or 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 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 site was conducted on May 31, 2019 by Live Oak Associates, Inc. (LOA) staff ecologist Anna Godinho. The survey consisted of walking through the project site while identifying the principal land uses and biotic habitats of the site, identifying plant and animal species encountered, and assessing the suitability of the site'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 site. Sources of information used in the preparation of this analysis included: (1) the *California Natural Diversity Data Base* (CDFW 2019), (2) the *Online Inventory of Rare and Endangered Vascular Plants of California* (CNPS 2019), and (3) 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 site 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 site.

2.0 EXISTING CONDITIONS

2.1 REGIONAL SETTING

The project site is located in the southern San Joaquin Valley near the Valley's eastern margin. The San Joaquin Valley is bordered by the Sierra Nevada to the east, the Tehachapi Mountains to the south, the California coastal ranges to the west, and the Sacramento-San Joaquin Delta to the north. The project site is located in a portion of the Valley that has, for decades, experienced intensive agricultural disturbances. Current agricultural endeavors in the region include orchards, vineyards, row crops, and dairies.

Like most of California, the southern San Joaquin Valley has 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 rise much above 70 degrees Fahrenheit, with daytime highs often below 60 degrees Fahrenheit. Annual precipitation within the project site is about 11 inches, almost 85% 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 Deer Creek, which passes through the project site from east to west. Deer Creek originates in the Greenhorn Mountains of the Sierra Nevada at an elevation of approximately 7,500 feet. It enters the San Joaquin Valley near Terra Bella, and flows through the valley for approximately 30 miles, feeding a series of irrigation ditches and canals along the way. Its channel in the valley is highly modified, having been realigned, reinforced with levees, and largely cleared of the riparian vegetation it once supported.

The project site is situated within a matrix of agricultural and residential uses. It is bordered primarily by existing groundwater recharge basins; beyond those lie vineyards, orchards, fallow fields, and rural residences. The Friant-Kern Canal passes within 200 feet of project boundaries at its closest point.

2.2 PROJECT SITE

At the time of the field survey, the project site consisted of portions of existing recharge basins, a short segment of Deer Creek, paved and unpaved roads, road shoulders, and other disturbed areas. The site is fairly level, with elevations ranging from 395 feet National Geodetic Vertical Datum (NVGD) at the existing SID pipeline to 383 feet NGVD at the western terminus of the proposed pipeline route.

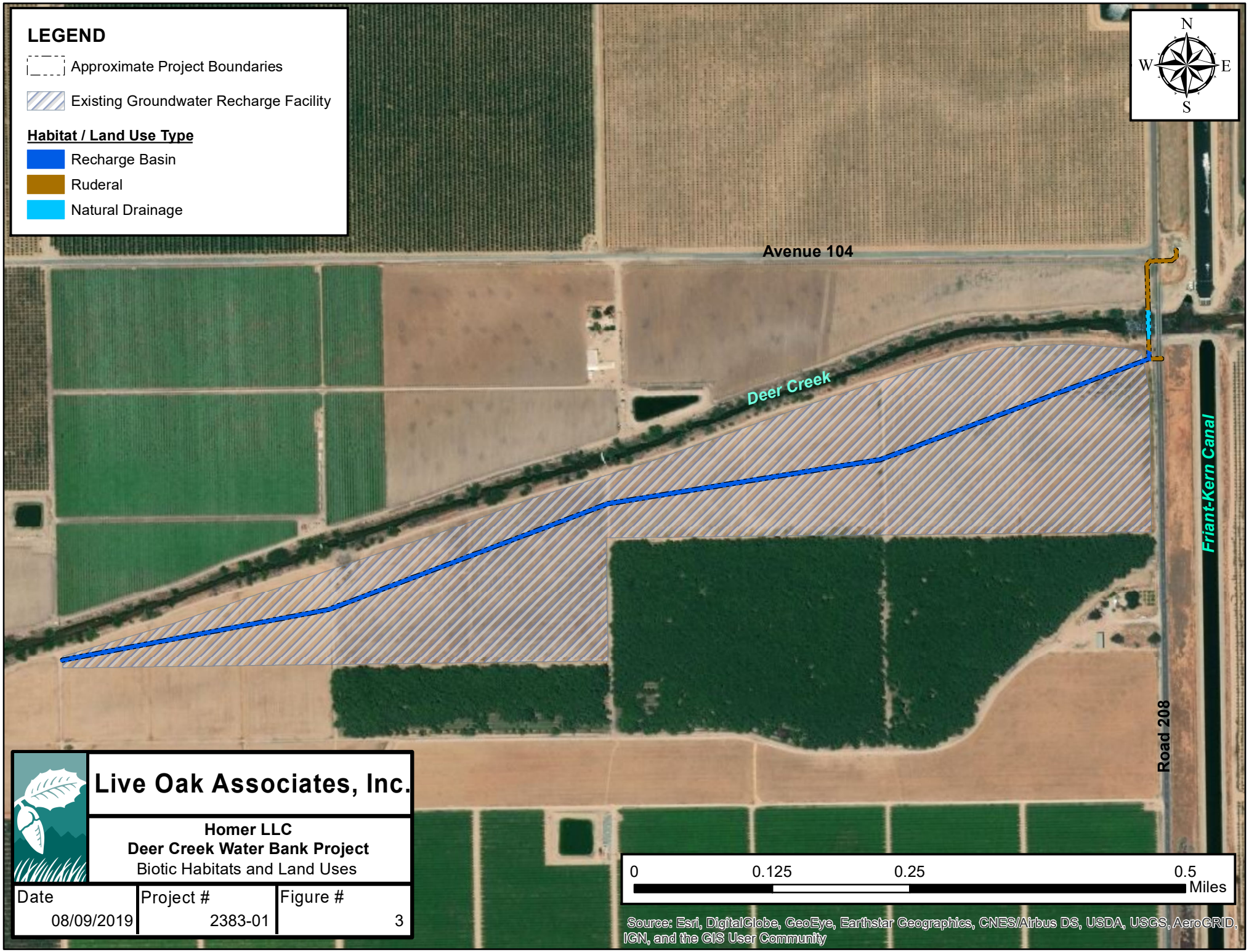
The site contains three soil mapping units from two soil series: Yettem sandy loam, 0 to 2 percent slopes; Nord fine sandy loam, 0 to 2 percent slopes; and Riverwash. All three soils are considered hydric, meaning they have a tendency to pond water and support the growth of wetland vegetation. However, after decades of ground disturbance associated with agricultural operations and construction and maintenance of roads, levees, and other infrastructure, the site's native soil characteristics are expected to be largely absent.

2.3 LAND USES/BIOTIC HABITATS

Three land uses/biotic habitats have been identified on the project site: recharge basin, ruderal, and natural drainage (Figure 3). These habitats / land uses and their constituent plant and animal species are described in more detail in the following sections. Lists of the vascular plant species observed within the project site and the terrestrial vertebrates using, or potentially using, the site are provided in Appendices A and B, respectively. Selected photographs of the project site are presented in Appendix C.

2.3.1 Recharge Basin

At the time of the field survey, the project site consisted primarily of existing groundwater recharge basins. Analysis of aerial imagery and previous fieldwork conducted by LOA indicate that the basins were constructed sometime after January 2018. The basin cells in the western portion of the project site appeared to have been constructed quite recently, with fresh ground disturbance and little to no vegetation as of the May 31 field survey. These cells were primarily dry during the survey. The basin cells in the eastern portion of the project site were inundated and densely vegetated, suggesting they were constructed somewhat earlier. Dominant vegetation



Live Oak Associates, Inc.

Homer LLC
Deer Creek Water Bank Project
Biotic Habitats and Land Uses

Date	Project #	Figure #
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at the time of the survey comprised Johnson grass (*Sorghum halapense*), ragweed (*Ambrosia acanthocarpa*), black mustard (*Brassica nigra*), and ripgut brome (*Bromus diandrus*).

Wildlife use of the site's recharge basins would vary depending on the timing and degree to which the basins are inundated or saturated. Sierran treefrogs (*Pseudacris sierra*) and western toads (*Bufo boreas*) could opportunistically breed in the basins during periods of inundation; western toad tadpoles were observed at the time of the field survey. Reptile use of the basins would be limited to dry periods, and could include side-blotched lizards (*Uta stansburiana*), Pacific gopher snakes (*Pituophis catenifer catenifer*), and common kingsnakes (*Lampropeltis getulus*).

Birds expected to use the basins during periods of inundation would include the great blue heron (*Ardea herodias*) and great egret (*Ardea alba*), assuming amphibian and/or invertebrate prey is present; great egrets were observed during the survey. Black phoebes (*Sayornis nigricans*), also observed, may glean insects from the surface of the water, or extract mud for nest-building. Inundated, densely-vegetated portions of the basins could be used for nesting by wetland-adapted species such as the red-winged blackbird (*Agelaius phoenecius*) and black-necked stilt (*Himantopus mexicanus*). When the basins are saturated but not inundated, avian use may include those species that feed on mudflats, such as the killdeer (*Charadrius vociferus*), observed. When the basins are dry, they are likely to be used for foraging by mourning doves (*Zenaida macroura*) (observed), savannah sparrows (*Passerculus sandwichensis*), and Brewer's blackbirds (*Euphagus cyanocephalus*), and could be used for nesting by the mourning dove or killdeer. Common raptors such as the red-tailed hawk (*Buteo jamaicensis*) and American kestrel (*Falco sparverius*) would be expected to forage over the basin during dry periods.

Periodic inundation would preclude occupation of the basin floor by burrowing rodents; however, California ground squirrels (*Otospermophilus beecheyi*) and Botta's pocket gophers (*Thomomys bottae*) could burrow on the banks. Deer mice (*Peromyscus maniculatus*) and western harvest mice (*Reithrodontomys megalotis*) could inhabit the margins of the basins and could forage for insects, seeds, and plant parts in the basins when dry. Disturbance-tolerant mammalian predators such as raccoons (*Procyon lotor*) and striped skunks (*Mephitis mephitis*)

would be expected to utilize the basins from time to time. Various bat species would be expected to forage over the basins.

2.3.2 Ruderal

The project site contained a number of ruderal areas including dirt access roads, the paved Road 208, road shoulders, and disturbed lands adjoining the FKC. The site's ruderal areas were generally barren of vegetation, or sparsely vegetated with common weeds such as cheeseweed mallow (*Malva parviflora*), barnyard barley (*Hordeum murinum* ssp. *leporinum*), puncturevine (*Tribulus terrestris*), and flax-leaved horseweed (*Erigeron bonariensis*).

Although the wildlife habitat value of the project site's ruderal areas is relatively low, some wildlife species certainly occur within these lands on occasion. The reptile and amphibian species listed for the agricultural field could potentially occur in ruderal habitats of the site from time to time. Birds expected to forage in these areas include the Brewer's blackbird, savannah sparrow, mourning dove, and killdeer. Where vegetated, ruderal areas could be used for nesting by mourning doves; where barren, they could be used for nesting by killdeers.

Small mammals that would be expected to occur on ruderal lands of the project site include the California ground squirrel, Botta's pocket gopher, and deer mouse; both ground squirrel and gopher burrows were observed in such areas at the time of the field survey. Mammalian predators with the potential to occur on ruderal lands of the project site include disturbance-tolerant species such as the raccoon and coyote (*Canis latrans*).

2.3.3 Natural Drainage

The project site includes a short segment of Deer Creek where the creek will be crossed by the proposed pipeline. At the time of the field survey, Deer Creek was inundated and flowing. Its banks supported scattered riparian trees and shrubs including California sycamore (*Platanus racemosa*), Fremont's cottonwood (*Populus fremontii*), mulefat (*Baccharis salicifolia*), and sandbar willow (*Salix exigua*) with an understory of common grasses and forbs including red brome (*Bromus madritensis* spp. *rubens*), ripgut brome, poison hemlock (*Conium maculatum*),

and Jimsonweed (*Datura stramonium*). Yellow monkeyflower (*Erythranthe guttata*) was observed along the water's edge.

When inundated, Deer Creek may support breeding by western toads and Sierran treefrogs. Common garter snakes (*Thamnophis sirtalis*) could forage in the aquatic and riparian habitat associated with Deer Creek. Western fence lizards (*Sceloporus occidentalis*) and side-blotched lizards may occur on the banks. This portion of Deer Creek does not support self-sustaining fish populations due to intermittent flows, but may occasionally receive fish from more perennial reaches at the upper end of the drainage; these would be limited to non-native species such as the bluegill (*Lepomis macrochirus*), common carp (*Cyprinus carpio*), green sunfish (*Lepomis cyanellus*), and western mosquitofish (*Gambusia affinis*), to name a few.

A large number of avian species are expected to utilize the riparian corridor of Deer Creek. The creek's mature trees could be used for nesting by a variety of birds and raptors including Bullock's orioles (*Icterus bullockii*), tree swallows (*Tachycineta bicolor*), mourning doves, great-horned owls (*Bubo virginianus*), and red-tailed hawks. An active red-tailed hawk nest was observed along Deer Creek at the time of the field survey. Avian species that could forage in or along the creek include residents such as the black phoebe and winter migrants such as the white-crowned sparrow (*Zonotrichia leucophrys*) and golden-crowned sparrow (*Zonotrichia atricapilla*).

Small mammals expected to occur along Deer Creek include California ground squirrels and Botta's pocket gophers, both of which could burrow on the banks, and deer mice, which could forage in the channel during dry periods. Mammalian predators likely to use this habitat include raccoons, striped skunks, and Virginia opossums (*Didelphis virginiana*).

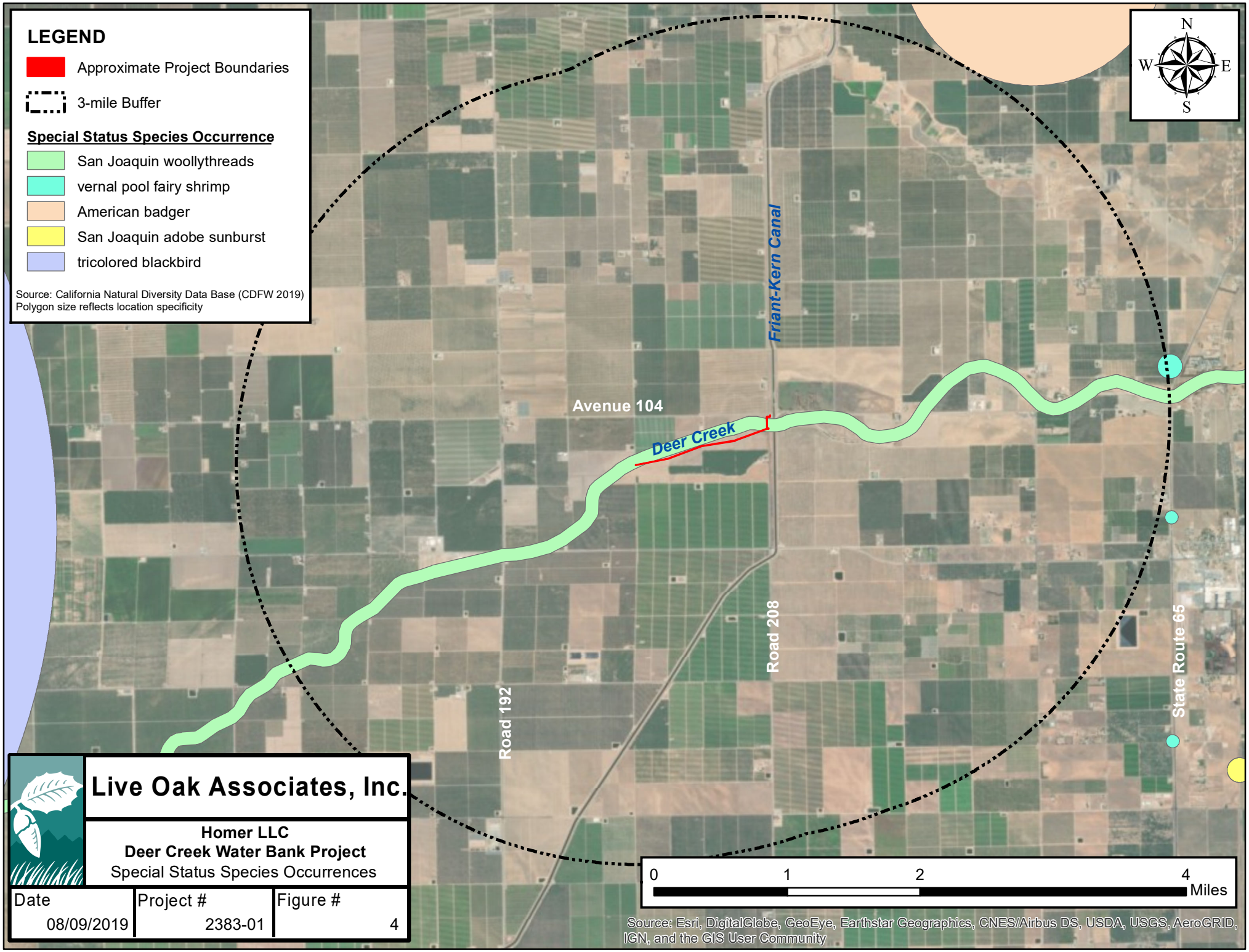
2.4 SPECIAL STATUS PLANTS AND ANIMALS

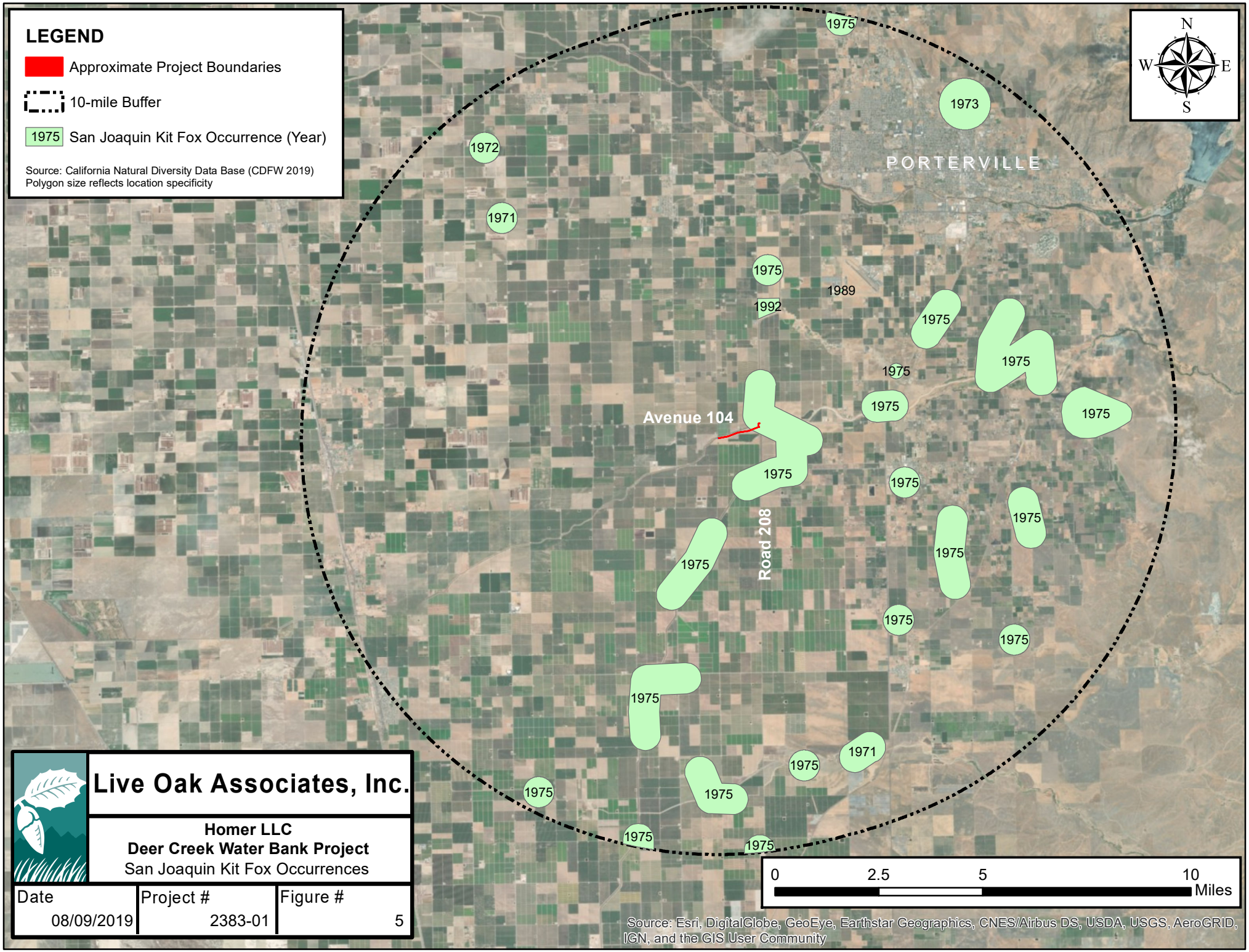
Several species of plants and animals within the state of California have low populations and/or limited distributions. Such species may be considered "rare" and are vulnerable to extirpation as the state's human population grows and the habitats these species occupy are converted to agricultural and urban uses. As described more fully in Section 3.2, state and federal laws have provided the California Department of Fish and Wildlife (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. Others have been designated as candidates for such listing. Still others have been designated as "species of special concern" by the CDFW. The California Native Plant Society (CNPS) has developed its own set of lists of native plants considered rare, threatened, or endangered (CNPS 2019). Collectively, these plants and animals are referred to as "special status species."

The California Natural Diversity Data Base (CDFW 2019) was queried for special status species occurrences in the nine USGS 7.5-minute quadrangles containing and immediately surrounding the project site (*Ducor, Woodville, Porterville, Success Dam, Fountain Springs, Quincy School, Richgrove, Delano East,* and *Sausalito School*). These species, and their potential to occur on the project site, 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 2019), *The Recovery Plan for Upland Species of the San Joaquin Valley, California* (USFWS 1998), *The Jepson Manual: Vascular Plants of California, second edition* (Baldwin et al. 2012), *The California Native Plant Society's Inventory of Rare and Endangered Vascular Plants of California* (CNPS 2019, Calflora.org, and eBird.org.

Special status species occurrences within 3.1 miles (5 kilometers) of the project site are depicted in Figure 4, and San Joaquin kit fox (*Vulpes macrotis mutica*) and Swainson's hawk (*Buteo swainsoni*) occurrences within 10 miles of the site are depicted in Figure 5.


LEGEND
Approximate Project Boundaries
3-mile Buffer
Special Status Species Occurrence
San Joaquin woollythreads
vernal pool fairy shrimp
American badger
San Joaquin adobe sunburst
tricolored blackbird
Source: California Natural Diversity Data Base (CDFW 2019)
Polygon size reflects location specificity
N
W
E
S
Friant-Kern Canal
Avenue 104
Deer Creek
Road 208
Road 192
State Route 65
0
1
2
4
Miles
Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community
Live Oak Associates, Inc.
Homer LLC
Deer Creek Water Bank Project
Special Status Species Occurrences
Date
08/09/2019
Project #
2383-01
Figure #
4



Live Oak Associates, Inc.

Homer LLC
Deer Creek Water Bank Project
San Joaquin Kit Fox Occurrences

Date	Project #	Figure #
08/09/2019	2383-01	5

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

PLANTS (adapted from CDFW 2019 and CNPS 2019)

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

Species	Status	Habitat	Occurrence on the Project Site
California Jewelflower (*Caulanthus californicus*)	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 site and adjacent lands.
Springville Clarkia (*Clarkia springvillensis*)	FT, CE, CNPS 1B	Occurs in chaparral, cismontane woodland, and valley and foothill grasslands with granitic soil between 985 and 2,430 ft. in elevation. Blooms May-July.	**Absent.** The project site is below the elevational range for this species, and suitable habitat is absent.
Striped Adobe-Lily (*Fritillaria striata*)	CT, CNPS 1B	Occurs in heavy clay soils of cismontane woodland and valley and foothill grassland between 1,150 and 2,920 ft. in elevation. Blooms February-April.	**Absent.** Suitable habitat is absent from the project site, and the site is below this species' elevational range.
San Joaquin Woollythreads (*Monolopia congdonii*)	FE, CNPS 1B	Occurs in sandy soils in shadescale scrub and valley grassland, between 195 and 2,460 ft. in elevation. Blooms February-May.	**Unlikely.** A population of this species was generally mapped along Deer Creek in 1881. The margin of error associated with that location overlaps the project site; however, the site does not contain suitable habitat for this species.
San Joaquin Adobe Sunburst (*Pseudobahia peirsonii*)	FT, CE, CNPS 1B	Occurs in foothill grasslands in heavy clay soils of the Porterville and Centerville series, between 300 and 2,625 ft. in elevation. Blooms March-April.	**Absent.** Suitable habitat for this species is absent from the project site and adjacent lands.
Keck's Checkerbloom (*Sidalcea keckii*)	FE, CNPS 1B	Occurs in cismontane woodland and valley and foothill grassland habitat with serpentine and/or clay soils between 525 and 2,230 ft. in elevation. Blooms April-May.	**Absent.** Suitable habitat is absent from the project site, and the site is below this species' elevational range.

PLANTS (cont'd)

CNPS-Listed Plants

Earlimart Orache (*Atriplex cordulata* var. *erecticaulis*)	CNPS 1B	Occurs in alkaline soils of valley and foothill grasslands between 230 and 395 ft. in elevation. Blooms August-September.	**Absent.** Suitable habitat for this species is absent from the project site and adjacent lands.
Lost Hills Crownscale (*Atriplex coronata* var. *vallicola*)	CNPS 1B	Occurs in chenopod scrub, valley and foothill grasslands, and vernal pools on alkaline soils, between 164 and 2,080 ft. in elevation. Blooms April–August.	**Absent.** Suitable habitat for this species is absent from the project site and adjacent lands.
Brittlescale (*Atriplex depressa*)	CNPS 1B	Occurs in alkali soils in barren areas within alkali grassland, meadow and scrub at elevations up to 1,000 ft. in elevation. Occasionally found around vernal pools. Blooms April-October.	**Absent.** Suitable habitat for this species is absent from the project site and adjacent lands.

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

PLANTS (cont'd)

CNPS-Listed Plants

Species	Status	Habitat	Occurrence on the Project Site
Vernal Pool Smallscale (*Atriplex persistens*)	CNPS 1B	Occurs in alkaline soils of valley and foothill grasslands of the San Joaquin Valley, between 130 and 330 ft. in elevation. Blooms August-October.	**Absent.** Suitable habitat for this species is absent from the project site and adjacent lands.
Subtle Orache (*Atriplex subtilis*)	CNPS 1B	Occurs in alkaline soils of valley and foothill grasslands of the San Joaquin Valley, between 130 and 330 ft. in elevation. Blooms August-October.	**Absent.** Suitable habitat for this species is absent from the project site and adjacent lands.
Recurved Larkspur (*Delphinium recurvatum*)	CNPS 1B	Occurs in alkaline soils in cismontane woodland and valley and foothill grasslands below 2,500 ft. in elevation. Blooms March-June.	**Absent.** Suitable habitat for this species is absent from the project site and adjacent lands.
Calico Monkeyflower (*Diplacus pictus*)	CNPS 1B	Occurs around granitic outcrops or gooseberry shrubs in broadleaf upland forest and cismontane woodland in granitic soils between 330 and 4270 ft. in elevation. May occur in disturbed areas. Blooms March-May.	**Absent.** Suitable habitat for this species is absent from the project site and adjacent lands.
Spiny-Sepaled Button-Celery (*Eryngium spinosepalum*)	CNPS 1B	Occurs in vernal pools, swales and valley and foothill grasslands of the San Joaquin Valley and the Tulare Basin between 330 and 840 ft. in elevation. Blooms April-May.	**Absent.** Suitable habitat is absent from the project site and surrounding lands.
Madera Leptosiphon (*Leptosiphon serrulatus*)	CNPS 1B	Occurs in openings in cismontane woodland between 980 and 1,400 ft. in elevation. Blooms April-May	**Absent.** Suitable habitat is absent from the project site, and the site is situated below this species' elevational range.
Shining Navarretia (*Navarretia nigelliformis* ssp. *radians*)	CNPS 1B	Occurs in vernal pools within valley grassland and foothill woodland communities between 200 and 3,280 ft. in elevation. Blooms April-July.	**Absent.** Suitable habitat is absent from the project site and surrounding lands.
Chaparral Ragwort (*Senecio aphanactis*)	CNPS 2B	Occurs in chaparral, cismontane woodland, and coastal scrub, at elevations up to 2,600 feet. Blooms January-April.	**Absent.** Suitable habitat for this species is absent from the project site and adjacent lands.

ANIMALS (adapted from CDFW 2019)

Species Listed as Threatened or Endangered under the State and/or Federal Endangered Species Act, and/or as California Fully Protected

Vernal Pool Fairy Shrimp (*Branchinecta lynchi*)	FT	Occurs in vernal pools, clear to tea-colored water in grass or mud-bottomed swales, and basalt depression pools.	**Absent.** Suitable habitat in the form of vernal pools is absent from the project site and adjacent lands.

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, and/or as California Fully Protected

Species	Status	Habitat	Occurrence on the Project Site
Swainson's Hawk (*Buteo swainsoni*)	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 are uncommon along the eastern margin of the San Joaquin Valley; the closest known nesting occurrence of this species is approximately 7 miles northeast of the project site (Hansen 2017). However, the Swainson's hawk is wide-ranging, and it is conceivably possible that individuals of this species could nest in riparian trees located along Deer Creek and forage over the site's recharge basins and ruderal lands.
California Condor (*Gymnogyps californianus*)	FE, CE, CFP	Scavenges for carrion in habitats ranging from Pacific beaches to mountain forests and meadows. Nests in caves on cliff faces in mountains up to 6,000 ft. in elevation. Due to its large size, requires high perches for easier take-off.	**Absent**. Nesting habitat is absent from the project site, and the site would not be a source of the large animal carcasses this species forages on. The closest known occurrences of this species are at the Blue Ridge Condor Area, approximately 10 miles northeast of the project site.
Tricolored Blackbird (*Agelaius tricolor*)	CT	Nests colonially near fresh water in dense cattails or tules, or in thickets of willows or shrubs. In the San Joaquin Valley, has increasingly been documented nesting in wheat fields. Forages in grassland and cropland areas.	**Possible.** Tricolored blackbirds are uncommon in the project vicinity. The nearest CNDDB occurrence considered to be extant was recorded near the Success Dam, approximately 11 miles northeast of the site, in 1971. However, if tricolored blackbirds occur in the project vicinity, they could forage over the site's recharge basins and ruderal lands from time to time, and could possibly nest in vegetated portions of the basins.
Tipton Kangaroo Rat (*Dipodomys nitratoides nitratoides*)	FE, CE	Inhabits valley saltbrush scrub, valley sink scrub, and grassland habitats located from the Valley floor to 300 ft. in elevation.	**Absent.** The project site is located outside of the known distribution of this species (USFWS 2010). The closest known occurrence is a museum collection from an unknown date, approximately 9 miles southwest of the site.

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, and/or as California Fully Protected

Species	Status	Habitat	Occurrence on the Project Site
San Joaquin Kit Fox (SJKF) (*Vulpes macrotis mutica*)	FE, CT	Frequents desert alkali scrub and annual grasslands and may forage in adjacent agricultural habitats. Utilizes enlarged (5 to 8 inches in diameter) ground squirrel burrows as denning habitat.	**Possible.** The intensively maintained habitats of the project site are marginal, at best, for this species. Moreover, modern kit fox occurrences in the project vicinity are scarce. All 26 SJKF occurrences documented within a 10-mile radius of the project site are from over 25 years ago; all but two are from the 1970s. However, the SJKF is a wide-ranging species, and it is conceivably possible that individuals pass through or forage on the site from time to time. Kit fox could potentially den in the site's ruderal areas.

State Species of Special Concern

Kern Brook Lamprey (*Entosphenus hubbsi*)	CSC	Requires perennial waters. Occurs in the Friant-Kern Canal and the lower Merced, Kaweah, Kings, and San Joaquin Rivers.	**Absent.** Perennial waters required by this species are absent from the project site.
Western Spadefoot (*Spea hammondii*)	SSC	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 site and surrounding lands. The closest known spadefoot occurrence was documented at the Pixley Vernal Pool Preserve, approximately 5 miles northwest of the project site, in 1978.
Northern California Legless Lizard (*Anniella pulchra*)	SSC	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.	**Unlikely.** Although Deer Creek may theoretically represent suitable habitat for the northern California legless lizard, the site is situated in a vast matrix of agricultural lands that would not support this species. There are several modern occurrences of this species along the Tule River corridor 7-11 miles northeast of the site, all in areas where blocks of natural lands persist. Individuals of another *Anniella* species, *A. grinnelli*, have been documented along Deer Creek approximately 12 miles southwest of the site; however, Deer Creek at that location is bordered by a large block of grassland contiguous with the Pixley National Wildlife Refuge.

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

ANIMALS (cont'd)

State Species of Special Concern

Species	Status	Habitat	Occurrence on the Project Site
Northern Harrier (*Circus cyaneus*)	CSC	Frequents meadows, grasslands, open rangelands, freshwater emergent wetlands. Nests on ground, generally in marshes, although grassland and pasture habitat may also be used.	**Possible.** This species could forage over the site's basins and ruderal areas, but nesting habitat is absent.
Burrowing Owl (*Athene cunicularia*)	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.	**Possible.** The burrowing owl has never been documented in the immediate project vicinity; the closest known occurrence is nearly 10 miles to the southeast. Moreover, the disturbed habitats of the project site are of relatively low value for this species. However, should burrowing owls occur in the area, there is some potential for owls to nest, roost, or forage in the site's ruderal areas and forage in the recharge basins during dry periods.
Pallid Bat (*Antrozous pallidus*)	SSC	Roosts in rocky outcrops, cliffs, and crevices with access to open habitats for foraging. May also roost in caves, mines, hollow trees and buildings.	**Possible.** This species could roost in the site's mature trees and forage in or over any of the site's habitats.
Townsend's Big-eared Bat (*Corynorhinus townsendii*)	SSC	Primarily a cave-dwelling bat, but may also roost in tunnels, buildings, other human-made structures, and hollow trees. Occurs in a variety of habitats.	**Possible.** This species has the potential to roost in the site's mature trees and forage over any of the site's habitats.
Western Mastiff Bat (*Eumops perotis californicus*)	SSC	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, and tunnels.	**Possible.** Individuals of this species could forage over any of the site's habitats, but roosting habitat is absent.
American Badger (*Taxidea taxus*)	SSC	Found in drier open stages of most shrub, forest and herbaceous habitats with friable soils.	**Unlikely.** The intensively maintained habitats of the project site are marginal, at best, for this species. At most, badgers could occasionally pass through and/or forage on the site on the way to more suitable habitat elsewhere. The closest known occurrence of this species is a museum specimen collected approximately 3 miles northeast of the project site on an unknown date.

OCCURRENCE DESIGNATIONS AND STATUS CODES

Present:	Species observed on the site at time of field survey 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)	CCE	California Endangered (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 JURISDICTIONAL WATERS

As will be discussed in greater detail in Section 3.2.7, the U.S. Army Corps of Engineers (USACE) has regulatory authority over certain rivers, creeks, lakes, ponds, reservoirs, wetlands, and in some cases irrigation canals ("Waters of the U.S."). The CDFW has jurisdiction over waters in California that have a defined bed and bank, including engineered channels that replace natural drainages. The State Water Resources Control Board (SWRCB) and nine Regional Water Quality Control Boards (RWQCBs) assert jurisdiction over all surface water and groundwater in the State of California.

The project site contains a short segment of Deer Creek, which is expected to fall under the jurisdiction of the RWQCB and CDFW. Deer Creek is not likely to be considered a Water of the U.S., based on its having previously been disclaimed by the USACE in a jurisdictional determination issued in 2015. The project site also contains portions of existing recharge basins that, although not subject to the regulatory authority of the USACE or CDFW, do fall under the jurisdiction of the RWQCB as Waters of the State. However, the RWQCB does not typically regulate activities in manmade features like recharge basins.

2.6 SENSITIVE NATURAL COMMUNITIES

California contains a wide range of natural communities, or unique assemblages of plants and animals. These communities have largely been classified and mapped by CDFW as part of its natural heritage program. Natural communities are assigned state and global ranks according to their rarity and the magnitude and trend of the threats they face. Any natural community with a state rank of 3 or lower (on a 1-5 scale) is considered "sensitive" and must be considered in CEQA review. Examples of sensitive natural communities in the San Joaquin Valley are

northern hardpan vernal pool, sycamore alluvial woodland, valley oak woodland, and valley sink scrub.

The project site contains a small area of riparian habitat associated with Deer Creek. Although this area has not been mapped by CDFW as a sensitive natural community, riparian habitats are a diminishing resource in the Central Valley and are generally considered sensitive.

2.7 WILDLIFE MOVEMENT CORRIDORS

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

As discussed, the project site contains a short segment of Deer Creek. Although Deer Creek in the project vicinity represents a somewhat disrupted riparian corridor, having been realigned and intermittently cleared of vegetation, it likely functions as an important movement corridor for native terrestrial wildlife, facilitating passage through the surrounding matrix of intensive agricultural uses. Deer Creek may also support avian migration, providing a relatively secure route for elevational migrants to travel between wintering habitat in the Central Valley and breeding habitat in the Sierra Nevada.

2.8 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 site and adjacent lands. The nearest unit of critical habitat is located approximately 10 miles northeast of the site, and is designated for the protection of the California condor (*Gymnogyps californianus*).

3.0 IMPACTS AND MITIGATIONS

3.1 SIGNIFICANCE CRITERIA

In California, any project carried out or approved by a public agency that will result in a direct or reasonably foreseeable indirect physical change in the environment must comply with CEQA. The purpose of CEQA is to ensure that a project's potential impacts on the environment are evaluated, and methods for avoiding or reducing these impacts are considered, before the project is allowed to move forward. A secondary aim of CEQA is to provide justification to the public for the approval of any projects involving significant impacts on the environment.

According to Section 15382 of the CEQA Guidelines, a significant effect on the environment means a "substantial, or potentially substantial, adverse change in any of the physical conditions within the area affected by the project, including land, air, water, minerals, flora, fauna, ambient noise, and objects of historic or aesthetic interest." Although the lead agency may set its own CEQA significance thresholds, project impacts to biological resources are generally considered to be significant if they would meet any of the following criteria established in Appendix G of the CEQA Guidelines:

- 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 CDFW or USFWS.

- Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, or regulations or by CDFW or USFWS.

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

- Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites.

- Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance.

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

Furthermore, CEQA Guidelines Section 15065(a) requires the lead agency to make "mandatory findings of significance" if there is substantial evidence that a project may:

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

- Achieve short-term environmental goals to the detriment of long-term environmental goals.

- Produce environmental effects that are individually limited but cumulatively considerable, meaning that the incremental effects of the project are significant when viewed in connection with the effects of past projects, other current projects, and probable future projects.

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 Tulare County General Plan released an update in 2003 that is valid through 2030. Implementation of goals in the Tulare County General Plan is accomplished via a set of policies specific to each goal. Relevant biological resource goals include:

- protecting rare and endangered species;

- limiting development in environmentally sensitive areas;

- supporting the preservation and management of wetland and riparian plant communities for passive recreation, groundwater recharge, and wildlife habitats;

- encouraging the planting of native trees, shrubs, and grasslands preserve;

- 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 Habitat Conservation Plans and Natural Community Conservation Plans

Section 10 of the federal Endangered Species Act establishes a process by which non-federal projects can obtain authorization to incidentally take listed species, provided take is minimized and thoroughly mitigated. A Habitat Conservation Plan (HCP), developed by the project applicant in collaboration with the USFWS and/or NMFS, ensures that such minimization and mitigation will occur, and is a prerequisite to the issuance of a federal incidental take permit. Similarly, a Natural Community Conservation Plan (NCCP), developed by the project applicant in collaboration with CDFW, provides for the conservation of biodiversity within a project area, and permits limited incidental take of state-listed species.

The project is not subject to any HCPs or NCCPs.

3.2.3 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. 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.

3.2.4 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.

Although the USFWS and its parent administration, the U.S. Department of the Interior, have traditionally interpreted the FMBTA as prohibiting incidental as well as intentional "take" of birds, a January 2018 legal opinion issued by the Department of the Interior now states that incidental take of migratory birds while engaging in otherwise lawful activities is permissible under the FMBTA. However, 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), even if incidental to lawful activities.

3.2.5 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.

3.2.6 Nesting Birds

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

3.2.7 Wetlands and Other Jurisdictional Waters

Section 404 of the federal Clean Water Act (CWA) regulates the discharge of dredged or fill material into "navigable waters" (33 U.S.C. §1344), defined in the CWA as "the waters of the United States, including the territorial seas" (33 U.S.C. §1362(7)). The CWA does not supply a definition for waters of the U.S., and that has been the subject of considerable debate since the CWA's passage in 1972. A variety of regulatory definitions have been promulgated by the two federal agencies responsible for implementing the CWA, the Environmental Protection Agency (EPA) and USACE. These definitions have been interpreted, and in some cases, invalidated, by federal courts.

In 2015, the EPA and USACE jointly issued the Clean Water Rule (CWR), providing a synthesized definition of waters of the U.S. based on statute, science, and federal court decisions to date. Subsequent litigation delayed implementation of the CWR. However, in August 2018, the CWR was enjoined in 22 states including California.

The CWR defines waters of the U.S. to include the following:

> **(a)(1) Waters:** All waters used in interstate or foreign commerce (also known as traditional navigable waters), including all waters subject to the ebb and flow of the tide;
>
> **(a)(2) Waters:** All interstate waters including interstate wetlands;
>
> **(a)(3) Waters:** The territorial seas;

(a)(4) Waters: All impoundments of Waters of the U.S.;

(a)(5) Waters: All tributaries of (a)(1)-(a)(4) waters, where "tributary" refers to a water (natural or constructed) that contributes flow to another water and is characterized by the physical indicators of a bed and bank and an ordinary high water (OHW) mark;

(a)(6) Waters: Adjacent waters, defined as either (a) located in whole or in part within 100 feet of the OHW mark of (a)(1)-(a)(5) waters, or (b) located in whole or in part within the 100-year floodplain and within 1,500 feet of the OHW mark of (a)(1)-(a)(5) waters;

(a)(7) Waters: Western vernal pools, prairie potholes, Carolina bays and Delmarva bays, pocosins, and Texas coastal prairie wetlands, if determined on a case-specific basis to have a significant nexus to (a)(1)-(a)(3) waters;

(a)(8) Waters: Waters that do not meet the definition of adjacency, but are determined on a case-specific basis to have a significant nexus to (a)(1)-(a)(3) waters, and are either located in whole or in part within the 100-year floodplain of (a)(1)-(a)(3) waters, or located within 4,000 feet of the OHW mark of (a)(1)-(a)(5) waters.

The CWR also redefines exclusions from jurisdiction, which include:

(b)(1) Waters: Waste treatment systems;

(b)(2) Waters: Prior converted cropland;

(b)(3) Waters: Three types of ditches. A ditch may be a water of the U.S. only it if meets the definition of "tributary" and is not otherwise excluded under the provisions below.

(i) Ditches with ephemeral flow that are not a relocated or excavated tributary;

(ii) Ditches with intermittent flow that are not a relocated or excavated tributary or that do not drain wetlands;

(iii) Ditches that do not flow, either directly or through another water, to an (a)(1)-(a)(3) water.

(b)(4) Waters: Other aquatic features:

- Artificially irrigated areas that would revert to dry land should application of irrigation water to that area cease.
- Artificially constructed lakes or ponds created in dry land such as farm and stock watering ponds, irrigation ponds, settling basins, log cleaning ponds, cooling ponds, or fields flooded for rice growing.
- Artificial reflecting pools or swimming pools created in dry land.
- Small ornamental waters created in dry land for primarily aesthetic reasons.
- Water-filled depressions created in dry land incidental to mining or construction activity, including pits excavated for obtaining fill, sand or gravel that fill with water.
- Erosional features, including gullies, rills and other ephemeral features that do not meet the definition of a tributary, non-wetland swales, and lawfully constructed grassed waterways.
- Puddles.

(b)(5) Waters: Groundwater and artificially constructed subsurface drainage systems in dry land;

(b)(6) Waters: Stormwater control features constructed to convey, treat, or store stormwater created in dry land; does not include features that possess perennial flow, even if constructed in dry land.

All activities that involve the discharge of dredge or fill material into waters of the U.S. are subject to Section 404 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/MITIGATION

As discussed, the project is the construction of new pipelines to enable surplus surface water from the Friant-Kern Canal to be used for groundwater recharge, and new recovery wells to enable accumulated groundwater to support downstream water users during dry years. The project will be constructed within an area of approximately 3 acres that consists primarily of

existing recharge basins. Project impacts will be primarily temporary as the proposed pipelines will be installed underground, with surface habitats allowed to return to pre-project conditions following construction. Permanent impacts will encompass approximately 100 square feet consisting of the footprints of the proposed recovery wells.

3.3.1 Potential Project Impacts to the Swainson's Hawk

Potential Impacts. The Swainson's hawk (*Buteo swainsoni*) is relatively uncommon along the eastern margin of the San Joaquin Valley, where the project site is located. However, this wide-ranging species has some potential to nest in the site's riparian trees and forage over the site's recharge basins and ruderal areas. Construction activities do not have the potential to injure or kill foraging Swainson's hawks because the Swainson's hawk is highly mobile while foraging and would be expected to simply fly away from construction disturbance. However, if Swainson's hawks are nesting on or adjacent to the site at the time of construction, individuals of this species could be injured or killed by construction activities, or disturbed such that they would abandon their nests. Construction-related injury, mortality, or disturbance of nesting Swainson's hawks is considered a potentially significant impact of the project under CEQA.

Mitigation. The applicant will implement the following measures to avoid and minimize the potential for project-related mortality of nesting Swainson's hawks.

> ***Mitigation Measure 3.3.1a* (*Construction Timing*).** If feasible, the project will be constructed outside the Swainson's hawk nesting season, typically defined as March 1-September 15.
>
> ***Mitigation Measure 3.3.1b* (*Preconstruction Surveys*).** If the project must be constructed between March 1 and September 15, a qualified biologist will conduct preconstruction surveys for Swainson's hawk nests on and within ½ mile of the project site within 10 days of the onset of these activities.
>
> ***Mitigation Measure 3.3.1c* (*Avoidance*).** Should any active nests be discovered in or near proposed construction zones, the biologist will identify a suitable construction-free buffer around the nest. This buffer will be identified on the ground with flagging or fencing, and will be maintained until the biologist has determined that the young have fledged.
>
> ***Mitigation Measure 3.3.1d* (*Nest Monitoring*).** Should construction activity be necessary within the designated buffer around an active Swainson's hawk nest, a qualified biologist will monitor the nest daily for one week, and thereafter once a week, for the duration of

the activity or until the nest is no longer active, whichever comes first. Should construction activity within the buffer change such that a higher level of disturbance will be generated, monitoring will occur daily for one week and then resume the once-a-week regimen. If, at any time, the biologist determines that construction activity may be compromising nesting success, construction activity within the buffer will be altered or suspended until the biologist determines that the nest is no longer at risk of failing.

Implementation of these measures will reduce project-related impacts to the Swainson's hawk to a less than significant level under CEQA, and ensure compliance with state laws protecting this species.

3.3.2 Project-Related Mortality of the San Joaquin Kit Fox

Potential Impacts. The site consists primarily of existing recharge basins of limited value for the San Joaquin kit fox (*Vulpes macrotis mutica*) (SJKF), and this species has not been documented in the project vicinity for over 25 years. However, because the SJKF is wide-ranging and adaptable, there is some potential for it to pass through the site from time to time, possibly denning or foraging in the site's ruderal habitats and foraging in the recharge basins during dry periods. If one or more individuals of this species are present on site at the time of construction, they could be injured or killed by construction activities. Construction-related injury or mortality of the SJKF is considered a potentially significant impact of the project under CEQA.

Mitigation. The following measures derived from the USFWS 2011 *Standardized Recommendations for Protection of the San Joaquin Kit Fox Prior to or During Ground Disturbance* (Appendix E) will be implemented:

> ***Mitigation Measure 3.3.2a (Preconstruction Surveys).*** Preconstruction surveys for the SJKF shall be conducted on and within 200 feet of the project site, no less than 14 days and no more than 30 days prior to the start of ground disturbance activities on the site. The primary objective is to identify kit fox habitat features (e.g., potential dens and refugia) on and adjacent to the site and evaluate their use by kit foxes. If an active kit fox den is detected within or immediately adjacent to the work area, the USFWS shall be contacted immediately to determine the best course of action. Preconstruction surveys will be repeated following any lapses in construction of 30 days or more.
>
> ***Mitigation Measure 3.3.2b (Avoidance).*** Should active kit fox dens be detected during preconstruction surveys, the Sacramento Field Office of the USFWS and the Fresno Field

Office of CDFW will be notified. A disturbance-free buffer will be established around the burrows in consultation with the USFWS and CDFW, to be maintained until an agency-approved biologist has determined that the burrows have been abandoned.

Mitigation Measure 3.3.2c (Minimization). The project will observe all minimization measures presented in the *USFWS Standardized Recommendations*. Such measures include, but are not limited to: restriction of construction-related vehicle traffic to established roads, construction areas, and other designated areas; inspection and covering of structures (e.g., pipes), as well as installation of escape structures, to prevent the inadvertent entrapment of kit foxes; restriction of rodenticide and herbicide use; and proper disposal of food items and trash. See Appendix E for more details.

Mitigation Measure 3.3.2d (Employee Education Program). Prior to the start of construction, the applicant will retain a qualified biologist to conduct a tailgate training for all construction staff on the San Joaquin kit fox. This training will include a description of the kit fox and its habitat needs; a report of the occurrence of kit fox in the project vicinity; an explanation of the status of the species and its protection under the Endangered Species Act; and a list of the measures being taken to reduce impacts to the species during construction. Attendees will be provided a handout with all of the training information included in it. The applicant will use this handout to train any construction personnel that were not in attendance at the first meeting, prior to those personnel starting work on the site.

Mitigation Measure 3.3.2e (Mortality Reporting). The Sacramento Field Office of the USFWS and the Fresno Field Office of CDFW will be notified in writing within three working days in case of the accidental death or injury to a San Joaquin kit fox during construction. Notification must include the date, time, location of the incident or of the finding of a dead or injured animal, and any other pertinent information.

Implementation of the above measures will reduce potential project-related impacts to the San Joaquin kit fox to a less than significant level under CEQA, and will ensure compliance with state and federal laws protecting this species.

3.3.3 Project-Related Mortality/Disturbance of the Burrowing Owl

Potential Impacts. The site's habitats are only marginally suitable for the burrowing owl (*Athene cunicularia*) and burrowing owls have never been documented in the project vicinity; the closest known occurrence is nearly 10 miles to the southeast. However, should this species occur in the area, there is some potential for it to nest, roost, or forage in the site's ruderal areas, and forage in the recharge basins during dry periods. Burrowing owls are highly mobile while foraging, and it is anticipated that any burrowing owls attempting to forage on site at the time of

construction would simply fly away from construction disturbance. However, if burrowing owls are occupying burrows on site at the time of construction, owls could be injured or killed by construction activities. If construction occurs during the nesting season, burrowing owls could be disturbed by construction activities such that they would abandon their young. Construction-related injury, mortality, or disturbance of burrowing owls is considered a potentially significant impact of the project under CEQA.

Mitigation. In order to minimize construction-related impacts to burrowing owls, the applicant will implement the following measures:

> ***Mitigation Measure 3.3.3a (Take Avoidance Survey).*** A take avoidance survey for burrowing owls will be conducted by a qualified biologist between 14 and 30 days prior to the start of construction. This take avoidance survey will be conducted according to methods described in the *Staff Report on Burrowing Owl Mitigation* (CDFG 2012). The survey area will include all potential roosting and nesting habitat on and within 200 meters of project impact areas, where accessible.
>
> ***Mitigation Measure 3.3.3b (Avoidance of Nest Burrows).*** If project activities are undertaken during the breeding season (February 1-August 31) and active nest burrows are identified within or near project impact areas, a 200-meter disturbance-free buffer will be established around these burrows. The buffers will be enclosed with temporary fencing to prevent construction equipment and workers from entering the setback area. Buffers will remain in place for the duration of the breeding season, unless otherwise arranged with CDFW. After the breeding season, passive relocation of any remaining owls may take place as described below.
>
> ***Mitigation Measure 3.3.3c (Avoidance or Passive Relocation of Resident Owls).*** During the non-breeding season (September 1-January 31), resident owls occupying burrows in project impact areas may either be avoided, or passively relocated to alternative habitat. If the applicant chooses to avoid active owl burrows within the impact area during the non-breeding season, a 50-meter disturbance-free buffer will be established around these burrows. The buffers will be enclosed with temporary fencing, and will remain in place until a qualified biologist determines that the burrows are no longer active. If the applicant chooses to passively relocate owls during the non-breeding season, this activity will be conducted in accordance with a relocation plan prepared by a qualified biologist.

Compliance with the above mitigation measures will ensure that the project does not significantly impact burrowing owl individuals or regional populations, and that the project is in compliance with state and federal laws protecting this species.

3.3.4 Project-Related Mortality/Disturbance of Nesting Birds and Raptors Including the Tricolored Blackbird

Potential Impacts. In addition to the Swainson's hawk and burrowing owl, the project site has the potential to be used for nesting by a variety of birds and raptors protected by state law. Riparian trees and shrubs could be used by songbirds such as the Bullock's oriole and northern mockingbird and raptors such as the red-tailed hawk. Ruderal areas could be used by the disturbance-tolerant mourning dove or killdeer. The recharge basins could be used by wetland-adapted species such as the red-winged blackbird and possibly also the tricolored blackbird (*Agelaius tricolor*), listed as threatened under the California Endangered Species Act. If any birds were to be nesting on or adjacent to the project site at the time of construction, they could be injured or killed by construction activities or disturbed such that they would abandon their nests. Construction-related injury, mortality, or disturbance of nesting birds would violate state laws and be considered a significant impact of the project under CEQA.

The tricolored blackbird also has the potential to forage in the site's recharge basins and ruderal areas. This species is highly mobile while foraging and would not be vulnerable to construction-related injury or mortality during this activity.

Mitigation. The applicant will implement the following measures to avoid and minimize the potential for project-related mortality/disturbance of nesting birds and raptors, as necessary.

> ***Mitigation Measure 3.3.4a* (*Construction Timing*).** If feasible, construction will take place outside of the avian nesting season, typically defined as February 1 to August 31.
>
> ***Mitigation Measure 3.3.4b* (*Preconstruction Surveys*).** If the project must be constructed between February 1 and August 31, then within 10 days prior to the start of construction, a qualified biologist will conduct preconstruction surveys for active bird nests on and within 500 feet of construction zones. Inaccessible portions of the survey area will be surveyed using binoculars.
>
> ***Mitigation Measure 3.3.4c* (*Avoidance*).** Should any active nests be discovered in or near proposed construction zones, the biologist will identify suitable construction-free buffers around the nests. Buffers will be identified on the ground with flagging or fencing, and will be maintained until the biologist has determined that the young have fledged and the nests are no longer active.

Compliance with the above mitigation measures would reduce impacts to nesting birds and raptors, including the state-threatened tricolored blackbird, to a less than significant level under CEQA and ensure compliance with state laws protecting these species.

3.3.5 Project-Related Mortality of Roosting Bats Including the Pallid Bat and Townsend's Big-Eared Bat

Potential Impact. The project site contains a short segment of Deer Creek where the creek will be crossed by one of the proposed pipelines. Deer Creek supports riparian trees with the potential to be used for roosting by native bats including the pallid bat (*Antrozous pallidus*) and Townsend's big-eared bat (*Corynorhinus townsendii*), both California Species of Special Concern. If pipeline installation requires the removal of riparian trees, any bats roosting within could be injured or killed. Construction-related mortality of roosting bats including the pallid bat and Townsend's big-eared bat is considered a potentially significant impact of the project under CEQA.

Mitigation. The applicant will implement the following measures to avoid and minimize the potential for project-related mortality of roosting bats, as necessary.

> ***Mitigation Measure 3.3.5a (Construction Timing).*** To avoid potential impacts to maternity bat roosts, tree removal should occur outside of the period between April 16 and August 31, the time frame within which colony-nesting bats generally assemble, give birth, nurse their young, and ultimately disperse.
>
> ***Mitigation Measure 3.3.5b (Preconstruction Surveys).*** If tree removal is to occur between April 16 and August 31 (general maternity bat roost season), a qualified biologist will survey suitable trees for the presence of bats within 30 days prior to their removal. The biologist will look for individuals, guano, and staining, and will listen for bat vocalizations. If necessary, the biologist will wait for nighttime emergence of bats from roost sites. If no bats are observed to be roosting or breeding, then no further action would be required, and construction could proceed.
>
> ***Mitigation Measure 3.3.5c (Minimization).*** If a non-breeding bat roost is found in disturbance areas, the individuals will be humanely evicted via two-stage removal of trees, under the direction of a qualified biologist to ensure that no harm or "take" of any bats occurs as a result of construction activities.
>
> ***Mitigation Measure 3.3.5d (Avoidance of Maternity Roosts)***. If a maternity colony is detected during preconstruction surveys, a disturbance-free buffer will be established

around the colony and remain in place until a qualified biologist determines that the nursery is no longer active. The disturbance-free buffer will range from 50 to 100 feet as determined by the biologist.

Implementation of the above measures will reduce impacts to roosting bats, including the special-status pallid bat and Townsend's big-eared bat, to a less than significant level under CEQA.

3.3.6 Project Impacts to Riparian Habitat and Sensitive Natural Communities

Potential Impacts. The proposed pipeline will intersect Deer Creek, a natural drainage that supports riparian habitat considered sensitive on the basis of its value to native wildlife and limited distribution in the Central Valley. To accommodate pipeline installation across Deer Creek, riparian trees and shrubs may need to be removed. Riparian habitat is a diminishing resource in the Central Valley, with an estimated 90% of the Valley's original extent of riparian forests lost to development, water diversions, and other anthropogenic uses (Katibah 1984). Retaining and restoring the habitat that remains is integral to the conservation of California's flora and fauna, many species of which are found only in riparian systems. Project-related loss of riparian trees and shrubs is considered a potentially significant impact under CEQA.

Mitigation. The following measures will be implemented to mitigate project-related impacts to riparian habitat.

Mitigation Measure 3.3.6a (Tree Survey). Prior to project construction, a qualified biologist will survey all riparian habitats of the project site, and will record the species, location, and diameter at breast height (DBH) of each native tree and shrub 2 inches DBH or greater. Upon project completion, a qualified biologist will survey the site to determine if any surveyed trees/shrubs were removed.

Mitigation Measure 3.3.6b (Revegetation). The project applicant will provide compensation for removal of any native riparian trees or shrubs 4 inches DBH or greater. Replacement plantings will be installed at a ratio of 3:1 for trees/shrubs with a DBH between 4 and 24 inches, and at a ratio of 10:1 for trees with a DBH greater than 24 inches. A revegetation plan will be prepared for the project that will detail the methods for planting, irrigating, and maintaining the replacement trees/shrubs.

Implementation of these measures will reduce potential project impacts to riparian habitat to a less than significant level under CEQA.

3.3.7 Project Impacts to Native Wildlife Nursery Sites

Potential Impacts. The project site and adjacent lands contain habitats and features that could potentially support breeding by colonially-nesting birds and colonially-roosting bats. For example, vegetated portions of the recharge basins could be used by red-winged blackbirds and/or tricolored blackbirds, both of which form large nesting colonies. Riparian trees along Deer Creek could support maternity colonies of bats. The FKC pumping station at Deer Creek, located approximately 75 east of the project site, supported a nesting colony of cliff swallows (*Petrochelidon pyrrhonota*) at the time of the field survey. If colonially-nesting birds or colonially-roosting bats are present at the time of construction, many individual birds could be injured or killed by construction activities or disturbed such that they would abandon their nests/roosts. Construction-related injury, mortality, or disturbance of colonially-nesting birds and colonially-roosting bats would constitute an impediment to the use of native wildlife nursery sites, which is considered a potentially significant impact of the project under CEQA.

Mitigation. Potential project impacts to native wildlife nursery sites is fully mitigated with the implementation of *Mitigation Measures 3.3.4a-c* for nesting birds and *Mitigation Measures 3.3.5a-d* for roosting bats. No further mitigation is required.

3.4 LESS THAN SIGNIFICANT PROJECT IMPACTS

3.4.1 Project Impacts to Special Status Plants

Potential Impacts. Seventeen special status vascular plant species are known to occur in the region: California jewelflower (*Caulanthus californicus*), Springville clarkia (*Clarkia springvillensis*), Striped adobe-lily (*Fritillaria striata*), San Joaquin woollythreads (*Monolopia congdonii*), San Joaquin adobe sunburst (*Pseudobahia peirsonii*), Keck's checkerbloom (*Sidalcea keckii*), Earlimart orache (*Atriplex cordulata* var. *erecticaulis*), Lost Hills crownscale (*Atriplex coronata* var. *vallicola*), brittlescale (*Atriplex depressa*), vernal pool smallscale (*Atriplex persistens*), subtle orache (*Atriplex subtilis*), recurved larkspur (*Delphinium recurvatum*), calico monkeyflower (*Diplacus pictus*), spiny-sepaled button celery (*Eryngium spinosepalum*), Madera leptosiphon (*Leptosiphon serrulatus*), shining navarretia (*Navarretia nigelliformis* ssp. *radians*), and chaparral ragwort (*Senecio aphanactis*). Due to habitat loss

associated with past and ongoing land use practices on the project site, the absence of any historical suitable habitat, and/or the site's being situated outside a particular species' range, none of these species are expected to occur on site. Therefore, the project would not adversely affect any of these species and impacts would be less than significant as defined by CEQA.

Mitigation. Mitigation is not warranted.

3.4.2 Project Impacts to Special Status Animal Species Absent from or Unlikely to Occur on the Project Site

Potential Impacts. Of the 15 special status animal species that potentially occur in the project vicinity, seven are considered absent or unlikely to occur on site due to past and ongoing disturbance of the site and surrounding lands, the absence of suitable habitat, and/or the site's being situated outside of the species' known distribution. These species include the vernal pool fairy shrimp (*Branchinecta lynchi*), California condor (*Gymnogyps californianus*), Tipton kangaroo rat (*Dipodomys nitratoides nitratoides*), Kern brook lamprey (*Entosphenus hubbsi*), western spadefoot (*Spea hammondii*), northern California legless lizard (*Anniella pulchra*), and American badger (*Taxidea taxus*) (see Table 1). The project does not have the potential to impact these 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 Project Impacts to Special Status Animal Species that May Occur on the Project Site as Occasional or Regular Foragers but Breed Elsewhere

Potential Impacts. Two special status animals, the northern harrier (*Circus cyaneus*) and western mastiff bat (*Eumops perotis californicus*), have the potential to forage on the site from time to time but would not breed on-site. Neither species would be vulnerable to construction-related injury or mortality while foraging because they are highly mobile foragers, and would be expected to simply avoid active construction zones.

The northern harrier and western mastiff bat also would not be adversely affected from project-related loss of habitat because nearly all project-related impacts will be temporary. Permanent impacts will encompass approximately 100 square feet, consisting of the footprints of the proposed recovery wells. The site will have essentially identical value for these species following construction. Moreover, habitats of similar or higher quality for these species are regionally abundant. For these reasons, potential project impacts to the northern harrier and western mastiff bat are considered less than significant under CEQA.

Mitigation. Mitigation is not warranted.

3.4.4 Loss of Habitat for Special Status Animals that could Nest, Den, or Roost on the Project Site

Potential Impacts. Six special status animals have some potential to use the project site from time to time for nesting, denning, or roosting. These species include the Swainson's hawk, tricolored blackbird, San Joaquin kit fox, burrowing owl, pallid bat, and Townsend's big-eared bat. As discussed in Section 3.3, if any of these animals are nesting, denning, or roosting on site at the time of construction, they could be injured or killed by construction activities. However, the project will not adversely affect these species through loss of habitat because nearly all project-related impacts will be temporary, because the site will have essentially identical value for these species following construction, and because habitats of similar or higher quality are regionally abundant. Loss of habitat for special status animals that could nest, den, or roost on site is considered a less than significant impact under CEQA.

Mitigation. Mitigation is not warranted.

3.4.5 Project Impacts to Wildlife Movement Corridors

Potential Impacts. Deer Creek in the project vicinity represents a corridor of relatively natural habitat, including riparian trees and shrubs, within a matrix of intensive agricultural uses generally inhospitable to native wildlife. As such, Deer Creek is expected to be used regularly for wildlife movements, and likely represents an important wildlife movement corridor. Construction-related disturbance within and adjacent to Deer Creek may temporarily disrupt

wildlife movements along this corridor. However, project activities near Deer Creek will be short-term, small-scale, and limited to daytime hours, and are not expected to interfere substantially with wildlife movements. Potential project impacts to wildlife movement and wildlife movement corridors are considered less than significant under CEQA.

Mitigation. No mitigation is warranted.

3.4.6 Project Impacts to Jurisdictional Waters and Wetlands

Potential Impacts. The project site contains a short segment of Deer Creek, which is not likely to be considered a Water of the U.S., but is subject to the regulatory authority of the RWQCB and is also likely to fall under the jurisdiction of CDFW. Pipeline installation across Deer Creek will be accomplished when the creek is dry, through trenching, resulting in up to 1/10 acre of temporary disturbance within this waterway. Following construction, the work area within the creek will be restored to pre-project conditions. The project is not expected to substantially alter the creek's function and value, and impacts are considered less than significant under CEQA. However, the RWQCB and CDFW should be notified prior to work within Deer Creek, and a Section 1602 Streambed Alteration Agreement will likely be required by CDFW.

The project site also contains existing recharge basins that fall under the jurisdiction of the RWQCB as Waters of the State. Minor impacts to these basins are expected from the construction of new pipelines and recovery wells. These impacts will be localized and largely temporary, with most of the impacted areas allowed to return to pre-project condition following construction. Impacts to these basins are considered less than significant under CEQA. Moreover, because the RWQCB does not typically regulate activities in manmade features like recharge basins, no permitting or notification requirements are anticipated.

Mitigation. No mitigation is warranted.

3.4.7 Project Impacts to Designated Critical Habitat

Potential Impacts. Designated critical habitat is absent from the project site and adjacent lands. The project will have no impact on this habitat.

Mitigation. No mitigation is warranted.

3.4.8 Local Policies or Habitat Conservation Plans

Potential Impacts. The proposed project appears to be consistent with the goals and policies of the Tulare County General Plan, and would not conflict with any other local policies or ordinances protecting biological resources. The project is not subject to any Habitat Conservation Plans or Natural Community Conservation Plans.

Mitigation. No mitigation is warranted.

3.4.9 Cumulative Impacts

Potential Impacts. The proposed project would not result in impacts to biological resources that are "cumulatively considerable," meaning effects that are substantial when viewed in connection with the effects of past, current, and probable future projects. Overall, the project is expected to have minimal effects on biological resources. The project will be constructed in a larger landscape that is heavily modified and continually disturbed by agricultural activities and other intensive uses. The project site and surrounding landscape have limited potential to support special status animals and other native wildlife species. Special status plants are presumed absent from the project site and adjacent lands, and the site does not support native plant communities except in the riparian corridor of Deer Creek, within which project-related disturbance will be small-scale and temporary, with habitats restored to pre-project conditions following construction. Although native wildlife occupying work areas at the time of construction, possibly including SJKF, roosting pallid bats and Townsend's big-eared bats, nesting/roosting burrowing owls, and nesting Swainson's hawks and tricolored blackbirds, have the potential to be injured, killed, or disturbed by construction activities, any such losses would be minor relative to regional populations of these species, and would not contribute meaningfully to cumulative effects on these populations.

Mitigation. No mitigation is warranted.

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APPENDIX A: VASCULAR PLANTS OF THE PROJECT SITE

APPENDIX A: VASCULAR PLANTS OF THE PROJECT SITE

The vascular plant species listed below were observed on or adjacent to the project site during a site survey conducted by Live Oak Associates, Inc. on May 31, 2019. 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
NR - No review
NA - No agreement
NI - No investigation

ASTERACEAE – Sunflower Family		
Ambrosia acanthocarpa	Ragweed	UPL
Baccharis salicifolia	Mule fat	FAC
Erigeron bonariensis	Flax-leaved Horseweed	UPL
Lactuca serriola	Prickly Lettuce	FACU
Helianthus annuus	Annual Sunflower	FACU
APIACEAE – Carrot Family		
Conium maculatum	Poison Hemlock	FACW
BORAGINACEAE – Borage Family		
Amsinckia sp.	Fiddleneck	UPL
BRASSICACEAE – Mustard Family		
Brassica nigra	Black Mustard	UPL
CHENOPODIACEAE – Goosefoot Family		
Chenopodium album	Lamb's Quarters	FACU
Salsola tragus	Russian Thistle	FACU
CUCURBITACEAE – Cucumber Family		
Cucurbita foeditissima	Stinking Gourd	UPL
CYPERACEAE – Umbrella Sedge Family		
Cyperus sp.	Umbrella Sedge	FACW
EUPHORBIACEAE – Spurge Family		
Croton setiger	Turkey Mullein	UPL
FABACEAE – Legume Family		
Melilotus indicus	Annual Yellow Sweetclover	FACU
GERANIACEAE – Geranium Family		
Erodium cicutarium	Red-stemmed Filaree	UPL
MALVACEAE – Mallow Family		
Malva parviflora	Mallow	UPL
PHRYMACEAE – Monkeyflower Family		
Erythranthe guttata	Yellow Monkeyflower	OBL
PLATANACEAE – Sycamore Family		
Platanus racemosa	Western Sycamore	FAC

POACEAE – Grass Family		
Avena fatua	Wild Oats	UPL
Bromus diandrus	Ripgut Brome	UPL
Bromus hordeaceus	Soft Chess	FACU
Bromus madritensis ssp. *rubens*	Red Brome	UPL
Hordeum murinum ssp. *leporinum*	Foxtail Barley	FACU
Sorghum halepense	Johnson Grass	FACU
Triticum aestivum	Common Wheat	UPL
POLYGONACEAE – Smartweed Family		
Rumex crispus	Curly Dock	FAC
SALICACEAE – Willow Family		
Populus fremontii	Fremont's Cottonwood	UPL
Salix exigua	Sandbar Willow	FACW
SOLANACEAE – Potato Family		
Datura wrightii	Jimsonweed	UPL
Nicotiana glauca	Tree Tobacco	FAC
URTICACEAE – Nettle Family		
Urtica dioica	Stinging Nettle	FAC
ZYGOPHYLLACEAE – Puncture Vine Family		
Tribulus terrestris	Puncture Vine	UPL

APPENDIX B: TERRESTRIAL VERTEBRATE SPECIES THAT POTENTIALLY OCCUR ON THE PROJECT SITE

APPENDIX B: TERRESTRIAL VERTEBRATE SPECIES THAT POTENTIALLY OCCUR ON THE PROJECT SITE

The species listed below are those that may reasonably be expected to use the habitats of the project site routinely or from time to time. The list was not intended to include birds that are vagrants or occasional transients. Terrestrial vertebrate species observed on or adjacent to the project site during the surveys conducted by Live Oak Associates, Inc. on May 31, 2019 have been noted with an asterisk.

CLASS: AMPHIBIA (Amphibians)
ORDER: SALIENTIA (Frogs and Toads)
FAMILY: BUFONIDAE (True Toads)
*Western Toad (*Bufo boreas*)
FAMILY: HYLIDAE (Treefrogs and relatives)
Sierran Treefrog (*Pseudacris sierra*)
FAMILY: RANIDAE (True Frogs)
American Bullfrog (*Lithobates catesbeianus*)

CLASS: REPTILIA (Reptiles)
ORDER: SQUAMATA (Lizards and Snakes)
SUBORDER: SAURIA (Lizards)
FAMILY: PHRYNOSOMATIDAE
Western Fence Lizard (*Sceloporus occidentalis*)
Side-Blotched Lizard (*Uta stansburiana*)
SUBORDER: SERPENTES (Snakes)
FAMILY: COLUBRIDAE (Colubrids)
Gopher Snake (*Pituophis melanoleucus*)
*Common Kingsnake (*Lampropeltis getulus*)
Common Garter Snake (*Thamnophis sirtalis*)
FAMILY: VIPERIDAE (Vipers)
Western Rattlesnake (*Crotalus viridis*)

CLASS: AVES (Birds)
ORDER: ANSERIFORMES (Screamers, Ducks and Relatives)
FAMILY: ANATIDAE (Swans, Geese and Ducks)
Canada Goose (*Branta canadensis*)
Cinnamon Teal (*Spatula cynoptera*)
*Mallard (*Anas platyrhynchos*)
ORDER: GALLIFORMES (Grouse and Quail)
FAMILY: ODONTOPHORIDAE (Quails)
California Quail (*Callipepla californica*)
ORDER: COLUMBIFORMES (Pigeons and Doves)
FAMILY: COLUMBIDAE (Pigeons and Doves)
Rock Dove (*Columba livia*)
Eurasian Collared Dove (*Streptopelia decaocto*)

*Mourning Dove (*Zenaida macroura*)

ORDER: APODIFORMES (Swifts and Hummingbirds)

FAMILY: TROCHILIDAE (Hummingbirds)

Anna's Hummingbird (*Calypte anna*)

Rufous Hummingbird (*Selasphorus rufus*)

Black-Chinned Hummingbird (*Archilochus alexandri*)

ORDER: GRUIFORMES (Cranes, Rails, and Allies)

FAMILY: RALLIDAE (Rails, Gallinules, and Coots)

American Coot (*Fulica americana*)

ORDER: CHARADRIIFORMES (Shorebirds, Gulls, and Relatives)

FAMILY: RECURVIROSTRIAE (Avocets and Stilts)

*****Black-Necked Stilt (*Himantopus mexicanus*)

American Avocet (*Recurvirostra americana*)

FAMILY: CHARADRIIDAE (Plovers and Lapwings)

*****Killdeer (*Charadrius vociferus*)

FAMILY: COLOPACIDAE (Sandpipers and Relatives)

Greater Yellowlegs (*Tringa melanoleuca*)

Least Sandpiper (*Calidris minutilla*)

FAMILY: LARIDAE (Skuas, Gulls, Terns and Skimmers)

Ring-Billed Gull (*Larus delawarensis*)

California Gull (*Larus californicus*)

ORDER: PELICANIFORMES (Wading Birds)

FAMILY: ARDEIDAE (Herons and Bitterns)

Great Blue Heron (*Ardea herodias*)

*Great Egret (*Ardea alba*)

Snowy Egret (*Egretta thula*)

Cattle Egret (*Bubulcus ibis*)

Green Heron (*Butorides virescens*)

FAMILY: THRESKIORNITHIDAE (Ibises and Spoonbills)

*****White-Faced Ibis (*Plegadis chihi*)

ORDER: FALCONIFORMES (Vultures, Hawks, and Falcons)

FAMILY: CATHARTIDAE (American Vultures)

Turkey Vulture (*Cathartes aura*)

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

*Red-Tailed Hawk (*Buteo jamaicensis*)

Red-Shouldered Hawk (*Buteo lineatus*)

Northern Harrier (*Circus cyaneus*)

Swainson's Hawk (*Buteo swainsoni*)

FAMILY: FALCONIDAE (Caracaras and Falcons)

American Kestrel (*Falco sparverius*)

ORDER: STRIGIFORMES (Owls)

FAMILY: TYTONIDAE (Barn Owls)

Common Barn Owl (*Tyto alba*)

FAMILY: STRIGIDAE (Typical Owls)

Great Horned Owl (*Bubo virginianus*)

ORDER: PICIFORMES (Woodpeckers and relatives)

FAMILY: PICIDAE (Woodpecker and Wrynecks)
Northern Flicker (*Colaptes chrysoides*)
Nuttall's Woodpecker (*Picoides nuttallii*)
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)
Tree Swallow (*Tachycineta bicolor*)
*Cliff Swallow (*Petrochelidon pyrrhonota*)
Barn Swallow (*Hirundo rustica*)
FAMILY: TROGLODYTIDAE (Wrens)
House Wren (*Troglodytes aedon*)
Bewick's Wren (*Thryomanes bewickii*)
FAMILY: REGULIDAE (Kinglets)
Ruby-Crowned Kinglet (*Regulus calendula*)
FAMILY: TURDIDAE (Thrushes)
Western Bluebird (*Sialia mexicana*)
American Robin (*Turdus migratorius*)
FAMILY: MIMIDAE (Mockingbirds and Thrashers)
Northern Mockingbird (*Mimus polyglottos*)
FAMILY: STURNIDAE (Starlings)
*European Starling (*Sturnus vulgaris*)
FAMILY: MOTACILLIDAE (Wagtails and Pipits)
American Pipit (*Anthus rubescens*)
FAMILY: BOMBYCILLIDAE (Waxwings)
Cedar Waxwing (*Bombycilla cedrorum*)
FAMILY: PARULIDAE (Wood Warblers and Relatives)
Yellow-Rumped Warbler (*Dendroica coronata*)
FAMILY: EMBERIZIDAE (Emberizines)
Savannah Sparrow (*Passerculus sandwichensis*)
White-Crowned Sparrow (*Zonotrichia leucophrys*)
Golden-Crowned Sparrow (*Zonotrichia atricapilla*)
Dark-Eyed Junco (*Junco hyemalis*)
FAMILY: ICTERIDAE (Blackbirds, Orioles and Allies)
Red-Winged Blackbird (*Agelaius phoeniceus*)
Western Meadowlark (*Sturnella neglecta*)
Great-Tailed Grackle (*Quiscalus mexicanus*)
Brewer's Blackbird (*Euphagus cyanocephalus*)

Brown-Headed Cowbird (*Molothrus ater*)
Bullock's Oriole (*Icterus bullockii*)
FAMILY: FRINGILLIDAE (Finches)
*House Finch (*Carpodacus mexicanus*)
Lesser Goldfinch (*Carduelis psaltria*)
*Lawrence's Goldfinch (*Spinus lawrencei*)
American Goldfinch (*Spinus tristis*)
FAMILY: PASSERIDAE (Old World Sparrows)
*House Sparrow (*Passer domesticus*)

CLASS: MAMMALIA (Mammals)
ORDER: DIDELPHIMORPHIA (Marsupials)
FAMILY: DIDELPHIDAE (Opossums)
Virginia Opossum (*Didelphis virginiana*)
ORDER: INSECTIVORA (Insectivores)
Ornate Shrew (*Sorex ornatus*)
FAMILY: TALPIDAE (Moles)
Broad-Footed Mole (*Scapanus latimanus*)
ORDER: CHIROPTERA (Bats)
FAMILY: PHYLLOSTOMIDAE (Leaf-nosed Bats)
Southern Long-nosed Bat (*Leptonycteris curasoae*)
FAMILY: VESPERTILIONIDAE (Evening Bats)
Yuma Myotis (*Myotis yumanensis*)
California Myotis (*Myotis californicus*)
Western Pipistrelle (*Pipistrellus hesperus*)
Big Brown Bat (*Eptesicus fuscus*)
Hoary Bat (*Lasiurus cinereus*)
Pallid Bat (*Antrozous pallidus*)
FAMILY: MOLOSSIDAE (Free-tailed Bat)
Brazilian Free-Tailed Bat (*Tadarida brasiliensis*)
ORDER: LAGOMORPHA (Rabbits, Hares, and Pikas)
FAMILY: LEPORIDAE (Rabbits and Hares)
Audubon Cottontail Rabbit (*Sylvilagus audubonii*)
Black-tailed (Hare) Jackrabbit (*Lepus californicus*)
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: HETEROMYIDAE (Pocket Mice and Kangaroo Rats)
San Joaquin Pocket Mouse (*Perognathus inornatus*)
FAMILY: MURIDAE (Old World Rats and Mice)
Western Harvest Mouse (*Reithrodontomys megalotis*)
Deer Mouse (*Peromyscus maniculatus*)
Norway Rat (*Rattus norvegicus*)
House Mouse (*Mus musculus*)

California Vole (*Microtus californicus*)

ORDER: CARNIVORA (Carnivores)

FAMILY: CANIDAE (Foxes, Wolves, and relatives)

Coyote (*Canis latrans*)

Feral Dog (*Canis lupus familiaris*)

Red Fox (*Vulpes vulpes*)

Gray fox (*Urocyon cinereoargenteus*)

FAMILY: PROCYONIDAE (Raccoons and relatives)

Raccoon (*Procyon lotor*)

FAMILY: MEPHITIDAE (Skunks)

Striped Skunk (*Mephitis mephitis*)

FAMILY: FELIDAE (Cats)

Feral Cat (*Felis domesticus*)

Bobcat (*Lynx rufus*)

APPENDIX C: SELECTED PHOTOGRAPHS OF THE PROJECT SITE

Photos 1 (above) and 2 (below): Two of the existing recharge basins that were inundated and densely vegetated at the time of the field survey.

Photo 3 (above): One of the basins that were dry and primarily barren of vegetation at the time of the field survey. Photo 4 (below): Ruderal area on the east side of Road 208, and future location of the pipeline's tie-in to the existing SID pumping station, visible in the background.

Photos 5 (above) and 6 (below): Deer Creek at the approximate location of the pipeline's proposed crossing.

APPENDIX D: PAGES FROM THE TULARE COUNTY GENERAL PLAN, BIOLOGICAL RESOURCES ELEMENT

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; Recommandation 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*]

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 born 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 E: USFWS 2011 STANDARDIZED RECOMMENDATIONS FOR THE PROTECTION OF THE ENDANGERED SAN JOAQUIN KIT FOX PRIOR TO OR DURING GROUND DISTURBANCE

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 an6y 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 and 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 (CNDDB). 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 Pupping 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.

Appendix C

Cultural Records Search Results

California Historical Resources Information System

Fresno
Kern
Kings
Madera
Tulare

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

To: Molly McDonnel
4 Creeks, Inc.
324 S. Santa Fe Street, Suite A
Visalia, CA 93292

Record Search 19-210

Date: May 28, 2019

Re: Deer Creek Water Bank

County: Tulare

Map(s): Ducor & Sausalito School 7.5's

CULTURAL RESOURCES RECORDS SEARCH

The California Office of Historic Preservation (OHP) contracts with the California Historical Resources Information System's (CHRIS) regional Information Centers (ICs) to maintain information in the CHRIS inventory and make it available to local, state, and federal agencies, cultural resource professionals, Native American tribes, researchers, and the public. Recommendations made by IC coordinators or their staff regarding the interpretation and application of this information are advisory only. Such recommendations do not necessarily represent the evaluation or opinion of the State Historic Preservation Officer in carrying out the OHP's regulatory authority under federal and state law.

The following are the results of a search of the cultural resource files at the Southern San Joaquin Valley Information Center. These files include known and recorded cultural resources sites, inventory and excavation reports filed with this office, and resources listed on the National Register of Historic Places, Historic Property Directory, California State Historical Landmarks, California Register of Historical Resources, California Inventory of Historic Resources, and California Points of Historical Interest. Due to processing delays and other factors, not all of the historical resource reports and resource records that have been submitted to the Office of Historic Preservation are available via this records search. Additional information may be available through the federal, state, and local agencies that produced or paid for historical resource management work in the search area.

PRIOR CULTURAL RESOURCE STUDIES CONDUCTED WITHIN THE PROJECT AREA AND THE ONE-HALF MILE RADIUS

According to the information in our files, there have been no previous cultural resource studies conducted within the project area. There have been two cultural resource studies conducted within the one-half mile radius, TU-01517 and TU-01764.

KNOWN/RECORDED CULTURAL RESOURCES WITHIN THE PROJECT AREA AND THE ONE-HALF MILE RADIUS

There are no recorded cultural resources within project area, and it is not known if any exist there. There are two recorded resources within the one-half mile radius, P-54-004614 and P-54-004832. These resources consist of an historic era canal and an historic era transmission line.

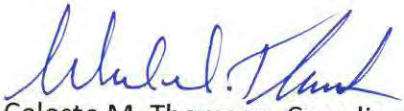
Resource P-54-004614 is the Friant-Kern Canal. This resource has been given a National Register status code of 2S2, indicating it has been determined eligible for listing in the National Register of Historic Places by a consensus through the Section 106 process. It is listed in the California Register for Historical Resources. There are no other recorded cultural resources within the project area that are listed in the National Register of Historic Places, the California Register of Historical Resources, the California Points of Historical Interest, California Inventory of Historic Resources, or the California State Historic Landmarks.

COMMENTS AND RECOMMENDATIONS

We understand this project consists of construction of 69 acres of groundwater recharge basins, 4 new wells, approximately 900 feet of 48" pipeline, approximately 1.3 miles of 12"-24" pipeline, and an overflow structure. Further we understand this property has been previously used for agriculture. Please note that agriculture does not constitute development, as it does not destroy cultural resources but merely moves them around within the plow zone. Because a cultural resource study has not previously been conducted on this property, it is unknown if there are any cultural resources present. Therefore, prior to ground disturbance activities, we recommend a qualified, professional consultant conduct a field survey of all undeveloped land to determine if cultural resources are present. A list of qualified consultants can be found at www.chrisinfo.org.

We also recommend that you contact the Native American Heritage Commission in Sacramento. They will provide you with a current list of Native American individuals/organizations that can assist you with information regarding cultural resources that may not be included in the CHRIS Inventory and that may be of concern to the Native groups in the area. The Commission can consult their "Sacred Lands Inventory" file in order to determine what sacred resources, if any, exist within this project area and the way in which these resources might be managed. Finally, please consult with the lead agency on this project to determine if any other cultural resource investigation is required. If you need any additional information or have any questions or concerns, please contact our office at (661) 654-2289.

By:



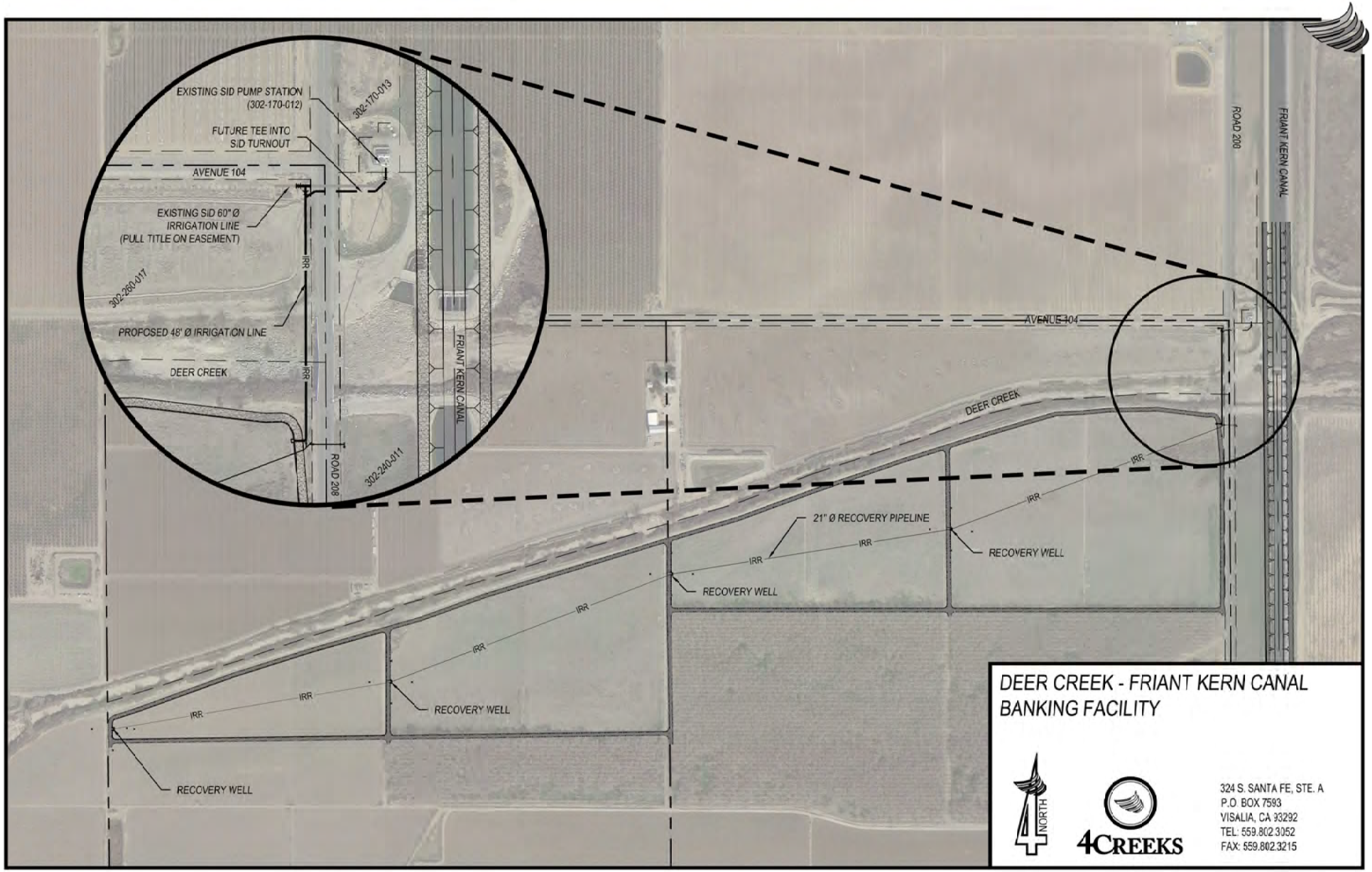
Celeste M. Thomson, Coordinator

Date: May 28, 2019

Please note that invoices for Information Center services will be sent under separate cover from the California State University, Bakersfield Accounting Office.

Appendix D

Site Plan and Detail Sheet


EXISTING SID PUMP STATION
(302-170-012)
302-170-013
FUTURE TEE INTO
SID TURNOUT
AVENUE 104
EXISTING SID 60" Ø
IRRIGATION LINE
(PULL TITLE ON EASEMENT)
302-260-017
IRR
PROPOSED 48" Ø IRRIGATION LINE
DEER CREEK
IRR
FRIANT KERN CANAL
ROAD 208
302-240-011
ROAD 200
FRIANT KERN CANAL
AVENUE 104
DEER CREEK
IRR
21" Ø RECCVERY PIPELINE
IRR
IRR
RECOVERY WELL
RECOVERY WELL
IRR
IRR
IRR
IRR
RECOVERY WELL
RECCVERY WELL
DEER CREEK - FRIANT KERN CANAL
BANKING FACILITY
NORTH
4CREEKS
324 S. SANTA FE, STE. A
P.O BOX 7593
VISALIA, CA 93292
TEL: 559.802.3052
FAX: 559.802.3215

Appendix E

Deer Creek - Friant Kern Canal Water Banking Facility Report

DEER CREEK – FRIANT KERN CANAL WATER BANK

DRAFT Banking Project Facility Report

September 2018

Project elements associated with pump-in to the Friant Kern Canal have been highlighted in yellow and will not be part of the current CEQA analysis.

Homer, LLC

Introduction

Homer LLC (Homer) is a land owner in Saucelito Irrigation District (SID). Homer desires to develop a project in which it would build recharge and banked water recovery facilities that would be operated in compliance with the SID "*Policy Principles for Saucelito Irrigation District Groundwater Banking Program*" (adopted on June 14, 2018, Banking Policy). The facilities would be designed, constructed, operated and monitored in accordance with a water banking agreement between Homer and SID (Homer – SID Banking Agreement) as required by the Banking Policy (Project). In addition, the Project would be operated in compliance with the East Tule Groundwater Sustainability Agency (East Tule GSA) Groundwater Sustainability Plan (GSP) that will be completed before January of 2020.

Figure 1 and Appendix A depict the proposed Project facilities. The Project would comprise approximately 69 acres of recharge basins and associated facilities on the former Conway property. The Project would use 1 existing well and 4 new wells to recover banked water back into local conveyances and the Friant Kern Canal (FKC). The purpose of this report is to provide SID with information about the proposed Project in accordance with requirements of the Banking Policy.

Project Purpose

The Project would primarily bank water that is periodically available above current needs from the Friant Division of the Central Valley Project (Friant). The Project might also bank water from other systems, but separate approvals would be required. As required by the Banking Policy, 10% to 30% of the recharged water would be allocated to SID's storage account depending on the source. Recovered water would be delivered to lawful recipients within the allowed Places of Use of the banked water. Project objectives would be as follows:

- Increase water supply: The Project would increase supplies available to SID, Homer and other participants.
- Improve groundwater conditions: The Project would reduce aquifer overdraft in the SID, the East Tule GSA, the Tule Sub Basin and in other areas that receive recovered water.
- Reduce costs to produce groundwater: The Project would cause water levels to rise, thus reducing groundwater pumpage costs.
- Increase diversification and availability of water supplies: The Project would increase the diversity of water supplies available to the District, its landowners and other participants.
- Facilitate compliance with the Sustainable Groundwater Management Act (SGMA): The Project would significantly advance the District's efforts to comply with SGMA.
- Subsidence reduction: The Project would help to reduce ground subsidence by accruing more water to the local aquifer system and by reducing groundwater pumpage in the places of use.
- Salinity management: 30% of the Project's recharge capacity and 22% of the Project's exchange recovery capacity would be reserved for use by Friant contractors south of Milepost 102.7 (Deer Creek) on the FKC. Friant contractors south of this milepost have experienced severe reductions in conveyance capacity due to subsidence of the FKC. Allocation of this banking capacity would increase those districts' abilities to bank Friant water that they could not otherwise convey. A portion of the water would be recovered through exchange, increasing the amount of very low salinity Friant water delivered into those districts, thereby improving their salt balances.

Project Location

Figure 1 presents the locations of the existing and Planned Project facilities.

Table 1: Estimated Project Capacities

RECHARGE CAPACITIES								
Facility	Gross Acres (ac)	Recharge Area (ac)	Est. Peak Recharge Rate (ft/day)	Est. Long Term Recharge Rate (ft/day)	Estimated Long Term Recharge Rate (AF/mo)	Anticipated Average Recharge Window (months)	Anticipated Average Annual Recharge Capacity (AF/yr)	Maximum Estimated Annual Recharge Capacity (AF/yr)
Conway South	69	62	3.0	1.0	1,850	4	7,398	22,194

RECOVERY CAPACITIES								Conveyances for Pump-In (cfs)		
Facility	Existing Wells	Planned Wells	Total Wells	Anticipated Capacity Available Above Farming Needs (AF/month)	Anticipated Average Recovery Window (months)	Anticipated Average Annual Recovery Capacity (AF/yr)	Maximum Estimated Annual Recovery Capacity (AF/yr)	Existing 21" SID Pipeline	Existing 60" SID Pipeline	FKC
Conway South	1	4	5	563	10	5,634	6,761	7.5	10	10

Notes

All operations are to be monitored and if necessary constrained in accordance with a Saucelito ID approved MOCP and the Homer - Saucelito ID Banking Agreement

Project Capacities

Table 1 summarizes the estimated Project capacities. The maximum estimated annual capacities were computed based on 12 months of operation. However, as indicated it is anticipated that recharge operations would average 4 months in wet years and recovery operations would average 10 months in dry years. In all circumstances the Project would be operated in compliance with a monitoring and operational constraint plan (see following section) to ensure that the beneficial effects of the Project are maximized while preventing significant unacceptable impacts to the aquifer, groundwater levels, groundwater quality, the FKC, quality of water in the FKC or adjacent landowners relative to conditions that would have occurred absent the Project.

Project Facilities

The Project would entail construction of new pipelines, recharge basins and new wells as follows:

- A new 48" diameter pipeline from the SID turnout on the FKC to the recharge basins (40 cfs capacity);
- 69 acres of recharge basins (62 net acres);
- 4 new wells;
- A 12" to 24" diameter collection pipeline and controls to enable delivery of recovered water back into the new 48" pipeline, the FKC and two existing SID pipelines; and
- An overflow structure back to Deer Creek.

Recharge operations would be performed via gravity flow from the FKC. Well recovery pumps would be operated using electrical motors drawing from existing farm power service lines.

Recharge Operations

It is anticipated that the Project would primarily bank Friant water. It is possible that the Project might bank water from other systems, but separate approvals would be required. As required by the Banking Policy, 10% to 30% of the recharged water would be allocated to SID's storage account.

As depicted on Figure 2, the Project would convey and bank water from the FKC through SID's turnout from the FKC. In all cases Homer's ability to divert and convey water would be contingent on approval from SID to ensure that Homer's operations do not impair district operations and comply with district policies, rules and regulations.

Hydrogeologic studies by the district and Homer indicate that while the upper 40 to 50 feet of the subsurface consists of very permeable sands and gravels, they are underlain by several hundred feet of lower permeability, interbedded sand, silt and clay which overlie the aquifer from which the majority of irrigation wells pump (top of screen averages 362 feet below the surface in this area). Therefore, to facilitate recharge, the Project wells would be equipped with an upper screened interval from 20 to 60 feet below the surface and then a second, more traditional screened interval in the underlying aquifer. The upper screened interval would provide a conduit for recharged water to enter the wells (after being filtered through the upper 20 feet of sands and gravels) and cascade down into the aquifer which is traditionally exploited.

Use of the Project wells for both recharge and recovery purposes would require a permit variance from the Tulare County Environmental Health Division, which issues well permits and normally requires isolation of the upper 50 feet to prevent groundwater contamination. In anticipation of that variance process, consultants working for Homer and the District have installed and sampled monitoring wells. Results from those investigations indicate that the shallow and deeper groundwater systems have virtually identical groundwater quality which will only be further improved by the addition of very high quality Friant water.

Recovery Operations

The Project would recover banked water as follows (all constrained by lawful places of use) and in compliance with district policies, rules and regulations:

Recovery within SID: Banked water may be recovered for use in SID through two means as follows:

- *Direct Usage*: Both Project wells and any other well within SID may recover banked water for use within SID in accordance with the Recharge Policy and the Banking Policy; or
- *Pump-In*: Project wells may recover water into the existing SID Avenue 104 pipeline (60" diameter) or into the existing SID Road 208 pipeline (21" diameter).

Recovery to Pixley ID: Banked water may be recovered for use in Pixley ID as follows:

- *Pump-In*: Project wells may recover water into the FKC through the SID turnout. The water would then be immediately taken back out of the FKC through the adjacent Pixley ID turnout into Deer Creek; or
- *Operational Exchange*: Following approval from SID, Project wells may recover water into the SID system for delivery to SID in exchange for water in Millerton or the FKC that would be delivered to Pixley ID; or
- *SGMA Credit (potentially available in the future):* The Project would be operated in compliance with requirements of the East Tule GSA GSP. That plan, to be finalized by January 2020, may include procedures in which recharged water can be transferred between the East Tule GSA and the Pixley ID GSA.

Recovery within the East Tule GSA: The Project would be operated in compliance with requirements of the East Tule GSA GSP. That plan, to be finalized by January 2020, may include procedures in which recharged water can be recovered from other wells within the GSA that are outside of SID.

Recovery within the Tule Subbasin (as defined in DWR Bulletin 118): The Project would be operated in compliance with requirements of each GSP within the Tule Subbasin. Those plans, to be finalized by January 2020, may include procedures in which recharged water can be recovered from other wells within the various GSAs that are outside of SID.

Recovery to Other Districts on the FKC: The Project may recover banked water for delivery to others through the FKC according to the following priorities (all constrained by lawful places of use):

1. *Operational Exchange*: First, following approval from SID or Pixley ID and contingent on authorization from the US Bureau of Reclamation (Reclamation) and the Friant Water Authority (FWA), Project wells may recover water into the SID or Pixley ID systems in exchange for water in Millerton Reservoir or the FKC that would be delivered to the entity desiring delivery of banked water. Transfers would be performed in compliance with the then current Reclamation Accelerated Water Transfer and Exchange Program for Friant Division and Cross Valley Contractors (Accelerated Transfer Program) ; or
2. *Direct Pump-In*: Second, following approval from Reclamation and the FWA, Project wells would recover water directly into the FKC through the SID turnout from the FKC.

It is anticipated that the majority of banked water recovery to other parts of the Friant system would be performed through operational exchanges. However, it is likely that there will be future repeats of the 2014-2015 circumstances in which there was insufficient Friant water to perform operational exchanges. Therefore, the Project would include wells for recovery of banked water back into the FKC for delivery to lawful recipients further south. Friant water's total dissolved solids (TDS) concentrations average 45 mg/l and native groundwater TDS concentrations in the Project area average 160 mg/l. This quality is anticipated to improve over time as a consequence of recharge. As detailed in Table 2, this water quality is compliant with the most stringent standard of the existing Reclamation, "Policy for Accepting Non-Project Water into the Friant-Kern and Madera Canals" (Reclamation Pump-In Policy, March 2008). However, there are concerns regarding recovery of any water into the FKC that has different quality than water normally conveyed in the FKC. Reclamation and the FWA are performing water quality studies, evaluating the adequacy of current policies and

are in discussions with districts that have voiced concerns. In recognition of these on-going efforts, Project pump-in to the FKC would be performed as follows:

- All Project wells capable of recovering water into the FKC would be sampled on an annual basis for the complete list of parameters required by the existing Reclamation Pump-In Policy; and
- Homer would obtain required permissions from Reclamation and the FWA and comply with the operating, monitoring and reporting requirements of:
    - The then current Reclamation Pump-In Policy;
    - The then current Accelerated Transfer Program; and
    - The then current Reclamation Friant-Kern Canal Groundwater Pump-In Program (for banked water that was not originally Friant water).

Salinity Management Program

This component of the Project is designed to increase the volume of Friant water delivered to Friant districts south of FKC Milepost 102.7, thereby increasing their water supply, decreasing their dependence on groundwater and improving their salt balance. Thirty percent or 2,000 AF/year (whichever is less) of the Project's first priority recharge capacity and 22% or 1,200 AF/year (whichever is less) of the Project's first priority exchange recovery capacity would be reserved for use by Friant contractors located south of FKC Milepost 102.7. These contractors' first priority rights to recover would be limited to times when the Friant Class 1 allocation is equal to or higher than 50%. During these times, Project wells would be pumped into local conveyances for delivery to SID or Pixley ID in-lieu of normal Friant deliveries, thereby enabling delivery of Friant water in Millerton Reservoir to the recipient south of Milepost 102.7. Some additional details are as follows:

- As required by the Banking Policy, 15% of the recharged water would be allocated to SID; and
- An additional 35% of the recharged water would be allocated to Homer and the district(s) performing the exchange, reducing the total recoverable volume to 50% of the originally recharged volume.

The Friant contractors south of Milepost 102.7 would also have second priority rights to capacities not being used by others.

Table 2: Water Quality Summary

Parameter	2008 Reclamation Pump-In Policy Type A[4]	Project Area Groundwater			Friant Kern Canal when not conveying CVC water			Friant Kern Canal when conveying CVC water		
		Min[1]	Average[1]	Max[1]	Min	Average	Max	Min[2]	Average[2]	Max[2]
pH (pH units)	None	7.1	7.5	7.9	6.6	7.4	9.5	6.6	7.8	9.5
EC (umhos/cm)	900	170	230	300	20	45	175	20	188	726
TDS (mg/L)	500	114	160	204	11	25 - 38[3]	95	11	103 - 136[3]	520
Boron (mg/L)	1 to 10	0.04	0.06	0.1	ND	ND	1	ND	0.1	1
Calcium (mg/L)	None	6.3	12	15.3	1.6	4.2	16	1.6	15.1	68
Magnesium (mg/L)	None	0.5	5.2	11.3	0.3	0.8	7.3	0.3	2.1	14
Sodium (mg/L)	None	6.7	26.4	36.5	1.4	3.5	18	1.4	19.6	88
Bicarbonate (mg/L)	None	69	82	90	11	24	48	11	49	120
Chloride (mg/L)	250	6.9	9	13	0.5	2	9	0.5	20	140
Nitrate-Nitrogen (mg/L)	10	0.5	0.7	0.8	ND	0.4	4.4	ND	2.9	26

Notes

1) Most recent 2018 samples from monitoring wells and an agricultural well on the Project site

2) Average in FKC upstream of inlet to Arvin-Edison WSD Canal between 2010 and 2018

3) Results vary depending on method used

4) Reclamation's Type A criteria for pump-in of Non-Project water to the FKC is the most stringent, requiring compliance with CA drinking water standards

5) Project area wells have been tested for all Title 22 parameters and no exceedances of California drinking water standards have been detected.

Operation and Maintenance

The Project would be operated and maintained by Homer in coordination with SID regarding operation of district facilities. Therefore, Homer would enter into an operating agreements with the district which detail the conditions under which district facilities might be used and how the district would be reimbursed for the costs they incur in supporting the Project.

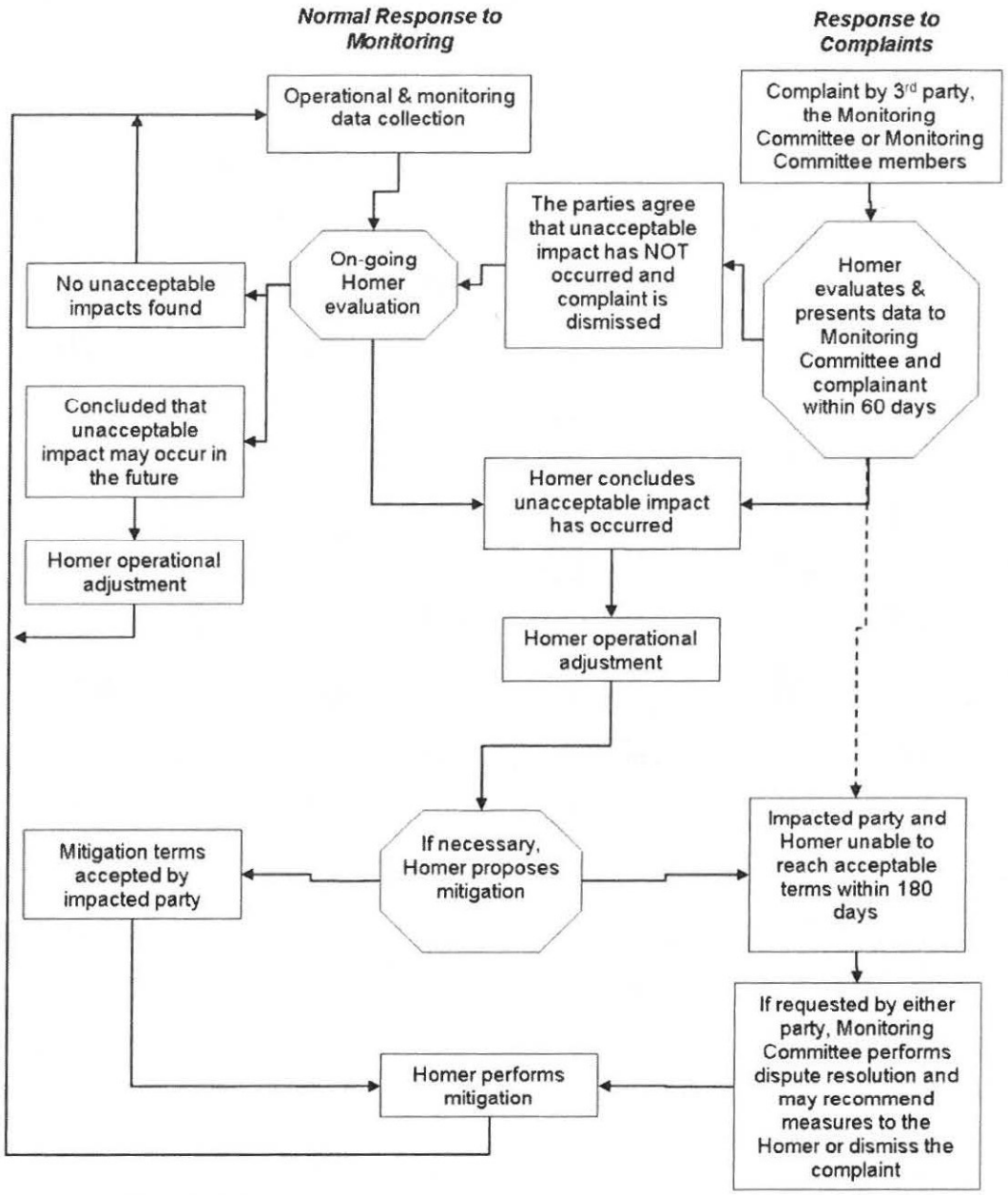
Project recharge basins would be maintained using normal farming and irrigation district practices to prevent undesirable invasive plants from migrating onto adjacent farms and to prevent/repair berm erosion and rodent burrows. During operation, water levels in recharge basins would generally be maintained less than 2 feet above surrounding ground levels and an operator would be on-call to inspect and quickly respond if automatic monitors indicate overfilling or berm failures. Project wells would be maintained and operated using normal farming and irrigation district practices.

Monitoring and Operational Constraint Plan (MOCP)

The Project would be designed, operated and monitored in a manner to ensure that the beneficial effects of the Project are maximized while preventing significant unacceptable impacts to the aquifer, groundwater levels, groundwater quality, water quality in the FKC or adjacent landowners relative to conditions that would have occurred absent the Project. A monitoring committee would be formed to ensure that district interests, adjacent landowners and FKC interests are protected. The 5 member monitoring committee would be composed as follows:

- 1 seat for Homer;
- 2 seats for SID directors (potentially including the General Manger if desired by the SID Board);
- 1 seat for an adjacent land owner; and
- 1 seat for a land owner from another location within SID.

The monitoring committee would oversee Homer's implementation of this monitoring and operational constraints plan (MOCP). The following figure depicts the process by which Homer would evaluate data, respond to complaints and perform operational adjustments or mitigation. The monitoring committee would be responsible for resolution of disputes in which Homer and a 3rd party are unable to reach agreement on appropriate responses to complaints.



Homer would be responsible for collecting and evaluating data to:

- Estimate if unacceptable impacts to 3rd parties have occurred or may occur in the future as a result of Project operations when compared to conditions that would have occurred absent the Project;
- Adjust Project operations to avoid or minimize unacceptable impacts to 3rd parties; and
- Respond to reasonable complaints of unacceptable impacts as a result of Project operations.

As outlined above, Homer may make operational adjustments in response to data evaluations, complaints by 3rd parties or recommendations from the Monitoring Committee. Examples of potential operational adjustments may include, but are not limited to:

- Shifting the locations, schedules and rates at which recharge and recovery are being performed;
- Reimbursement for higher pumping costs;
- Well rehabilitation;
- Lowering a pump further down a well;
- Reimbursement for treatment costs;
- Installation of treatment systems;
- Providing an alternate water supply; and
- Installation of a new well.

Water Accounting and Monitoring

Data Collection: The Project would include the following data collection to ensure accurate measurement of recharged, evaporated, banked and recovered water:

- Instantaneous and totalizing flow meters on each conveyance delivering water into recharge basins (make/type of each meter subject to approval from SID);
- Instantaneous and totalizing flow meters on each recovery well; and
- Use of data from the nearest California Irrigation Management Information System (CIMIS) meteorological station to estimate evaporative loss of applied water before it percolates into the ground.

Each flow meter would be equipped with a data logger to ensure a continuous record of operations. In addition, readings would be manually recorded on a daily basis during operating periods. Each meter would be calibrated annually or as requested by SID. To the degree there is a discrepancy between Homer data and district records that cannot be reconciled, the record would be modified to reflect whichever records the parties deem most reliable.

Banked Water Accounting: The amount of water recharged would be computed on daily increments. The volume of applied water lost to evaporation prior recharge would be estimated using data from the nearest CIMIS Station. The remaining volume after subtraction of evaporative losses would be reported to SID as the recharged volume.

Water Level Monitoring

The lowest end of the recharge basin system would be equipped with an automatic water level monitoring device that is set to call the operator (and 2 back-up operators) if the water level in the basin rises to within 1 foot of the basin berm crest. Homer would establish procedures to ensure that the alerted on-call operator adjusts or shuts off recharge operations to prevent basin overfilling.

Groundwater levels would be measured in the nearest 3rd party wells (both irrigation and domestic, contingent on well owner approval) on a monthly basis during periods of recharge and recovery and twice a year at other times. During recharge, operations would be constrained or shut down in the event that offsite water levels rise to within 15 feet of the ground surface. During recovery, if operations cause unacceptable drops in 3rd party well water levels, operations would be adjusted in accordance with the procedures summarized above.

Water Quality Monitoring

Recharged water, groundwater and recovered water quality would be monitored to ensure that water quality remains appropriate for designated beneficial uses as follows:

- *Baseline sampling*: all operable wells (irrigation and domestic) within a 1/4 mile radius of Project recharge facilities would be initially sampled for Analytical Suite 1 (contingent on well owner approval);
- *On-going sampling*: the nearest operable wells (irrigation and domestic) on properties immediately adjacent to Project recharge facilities would be sampled once a year for Analytical Suite 2; and

- *Banked and Recovered water*: all Project wells would be sampled once a year for Analytical Suite 2. In addition, Project wells and water pumped into the FKC would be monitored in accordance with requirements of the then current Reclamation Pump-In Policy and the then current Reclamation Friant-Kern Canal Groundwater Pump-In Program (for banked water that was not originally Friant water). If the blended quality of recovered water is found to not be compliant with the then current policies, pump-in operations would cease or be constrained in accordance with requirements of the FWA and Reclamation.

Analytical Suite 1

Parameter	Analytical Method
Aluminum	EPA 200.7
Antimony	EPA 200.7
Arsenic	EPA 200.8
Asbestos	EPA Method 100 (TEM)
Barium	EPA 200.7
Beryllium	EPA 200.8
Boron	EPA 200.7
Cadmium	EPA 200.7
Calcium	EPA 200.7
Carbonates + bicarbonates	EPA 310.1
Chloride	SM 4500
Chromium	EPA 200.7
Color	EPA 110.2
Copper	EPA 200.7
Cyanide	EPA 335.2
1,2-Dibromo-3-Chloropropane (DBCP)	EPA 504.1
Ethylene Dibromide (Dibromoethane, EDB)	EPA 504.1
Fecal coliform	SM 9221E or 9223B
Fluoride	EPA 340.1
Foaming agents (MBAS)	EPA 425.1
Gross alpha	SM 7110C EPA 900.0
Iron	EPA 200.7
Magnesium	EPA 200.7
Manganese	EPA 200.7
Mercury	EPA 245.1
Methyl tert-butyl ether (MTBE)	EPA 8260B
Nickel	EPA 200.7
Nitrate as NO3	EPA 300
Nitrate + nitrite	EPA 335.3
Nitrite as N	SM 4500
Odor threshold	EPA 140.1
Perchlorate	EPA 314.0
Potassium	EPA 200.7
pH (Field)	EPA 150.1
Phosphorous	EPA 365.2
Selenium	EPA 200.8
Silver	EPA 200.7
Sodium	EPA 200.7
Sodium absorption ratio (SAR)	Calculated
Specific conductance (Field)	EPA 120.1
Sulfate	EPA 375.4
Temperature (Field)	EPA 170.1
Thallium	EPA 200.8
Thiobencarb	EPA 525/507 Full list
Total dissolved solids (TDS)	EPA 160.3
Turbidity (Field)	EPA 180.1
Uranium	EPA 908.0
Zinc	EPA 200.7

Analytical Suite 2

Parameter	Analytical Method
Boron	EPA 200.7
Calcium	EPA 200.7
Carbonates + bicarbonates	EPA 310.1
Chloride	SM 4500
Chromium	EPA 200.7
Color	EPA 110.2
Iron	EPA 200.7
Magnesium	EPA 200.7
Manganese	EPA 200.7
Nitrate as NO3	EPA 300
Nitrate + nitrite	EPA 335.3
Nitrite as N	SM 4500
Potassium	EPA 200.7
pH (Field)	EPA 150.1
Sodium	EPA 200.7
Sodium absorption ratio (SAR)	Calculated
Specific conductance (Field)	EPA 120.1
Sulfate	EPA 375.4
Temperature (Field)	EPA 170.1
Total dissolved solids (TDS)	EPA 160.3
Turbidity (Field)	EPA 180.1

Subsidence Monitoring

Significant subsidence (sinking of the ground surface) has occurred along the FKC due to dewatering of silty and clayey formations by pumpage from wells. While the Project would cause a net gain of 10% to 30% of recharged water to the aquifer, this potential impact needs to be monitored. Subsidence is measured by comparing sequential measurements of land surface elevation at a location. This comparison is predicated on the assumption that the reference bench mark for computation of elevation is outside of the area within which subsidence would potentially occur. Subsidence monitoring would include the following elements:

- *Base Station*: Reference of all elevation measurements to a base station approved by SID;
- *Perimeter Benchmarks*: Placement of permanent bench-marks in four directions on the perimeter of each Project property;
- *Recovery Well Benchmarks*: Placement of permanent measurement points on each Project recovery well;
- *Baseline Measurements*: Measurement of the elevations prior to commencement of banked water recovery operations; and
- *Annual Measurements*: Measurement of the elevations of each benchmark annually.

Benchmarks would be constructed and monitored using procedures approved by the California Board for Professional Engineers and Land Surveyors and using appropriate guidelines promulgated by the National Geodetic Survey and the California Spatial Reference Center. Annual subsidence monitoring reports would be submitted to the monitoring committee, the FWA and Reclamation.

Reporting: During operating periods Homer would submit monthly reports to SID which include the following information:

- The beginning volumes of water in the Homer and SID banked water accounts;
- The sources of water sent to each recharge basin turnout;
- Volumes of water discharged to recharge basins (daily basis);

- Percolation rates (daily basis);
- Losses to evaporation (daily basis);
- Net volumes of recharged water (daily basis);
- The volumes of recharged water allocated into the Homer and SID accounts in accordance with the Banking Policy leave behind requirements;
- Volumes of Homer's banked water extracted or transferred to others, including the places of use;
- The ending volumes of water in the Homer and SID banked water accounts; and
- Depth to water graphs for key wells approved by the District.

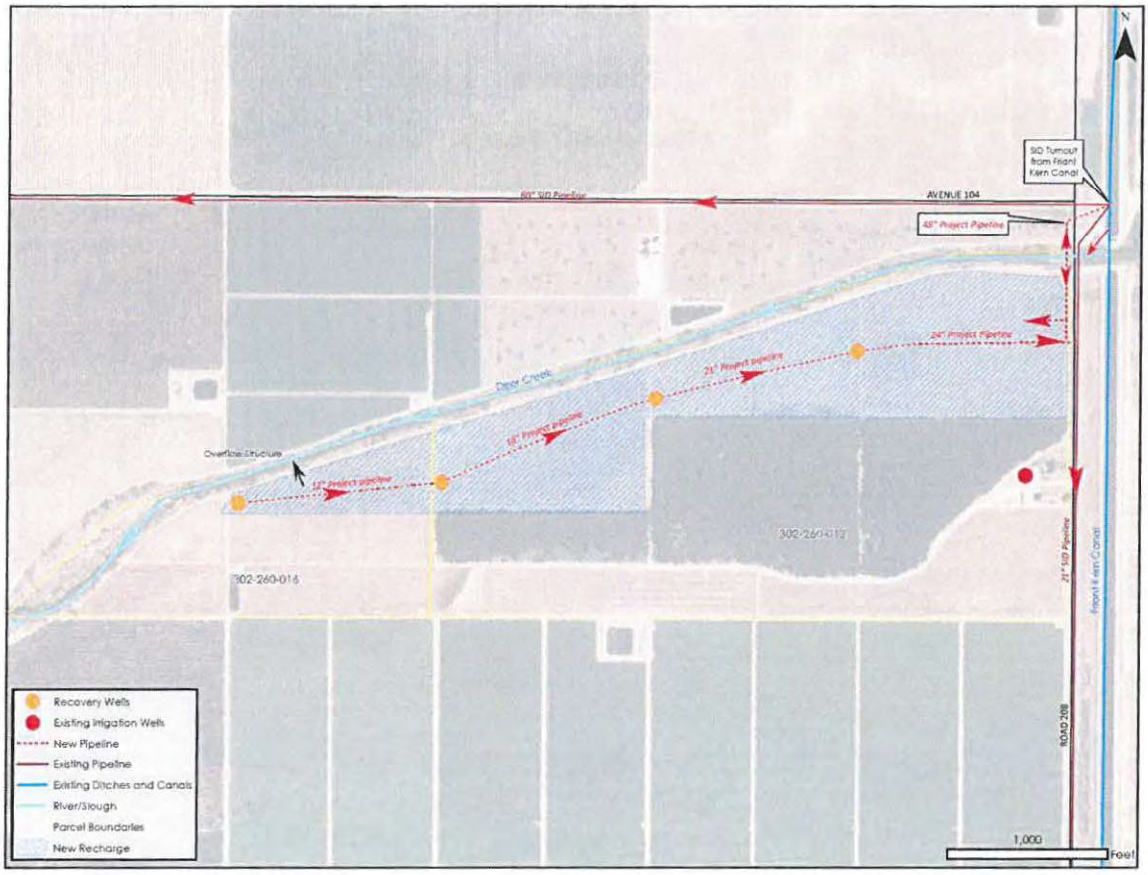
By January 15 of each year, regardless of whether there were any Project operations, Homer would submit an annual report for the prior year running from October 1 through September 30. This report, submitted to SID and the Monitoring Committee, would include the annual totals for the information listed above and additionally would include the following information:

- A chronological summary of operations and response to Monitoring Committee issues, if any;
- Tabulations of all water level, water quality, water volumes and subsidence monitoring data;
- A map presenting the distributions of total dissolved solids in monitored wells;
- A map presenting the results of subsidence monitoring;
- Maps presenting the spring and fall elevations of water levels in wells, including interpreted directions of groundwater flow; and
- Maps presenting the spring and fall depths to water in wells.

Limitations and Commitments

- Water would be banked, returned, exchanged, or transferred in compliance with all federal, state, local, and tribal laws, and requirements imposed for protection of the environment and Indian Trust Assets, including the Central Valley Project Improvement Act;
- The Project would not be used to place untilled or new lands into agricultural production, or to convert undeveloped land to other uses. Specifically, no native or untilled land (fallow for three consecutive years or more) would be cultivated with the water managed through this Project;
- Transfers and/or exchanges would be limited to existing supply and would not increase overall consumptive use;
- Operations to bank, return, transfer and/or exchange the water would not result in new Delta exports above those already scheduled for normal CVP or State Water Project (SWP) operations;
- The Project would not interfere with the normal CVP or SWP operations;
- Transfers and/or exchanges cannot alter the flow regime of natural water bodies such as rivers, streams, creeks, ponds, pools, wetlands, etc., so as to not have a detrimental effect on fish or wildlife, or their habitats; and
- The Project would be operated in compliance with the SID Recharge Policy and Banking Policy; the pending East Tule GSA SGMA GSP; the then current Reclamation policies for accepting non-Friant water and groundwater into the Friant-Kern Canal; the then current Accelerated Transfer Program; and all applicable district policies, rules and regulations.

Figure 1: Overview Map



APPENDIX A

PRELIMINARY DESIGN

Appendix F

Policy Principles for Saucelito Irrigation District Groundwater Banking Program

POLICY PRINCIPLES FOR SAUCELITO IRRIGATION DISTRICT

GROUNDWATER BANKING PROGRAM

JUNE 14, 2018

In furtherance of the District's project to manage surface and groundwater supplies available within the District, the District authorizes landowners within the District to develop, operate and maintain groundwater banking projects within District boundaries according to the following principles:

1. Rules & Regulations. Subject to the District rules and regulations relating to the availability, priority of use, and pricing of District water supply, a landowner in the District may operate a groundwater banking project within District boundaries.

2. Legal. California law permits a party who has a separate legal right to surface water developed from a source that is separate and distinct from the natural or native groundwater supplies existing in a common Basin aquifer to use the developed water for beneficial use. A party that owns a developed water supply "may use the supply by commingling the water with the native supplies and may subsequently recapture the developed water." (*City of Los Angeles v. City of Glendale* (1943) 23 Cal.2d 68, 76-78.) The recapture right includes the amount equivalent to the augmentation contributed by the water stored (either by direct recharge or return flows from water deliveries) (*City of Los Angeles v. City of San Fernando* (1975) 14 Cal.3d 199, 260.) Banking projects are permitted to recharge, store and recover water placed in the Basin aquifer so long as the quantity recovered does not exceed the amount contributed and none of the banking activities cause injury to any Basin resource or the rights of other users of water in the process.

3. District Objectives. The District adopts these policy principles based on its determination that District approval of groundwater banking activities conducted according to these principles will benefit the District, its landowners and water users, in the following respects:

    a. Increase the total water supply available in the District.
    b. Improve groundwater conditions within the Tule Subbasin (Bulletin 118, Subbasin 5-22.13, hereafter "Basin") and the District.
    c. Contribute to the reduction of District and landowner costs to produce groundwater.
    d. Increase the diversification of water supplies available in the District.
    e. Facilitate landowners needs to obtain water for beneficial use in the District; and
    f. Facilitate the District's compliance with the Sustainable Groundwater Management Act.

4. Groundwater Banking Agreement. A party eligible to develop, operate and maintain a groundwater bank within the District is required to be a current owner (in good standing) of land within the District boundaries and/or a third party with a written agreement with such a landowner of the District ("Banker"). Prior to commencement of construction or operation

of banking facilities, the Banker shall enter into a groundwater banking agreement with the District to provide for groundwater banking activities consistent with these principles. Any written agreement between a landowner authorizing a third party to develop, operate and maintain a groundwater bank within the District boundaries on behalf of a landowner shall be submitted and approved by the District. The District does not currently intend to directly develop, operate and maintain a groundwater bank but does expressly reserve its authority to revise these principles to include District groundwater banking in the future should it be deemed necessary and proper.

5. Banking Facilities. The Banker shall be solely responsible for determining the nature, location and extent of the necessary banking facilities. All costs of design, permitting, construction, operation, maintenance, repair and replacement and all other costs and expenses of a groundwater banking facility shall be the sole responsibility of the Banker. Prior to commencement of construction and operation of groundwater banking facilities the Banker shall submit and obtain approval from the District of a written report containing the following information:

    a. The banking site location (Assessor Parcel Number, legal description, and GIS map).
    b. The conveyance and distribution facilities and manner and method of operation.
    c. The recharge facilities and the manner and method of operation.
    d. The recovery facilities (landowner and/or project extraction wells) and the manner and method of operation.
    e. The energy facilities (electric, diesel, solar, etc.).
    f. The schedule for permitting, construction and commencement of operation.
    g. The plan of operation, maintenance, repair and replacement of banking facilities.
    h. The intended source of all banking water supplies (e.g., Central Valley Project, local surface waters [Tule River], third party exchange/transfer supplies, other).
    i. The banking accounting, measurement, monitoring and reporting procedure.
    j. A Monitoring and Operational Constraint Plan (MOCP) to ensure that unacceptable impacts to neighboring crops, well flow rates, water levels and quality are prevented and/or adequately mitigated.

6. Banking Leave Behind. In order to insure that a groundwater banking project will protect the Basin and benefit the District, its landowners and water users, the Banker shall leave in storage in the Basin aquifer to the credit of the District's storage master account the percentage amount of the total water reported, on an annual basis, to have augmented the storage in the Basin according to the following table:

WATER SUPPLY	PLACE OF USE			
	SAUCELITO ID	EAST-TULE GSA	REMAINDER OF TULE SUB-BASIN	ANY OTHER LAWFUL PLACE
WATER AVAILABLE TO THE DISTRICT AND DESIGNATED FOR IRRIGATION DELIVERY	20%	X	X	X
WATER AVAILABLE TO THE DISTRICT AND DESIGNATED FOR GROUNDWATER RECHARGE	10%	20%	X	X
WATER AVAILABLE TO THE DISTRICT AND DESIGNATED FOR OUT OF DISTRICT SALE	10%	20%	30%	X[1]
NON-DISTRICT WATER FROM THE TULE RIVER TRIBUTARY TO THE BASIN	10%	20%	30%	X[2]
OTHER NON-DISTRICT WATER SUPPLY	15%	15%	15%	15%

The term "water available to the District" means all Central Valley Project, Tule River or any other water supply which the District owns and is otherwise required to manage and deliver to landowners and water users within the boundaries of the District. An example illustrating application of the leave behind requirements in the table above is, if 1,000af of water available to the District and designated for out of district sale was banked by the Banker and reported as augmenting the storage in the Basin pursuant to this policy then: 900af could be extracted by the Banker if used within Saucelito ID; 800af could be extracted if used within the East-Tule GSA boundary; and 700af could be extracted if used within the remainder of the Tule-Basin but outside of the East-Tule GSA boundary. The District's storage master account would be credited respectively in the amount of 100af, 200af or 300af. The District

[1] The District reserves the right to approve additional uses on a case-by-case basis.

[2] The District reserves the right to approve additional uses on a case-by-case basis.

will determine, in its sole discretion, the use of the water stored and credited to the District in its storage master account resulting from any groundwater banking activities.

7. Place of Use. Any water credited to the Bankers storage sub-account originating from a District water supply, along with water originating from the Tule River, shall only be extracted and beneficially used within the boundaries of the District, the East-Tule Groundwater Sustainability Agency, or the Tule Subbasin (Bulletin 118, 5-22.13) to the extent provided in the leave behind requirements stated in Paragraph 6 above. Any water recharged, stored and credited to the Bankers storage sub-account originating from other non-District imported water supplies may be extracted and beneficially used at any place permitted by law in accordance with the leave behind requirements stated in Paragraph 6 above. It is anticipated that the District will review the leave behind (Paragraph 6) and place of use (Paragraph 7) provisions of this policy, and any other provision deemed necessary by the District, in conjunction with the five year review conducted by the Department of Water Resources following the District's initial submittal of its Groundwater Sustainability Plan in 2020.

8. Priority of Use of District Water. All District water supplies available for groundwater banking shall be subject to the District policies, rules and regulations regarding priority for allocation and use of water by landowners and water users within the District.

9. Water Quality Standards. The Banker shall insure that all water diverted into groundwater banking recharge facilities and stored in the Basin aquifer does not result in unacceptable deterioration of groundwater quality contrary to applicable Tulare Lake Basin Plan water quality objectives or as required in any MOCP approved by the District.

10. Banking Accounting, Measurement, Monitoring and Reporting Procedure. The Banker shall be responsible for developing and implementing a procedure to accurately account for all banking activities on a monthly and annual basis including the following: the source of all water delivered to each turnout, recharge discharges, percolation rates, recharge losses to evaporation and soil profile, net augmentation to storage in the Basin, pumping extractions, amounts of water in storage and recovery, the place of use of all banked water deliveries, changes in local groundwater conditions (including depth to groundwater, water quantity, quality, groundwater gradient and migration). All water recharged, stored and credited to the Banker according the groundwater banking agreement shall be identified by source of water as a separate storage sub-account exclusively for use by the Banker but under the name of the District. Prior to commencement of construction and operation of groundwater banking facilities the Banker shall submit a written report and obtain approval from the District of its proposed banking accounting, measurement, monitoring and reporting procedure. The Banker shall provide the District on a monthly and annual basis a written report of all groundwater banking activities in a form approved by the District.

11. Legal Compliance. The Banker shall be solely responsible for complying with all applicable Federal, State and local laws, rules and regulations relating to its banking activities. At the

District's discretion, the Banker shall provide the District with a copy of any permit, order, agreement, environmental document, judgment or other record requested by the District indicating the Banker's compliance with applicable laws.

12. California Environmental Policy Act. The District shall act as the lead agency under the California Environmental Policy Act (Public Resources Code §21000, et. seq., "CEQA") regarding the preparation of documents required to carry out or approve a groundwater banking project authorized pursuant to this policy. Implementation of this policy and the approval of any groundwater banking project pursuant to this policy are subject to compliance with CEQA and the Banker shall be responsible for the payment of all costs and expenses incurred by the District and the Banker relating to such compliance.

13. Indemnification. The Banker shall indemnify, defend and hold harmless the District, its board of directors, officers, employees, agents, assigns on account of damage or claim of damage of any nature whatsoever for which there is legal responsibility, including property damage, personal injury, or death, and including attorneys' fees and other costs of litigation, arising out of or connected with the development, operation and maintenance of a groundwater bank.

14. District Administration. The Banker shall reimburse the District for its reasonable costs and expenses incurred, as determined by the District, to prepare or review the agreements, reports, plans and other documents and materials relating to the administration of the groundwater banking agreement with the Banker.

Appendix G

Policy Principles for Saucelito Irrigation District Landowner Groundwater Recharge Program

POLICY PRINCIPLES FOR SAUCELITO IRRIGATION DISTRICT

LANDOWNER GROUNDWATER RECHARGE PROGRAM

January 17, 2017

In furtherance of the District's project to manage surface and groundwater supplies available within the District, the District authorizes the delivery of District water supplies to Landowners for groundwater recharge purposes according to the following principles:

1. Subject to the District rules and regulations regarding the availability and pricing of District water supply, a Landowner may schedule with the District delivery of water for groundwater recharge on its lands located within the District.

2. At the sole cost of the Landowner, all water delivered by the District to the Landowner for groundwater recharge shall be measured and recorded with equipment furnished, installed, operated, and maintained by the District at the point or points of delivery approved by the District. The District shall use the information obtained from the meter to prepare a written statement, bill, and report of the water delivered by the District to the Landowner.

3. The Landowner shall be responsible for the control, carriage, handling, use, disposal, or distribution of water delivered by the District for groundwater recharge beyond the delivery points approved by the District.

4. The Landowner, at its sole expense, shall be responsible for maintaining accurate and complete accounting records for water delivered to a Landowner's groundwater recharge facility and the total net amount of water recharged to the groundwater aquifer within the District. Each month, the Landowner shall provide the District with a written report stating the amount of water the Landowner delivered to each recharge facility and the total net amount of the water recharged to the groundwater aquifer.

5. The Landowner, at its sole expense and risk, shall be responsible for the design, construction, operation, maintenance, repair and replacement of groundwater recharge facilities, equipment, appurtenances, and any legal and regulatory compliance of groundwater recharge activities.

6. The Landowner may, at is sole discretion, extract the recharged water from time to time, at its sole expense, as the Landowner may desire for its farming operations or other purposes within the District.

7. The Landowner shall indemnify and hold harmless the District, its board of directors, officers, employees, agents, assigns on account of damage or claim of damage of any nature whatsoever for which there is legal responsibility, including property damage, personal injury, or death, and including attorneys' fees and other costs of litigation, arising out of or connected with the control, carriage, handling, use, disposal, or distribution of water for groundwater recharge.