Draft

Initial Study & Mitigated Negative Declaration CEQA Report

North Kern Water Storage District

Friant-Kern Canal TCP Mitigation Replacement Pump-In Well Project

North Kern Water Storage District

June 2021

[This page left intentionally blank]

Draft

Initial Study & Mitigated Negative Declaration CEQA Report

North Kern Water Storage District

Friant-Kern Canal TCP Mitigation Replacement Pump-In Well Project

Prepared for:

North Kern Water Storage District
33380 Cawelo Avenue
Bakersfield, CA 93308

Contact:

Mr. Ram Venkatesan
Deputy General Manager
661-393-2696

GEI Consultants

Consulting Engineers and Scientists

Prepared by:

GEI Consultants
5001 California Avenue, Suite 120
Bakersfield, CA 93309

Contact:

Ginger Gillin
Principal Environmental Scientist
503-342-3777

June 2021

Project No. 2005381

[This page left intentionally blank]

Table of Contents

List of Tables

List of Figures

List of Appendices

Abbreviations and Acronyms

2008 Policy	Policy for Accepting Non-Project Water into the Friant-Kern and Madera Canals
AFY	acre-feet per-year
BMP	best management practices
Caltrans	California Department of Transportation
CALFIRE	California Department of Forestry and Fire Protection
C.A.R.B.	California Air Resource Boards
C.A.A.Q.S.	California Ambient Air Quality Standards
CCR	California Code of Regulations
CEC	California Energy Commission
CEQA	Californi Environmental Quality Act
cfs	cubic feet per second
CGS	California Geological Survey
CDFW	California Department of Fish and Wildlife
CRHR	California Register of Historical Resources
CNDDB	California Natural Diversity Database
CNPS	California Native Plant Society
County	Kern County
dBA	A-weighted decibels
District	North Kern Water Storage District
DTSC	Department of Toxic Substance Control
EIR	Environmental Impact Report
EPA	Environmental Protection Agency
FKC	Friant Kern Canal
FWA	Friant Water Authority
GAC	Granular Activated Carbon
GEI	GEI Consultants, Inc.
GHG	greenhouse gas
IS/MND	Initial Study/Mitigated Negative Declaration
LRA	Local Responsible Area
MCL	Maximum Contaminant Level
MP	Mile Post
N.A.A.Q.S.	National Ambient Air Quality Standards
NAHC	Native American Heritage Commission
N.P.D.E.S.	National Pollutant Discharge Elimination System
NRHP	National Register of Historic Places
O_3	ozone
PG&E	Pacific Gas and Electric
PM_{10}	particulate matter less than 10 microns in diameter
$PM_{2.5}$	particulate matter less than 2.5 microns in diameter
ppt	parts per trillion
PRC	Public Resources Code
proposed project/project	TCP Mitigation Project

Reclamation	Bureau of Reclamation
RPA	registered professional archaeologist
ROW	Right-of-way
SAR	sodium adsorption ratio
S.J.V.A.P.C.D	San Joaquin Valley Air Pollution Control District
SPAL	Small Project Analysis Level
S.S.J.V.I.C.	South San Joaquin Valley Information Center
SWP	State Water Project
SWPPP	Stormwater Pollution Prevention Plan
SWRCB	State Water Resource Control Board
TCP	1,2,3-trichloropropane
U.S.F.W.S.	United States Fish and Wildlife Service
USGS	United States Geological Survey

1.0 Introduction

The North Kern Water Storage District (District) has prepared this Initial Study/proposed Mitigated Negative Declaration (IS/MND) in compliance with the California Environmental Quality Act (CEQA) and Guidelines to address the potentially significant environmental impacts of the proposed 1,2,3-trichloropropane (TCP) Mitigation Project (proposed project or project) in Kern County, California (County). The District is the lead agency under CEQA.

After the required public review of this document is complete, the District's Board of Directors will consider all IS/MND comments received, the administrative record for the project, whether to adopt the proposed MND and a Mitigation Monitoring and Reporting Program and approve the proposed project.

1.1 Summary of Findings

Chapter 4 of this document contains the analysis and discussion of potential environmental impacts of the proposed project. Based on the issues evaluated in that chapter, it was determined that:

The proposed project would result in no impacts on the following issue areas:

- Hazards and Hazardous Waste
- Land Use and Planning
- Population and Housing
- Public Services
- Recreation
- Transportation
- Tribal Cultural Resources
- Wildfire

The proposed project would result in less-than-significant impacts on the following issue areas:

- Aesthetics
- Agriculture and Forestry Resources
- Energy
- Greenhouse Gas Emissions
- Mineral Resources
- Noise
- Utilities and Service System

The proposed project would result in less-than-significant impacts *after* mitigation implementation on the following issue areas:

- Air Quality
- Biological Resources
- Cultural Resources

- Geology and Soils
- Hydrology and Water Quality

1.2 Document Organization

This document contains the information required under CEQA:

Chapter 1, Introduction. This chapter describes the purpose of the IS/MND, summarizes findings, and describes the organization of this IS/MND.

Chapter 2, Project Description. This chapter describes the project location and background, project need and objectives, project characteristics, construction activities, project operations, and discretionary actions and approvals that may be required.

Chapter 3, Proposed Mitigated Negative Declaration. The proposed MND briefly summarizes the proposed project, summarizes the environmental conclusions, and identifies that mitigation measures would be implemented in conjunction with the proposed project.

Chapter 4, Evaluation of Environmental Impacts. This chapter presents an analysis of environmental issues identified in the CEQA environmental checklist and determines whether project implementation would result in no impact, less-than-significant impact, less-than-significant impact with mitigation incorporated, potentially significant impact, or significant impact on the physical environment in each topic area. Should any impacts be determined to be potentially significant or significant, an Environmental Impact Report (EIR) would be required. For this proposed project, however, mitigation measures have been incorporated as needed to reduce all potentially significant and significant impacts to a less-than-significant level.

Chapter 4, References. This chapter lists the references used to prepare this IS/MND.

Chapter 5, Report Preparers. This chapter identifies report preparers who contributed to the preparation of this document.

2.0 Project Description

2.1 Project Background

The District administers a conjunctive use project that consists of groundwater banking, recovery, and exchange programs to optimize water supplies. Groundwater banking facilities consist of approximately 1,550 acres of spreading ponds/recharge basins with a capacity to recharge up to 300,000 acre-feet per year (AFY). Most of the District's groundwater banking is associated with in-District operations; however, the District has maintained active water exchange and banking programs with District landowners, other districts, and third parties since the mid-1990s.

The District has three banking partners (Kern Tulare Water District, Delano-Earlimart Irrigation District, and South San Joaquin Municipal Water District) who can request that up to 23,500 AFY of previously banked project water be retuned via the Friant-Kern Canal (FKC) per year. All banking returns are made by pumping from the groundwater basin using District wells. Presently, there are seven wells with approximately 35 cubic feet per second (cfs) capacity approved by U.S. Bureau of Reclamation (Reclamation) for pump-in at three locations. Actual return volumes per year are based on requests from the District's banking partners.

Typically, groundwater is only pumped into the FKC during hydrologic dry years when surface water allocations to Friant Contractors are insufficient to meet agricultural demand for the District's banking partners. Reclamation and Friant Water Authority (FWA) establish water quality standards for returned water, which Reclamation defines as Non-Project Water. The most current written standards are provided in Reclamation's 2008 *Policy for Accepting Non-Project Water into the Friant-Kern and Madera Canals* (2008 Policy; Reclamation 2008). Historically, North Kern's seven pump-in wells have met all drinking water standards regulated in Title 22, California Regulations Related to Drinking Water.

In 2017, the State Water Resources Control Board added TCP to their Title 22 water quality requirements. The Maximum Contaminant Level (MCL) for TCP is 5 parts per trillion (ppt) and applies to Community Water Systems and Non-transient Non-community Water Systems[1]. TCP is a manmade compound with some limited industrial uses. In the past, it was present as an impurity in certain soil fumigants (1,3-D soil fumigants) used to kill nematodes. When applied to land, TCP passes through soil and bonds to water, then sinks into the aquifer. TCP has been added to California's list of chemicals known to the state to cause cancer. Exceedances are a widespread issue in Kern County due to historic usage of TCP-containing soil fumigants.

In early 2020, testing for TCP revealed that several of the District's wells exceed the established maximum contaminant level (MCL) of 5 parts per trillion (ppt), including six of the seven pump-

[1] https://www.waterboards.ca.gov/drinking_water/certlic/drinkingwater/123TCP_page.html

in wells. Initial testing showed that TCP concentrations in these six wells range from non-detect to 140 ppt; *refer to* **Table 2-1** for information about the wells previously used to return banked water via the FKC. In order to meet the District's obligations to its banking partners, the District needs to connect replacement wells so that the returned water meets Reclamation's water quality standards.

Table 2-1 Pre-2021 Pump-In Wells, Used to Return Banked Water

Well	Capacity[1, 3]	TCP[2]	Discharge Point
	(cfs)	<5 ppt	
88-29-013	5.0	20	Mile Post 129.93L
88-29-014	4.4	23	
88-17-022[4]	5.1	140	Mile Post 133.39L
88-17-023	5.1	7.1	
88-17-024	4.9	<0.7 (non-detect)	
88-09-006	4.3	27	Mile Post 136.64L
88-09-009[4]	4.9	69	

Notes:
1. Capacity varies depending on the pumping season: May 2020 flow measurements are presented in this table.
2. Maximum result from three 2020 sample events is presented in this table.
3. cfs = cubic feet per second
4. Discontinued pumping to the FKC in 2021.

In spring 2021, the two wells with the highest levels of TCP (wells 88-09-009 and 88-17-022) were replaced with two wells (wells 88-25-016 and 88-25-013) with TCP levels less than the detection limit. The two replacement wells were connected to the FKC using above-ground piping at temporary discharge points. This was a temporary mitigation project permitted by Reclamation to reduce TCP concentrations in pump-in water so that the District could return water for the 2021 irrigation season.

2.2 Project Location

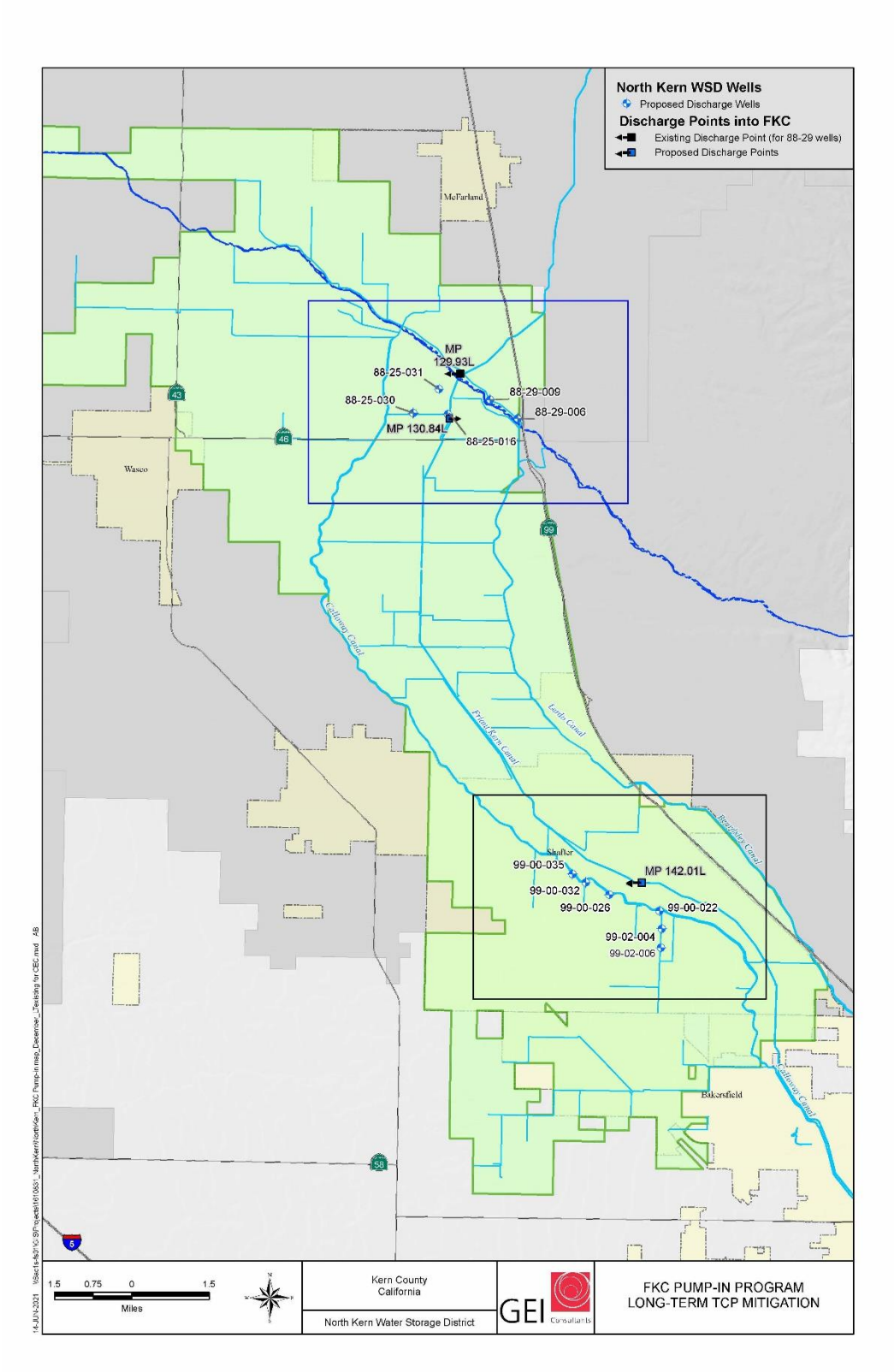
The District is situated in the San Joaquin Valley portion of Kern County and comprises approximately 60,000 acres of agricultural land north of Bakersfield, California, west of State Route 99, and east of the cities of Shafter and Wasco. (**Figure 2-1**). The proposed project includes two project sites adjacent to the FKC, west of State Route 99 in north-central Kern County.

The northern project site is located approximately 5 miles east of Wasco and approximately 4 miles south of McFarland and includes a western and eastern work area consisting of five wells (**Figure 2-1**). The western work area is located approximately 0.75 miles west of Poso Creek and would connect three existing wells (88-25-016, 88-25-030, and 88-25-031) to the to FKC at Mile Post (MP) 130.84L, which is a new discharge point on the FKC. The District would install a new

west-east pipeline (approximately 4,050 linear feet and up to 27-inch-diameter) from well 88-25-030 to MP 130.84L. An existing 24-inch-diameter pipeline (approximately 2,750 linear feet) runs north-south and would connect well 88-25-031 to a "tee joint" along the newly installed west-east pipeline. The eastern work area is located along Poso Creek between SR 99 and the FKC and would connect two wells (88-29-006 and 88-29-009) to MP 129.93L, which is an existing discharge point on the FKC. The District would install a new pipeline (approximately 7,500 linear feet and up to 18-inch-diameter) from well 88-29-009 to MP 129.93L. The northern portion of the action area is in the Famoso U.S. Geological Survey 7.5-minute quadrangle, just north of Highway 46 / Paso Robles Highway. The District would upgrade the existing electrical equipment and upgrade the pumps and motors at the five wells which would result in ground disturbance of approximately 400 square feet each.

The southern Project area is located approximately 5 miles east of the city of Shafter along the District Calloway Canal and Rosedale Spreading Basins (**Figure 2-1**). The District would install new pipelines (approximately 17,750 linear feet and up to 40-inch-diameter) connecting six existing wells (99-00-035, 99-00-032, 99-00-026, 99-00-022, 99-02-004, and 99-02-006) to the FKC at MP 142.01L, which is a new discharge point on the FKC. The southern portion of the action area is in the Rosedale U.S. Geological Survey 7.5-minute quadrangle, between Riverside Street and Seventh Standard Road. The District would upgrade the existing electrical equipment.

Figure 2-1: Location of the North Kern Water Storage District.
Boxes highlight the northern and southern portions of the proposed project.



2.3 Replacement Well Selection Criteria

Generally, with the exception of those wells that exceed the MCL for TCP, the District's wells produce high-quality water that meets all Title 22 MCLs; most of the wells also meet the agricultural goals for salinity. Therefore, replacement wells were selected based on TCP and salinity concentrations that are protective of agriculture. **Table 2-2** lists the wells selected for the Long-Term TCP Mitigation Project, which will be connected to the FKC and used to return banked water. Of the existing wells (*refer to* **Table 2-1**) 88-17-023 and -024 will continue pumping in. The other five wells will no longer be used for this purpose. In addition, the following criteria for selecting replacement wells included:

- Use of existing infrastructure (wells, pipelines and discharge points) to the extent possible
- Wells near the FKC
- Need a combined pump-in capacity of at least 35 cfs
- Minimize the number of new discharge points that need to be installed
- Balance pumping throughout the District to minimize impacts to localized groundwater levels

Table 2-2 Selected Wells for the Long-Term TCP Mitigation Project

Well	Capacity[1, 3]	TCP[2]	Discharge Point	TCP at Discharge Point
	(cfs)	range (ppt)		ppt
88-29-006	3.1	<0.7 – 1.4	Mile Post 129.93L (existing)	1.4
88-29-009	3.6	3.4 – 5.0		
88-25-016	4.5	non-detect	Mile Post 130.84R (new)	0.8
88-25-030	3.0	0.9 – 1.2		
88-25-031	6.0	0.9 – 1.1		
88-17-023	5.1	5.9 – 9.5	Mile Post 133.39L (existing)	4.8
88-17-024	5.1	non-detect		
99-00-035	5.6	<0.7 – 0.8	Mile Post 142.01R (new)	1.6
99-00-032	2.4	<0.7 – 0.7		
99-00-026	4.8	non-detect		
99-00-022	2.5	non-detect		
99-02-004	5.4	4.7 – 5.7		
99-02-006	5.8	3.0 – 3.8		

Notes:

1. Capacity varies depending on the pumping season: capacity in this table is based on the pump curve recommended rate.
2. Range of TCP results from 2020/2021 sample events is presented in this table. TCP concentrations at the discharge point are calculated using the maximum value detected in each well.
3. cfs = cubic feet per second

2.4 Project Objectives

The proposed project consists of replacing the District's previously approved pump-in wells with existing wells that contain low, or no detectable levels of TCP to return banked water to its existing obligations to its banking partners in 2022 and beyond. The proposed project will:

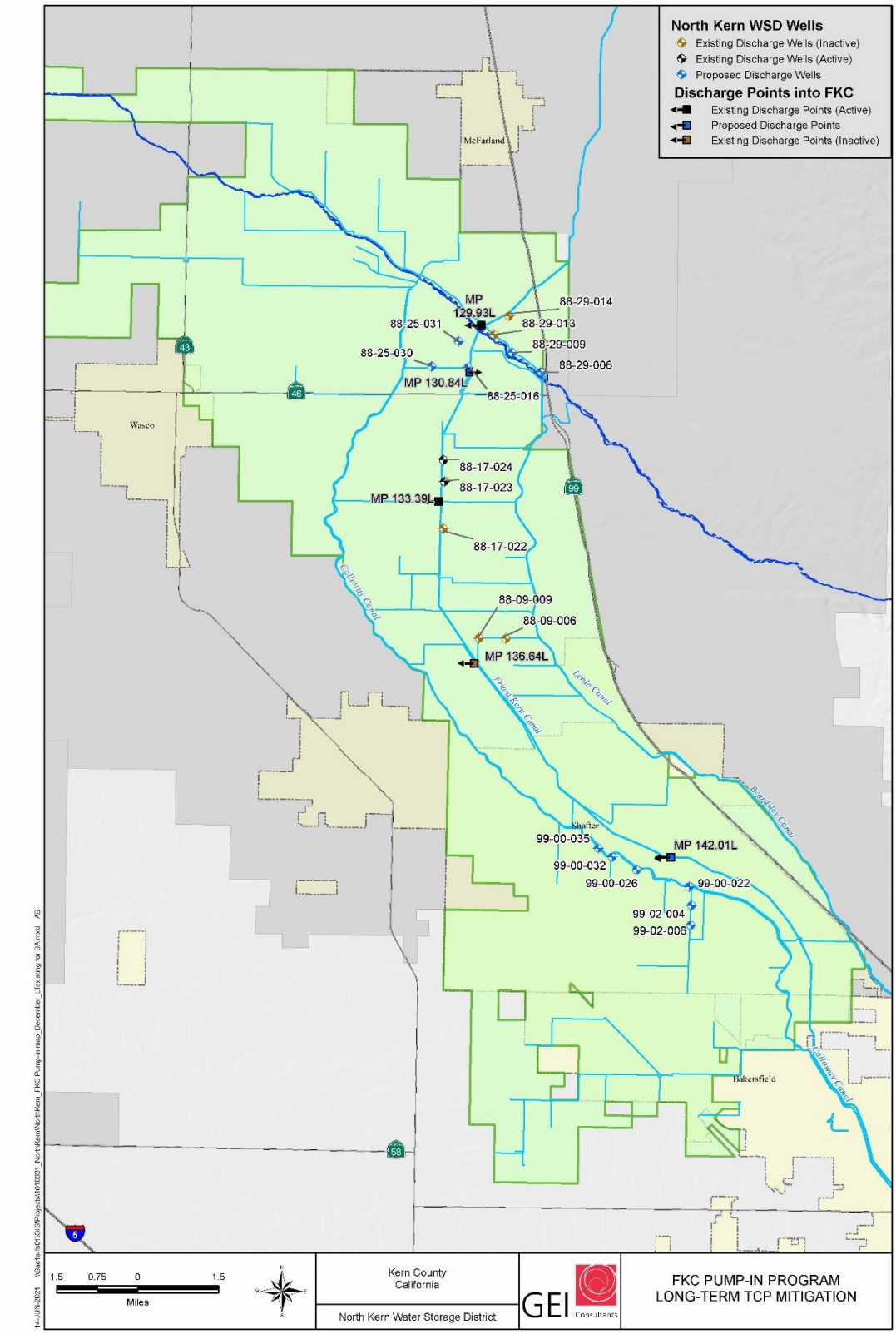
- Allow for the return of previously banked water to the District's neighboring partners using wells that meet Reclamation's water quality standards.
- Meet the District's existing obligations to its banking partners in 2022 and beyond
- Comply with state and federal water quality regulations and guidelines that apply to the FKC.

2.5 Proposed Project

In order to return water to its banking partners, the District must mitigate TCP so that the pumped-in water meets the MCL for TCP. In order to meet the TCP MCL and ensure that the District can meet its contractual obligations to its banking partners, the District determined that it needed to cease pumping-in certain wells with high levels of TCP and replace them with wells that meet the MCL. The proposed project balances pumping throughout the District and minimizes the amount of new pipeline required to manifold the wells together. Two of the District's existing discharge points (at MP 129.93L and MP 133.93L) will continue in operation, and one existing discharge point (at MP 136.64L) will not be used (temporarily inactive) after the proposed project is completed. Two new permanent discharge points to the FKC (MP 130.84L and MP 142.01L) must be installed (**Figure 2-2**).

The two new discharge points will initially be constructed using aboveground piping within the Reclamation right-of-way. During the next dewatering of the FKC, the aboveground piping will be replaced with belowground connections. When complete, the District will have 13 wells connected to the FKC, with a total return capacity of 45 cfs. This provides the District with the capacity necessary to meet return requirements if a pump-in well needs to be taken offline in the future because it exceeds the MCL for TCP (or blended to meet the MCL prior to discharge). This capacity also accounts for seasonal drops in well production.

Figure 2-2: North Kern Water Storage District and Locations of Project Discharge Points



2.6 Proposed Replacement Wells

The proposed project will consist of 13 existing District wells approved for pump-in to the FKC. Of these 13 wells, two (88-17-023 and 88-17-024) are already connected and are presently being used for discharge to the FKC (MP 133.39L), and 11 will have connections added to allow discharge to the FKC. The connections will use one existing discharge point (MP 129.93L) and two new proposed discharge locations (MP 130.84L and MP 142.01L). A combination of existing and new pipelines will connect the wells to the FKC.

2.7 Electrical and Well Upgrades

The District will upgrade 8 wells (88-25-016, 88-25-030, 88-25-031, 88-29-006, and 88-29-009 in the northern area and 99-00-022, 99-02-004, and 99-02-006 in the southern area) to increase their pumping capacity and upgrade the existing electrical equipment at each well site. The well upgrades would include modifying the well bowls/adding stages to the existing pumps in order to increase the pumping capacity. The well upgrades would occur within the existing well concrete pad, and no additional area of disturbance is anticipated with respect to the well upgrades.

The electrical equipment upgrades include installation of any additional utility metering switchboard, panelboard, any additional conduit wiring, and controls. Ground disturbance would be limited to digging potholes to access the electrical conduits, adding additional underground wiring, installing posts for the panels, and modifying pumps. All ground disturbance would be centered within 400-square feet of the existing well. The potholes would be approximately 18 inches in diameter and would be backfilled after upgrades are complete. The panel posts and pump motors would be retained indefinitely.

2.8 Consolidated Booster Pump Station

The District would install a consolidated booster pump station at the southern end of the mainline for support of Wells 99-00-026, 99-00-032, and 99-00-035. Construction of the booster pump station would result in a total disturbance area of approximately 15,000 square feet. The disturbance area would consist of grading and installation of a concrete/gravel pad, pumps, motors, pump control system, valves, fittings, panel boards, PLC control panel components, conduits, and electrical boxes. The electrical controls will be housed in an indoor environment suitable for Variable Frequency Drive.

2.9 Pipeline Connections

2.9.1 Pipeline to Connect Replacement Wells at MP 130.84L

In order to connect the three wells (88-25-016, 88-25-030, and 88-25-031) to the FKC at MP 130.84L, one new pipeline segment will be constructed. One existing 24-inch pipeline which connects to well 88-25-31 will be incorporated into the Project (**Figure 2-3**). The total length of new pipeline to be constructed is 4,050 linear feet (**Table 2-3**). The District would upgrade the existing electrical equipment and upgrade the pumps and motors at three wells which would

result in a total ground disturbance of approximately 1,200 square feet. The area estimated to be disturbed for construction of the pipeline is 68,850 square feet, assuming a 17-foot-wide strip. The volume of dirt to be excavated is estimated at 12,750 cubic yards, assuming a 5-foot depth. The pipeline would be entirely located within disturbed areas adjacent to agricultural lands. The pipeline will be connected to MP 130.84L through an aboveground discharge to the FKC and will remain fully within the Districts right-of-way (ROW). At the next dewatering of the FKC, the aboveground connection will be replaced with a belowground connection.

Figure 2-3: Pipe Alignment to connect Wells to FKC MP 130.84L

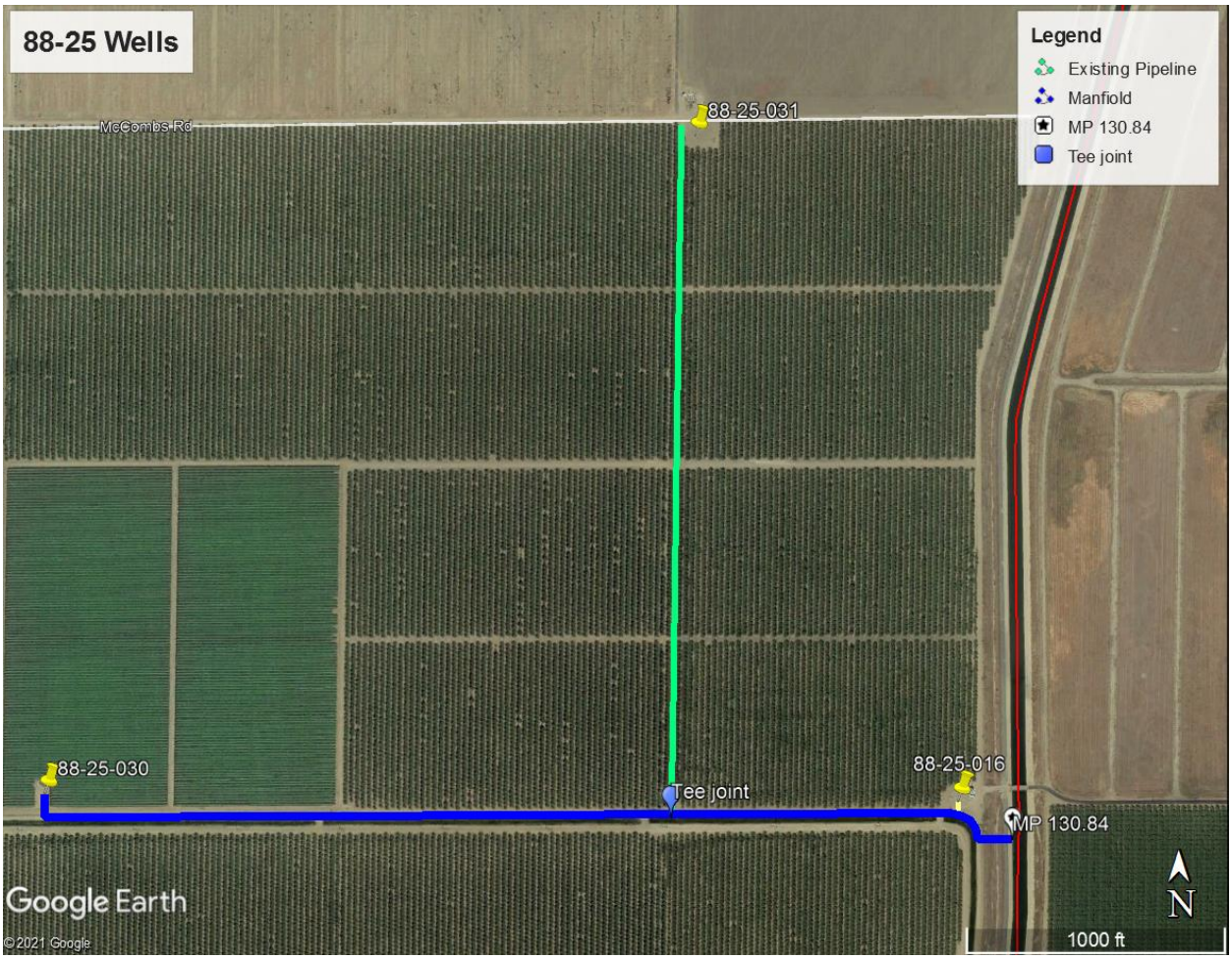


Table 2-3 Pipeline to Discharge at MP 130.84L

Segment Name	Segment ID	Diameter (inches)	Length (feet)
88-25-031 to Tee Joint	Existing	24	2,750
88-25-030 to Tee Joint	Manifold	18	2,500
Tee Joint to 88-25-016	Manifold	21	1,250
88-25-016 to FKC ROW	Manifold	27	300

Note:
[1] The existing pipeline segment (88-25-031 to Tee Joint) will not be replaced and is therefore not included in the disturbance area.

2.9.2 Pipeline to Connect Replacement Wells at MP 129.93L

The pipeline that discharges to the FKC at MP 129.93 will be extended to connect two wells (88-29-009 and 88-29-006) (**Figure 2-4)**. The total length of new pipeline to be constructed is 7,500 linear feet (**Table 2-4**). The District would upgrade the existing electrical equipment and upgrade the pumps and motors at the two wells which would result in a total ground disturbance of approximately 800 square feet. The area estimated to be disturbed for construction of the pipeline is 127,500 square feet, assuming a 17-foot-wide strip. The volume of dirt to be excavated is estimated at 23,600 cubic yards, assuming a 5-foot depth. The pipeline would be entirely located within disturbed areas adjacent to agricultural lands.

Figure 2-4: Pipe Alignment to connect Wells to FKC MP 129.93L

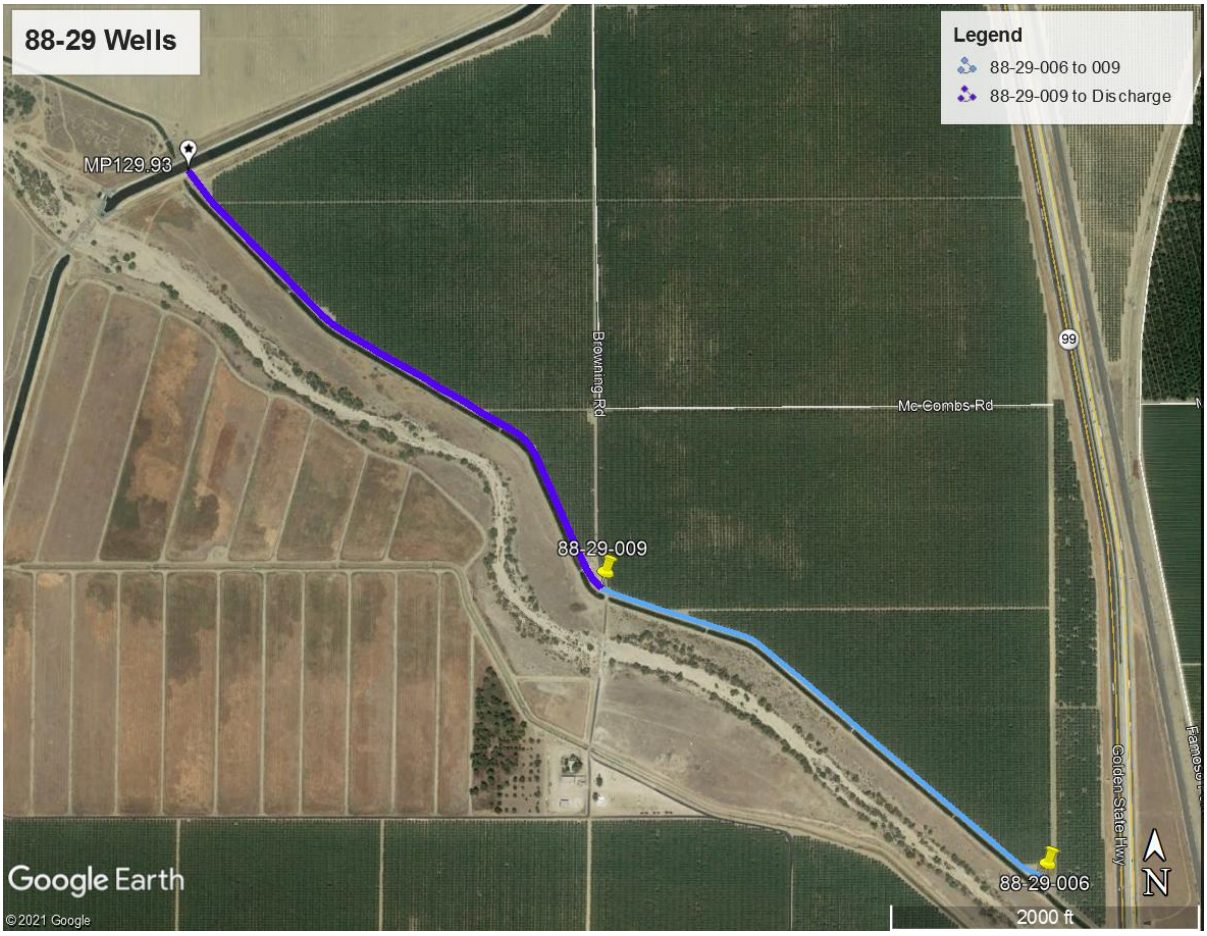


Table 2-4 Pipeline to Discharge at MP 129.93L

Segment Name	Segment ID	Diameter (inches)	Length (feet)
FKC to 88-29-009	N/A	18	4,000
88-29-009 to 88-26-009	N/A	15	3,500

2.9.3 Pipeline to Connect Replacement Wells at MP 142.01 L

In order to connect the six wells (99-00-022, 99-00-026, 99-00-032, and 99-00-035, 99-02-004, and 99-02-006) to the FKC at MP 142.01L, six new segments of pipeline will be constructed (**Figure 2-5**). The total length of new pipeline to be constructed is approximately 17,750 linear feet (**Table 2-5**). The District would upgrade the existing electrical equipment and upgrade the pumps and motors at three wells (99-00-022, 99-02-004, and 99-02-006) which would result in a total ground disturbance of approximately 1,200 square feet. A consolidated booster pump station would be constructed at the southern end of the mainline for support of Wells 99-00-026, 99-00-032, and 99-00-035 and result in a total disturbance area of 15,000 square feet. The area estimated to be disturbed by construction of the pipeline is 301,750 square feet, assuming a 17-foot-wide strip. The volume of dirt to be excavated is estimated at 55,880 cubic yards, assuming a 5-foot depth. The Mainline (see Figure 2-5) would extend 2,800 linear feet from the Tee Joint to the new FKC discharge point (MP 142.01L). The District would install the Mainline underneath both the CT-1 Canal (via opencut trenching or jack-and-bore) and the Calloway Canal (via opencut trenching). Jack-and-bore is a trenchless method that involves installation of a casing from temporary bore pits dug on both sides of the CT-1 Canal. The new discharge will initially be constructed using aboveground piping within the Reclamation right-of-way. During the next dewatering of the FKC, the aboveground piping will be replaced with a belowground connection.

Figure 2-5: Pipe Alignment to connect Wells to FKC MP 142.01L

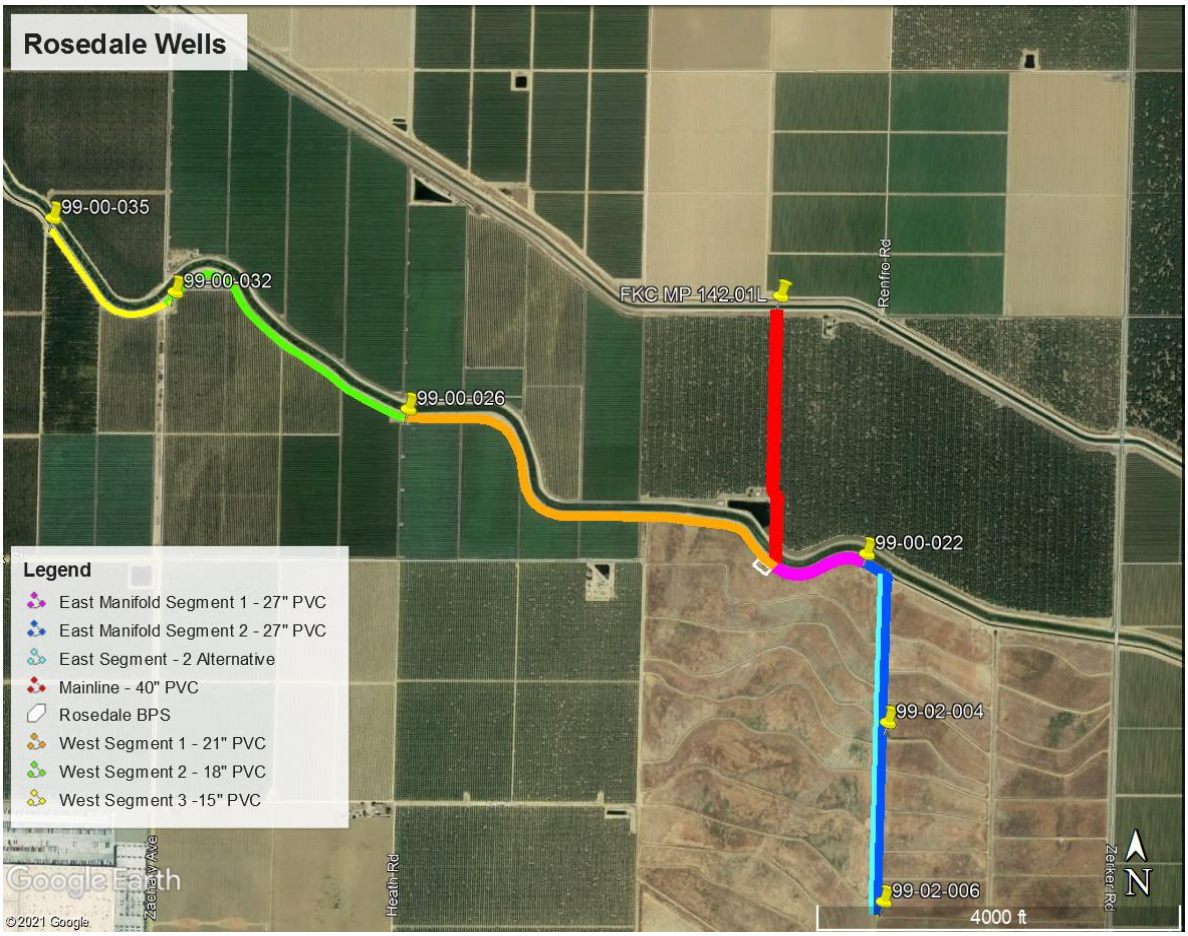


Table 2-5 Pipeline to Discharge at MP 142.01L

Segment Name	Segment ID	Diameter (inches)	Length (feet)
99-00-035	West Manifold Seg. 3	15	1,800
99-00-032 to 99-00-026	West Manifold Seg. 2	18	3,300
99-00-026	West Manifold Seg. 1	21	4,900
Tee to FKC	Mainline	40	2,800
Tee to 99-00-022	East Manifold Seg. 1	27	1,000
99-00-022 to 99-02-006	East Manifold Seg. 2 – Alternative A[1]	27	3,950
99-00-022 to 99-02-006	East Manifold Seg. 2 – Alternative B[1]	27	3,950

Notes:

1. The East Manifold Segment 2 – Alternative A would be constructed east of the 9-2 Canal, if selected. The East Manifold Segment 2 – Alternative B would be constructed west of the 9-2 Canal, if selected. The preferred alignment will be determined upon further engineering evaluations.

2.9.4 Timeline and Equipment

Construction is anticipated to require approximately 5 months. All construction activities will be limited to daylight hours, approximately 10-hours per day and 5 days per week. All work, access, and staging would occur within the 11.83-acre construction footprint. Construction is expected to take approximately 90 working days and require a construction crew of eight people. The District anticipates construction in summer 2021 to be followed during the next dewatering of the FKC (generally every three years) to place the aboveground pipelines within Reclamation right-of-way underground. Equipment may include three excavators, crew trucks, and one of each of the following trencher, backhoe, forklift, loader, dump truck, and water truck.

2.10 Regulatory Requirements, Permits, and Approval

As the lead agency under CEQA, the District has the principal responsibility for approving and carrying out the proposed project and for ensuring that CEQA requirements and all other applicable regulations are met. Other agencies that may have permitting approval or review authority over portions of the proposed project are listed below:

- **Central Valley Regional Water Quality Control Board, Construction Activities General Permit.** Required for any project that disturbs more than 1 acre of soil. The proposed project would disturb approximately 11.85 acres of soil in Kern County. Under this permit, the County would need to develop a Stormwater Pollution Prevention Plan (SWPPP).
- **San Joaquin Valley Air Pollution Control Board (S.J.V.A.P.C.D.), Dust Control Plan.** Required for any project that disturbs more than 1 acre of soil.
- **U.S. Bureau of Reclamation, Land Use Authorization**. Required for construction, operation, and maintenance of the pipelines across lands owned by the United States at one new discharge locations (MP 142.01L) on the Friant-Kern Canal

3.0 Proposed Mitigated Negative Declaration

3.1 Project Information

#1. Project title:	TCP Mitigation Project
#2. Lead agency name and address:	North Kern Water Storage District
#3. Contact person and phone number:	Mr. Ram Venkatesan (661) 393-2696
#4. Project location:	North Kern Water Storage District
#5. Project sponsor's name and address:	Same as lead agency
#6. General plan designation:	The Kern County General Plan designates the site as Intensive Agriculture and Incorporated City. The city of Shafter designated the areas of the project within the City Limits as Community Facilities and Agriculture – Open Space.
#7. Zoning:	Agriculture
#8. Description of project: (Describe the whole action involved, including but not limited to later phases of the project, and any secondary, support, or off-site features necessary for its implementation. Attach additional sheets if necessary.)	The proposed project will consist of 13 existing District wells approved for pump-in to the FKC. Of these 13 wells, two (88-17-023 and 88-17-024) are already connected and are presently being used for discharge to the FKC (MP 133.39L), and 11 will have connections added to allow discharge to the FKC. The connections will use one existing discharge point and two new proposed discharge locations. A combination of existing and new pipelines will connect the wells to the pump-ins.
#9. Surrounding land uses and setting: Briefly describe the project's surroundings:	The northern project site, which consists of 3 new replacement wells and 3 pipeline segments, is located in an unincorporated area of Kern County in an area dominated by agricultural production. The southern project site, consisting of 6 replacement wells and 7 new pipeline segments, is located in the city of Shafter. Several small cities - Wasco, McFarland, and Slater - are located within the vicinity of the project sites. The city of Bakersfield is located approximately 2.5 miles south of the southernmost project site.
#10. Other public agencies whose approval is required (e.g., permits, financing approval, or participation agreement.)	The project is proposed to be partially located on lands managed by the Bureau of Reclamation.

#11. Have California Native American tribes traditionally and culturally affiliated with the project area requested consultation pursuant to Public Resources Code (PRC) Section 21080.3.1? If so, is there a plan for consultation that includes, for example, the determination of significance of impacts to tribal cultural resources, procedures regarding confidentiality, etc.?	Yes. Consultation is described in more detail in Chapters 3.5, Cultural Resources, and 3.17, Tribal Cultural Resources.

Note:

Conducting consultation early in the California Environmental Quality Act (CEQA) process allows tribal governments, lead agencies, and project proponents to discuss the level of environmental review, identify and address potential adverse impacts to tribal cultural resources, and reduce the potential for delay and conflict in the environmental review process. (*See* PRC Section 21080.3.2.) Information may also be available from the California Native American Heritage Commission's Sacred Lands File per PRC Section 5097.96 and the California Historical Resources Information System administered by the California Office of Historic Preservation. **Please also note** that PRC Section 21082.3(c) contains provisions specific to confidentiality.

3.2 Environmental Factors Potentially Affected

No environmental resources were found to have "potentially significant impacts." The environmental factors listed as "Yes" in the table below would be potentially affected by this project, involving at least one impact that has "Less-than-Significant Impacts with Mitigation Incorporated" as indicated by the checklist on the following pages.

Table 3-1. Environmental Resources with Potentially Significant Impacts Prior to Mitigation.[2]

Environmental Resources	Yes or No?
Aesthetics	No
Agriculture and Forestry Resources	No
Air Quality	Yes
Biological Resources	Yes
Cultural Resources	Yes
Energy	No
Geology/Soils	Yes
Greenhouse Gas Emissions	No
Hazards and Hazardous Materials	No
Hydrology/Water Quality	Yes
Land Use/Planning	No
Mineral Resources	No
Noise	No
Population/Housing	No

[2] Impacts to all resources are reduced to less-than-significant with the incorporation of mitigation measures.

Environmental Resources	Yes or No?
Public Services	No
Recreation	No
Transportation	No
Tribal Cultural Resources	No
Utilities/Service Systems	No
Wildfire	No
Mandatory Findings of Significance	Yes

3.3 Mitigation Measures

These mitigation measures are incorporated into the proposed project to reduce the level of impact to less-than-significant. The full text of the measures, with the timing of implementation and responsible parties, are found in Section 4.

- Mitigation Measure AQ-1: District Regulation VIII Fugitive PM10 Prohibitions Best Management Practices
- Mitigation Measure BIO-1: Conduct Focused Surveys and Implement Measures to Minimize Potential for Impacts on Blunt-nosed Leopard Lizard and San Joaquin Kit Fox.
- Mitigation Measure BIO-2a: Conduct Focused Surveys for Burrowing Owls and Avoid Loss of Occupied Burrows.
- Mitigation Measure BIO-2b: Conduct Focused Surveys for Nesting Swainson's Hawk, other Special-status Birds, and Common Birds and Implement Buffers Around Active Nests.
- Mitigation Measure CR-1: Address Previously Undiscovered Historic Properties, Archaeological Resources, and Tribal Cultural Resources.
- Mitigation Measure CR-2: Avoid Potential Effects on Undiscovered Burials.
- Mitigation Measure HYDRO-1: Water Quality Monitoring.
- Mitigation Measure HYDRO-2: Comply with Water Quality Ledger Program, when adopted by Reclamation.

Determination (To be completed by the Lead Agency)

On the basis of this initial evaluation:	Yes or No?
I find that the proposed project COULD NOT have a significant effect on the environment, and a NEGATIVE DECLARATION will be prepared.	No
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.	Yes
I find that the proposed project MAY have a significant effect on the environment, and an ENVIRONMENTAL IMPACT REPORT is required.	No
I find that the proposed project MAY have a "potentially significant impact" or "potentially significant unless mitigated" impact on the environment, but at least one effect 1) has been adequately analyzed in an earlier document pursuant to applicable legal standards, and 2) has been addressed by mitigation measures based on the earlier analysis as described on attached sheets. An ENVIRONMENTAL IMPACT REPORT is required, but it must analyze only the effects that remain to be addressed.	No
I find that although the proposed project could have a significant effect on the environment, because all potentially significant effects (a) have been analyzed adequately in an earlier EIR or NEGATIVE DECLARATION pursuant to applicable standards, and (b) have been avoided or mitigated pursuant to that earlier EIR or NEGATIVE DECLARATION, including revisions or mitigation measures that are imposed upon the proposed project, nothing further is required.	No

Signature

June 15, 2021

Date

David Hampton

Print Name

General Manager

Title

North Kern Water Storage District

Agency

4.0 Evaluation of Environmental Impacts

4.1 Aesthetics

#1 -a. Have a substantial adverse effect on a scenic vista?	Have Potentially Significant Impact? No.	Have Less-than-Significant Impact with Mitigation Incorporated? No.	Have Less-than-Significant Impact? No.	Have No Impact? **Yes.**
#1 -b. Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a State scenic highway?	Have Potentially Significant Impact? No.	Have Less-than-Significant Impact with Mitigation Incorporated? No.	Have Less-than-Significant Impact? No.	Have No Impact? **Yes.**
#1 -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?	Have Potentially Significant Impact? No.	Have Less-than-Significant Impact with Mitigation Incorporated? No.	Have Less-than-Significant Impact? **Yes.**	Have No Impact? No.
#1 -d. Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?	Have Potentially Significant Impact? No.	Have Less-than-Significant Impact with Mitigation Incorporated? No.	Have Less-than-Significant Impact? No.	Have No Impact? **Yes.**

4.1.1 Environmental Setting

The project sites are located west of Highway 99, in Kern County. The northern project site is located in an unincorporated portion of Kern County. The southern project site is located within the city of Shafter, CA. The project sites are zoned as letter "A" (signifying, agriculture) (Kern County 1982). The Kern County General Plan designates the project sites as Intensive Agriculture. The city of Shafter designates the southern project site as Community Facilities and Agriculture – Open Space (Kern County 1982, City of Shafter 2019). While the southernmost project site is located within the city of Shafter, the site is approximately 1.5 miles east of the closest development, the Ross Distribution Center. The project area is flat and is comprised of dirt roads,

open water canals, and various agricultural crops (*see* Appendix A for photos of the project area). There are no designated scenic vistas within the vicinity of the project sites (California Department of Transportation [Caltrans] 2019, 2015).

4.1.2 Discussion

#1 -a, b. Have a substantial adverse effect on a scenic vista, substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a State scenic highway?

There are no significant view-sheds, scenic vistas, or scenic highways located in the vicinity of the proposed project (Caltrans 2019, 2015). Therefore, the project would have **no impact**.

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

The proposed project consists of 13 existing wells approved for pump-in to the FKC, 2 of which are already connected and are being used for discharge to the FKC, the remaining 11 wells would have connections added to allow them to discharge to the FKC. A combination of existing and new pipeline segments would be used to connect the existing wells. The total length of pipeline that would be installed to connect the existing wells to discharge wells MP 130.84L, MP 129.93L and 142.01L would be 4,050, 7,500 and 18,950 linear feet, respectively. The total disturbance area is approximately 11.85 acres. The pipelines would be fully buried and therefore would not take away from the visual character of the sites. The new discharge will initially be constructed using aboveground piping, however, during the next dewatering of the FKC, the aboveground piping will be replaced with a belowground connection. Additionally, the booster pump station would be constructed to help with water conveyance. During construction, several vehicles and equipment would be onsite which is not substantially different that normal agricultural operations. Following the completion of construction activities all construction related equipment would be removed and the site would be restored to pre-construction conditions. The project would not significantly change the existing views since only a small amount of above-ground features would be constructed and the majority of the project would consist of buried pipeline. There would be minimal changes to visual resources and therefore this impact would be **less than significant**.

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

The proposed project would be constructed during daylight hours and, therefore, it is not anticipated that additional sources of light would be needed. Additionally, during operations the project would not require lighting as the majority of the proposed would be buried. There would be **no impact**.

4.2 Agriculture and Forestry Resources

#2 -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?	Have Potentially Significant Impact? No.	Have Less-than-Significant Impact with Mitigation Incorporated? No.	Have Less-than-Significant Impact? No.	Have No Impact? **Yes.**
#2 -b. Conflict with existing zoning for agricultural use, or a Williamson Act contract?	Have Potentially Significant Impact? No.	Have Less-than-Significant Impact with Mitigation Incorporated? No.	Have Less-than-Significant Impact? No.	Have No Impact? **Yes.**
#2 -c. Conflict with existing zoning for, or cause rezoning of, forest land (as defined in PRC Section 12220(g)), timberland (as defined by PRC Section 4526), or timberland zoned Timberland Production (as defined by Government Code Section 51104(g))?	Have Potentially Significant Impact? No.	Have Less-than-Significant Impact with Mitigation Incorporated? No.	Have Less-than-Significant Impact? No.	Have No Impact? **Yes.**
#2 -d. Result in the loss of forest land or conversion of forest land to non-forest use?	Have Potentially Significant Impact? No.	Have Less-than-Significant Impact with Mitigation Incorporated? No.	Have Less-than-Significant Impact? No.	Have No Impact? **Yes.**
#2 -e. Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland, to non-agricultural use or conversion of forest land to non-forest use?	Have Potentially Significant Impact? No.	Have Less-than-Significant Impact with Mitigation Incorporated? No.	Have Less-than-Significant Impact? **Yes.**	Have No Impact? No.

4.2.1 Environmental Setting

The project sites are zoned as letter "A" (signifying, agriculture) (Kern County 1982). The project sites are designated as prime farmland as delineated by the Farmland Mapping and Monitoring Program (Department of Conservation 2018). The northernmost project site is located on a parcel with an active Williamson Act contract. The southernmost site is not located on land with an active Williamson Act contract (Kern County 2010).

4.2.2 Discussion

#2 -a and b. 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? Conflict with existing zoning for agricultural use, or a Williamson Act contract?

The projects sites are designated as prime farmland (Department of Conservation 2018). The project would be implemented on the outer edges of the agricultural parcels, along the established dirt roads which are primarily barren. Implementation of the proposed project would not convert farmland to non-farmland, nor would it conflict with existing Williamson Act contracts because the proposed project would not impact crop production during construction or operations. The purpose of the project is to connect replacement wells that do not exceed the MCL for TCP so that returned water meets Reclamation's water quality standards. This will allow the District to meet its obligation to return water to its banking partners in 2021. Therefore, there would be **no impact**.

#2 -c and d. Conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code Section 12220(g)), timberland (as defined by PRC Section 4526), or timberland zoned Timberland Production (as defined by Government Code Section 51104(g))? Result in the loss of forest land or conversion of forest land to non-forest use?

The project sites are not zoned as forest land, timberland, or timberland zoned as timberland production, therefore, no loss or conversion of forest land to non-forest land would be necessary. There would be **no impact**.

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

The proposed project would not impact farmland to such a degree that the land would be converted to non-agricultural use. The proposed project would be implemented on the outer edges of the parcels zoned as agriculture and would not interfere with crop production. The pipeline segments would be buried underground, and the above land could be used for a variety of purposes including agriculture. Temporary disturbance from construction activities including use of heavy equipment, ground-disturbance, and staging of equipment. However, use of heavy equipment is common for agricultural production, therefore, this would not be significantly different than the currently level of disturbance in the project vicinity. This impact would be **less than significant**.

4.3 Air Quality

#3 -a. Conflict with or obstruct implementation of the applicable air quality plan?	Have Potentially Significant Impact? No.	Have Less-than-Significant Impact with Mitigation Incorporated? **Yes.**	Have Less-than-Significant Impact? No.	Have No Impact? No.
#3 -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?	Have Potentially Significant Impact? No.	Have Less-than-Significant Impact with Mitigation Incorporated? **Yes.**	Have Less-than-Significant Impact? No.	Have No Impact? No.
#3 -c. Expose sensitive receptors to substantial pollutant concentrations?	Have Potentially Significant Impact? No.	Have Less-than-Significant Impact with Mitigation Incorporated? No.	Have Less-than-Significant Impact? **Yes.**	Have No Impact? No.
#3 -d. Result in other emissions (such as those leading to odors) adversely affecting a substantial number of people?	Have Potentially Significant Impact? No.	Have Less-than-Significant Impact with Mitigation Incorporated? No.	Have Less-than-Significant Impact? **Yes.**	Have No Impact? No.

4.3.1 Environmental Setting

The proposed project is located in the San Joaquin Valley Air Basin within Kern County. The S.J.V.A.P.C.D. is responsible for obtaining and maintaining air quality conditions in the County.

The federal Clean Air Act and California Clean Air Act required the U.S. Environmental Protection Agency (EPA) and California Air Resource Boards (C.A.R.B.) to establish health-based air quality standards at the federal and state levels. National Ambient Air Quality Standards (N.A.A.Q.S.) and California Ambient Air Quality Standards (C.A.A.Q.S.) were established for the following criteria pollutants: carbon monoxide, ozone (O_3), sulfur dioxide, nitrogen dioxide, particulate matter less than 10 microns in diameter (PM_{10}), particulate matter less than 2.5 microns in diameter ($PM_{2.5}$), and lead. Areas of the state are designated as attainment, nonattainment, maintenance, or unclassified for the various pollutant standards according to the federal Clean Air Act and California Clean Air Act.

An "attainment" designation for an area signifies that pollutant concentrations did not violate the N.A.A.Q.S. or C.A.A.Q.S. for that pollutant in that area. A "nonattainment" designation indicates

that a pollutant concentration violated the standard at least once, excluding those occasions when a violation was caused by an exceptional event, as identified in the criteria. A "maintenance" designation indicated that the area previously categorized as nonattainment is currently categorized as attainment for the applicable pollutant; though the area must demonstrate continued attainment for a specific number of years before it can be re-designated as an attainment area. An "unclassified" designation signifies that data does not support either an attainment or a nonattainment status. The EPA established N.A.A.Q.S. in 1971 for six air pollution constituents. States have the option to add other pollutants, to require more stringent compliance, or to include different exposure periods. C.A.A.Q.S. and N.A.A.Q.S. are listed in **Table 4-1**.

Table 4-1: Federal and California Ambient Air Quality Standards and Attainment Status.

Pollutant	Averaging Time	California Standards Concentration	Federal Primary Standards Concentration
Ozone (O_3)	8-hour	0.070 parts per million. (137 micrograms per cubic meter).	0.070 parts per million (137 micrograms per cubic meter.) (*See* Note #1.)
	1-hour	0.09 parts per million. (180 micrograms per cubic meter).	(None; *see* Note #2.)
Respirable Particulate Matter (PM_{10})	24-hour	50 micrograms per cubic meter.	150 micrograms per cubic meter.
	Annual Arithmetic Mean	20 micrograms per cubic meter.	(None.)
Fine Particulate Matter ($PM_{2.5}$)	24-hour	(None.)	35 micrograms per cubic meter.
	Annual Average	12 micrograms per cubic meters.	12 micrograms per cubic meter.
Carbon Monoxide	8-hour	9 parts per million. (10 milligrams per cubic meter.)	9 parts per million. (10 milligrams per cubic meter).
	1-hour	20 parts per million. (23 milligrams per cubic meter).	35 parts per million. (40 micrograms per cubic meter).
Nitrogen Dioxide	Annual Average	0.03 parts per million. (57 micrograms per cubic meter.)	0.053 parts per million. (100 micrograms per cubic meters.)
	1-hour	0.18 parts per million. (339 micrograms per cubic meter.)	0.100 parts per million. (188 micrograms per cubic meters.)
Lead	30-day Average	1.5 micrograms per cubic meter.	(None.)
	Rolling 3-Month Average	(None.)	0.15 micrograms per cubic meter.
	Quarterly Average	(None.)	1.5 micrograms per cubic meter.

Pollutant	Averaging Time	California Standards Concentration	Federal Primary Standards Concentration
	24-hour	0.04 parts per million. (105 micrograms per cubic meter.)	0.14 parts per million (for certain areas)
Sulfur Dioxide	3-hour	(None.)	(None.)
	1-hour	0.25 parts per million. (655 micrograms per cubic meter.)	0.075 parts per million. (196 micrograms per cubic meter.)
Sulfates	24-hour	25 micrograms per cubic meter.	No Federal Standard.
Hydrogen Sulfide	1-hour	0.03 parts per million. (42 micrograms per cubic meter.)	No Federal Standard.
Vinyl Chloride	24-hour	0.01 parts per million. (26 micrograms per cubic meter.)	No Federal Standard.

Notes:

#1. On October 1, 2015, the national 8-hour O_3 primary and secondary standards were lowered from 0.075 to 0.070 ppm.

#2. 1-Hour O_3 standard revoked effective June 15, 2005, although some areas have continuing obligations under that standard.

Source: C.A.R.B. 2016, EPA 2016

Under the N.A.A.Q.S., the County is designated as nonattainment for 8-hour O_3, and $PM_{2.5}$, and attainment/unclassified for PM_{10}, carbon monoxide, nitrogen dioxide, sulfur dioxide, lead, and sulfates (C.A.R.B. 2018). Under C.A.A.Q.S., the County is designated unclassified for all criteria pollutants (C.A.R.B. 2018).

The area's air quality monitoring network provides information on ambient concentrations of air pollutants in the San Joaquin Valley Air Basin S.J.V.A.P.C.D. operates several monitoring stations in Kern County, air quality data was obtained from the Shafter-Walker monitoring site. **Table 3-3** compares a 5-year summary of the highest annual criteria air pollutant emissions collected at this station with applicable C.A.A.Q.S., which are more stringent than the corresponding N.A.A.Q.S. Due to the regional nature of these pollutants, O_3, $PM_{2.5}$, and PM_{10} are expected to be fairly representative of the project site.

As indicated in **Table 4-2**, O_3, $PM_{2.5}$, and PM_{10} standards have been exceeded over the past 5 years.

Table 4-2: Ambient Air Quality Monitoring Data Measured at the Shafter-Walker Street Monitoring Station.

Pollutant Standards, 1-Hour Ozone	2015	2016	2017	2018	2019
Maximum 1-hour concentration (ppm)	0.104	0.096	0.094	0.098	0.087
Days Exceeding[a] C.A.A.Q.S. 1-hour (>0.09 parts per million)	0	0	0	0	0
Pollutant Standards, 8-Hour Ozone	**2015**	**2016**	**2017**	**2018**	**2019**
National maximum 8-hour concentration (ppm).	0.090*	0.087*	0.082*	0.090*	0.077*
State max. 8-hour concentration (ppm).	0.091*	0.087*	0.082*	0.090*	0.077
Days Exceeding[a] N.A.A.Q.S. 8-hour (>0.075 parts per million.)	17	25	8	12	3
Days Exceeding[a] C.A.A.Q.S. 8-hour (>0.070 parts per million.)	34	50	30	35	15
Pollutant Standards, Particulate Matter (PM10)[b]	**2015**	**2016**	**2017**	**2018**	**2019**
National max. 24-hour concentration (micrograms per cubic meter).	104.7	90.9	138.0	136.1	116.3
State max. 24-hour concentration (micrograms per cubic meter).	103.6*	92.2*	143.6*	142.0*	125.9*
State max. 3-year average concentration (micrograms per cubic meter).	44	44	44	43	43
State annual average concentration (micrograms per cubic meter).	44.1*	40.9*	42.6*	-	39.0*
Days Exceeding[a] N.A.A.Q.S. 24-hour (>150 micrograms per cubic meter).	0	0	0	0	0
Days Exceeding[a] C.A.A.Q.S. 24-hour (>50 micrograms per cubic meter).	121.4	121.4	98.7	-	108.1
Pollutant Standards, Particulate Matter (PM2.5)[b]	**2015**	**2016**	**2017**	**2018**	**2019**
National max. 24-hour concentration (micrograms per cubic meter).	107.8*	66.4*	101.8*	98.5*	59.1*
State max. 24-hour concentration (micrograms per cubic meter).	111.9	66.4	101.8	98.5	59.1
State annual average concentration (micrograms per cubic meter).	16.6*	15.9*	15.9*	15.6*	11.4
Days Exceeding[a] N.A.A.Q.S. 24-hour (>35 micrograms per cubic meter).	32.3	25.5	30.2	40.3	12.3

Notes:

* = Values in excess of applicable standard.

- =There was insufficient (or no) data available to determine the value.

2019 is the latest year of data available as of preparation of this Chapter.

[a]An exceedance is not necessarily a violation.

[b]The Bakerfield-California monitoring station was used as this was the closet monitoring station with data.

Source: C.A.R.B. 2021

4.3.2 Discussion

#3 -a and b. Conflict with or obstruct implementation of the applicable air quality plan? 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?

The proposed project would generate criteria pollutants from the use of diesel-powered vehicles and equipment, and earthmoving activities. Construction of the proposed project would require approximately 85 round trips to drop off all required material and equipment to the project sites and 18 trips for construction of the Rosedale Spreading Basin booster pump station. An additional 720 truck trips, or 8 trips per day, would be required for workers commuting to the project sites during construction. A total of 823 trips would be required to implement the project.

To streamline the process of assessing significance of criteria pollutant emissions from common construction projects, S.J.V.A.P.C.D has developed a screening tool, the Small Project Analysis Level (SPAL) to assist in determining if constructing a project in the County would exceed the construction significance threshold for criteria pollutants. The tool uses project type and size, and S.J.V.A.P.C.D. pre-quantified emissions to determine a size below which it is reasonable to conclude that a project would not exceed applicable thresholds of significance for criteria pollutants (S.J.V.A.P.C.D. 2020). Construction of a project that does not exceed the screening level are considered to have a less-than-significant impact on air quality (**Table 4-3**). The proposed project would result in a total of 823 trips over the total construction period, which is significantly lower than the SPAL threshold which is 1,506 trips per day for industrial projects. During operation, the wells and booster pump station would be inspected once per year over the course of 20 years, which would result in one truck trip per year or 20 total truck trips.

Table 4-3. Small Project Analysis Level by Vehicle Trips.

Land Use Category	Project Size
Residential Housing	1,600 trips per day
Commercial	2,000 trips per day
Retail	1,500 trips per day
Institutional	2,000 trips per day
Educational	1,100 trips per day
Recreational	2,200 trips per day

Note:
Source: S.J.A.P.C.D. 2020

However, since the project would disturb more than 1 acre, the District would need to obtain the following permits: State Water Resource Control Board (SWRCB) National Pollutant Discharge Elimination System (N.P.D.E.S.) for general construction activity (Order 2009-0009 DWQ as amended by Order 2012-0006-DWQ), and SWPPP. The District would also need to submit a Dust Control Prevention Plan, which is required for non-residential developments that include 5 acres or more of disturbed surface area (S.J.V.A.P.C.D 2004). Even though the project would comply with SPAL, a significant amount of ground disturbance would occur and could result in a

significant increase in fugitive dust. Therefore, this impact would be **potentially significant.** The following mitigation measure has been identified to address this impact.

Mitigation Measure AQ-1: District Regulation VIII Fugitive PM_{10} Prohibitions Best Management Practices

All projects are subject to S.J.V.A.P.C.D. rules and regulations in effect at the time of construction. Control of fugitive dust is required by S.J.V.A.P.C.D. Regulation VIII. The District shall implement or require its contractor to implement all of the following measures as identified by S.J.V.A.P.C.D.:

- Apply water to unpaved surfaces and areas
- Use non-toxic chemical or organic dust suppressants on unpaved roads and traffic areas
- Limit or reduce vehicle speed on unpaved roads and traffic areas
- Maintain areas in a stabilized condition by restricting vehicle access
- Install wind barriers
- During high winds, cease outdoor activities that disturb the soil
- Keep bulk materials sufficiently wet when handling
- Store and handle material in a three-sided structure
- When storing bulk material, apply water to the surface or cover the stage pile with a tarp
- Don't overload haul trucks. Overlanded trucks are likely to spill bulk materials
- Cover haul trucks with a tarp or other suitable cover. Or, wet the top of the load enough to limit visible dust emissions
- Clean the interior of cargo compartments on emptied haul trucks prior to leaving the site
- Prevent trackout by installing a trackout control device
- Clean up trackout at least once a day. If along a busy road or highway, clean up trackout immediately
- Monitor dust-generating actives and implement appropriate measures for maximum dust control

Implementation of the above-mentioned best management practices (BMPs) which outlines S.J.V.A.P.C.D. Regulation VIII measures to reduce ambient concentrations of PM_{10} and oxides of nitrogen would significantly decrease the amounts of PM_{10} and oxides of nitrogen generated from the project. Additionally, acquisition of a N.P.D.E.S. construction activity general permit, SWPPP, and submitting a Dust Control Prevention Plan, as well as all BMPs outlined in these permits would result in a **less-than-significant impact with mitigation incorporated.**

#3 -c. Expose sensitive receptors to substantial pollutant concentrations?

Some members of the population are especially sensitive to emissions of air pollutants and should be given special consideration during the evaluation of the project air quality impacts. These people include children, senior citizens, and persons with pre-existing respiratory or cardiovascular illnesses, and athletes and other who engage in frequent exercise, especially outdoors. Sensitive receptors include schools, residences, playgrounds, childcare centers, athletic facilities, long-term health care facilities, rehabilitation centers, convalescent centers, and retirement homes. The project sites are in a predominately agricultural area. The closest sensitive receptor to the northern most project site is located approximately 1 mile west of the project site. The closest sensitive receptor to the southernmost site is a residence located on an agricultural parcel approximately 0.10 mile south of the project site. Orchards located north of the residence would provide some shielding between the project site and the residence.

During construction, most of the PM emissions are released in the form of fugitive dust during ground disturbance activities, mostly during the grading phases. PM emissions are also generated in the form of equipment exhaust and re-entrained road dust from vehicle travel. Impacts from PM emissions would be temporary and would go back to normal after completing the construction phase. Given the short-term emissions, current agricultural activities occurring around these sites, and incorporation of Mitigation Measure AQ-1, this impact would be **less-than-significant**.

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

Human response to odors is subjective, and sensitivity to odor varies from person to person. Typically, odors are considered an annoyance rather than a health hazard. However, a person's response to odor can range from psychological (e.g., irrigation, anger, anxiety) to physiological (e.g., circulatory and respiration reaction, nausea, headaches, etc.). During construction, the project would generate odor from the use of diesel fuels, though this would be short-term and not significant. No odors would be generated during operations. Potential odor effects would be **less-than-significant**.

4.4 Biological Resources

#4 -a. Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service?	Have Potentially Significant Impact? No.	Have Less-than-Significant Impact with Mitigation Incorporated? **Yes.**	Have Less-than-Significant Impact? No.	Have No Impact? No.
#4 -b. 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 the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service?	Have Potentially Significant Impact? No.	Have Less-than-Significant Impact with Mitigation Incorporated? No.	Have Less-than-Significant Impact? No**.**	Have No Impact? **Yes**.
#4 -c. Have a substantial adverse effect on State or Federally protected wetlands (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?	Have Potentially Significant Impact? No..	Have Less-than-Significant Impact with Mitigation Incorporated? No.	Have Less-than-Significant Impact? **Yes.**	Have No Impact? No.
#4 -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?	Have Potentially Significant Impact? No.	Have Less-than-Significant Impact with Mitigation Incorporated? No.	Have Less-than-Significant Impact? **Yes.**	Have No Impact? No.
#4 -e. Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?	Have Potentially Significant Impact? No.	Have Less-than-Significant Impact with Mitigation Incorporated? No.	Have Less-than-Significant Impact? No.	Have No Impact? **Yes.**
#4 -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?	Have Potentially Significant Impact? No.	Have Less-than-Significant Impact with Mitigation Incorporated? No.	Have Less-than-Significant Impact? No.	Have No Impact? **Yes.**

4.4.1 Environmental Setting

Information presented in this environmental setting is based on observations made during a field survey conducted on January 13, 2021, and review of biological resource databases and other available information regarding biological resources in the project vicinity.

4.1.1.1 Background Review

Before conducting biological field surveys, GEI, Consultants, Inc. (GEI) reviewed the California Department of Fish and Wildlife (CDFW) California Natural Diversity Database (CNDDB) (CDFW 2021) and the California Native Plant Society (CNPS) online Inventory of Rare and Endangered Vascular Plants of California (CNPS 2021). These reviews included the Famoso, Wasco, Buttonwillow, MacFarland, Pond, Wasco NW, Wasco SW, Rio Bravo, Rosedale, USGS 7.5-minute quadrangles. A resources list of species and habitats of federal conservation concern that could occur in the project area was obtained from the U.S. Fish and Wildlife Service (U.S.F.W.S.) Information for Planning and Conservation website (U.S.F.W.S. 2021a); the U.S.F.W.S. online map of critical habitat for federally threatened and endangered species (U.S.F.W.S. 2021b) also was reviewed.

Field surveys of the project sites were conducted by GEI biologist Devin Barry on January 13, 2021. The surveys focused on evaluating potential for special-status species to occur on or adjacent to the project sites and be affected by project activities. The survey area included a 50-foot corridor along the pipeline routes and 100-foot buffer of the well sites.

4.1.1.2 Existing Conditions

Both project sites and the surrounding areas are almost entirely comprised of agricultural land (almond orchard and row/field crops), rural residences, oil wells and associated infrastructure (e.g., above-ground pipelines), and ruderal habitat associated with formerly cultivated agricultural fields. Topography is generally flat, with an average elevation of approximately 400 feet above mean sea level. All agricultural lands are actively cultivated or maintained. The road shoulders are compacted and barren, and unplanted fields and lots were barren at the time of the field survey. The Calloway Canal is located at the southern project site. The only remnant natural habitat near the project sites is a small portion of the Poso Creek corridor, which is adjacent to, but almost entirely separated from, the northern project site/eastern work area by a water delivery canal (8-29 canal). Ruderal habitat occurs at the southern project site and along some roadways, the edges of the Calloway Canal and the 8-29 canal, and field margins in and adjacent to the project sites.

4.1.1.3 Sensitive Biological Resources

Sensitive biological resources addressed in this section include those that are afforded consideration for protection under state and federal laws and regulations.

4.1.1.3.1 Special-status Species

For purposes of this analysis, special-status species include plants and animals in one or more of the following categories:

- species officially listed by the federal government or the state of California as endangered, threatened, or rare
- candidate species for federal or state listing as endangered or threatened
- species proposed for federal or state listing as endangered or threatened
- taxa (i.e., taxonomic categories or groups) that meet the criteria for listing
- wildlife species identified by CDFW as species of special concern and plant taxa considered by CDFW to be "rare, threatened, or endangered in California"
- species listed as Fully Protected under the California Fish and Game Code
- species afforded protection under local or regional planning documents

4.1.1.3.2 Plants

Nineteen special-status plants included in the CNDDB and/or online Inventory of Rare and Endangered Vascular Plants of California search results were evaluated for their potential to occur on the project sites. All of these species are restricted to scrub, grassland, or wetland habitat types. Based on observations made during the field surveys, no special-status plants have potential to occur on or adjacent to the project sites, because no suitable habitat for them is present.

4.1.1.3.3 Wildlife

Twenty-six special-status wildlife taxa included in the CNDDB search results and/or on the U.S.F.W.S. resource list were evaluated for their potential to occur on or adjacent to the project sites. As with the plant species, nearly all of the wildlife species were determined to have no potential to occur on or adjacent to the project sites because of restricted distribution and/or lack of suitable habitat. The few special-status wildlife taxa for which at least potentially suitable habitat occurs on or adjacent to the project sites were evaluated in further detail and are discussed below.

Five special-status reptiles could occur along Poso Creek, adjacent to the northern project site/eastern work area: Bakersfield legless lizard (*Anniella grinnelli)*, blunt-nosed leopard lizard (*Gambelia silus)*, coast horned lizard (*Phrynosoma blainvillii)*, San Joaquin coachwhip (*Masticophis flagellum ruddocki)*, and California glossy snake (*Arizona elegans occidentalis)*. Potential for these species to occur on this project site is very low, because the site does not provide the appropriate habitat conditions for these species, such as sandy soils and appropriate vegetation, and there is no evidence that the species occur along this portion of Poso Creek. One occurrence of blunt-nosed leopard lizard has been documented in the CNDDB within 5 miles of the project sites. However, this is from more than 30 years ago, and occurrences in the larger region over the past 20 years are from remnant areas of valley floor natural habitat and oil field grasslands to the east, 10 to 20 miles from the nearest project site. The CNDDB does not include any Bakersfield legless lizard occurrences as far north as the southern project site, and both coast horned lizard occurrences and San Joaquin coachwhip occurrences in the region are from large areas of remnant native habitat well east and west of the project sites. Glossy snake occurrences are known from

within 5 miles of the project sites, but these occurrences are from more than 80 years ago, when habitat conditions were very different.

Six special-status bird species have low or very low potential to occur on or adjacent to the project sites: burrowing owl (*Athene cunicularia)*, Swainson's hawk (*Buteo swainsonii)*, northern harrier (*Circus cyaneus)*, white-tailed kite (*Elanus leucurus)*, least bell's vireo (*Vireo belli pusillus)*, and tricolored blackbird (*Agelaius tricolor)*. Potentially suitable habitat for burrowing owl also is limited to uncultivated fields and ruderal habitat near the project sites. No concentrations of ground squirrel burrows were observed during the field surveys, but scattered burrows were present in ruderal habitat adjacent to these sites and could be suitable for burrowing owl. No suitable nesting habitat for tricolored blackbird or northern harrier was present on or adjacent to the project sites during the field surveys. However, if grain crops or extensive areas of tall ruderal vegetation (e.g., in fallow fields) are present near these project sites during project activities, there is some potential for these species to nest in such habitat. Large trees along Poso Creek, provide marginally suitable nest sites for Swainson's hawk and white-tailed kite (as well as common raptor species), although neither species is known to nest along that section of the Creek. Kern County is at the south end of the Swainson's hawk breeding range, and the species occurs sparsely in this region. Shrubby riparian vegetation within Poso Creek provides marginally suitable nesting habitat for least bell's vireo; however, foraging habitat in limited in the vicinity and this species has not recently been documented in the vicinity.

Four special-status mammals have low or very low potential to occur on or adjacent to the northernmost or southernmost project sites: short-nosed kangaroo rat (*Dipodomys nitratoides brevinasus)*, Tulare grasshopper mouse (*Onychomys torridus tularensis)*, San Joaquin kit fox (*Vulpes macrotis mutica)*, and American badger (*Taxidea taxus)*. Several occurrences of San Joaquin kit fox have been documented within 5 miles of the project sites. Most of these occurrences are from more than 40 years ago. The only recent occurrence was a 2006 roadkill approximately 1.5 miles southwest of the southernmost project site. The nearest relatively recent occurrence of badger in the area is from 1989, in saltbush scrub along Poso Creek, approximately 10 miles southwest of the northern project site.

4.1.1.3.4 Sensitive Habitats

No sensitive habitats, including state or federally protected wetlands, critical habitat for federally listed species, or state-designated natural communities of special concern, are present on or adjacent to the project site.

4.4.2 Discussion

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

Implementing the project would temporarily disturb the margins of existing canals, dirt roads, orchards, and agricultural fields. Pipeline installation would primarily be limited to barren ground, and no natural habitat would be affected by any project activities.

Based on observations made during the field survey, habitat for special-status plants is absent from the project sites, and none of the species were determined to have potential to occur on or adjacent to any of the project sites. Therefore, there would be **no impact** on special-status plants.

Based on the review of existing documentation, habitat requirements of each species, and habitat evaluations made during field survey, most of the animal species have no potential to occur on or adjacent to the project sites. Because the project sites do not support natural vegetation or aquatic habitat, suitable habitat for most of the species considered is absent. Despite the poor habitat conditions for most wildlife species, several have some low degree of potential to occur on or near the project sites, particularly the northern project site/eastern work area, because of its adjacency to Poso Creek. These species are discussed further below. No special-status wildlife species were observed during the field surveys.

4.1.1.4 Special-status reptiles.

Potential for special-status reptiles to be impacted by the project is minimal. Because project activities would be limited to existing roadways and canal and orchard/field margins, nearly the entire disturbance is barren. Less than 0.1 acre of poor-quality ruderal habitat at the northern project site/eastern work area would be disturbed by project activities. Therefore, it is very unlikely that an individual of any special-status reptile species would be present on this project site and vulnerable to being injured or killed by project activities. Project activities are also very unlikely to disturb individuals that may be present in adjacent habitat, because project disturbance levels would be similar to those of on-going agricultural activities, canal maintenance, and off-road recreation that occur under existing conditions. Disturbance to these areas has a greater potential to impact special-status reptiles; however, potential for these species to occur on this project site is very low because the site and surrounding areas do not provide the appropriate habitat conditions for these species, such as sandy soils and appropriate vegetation.

Based on the very small area of poor-quality habitat that would be affected and very low probability for a very few, if any, individuals of these species to be impacted, this would not have a substantial adverse effect on Bakersfield legless lizard, coast horned lizard, or California glossy snake. Therefore, impacts on these species would be **less-than-significant**. However, because of the endangered and fully protected status of blunt-nosed leopard lizard, potential to injure or kill even one individual could be considered a substantial adverse effect; this impact would be **less-than-significant with mitigation incorporated**. Mitigation Measure BIO-1, described below, has been identified to reduce this impact to a less-than-significant level.

4.1.1.5 Special-status birds.

All the special-status bird species that could be impacted by project activities are known or likely to occur in the general region, but habitat on and adjacent to the project sites is only marginally

suitable for them. Areas adjacent to the northern project site/eastern work area currently provide marginal foraging and nesting habitat for burrowing owl, Swainson's hawk and white-tailed kite. No suitable nesting habitat for tricolored blackbird or northern harrier was present on or adjacent to these sites during the field surveys; however, if grain crops or extensive areas of tall ruderal vegetation (e.g., in fallow fields) are present near these project sites during project activities, there is some potential for these species to nest in such habitat and be present during project implementation. Because project activities would be limited to existing roadways and canal and orchard/field margins, there is no potential for nests of these species to be directly destroyed. In addition, most of the project sites are subject to regular disturbance from existing agricultural activities and/or road traffic, and project disturbance would be similar in intensity to agricultural activities. Therefore, potential for project-related disturbance to result in nest failure or burrow abandonment is low. However, if an active nest or occupied burrow is present very close to a project site, project activities could result in burrow or nest abandonment, reduced care of eggs or young, or premature fledging. Depending on the species and number of individuals that are affected, burrow abandonment or nest failure could be considered a substantial adverse effect. This impact would be **less-than-significant with mitigation incorporated**. Mitigation Measures BIO-2a and BIO-2b, described below, have been identified to reduce this impact to a less-than-significant level.

4.1.1.6 Special-status mammals.

Based on the current agricultural land use and observations made during the field surveys, San Joaquin kit fox and American badger are very unlikely to den on any of the project sites. However, because the Poso Creek corridor and FKC and Calloway Canal rights-of-way could provide travel corridors, there is potential for individuals to occasionally disperse through the sites. Additionally, both species could travel through agricultural areas. If a kit fox or badger is present during project activities, it could be injured or killed if struck by a project vehicle or project equipment or become trapped in pipes or trenches. In the very unlikely event an occupied den is present adjacent to a project site, project-related disturbance could result in den abandonment. Very few individuals, if any, would be affected. As discussed above, burrow density at the location for pipeline installation underneath the Calloway Canal was greater than the total project area. Disturbance to these areas has a greater potential to impact special-status mammals; however, potential for these species to occur on this project site is low, because the site and surrounding areas do not provide the appropriate habitat conditions for these species. This is unlikely to have a substantial adverse effect on the regional badger population; therefore, impacts on badger would be **less-than-significant**. However, because of the endangered status of San Joaquin kit fox, potential to injure or kill even one individual could be considered a substantial adverse effect; this impact would be **less-than-significant with mitigation incorporated**. Mitigation Measure BIO-1, described below, has been identified to reduce this impact to a less-than-significant level.

Mitigation Measure BIO-1: Conduct Focused Surveys and Implement Measures to Minimize Potential for Impacts on Blunt-nosed Leopard Lizard and San Joaquin Kit Fox.

To minimize potential effects of project construction on blunt-nosed leopard lizard and San Joaquin kit fox, the District will ensure that the following measures are implemented:

- An Environmental Awareness Program will be presented to all project personnel working in the field before project activities begin. The program will be presented by a qualified biologist with knowledge of special-status wildlife that could occur on the project sites. The program will address each species biology and habitat needs; status of each species and their regulatory protections; and measures required to reduce impacts to the species during project construction.
- To prevent wildlife entrapment during construction, all excavated, steep-walled holes or trenches more than 2 feet deep will be covered with plywood or similar material at the end of each workday. If the trenches cannot be closed, one or more escape ramps of no more than a 45-degree slope will be constructed of earthen fill or created with wooden planks. All covered or uncovered excavations will be inspected at the beginning, middle, and end of each day. Before trenches are filled, they will be inspected for trapped animals. If a trapped or injured animal is discovered, project activities will stop, and escape ramps or structures will be installed immediately to allow the animal(s) to escape.
- All construction pipes, culverts, or similar structures with a diameter of 4 inches or more that are stored at a construction site for one or more overnight period will be thoroughly inspected for wildlife before the pipe is buried, capped, or otherwise used or moved in any way. Pipes laid in trenches overnight will be capped. If an animal is discovered inside a pipe, the pipe will not be moved, and the animal will be allowed to leave on its own.
- All food-related trash items such as wrappers, cans, bottles or food scraps generated during project activities will be disposed of in closed containers and removed daily from the project site. No deliberate feeding of wildlife will be allowed, and no domestic pets associated with project personnel will be permitted on the project site.
- No less than 14 days but no more than 30 days before project activities begin, a qualified biologist will conduct a pre-construction survey to determine the potential for blunt-nosed leopard lizard and San Joaquin kit fox to occur in the action area. If potential dens for San Joaquin kit fox are found, exclusion zones will be established and maintained, in accordance with the Standardized Recommendations for Protection of the Endangered San Joaquin Kit Fox (U.S.F.W.S. 2011). If burrows that show evidence of occupation by blunt-nosed leopard lizard are identified, a qualified biologist will determine an appropriate exclusion zone that will be maintained to prevent disturbance of the burrows and occupants.
    - **Timing:** Before and during project construction activities
    - **Responsibility:** District and construction contractor(s)

Mitigation Measure BIO-2a: Conduct Focused Surveys for Burrowing Owls and Avoid Loss of Occupied Burrows.

To minimize potential effects of project construction on burrowing owl, the District will ensure that the following measures are implemented, consistent with the Staff Report on Burrowing Owl Mitigation (CDFG 2012).

- A qualified biologist will assess burrowing owl habitat suitability in the area subject to direct impact and adjacent areas within 500 feet. If suitable habitat or sign of burrowing owl presence is observed, a take avoidance survey will be conducted within 14 days before project activities begin. If any occupied burrows are observed, protective buffers will be established and implemented. A qualified biologist will monitor the occupied burrows during project activities to confirm effectiveness of the buffers. The size of the buffer will depend on type and intensity of project disturbance, presence of visual buffers, and other variables that could affect susceptibility of the owls to disturbance.
- If it is not feasible to implement a buffer of adequate size and it is determined, in consultation with CDFW, that passive exclusion of owls from the project site is an appropriate means of minimizing impacts, an exclusion and relocation plan will be developed and implemented in coordination with CDFW. However, passive exclusion cannot be conducted during the breeding season (February 1–August 31), unless a qualified biologist verifies through noninvasive means that either (1) the birds have not begun egg laying or (2) juveniles from the occupied burrows are foraging independently and are capable of independent survival.
    - **Timing:** Before and during project construction activities
    - **Responsibility:** District and construction contractor(s)

Mitigation Measure BIO-2b: Conduct Focused Surveys for Nesting Swainson's Hawk, other Special-status Birds, and Common Birds and Implement Buffers Around Active Nests.

To minimize potential effects of project construction on nesting Swainson's hawk, other special-status birds, and common raptors, the District will ensure that the following measures are implemented:

- A qualified biologist will conduct surveys of potential Swainson's hawk nesting trees within 0.25 mile of the project site. To the extent practicable, depending on timing of project initiation, surveys will be conducted in accordance with the Recommended Timing and Methodology for Swainson's Hawk Nesting Surveys in California's Central Valley (Swainson's Hawk Technical Advisory Committee 2000). At a minimum, a survey will be conducted within 14 days before project activities begin near suitable nest trees during the nesting season (April–August).
- If an active Swainson's hawk nest is observed, a protective buffer will be established and implemented until the nest is no longer active. A qualified biologist will monitor the nest during project activities to confirm effectiveness of the buffer. The size of the buffer will

depend on type and intensity of project disturbance, presence of visual buffers, and other variables that could affect susceptibility of the nest to disturbance.

- A qualified biologist will conduct surveys of suitable nesting habitat that would be directly disturbed by project activities and suitable nesting habitat for tricolored blackbird, white-tailed kite, northern harrier, and common raptors, if present within 500 feet of project activities. Surveys will be conducted within 14 days before project activities begin near suitable nesting habitat during the nesting season (February–August).
- If any active bird nests are documented in the area that would be directly disturbed by project activities or active nests of tricolored blackbird, white-tailed kite, northern harrier, and common raptors are documented within 500 feet, protective buffers will be established and implemented until the nests are no longer active. A qualified biologist will monitor the nests during project activities to confirm effectiveness of the buffers. The size of the buffers will depend on type and intensity of project disturbance, presence of visual buffers, and other variables that could affect susceptibility of the nest to disturbance.
    - **Timing:** Before and during project construction activities
    - **Responsibility:** District and construction contractor(s)

#4 -b. 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 the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service?

The project sites do not support any riparian habitat, designated critical habitat, or other sensitive natural community identified in local or regional plans, policies, or regulations; there would be **no impact** on these resources.

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

Aquatic habitat on the project sites is limited to irrigational canals that are heavily maintained, generally lack vegetation, and provide very poor aquatic habitat. Therefore, impacts associated with disturbance of very small portions of several canals during project construction would be **less-than-significant**.

#4 -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?

The project sites are part of a much larger extent of agricultural lands and do not serve as a corridor or other primary route for wildlife movement. Wildlife likely travel along the FKC, the Calloway Canal, and other canals at the project sites and may venture into agricultural lands adjacent to the project site. However, other agricultural lands surrounding the project sites that would not be

disturbed by project implementation provide equally suitable movement opportunities. In addition, project activities would only occur during the day, while most wildlife movement would likely be at night, and disturbance of the canal corridors would be relatively minor. The project sites also are not known or anticipated to serve as a nursery site for any wildlife species. Therefore, implementing the proposed project would not substantially interfere 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; this impact would be **less-than-significant**.

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

The 2004 Kern County General Plan, which is currently being updated, includes several policies and implementation measures designed to protect and conserve threatened and endangered species and oak trees (Kern County 2004a). No oak trees are present on the project sites, and the project has no potential to conflict with Kern County's General Plans oak retention policy. The General Plan requires discretionary projects to consider effects to biological resources and wildlife agency comments during the CEQA process; this is consistent with the CEQA process being implemented by the District for the proposed project. Therefore, implementing the proposed project would not conflict with any local policies or ordinances protecting biological resources and this impact would be **no impact**.

#4 -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?

The project sites are within the area anticipated to be covered by the Kern County Valley Floor Habitat Conservation Plan. A draft of the plan was issued many years ago (Kern County Planning Department 2006), but a final plan has not been released. The project sites are within an extensive area of "White Zone," which is of lower conservation concern and not identified for acquisition of preserve areas. In addition, all of the project sites are north of the existing Metropolitan Bakersfield Habitat Conservation Plan area and the plan area for the Bakersfield Habitat Conservation Plan that is currently in development. Therefore, implementing the proposed project would not conflict with any provisions, guidelines, goals, or objectives related to biological resources anticipated to be included in a potential final and adopted version of this plan, and there would be **no impact**.

4.5 Cultural Resources

#5 -a. Cause a substantial adverse change in the significance of a historical resource pursuant to California Code of Regulations (CCR) Section 15064.5?	Have Potentially Significant Impact? No.	Have Less-than-Significant Impact with Mitigation Incorporated? **Yes.**	Have Less-than-Significant Impact? No.	Have No Impact? No.
#5 -b. Cause a substantial adverse change in the significance of an archaeological resource pursuant to CCR Section 15064.5?	Have Potentially Significant Impact? No.	Have Less-than-Significant Impact with Mitigation Incorporated? **Yes.**	Have Less-than-Significant Impact? No.	Have No Impact? No.
#5 -c. Disturb any human remains, including remains interred outside of dedicated cemeteries?	Have Potentially Significant Impact? No.	Have Less-than-Significant Impact with Mitigation Incorporated? **Yes.**	Have Less-than-Significant Impact? No.	Have No Impact? No.

4.5.1 Environmental Setting

Cultural resources are defined as buildings, sites, structures, or objects, each of which may have historic, architectural, archaeological, cultural, or scientific importance.

4.1.1.7 Methods

The cultural resources investigations carried out for the proposed project included a records search at the South San Joaquin Valley Information Center (S.S.J.V.I.C.), archival research and an archaeological and built environment field survey of the project area.

4.1.1.7.1 Record Search

GEI archaeologist, Matt Chouest, M.A., R.P.A., requested a records search at the S.S.J.V.I.C. which included the project boundary and a 0.5-mile radius. The records search included searches on the S.S.J.V.I.C.'s Famoso, McFarland, Rosedale, and Wasco USGS 7.5-minute quadrangle maps in order to identify previously reported cultural resources and previous investigations within the project area.

The S.S.J.V.I.C. responded on January 25, 2021 (Records Search File No.: 21-029). In their response the S.S.J.V.I.C. reported that one previous investigation included portions of the project area. The previous investigation included a survey of 1091 acres for SunCal Companies; the investigation was conducted to comply with CEQA guidelines, though a description of the project was lacking in the report. The previous investigation did not identify any cultural resources.

The S.S.J.V.I.C. response letter did identify two previously reported cultural resources within the project boundary, both of which are built environment resources. These two resources consist of the following:

- P-15-007233 (CA-KER-8810H, Calloway Canal)
- P-15-013728 (CA-KER-7704H, Friant-Kern Canal)

Within the 0.5-mile search radius but outside the project area, the S.S.J.V.I.C. identified 10 previous investigations and 5 cultural resources, all of which are built environment resources. This likely indicates the area surrounding the project area has low sensitivity for prehistoric resources.

4.1.1.7.2 Field Surveys

GEI archaeologists Matt Chouest, M.A., R.P.A., and Amy Wolpert, M.A., conducted the surveys on January 26 and 27, 2021. The survey was conducted to intensive standards utilizing transects spaced no more than 15 meters (49 feet) apart. No archeological resources were observed during the pedestrian survey. Four historic-era resources were inventoried and recorded: the FKC, the Calloway Canal, the 9-2 Canal, and the CT-1 Canal.

4.5.2 Discussion

a, b) Cause a substantial adverse change in the significance of a historical resource pursuant to in CCR Section 15064.5? Cause a substantial adverse change in the significance of an archaeological resource pursuant to CCR Section 15064.5?

Under CEQA, public agencies must consider the effects of their actions on "historical resources." CEQA defines an "historical resource" as any resource listed in or determined to be eligible for listing in the California Register of Historical Resources (CRHR). The CRHR includes resources listed in or formally determined eligible for listing in the National Register of Historic Places (NRHP), as well as some California Historical Landmarks and Points of Historical Interest. Properties of local significance that have been designated under a local preservation ordinance (local landmarks or landmark districts) or that have been identified in a local historical resources inventory may be eligible for listing in the CRHR and are presumed to be significant resources for purposes of CEQA unless a preponderance of evidence indicates otherwise (California PRC Section 5024.1, 14 CCR Section 4850). The eligibility criteria for listing in the CRHR are similar to those for NRHP listing but focus on importance of the resources to California history and heritage.

A cultural resource may be eligible for listing in the CRHR if it:

1. is associated with events that have made a significant contribution to the broad patterns of California's history and cultural heritage
2. is associated with the lives of persons important in our past

3. embodies the distinctive characteristics of a type, period, region, or method of construction or represents the work of an important creative individual or possesses high artistic values
4. or has yielded, or may be likely to yield, information important in prehistory or history

In addition to meeting one or more of the above criteria, resources eligible for listing in the CRHR must retain enough of their historic character or appearance to be recognizable as historical resources and to convey the reasons for their significance. Integrity is evaluated with regard to the retention of location, design, setting, materials, workmanship, feeling, and association (Office of Historic Preservation 1999).

Impacts would be deemed significant if there is substantial adverse change by means of physical demolition, destruction, relocation, or alteration of the resource or its immediate surroundings such that the significance of the resource would be materially impaired. Per Section 15064.5 (b)(2) of the CEQA Guidelines the significance of a historical resource is materially impaired when a project:

- Demolishes or materially alters in an adverse manner those physical characteristics of an historical resource that convey its historical significance and that justify its inclusion in, or eligibility for, inclusion in the California Register of Historical Resources; or

- Demolishes or materially alters in an adverse manner those physical characteristics that account for its inclusion in a local register of historical resources pursuant to section 5020.1(k) of the Public Resources Code or its identification in an historical resources survey meeting the requirements of section 5024.1(g) of the Public Resources Code, unless the public agency reviewing the effects of the project establishes by a preponderance of evidence that the resource is not historically or culturally significant; or

- Demolishes or materially alters in an adverse manner those physical characteristics of an historical resource that convey its historical significance and that justify its eligibility for inclusion in the CRHR as determined by a lead agency for the purposes of CEQA.

No previously recorded archaeological resources are present within the project site or within 0.5 miles of the project site, and no archaeological resources were discovered during the pedestrian survey. Two built environment resources, 50-years old or older, were identified: the FKC the Calloway Canal. The FKC was previously determined as eligible for the NRHP through a consensus determination between the Caltrans and State Historic Preservation Office in 1997. The FKC is therefore also considered a historical resource for the purposes of CEQA. The Calloway Canal has previously been recorded and recommended as not meeting NRHP criteria because of a lack of integrity. In addition, the 9-2 Canal and the CT-1 Canal were inventoried and evaluated for NRHP criteria and do not appear to be NRHP-eligible because they lack historical significance. The Calloway Canal, 9-2 Canal, and CT-1 Canal also do not appear to meet eligibility requirements for the CRHR. Because the Calloway Canal, 9-2 Canal, and CT-1 Canal lack significance, they are not considered historical resources for the purposes of CEQA. Upon completion of the project, the FKC would retain its integrity and significance. Overall, the materials, workmanship, and the

general physical characteristics that convey the historical significance of the canal would remain in place and the canal would continue to function as originally designed. Therefore, the impact would be **less-than-significant**.

Though very unlikely, the possibility remains that a resource meeting CRHR significance criteria for a historical resource may be discovered during project-related ground-disturbing activities. If this were to occur, then it would be a potentially significant impact. Implementation of Mitigation Measure CR-1 would reduce this impact to **less-than-significant**.

> **Mitigation Measure CR-1: Address Previously Undiscovered Historic Properties, Archaeological Resources, and Tribal Cultural Resources.**
>
> If cultural resources are identified during project-related ground-disturbing activities, all potentially destructive work in the immediate vicinity of the find should cease immediately and the District should be notified. In the event of an inadvertent discovery, additional CEQA review would be necessary to make a determination on a properties' eligibility for listing in the CRHR and any actions that would be necessary to avoid adverse effects. A qualified archaeologist should assess the significance of the find, make a preliminary determination, and if appropriate, provide recommendations for treatment. Any treatment plan should be reviewed by the District prior to implementation. Ground-disturbing activities should not resume near the find until treatment, if any is recommended, the find is complete or if the qualified archaeologist determines the find is not significant.
>
> - **Timing:** Before and during project construction activities
> - **Responsibility:** District and construction contractor(s)

Implementing Mitigation Measure CR-1 would reduce the potential impact related to discovery of unknown historical resources to a less-than-significant level because the find would be assessed by an archaeologist and the treatment or investigation would be conducted in accordance with CEQA and its implementing guidelines. Therefore, the proposed project would have a **less-than-significant impact with mitigation**.

c) Disturb any human remains, including remains interred outside of dedicated cemeteries?

No human remains have been discovered in the project area and it is not anticipated that human remains, including those interred outside of dedicated cemeteries, would be discovered during ground-disturbance activities with the proposed project. There is no indication from the records search or pedestrian survey that human remains are present within the project site. However, in the event that human remains, including those interred outside of formal cemeteries and including associated items and materials, are discovered during subsurface activities, the human remains, and associated items and materials could be inadvertently damaged. Therefore, a **potentially significant impact** would occur. The following mitigation measure has been identified to address this impact:

Mitigation Measure CR-2: Avoid Potential Effects on Undiscovered Burials.

If human remains are found, the District will be immediately notified. The California Health and Safety Code requires that excavation be halted in the immediate area and that the county coroner be notified to determine the nature of the remains. The coroner is required to examine all discoveries of human remains within 48 hours of receiving notice of a discovery on private or state lands (Health and Safety Code, Section 7050.5[b]). If the coroner determines that the remains are those of a Native American, the coroner must contact the Native American Heritage Commission (NAHC) by telephone within 24 hours of making that determination (Health and Safety Code, Section 7050.5[c]).

Once notified by the coroner, the NAHC shall identify the person determined to be the Most Likely Descendant (MLD) of the Native American remains. With permission of the legal landowner(s), the MLD may visit the site and make recommendations regarding the treatment and disposition of the human remains and any associated grave goods. This visit should be conducted within 24 hours of the MLD's notification by the NAHC (Public Resources Code [PRC], Section 5097.98[a]). If a satisfactory agreement for treatment of the remains cannot be reached, any of the parties may request mediation by the NAHC (PRC, Section 5097.94[k]). Should mediation fail, the landowner or the landowner's representative must reinter the remains and associated items with appropriate dignity on the property in a location not subject to further subsurface disturbance (PRC, Section 5097.98[b]).

- **Timing:** Before and during project construction activities
- **Responsibility:** District and construction contractor(s)

Implementing Mitigation Measure CR-2 would reduce the potentially significant impact related to discovery of human remains to a less-than-significant level because the find would be assessed by an archaeologist and treated or investigated in accordance with state and federal laws. Therefore, the proposed project would have a **less-than-significant impact with mitigation**.

4.6 Energy

#6 -a. Result in potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation?	Have Potentially Significant Impact? No.	Have Less-than-Significant Impact with Mitigation Incorporated? No.	Have Less-than-Significant Impact? **Yes.**	Have No Impact? No.
#6 -b. Conflict with or obstruct a State or local plan for renewable energy or energy efficiency?	Have Potentially Significant Impact? No.	Have Less-than-Significant Impact with Mitigation Incorporated? No.	Have Less-than-Significant Impact? No.	Have No Impact? **Yes.**

4.6.1 Environmental Setting

Electricity and natural gas are supplied to Kern County by Pacific Gas and Electric (PG&E), Southern California Edison, and Southern California Gas (Kern County 2004). In 2019, the total electricity consumption for Kern County was approximately 17,105 million kilowatts per hour (California Energy Commission [CEC] 2019).

4.6.2 Discussion

#6 -a. Result in potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation?

The proposed project would not result in significant environmental impacts due to wasteful, inefficient, or unnecessary consumption of energy resources. The project would involve the use of diesel-fueled vehicles during constructions, however, use of these vehicles would be temporary and not significant. Additionally, a consolidated booster pump would be installed at the Rosedale Spreading Basin. The booster pump station would use only enough energy to convey water to the FKC. Engineers are also evaluating upgrading the existing electrical motors at the wells that have a capacity of 150 to 400 horsepower (hp) with electrical motors that have a capacity of 650 hp. Additionally, the District will upgrade the existing wells by installing electrical and communication equipment, including solar panels and supervisory control and data acquisition hardware. The equipment would be connected to existing electrical conduits. Since energy would be used in a conservative manner, this impact would be **less than significant**.

#6 -b. Conflict with or obstruct a State or local plan for renewable energy or energy efficiency?

Kern County does not have a local plan for renewable energy or energy efficiency. The proposed project would comply with the state's Climate Commitment to reduce the reliance on non-renewable energy sources by half by 2030 (CEC 2015). There would be **no impact**.

4.7 Geology and Soils

#7 -a. Directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving:	Have Potentially Significant Impact? No.	Have Less-than-Significant Impact with Mitigation Incorporated? No.	Have Less-than-Significant Impact? **Yes.**	Have No Impact? No.
#7 -a. i. Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? (*Refer to* California Geological Survey Special Publication 42.)	Have Potentially Significant Impact? No.	Have Less-than-Significant Impact with Mitigation Incorporated? No.	Have Less-than-Significant Impact? **Yes.**	Have No Impact? No.
#7 -a. ii. Strong seismic ground shaking?	Have Potentially Significant Impact? No.	Have Less-than-Significant Impact with Mitigation Incorporated? No.	Have Less-than-Significant Impact? **Yes.**	Have No Impact? No.
#7 -a. iii. Seismic-related ground failure, including liquefaction?	Have Potentially Significant Impact? No.	Have Less-than-Significant Impact with Mitigation Incorporated? No.	Have Less-than-Significant Impact? **Yes.**	Have No Impact? No.
#7 -a. iv. Landslides?	Have Potentially Significant Impact? No.	Have Less-than-Significant Impact with Mitigation Incorporated? No.	Have Less-than-Significant Impact? No.	Have No Impact? **Yes.**
#7 -b. Result in substantial soil erosion or the loss of topsoil?	Have Potentially Significant Impact? No.	Have Less-than-Significant Impact with Mitigation Incorporated? No.	Have Less-than-Significant Impact? **Yes.**	Have No Impact? No.

#7 -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?	Have Potentially Significant Impact? No.	Have Less-than-Significant Impact with Mitigation Incorporated? No.	Have Less-than-Significant Impact? **Yes.**	Have No Impact? No.
#7 -d. Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994, as updated),), creating substantial direct or indirect risks to life or property?	Have Potentially Significant Impact? No.	Have Less-than-Significant Impact with Mitigation Incorporated? No.	Have Less-than-Significant Impact? **Yes.**	Have No Impact? No.
#7 -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?	Have Potentially Significant Impact? No.	Have Less-than-Significant Impact with Mitigation Incorporated? No.	Have Less-than-Significant Impact? No.	Have No Impact? **Yes.**
#7 -f. Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?	Have Potentially Significant Impact? No.	Have Less-than-Significant Impact with Mitigation Incorporated? **Yes.**	Have Less-than-Significant Impact? No.	Have No Impact? No.

4.7.1 Environmental Setting

The project sites are located on the following soil types: Driver coarse sandy loam, 0 to 2 percent slopes, wasco sandy loam, lewkalb sandy loam, 0 to 2 percent slopes (Natural Resources Conservation Service 2021). The northernmost project site is located approximately 0.5-mile west of the Poso Creek fault line. The southernmost project site is located approximately 5 miles west of the Premier fault. Additionally, the Kern Front fault is located approximately 7 miles east of the southern project site (California Geological Survey [CGS] 2010a). There are no Alquisto-Priolo fault zones located within the project site, however, the pond fault zone and the premier fault zone are Alquisto-Priolo faults which are located within the vicinity of the project sites (CGS 2010a, CGS 2015a).

4.7.2 Discussion

#7 -a. Directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving:

#7 -a. i. Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist

for the area or based on other substantial evidence of a known fault? (Refer to California Geological Survey Special Publication 42.)

The project sites are not located within an Alquisto-Priolo Earthquake fault zone; however, the quaternary pond fault zone and historic premier fault zone are located within the vicinity of the proposed project. Surface fault rupture is most likely to occur on active faults (i.e., faults showing evidence of displacement within the last 11,700 years). Damage from surface fault rupture is generally limited to a linear zone a few yards wide. Since the proposed project is not located within close proximately to an active fault line, impacts would be **less-than-significant**.

#7 -a. ii and iii. Strong seismic ground shaking, Seismic-related ground failure, including liquefaction?

The pipeline segments would be fully buried with small tie-ins to the FKC exposed. Therefore, the project would not pose a direct risk to people during seismic activity. If a seismic event should cause a pipeline to break the water would be released underground in a low gradient, agricultural area, posing minimal risk to people or structures. Therefore, there would be no significant impact to people or structures from any seismic-related activity as a result of implementation of the proposed project. Additionally, the project sites are not located within a known liquefaction zone (CGS 2015b). This impact would be **less-than-significant**.

#7 -a. iv. Landsides?

The project site is located in a topographically flat area and thus there would be no harm from landslides. There would be **no impact**.

#7 -b, c, and d. Result in substantial soil erosion or the loss of topsoil? 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? Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994, as updated), creating substantial direct or indirect risks to life or property?

Soils present at the project sites consist of driver coarse sandy loam, 0 to 2 percent slopes, wasco sandy loam, lewkalb sandy loam, 0 to 2 percent slopes (Natural Resources Conservation Service 2021). The pipelines would be buried within these soil types. Because construction activities would disturb an area larger than 1 acre, the District is required by law to obtain coverage under the SWRCB N.P.D.E.S. stormwater permit for general construction activity, including preparation and submittal of a Notice of Intent to discharge with the Central Valley Regional Water Quality Control Board. The District is required to prepare a SWPPP and comply with the conditions of the N.P.D.E.S. general stormwater permit for construction activities. The SWPPP shall describe the construction activities to be conducted, BMPs that would be implemented to prevent soil erosion and contaminated stormwater discharges into waterways, and inspection and monitoring activities that would be conducted.

Topsoil may be stripped and stockpiled for later reuse on the site. With the implementation of a Dust Control Plan or Construction Notification form, loss of topsoil would be minimized during construction. Operation of the project would not create the potential for soil erosion or loss of topsoil as the area is in a cultivated agricultural field and is topographically flat. Therefore, there would be **less-than-significant** impacts.

#7 -e. Have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems where sewers are not available for the disposal of wastewater?

The project would not require the use of septic tanks or alternative wastewater disposal systems. Temporary portable restrooms would likely be provided for construction workers. Therefore, there would be **no impact**.

#7 -f) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?

The project sites are located on marine and non-marine sedimentary rock that consist of older alluvium, lake, playa, and terrace deposits, and is from the Pleistocene ages (CGS 2010b). Since paleontological resources are found almost exclusively in sedimentary rock, there is a chance of discovering unknown paleontological resources within the project sites. This impact would be **potentially significant**. The following mitigation has been identified to address this impact.

> **Mitigation Measure GEO-1: Avoid Potential Effects on Paleontological Resources.**
>
> In the event that a paleontological resource is uncovered during project implementation, all ground-disturbing work within 165 feet (50 meters) of the discovery shall be halted. A qualified paleontologist shall inspect the discovery and determine whether further investigation is required. If the discovery can be avoided and no further impacts will occur, no further effort shall be required. If the resource cannot be avoided and may be subject to further impact, a qualified paleontologist shall evaluate the resource and determine whether it is "unique" under CEQA, Appendix G, part VII. The determination and associated plan for protection of the resource shall be provided to the District for review and approval. If the resource is determined not to be unique, work may commence in the area. If the resource is determined to be a unique paleontological resource, work shall remain halted, and the paleontologist shall consult with the District staff regarding methods to ensure that no substantial adverse change would occur to the significance of the resource pursuant to CEQA. Preservation in place (i.e., avoidance) is the preferred method of mitigation for impacts to paleontological resources and shall be required unless there are other equally effective methods. Other methods may be used but must ensure that the fossils are recovered, prepared, identified, catalogued, and analyzed

according to current professional standards under the direction of a qualified paleontologist. All recovered fossils shall be curated at an accredited and permanent scientific institution according to Society of Vertebrate Paleontology standard guidelines; typically, the Natural History Museum of Los Angeles County and University of California, Berkeley accept paleontological collections at no cost to the donor. Work may commence upon completion of treatment, as approved by the District.

- **Timing:** Before and during project construction activities
- **Responsibility:** District and construction contractor(s)

Implementation of Mitigation Measure GEO-1 would reduce this impact to less-than-significant. Therefore, the proposed project would have a **less-than-significant impact with mitigation incorporated.**

4.8 Greenhouse Gas Emissions

#8 -a. Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?	Have Potentially Significant Impact? No.	Have Less-than-Significant Impact with Mitigation Incorporated? No.	Have Less-than-Significant Impact? **Yes.**	Have No Impact? No.
#8 -b. Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases?	Have Potentially Significant Impact? No.	Have Less-than-Significant Impact with Mitigation Incorporated? No.	Have Less-than-Significant Impact? No.	Have No Impact? **Yes.**

4.8.1 Environmental Setting

Kern County has not adopted a local plan for reducing greenhouse gas (GHG) emissions. The S.J.V.A.P.C.D. has adopted the *Guidance for Valley Land-use Agencies Addressing GHG Emissions Impacts for New Projects under CEQA* (S.J.V.A.P.C.D. 2009). Projects complying with an approved GHG emission reduction plan or mitigation program would be determined to have a less than significant impact to atmospheric GHG levels (S.J.V.A.P.C.D. 2009). California has more than 10 Executive Orders directing state agencies to implement programs to reduce GHG emissions to meet 2030 target of 40 percent below 1990 levels (State of California, 2018). The C.A.R.B. is the primary state agency responsible implementing GHG reduction programs. Such programs include the Advanced Clean Cars program. One of the components of this program is the Low-Emission Vehicle regulations that reduce criteria pollutants and GHG emissions from light- and medium-duty vehicles. The program set requirements for model years 2015 through 2025 to reduce criteria pollutants and GHG emissions (C.A.R.B. 2017).

4.8.2 Discussion

#8 -a. Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?

GHG emissions would be generated during the construction and operation phases of the proposed project. Temporary GHG emissions, primarily for the use of diesel-powered vehicles, would occur during construction. Equipment that would be used during project implementation includes excavators, trencher, backhoe, forklift, loader, dump truck, water truck, crew truck, and pickup trucks. During operations, the replacement well pumps would be used to convey water to the FKC, however, this would be similar to current energy usage.

During construction and operations, vehicle usage would be minimal. The District is in compliance with regulations that target the reduction of GHG emissions and regulations adopted by a public agency with jurisdiction. Therefore, GHGs emitted during construction and operation of the project would be **less than significant**.

#8 -b. Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases?

Kern County does not have an adopted local GHG reduction plan; however, the project would not conflict with state emissions reduction plans, policies, or regulations. Therefore, there would be **no impact**.

4.9 Hazards and Hazardous Materials

#9 -a. Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?	Have Potentially Significant Impact? No.	Have Less-than-Significant Impact with Mitigation Incorporated? No.	Have Less-than-Significant Impact? No.	Have No Impact? **Yes.**
#9 -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?	Have Potentially Significant Impact? No.	Have Less-than-Significant Impact with Mitigation Incorporated? No.	Have Less-than-Significant Impact? No.	Have No Impact? **Yes.**
#9 -c. Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?	Have Potentially Significant Impact? No.	Have Less-than-Significant Impact with Mitigation Incorporated? No.	Have Less-than-Significant Impact? No.	Have No Impact? **Yes.**
#9 -d. Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?	Have Potentially Significant Impact? No.	Have Less-than-Significant Impact with Mitigation Incorporated? No.	Have Less-than-Significant Impact? No.	Have No Impact? **Yes.**
#9 -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?	Have Potentially Significant Impact? No.	Have Less-than-Significant Impact with Mitigation Incorporated? No.	Have Less-than-Significant Impact? No.	Have No Impact? **Yes.**
#9 -f. Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?	Have Potentially Significant Impact? No.	Have Less-than-Significant Impact with Mitigation Incorporated? No.	Have Less-than-Significant Impact? No.	Have No Impact? **Yes.**
#9 -g. Expose people or structures, either directly or indirectly, to a significant risk of loss, injury or death involving wildland fires?	Have Potentially Significant Impact? No.	Have Less-than-Significant Impact with Mitigation Incorporated? No.	Have Less-than-Significant Impact? No.	Have No Impact? **Yes.**

4.9.1 Environmental Setting

The database search included all data sources included in the Cortese List (enumerated in PRC Section 65962.5). These sources include the GeoTracker database, a groundwater information management system that is maintained by the SWRCB; the Hazardous Waste and Substances Site List (i.e., the EnviroStor database), maintained by the California Department of Toxic Substances Control (DTSC); and EPA's Superfund Site database (DTSC 2021a, 2021b; SWRCB 2021a, 2021b; California Environmental Protection Agency 2021). There were no hazardous materials sites identified within 0.25 mile of the project site location. The project site locations are not in an area identified as more likely to contain asbestos by the California Department of Conservation (2000). This issue is not discussed further in this IS. The project sites are not located in a high severity fire hazard zone (California Department of Forestry and Fire Protection [CALFIRE] 2007a, 2007b).

4.9.2 Discussion

#9 -a, b, c, d, f, and g. Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials? 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? Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school? 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? f) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan? Expose people or structures, either directly or indirectly, to a significant risk of loss, injury or death involving wildland fires?

The proposed project would be implemented adjacent to active agriculture, farm roads, and canals. The project is located away from population centers; involving hazardous materials; and would rely on electric power rather than liquid fuels. The nearest school to the northernmost project site is located approximately 3.5 miles north of the site. The nearest school to the southernmost project site is located approximately 3 miles south of the site. The project would not expose people to increased risks from wildland fire as the project sites are comprised entirely of farmland and are not located within a high severity fire zone. The project would not affect emergency response plans as facilities would not interfere with traffic routes or response vehicle transport. There would be **no impact**.

#9 -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?

Kern County has established an Airport Land Use Compatibility Plan which has been incorporated into the General Plan (Kern County 2012). The purpose of the Airport Land Use Compatibility Plan is to establish procedures and criteria by which the County of Kern and affected incorporated cities can address compatibility issues when making planning decisions. The northernmost project site is located approximately 5-mile east of the Wasco-Kern County Airport and approximately 6 miles west of the Famoso Airfield. The southernmost project site is located approximately 1.5 miles south of the Shafter-Minter Field Airport and 4.5 miles east of the Kern County Airport. The project sites are not within an Airport Influence Area and as such would not need to be reviewed to insure compatibility with the Airport Land Use Compatibility Plan. There would be **no impact**.

4.10 Hydrology and Water Quality

#10 -a. Violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or ground water quality?	Have Potentially Significant Impact? No.	Have Less-than-Significant Impact with Mitigation Incorporated? **Yes**.	Have Less-than-Significant Impact? No.	Have No Impact? No.
#10 -b. Substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin?	Have Potentially Significant Impact? No.	Have Less-than-Significant Impact with Mitigation Incorporated? No.	Have Less-than-Significant Impact? No.	Have No Impact? **Yes.**
#10 -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:	Have Potentially Significant Impact? No.	Have Less-than-Significant Impact with Mitigation Incorporated? No.	Have Less-than-Significant Impact? No.	Have No Impact? **Yes.**
#10 -c. i. result in substantial erosion or siltation on- or off-site;	Have Potentially Significant Impact? No.	Have Less-than-Significant Impact with Mitigation Incorporated? No.	Have Less-than-Significant Impact? No.	Have No Impact? **Yes.**
#10 -c. ii. substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or offsite;	Have Potentially Significant Impact? No.	Have Less-than-Significant Impact with Mitigation Incorporated? No.	Have Less-than-Significant Impact? No.	Have No Impact? **Yes.**
#10 -c. iii. create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff; or	Have Potentially Significant Impact? No.	Have Less-than-Significant Impact with Mitigation Incorporated? No.	Have Less-than-Significant Impact? No.	Have No Impact? **Yes.**

#10 -c. iv. impede or redirect flood flows?	Have Potentially Significant Impact? No.	Have Less-than-Significant Impact with Mitigation Incorporated? No.	Have Less-than-Significant Impact? No.	Have No Impact? **Yes.**
#10 -d. In flood hazard, tsunami, or seiche zones, risk release of pollutants due to project inundation?	Have Potentially Significant Impact? No.	Have Less-than-Significant Impact with Mitigation Incorporated? No.	Have Less-than-Significant Impact? No.	Have No Impact? **Yes.**
#10 -e. Conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan?	Have Potentially Significant Impact? No.	Have Less-than-Significant Impact with Mitigation Incorporated? No.	Have Less-than-Significant Impact? **Yes.**	Have No Impact? No.

4.10.1 Environmental Setting

The District, established in 1935, is a public agency, which supplies surface water from the Kern River and groundwater to agricultural customers, primarily. The District has utilized Kern River water under a schedule of long-standing diversion rights, with this water being supplemented from time to time by water from Poso Creek, which traverses the northern portion of the District and contributes primarily, through infiltration, to the underlying groundwater supply. Groundwater is delivered to customers during dry years via a network of small, lined canals running parallel to the larger, unlined canals used for conveyance of surface water.

The Central Valley Project's FKC runs directly through the District with turnouts at various locations. This enables the District to receive delivery of water from the FKC on behalf of other Central Valley Project contractors during wet years for recharge in its spreading ponds. Additionally, the District makes water returns to its banking partners by pumping from their groundwater basin using District wells and conveying this water via the FKC. Typically, groundwater is only pumped into the FKC during hydrologic dry years when surface water allocations to Friant Contractors are insufficient to meet agricultural demand for the District's banking partners.

The primary source of water conveyed in the FKC is the San Joaquin River, which exhibits excellent water quality; however, in some years, Non-Project Water – i.e., non-San Joaquin River water – is introduced into the FKC at various locations. Non-Project Water is typically groundwater, and of lesser quality than the San Joaquin River. Accordingly, the quality of the water in the FKC changes with the introduction of Non-Project Water.

Reclamation and FWA establish water quality standards for returned water, which Reclamation defines as Non-Project Water. The currently approved water quality policy for the FKC is known as the 2008 Policy (Reclamation 2008) and lists constituents of concern that must be tested annually. Water quality is considered impaired under this policy if the Non-Project Water exceeds an MCL specified in Title 22[3]. While Title 22 is the most commonly referenced guideline for water quality standards, the allowable levels of salts in Title 22 exceed agronomic thresholds (conductivity, chloride, and boron).

As stated in Chapter 2.0 "Project Description," in early 2020, testing for TCP revealed that several of the District's wells exceed the TCP MCL of 5 ppt, including six of the seven pump-in wells. *See* Table 2-1 for TCP concentrations in the seven existing pump-in wells.

4.10.2 Discussion

#10 -a. Violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or ground water quality?

While some proposed project wells have measurable concentrations of TCP, the blended water quality prior to discharge into the FKC will meet the MCL for TCP (Table 2-2). All other water quality parameters of the proposed project wells meet Title 22 guidelines. Therefore, the water quality of the pump-in water will comply with the existing 2008 Policy and will meet all Title 22 guidelines.

Since the proposed project wells meet the Title 22 MCL's, this water quality assessment focuses on salinity, represented by electrical conductivity in micro siemens per centimeter, since the agricultural thresholds are significantly lower than the recommended limit of 900 micro siemens per centimeter in Title 22. Potential water quality impacts of the proposed project were analyzed by characterizing receiving water quality in the FKC and water quality in the proposed project wells. During wet years, the FKC predominately supplies San Joaquin River water, which is relatively pure water with very little mineral or salt content. However, in dry or moderately dry years, Non-Project Water supplements the FKC, causing variation in water quality. In addition to groundwater pump-in projects, the SWP can also be conveyed from the California Aqueduct via the Cross Valley Canal (CVC) to the terminus of the FKC, where it can be introduced into the FKC under a pump-back or reverse flow operation. The CVC can also be used to convey groundwater (pumped from the Kern fan) to this same terminus of the FKC. Accordingly, FKC operations (both north to south and south to north) must be considered when evaluating the potential impact on receiving water quality.

FWA annually collects samples from various locations along the FKC. Locations that are relevant to this evaluation include MP 122.05 (about one-half mile downstream of the Woollomes Check) which is located upstream of North Kern's existing and proposed pump-in locations, and MP

[3] Title 22. The Domestic Water Quality and Monitoring Regulations specified by the State of California Health and Safety Code (Sections 4010-4037), and Administrative Code (Sections 64401 et seq.), as amended.

151.80, which corresponds to the Kern River Check and is located downstream of North Kern's existing and proposed pump-in locations. General water chemistry data (irrigation suitability analyses) are available for most years since 1963. Data for an eleven-year span (2010–2020) were incorporated into this evaluation. **Table 4-4** provides a list of the constituents which are routinely tested.

Table 4-4. FKC Annual Sample Parameters.

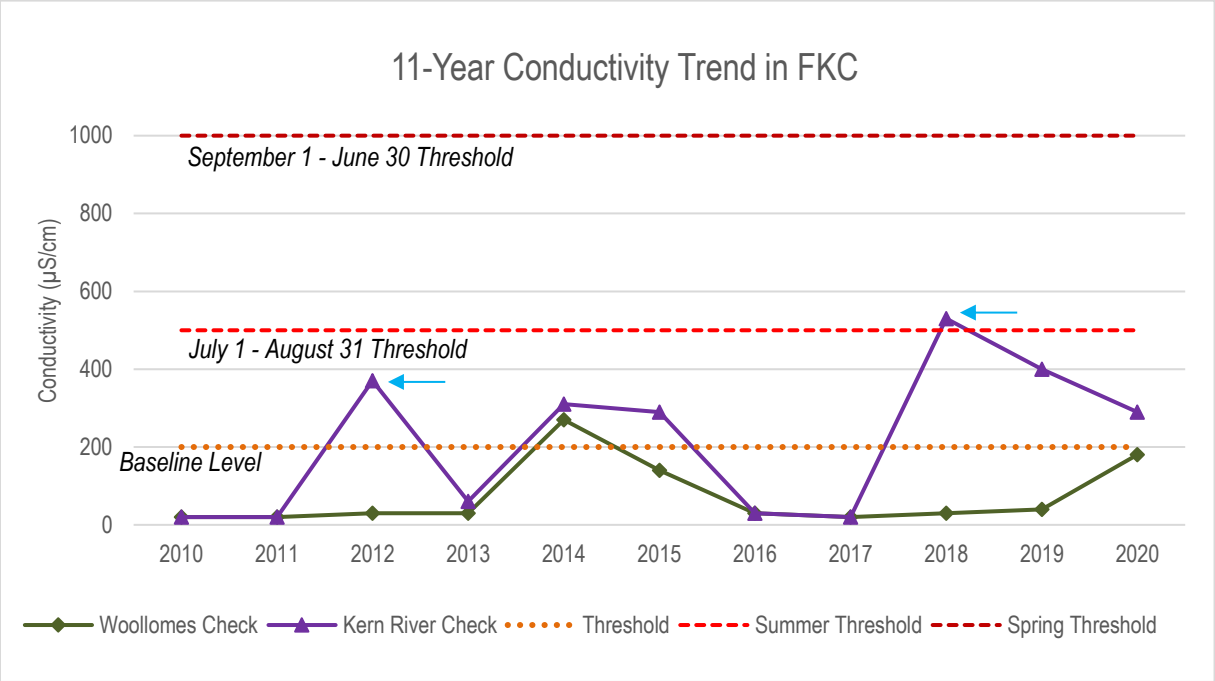
Parameter Group	Constituents
General Minerals	sodium, potassium, calcium, carbonates, magnesium, chloride, conductivity, total dissolved solids, sulfate, and pH
Inorganics	boron and nitrate

Figure 4-1 presents in-prism conductivity levels from annual sampling at MP 122.05 (Woollomes Check), which represents water quality coming into Kern County when the FKC is operating in forward flow (north to south), prior to any District pump-in.

Graphing conductivity values shows the salinity variation between wet and dry years (**Figure 4-1**). Salinity levels were elevated in 2014 and 2015, which represent dry years. Samples collected in wet years 2010, 2011, and 2012 show salinity was very low at the Woollomes Check (30 micro siemens per centimeter). However, in 2012, at the Kern River Check, conductivity was high at 370 micro siemens per centimeter which represents pump-back operation. Pump-back operation is where the SWP and groundwater from the Kern Fan is conveyed through the Cross Valley Canal (CVC) and is pumped into the FKC flowing north over the Shafter Check. Water supplies flowing south over the Woollomes Check and north over Shafter Check are blended between the Shafter and Poso checks. Pump-back operation is also represented in the 2018 annual sample results. Blue arrows on the graph signify pump-back operation.

Figure 4-1 also shows conductivity was elevated during forward flow operation (water moving from north to south) during severe drought years 2014 and 2015. The increased salinity indicates that Non-Project Water was the primary supply to the FKC. Sample results from 2017, 2018 (at the Woollomes Check), and 2019 are consistent with typical San Joaquin River water quality where conductivity is less than 50 micro siemens per centimeter.

Figure 4-1: 11-Year FKC Salinity Trend between Lake Woollomes and Kern River Checks[4]



Since Title 22 limits for salts (conductivity, chloride, and boron) are significantly higher than agronomic limits, FWA formed a Water Quality Ad Hoc Committee to develop a comprehensive policy that addresses salinity thresholds that are protective of agricultural uses. The proposed Water Quality Ledger Program, encompassed in FWA's draft Water Quality Policy (FWA, 2020), tracks and accounts for all inflows and diversions into and from the FKC to determine appropriate mitigation for impacted water quality aiming to balance concerns related to long-term groundwater quality with a multi-layered assessment of agronomic impacts as a durable solution. The proposed Water Quality Ledger Program includes an in-prism conductivity baseline of 200 micro siemens per centimeter: the level at which growers are already managing the effects of applied water quality. The proposed Water Quality Ledger Program principles that are relevant to this analysis are:

- Accounts for all inflows and diversions into and from the FKC, including diversions from Millerton Lake (San Joaquin River), groundwater and surface water pump-in and pump-back water, and all deliveries from the FKC.
- Establishes a baseline salinity based on assumptions of current, minimum leaching practices by water users, or growers, in the region. Consistent with good agricultural practices, it is assumed that growers are currently applying at least a 5 percent leaching

[4] Thresholds are from the proposed Water Quality Ledger Program

fraction. Mitigation is only required for water quality conditions with incremental conductivity that exceed the baseline of 200 micro siemens per centimeter.

- FKC in-prism water quality that exceeds any of the following thresholds will require systematic ceasing of pump-in and pump-back operations, prioritizing the greatest contributors until water quality conditions are below the threshold:
    - Title 22 drinking water quality regulations.
    - Constituent thresholds that account for sensitive crops, leaching requirements, regulated deficit irrigation during almond hull split from July 1 through August 31, and provides flexibility in the second half of the contract year depending on observed water quality from March 1 through June 30. **Table 4-5** summarizes the thresholds in the proposed Water Quality Ledger Program.

Table 4-5. FKC In-Prism Thresholds, Proposed Water Quality Ledger Program

Notes:

	Conductivity (micro siemens per centimeter)	Chloride (ppm)	Boron (ppb)	Sodium absorption ratio (SAR)
Period 1 March 1 – June 30	1,000	102	400	3
Period 2 July 1 – August 31	500	55	400	3
Period 3 September 1 – February 28	1,000	102[5]	400	3
Period 3 September 1 – February 28	1,000	123	400	3

The proposed Water Quality Ledger Program states that when FKC in-prism water quality conditions in **Table 4-5** are exceeded, Friant Division Long-Term Contractors will work together to seek 1:1, unleveraged, and cost-neutral exchanges for pump-in and pump-back programs. This does not apply to spot-market or third-party exchanges.

Table 4-6 presents water quality of the proposed project's pump-in wells with the thresholds established by Friant's Ad hoc committee. While the 200 micro siemens per centimeter threshold applies to in-prism water quality, it should be noted that most of the proposed project wells individually meet the established threshold for pump-in wells (500 micro siemens per centimeter). If in-prism water exceeds a threshold, systematic ceasing of pump-in or pump-back operations may be required. Wells with the highest salinity concentrations would be shut-off first.

[5] If the measured average chloride concentration in Period 1 is less than or equal to 70 ppm, the allowable chloride threshold for Period 3 increases to 123 ppm.

Table 4-6: Water Quality of Proposed Project Wells.

Well	Capacity (cfs)	Conductivity <500 micro siemens per centimeter	Chloride <55 ppm	Boron <400 ppb	SAR <3	Discharge Point
88-29-006	3.1	300	29	non-detect	1.7	Mile Post 129.93L (existing)
88-29-009	3.6	300	28	non-detect	1.8	
88-25-016	4.5	260	17	non-detect	1.4	Mile Post 130.84R (new)
88-25-030	3.0	300	17	non-detect	1.3	
88-25-031	6.0	270	19	non-detect	1.5	
88-17-023	5.1	**510**	28	non-detect	1.1	Mile Post 133.39L (existing)
88-17-024	5.1	310	15	non-detect	1.5	
99-00-035	5.6	270	13	non-detect	**4.8**	Mile Post 142.01R (new)
99-00-032	2.4	260	11	non-detect	**3.4**	
99-00-026	4.8	250	13	non-detect	2.5	
99-00-022	2.5	240	10	non-detect	**3.3**	
99-02-004	5.4	450	39	non-detect	**6.9**	
99-02-006	5.8	270	29	140	**6.1**	

Note:
Results presented in this table are from sample collections in February-March 2021. Water quality exceeding the summer in-prism thresholds of the proposed Water Quality Ledger Program in **bold**.

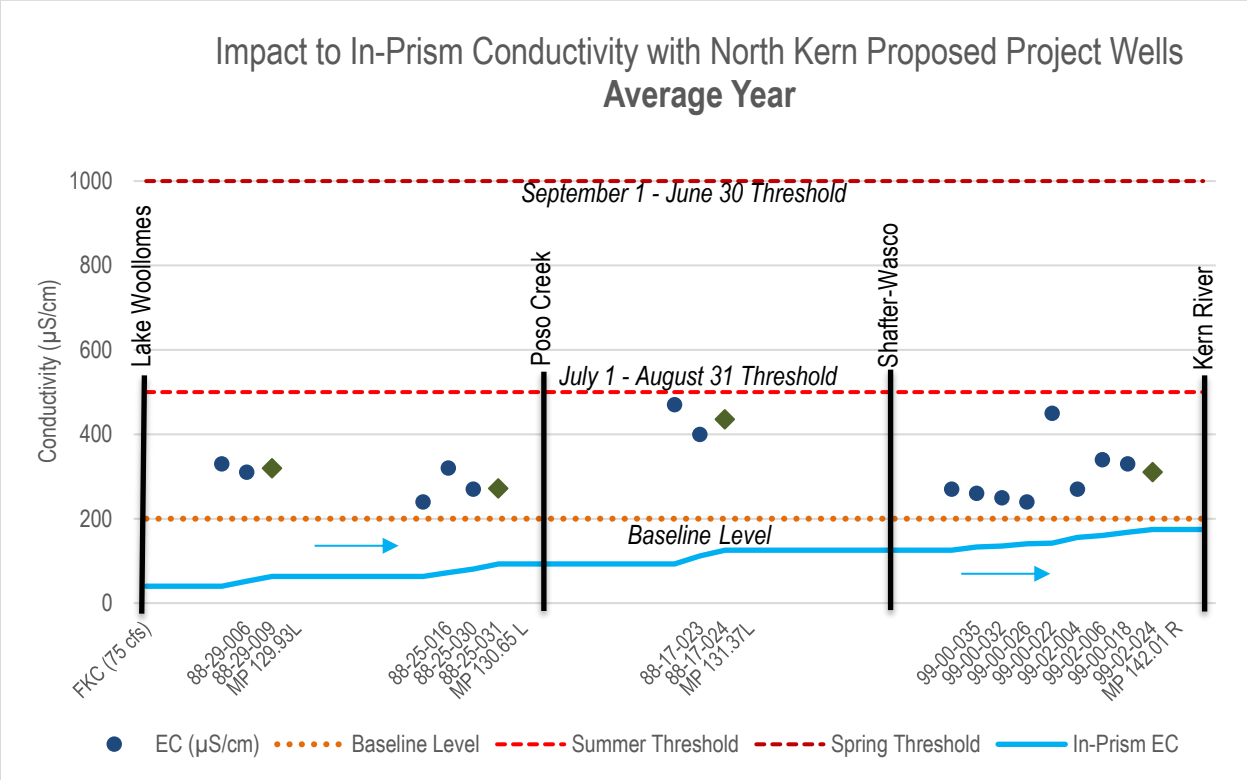
Flow volumes used in this analysis are presumed to be a worst-case scenario where North Kern's pump-in ranges from 40 to 60 percent of the total supply in the FKC between the Woollomes and Kern River Checks. Conductivity was used as a representative measure of salinity. Flow weighted calculations estimate the potential impacts to in-prism conductivity during average and dry water years (based on the San Joaquin Index), and during pump-back operations.

During an average water year, conductivity at Woollomes Check is 40 micro siemens per centimeter and flow is an average of 75 cfs. To show potential impacts to receiving water quality, **Figure 4-2** was created for a visual display of increasing salinity as proposed project wells are pumped into the FKC during an average year. The blue dots show the most recent conductivity value of each well. The green diamonds show conductivity of the blended wells at each discharge point, the blue line shows increasing conductivity as each well is pumped-in.

Conductivity of the proposed project wells range from 240 to 470, with an average of 317 micro siemens per centimeter. As indicated by the blue trend line, in-prism conductivity increases from 40 micro siemens per centimeter at Woollomes Check to 174 micro siemens per centimeter at MP 142.01 (southernmost District discharge point). While most proposed project wells are within the range of thresholds expressed in the proposed Water Quality Ledger Program for pump-in wells, during an average water year, groundwater is approximately 45 percent of the water supply (75 cfs FKC and 68.4 cfs groundwater). It should also be noted that in-prism conductivity remains

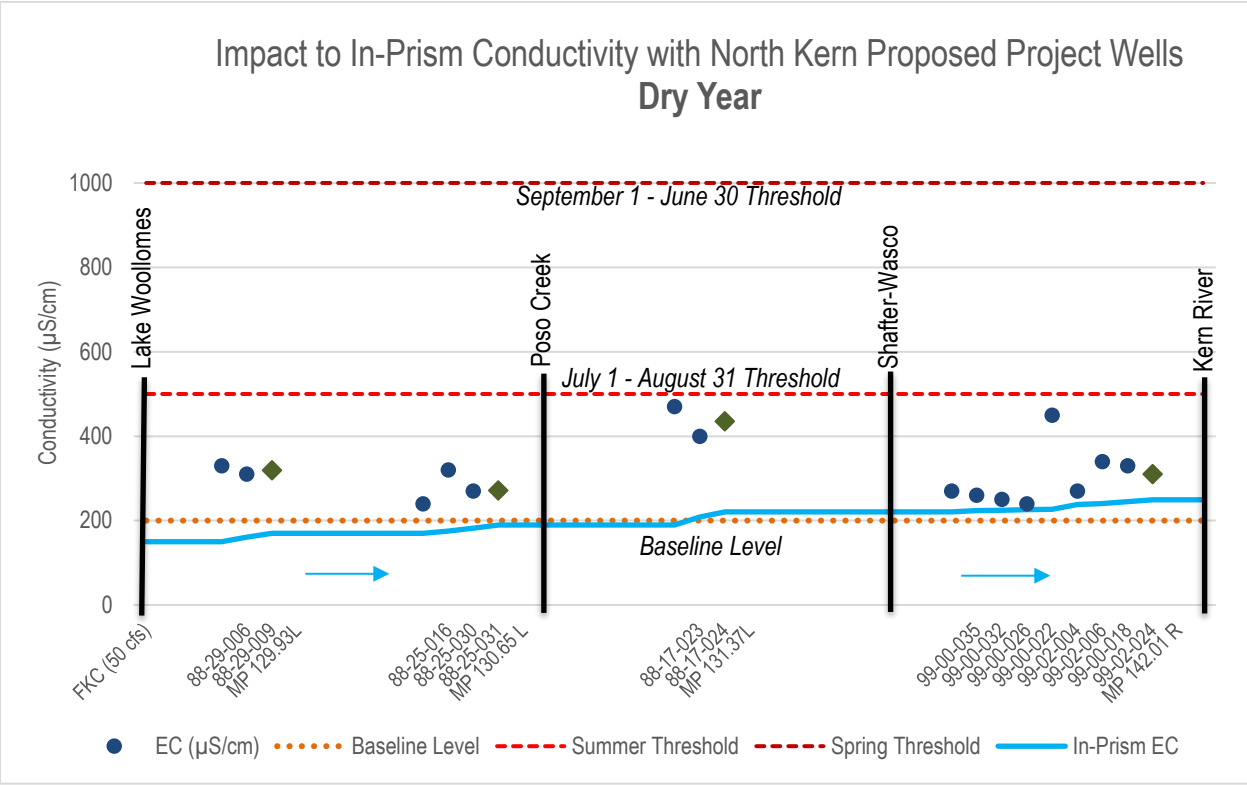
below the 200 micro siemens per centimeter; the baseline level that growers are assumed to be already managing the effects of applied water quality conditions, therefore proposed project impact in an average year is **less-than-significant**.

Figure 4-2: Flow Weighted Calculation of Conductivity in an Average Water Year with Forward Flow Operations



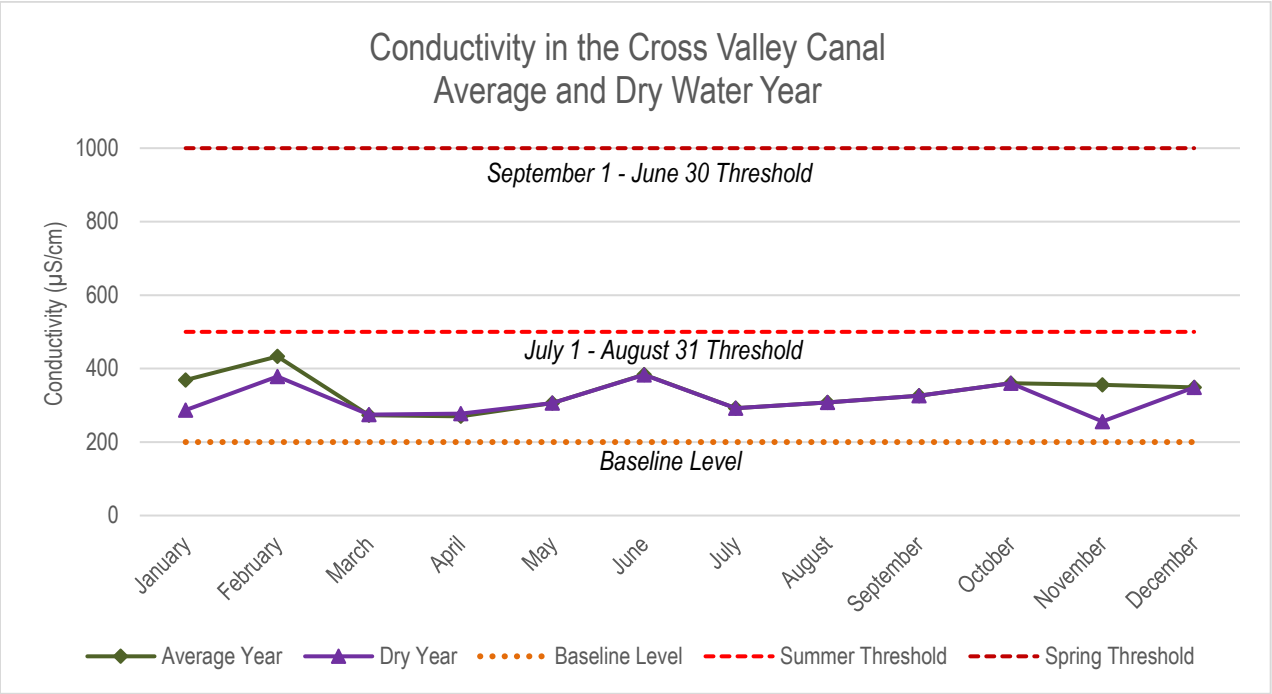
In a dry water year, conductivity at Woollomes Check is typically much higher than in wet or average years because of groundwater pump-in projects north of Kern County. For this scenario, conductivity is assumed to be 150 micro siemens per centimeter, and flow is assumed to be 50 cfs. Groundwater becomes the predominant source of supply (63%) pumping in at 68.4 cfs. **Figure 4-3** show that, in a dry year, in-prism conductivity increases from 150 to 232 micro siemens per centimeter.

Figure 4-3: Flow Weighted Calculation of Conductivity in a Dry Year



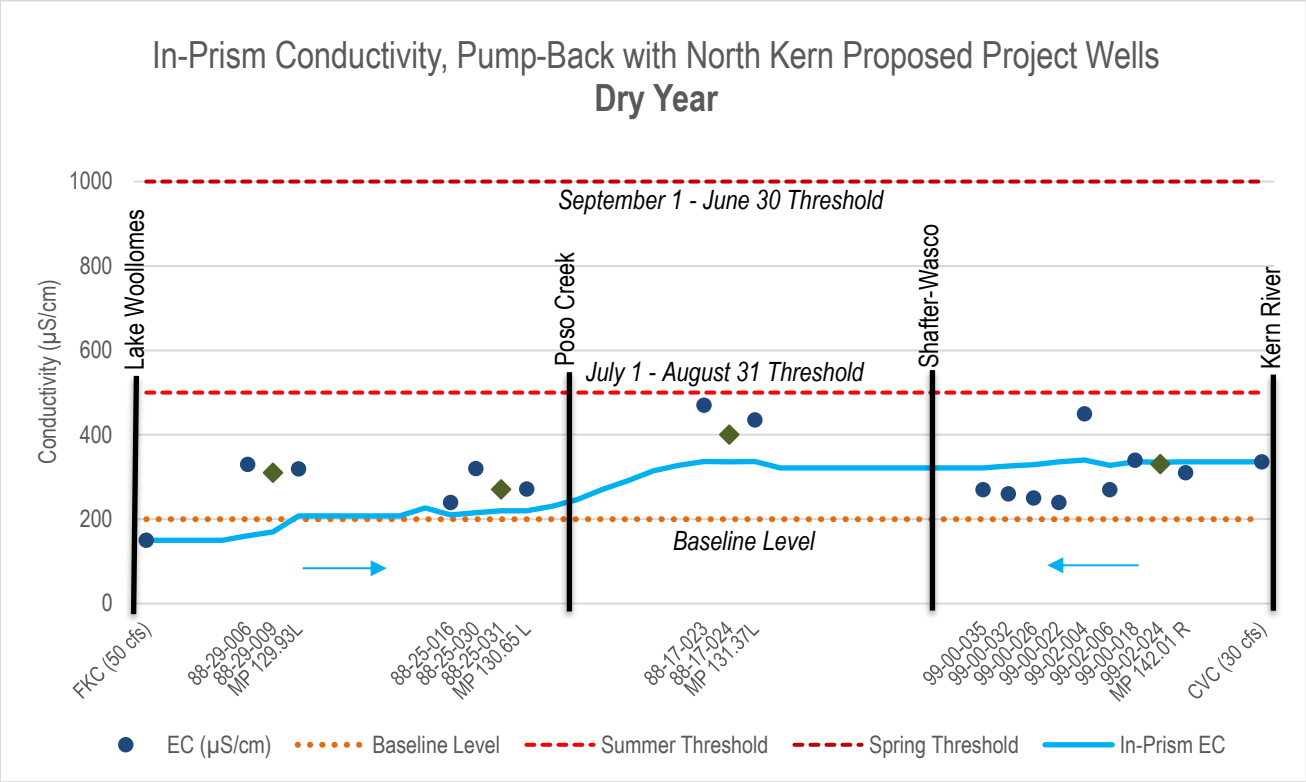
FWA addresses agronomic impacts of pump-back operations in their draft Water Quality Policy (June 2020), developed to accompany the proposed Water Quality Ledger Program. Average monthly conductivity values are provided for wet, average, and dry water years, based on the San Joaquin Index year types. **Figure 4-4** shows the CVC has relatively little variation in conductivity levels between average and dry water years, which are the years that the District would be returning banked water. The range of conductivity is 270 to 433, with an average of 336 micro siemens per centimeter.

Figure 4-4: Monthly Average Conductivity in the Cross Valley Canal



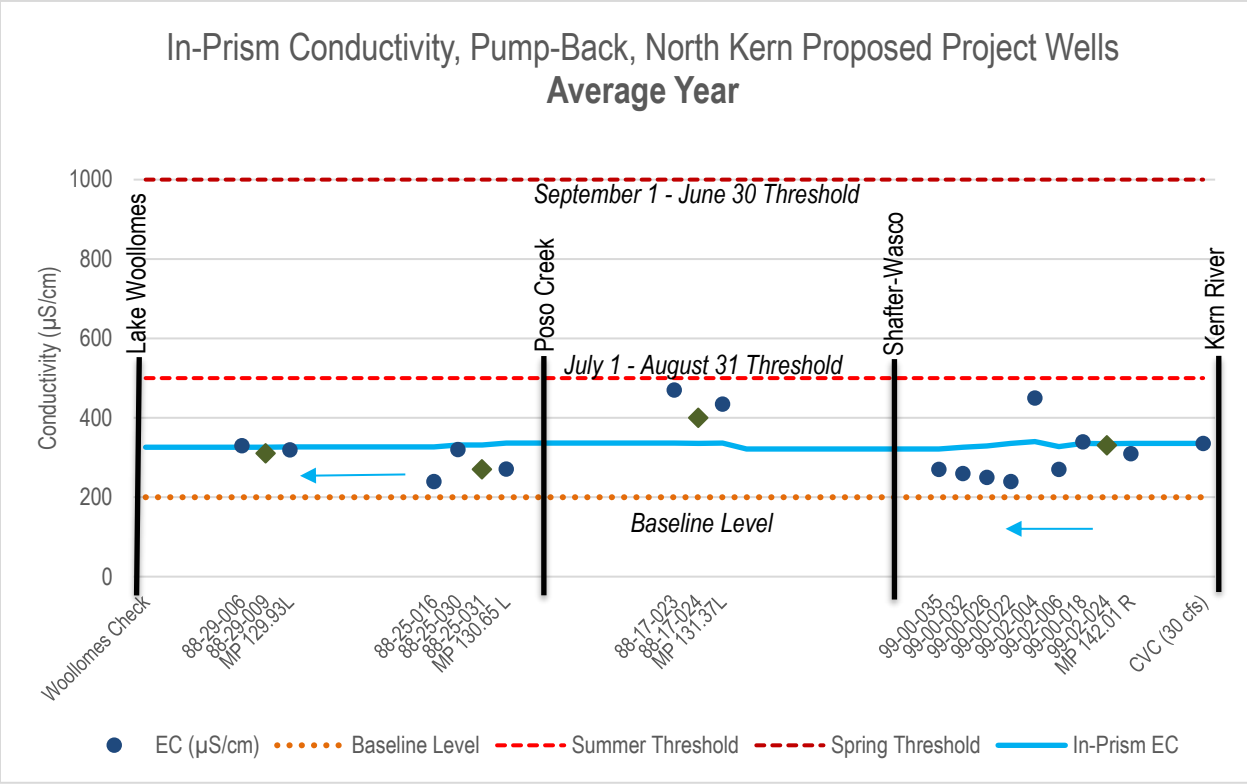
During pump-back operation, water is pumped from south to north, starting at the CVC intertie at the Kern River Check, over the Shafter Check. Water may also be flowing from north to south from the Woollomes Check, creating an intermediate pooling zone between the Poso and Shafter Checks. **Figure 4-5** shows the calculated conductivity values (blue line). During pump-back operation, the proposed project's pump-in increases conductivity from 150 to 230 micro siemens per centimeter between Woollomes and Poso checks. It should be noted that these calculations represent the maximum expected conductivity values, representative of dry-year conditions, to evaluate a worst-case scenario. From the CVC intertie to the Shafter Check, conductivity is slightly decreased from 336 to 321 micro siemens per centimeter. The intermediate mixing zone between Poso and Shafter checks does not appear to materially change: the highest calculated in-prism conductivity value is 336 micro siemens per centimeter.

Figure 4-5: Flow Weighted Calculation of Conductivity, Pump-Back Over the Shafter Check



In February 2021, pumps were installed at the Woollomes Check to facilitate pump-back north of Kern County. **Figure 4-6** shows the flow weighted calculation for in-prism conductivity when source water is pumped from the CVC (30 cfs) and groundwater providing more than 60 percent of the supply (68.4 cfs). Since the average conductivity of CVC (336 micro siemens per centimeter) is consistent in North Kern's groundwater (317 micro siemens per centimeter), there is essentially no proposed project-related change to in-prism values, therefore, proposed project impact in an average year during pump-back conditions is **less-than-significant**.

Figure 4-6: Flow Weighted Calculation of Conductivity, Pump-Back Over the Woollomes Check



Of the four scenarios presented, conductivity is increased during forward flow (north to south) operations. The agronomic threshold for in-prism water is only exceeded in dry years when FKC supplies were estimated at 150 micro siemens per centimeter and increased to 230 micro siemens per centimeter. During pump-back operations, no material increase in salinity was observed since proposed project wells selected for this project are comparable to CVC conductivity levels.

Therefore, in the limited circumstances of dry years and forward flow operations, the proposed project will have a **potentially significant** impact on in-prism salinity in the FKC. The following mitigation measures have been identified to address this impact:

Mitigation Measure HYDRO-1: Water Quality Monitoring.

To minimize potential effects of project operations on groundwater quality, the District will ensure that the following measures are implemented:

- The District will conduct water quality sampling of all the wells used for pump-in and report results to Friant's Contracting Officer. Sampling will include Division of Drinking Water's Title 22 constituents along with Reclamation's "Constituents of Concern" that are not included in Title 22.
- The District will follow the water quality monitoring and reporting requirements in the Pump-In Agreement with Reclamation.

- **Timing**: During project operation
- **Responsibility**: District

Mitigation Measure HYDRO-2: Comply with Water Quality Ledger Program, when adopted by Reclamation.

The District will comply with the mitigation measures proposed in the FWA Water Quality Ledger Program, when the program is approved by Reclamation, and with state and federal water quality standards. The proposed Ledger Program includes mitigation measures to compensate for potential effects related to groundwater pump-in projects.

- **Timing:** During operation
- **Responsibility:** District

Implementation of Mitigation Measures HYDRO-1 and HYDRO-2 will reduce the impact of the proposed project to **less than significant with mitigation incorporated.**

#10 -b. Substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin?

The proposed project would not increase the amount of groundwater pumped and therefore would not substantially decrease groundwater supplies. Additionally, the project would not interfere with groundwater recharge. The project would allow the District to fulfill previously established water return requirements by connecting new pump-in wells to replace those contaminated with TCP. The District's partners can request recovery of up to 23,500 AFY of previously banked project water. Therefore, the project would have **no impact** on groundwater supplies or recharge.

#10 -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:

#10 -i, ii, iii, and iv) Result in substantial erosion or siltation on- or off-site; Substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or offsite; Create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff; or Impede or redirect flood flows?

The project will not alter the existing drainage pattern of the site or the area, therefore there will be **no impact**.

#10 -d. In flood hazard, tsunami, or seiche zones, risk release of pollutants due to project inundation?

The project is not located in a flood hazard, tsunami, or seiche zone, therefore there will be **no impact.**

#10 -e. Conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan?

This proposed project will meet all Title 22 drinking water standards including TCP, and the agronomic thresholds for pump-in wells established by Friant Water Authority's proposed Water Quality Ledger Program (June 2020 draft). Since the Ledger program is the most restrictive water quality policy, that was the standard applied in this analysis. Therefore, the impact is **less-than-significant**.

4.11 Land Use and Planning

#11 -a. Physically divide an established community?	Have Potentially Significant Impact? No.	Have Less-than-Significant Impact with Mitigation Incorporated? No.	Have Less-than-Significant Impact? No.	Have No Impact? **Yes.**
#11 -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?	Have Potentially Significant Impact? No.	Have Less-than-Significant Impact with Mitigation Incorporated? No.	Have Less-than-Significant Impact? No.	Have No Impact? **Yes.**

4.11.1 Environmental Setting

The project sites are zoned as letter "A" (signifying, agriculture) (Kern County 1982). The Kern County General Plan designates the project sites as Intensive Agriculture. The city of Shafter designates the southern project site as Community Facilities and Agriculture – Open Space (Kern County 1982, City of Shafter 2019). The project sites are located in a rural area and are surrounded by rural residences, oil wells and associated infrastructure (e.g., above-ground pipelines), and ruderal habitat associated with formerly cultivated agricultural fields. The only remnant natural habitat near the project sites is a small portion of the Poso Creek corridor, which is adjacent to but almost separated from the northern project site/eastern work area by a water delivery canal (8-29 canal). The southernmost project site is located within the city of Shafter; however, it is approximately 5 miles southeast of the developed city center. The Calloway Canal is located in the southern project site. Ruderal habitat occurs at the southern project site and along some roadways, the edges of the Calloway Canal and the 8-29 canal, and field margins in and adjacent to the project sites.

4.11.2 Discussion

#11 -a and b. Physically divide an established the community, and 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?

The project sites would be developed within existing farm roads, in areas zoned for agriculture (Kern County 2021). The proposed project sites are located outside of existing communities and are consistent with existing zoning. There are no adopted Habitat Conservation Plans or Natural Community Conservation Plans, other local, regional, or state habitat conservation plans within the project sites or vicinity, *see* Section 3.11 "Biological Resources". Therefore, there would be **no impact**.

4.12 Mineral Resources

#12 -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?	Have Potentially Significant Impact? No.	Have Less-than-Significant Impact with Mitigation Incorporated? No.	Have Less-than-Significant Impact? **Yes.**	Have No Impact? No.
#12 -b. Result in the loss of availability of a locally important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan?	Have Potentially Significant Impact? No.	Have Less-than-Significant Impact with Mitigation Incorporated? No.	Have Less-than-Significant Impact? No.	Have No Impact? **Yes.**

4.12.1 Environmental Setting

The project sites are located within a Surface Mining and Reclamation Act of 1975 study area for aggregate materials in the Bakersfield production-consumption region. The project site locations are designated as Mineral Resource Zone-3 (areas containing mineral deposits, the significance of which cannot be evaluated from available data; Department of Conservation 1988).

4.12.2 Discussion

#12 -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?

The project sites are located in a Surface Mining and Reclamation Act of 1975 study area and though unlikely, have the potential to contain mineral resources. The project would include the construction of seven pipeline segments and two new discharge points connecting 11 replacement wells to the FKC. The pipeline segments would be buried in previously disturbed areas, such as along the edge of existing dirt roads, within cultivated agricultural fields and are anticipated to disturb 11.85 acres in total. The project sites are not located in areas of known significant mineral deposits. Although unlikely, there is potential for the loss of a small amount of mineral resources, however, the amount that could be lost would be minimal and would not affect the overall availability of mineral resources in Kern County. Therefore, this impact would be **less-than-significant**.

#12 -b) Result in the loss of availability of a locally important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan?

The project sites are not located within the vicinity of a locally important mineral resource recovery site. The closest resource excavation site is located approximately 5 miles southeast of the project site (Department of Conservation 1988). There would be **no impact**.

4.13 Noise

#13 -a. Generation of a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in the local general plan or noise ordinance, or in other applicable standards of other agencies?	Have Potentially Significant Impact? No.	Have Less-than-Significant Impact with Mitigation Incorporated? No.	Have Less-than-Significant Impact? **Yes.**	Have No Impact? No.
#13 -b. Generation of excessive groundborne vibration or groundborne noise levels?	Have Potentially Significant Impact? No.	Have Less-than-Significant Impact with Mitigation Incorporated? No.	Have Less-than-Significant Impact? **Yes.**	Have No Impact? No.
#13 -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 2 miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels?	Have Potentially Significant Impact? No.	Have Less-than-Significant Impact with Mitigation Incorporated? No.	Have Less-than-Significant Impact? No.	Have No Impact? **Yes.**

4.13.1 Environmental Setting

The project sites are located in a predominately agricultural area. The closest sensitive receptor to the northern most project site is located approximately 1-mile west of the project site. The closest sensitive receptor to the southernmost site is a residence located on an agricultural parcel approximately 0.10 mile south of the project site. Orchards located north of the residence would provide some shielding between the project site and the residence. Highway 99 is approximately 1.5 miles east of the northern project site and approximately 1 mile east of the southern project site. The Kern County Code of Ordinances states that construction related noise is limited to the hours of 6:00 a.m. to 9:00 p.m. on weekdays and 8:00 a.m. to 9:00 p.m. on weekends (Kern County 2021).

4.13.2 Discussion

#13 -a. Generation of a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in the local general plan or noise ordinance, or in other applicable standards of other agencies?

Construction of the proposed project would temporarily increase the ambient noise levels within the vicinity of the project site due to the use of heavy machinery during construction activities. Increased ambient noise would occur intermittently during the construction. Additionally, a booster pump station would be constructed and would generate a small amount of noise

continuously. All work at the proposed project sites would be limited to the hours identified in Kern County's Noise Ordinance.

Although construction activities would, for the most part, occur only during the daytime hours, uncontrolled construction noise could still be considered disruptive to residents adjacent to the proposed project. The list of construction equipment that may be used for project construction activities is shown in **Table 4-7** with typical noise levels generated at 50 feet from the equipment (reference levels). Since the closest sensitive noise receptor is approximately 525 feet from the project site, construction noise levels at the sensitive noise receptors would be considerably lower. Additionally, construction related noise would be short-term and temporary and therefore is not considered significant.

Table 4-7. Construction Equipment and Typical Equipment Noise Levels

Type of Equipment	Typical Noise Levels (dBA) Maximum instantaneous sound level at 50 feet
Backhoe	80
Dump Truck	76
Excavator	81
Forklift	75
Loader	79
Trencher	80
Pick-up Truck	75
Water Truck	75

Notes:
dBA = decibels;
Source: Construction equipment list based on Federal Highway Administration 2006, adapted by GEI in 2021

During operations, minimal noise would be generated from the pump station. Impacts related to noise levels would be **less-than-significant**.

#13 -b. Generation of excessive groundborne vibration or groundborne noise levels?

Ground vibration would only be caused during construction activities and would primarily occur during excavation. Vibrations are unlikely to be detectable by nearby sensitive receptors. No adverse levels of vibration would be generated during project operations. Therefore, this impact would be **less-than-significant**.

#13 -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 2 miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels?

Kern County has established an Airport Land Use Compatibility Plan which has been incorporated into the General Plan (Kern County 2012). The northernmost project site is located approximately 5 miles east of the Wasco-Kern County Airport and approximately 6 miles west of the Famoso Airfield. The southernmost project site is located approximately 1.5 miles south of the Shafter-Minter Field Airport and 4.5 miles east of the Kern County Airport. The project sites are not located within an Airport Influence Area. The proposed project would not expose people residing or working in the area to excessive noise levels. There would be **no impact**.

4.14 Population and Housing

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

4.14.1 Environmental Setting

The project sites are located in the unincorporated area of Kern County. The population was estimated in 2020 to be 917,553 in Kern County (Department of Finance 2020).

4.14.2 Discussion

#14 -a. Induce substantial unplanned population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)?

The project would not be growth inducing and as such would not result in the development of new housing. The project would not require additional employees to operate. The project would not increase the amount of water pumped to the District; it would allow for the return of water meeting Reclamation water quality standards to the District's banking partners. There would be **no impact**.

#14 -b) Displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere?

The project would not displace people or housing. The project sites are located in a predominately agricultural area with little to no residential properties in the vicinity. There would be **no impact**.

4.15 Public Services

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

4.15.1 Environmental Setting

The Kern County Sheriff and California Highway Patrol provide law enforcement services for the unincorporated Kern County. The City of Shafter Police Department provides law enforcement services to the City of Shafter. The Kern County Fire Department provides fire protection to residents of the unincorporated areas of the County, and the cities of Arvin, Delano, Maricopa, McFarland, Ridgecrest, Shafter, Tehachapi, and Wasco (Kern County 2004). A mutual agreement between the County and the cities of Bakersfield, Taft, and California City allows for protection and assistance in the jurisdiction of each as needed. The County also has a mutual aid contract with U.S.F.W.S. and a service agreement with the Bureau of Land Management.

4.15.2 Discussion

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

The proposed project would not require new or altered government facilities, as the project would not increase the need for public services from the existing conditions. There would be **no impact**.

4.16 Recreation

#16 -a. Increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?	Have Potentially Significant Impact? No.	Have Less-than-Significant Impact with Mitigation Incorporated? No.	Have Less-than-Significant Impact? No.	Have No Impact? **Yes.**
#16 -b. Include recreational facilities or require the construction or expansion of recreational facilities that might have an adverse physical effect on the environment?	Have Potentially Significant Impact? No.	Have Less-than-Significant Impact with Mitigation Incorporated? No.	Have Less-than-Significant Impact? No.	Have No Impact? **Yes.**

4.16.1 Environmental Setting

There are many small parks located throughout the city of Shafter and Bakersfield, however, there are no recreation areas located within the project site.

4.16.2 Discussion

#16-a and b. 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 or include recreational facilities or require the construction or expansion of recreational facilities that might have an adverse physical effect on the environment?

The project is not growth inducing and would not increase the use of existing parks or recreational facilities or require the construction or expansion of recreational facilities. There would be **no impact**.

4.17 Transportation

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

4.17.1 Environmental Setting

The proposed project sites are located in the rural area of Kern County and is predominately surrounded by agriculture. Access to the site is provided via Highway 99. There are no transit or on-street bicycle/pedestrian facilities near the project site locations.

4.17.2 Discussion

#17 -a, b, c, and d). Conflict with a program plan, ordinance or policy addressing the circulation system, including transit, roadway, bicycle and pedestrian facilities or be inconsistent with CEQA Guidelines Section 15064.3, subdivision (b)? Substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)? Result in inadequate emergency access?

The project would not conflict with any program plan, ordinance, or policies. Construction traffic would utilize existing public roads to deliver equipment, supplies, and workers to and from the project sites. Construction of the project would result in 823 total truck trips. During operation,

the wells and booster pump station would be inspected once per year over the course of 20 years, which would result in one truck trip per year or 20 truck trips total. The project would be implemented in cultivated agricultural fields and along dirt roads located on the edge of agricultural fields. Therefore, the project would not require any road closures or result in inadequate emergency access. Since no new roads are being developed, the project would not increase hazards due to a geometric design feature or incompatible uses. There would be **no impact**.

4.18 Tribal Cultural Resources

#18 -a. Listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in PRC Section 5020.1(k), or	Have Potentially Significant Impact? No.	Have Less-than-Significant Impact with Mitigation Incorporated? **Yes.**	Have Less-than-Significant Impact? No.	Have No Impact? <u>No.</u>
#18 -b. 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 PRC Section 5024.1. In applying the criteria set forth in subdivision (c) of PRC Section 5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe.	Have Potentially Significant Impact? No.	Have Less-than-Significant Impact with Mitigation Incorporated? **Yes.**	Have Less-than-Significant Impact? No.	Have No Impact? <u>No.</u>

4.18.1 Environmental Setting

Assembly Bill 52 (AB 52), effective on July 1, 2015, amended CEQA and added sections relating to Native American consultation and certain types of cultural resources, Tribal Cultural Resources (TCRs). TCRs are either (1) sites, features, places, cultural landscapes, sacred places, and objects with cultural value to a California Native American Tribe that is either on or eligible for inclusion in the CRHR or a local historic register; or (2) the lead agency, at its discretion and supported by substantial evidence, chooses to treat the resource as a TCR. Additionally, a cultural landscape may also qualify as a TCR if it meets the criteria to be eligible for inclusion in the CRHR and is geographically defined in terms of the size and scope of the landscape. Other historical resources (*as described in* California PRC 21084.1), a unique archaeological resource (as defined in California PRC 21083.2[g]), or non-unique archaeological resources (*as described in* California PRC 21083.2[h]) may also be TCRs if they conform to the criteria to be eligible for inclusion in the CRHR.

4.1.2 Methods

A sacred land file search request was filed with the NAHC on February 23, 2021. The NAHC responded on March 16, 2021. In their emailed response, the NAHC stated that their sacred land file search had negative results (NAHC 2021).

The District has received no requests for consultation in accordance with the requirements of AB 52 (PRC Section 21080.3.1). Therefore, no letters inviting tribes to consult on the project could be sent.

4.18.2 Discussion

#18 -a and b) Would the project cause a substantial adverse change in the significance of a tribal cultural resource, defined in PRC 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 listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in PRC Section 5020.1(k)? 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 PRC Section 5024.1. In applying the criteria set forth in subdivision (c) of PRC Section 5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe.

There are no known TCRs located within the project area. No potential TCRs have been identified by NAHC consultation and, given the context of the project consists of long used agricultural land and no identified cultural resources of any sort, it is unlikely that any TCRs will be identified during project related activities. It is possible, however unlikely, that buried cultural resources meeting criteria for TCRs may be inadvertently discovered and damaged during project related ground-disturbing activities; this could potentially be a significant impact under CEQA. Implementation of Mitigation Measures CR-1 and CR-2 would reduce this impact to **less-than-significant**.

4.19 Utilities and Service Systems

#19 -a. Require or result in the relocation or construction of new or expanded water, wastewater treatment or storm water drainage, electric power, natural gas, or telecommunications facilities, the construction or relocation of which could cause significant environmental effects?	Have Potentially Significant Impact? No.	Have Less-than-Significant Impact with Mitigation Incorporated? No.	Have Less-than-Significant Impact? No.	Have No Impact? **Yes.**
#19 -b. Have sufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry, and multiple dry years?	Have Potentially Significant Impact? No.	Have Less-than-Significant Impact with Mitigation Incorporated? No.	Have Less-than-Significant Impact? No.	Have No Impact? **Yes.**
#19 -c. Result in a determination by the wastewater treatment provider that 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?	Have Potentially Significant Impact? No.	Have Less-than-Significant Impact with Mitigation Incorporated? No.	Have Less-than-Significant Impact? No.	Have No Impact? **Yes.**
#19 -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?	Have Potentially Significant Impact? No.	Have Less-than-Significant Impact with Mitigation Incorporated? No.	Have Less-than-Significant Impact? **Yes.**	Have No Impact? No.
#19 -e. Comply with Federal, State, and local management and reduction statutes and regulations related to solid waste?	Have Potentially Significant Impact? No.	Have Less-than-Significant Impact with Mitigation Incorporated? No.	Have Less-than-Significant Impact? **Yes.**	Have No Impact? No.

4.19.1 Environmental Setting

The project sites and vicinity are served by PG&E, Southern California Edison, and Southern California Gas (Kern County 2004a). Sewage disposal is handled by both public and private agencies, and by private individual systems. Several incorporated and unincorporated communities are served by wastewater treatment plants managed by community service districts. The closest wastewater treatment plant to the project site is the Shafter wastewater treatment facility located within the City of Shafter. Domestic water is serviced to the public by various water purveyors consisting of public and private water systems. The Kern County Waste Management Department currently owns and operates seven Class II Landfills, The closest landfill to the northern project site is the McFarland-Delano Landfill located 8.5 miles north of the project site, and the closest

landfill to the southern project site is the Metropolitan Bakersfield Sanitary Landfill located in Bakersfield approximately 10 miles southeast of the project site. (Kern County 2004b).

4.19.2 Discussion

#19 -a. Require or result in the relocation or construction of new or expanded water, wastewater treatment or storm water drainage, electric power, natural gas, or telecommunications facilities, the construction or relocation of which could cause significant environmental effects?

No utility services would need to be constructed or expanded as a result of the proposed project. Implementation of the proposed project would result in **no impacts**.

#19 -b. Have sufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry, and multiple dry years?

The project would not require a water supply. The proposed project consists of connecting 11 replacement wells to the FKC to allow for the pump-in of Non-Project water so that the District can return water to its banking partners that meets Reclamation's water quality standards. There would be **no impact**.

#19 -c. Result in a determination by the wastewater treatment provider that 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?

See Question "a" above. The project would not result in a significant amount of wastewater. There would be **no impact**.

#19 -d and e) 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? Comply with Federal, State, and local management and reduction statues and regulations related to solid waste?

The proposed project would not create substantial amounts of solid waste, and as such would not exceed the capacity of local infrastructure. Minimal waste would be generated during construction and no increase in waste production would occur during the operation of the project. The project would comply with federal, state, and local management and reduction statues and regulations related to solid waste. There would be **less-than-significant** impacts.

4.20 Wildfire

#20 -a. Substantially impair an adopted emergency response plan or emergency evacuation plan?	Have Potentially Significant Impact? No.	Have Less-than-Significant Impact with Mitigation Incorporated? No.	Have Less-than-Significant Impact? No.	Have No Impact? **Yes.**
#20 -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?	Have Potentially Significant Impact? No.	Have Less-than-Significant Impact with Mitigation Incorporated? No.	Have Less-than-Significant Impact? No.	Have No Impact? **Yes.**
#20 -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?	Have Potentially Significant Impact? No.	Have Less-than-Significant Impact with Mitigation Incorporated? No.	Have Less-than-Significant Impact? No.	Have No Impact? **Yes.**
#20 -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?	Have Potentially Significant Impact? No.	Have Less-than-Significant Impact with Mitigation Incorporated? No.	Have Less-than-Significant Impact? No.	Have No Impact? **Yes.**

4.20.1 Environmental Setting

The project sites are not located in a high severity fire zone. The northern project site is located in unincorporated Local Responsible Area (LRA) zones, and the southern project site is located in an incorporated LRA. The project sites are classified as LRA unzoned. (CALFIRE 2007a, 2007b). The Kern County Fire Department provides fire protection for residents of the unincorporated areas of the County and the cities of Arvin, Delano, Maricopa, McFarland, Ridgecrest, Shafter, Tehachapi, and Wasco (Kern County 2004).

4.20.2 Discussion

#20 -a, b, c, and d) Substantially impair an adopted emergency response plan or emergency evacuation plan? 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? 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? 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?

The project sites are not located in a high severity fire zone. The project would include the installation of seven segments of pipeline to connect 11 replacement wells to allow for water returns to the FKC at three discharge points, two of which would require the installation of new discharge points. There would not be an increase in the number of users at the site that could impair emergency response or evacuation. Additionally, the short-term, temporary nature of construction and the intermittent nature of material offhauling and drop-off via large trucks at the project site locations would not pose a risk to emergency response or evacuation during an emergency. The project would not require any infrastructure that would exacerbate fire risk or the risk of flooding, slope instability, or drainage changes. There would be **no impact**.

4.21 Mandatory Findings of Significance

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

4.21.1 Discussion

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

The analysis conducted in this IS concludes that implementation of the proposed project would not have a significant impact on the environment. As evaluated in Chapter 3.4, Biological Resources, impacts on biological resources would be **less-than-significant or less-than-significant with mitigation incorporate**d. The proposed project would not 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 reduce the number or restrict the range of an endangered, rare, or threatened

species. Mitigation Measures BIO-1, BIO-2a and BIO-2b will be incorporated into the proposed project.

As discussed in Chapter 3.5, Cultural Resources, the proposed project would not eliminate important examples of the major periods of California history or prehistory. This impact would be **less-than-significant with mitigation incorporated**. Mitigation Measures CR-1 and CR-2 will be incorporated into the proposed project.

#21 -b. Would 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.)

To consider cumulative impacts[6] to the environment, past, present, and reasonably foreseeable probable future projects implemented within the vicinity of the proposed project were considered and analyzed for potential cumulative impacts to water quality. Included in this analysis were the District's Expanded Water Banking Program (future project), the 2018 Drought Resiliency Project, and the 2020 Drought Resiliency Project. In these three projects, the District is proposing to connect additional wells to the FKC (to be partially funded through a 2018 and 2020 Reclamation Grant). These additional wells will increase pump-in capacity. The wells to be added to the District's program under these probable future projects will be selected to meet these objectives:

- Allow for the return of previously banked water to the District's neighboring partners using wells that meet Reclamation's water quality standards for the FKC administered by Reclamation and/or the authorized operating non-federal entity.

- Comply with state and federal water quality regulations and guidelines that apply to the FKC. It is anticipated that additional TCP mitigation measures will be necessary including, but not limited to, the installation of GAC treatment on one or more District wells.

Overall, cumulative impacts to water quality from the project is **less than significant with mitigation incorporated**. Mitigation Measures HYDRO-1 and HYDRO-2 will be incorporated into the proposed project to reduce potential impacts to salinity during dry years.

For all other resources, as discussed in this IS, the proposed project would result in less-than-significant impacts with mitigation incorporated, less-than-significant impacts, or no impacts on aesthetics, air quality, biological resources, cultural resources, geology and soils, GHG emissions, hazards and hazardous materials, land use and planning, mineral resources, noise, population and

[6] The CEQA Guidelines, Section 15355 state, "The cumulative impact from several projects is the change in the environment which results from the incremental impact of the project when added to other closely related past, present, and reasonably foreseeable probable future projects. Cumulative impacts can result from individually minor but collectively significant projects taking place over a period of time."

housing, public services, recreation, transportation, tribal cultural resources, utilities and service systems, and wildfire. The temporary nature of the proposed project's construction impacts, and the minor, negligible changes to long-term operations and maintenance at the project site locations would result in no impacts or less-than-significant environmental impacts on the physical environment. None of the proposed project's impacts make cumulatively considerable, incremental contributions to significant cumulative impacts with incorporation of mitigation presented in this IS. This impact would be **less-than-significant with mitigation incorporated**.

#21 -c. Would the project have environmental effects that will cause substantial adverse effects on human beings, either directly or indirectly?

The project would result in less-than-significant impacts and would not cause substantial adverse effects on human beings, either directly or indirectly. This impact would be **less-than-significant**.

5.0 References

Chapter 3.1, Aesthetics

California Department of Transportation (Caltrans). 2015. *List of Officially Designated County Scenic Highways*. Available: https://dot.ca.gov/programs/design/lap-landscape-architecture-and-community-livability/lap-liv-i-scenic-highways Accessed: January 19, 2021.

_____. 2019. *List of eligible and officially designated State Scenic Highways*. August 2019. Available: https://dot.ca.gov/programs/design/lap-landscape-architecture-and-community-livability/lap-liv-i-scenic-highways Accessed: January 19, 2021.

City of Shafter. 2019. *City of Shafter Mapping Application*. Available: https://www.arcgis.com/apps/webappviewer/index.html?id=814dc758780f4a2cbaddd2fb72c03e6f Accessed: January 19, 2021.

Kern County. 1982. *Land Use, Open Space and Conservation Element, Eastern and Western Sections*. Available: https://kernplanning.com/planning/planning-documents/general-plans-elements/. Accessed: January 19, 2021.

Chapter 3.2, Agriculture and Forestry

Department of Conservation. 2018. *California Important Farmland Finder*. Available: https://maps.conservation.ca.gov/DLRP/CIFF/ Accessed: January 19, 2021.

Kern County. 1982. *Land Use, Open Space and Conservation Element, Eastern and Western Sections*. Available: https://kernplanning.com/planning/planning-documents/general-plans-elements/. Accessed: January 19, 2021.

_____. 2010. *Kern County Williamson Act Parcels and Non-Renewals, California, 2010*. GIS Layer. Available: https://databasin.org/datasets/b4b2b8e824114b32b1005c74663237fd Accessed: January 19, 2021.

Chapter 3.3, Air Quality

California Air Resource Board (C.A.R.B.). 2016. *Ambient Air Quality Standards (C.A.A.Q.S.)*. Dated 5/4/16. Available: http://www.arb.ca.gov/research/aaqs/aaqs2.pdf Accessed: January 19, 2021.

_____. 2018. *Maps of State and Federal Area Designations*. Available: https://ww2.arb.ca.gov/resources/documents/maps-state-and-federal-area-designations Accessed: January 19, 2021.

_____. 2021. *Air Quality Trend Summaries*. Available: https://www.arb.ca.gov/adam/ Accessed: January 19, 2021.

Environmental Protection Agency (EPA). 2016. *National Ambient Air Quality Standards (NAAQS) Table*. Available: https://www.epa.gov/criteria-air-pollutants/naaqs-table Accessed: January 19, 2021.

San Joaquin Valley Air Pollution Control District (S.J.V.A.P.C.D.) 2004. *Rule 8021 Construction, Demolition, Excavation, Extraction, and Other Earthmoving Activities (Adopted November 15, 2001; Amended August 19, 2004)*. Available: https://www.valleyair.org/rules/1ruleslist.htm#reg7 Accessed: January 19, 2021.

_____. 2020. *Small Project Analysis Level (SPAL)*. Available: http://www.valleyair.org/transportation/CEQA%20Rules/GAMAQI-SPAL.PDF Accessed: January 19, 2021.

Chapter 3.4, Biological Resources

California Department of Fish and Game (CDFG). 2012. Staff Report on Burrowing Owl Mitigation. State of California Natural Resources Agency, Sacramento, CA.

California Department of Fish and Wildlife (CDFW). 2021. *California Natural Diversity Database*. Available: https://wildlife.ca.gov/Data/CNDDB/Maps-and-Data Accessed: April 21, 2021.

California Native Plant Society (CNPS), Rare Plant Program. 2021. *Inventory of Rare and Endangered Plants*. Online edition, v8-03 0.39. Sacramento, CA. Available at http://www.rareplants.cnps.org. Accessed January 21, 2021.

Kern County Planning Department. 2006 (December). *First Public Draft, Kern County Valley Floor Habitat Conservation Plan*. Prepared by Garcia and Associates, Lompoc, CA.

Kern County. 2004a. *General Plan*. Available: https://psbweb.co.kern.ca.us/planning/pdfs/kcgp/KCGP.pdf. Accessed: March 31, 2021.

Swainson's Hawk Technical Advisory Committee. 2000. Recommended Timing and Methodology for Swainson's Hawk Nesting Surveys in California's Central Valley. Available at: https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=83990&inline.

United States Fish and Wildlife Service (U.S.F.W.S.). 2011. *Standardized Recommendations for Protection of the Endangered San Joaquin Kit Fox Prior to or During Ground Disturbance*. Sacramento Fish and Wildlife Office, Sacramento, CA.

_____. 2021a. IPaC Resoure List. Sacramento Fish and Wildlife Office, Sacramento, CA.

_____. 2021b. Critical Habitat for Threatened and Endangered Species. Available at: https://fws.maps.arcgis.com/home/webmap/viewer.html?webmap=9d8de5e265ad4fe09893cf75b8dbfb77. Accessed March 31, 2021.

Chapter 3.5, Cultural

Office of Historic Preservation. 1999. California Office of Historic Preservation Technical Assistance Series #10. Available: https://ohp.parks.ca.gov/pages/1054/files/statelaws.pdf Accessed: March 31, 2021.

Chapter 3.6, Energy

California Energy Commission (CEC). 2015. *Fact Sheet: California's 2030 Climate Commitment – Renewable Resources for Half of the State's Electricity by 2030.* Available: https://ww3.arb.ca.gov/html/fact_sheets/2030_renewables.pdf. Accessed: January 19, 2021.

_____. 2019. *Electricity Consumption by County*. Available: http://www.ecdms.energy.ca.gov/elecbycounty.aspx Accessed: January 19, 2021.

Kern County. 2004. *Kern County General Plan*. Available: https://psbweb.co.kern.ca.us/planning/pdfs/kcgp/KCGP_RPEIR_vol1.pdf. Accessed: January 19, 2021.

Chapter 3.7, Geology and Soils

California Geologic Survey (CGS). 2010a. *Fault Activity Map of California (2010)*. Available: https://maps.conservation.ca.gov/cgs/fam/ Accessed: January 19, 2021.

_____. 2010b. *Geologic Map of California*. Available: https://maps.conservation.ca.gov/cgs/gmc/Accessed: January 19, 2021

_____. 2015a. *Earthquake Zones of Required Investigation*. Available: https://maps.conservation.ca.gov/cgs/EQZApp/app/ Accessed: January 19, 2021.

_____. 2015b. *CSG Warehouse Information*. Available: https://maps.conservation.ca.gov/cgs/informationwarehouse/index.html?map=regulatorymaps Accessed: January 19, 2021.

Natural Resources Conservation Service. 2021. *U.S. Department of Agriculture Natural Resources Conservation Services, Web Soil Survey*. Available: https://websoilsurvey.sc.egov.usda.gov/App/WebSoilSurvey.aspx Accessed: January 19, 2021.

Chapter 3.8, Greenhouse Gas Emissions

C.A.R.B. 2017. *California's 2017 Climate Change Scoping Plan*. Available: https://ww2.arb.ca.gov/sites/default/files/classic//cc/scopingplan/scoping_plan_2017.pdf Accessed: January 19, 2021.

San Joaquin Valley Air Pollution Control District (S.J.V.A.P.C.D.). 2009. *Guidance for Valley Land-use Agencies in Addressing GHG Emissions Impacts for New Projects under CEQA*. Available: http://www.valleyair.org/Programs/CCAP/12-17-09/3%20CCAP%20-

%20FINAL%20LU%20Guidance%20-%20Dec%2017%202009.pdf Accessed: January 19, 2021.

State of California. 2018. *California Climate Change. California Climate Change Executive Orders*. Available: https://www.ca.gov/archive/gov39/wp-content/uploads/2018/09/9.10.18-Executive-Order.pdf Accessed: January 19, 2021.

Chapter 3.9, Hazards and Hazardous Waste

California Department of Conservation. 2000. A General Location Guide for Ultramafic Rocks in California - Areas More Likely to Contain Naturally Occurring Asbestos, 2000, Map scale 1:1,100,000, Open-File Report 2000-19. Available: ftp://ftp.consrv.ca.gov/pub/dmg/pubs/ofr/ofr_2000-019.pdf. Accessed: January 15, 2021.

California Department of Forestry and Fire Protection. CALFIRE. 2007a. Fire Hazard Severity *Zones in SRA*. Available: https://osfm.fire.ca.gov/media/6687/fhszs_map15.pdf Accessed: January 19, 2021.

_____. 2007b. *Draft Fire Hazard Severity Zones in LRA*. Available: https://osfm.fire.ca.gov/media/6686/fhszl06_1_map15.pdf Accessed: January 19, 2021.

California Department of Toxic Substances Control. (DTSC) 2021a. *Envirostor Hazardous Waste and Substances Site List (Cortese).* Available: https://www.envirostor.dtsc.ca.gov/public/search?cmd=search&reporttype=CORTESE&site_type=CSITES,OPEN,FUDS,CLOSE&status=ACT,BKLG,COM,COLUR&reporttitle=HAZARDOUS+WASTE+AND+SUBSTANCES+SITE+LIST+(CORTESE). Accessed: January 19, 2021.

_____. 2021b. *Cortese List: Section 65962.5(a).* Available: https://calepa.ca.gov/sitecleanup/corteselist/section-65962-5a/. Accessed: January 19, 2021.

California Environmental Protection Agency. 2021. *Sites Identified with Waste Constituents Above Hazardous Waste Levels Outside the Waste Management Unit*. Available: https://calepa.ca.gov/wp-content/uploads/sites/6/2016/10/SiteCleanup-CorteseList-CurrentList.pdf. Accessed: January 15, 2021.

California State Water Resources Control Board (SWRCB). 2021a. *GeoTracker Database*. Available: https://geotracker.waterboards.ca.gov/map/?global_id=T0601700073. Accessed: January 15, 2021.

_____. 2021b. *CDO-CAO List*. Available: https://calepa.ca.gov/wp-content/uploads/sites/6/2016/10/SiteCleanup-CorteseList-CDOCAOList.xlsx. Accessed: January 15, 2021.

Kern County. 2012. Airport Land Use Compatibility Plan. Available: https://psbweb.co.kern.ca.us/planning/pdfs/ALUCP2012.pdf Accessed: January 19, 2021.

Chapter 3.10, Hydrology

U.S. Department of the Interior Bureau of Reclamation (Reclamation). 2008. *Policy for Accepting Non-Project Water into the Friant-Kern and Madera Canals*. March 2008 Available: https://www.usbr.gov/mp/nepa/includes/documentShow.php?Doc_ID=28376 Accessed: January 19, 2021.

Friant Water Authority. 2020. Friant-Kern Canal Water Quality Policy (draft). (June 2020).

Chapter 3.11, Land Use and Planning

City of Shafter. 2019. *City of Shafter Mapping Application*. Available: https://www.arcgis.com/apps/webappviewer/index.html?id=814dc758780f4a2cbaddd2fb72c03e6f Accessed: January 19, 2021.

Kern County. 1982. *Land Use, Open Space and Conservation Element, Eastern and Western Sections*. Available: https://kernplanning.com/planning/planning-documents/general-plans-elements/. Accessed: January 19, 2021.

_____. 2021. *Zone Maps*. Available: https://kernpublicworks.com/maps/zone-maps/ Accessed: January 19, 2021.

Chapter 3.12, Mineral Resources

Department of Conservation. 1988. *Special Report 147*. Available: https://maps.conservation.ca.gov/cgs/informationwarehouse/index.html?map=regulatorymaps Accessed: January 19, 2021.

Chapter 3.13, Noise

Kern County. 2012. *Airport Land Use Compatibility Plan*. Available: https://psbweb.co.kern.ca.us/planning/pdfs/ALUCP2012.pdf Accessed: January 19, 2021.

_____. 2021. *Code of Ordinances, Title 8 Health and Safety*. Available: https://library.municode.com/ca/kern_county/codes/code_of_ordinances Accessed: January 19, 2021.

Federal Highway Administration. 2006. Construction Noise Handbook, 9.0 Construction Equipment Noise Levels and Ranges. Available: https://www.fhwa.dot.gov/environment/noise/construction_noise/handbook/handbook09.cfm. Accessed: April 1, 2021.

Chapter 3.14, Population and Housing

Department of Finance. 2020. *E-1 Cities, Counties, and State Population Estimates with Annual Percent Change – January 1, 2018 and 2019*. Available: http://www.dof.ca.gov/Forecasting/Demographics/Estimates/E-1/ Accessed: January 19, 2021.

Chapter 3.15, Public Services

Kern County. 2004. *Volume I Recirculated Draft Program Environmental Impact Report*. Available: https://psbweb.co.kern.ca.us/planning/pdfs/kcgp/KCGP_RPEIR_vol1.pdf Accessed: January 19, 2021.

Chapter 3.16, Recreation

No Citations.

Chapter 3.17, Transportation

No Citations.

Chapter 3.18, Tribal Cultural Resources

Native American Heritage Commission (NAHC). 2021. *Sacred Lands Record Search*. Accessed: March 16, 2021.

Chapter 3.19, Utilities

Kern County. 2004a. *General Plan*. Available: https://psbweb.co.kern.ca.us/planning/pdfs/kcgp/KCGP.pdf Accessed: January 19, 2021.

_____. 2004b. *Volume I Recirculated Draft Program Environmental Impact Report*. Available: https://psbweb.co.kern.ca.us/planning/pdfs/kcgp/KCGP_RPEIR_vol1.pdf Accessed: January 19, 2021.

Chapter 3.20, Wildfire

California Department of Forestry and Fire Protection. CALFIRE. 2007a. *Fire Hazard Severity Zones in SRA for Sacramento County*. Available: https://osfm.fire.ca.gov/media/6687/fhszs_map15.pdf Accessed: January 19, 2021.

_____. 2007b. *Very High Fire Hazard Severity Zones in LRA for Sacramento County*. Available: https://osfm.fire.ca.gov/media/6686/fhszl06_1_map15.pdf Accessed: January 19, 2021.

Kern County. 2004. *Volume I Recirculated Draft Program Environmental Impact Report*. Available: https://psbweb.co.kern.ca.us/planning/pdfs/kcgp/KCGP_RPEIR_vol1.pdf Accessed: January 19, 2021.

Chapter 3.21, Transportation

No Citations.

6.0 Report Preparers

GEI Consultants, Inc.

Ginger Gillin, ...Project Director, Document Review

Nicholas Tomera.....Project Manager

Kelly Fitzgerald-Holland.…...Project Biologist

Stephanie Hearn.…….. Hydrology and Water Quality and Mandatory Findings of Significance

Chrissy Russo.....Project Introduction, Project Description, Aesthetics, Agriculture and Forestry, Air Quality, Energy, Geology and Soils, Greenhouse Gas Emissions, Hazards and Hazardous Materials, Land Use and Planning, Mineral Resources, Noise, Population and Housing, Public Services, Recreation, Transportation, Utilities and Service Systems, Wildfire, and Mandatory Findings of Significance

Jesse Martinez, RPA ..... Cultural Resources and Tribal Cultural Resources

Madeline Bowen…… Cultural Resources- Historic Resources

Ryan Snyder.....Geographic Information Systems

Gigi Gable.....Report Editing

This page intentionally left blank

Appendix A – Project Site Photos

Photo 1. Proposed Well 88-25-016 (facing north with Lerdo Canal on the right).

Photo 2. Proposed pipeline route to Well 88-25-031 (facing north).

Photo 3. Well 88-25-031 (facing northwest).

Photo 4. Well 88-29-009 (facing north).

Photo 5. Poso Creek from Well 88-29-009 (facing southeast).

Photo 6. Well 88-29-013 (facing southeast).

Photo 7. Well 99-00-022 adjacent to Rosedale spreading area (facing southwest).

Photo 8. Well 99-00-026 adjacent to vineyard (facing north).

Photo 9. Proposed pipeline route from Well 99-00-35 to Well 99-00-032 (facing southeast).

Photo 10. Well 99-00-032 adjacent to orchard facing north.