

RECLAMATION

Managing Water in the West

**Draft Environmental Assessment/Initial Study and Mitigated
Negative Declaration**

**Fresno Irrigation District
Gould Canal to Friant Kern Canal Intertie Project**

EA/IS-15-062



**U.S. Department of the Interior
District**

Fresno Irrigation

Bureau of Reclamation

May 2016

Mission Statements

The mission of the Department of the Interior is to protect and manage the Nation's natural resources and cultural heritage; provide scientific and other information about those resources; and honor its trust responsibilities or special commitments to American Indians, Alaska Natives, and affiliated island communities.

The mission of the Bureau of Reclamation is to manage, develop, and protect water and related resources in an environmentally and economically sound manner in the interest of the American public.

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Abbreviations and Acronyms

AF	Acre Feet
AFY	Acre Feet per Year
APE	Area of Potential Effects
BiOps	Biological Opinions
BMPs	Best Management Practices
CalEEMod	California Emissions Estimator Model
CDC	California Department of Conservation
CDFW	California Department of Fish & Wildlife
CEQA	California Environmental Quality Act
Cfs	Cubic Feet per Second
CH ₄	Nitrous Oxide
CHRIS	California Historical Resources Information System
CNDDB	California Department of Fish & Wildlife Diversity Data Base
CNPS	California Native Plant Society
CO	Carbon Monoxide
CO ₂	Carbon Dioxide
CRHR	California Register of Historical Resources
CVP	Central Valley Project
CVPIA	Central Valley Project Improvement Act
CWA	Clean Water Act
DAC	Disadvantaged Communities
dBA	Decibel
District	Fresno Irrigation District
EA	Environmental Assessment
EPA	Environmental Protection Agency
ESA	Endangered Species Act
FID	Fresno Irrigation District
FKC	Friant-Kern Canal
FONSI	Finding of no Significant Impact
Hp	Horsepower
IS	Initial Study
MBTA	Migratory Bird Treaty Act
NAHC	Native American Heritage Commission
NEPA	National Environmental Protection Act
NHPA	National Historic Preservation Act
NRHP	National Register of Historic Places
NO ₂	Nitrogen Dioxide
NO _x	Nitrogen Oxide
PM ₁₀	Particulate Matter Less Than 10 Microns in Diameter
PM _{2.5}	Particulate Matter Less Than 2.5 Microns in Diameter
ROG	Reactive Organic Gases
Service	U.S. Fish and Wildlife Service
SHPO	California State Historic Preservation Officer
SJVAB	San Joaquin Valley Air Board

SJVAPCD	San Joaquin Valley Air Pollution Control District
SJRRP	San Joaquin River Restoration Program
SWPPP	Storm Water Pollution Prevention Plan
URF	Unreleased Restoration Flows
USBR	United States Bureau of Reclamation
VOG	Volatile Organic Compound

Section 1 Introduction

This Environmental Assessment (EA) / Initial Study (IS) was jointly prepared by the Bureau of Reclamation (Reclamation) as the lead Federal agency and Fresno Irrigation District (Fresno ID) as the lead State agency to satisfy the requirements of both the National Environmental Policy Act (NEPA) and California Environmental Quality Act (CEQA). Throughout this document, Proposed Action and Proposed Project are used interchangeably and both terms reflect the Project as described below.

1.1 Background/Project Overview

The State of California is currently experiencing unprecedented water management challenges due to severe drought in recent years. In 2014 and 2015, due to hydrologic and regulatory conditions, Reclamation declared an unprecedented 0 percent allocation for Class 1 and Class 2¹ water supplies for Friant Division Central Valley Project (CVP) contractors.

In order to address water supply needs during the severe drought, Fresno ID proposed installing a temporary pumping facility within Reclamation's right-of-way that would temporarily connect the Gould Canal to the Friant-Kern Canal. Reclamation prepared EA-14-003 to analyze the execution of exchange agreements between the San Joaquin River Restoration Program (SJRRP) and Fresno ID for the return of previously banked Unreleased Restoration Flows (URFs), execution of Warren Act contracts and/or exchange agreements between Reclamation and Fresno ID for the introduction and conveyance of Fresno ID's available non-Project (non-CVP) Kings River water, and issuance of a land use authorization to Fresno ID for the installation, operation, and maintenance of the temporary pumping facility over a five-year period. A Finding of No Significant Impact (FONSI) was issued on March 21, 2014 (Reclamation 2014). FONSI/EA-14-003 is hereby incorporated by reference.

In order to increase water supply reliability, enhance operational flexibility, and reduce system constraints, Fresno ID has requested approval from Reclamation to construct a more permanent connection between the Gould Canal and the Friant-Kern Canal. The general project concept to interconnect the Gould Canal and the Friant-Kern Canal was identified as a Priority Project in Reclamation's Water Management Goal Investment Strategy Final Report (Reclamation 2015) for the SJRRP. Fresno ID is seeking and applying for additional State/Federal funding for the Project.

¹ Class 1 water is considered as the first 800,000 AF supply of CVP water stored in Millerton Lake, which would be available for delivery from the Friant-Kern Canal and/or Madera Canals as a dependable water supply during each Contract Year. Class 2 water is considered as the next approximate 1,400,000 AF supply of non-storable CVP water which becomes available in addition to the Class 1 supply and, due to the uncertainty of its availability, is considered to be undependable in character and is furnished only if and when it can be made available as determined by Reclamation per Contract Year.

The Proposed Action/Project site is located near the intersection of Fresno ID's Gould Canal and the Friant-Kern Canal, west of Trimmer Springs Road approximately nine miles northeast of the City of Sanger, in Fresno County (see Figure 1). The Project is surrounded on all sides by canals, dirt roads, planted orange groves and cleared orchard (leveled and fallow) lands (see Figure 2 and 3).

Fresno ID approved the proposed Project at their Board meeting on December 15, 2015.

1.2 Need for the Proposed Action/Project Objectives

As described above, Friant Division CVP contractors have recently experienced reduced water supply allocations due to hydrologic conditions and the implementation of the *Stipulation of Settlement in NRDC, et al., v. Kirk Rodgers, et al.* (Settlement). As a result, Friant Division contractors have a need to find alternative sources of water to fulfill demands. The purpose of the Proposed Action/Project is to provide a connection to convey water from Fresno ID's Gould Canal to the Friant-Kern Canal in order to increase water supply reliability, enhance operational flexibility, and reduce system constraints. In addition, the Proposed Action/Project would meet the following objectives:

1. Provide a method to move water to address drought and dry year water supply for CVP Friant Division Contractors that could address the critical water supply needs of disadvantaged communities along the Friant system that are dependent on this system as their sole water supply.
2. Create the ability to bank, exchange or transfer CVP uncontrolled season, 215, URFs, and other waters, by diverting water from the Kings system to the Friant system.
3. Provide additional flood protection.
4. Facilitate the potential exchange of recaptured CVP Friant Division water supplies with Kings River water supplies to support the recirculation element of the SJRRP.

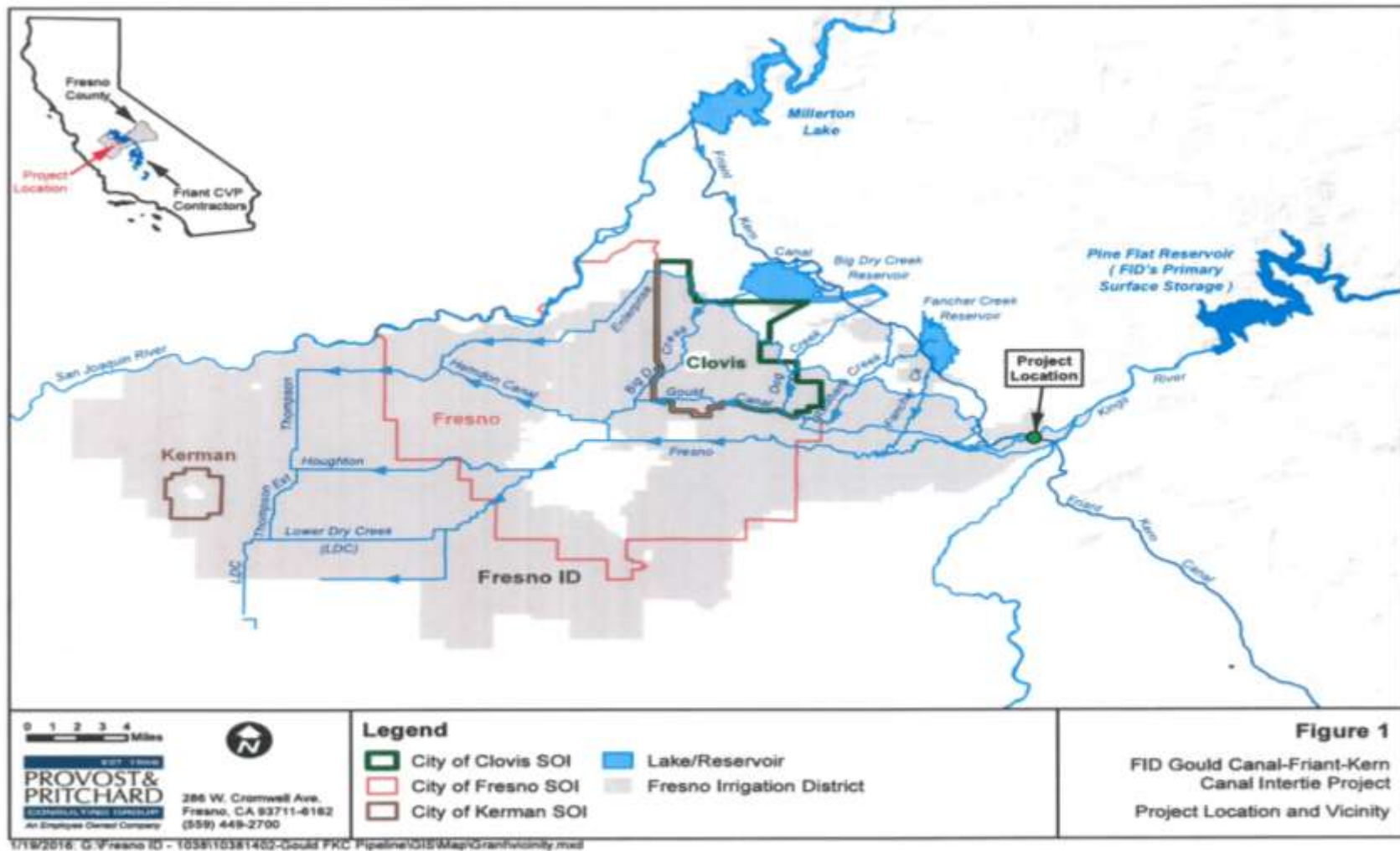


Figure 1: Project Location and Vicinity Map



Figure 2: Proposed Action/Project Location Aerial Map

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Section 2 Alternatives and Proposed Action

This EA/IS considers two possible actions: the No Action Alternative and the Proposed Action/Project. The No Action Alternative reflects future conditions without the Proposed Action/Project and serves as a basis of comparison for determining potential effects to the human environment. For purposes of analysis, the No Action Alternative is the same as existing conditions.

2.1 No Action Alternative

Under the No Action Alternative, conveyance and use of Kings River water would occur through the existing temporary facilities until April 2019 as provided in the current temporary Warren Act contract and license. The small scale temporary pump station was constructed in 2014 to facilitate exchange and/or transfer water between the Gould Canal and the Friant-Kern Canal. Upon termination of this License, (Contract No 14-LC-20-0530) and/or failure to execute a Long-Term License, Fresno ID shall remove all facilities, structures, equipment and related appurtenances made by it without delay. The site would remain with canal facilities and absent of any pump station. Under the No Action Alternative, Fresno ID's surface water supplies would continue to be available in quantity and in timing as they have in the past which would mean that farmers would continue to need to meet demand with additional groundwater pumping after 2019. Under the No Action Alternative, no modification of the Friant-Kern Canal or Gould Canal would occur.

2.2 Proposed Action

Reclamation proposes to do the following: (1) enter into a series of Warren Act Contracts and/or exchange agreements over a 25 year period for the introduction, storage, and conveyance of up to 50,000 acre-feet (AF) per year (AFY) of Fresno ID's Kings River water and/or previously banked non-CVP groundwater (hereafter referred to as non-Project water) into and through Friant Division facilities as described in Section 2.2.1 of EA-15-062, (2) issue an MP-620 permit² to Fresno ID for the construction, operation, and maintenance of a new discharge structure at approximate milepost 27.7 of the Friant-Kern Canal, (3) issue a land use authorization to Fresno ID for construction, operation, and maintenance of a new pump station and associated appurtenances within Reclamation's right of way as described in Section 2.2.2 of EA-15-062, and (4) partially fund the Proposed Action/Project through a 50/50 cost share program.

On August 20, 1947, Reclamation and Fresno ID executed an agreement entitled "Contract for Transfer to the United States of Existing Right of Way for the Gould Canal and the Relocation and Construction of a Portion of the Gould Canal on New Right of Way in Replacement Thereof" that provided for the transfer of land and granting of an easement from Reclamation to Fresno ID's Gould Canal siphon crossing under the Friant-Kern Canal. If the previously

² Mid-Pacific Region specific permit for modification or alteration of Federal Facilities

executed transfer deed and grant of easement documents cannot be located, Reclamation would issue a new transfer of land and easement to Fresno ID as provided for in the 1947 agreement. The transfer of land to Fresno ID is anticipated to occur after construction of the Proposed Action/Project. This Federal Action would only occur if the previously executed transfer deed and grant of easement documents cannot be located.

2.2.1 Introduction and Conveyance through Friant Division Facilities

Fresno ID is proposing to replace the temporary connection between the Gould Canal and Friant-Kern Canal with a permanent structure in order to facilitate the potential exchange of recaptured CVP Friant Division water supplies with Fresno ID's available non-Project water. Potential CVP water supplies that could be recaptured include: uncontrolled season, 215, flood water, URFs or other water. These supplies would be diverted through Fresno ID's existing turn-ins for banking in Fresno ID.

To make Fresno ID's non-Project Kings River water supplies available for introduction into the Friant-Kern Canal, Fresno ID would pump up to 50,000 AFY of previously recharged groundwater supplies from its existing recharge facilities. The recharged groundwater supplies would be used to meet in-district demands in lieu of receiving the same quantity of Fresno ID's pre-1914 water rights Kings River water supplies. The recharged groundwater would be discharged into Fresno ID's conveyance system, freeing up a like amount of the Kings River water for introduction into the Friant-Kern Canal. The transfer and/or exchange of Fresno ID's non-Project water in the Friant-Kern Canal would be between Fresno ID and those contractors able to divert water from Friant Division facilities, including those listed in Table 1.

Table 1 Potential Recipients of Fresno ID's Non-Project Water

Friant Division Contractors	Class 1 (AFY)	Class 2 (AFY)
Arvin-Edison Water Storage District	40,000	311,675
Chowchilla Water District	55,000	160,000
City of Fresno	60,000	0
² City of Lindsay	2,500	0
City of Orange Cove	1,400	0
County of Madera	200	0
Delano-Earlimart Irrigation District	108,800	74,500
Exeter Irrigation District	11,100	19,000
Fresno County Waterworks No. 18	150	0
Garfield Water District	3,500	0
Gravelly Ford Water District	0	14,000
² Hills Valley Irrigation District	1,250	0
International Water District	1,200	0
Ivanhoe Irrigation District	6,500	500
¹ Kaweah Delta Water Conservation District	1,200	7,400
² Kern-Tulare Irrigation District	0	5,000
Lewis Creek Water District	1,200	0
Lindmore Irrigation District	33,000	22,000
Lindsay-Strathmore Irrigation District	27,500	0

Friant Division Contractors	Class 1 (AFY)	Class 2 (AFY)
² Lower Tule River Irrigation District	61,200	238,000
Madera Irrigation District	85,000	186,000
Orange Cove Irrigation District	39,200	0
Porterville Irrigation District	15,000	30,000
² Saucelito Irrigation District	21,500	32,800
Shafter-Wasco Irrigation District	50,000	39,600
Southern San Joaquin Municipal Utility District	97,000	45,000
² Stone Corral Irrigation District	10,000	0
Tea Pot Dome Water District	7,200	0
Terra Bella Irrigation District	29,000	0
² Tri-Valley Water District	400	0
Tulare Irrigation District	30,000	141,000
¹ Kaweah Delta Water Conservation District is comprised of four districts: Lakeside Irrigation Water District, Kings County Water District, Corcoran Irrigation District, and Tulare Irrigation District.		
² Lower Tule River ID, Saucelito ID, Stone Corral ID, Tri-Valley, Kern-Tulare, Hills Valley and City of Lindsay receive CVP water under more than one contract, either as a Friant Division and/or Cross Valley Contractor/Sub-Contractor.		
Cross Valley Contractors	Contract Quantity (AFY)	
County of Fresno ¹	3,000	
County of Tulare ²	5,308	
Hills Valley Irrigation District ³	3,346	
Kern-Tulare Water District	40,000	
Kern-Tulare Water District (from Rag Gulch Water District) ^{3,4}	13,300	
Lower Tule River Irrigation District	31,102	
Pixley Irrigation District	31,102	
Tri-Valley Water District	1,142	
¹ County of Fresno includes Fresno County Service Area #34		
² County of Tulare includes the following subcontractors: Alpaugh Irrigation District, Atwell Water District, Hills Valley Irrigation District, Saucelito Irrigation District ⁴ , Stone Corral Irrigation District ⁴ , City of Lindsay ⁴ , Strathmore Public Utility District, Styrotek, Inc., and City of Visalia		
³ Lower Tule River Irrigation District, Saucelito Irrigation District, Stone Corral Irrigation District, Tri-Valley Water District, Kern-Tulare Water District, Hills Valley Irrigation District, and City of Lindsay receive CVP water under more than one contract, either as Friant Division and/or Cross Valley Contractors.		
⁴ Kern-Tulare Water District and Rag Gulch Water District consolidated on January 1, 2009.		

2.2.2 Construction, Operation, and Maintenance of the Intertie

Project facilities would consist of (1) an up to 200 cubic feet per second (cfs) capacity pump station in the Gould Canal, (2) a steel pipeline up to 84 inches in diameter, and (3) a concrete discharge structure in the Friant-Kern Canal. The pump station would have up to five electrically motorized pumps with a total power requirement of approximately 300 horsepower (hp). Figure 2 shows the proposed location for the new pump station facility.

A 300 square foot (15x20) concrete or masonry building would be constructed adjacent to the pump station to house the electrical equipment and controls. Power would be supplied from the existing overhead electrical power lines owned by PG&E. There is an existing PG&E power pole and one existing service pole located within Reclamation's right of way and there is a possibility PG&E service utilities will require relocation within Reclamation right of way within the existing project Area. Electrical service by PG&E to the site will either remain overhead or

be underground, and will be determined by PG&E at a later date. Final PG&E utility locations will not be determined by PG&E until later on in the Proposed Action/Project development. PG&E and other utilities within Reclamation's property will require Reclamation approval. The pump station would be approximately 16 feet below the existing Gould Canal top of bank and approximately 8 feet above the existing Gould Canal top of bank making the total height of the structure approximately 24 feet.

The pump discharges and motors would be above the top of the structure approximately 8 to 10 feet in height. The pump station would be approximately 52 feet wide, and 55 feet in length and is anticipated to have either a stationary or mechanical screen in front of the structure to remove debris for the pumps. The pump discharges would be approximately 42 inches in diameter and would consolidate into an underground pipe manifold. A flow meter and access manhole into the pipe for maintenance would be included.

The pumps, motors and above grade piping would be painted oxide red. All other hand railing, grating, and miscellaneous metal work for the site would either be stainless steel or galvanized mild steel. The concrete discharge structure in the Friant-Kern Canal would be approximately 25 feet tall and 12 feet wide and would include provisions for installation of a stop log and slide gate that would allow the pipeline to be isolated.

The Proposed Action/Project would be constructed in the fall/winter of 2016/2017 and is anticipated to take four to five months to complete. The Friant Water Authority would maintain the discharge structure in the Friant-Kern Canal. Fresno ID would maintain all other components of the Proposed Action/Project. Maintenance of the discharge structure in the Friant-Kern Canal may include, but is not limited to, the maintenance and repairs to structural concrete and concrete canal liner, water control valve, and the maintenance and operation of any flow meters required by the Friant Water Authority other than meters to be owned and operated by the District. The remainder of the project components would be maintained by the District including, but not limited to, the maintenance, repair, and replacement of the concrete pump structure within the Gould Canal, pumps and motors, trash screens, and pump discharge piping and appurtenances.

2.2.3 Mitigation/Environmental Protection Measures

Reclamation and the District shall implement the environmental protection measures included in Table 2 in order to avoid and/or reduce environmental consequences associated with the Proposed Action/Project.

Table 2: Environmental Protection Measures

Resource	Mitigation/Environmental Protection Measures
Biological Resources	No native or untillied land (fallow for three consecutive years or more) may be cultivated with this water without additional environmental analysis and approval.
	The Proposed Action cannot alter the flow regime of natural waterways or natural watercourses such as rivers, streams, creeks, ponds, pools, wetlands, etc., so as to have a detrimental effect on fish or wildlife or their habitats.
	The Proposed Action shall not change the land use patterns of the cultivated or fallowed fields that do have some value to federally listed species under the Endangered Species Act (ESA).

Resource	Mitigation/Environmental Protection Measures
	A qualified biologist would conduct pre-construction protocol level surveys of the construction footprint for San Joaquin kit fox no fewer than 14 days and no more than 30 days prior to the onset of any ground disturbing activity (Service 2011). The biologist would survey the proposed construction area and a 200-foot buffer area around the construction area to identify kit fox habitat features and evaluate use by kit fox. The work area includes all areas where ground disturbance would occur, access roads, staging areas, and spoils storage areas. Written results of the surveys would be submitted to Reclamation within one week of the completion of surveys and prior to the beginning of ground disturbance and/or construction activities that could affect San Joaquin kit fox.
	Construction work in the Gould Canal (inside canal prism) shall occur when the head gate is closed and the channel does not have flowing water. Fresno ID may construct and operate a temporary cofferdam during non-peak flows in the Gould Canal.
	Prior to any construction activities on the project site in the February through August period, a preconstruction (one-day) survey shall be conducted by a qualified biologist for nesting birds on the project site. Results of the preconstruction survey shall be prepared in a letter and submitted to the project engineer and the District, prior to any construction activities.
	If any active nests are observed, the nests shall be designated as an Environmentally Sensitive Area and protected (while occupied) during the construction activities. California Department of Fish and Wildlife (CDFW) shall be consulted and avoidance measures, specific to each incident, shall be developed in cooperation with the project biologist.
Cultural Resources	<p>In the event that archaeological remains are encountered at any time during development or ground-moving activities within the entire Project area, all work in the vicinity of the find should be halted until a qualified archaeologist can assess the discovery. Such finds include, but are not limited to, prehistoric grinding implements, stone tools, soapstone bowls, and ornaments (e.g., beads, pendants) as well as intact building foundations and high concentrations of historical artifacts.</p> <p>If human remains are uncovered, or in any other case when human remains are discovered during construction, the Fresno County Coroner is to be notified to arrange their proper treatment and disposition. If the remains are identified—on the basis of archaeological context, age, cultural associations, or biological traits—as those of a Native American, California Health and Safety Code 7050.5 and Public Resource Code 5097.98 require that the coroner notify the NAHC within 24 hours of discovery. The NAHC will then identify the Most Likely Descendent who will determine the manner in which the remains are treated.</p>
Geology and Soils	If there is more than one acre of ground disturbance, a Storm Water Pollution Prevention Plan (SWPPP) will be required. As part of the SWPPP, the District would be required to provide Best Management Practices (BMPs) to further protect the topsoil.
Water Resources	The transfer and/or exchange agreements shall be limited to CVP Friant Division existing contractual amounts and will not increase overall consumptive use.
	Non-CVP water must meet water quality standards prior to introduction into the Friant-Kern Canal. If testing indicates that the water does not meet Reclamation's then-current water quality requirements, it may not be introduced into the Friant-Kern Canal until water quality concerns are addressed.

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Section 3 Analysis of the Proposed Action

3.1 Analysis of Potentially Affected Environmental

This section of the EA/IS includes the NEPA and CEQA analysis portion of the potentially affected environment and the environmental consequences involved with the Proposed Action/Project.

3.1.1 Aesthetics

Would the Project:	Potentially Significant Impact	Less than Significant With Mitigation Incorporation	Less than Significant Impact	No Impact
a) Have a substantial adverse effect on a scenic vista?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c) Substantially degrade the existing visual character or quality of the site and its surroundings?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
d) Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Affected Environment

The Proposed Action/Project area would be developed with the existing Gould Canal and Friant-Kern Canal footprint and is surrounded by planted orange orchards and pulled orchards (leveled fallow land). The closest residence is 0.45 miles east of where the pumps will be located. There are three residences within one-half mile of the project.

Environmental Consequences

No Action There would be no impact to aesthetics since there would be no construction of the pump station and conditions would remain the same as existing conditions. The area would continue to be used for the existing canals and surrounding agricultural uses.

Proposed Action The proposed pump station would be approximately 2,860 square feet and 24-feet tall. Adjacent to the pump station would be a 300 square foot building would be painted oxide red. All other hand railing, grating, and miscellaneous metal work for the site would either be stainless steel or galvanized mild steel. The concrete discharge structure in the Friant-Kern Canal would be approximately 25-feet tall and 12-feet wide. The pump structure would be surrounded by a 6-foot chain-link fence with barbed wire on top. While the Proposed Action/Project would modify the existing character of the subject site, it would not substantially degrade the visual quality of the site. Neither the temporary construction activities nor proposed permanent pump station would be visible from Trimmer Springs Road and would not affect a scenic vista.

Cumulative Impacts The Proposed Action/Project would not be precedent setting, nor have a cumulative adverse impact. There are not any past, present, or future projects in the area that could potentially contribute to a cumulative effect to aesthetic resources.

3.1.2 Agricultural Resources

In determining whether impacts to agricultural resources are significant environmental effects, lead agencies may refer to the California Agricultural Land Evaluation and Site Assessment Model (1997) prepared by the California Department of Conservation as an optional model to use in assessing impacts on agriculture and farmland.

Would the Project:	Potentially Significant Impact	Less than Significant With Mitigation Incorporation	Less than Significant Impact	No Impact
a) Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b) Conflict with existing zoning for agricultural use, or a Williamson Act contract?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

Affected Environment

The Project area is surrounded by planted orange orchards and pulled orchards (leveled fallow land). The surrounding land is zoned Exclusive Agriculture by Fresno County and the majority of the agricultural land is owned by United California Citrus East Inc. and Harris Farms Inc.

Environmental Consequences

No Action There would be no impact to agriculture as farming conditions in the area would remain the same as existing conditions.

Proposed Action Under the Proposed Action/Project, no agriculture would be removed or affected as the Project would occur directly adjacent to the canals on vacant, flat bare ground, void of agriculture. Fresno ID is already able to capture CVP flood water and other water through their existing turnouts on the Friant-Kern Canal. This Proposed Action/Project would enable Fresno ID to maximize the banking of this water as it would be used to free up a like amount of Fresno ID's Kings River water for transfers and exchanges between other Friant Division and Cross Valley Contractors along the Friant-Kern Canal. The banked water would be used to offset the Kings River water that would have gone to Fresno ID's water users so there would be no net change in available water that would affect agriculture in Fresno ID's service area. The Proposed Action/Project would have a beneficial effect on agriculture within Fresno ID as well as within the service areas of those participating in transfers and exchanges with Fresno ID as it would provide supplemental surface water supplies.

Cumulative Impacts The canals, groundwater banks, rivers, and conveyance facilities associated with the Proposed Action/Project are managed primarily for agricultural supplies. The Project would not interfere with water deliveries, facility operation, or cause substantial

adverse changes to the conveyance facilities. The Proposed Action/Project would not have a considerable contribution to a cumulative adverse impact on agriculture.

3.1.3 Air Quality

Section 176 (C) of the Clean Air Act (42 U.S.C. 7506 (C)) requires any entity of the federal government that engages in, supports, or in any way provides financial support for, licenses or permits, or approves any activity to demonstrate that the action conforms to the applicable State Implementation Plan (SIP) required under Section 110 (a) of the Federal Clean Air Act (42 U.S.C. 7401 [a]) before the action is otherwise approved. In this context, conformity means that such federal actions must be consistent with SIP's purpose of eliminating or reducing the severity and number of violations of the National Ambient Air Quality Standards and achieving expeditious attainment of those standards. Each federal agency must determine that any action that is proposed by the agency and that is subject to the regulations implementing the conformity requirements would, in fact conform to the applicable SIP before the action is taken.

On November 30, 1993, the Environmental Protection Agency (EPA) promulgated final general conformity regulations at 40 CFR 93 Subpart B for all federal activities except those covered under transportation conformity. The general conformity regulations apply to a proposed federal action in a non-attainment or maintenance area if the total of direct and indirect emissions of the relevant criteria pollutants and precursor pollutant caused by the Proposed Action equal or exceed certain *de minimis* amounts thus requiring the federal agency to make a determination of general conformity.

Where available, the significance criteria established by the applicable air quality management or air pollution control district may be relied upon to make the following determinations.

Would the Project:	Potentially Significant Impact	Less than Significant With Mitigation Incorporation	Less than Significant Impact	No Impact
a) Conflict with or obstruct implementation of the applicable air quality plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b) Violate any air quality standard or contribute substantially to an existing or Projected air quality violation?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c) 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 (including releasing emissions which exceed quantitative thresholds for ozone precursors)?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
d) Expose sensitive receptors to substantial pollutant concentrations?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
e) Create objectionable odors affecting a substantial number of people?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
f) Substantially alter air movement, moisture, or temperature, or cause any substantial change in climate?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Affected Environment

The Proposed Action/Project lies within the San Joaquin Valley Air Basin (SJVAB), the second largest air basin in the State. Air basins share a common “air shed”, the boundaries of which are defined by surrounding topography. Although mixing between adjacent air basins inevitably occurs, air quality conditions are relatively uniform within a given air basin. The San Joaquin Valley experiences episodes of poor atmospheric mixing caused by inversion layers formed when temperature increases with elevation above ground, or when a mass of warm, dry air settles over a mass of cooler air near the ground.

Despite years of improvements, the SJVAB does not meet some State and Federal health-based air quality standards. To protect health, the San Joaquin Valley Air Pollution Control District (SJVAPCD) is required by Federal law to adopt stringent control measures to reduce emissions. On November 30, 1993, the Environmental Protection Agency (EPA) promulgated final general conformity regulations at 40 CFR 93 Subpart B for all federal activities except those covered under transportation conformity. The general conformity regulations apply to a proposed Federal action in a non-attainment or maintenance area if the total of direct and indirect emissions of the relevant criteria pollutants and precursor pollutant caused by a proposed action equal or exceed certain emissions thresholds, thus requiring the Federal agency to make a conformity determination.

There are no residences directly adjacent to the Proposed Action/Project site. The closest residence is approximately 0.45 miles away. There are three other residences within one-half mile of the Project area.

Environmental Consequences

No Action There would be no impact to air quality as conditions would remain the same as existing conditions.

Proposed Action Minimal short-term air quality impacts would occur associated with construction; generally arising from dust generation (fugitive dust) and operation of construction equipment. Fugitive dust results from land clearing, grading, excavation, concrete work, and vehicle traffic on paved and unpaved roads. Fugitive dust is a source of airborne particulates less than 10 microns, including PM₁₀ and PM_{2.5}. Large earth-moving equipment, trucks, and other mobile sources powered by diesel or gasoline are also sources of combustion emissions, including nitrogen dioxide (NO₂), carbon monoxide (CO), carbon dioxide (CO₂), reactive organic gases (ROG), sulfur dioxide, and small amounts of air pollutants.

The Proposed Action/Project operations would not contribute to criteria pollutant emissions; however, minimal emissions would be associated with construction. Construction of the Proposed Action/Project would be accomplished with large backhoes, large tractors, a crane, an excavator, motor grader, water truck, trash pumps, and miscellaneous equipment (e.g. pneumatic tools, generators and portable air compressors). Construction of the Proposed Action/Project would occur over a 4-5-month period.

The California Emissions Estimator Model (CalEEMod), Version 2013.2, was used to estimate air pollutant emissions resulting from installation and operation of the Project. Modeling results

for installation and operation of the facilities are included in Table 3. The output files from CalEEMod are included in Appendix A.

Table 3: Calculated Proposed Action Construction Emissions

Pollutant	Federal Status	State Status	de minimis (tons/year)	SJVAPCD Thresholds of Significance (tons/year)	2016 Proposed Action emissions (tons/year)
VOC/ROG (as an ozone precursor)	Nonattainment serious 8-hour ozone	Nonattainment 8-hour/1-hour	50	10	0.1483
Nitrogen oxides (NO _x) (as an ozone precursor)	Nonattainment serious 8-hour standard	Nonattainment	50	10	0.9449
Particulate Matter (PM ₁₀)	Attainment	Nonattainment 24 hour/Annual	100	15	0.0889
Particulate Matter (PM _{2.5})	---	Nonattainment Annual	----	15	
Carbon monoxide (CO)	Attainment	Attainment/unclassified	100	100	0.7160
Sulfur oxides (SO _x)	----	Attainment 1 hour/24 hour/Annual	----	27	

Sources: SJVAPCD 2013a; 40 CFR 93.153, CalEEMod, February 2016. Appendix A

As shown in Table 3, temporary and short term emissions related to construction and operation of the Project would not produce criteria air pollutants in excess of SJVAPCD thresholds, and would not result in a substantial increase in long-term regional or local emissions. Therefore, construction-related emissions would not violate an air quality standard, contribute substantially to an existing or projected air quality violation or conflict with or obstruct implementation of California Air Resources Board and SJVAPCD air planning efforts. A general conformity determination pursuant to the Clean Air Act is not required.

Cumulative Impacts

Emissions for the Proposed Action/Project are well below the *de minimis* thresholds established by the SJVAPCD and would not have a considerable contribution to a cumulative adverse impact on air quality.

3.1.4 Biological Resources

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

Affected Environment

The Proposed Action/Project is located nine miles northeast of the City of Sanger in eastern Fresno County within a region dominated by agricultural uses. Access to the site is off of Trimmer Springs Road. Prior to widespread agriculture, and with it canal structures, land in the project area provided habitat for a variety of plants and animals. This area is largely agricultural lands that include field crops, orchards and vineyards. The area of potential effect for construction activities comprises of 2.77 acres of sections of the Gould Canal, the Friant-Kern Canal and surrounding roads and property.

The Proposed Action/Project area was surveyed August 19, August 26, and September 2, 2015 by Halstead and Associates, Environmental/Biological Consultants to determine if sensitive species, habitats, or other environmental issues occur on the site. The Project site and surrounding area was walked by foot and visually surveyed with high power binoculars to evaluate occurrence for special status species and habitat. Additionally, investigations for evidence such as burrows, tracks, trails, prey remains, diggings, scat, nests, sensitive plants and habitats were conducted. This collected information was corroborated with species database

search results from the California Department of Fish and Wildlife's Natural Diversity Data Base (CNDDB) to determine the potential that state-listed species protected under California ESA may occur within the Proposed Project site (see Table 4).

Table 4 Sensitive Species and Habitats

Name	Scientific Name	Listing		
		Federal	State	Other
Mammals				
American Badger	<i>Taxidea taxus</i>	--	--	SC
San Joaquin Kit Fox	<i>Vulpes macrotis mutica</i>	FE	ST	--
Spotted Bat	<i>Euderma maculatum</i>	--	--	SC
Townsend's Big-eared Bat	<i>Corynorhinus townsendii</i>	--	CT	SC
Western Mastiff Bat	<i>Eumops perotis californicus</i>	--	--	SC
Birds				
American Peregrine Falcon	<i>Falco peregrinus</i>	FD	SD	--
Bald Eagle	<i>Haliaeetus leucocephalus</i>	FD	SE	--
Burrowing Owl	<i>Athene cunicularia</i>	--	--	SC
Tricolored Blackbird	<i>Agelaius tricolor</i>	--	--	SC
Western Yellow-billed Cuckoo	<i>Coccyzus americanus occidentalis</i>	FC	SE	--
Amphibians				
California tiger salamander	<i>Ambystoma californiense</i>	FT	ST	SC
Foothill Yellow-legged Frog	<i>Rana boylei</i>	--	--	SC
Western Spadefoot	<i>Spea hammondi</i>	--	--	SC
Reptiles				
Western Pond Turtle	<i>Emys marmorata</i>	--	--	SC
Insects				
Dry Creek Cliff Strider Bug	<i>Oravelia pege</i>	--	--	--
Marbled Harvestman	<i>Calicina macula</i>	--	--	--
Molestan Blister Beetle	<i>Lytta molesta</i>	--	--	UC
Moody's Gnaphosid Spider	<i>Talanites moodyae</i>	--	--	--
Piedra Harvestman	<i>Calicina piedra</i>	--	--	--
Tulare Cuckoo Wasp	<i>Chrysis tularensis</i>	--	--	--
Watts Valley Harvestman	<i>Calicina dimorphica</i>	--	--	--
Valley Elderberry Longhorn Beetle	<i>Desmocerus californicus dimorphus</i>	FT	--	--
Crustaceans				
California Linderiella	<i>Linderiella occidentalis</i>	--	--	UC

Name	Scientific Name	Listing		
		Federal	State	Other
Midvalley Fairy Shrimp	<i>Branchinecta mesovallensis</i>	--	--	UC
Vernal Pool Fairy Shrimp	<i>Branchinecta lynchi</i>	FT	--	--
Vernal Pool Tadpole Shrimp	<i>Branchinecta lynchi</i>	FT	--	--
Plants				
California Satintail	<i>Imperata brevifolia</i>	--	--	2.1
Forked Hare-leaf	<i>Lagophylla dichotoma</i>	--	--	1B.1
Greene's Tuctoria	<i>Tuctoria greenei</i>	FE	R	1B.1
Keck's Checkerbloom	<i>Sidalcea keckii</i>	FE	--	1B.1
Kings River Buckwheat	<i>Eriogonum nudum</i> var. <i>regirivum</i>	--	--	1B.2
Madera Leptosiphon	<i>Leptosiphon serrulatus</i>	--	--	1B.2
Orange Lupine	<i>Lupinus citranus</i>	--	--	1B.2
San Joaquin Adobe Sunburst	<i>Pseudobahia peirsonii</i>	FT	SE	1B.1
San Joaquin Valley Orcutt Grass	<i>Orcuttia inaequalis</i>	FT	SE	1B.1
Slender-staled Monkeyflower	<i>Mimulus gracilipes</i>	--	--	1B.2
Spiny-sepaed Button-celery	<i>Eryngium spinosepalum</i>	--	--	1B.2
Succulent Owl's Clover	<i>Castilleja campestris</i> spp. <i>succulenta</i>	FT	SE	1B.2
Tree-anemone	<i>Carpenteri californica</i>	--	ST	1B.2
Winter's Sunflower	<i>Helianthus winteri</i>	--	--	1B.2
Habitats				
Great Valley Mixed Riparian Forest	--	--	--	--
Northern Hardpan Vernal Pool	--	--	--	--
Sycamore Alluvial Woodland	--	--	--	--

Federal status:

- FE Listed as endangered under the Federal Endangered Species Act
- FT Listed as threatened under the Federal Endangered Species Act
- FC Candidate species for listing under the Federal Endangered Species Act
- FD Federally Delisted

State Status:

- CT Candidate Threatened
- R Species identified as rare by the California Department of Fish and Wildlife
- SE Listed as endangered under the California Endangered Species Act
- ST Listed as threatened under the California Endangered Species Act
- SD State Delisted

CDFW, CNDDb, or CNPS Listing:

- SC Species of concern as identified by the California Department of Fish and Wildlife
- 1B Plant species that are rare, threatened, or endangered in California and elsewhere (CNPS California Native Plant Society)

2. Plant species that are threatened or endangered in California, but are more common elsewhere (CNPS)
Threat Extension Codes: .1 – Seriously endangered, .2 – Fairly endangered, .3 - Not very endangered.

Results of the biological surveys found no sensitive wildlife or plants observed on the Project site. Habitat for sensitive species is not present on the project site and thus sensitive species do not occur on the project site. Wildlife and plants which were observed on the project site and in the vicinity of the project are typical of the valley floor ruderal areas such as ditches and canals, riverine, and agricultural lands. Several cliff swallow nests were observed adjacent to the project site along the Friant-Kern Canal under a bridge crossing. No raptor nests were observed and nothing was found to indicate that there was any significant animal movement or dispersal patterns on or though the project site. An irrigation ditch, a small area of Annual Grassland habitat and Riparian and riverine habitat were identified northeast of the Project during the biological survey, but these areas will be completely avoided during Project construction and operation.

Reclamation reviewed the Proposed Action/Project for potential impacts to federally protected species under the Endangered Species Act (ESA). The Proposed Action/Project area includes the CVP service areas of Friant Division and Cross Valley contractors that may be recipients of the District's available water supplies introduced into the Friant-Kern Canal for transfer or exchange. As such, the Proposed Action/Project area includes CVP contractors' service areas within the following counties: Fresno, Kern, Kings, Madera, Merced, and Tulare. Reclamation requested an official species list, for the Proposed Project construction footprint, from the U.S. Fish and Wildlife Service (Service) via the Service's website, <http://ecos.fws.gov/ipac>, on March 9, 2016 (Consultation Code: 08ESMF00-2016-SLI-1027). The CNDDDB was also queried for records of protected species near the Proposed Action area (CNDDDB 2016). The information collected above, in addition to information within Reclamation's files, was combined to determine the likelihood of federally protected species occurrence within the Proposed Action/Project area (Table 5).

Table 5: Federally protected species that may occur within or near the Proposed Project Area

Species	Status ¹	Effects ²	Basis for Effects Determination ³
AMPHIBIANS			
California red-legged frog (<i>Rana draytonii</i>)	T	NE	Absent. Species and habitat absent from vicinity of the construction area. Agricultural lands do not provide suitable habitat.
California tiger salamander, (<i>Ambystoma californiense</i>) central CA DPS ⁴	T	NE	Absent. Species and habitat absent from vicinity of the construction area. Agricultural lands do not provide suitable habitat. No vernal pool habitat or other suitable wetland habitat in project footprint.
FISH			
Delta smelt (<i>Hypomesus transpacificus</i>)	T	NE	Absent. No natural waterways within the species' range will be affected by the proposed action. There will be no effect to Delta pumping.
INVERTEBRATES			
Vernal pool fairy shrimp (<i>Branchinecta lynchi</i>)	T	NE	Absent. Not documented in the Proposed Action Area, and no vernal pool habitat or other suitable wetland habitat in project footprint.
MAMMALS			

Species	Status ¹	Effects ²	Basis for Effects Determination ³
Fresno kangaroo rat (<i>Dipodomys nitratoide exilis</i>)	E	NE	Absent. No individuals or suitable habitat in area of effect. Agricultural lands do not provide suitable habitat.
San Joaquin kit fox (<i>Vulpes macrotis mutica</i>)	E	NE	Present. This species has been documented within 10-miles of the Proposed Action Area. No changes in land use and no conversion of cultivated or fallowed fields would occur as a result of the Proposed Action. In addition, construction would occur at the levee roads adjacent to the FKC and Gould Canal. With the implementation of environmental protective measures as described in Table 2, there would be No Effect to the species from the Proposed Action.
PLANTS			
Keck's Checker-mallow (<i>Sidalcea keckii</i>)	E	NE	Absent. The closest records are the Piedra area of southern Fresno County, as part of the Tivy Mountain Preserve, located about 5 miles northeast of the project area. Habitat characteristics, like grassy slopes and gabbro or serpentine soils, are absent from the area of effect.
REPTILES			
Blunt-Nosed Leopard lizard (<i>Gambelia silus</i>)	E	NE	Absent. No individuals or suitable habitat in area of effect. Agricultural lands do not provide suitable habitat.
Giant garter snake (<i>Thamnophis gigas</i>)	T	NE	Absent. No individuals or suitable habitat in area of effect. Agricultural lands do not provide suitable habitat.
¹ Status= Listing of Federally special status species under the Endangered Species Act, unless otherwise specified. E: Listed as Endangered under the federal Endangered Species Act T: Listed as Threatened under the federal Endangered Species Act ² Effects = Effect determination NE: No Effect from the Proposed Action on federally-listed species ³ Definition Of Occurrence Indicators Absent: Species not recorded in action area and/or habitat requirements not met Present: Species and habitat recorded in action area and habitat present ⁴ DPS = distinct population segment			

Existing Biological Opinions

Reclamation and certain CVP Contractors are subject to commitments from two Service issued Biological Opinions (BiOps) that govern water transfers and exchanges, among other things. These are the “Biological Opinion on Implementation of the CVPIA and Continued Operation and Maintenance of the CVP” issued in 2000, and the “Biological Opinion on U.S. Bureau of Reclamation Long Term Contract Renewal of Friant Division and Cross Valley Unit Contracts” issued in 2001. The 2001 BiOp governs exchanges and transfers involving Friant and/or Cross Valley Canal contractors. Commitments from these BiOps are listed below.

2000 CVPIA Biological Opinion Water transfers pursuant to any exchange agreements will be consistent with section §3405(a)(1) of the Central Valley Project Improvement Act (CVPIA) in that, among other considerations: (1) no transfer will be authorized unless the transfer is consistent with State law, including but not limited to provisions of the CEQA (§3405(a)(1)(D)); (2) no transfer will be authorized if it has a significant adverse impact on the ability to deliver CVP contract water or fish and wildlife obligations under the CVPIA because of limitations in conveyance or pumping capacity (§3405(a)(1)(H)); and (3) no transfer will be authorized if it results in a significant reduction in quantity or quality of water currently used for fish and wildlife purposes, unless it is determined that such adverse effects would be more than offset by the benefits of the proposed transfer. In the event of such a determination, mitigation activities

will be developed and implemented as integral and concurrent elements of any such transfer, so as to provide fish and wildlife benefits substantially equivalent to those lost as a consequence of such transfer (§3405(a)(1)(L)).

2001 Friant/Cross Valley Biological Opinion

1. Transfers and exchanges will be executed for one year only for any district that does not have an established listed-species baseline as described in the draft BiOp on operations and maintenance of the CVP and implementation of the CVPIA;
2. Transferred or exchanged water will be delivered and applied only to areas that were in cultivation from October 15, 1991 (the date of the Friant BiOp), until one of the following occur and there is no net loss of potential listed-species habitat as a direct or indirect result of the transfer:
 - a. consultation on the effect of putting the area into cultivation has been completed, or,
 - b. there is a Habitat Conservation Plan in place that addresses impacts to the area receiving the water, or,
 - c. the CVP Conservation Program has a line-item, specific increase in funding to compensate fully for the transfer and is in place prior to the transfer.
3. All other non-historic CVP transfers and exchanges that do not meet the above criteria would require separate section 7 or section 10 authorization (carried over from 2000 Interim Opinion Term and Condition IV(F)).

Environmental Consequences

No Action Under the No Action Alternative, conveyance and use of Kings River water would occur through existing facilities and would not change the land use patterns of the cultivated or fallowed fields that do have some value to listed species. The conditions of special-status wildlife species and habitats under the No Action Alternative would remain the same as they would be under existing conditions. Therefore, there would be no impacts to biological resources since conditions would remain the same as existing conditions.

Proposed Action There would be some ground disturbance associated with the installation of a pumping station to connect the Gould Canal to the Friant-Kern Canal. Any special-status species within the Proposed Action area may be impacted. In addition, riparian and stream bed habitat occur in the Gould Canal prism. Reclamation and the District have included environmental commitments (see Table 2) to avoid and/or reduce potential environmental effects. With the implementation of these measures potential impacts will be less than significant.

Nesting birds, their eggs, and their nests could potentially inhabit lands adjacent to and near the Project site, and could be negatively impacted by construction of the Project unless preventative measures are incorporated into the project. Mitigation measures/environmental commitments for nesting birds have been included in Table 2 to avoid potential impacts.

No land conversions or new lands would be brought into agricultural production because water deliveries would remain within existing contractual amounts. Existing and future environmental commitments addressed in BiOps, including the CVPIA BiOp (USFWS 2000), and Friant/Cross

Valley BiOp (USFWS 2001), for transfer or exchange of FID's available water supplies, would continue to be met under the Proposed Action.

With the incorporation of environmental protective measures, listed in Table 1 of EA-15-062, federally listed, proposed or candidate species, and critical habitat protected under the Endangered Species Act (ESA) (16 USC § 1531 et seq.) would not be affected. Migratory birds protected under the Migratory Bird Treaty Act (MBTA; 16 USC § 703-712) also would not be affected, as suitable habitat is absent from the action area. Many of the special-species do not occur in the Proposed Action/Project area because habitat types required by species protected by the ESA do not occur in the Action area. Designated critical habitat is also absent. The Proposed Action/Project would not involve the conversion of any native habitat or land fallowed and untilled for three or more years. There would be no change in land use patterns of cultivated or fallowed fields that do have some value to listed species or to birds protected under the MBTA. Fresno ID's available water supplies would not reach streams containing listed fish species; therefore, there would be no effects to fish. Based upon the reasons described above, Reclamation has determined there would be No Effect to listed species or designated critical habitat under the ESA and No Take of birds protected by the MBTA. As such, no consultation with the U.S. Fish and Wildlife Service or the National Marine Fisheries Service is required.

Cumulative Impacts The Proposed Action/Project, when added to other actions represents a continuation of existing conditions which are unlikely to result in cumulative impacts on the biological resources of the study area. The Proposed Action/Project allows the delivery of the same contractual amount of water to the same lands.

The Proposed Action/Project would be subject to regulatory constraints imposed pursuant to the ESA, regardless of whether those constraints exist today. Consequently, there would be no cumulative adverse impacts as a result of the Proposed Action/Project.

3.1.5 Cultural Resources

Cultural resources is a broad term that includes prehistoric, historic, architectural, and traditional cultural properties. Title 54 U.S.C. 300101 et seq., formerly and commonly known as the National Historic Preservation Act (NHPA) is the primary legislation for Federal historic preservation. Section 106 of the NHPA (54 U.S.C. 306108) requires Federal agencies to take into consideration the effects of their undertakings on historic properties and to afford the Advisory Council on Historic Preservation an opportunity to comment. Historic properties are those cultural resources that are listed in or are eligible for inclusion in the National Register of Historic Places (National Register). The Section 106 regulations at 36 CFR 800 outline the process the Federal agency takes to identify historic properties within the area of potential effects (APE), and to assess the effects the proposed undertaking will have on those historic properties. The Section 106 process involves consultations with the State Historic Preservation Officer, Indian tribes, and other identified consulting and interested parties.

The Proposed Action/Project requires compliance with CEQA as well as the NHPA of 1966, as amended. Both the NHPA and CEQA essentially mandate that government agencies take into consideration the effects of their actions on cultural resources listed on or eligible for inclusion in the California Register of Historical Resources (CRHR) (defined as historical resources at 14 CCR § 15064.5[a]) and the National Register of Historic Places (NRHP) (defined as historic

properties at 36 CFR § 800.16[I]). A cultural resource is a broad term that includes prehistoric, historic, architectural, and traditional cultural properties. While the NRHP and CRHR significance criteria are similar, the former is given precedence in this analysis because cultural resources eligible for the NRHP are also eligible for inclusion in the CRHR, but the reverse is not necessarily true (PRC 5024.1[c]). Therefore, employing the federal standards will be applicable in both federal and state regulatory contexts.

Would the project:	Potentially Significant Impact	Less than Significant With Mitigation Incorporation	Less than Significant Impact	No Impact
a) Cause a substantial adverse change in the significance of a historical resource as defined in §15064.5?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Cause a substantial adverse change in the significance of an archaeological resource pursuant to §15064.5?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
d) Disturb any human remains, including those interred outside of formal cemeteries?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

Affected Environment

For the current undertaking, the Area of Potential Effect (APE) consists of a portion of Fresno ID's Gould Canal, an un-named historic period ranch specific reservoir, the Friant-Kern Canal, and an adjacent agricultural field. In an effort to identify historic properties in the APE, Applied Earthworks, Inc. (Lloyd et al, 2016) conducted a records search of the California Historical Records System (CHRIS) and a pedestrian survey of the APE on April 15, 2016. Three cultural resources were identified within the APE for the Proposed Action: the Gould Canal, Friant-Kern Canal, and an un-named historic period private regulating reservoir that can draw water from the Friant-Kern Canal, documented as site AE-3398-1H. No prehistoric sites or isolates were documented during the survey.

For the purposes of this Proposed Action/Project, Reclamation is treating the Gould Canal and site AE-3398-1H as eligible for inclusion in the National Register. Reclamation considers the Gould Canal eligible under Criterion A for its role in Fresno County agriculture. Completed in 1873, the canal draws from the Kings River, flowing westerly for 24 miles where it terminates in the Herndon Canal in central Fresno—it is among the first substantial Fresno County irrigation canals. AE-3398-1H is owned by United California Citrus and was constructed between 1950 and 1961, and is eligible under Criterion A for its role and association with the CVP. This portion of Reclamation's Friant Kern Canal was constructed between 1946 and 1948, and is associated with the Friant Dam and CVP. The Friant Kern Canal is eligible based on a consensus determination by the State Historic Preservation Office (SHPO) made in 1997.

Reclamation applied the criteria of adverse effect [36 CFR § 800.5(a)] for the Proposed Action/Project and determined that it would result in no significant alterations to the function and character-defining features of the Gould Canal, site AE-3398-1H, or the Friant Kern Canal (e.g.,

their continued conveyance of agricultural water that enabled the development of the San Joaquin Valley and Fresno County agriculture) that would make them eligible for listing under Criterion A. The Friant Kern Canal and site AE-3398-1H are associated with the CVP. The Proposed Action of installing a new pump station in the Gould Canal, adding an underground pipeline, and discharge structure in the Friant Kern Canal will not substantially alter the physical characteristics of these historic resources given their length and number of appurtenant features.

Environmental Consequences

No Action Under the no action alternative, Fresno ID would not proceed with the construction of the permanent Gould Canal Intertie water infrastructure. There would be no change in operations. Conditions related to cultural resources would remain the same as existing conditions.

Proposed Action The Proposed Action/Project is the type of activity that has the potential to affect historic properties. A records search a cultural resources survey identified historic properties within the APE. Reclamation determined that there will be no adverse effect to historic properties pursuant to 36 CFR § 800.5(b) and entered into consultation with the SHPO in May 2016, seeking their concurrence. A response from SHPO is pending. The Proposed Action will not be implemented until the Section 106 process is complete.

In order to avoid potential affects to unknown cultural resources, mitigation measures/ environmental commitments were included in Table 2.

Cumulative Impacts Reclamation has determined that the Proposed Action would not result in impacts to cultural resources; therefore, there would be no cumulative impacts.

3.1.6 Geology and Soils

Would the Project:	Potentially Significant Impact	Less than Significant With Mitigation Incorporation	Less than Significant Impact	No Impact
a) Expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving:				
i) Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publication 42.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
ii) Strong seismic ground shaking?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
iii) Seismic-related ground failure, including liquefaction?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
iv) Landslides?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

b) Result in substantial soil erosion or the loss of topsoil?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c) Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the Project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction or collapse?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d) Be located on expansive soil, as defined in Table 18-1-B of the most recently adopted Uniform Building Code creating substantial risks to life or property?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Affected Environment

No substantial faults are known to exist in Fresno County area according to the Alquist-Priolo Earthquake Fault Zoning Map (CDC 2007). No subsidence-prone soils, oil or gas production or overdraft exists at the Project site, and soil conditions on the site are not prone to soil instability due to their low shrink-swell behavior. The project site is located on loam soils; see Figure 4: Soils Map

Environmental Consequences

No Action There would be no impact to geology and soils as conditions would remain the same as existing conditions. With the No Action alternative, there would be no ground disturbance or digging performed on site.

Proposed Action Under the Proposed Action/Project, no habitable structures would be constructed on the site nor would substantial grading change the topography to the point where the Project would expose people or structures to potential substantial adverse effects. In addition, there would be no substantial risk to life or property due to the project being located on expansive soils. No septic tanks or alternative waste water disposal systems are proposed as part of the project. There would be no impact to geology and soils.

The construction footprint area is approximately one acre with an overall Project Area of approximately seven acres. If there is more than one acre of ground disturbance, a Stormwater Pollution Prevention Plan (SWPPP) will be required. A SWPPP is a fundamental requirement of stormwater permits from the State Water Resources Control Board. As part of the SWPPP, the District would be required to provide best management practices (BMPs) to protect the topsoil. This is a regulatory requirement and will be incorporated into the Project, if needed.

Cumulative Impacts No cumulative adverse impacts are anticipated to Geology and Soils.

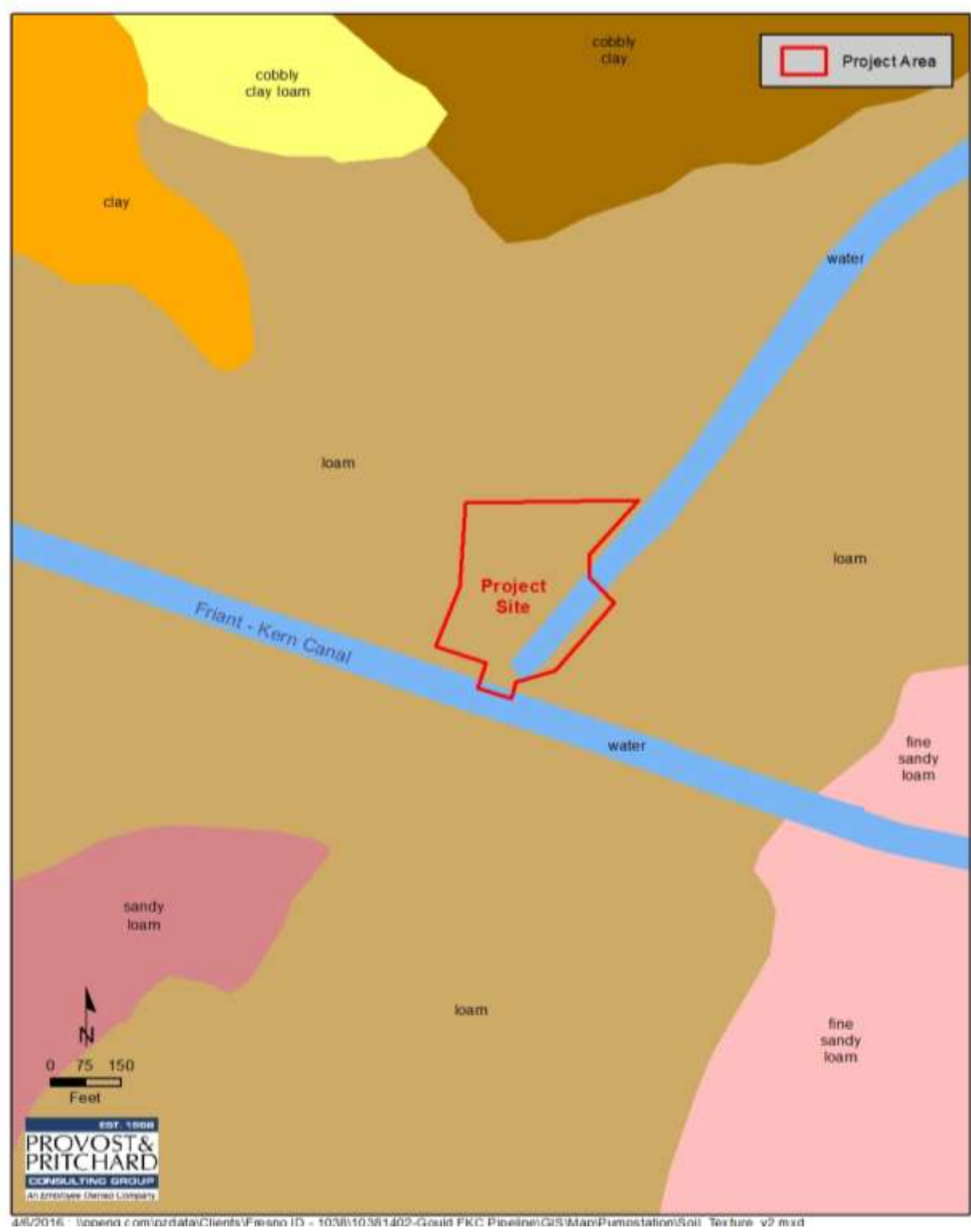


Figure 4: Soils Map

3.1.7 Hazards and Hazardous Materials

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

Affected Environment

The Proposed Action/Project area does not involve land that is listed as a hazardous materials site pursuant to Government Code Section 65962.5 and is not included on a list compiled by the Department of Toxic Substances Control (California Department of Toxic Substances Control 2007).³ There is a private airstrip located north of the Project area.

Environmental Consequences

³ http://www.envirostor.dtsc.ca.gov/public/mapfull.asp?global_id=&x=-119&y=37&zl=18&ms=640,480&mt=m&findaddress=True&city=Centerville%20CA&zip=&county=&federal_sup erfund=true&state_response=true&voluntary_cleanup=true&school_cleanup=true&ca_site=true&tiered_permit=true&evaluation=true&military_evaluation=true&school_investigation=true&operating=true&post_closure=true&non_operating=true Website accessed 2/02/16

No Action Under the No Action alternative, there would be no potential impact from hazards or hazardous materials as conditions would remain the same as existing conditions.

Proposed Action The Proposed Action/Project does not involve the generation of any hazardous emissions or the transport, use, storage, or disposal of any hazardous materials and will not 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. The pump station will not have any impact on the airstrip or create a safety hazard for people residing or working in the Project area.

Cumulative Impacts No cumulative adverse impacts from hazards are anticipated.

3.1.8 Hydrology and Water Quality

Would the Project:	Potentially Significant Impact	Less than Significant With Mitigation Incorporation	Less than Significant Impact	No Impact
a) Violate any water quality standards or waste discharge requirements?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b) Substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level (e.g., the production rate of pre-existing nearby wells would drop to a level which would not support existing land uses or planned uses for which permits have been granted)?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner which would result in substantial erosion or siltation on- or off-site?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
d) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
e) 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?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
f) Otherwise substantially degrade water quality?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
g) Place housing within a 100-year flood hazard area as mapped on a federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood hazard delineation map?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Would the Project:	Potentially Significant Impact	Less than Significant With Mitigation Incorporation	Less than Significant Impact	No Impact
h) Place within a 100-year flood hazard area structures which would impede or redirect flood flows?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
i) Expose people or structures to a significant risk of loss, injury or death involving flooding, including flooding as a result of the failure of a levee or dam?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
j) Inundation by seiche, tsunami, or mudflow?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Affected Environment

The Proposed Action/Project area consists of the construction footprint between the Gould and Friant-Kern Canals as well as the service areas of Fresno ID and Friant Division contractors that may be recipients of Fresno ID's available water supply via transfers and/or exchanges in the Friant-Kern Canal. The Proposed Action/Project is located near the intersection of Fresno ID's Gould Canal and the Friant-Kern Canal, west of Trimmer Springs Road (see Figure 3). Groundwater levels in the Proposed Action/Project area are very shallow, approximately 10 to 20 feet below ground surface because of the close proximity to the Kings River and the foothills. The adjacent property to the west is located within a FEMA 100 year Flood Zone, Map # 06019C1640H however this project is raised up and will remain unaffected and does not include any housing. See Figure 5: FEMA Map.

Fresno Irrigation District Fresno ID was formed in 1920 under the California Irrigation Districts Act as the successor to the privately owned Fresno Canal and Land Company comprises some 245,000 acres which lie entirely within Fresno County, California. Fresno ID is located entirely within Fresno County and has a water entitlement for approximately 26 percent of the average runoff of the Kings River, its main supply. Fresno ID has appropriative and pre-1914 water rights on the Kings River that is conveyed through the Gould Canal.

In a normal year, Fresno ID diverts approximately 450,000 AF of water and delivers most of that to agricultural users, although an increasing share of Fresno ID's water supply is used for human consumption and groundwater recharge in the urban area. Depending upon hydrological conditions and Kings River flows, Fresno ID diverts water and allocates a proportional share of the water to its customers including the City of Fresno and City of Clovis. In addition to its entitlement from Kings River, Fresno ID and the City of Fresno have signed water service contracts for up to 135,000 AF annually from the Friant Division. Historically, excess water applied by the farmers has percolated beyond the root zone and recharged the extensive aquifer underlying Fresno ID. Between 85 to 90 percent of the groundwater supply can be attributed to water imported and distributed by Fresno ID.

Fresno ID's groundwater banking facilities include Waldron, Empire, Lambrecht, and Boswell banking facilities. The banking facilities are operated to capture water that is excess to the system or waters that would have otherwise gone unused, including Class 2 and Section 215

water from the Friant Division, flood flows from the Kings River basin, stormwater pump-ins from the metropolitan areas within Fresno ID, and now, URFs. Fresno ID's comprehensive surface and groundwater management program and supply of pre-1914 water from the Kings River allows Fresno ID to make water available to the CVP Friant Division during critically dry hydrologic conditions.

Friant Division The Friant Division was authorized by Congress under the concept of conjunctive use where CVP water was meant to be a supplemental supply to alleviate groundwater overdraft in the area. Based on the conjunctive use concept within the Friant Division, contractors are expected to continue mixed use of CVP and other surface water supplies and groundwater, with greater emphasis on groundwater use during dry periods when surface water is limited or expensive and percolate excess surface water in wet years. The Friant Division is an integral part of the CVP, but is hydrologically independent and therefore operated separately from the other divisions of the CVP (Reclamation 2012). Major facilities of the Friant Division include Friant Dam and Millerton Lake, the Friant-Kern Canal and the Madera Canal.



Figure 5: FEMA Map

Environmental Consequences

No Action Under the No Action Alternative, the mechanisms to exchange or transfer water from the Kings River system to the CVP Friant Division would remain limited. The only facility available for an exchange or transfer between the two systems during normal operations is the small-scale temporary pump station owned and operated by Fresno ID at this location. Under the No Action Alternative, conveyance and use of Kings River water would occur through the existing temporary facilities until 2019.

Surface water supplies would continue to be available in quantity and in timing as they have in the past which would mean that farmers would continue to need to meet demand with additional groundwater pumping. Without the operational flexibility that the Proposed Action/Project would provide to deliver surface water, water users within Fresno ID and the overall Friant Division service area would have increased dependence on groundwater supplies to meet water demands including public health needs. Therefore, there would be an adverse impact to groundwater levels as a result of the No Project Alternative.

Proposed Action The purpose of the Proposed Action/Project is to provide a connection to convey water from Fresno ID's Gould Canal to the Friant-Kern Canal. The Proposed Action/Project would increase water supply reliability, enhance operational flexibility, and reduce system constraints by providing a mechanism for water transfer between the Kings River and Friant-Kern Canal Systems. Additionally the Proposed Action/Project would establish a mechanism for drought and dry year supply capacity for Reclamation's CVP Friant Division contractors, including addressing critical water supply needs of disadvantaged communities along the Friant system that are dependent on this system as their sole water supply. The Proposed Action/Project would facilitate the potential exchange of recaptured CVP Friant Division water supplies with Kings River water supplies to support the recirculation element of the San Joaquin River Restoration Program.

Kings River water originates as snow in the Kings River watershed, and is generally of very high quality. Currently, water from the Kings River is treated and used for direct human consumption by two cities within Fresno ID's service area. Kings River water supplies conveyed to other contractors would be used to meet existing demand, including municipal demand for drinking water. Reclamation will sample Kings River water in the Gould Canal to ensure that the water introduced into the Friant-Kern Canal would meet existing water quality criteria, consistent with the environmental protection measures described in Table 1 of EA-15-062. Because this water is of high quality and would be tested to ensure water quality criteria compliance, this delivery would not result in any violations of existing water quality standards or substantial water quality changes that would adversely affect beneficial uses.

Water previously banked within Fresno ID's groundwater bank(s) would be made available to users within Fresno ID under existing contracts. Fresno ID operates its groundwater banks so that 10 percent of the banked water is left behind for recharge to avoid land subsidence and groundwater quality issues. Water delivered from the Gould Canal to other contractors would minimize the need for those contractors to pump their local groundwater supplies. Because the Proposed Action/Project would operate within Fresno ID's standard operating criteria established for the banking facilities, groundwater levels would not be depleted, and local groundwater wells

would continue to support existing permitted uses. The depletion of groundwater in the areas receiving transferred or exchanged supplies would be minimized.

The intent of this Proposed Action/Project is to in part promote conjunctive water management and groundwater storage. The Proposed Action/Project furthers Fresno ID's commitment to conjunctive water management by optimizing the use of limited surface water supplies, makes more water available for intentional groundwater recharge projects, and improves surface water operating efficiencies. The Proposed Action/Project would have beneficial impacts to water resources.

Cumulative Impacts The Proposed Action/Project would not interfere with water deliveries, facility operation, or cause substantial adverse changes to the conveyance facilities. The Proposed Action/Project would not trigger other water service actions and does not contribute to cumulative effects to physical resources when added to other water service actions. The Proposed Action/Project would have beneficial impacts on water resources and public health; and therefore would not contribute to adverse cumulative impacts on these resources areas.

3.1.9 Land Use and Planning

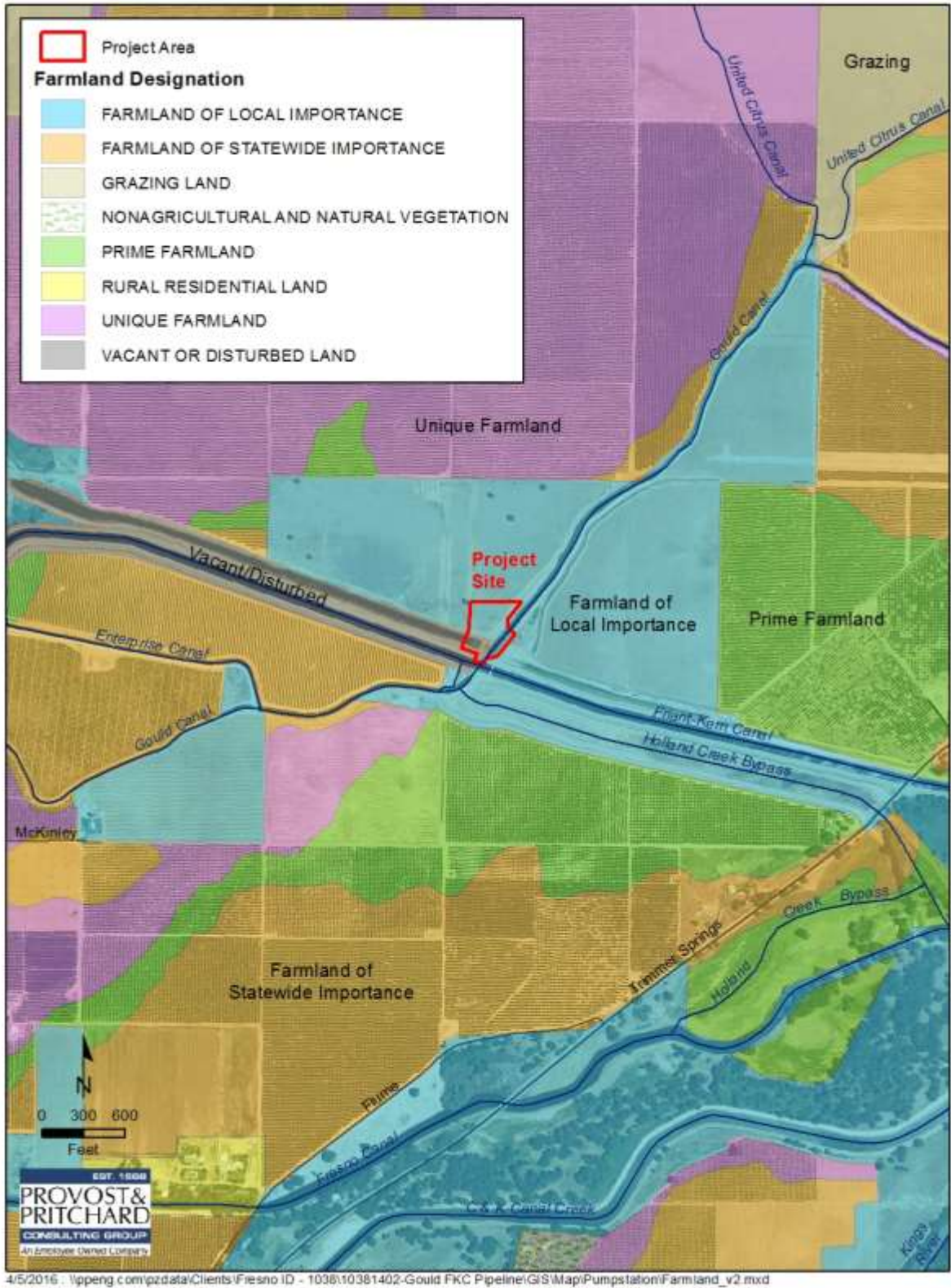
Would the Project:	Potentially Significant Impact	Less than Significant With Mitigation Incorporation	Less than Significant Impact	No Impact
a) Physically divide an established community?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the Project (including, but not limited to the General Plan, specific plan, local coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c) Conflict with any applicable habitat conservation plan or natural community conservation plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Affected Environment

Fresno ID encompasses approximately 245,000 acres, of which approximately 150,000 are irrigated and serves agricultural landowners growing permanent crops. The conversion of agricultural lands to urban uses in the expanding Fresno-Clovis metropolitan area has increased in recent years and has reduced the amount of agricultural crops within Fresno ID. Currently, the 150,000 acres or 60 percent of Fresno ID's land remains as farmed agricultural land. Nearly 30 percent of the district is now urban, with the remaining 10 percent of land area classified as rural residential. The agricultural lands remaining are predominantly permanent crops (about 69 percent). Land use is predominately agricultural including annual crops, vineyard orchards and other semi-agricultural uses or agricultural related infrastructure. Grape vineyards make up nearly 30 percent of the total District acreage. Nuts, citrus, and deciduous fruits have also

increased as cotton and pasture have declined. Urban land uses include cities, major roadways, and other urban features.

Fresno ID's pump station facility would be located on lands classified by the California Department of Conservation (CDC) as Farmland of Local Importance and Vacant and Disturbed Land. The northern portion of the site is enrolled under the Land Conservation Act of 1965 (Williamson Act) and are defined as "Prime Agricultural Lands". (Contract No. 5823) The Williamson Act was created by the California Legislature in order to protect the agricultural resources of the State from unnecessary or premature conversion to urban uses. The project site and its surroundings are zoned Exclusive Agriculture. See Figure 6: Zoning Map



Environmental Consequences

No Action Under the No Action alternative, there would be no impact to land use as conditions would remain the same as existing conditions.

Proposed Action Construction of Fresno ID's pump station facility would not change existing land uses. Under the Proposed Action/Project, construction of the facility would not require the removal of any agriculture and no new lands would be brought into agricultural production. Although the northern portion of this site is listed under the Williamson Act and is classified as either Prime Farmland or Farmland of Statewide Importance, the construction of water facilities is considered to be a compatible agricultural use and would not change its land use designation. By exchange or transfer, water would be diverted through the proposed facility for delivery to CVP Friant Division contractors for existing agricultural and municipal purposes. Consequently, the Proposed Action would maintain current land uses and would have no adverse impacts to land use.

Cumulative Impacts

In recent years, land use changes within the San Joaquin Valley have involved the urbanization of agricultural lands. These types of changes are typically driven by economic pressures and are as likely to occur with or without the Proposed Action/Project. Accordingly, no cumulative adverse impacts to land use are anticipated as a result of the Proposed Action/Project.

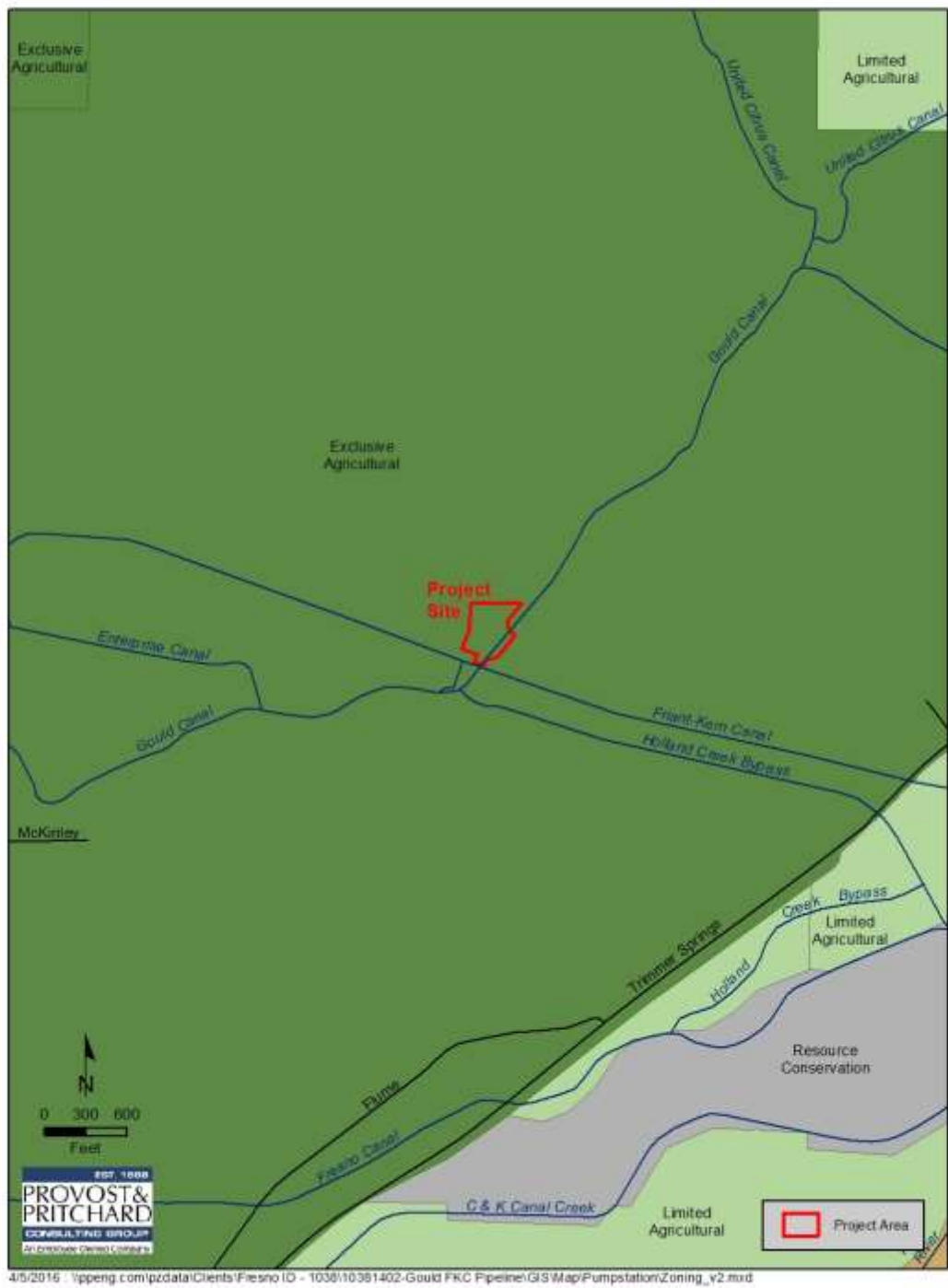


Figure 6: Zoning Map

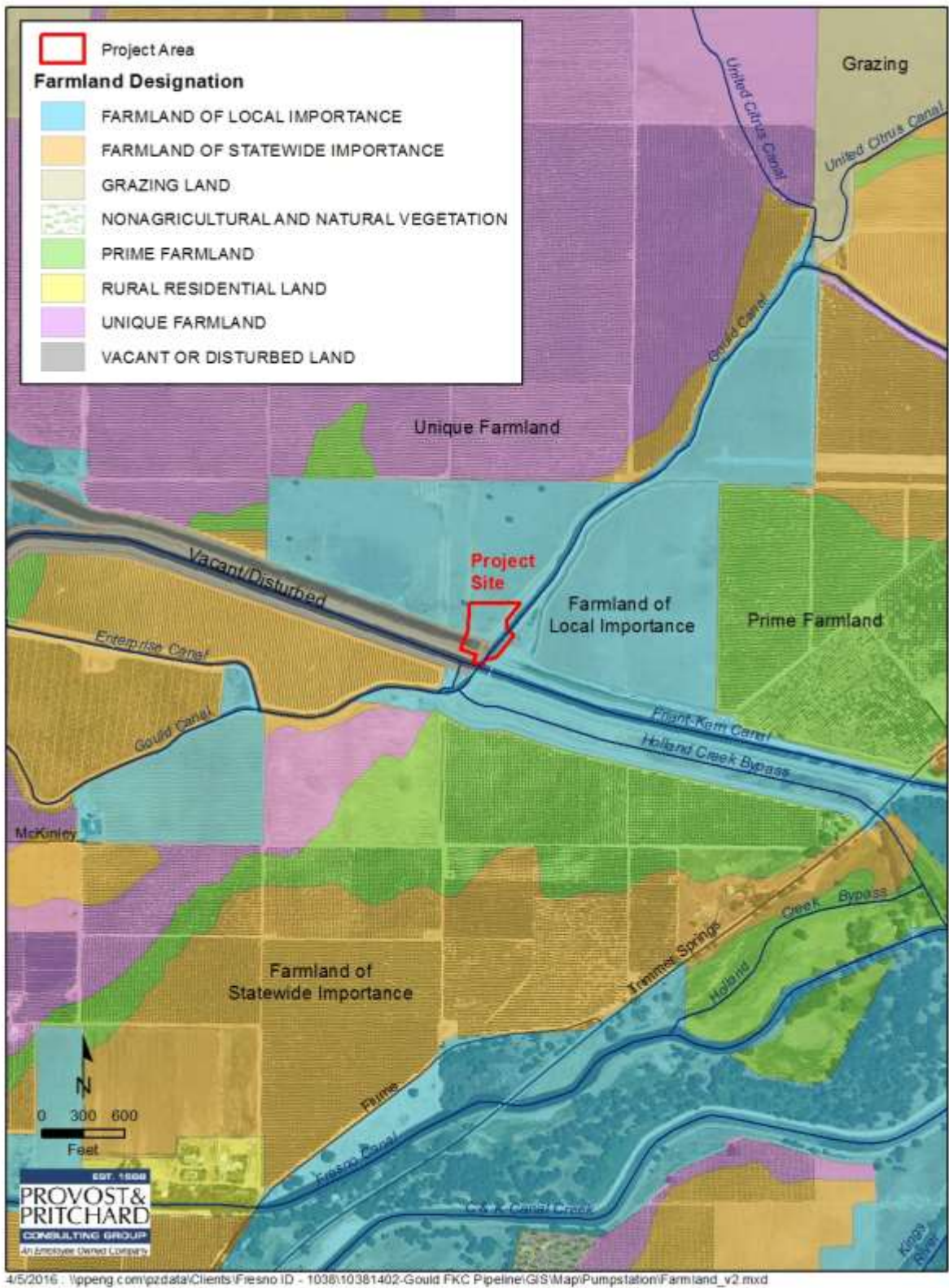


Figure 7: Farmlands Map

3.1.10 Mineral Resources

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

Affected Environment

There are no known mineral resources at the Proposed Action/Project site.

Environmental Consequences

No Action Under the No Action alternative, there would be no impact to mineral resources as conditions would remain the same as existing conditions. With the No Action alternative, there would be no ground disturbance or digging performed on site.

Proposed Action The Proposed Action/Project does not have the potential to impact the availability of any mineral resources or mineral resource recovery sites. There would be no impact.

Cumulative Impacts There would be no cumulative impacts to mineral resources.

3.1.11 Noise

Would the Project:	Potentially Significant Impact	Less than Significant With Mitigation Incorporation	Less than Significant Impact	No Impact
a) Exposure of persons to or generation of noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b) Exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c) A substantial permanent increase in ambient noise levels in the Project vicinity above levels existing without the Project?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
d) A substantial temporary or periodic increase in ambient noise levels in the Project vicinity above levels existing without the Project?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
e) For a Project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the Project expose people residing or working in the Project area to excessive noise levels?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Affected Environment

The proposed pump station site is comprised of existing canal structures and agricultural land. The closest residence (noise receptor) is approximately 0.45 miles away. There are three residences within one-half mile. See Figure 8, Sensitive Receptors Map.



Figure 8: Sensitive Receptors Map

Environmental Consequences

No Action Under the No Action alternative, there would be no potential noise impacts as conditions would remain the same as existing conditions.

Proposed Action Under the Proposed Action, Project operation would generate some minimal noise from the pumps; and Project construction activities would involve temporary noise sources that is anticipated to last between four to five months. Typical construction equipment would include large backhoes, large tractors, a crane, an excavator, motor grader, water truck, trash pumps, and miscellaneous equipment (e.g. pneumatic tools, generators and portable air compressors). Typical noise levels for these types of equipment are included in Table 6. During the construction phases of the Project, noise from construction activities would contribute to the noise environment in the immediate Project vicinity. Activities involved in construction would not generate significant noise levels to the area.

Table 5: Noise Levels in Decibels (dBA)

Construction Equipment Noise			
Source	dBA at 50 ft	dBA at 100 ft	dBA at 1.0 mile
Pneumatic tools	85	79	45
Truck (e.g. dump, water)	88	82	48
Concrete mixer (truck)	85	79	45
Scraper	88	82	48
Bulldozer	87	81	47
Backhoe	85	79	45
Generator	76	70	36
Portable air compressor	81	75	41

Source: BASELINE Consulting 1999

The Fresno County General Plan Noise Element (2000) sets the standard noise threshold of 60 dBA at the exterior of nearby residences; however, it does not identify a short-term construction-noise-level threshold. The distinction between short-term construction noise impacts and long-term operational noise impacts is a typical one in both CEQA documents and local noise ordinances, which generally recognize the reality that short-term noise from construction is inevitable and cannot be mitigated beyond a certain level. Thus, local agencies frequently tolerate short-term noise at levels that they would not accept for permanent noise sources. The closest residence is approximately 0.45 miles from the proposed project. The impact is less than significant.

Cumulative Impacts The Proposed Action/Project would not have a cumulatively considerable contribution to a cumulative adverse impact on noise.

3.1.12 Population and Housing

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

Affected Environment

The Proposed Action/Project site is comprised of existing canal structures and agricultural land. The closest residence is approximately 0.45 miles away. There are three residences within one-half mile. The area is zoned Exclusive Agriculture.

Environmental Consequences

No Action Under the No Action alternative, there would be no impact to population and housing as conditions would remain the same as existing conditions.

Proposed Action The Proposed Action/Project does not include any features that will require the destruction or relocation of existing housing or the construction of replacement housing. In addition, the Proposed Action/Project will not increase or decrease the number of available dwelling units in the area. The Project will not displace any people. The Proposed Action/Project will have no effect on population growth.

Cumulative Impacts There will be no cumulative impacts to population and housing from this project.

3.1.13 Public Services

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

Affected Environment

The closest fire station is the Piedra Forest Fire Station located approximately 5.1 miles northeast of the proposed project. The closest Sheriff Station of the Del Rey Station, Fresno County Sheriff located approximately 10.9 miles southwest of the proposed project. The closest school is Centerville Elementary School located approximately 3.7 miles southwest of the proposed project. The closest park is the Kings River Greenbelt Park located approximately 0.8 miles southeast of the proposed project.

Environmental Consequences

No Action Under the No Action alternative, there would be no impact to public services as conditions would remain the same as existing conditions.

Proposed Action The Proposed Action/Project does not include any features or facilities that will require additional or unusual fire protection resources, enhanced levels of police protection, nor does it have the potential to increase or decrease the area's population, and will therefore not result in a greater or lesser demand for schools or parks. The Proposed Action/Project would not result in adverse physical impacts associated with the provision of new or physically altered governmental facilities. No habitable structures would be constructed on the site that would require any public services.

Cumulative Impacts There will be no cumulative impacts to public services from this project.

3.1.14 Recreation

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

Affected Environment

No habitable structures are proposed as part of this project and therefore would not increase the use of local parks. The Kings River Greenbelt Park is located approximately 0.8 miles southeast of the proposed project

Environmental Consequences

No Action Under the No Action alternative, there would be no impact to recreation as conditions would remain the same as existing conditions.

Proposed Action The Proposed Action/Project does not have the potential to increase or decrease the area's population, and will therefore not result in increased or decreased use of parks or other recreational facilities. Additionally, the Proposed Action/Project does not include recreational facilities and will not require the construction or expansion of any recreational facilities. The Kings River Greenbelt Park is located approximately 0.8 miles southeast of the proposed project and there will be no impact to that park from this project.

Cumulative Impacts There will be no cumulative impacts to parks and recreation from this project.

3.1.15 Transportation and Traffic

Would the Project:	Potentially Significant Impact	Less than Significant With Mitigation Incorporation	Less than Significant Impact	No Impact
a) Cause an increase in traffic which is substantial in relation to the existing traffic load and capacity of the street system (i.e., result in a substantial increase in either the number of vehicle trips, the volume to capacity ratio on roads, or congestion at intersections)?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Would the Project:	Potentially Significant Impact	Less than Significant With Mitigation Incorporation	Less than Significant Impact	No Impact
b) Exceed, either individually or cumulatively, a level of service standard established by the county congestion management agency for designated roads or highways?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) Result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety risks?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d) Substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
e) Result in inadequate emergency access?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
f) Result in inadequate parking capacity?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
g) Conflict with adopted policies, plans, or programs supporting alternative transportation (e.g., bus turnouts, bicycle racks)?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Affected Environment

The Proposed Action/Project site would be located where the Friant-Kern Canal and Gould Canal cross each other. This site is located off a dirt road off of Trimmer Springs Road in a rural area known for agriculture. The only traffic this project will have is the occasional Fresno ID worker visiting the site for maintenance. The canals and access roads are existing.

Environmental Consequences

No Action Under the No Action alternative, there would be no additional impact to existing traffic patterns on site. Currently the existing dirt roads adjacent to the canals allow for District vehicles to access the Gould Canal for maintenance. Conditions would remain the same as existing conditions.

Proposed Action The Proposed Action/Project is not anticipated to create any significant additional traffic. The Gould Canal is an existing Fresno ID structure and the Friant-Kern Canal is an existing Reclamation structure. The new pump station will be located immediately adjacent to the canals, and could require a maximum potential of 1-2 traffic trips per day. Any monitoring and maintenance activities that would occur at the proposed pump station would be performed by Fresno ID, thereby consolidating trips for any maintenance situations. The Proposed Action/Project would not result in any impacts to transportation or traffic.

Cumulative Impacts

The Proposed Action/Project, when added to other projects, would not contribute to significant road improvements or degradation in environmental conditions. The Proposed Action/Project would not be precedent setting.

3.1.16 Utilities and Service Systems

Would the Project:	Potentially Significant Impact	Less than Significant With Mitigation Incorporation	Less than Significant Impact	No Impact
a) Exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Require or result in the construction of new water or wastewater treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) Require or result in the construction of new storm water drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d) Have sufficient water supplies available to serve the Project from existing entitlements and resources, or are new or expanded entitlements needed?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
e) Result in a determination by the wastewater treatment provider which serves or may serve the Project that it has adequate capacity to serve the Project's Projected demand in addition to the provider's existing commitments?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
f) Be served by a landfill with sufficient permitted capacity to accommodate the Project's solid waste disposal needs?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
g) Comply with federal, state, and local statutes and regulations related to solid waste?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Affected Environment

No habitable structures are a part of this project and therefore no wastewater or solid waste disposal would be required for the project.

Environmental Consequences

No Action Under the No Action alternative, there would be no impact to utilities and service systems as conditions would remain the same as existing conditions.

Proposed Action The Proposed Action/Project involves improvements that would increase the local groundwater recharge capacity and would in turn increase the reliability of water supplies to agricultural users in the area. The Proposed Action/Project would not result in a change to facilities or operations at existing wastewater treatment plants, nor would it require additional water supplies or generate wastewater. The amount of runoff at the Project site would not increase as a result of this Proposed Action/Project nor would implementation of the Project generate any solid waste.

There is an existing PG&E power pole and one existing service pole located within Reclamation's right of way and there is a possibility PG&E service utilities will require relocation within Reclamation right of way within the existing Proposed Action/Project Area/APE. Two new poles were installed in 2014 for service to the temporary pump station on site. Electrical service by PG&E to the site will either remain overhead or be underground, and

will be determined by PG&E at a later date. Poles could extend to approximately six (6) feet deep and buried conduit could be buried approximately three (3) feet deep. The existing PG&E alignment is on a flat dirt area that is currently a shared use with maintenance access roads to the canals. No vegetation will be removed. Final PG&E utility locations will not be determined by PG&E until later on in the proposed project development. PG&E and other utilities within Reclamation's property will require Reclamation approval. The Proposed Action/Project would not result in any significant impacts to utilities or service systems.

Cumulative Impacts There will be no cumulative impacts to utilities and service systems from this project.

3.1.17 Mandatory Findings of Significance

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

The analysis conducted in this document results in a determination by Fresno ID that the Proposed Action/Project will have a less than significant effect on the local environment. As described in the sections above, the potential for impacts to biological resources from the construction of the pump station facility and continued operation would be less than significant with the incorporation of mitigation measures, see Table 2 Mitigation/Environmental Protection Measures.

- a) Accordingly, the Proposed Action/Project would involve no potential for significant impacts through the degradation of the quality of the environments, the reduction in the habitat or population of fish or wildlife, including endangered plants or animals, the elimination of a plant or animal community or example of a major period of California history or prehistory.
- b) As discussed above, the Proposed Action/Project will result in less than significant impacts to biological, and cultural resources, with mitigation incorporation listed in section Table 2 and described in section 3.1.4 Biological Resources, and 3.1.5 Cultural Resources, of this environmental document. Project operations and maintenance would not require any on-site personnel. It is anticipated that there would be a maximum of two round trips per day to the Project site during irrigation season. As such, the Proposed Action/Project would generate minimal project related vehicle trips as a result of project implementation. The pump station will not result in ongoing impacts that are individually limited or cumulatively considerable. The implementation of the identified Proposed Action/Project-specific mitigation measures and compliance, (Section Table 2 Mitigation/Environmental Protection Measures) with applicable codes, ordinances, laws and other required regulations will reduce the magnitude of any impacts associated with construction activities to a less than significant level.

- c) The Proposed Action/Project would not result in substantial adverse effects on human beings, either directly or indirectly. The Proposed Action/Project will not result in substantial adverse effects on human beings, either directly or indirectly. Mitigation measures are listed in Table 2 Mitigation/ Environmental Protection Measures and described in sections 3.1.4 Biological Resources, and 3.1.5 Cultural Resources of this environmental document. The implementation of the identified mitigation measures would reduce the Proposed Action/Project's potential environmental effects on the public and the environment to less than significant levels. No additional mitigation measures will be required. Adverse effects on human beings resulting from implementation of the Proposed Action/Project will be less than significant.

3.2 Global Climate Change

3.2.1 Affected Environment

Climate change refers to significant change in measures of climate that last for decades or longer. Many environmental and anthropogenic factors can contribute to climate change, including the burning of fossil fuels, deforestation, changes in ocean currents, urbanization, etc. Carbon dioxide, which is produced when fossil fuels are burned, is a greenhouse gas that effectively traps heat in the lower atmosphere.

Some carbon dioxide is liberated naturally, but this may be augmented greatly through human activities. Increases in air temperature may lead to changes in precipitation patterns, runoff timing and volume, sea level rise, and changes in the amount of irrigation water needed due to modified evapotranspiration rates. Approximately 20 million Californians rely on the CVP and SWP for water deliveries. Global shifts related to climate change may lead to impacts to California's water resources and project operations.

In 2002, with the passage of Assembly Bill 1493, the State launched an innovative and proactive approach to dealing with greenhouse gas emissions and climate change at the state level. Assembly Bill 1493 requires the California Air Resources Board to develop and implement regulations to reduce automobile and light truck greenhouse gas emissions. The State also adopted Assembly Bill 32, which identified greenhouse gas reduction goals and noted the effect of increased greenhouse gas emissions as they relate to global climate change. While the emissions of one single project would not cause global climate change, greenhouse gas emissions from multiple projects throughout the world could result in an adverse impact with respect to global climate change.

3.2.2 Environmental Consequences

No Action

Under the No Action Alternative, there would be no increase in emissions and, therefore, no impacts or changes to climate change are anticipated. Contractors would continue to pump groundwater from pumps that currently utilize petroleum as a fuel source, and these pumps would continue to generate greenhouse gases associated with the combustion of fossil fuels and would impact climate change.

Proposed Action

The Proposed Action/Project would involve minimal short-term impacts consisting of emissions during construction. CAIEEMod project CO₂ output emission are a total of 0.0934 metric tons/yr, see Appendix A. There are no long-term impacts as a maximum of two trips a day would be needed for maintenance and those trips currently exist today for canal maintenance. No additional trips are required for the Project. Construction and operation under the Proposed Action/Proposed Project would result in below *de minimis* impacts to the global climate.

Cumulative Impacts

Greenhouse gas emissions are considered cumulatively significant; however, the estimated annual carbon dioxide emissions required to install and operate the proposed facility is well below the 25,000 metric tons per year threshold for reporting greenhouse gas. As a result, the Proposed Action is not expected to contribute to cumulative adverse impacts to global climate change.

3.3 Federal Disclosure Requirements

Department of the Interior Regulations, Executive Orders, and Reclamation guidelines require a discussion of the following items when preparing environmental documentation:

3.3.1 Indian Sacred Sites

Sacred sites are defined in Executive Order 13007 (May 24, 1996) as “any specific, discrete, narrowly delineated location on Federal land that is identified by an Indian tribe, or Indian individual determined to be an appropriately authoritative representative of an Indian religion, as sacred by virtue of its established religious significance to, or ceremonial use by, an Indian religion; provided that the tribe or appropriately authoritative representative of an Indian religion has informed the agency of the existence of such a site.” The Proposed Project would not affect and/or prohibit access to and ceremonial use of Indian sacred sites.

3.3.2 Indian Trust Assets

No reservations or rancherias are located within 10 miles of the construction footprint. Therefore, no impacts would occur to Indian Trust Assets as a result of the Proposed Action/Project. Approval of the transfer and/or exchange of water from Fresno ID to other Friant Division contractors would utilize existing conveyance facilities. Therefore, activities associated with the Proposed Action/Project would not impact Indian Trust Assets.

3.3.3 Environmental Justice

Executive Order 12898 requires each Federal agency to identify and address disproportionately high and adverse human health or environmental effects, including social and economic effects of its program, policies, and activities on minority populations and low-income populations. The project will not have an adverse effect on low income or minority populations. The Proposed Action/Project will actually have a positive impact on the low income and minority populations in the area. The area is largely an agricultural area that relies almost solely on the agricultural

industry to drive the local economy. Water supply, as evidenced by the drought conditions in 2009, and current year drought, can have a devastating effect on the local economy and population. When there isn't enough water to irrigate crops, farmers don't plant crops, and do not need the labor, support, and materials associated with the crop production. This project will provide needed water supply, particularly in dry years. Many of the Friant Contractors downstream of the Project, including the four towns that received water in 2014, rely primarily on surface water. In 2014, the areas did not have a backup water supply. Therefore, the Proposed Action/Project would not have disproportionately negative impacts on low-income or minority individuals or populations within the Proposed Action/Project area. Instead it would have a beneficial impact.

Section 4 Consultation and Coordination

4.1 Public Review Period

The EA/IS will be released for a 30-day public review period. Through the State Clearinghouse, Fresno ID (acting as Lead Agency for CEQA) made the CEQA portion of the draft EA/IS and the proposed adoption of a mitigated negative declaration available to the public.

4.2 National Historic Preservation Act (16 U.S.C. § 470 et seq.)

The NHPA of 1966, as amended (16 U.S.C. 470 et seq.), requires that federal agencies give the Advisory Council on Historic Preservation an opportunity to comment on the effects of an undertaking on historic properties, properties that are eligible for inclusion in the National Register. The 36 CFR Part 800 regulations implement Section 106 of the NHPA.

Section 106 of the NHPA requires federal agencies to consider the effects of federal undertakings on historic properties, properties determined eligible for inclusion in the National Register. Compliance with Section 106 follows a series of steps that are designed to identify interested parties, determine the APE, conduct cultural resource inventories, determine if historic properties are present within the APE, and assess effects on any identified historic properties.

Reclamation applied the criteria of adverse effect [36 CFR § 800.5(a)] for the Proposed Action and determined that it would result in no significant alterations to the function and character-defining features of the Gould Canal, site AE-3398-1H, or the FKC. The Proposed Action will not substantially alter the physical characteristics of these canals given their length and number of appurtenant features. Reclamation entered into consultation with the SHPO in May 2016, seeking their concurrence. A response from SHPO is pending. The Proposed Action/Project will not be implemented until the Section 106 process is complete.

Section 5 Preparers and Reviewers

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Section 6 References

Biological Reconnaissance Survey for Sensitive Species and Habitats for the Fresno Irrigation District's Gould-Friant Kern Canal Pump station Project (near Centerville, Fresno County, CA. Prepared by Halstead and Associates, September 2015 and Addendum, January 2016.

Cultural Memo prepared by Applied Earthworks, February 2016 and Cultural Study prepared by Applied Earthworks, March 2016.

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U.S. Fish and Wildlife Service (USFWS). 2001. Biological Opinion on U.S. Bureau of Reclamation Long Term Contract Renewal of Friant Division and Cross Valley Unit Contracts (1-1-01-F-0027). Sacramento Fish and Wildlife Office, California. January.

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Appendix A

Air Quality CALEEMod Output Files

Gould Canal to Friant Kern Canal Intertie Project

Fresno County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Other Non-Asphalt Surfaces	1.50	Acre	1.50	65,340.00	0

1.2 Other Project Characteristics

Urbanization	Urban	Wind Speed (m/s)	2.2	Precipitation Freq (Days)	45
Climate Zone	3			Operational Year	2016
Utility Company	Pacific Gas & Electric Company				
CO2 Intensity (lb/MWhr)	641.35	CH4 Intensity (lb/MWhr)	0.029	N2O Intensity (lb/MWhr)	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use - The Project is a pipeline and a pump station, with additional room for staging.

Construction Phase - Project construction will take place over approximately four months.

Trips and VMT - Approx. 30 worker trips per day, and 4 vendor trips per day during construction.

Consumer Products - The project is a pump station and canal and operation will not involve cleaning supplies, kitchen aerosols, cosmetics or toiletries.

Table Name	Column Name	Default Value	New Value
tblConstructionPhase	NumDays	200.00	55.00
tblConstructionPhase	NumDays	4.00	21.00
tblConstructionPhase	NumDays	2.00	11.00
tblConstructionPhase	PhaseEndDate	12/30/2016	12/31/2016
tblConstructionPhase	PhaseEndDate	10/14/2016	10/15/2016
tblConsumerProducts	ROG_EF	2.14E-05	1E-07
tblGrading	AcresOfGrading	7.88	1.50
tblGrading	AcresOfGrading	5.50	1.00
tblProjectCharacteristics	OperationalYear	2014	2016
tblTripsAndVMT	VendorTripNumber	11.00	4.00
tblTripsAndVMT	WorkerTripNumber	8.00	30.00
tblTripsAndVMT	WorkerTripNumber	8.00	30.00
tblTripsAndVMT	WorkerTripNumber	27.00	30.00

2.0 Emissions Summary

2.1 Overall Construction

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2016	0.1483	0.9449	0.7160	9.9000e-004	0.0889	0.0575	0.1464	0.0451	0.0546	0.0997	0.0000	85.3151	85.3151	0.0186	0.0000	85.7060
Total	0.1483	0.9449	0.7160	9.9000e-004	0.0889	0.0575	0.1464	0.0451	0.0546	0.0997	0.0000	85.3151	85.3151	0.0186	0.0000	85.7060

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2016	0.1481	0.9438	0.7152	9.9000e-004	0.0889	0.0574	0.1463	0.0451	0.0545	0.0996	0.0000	85.2272	85.2272	0.0186	0.0000	85.6177
Total	0.1481	0.9438	0.7152	9.9000e-004	0.0889	0.0574	0.1463	0.0451	0.0545	0.0996	0.0000	85.2272	85.2272	0.0186	0.0000	85.6177

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Percent Reduction	0.1012	0.1164	0.1061	0.0000	0.0000	0.1218	0.0478	0.0000	0.1100	0.0602	0.0000	0.1030	0.1030	0.1611	0.0000	0.1031

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	0.0466	0.0000	1.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	3.0000e-005	3.0000e-005	0.0000	0.0000	3.0000e-005
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Mobile	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Waste						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Water						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	0.0466	0.0000	1.0000e-005	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	3.0000e-005	3.0000e-005	0.0000	0.0000	3.0000e-005

2.2 Overall Operational

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	0.0466	0.0000	1.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	3.0000e-005	3.0000e-005	0.0000	0.0000	3.0000e-005
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Mobile	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Waste						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Water						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	0.0466	0.0000	1.0000e-005	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	3.0000e-005	3.0000e-005	0.0000	0.0000	3.0000e-005

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Percent Reduction	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Site Preparation	Site Preparation	9/1/2016	9/15/2016	5	11	
2	Grading	Grading	9/16/2016	10/15/2016	5	21	
3	Building Construction	Building Construction	10/16/2016	12/31/2016	5	55	

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Building Construction	Generator Sets	1	8.00	84	0.74
Building Construction	Cranes	1	6.00	226	0.29
Building Construction	Forklifts	1	6.00	89	0.20
Site Preparation	Graders	1	8.00	174	0.41
Grading	Rubber Tired Dozers	1	6.00	255	0.40
Building Construction	Tractors/Loaders/Backhoes	1	6.00	97	0.37
Grading	Tractors/Loaders/Backhoes	1	7.00	97	0.37
Site Preparation	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Grading	Graders	1	6.00	174	0.41
Site Preparation	Rubber Tired Dozers	1	7.00	255	0.40
Building Construction	Welders	3	8.00	46	0.45

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Site Preparation	3	30.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Grading	3	30.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	7	30.00	4.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

3.2 Site Preparation - 2016**Unmitigated Construction On-Site****Acres of Grading: 1**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0295	0.0000	0.0295	0.0160	0.0000	0.0160	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0134	0.1418	0.0908	9.0000e-005		7.6900e-003	7.6900e-003		7.0800e-003	7.0800e-003	0.0000	8.8868	8.8868	2.6800e-003	0.0000	8.9431
Total	0.0134	0.1418	0.0908	9.0000e-005	0.0295	7.6900e-003	0.0372	0.0160	7.0800e-003	0.0231	0.0000	8.8868	8.8868	2.6800e-003	0.0000	8.9431

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	2.6200e-003	7.9000e-004	7.7200e-003	2.0000e-005	1.3200e-003	1.0000e-005	1.3300e-003	3.5000e-004	1.0000e-005	3.6000e-004	0.0000	1.1446	1.1446	6.0000e-005	0.0000	1.1459
Total	2.6200e-003	7.9000e-004	7.7200e-003	2.0000e-005	1.3200e-003	1.0000e-005	1.3300e-003	3.5000e-004	1.0000e-005	3.6000e-004	0.0000	1.1446	1.1446	6.0000e-005	0.0000	1.1459

3.2 Site Preparation - 2016**Mitigated Construction On-Site****Acres of Grading: 1**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0295	0.0000	0.0295	0.0160	0.0000	0.0160	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0134	0.1416	0.0907	9.0000e-005		7.6800e-003	7.6800e-003		7.0700e-003	7.0700e-003	0.0000	8.8762	8.8762	2.6800e-003	0.0000	8.9324
Total	0.0134	0.1416	0.0907	9.0000e-005	0.0295	7.6800e-003	0.0372	0.0160	7.0700e-003	0.0231	0.0000	8.8762	8.8762	2.6800e-003	0.0000	8.9324

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	2.6200e-003	7.9000e-004	7.7200e-003	2.0000e-005	1.3200e-003	1.0000e-005	1.3300e-003	3.5000e-004	1.0000e-005	3.6000e-004	0.0000	1.1446	1.1446	6.0000e-005	0.0000	1.1459
Total	2.6200e-003	7.9000e-004	7.7200e-003	2.0000e-005	1.3200e-003	1.0000e-005	1.3300e-003	3.5000e-004	1.0000e-005	3.6000e-004	0.0000	1.1446	1.1446	6.0000e-005	0.0000	1.1459

3.3 Grading - 2016**Unmitigated Construction On-Site****Acres of Grading: 1.5**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0482	0.0000	0.0482	0.0262	0.0000	0.0262	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0209	0.2209	0.1435	1.5000e-004		0.0120	0.0120		0.0110	0.0110	0.0000	13.9343	13.9343	4.2000e-003	0.0000	14.0225
Total	0.0209	0.2209	0.1435	1.5000e-004	0.0482	0.0120	0.0602	0.0262	0.0110	0.0372	0.0000	13.9343	13.9343	4.2000e-003	0.0000	14.0225

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	4.9900e-003	1.5000e-003	0.0148	3.0000e-005	2.5200e-003	2.0000e-005	2.5400e-003	6.7000e-004	2.0000e-005	6.9000e-004	0.0000	2.1852	2.1852	1.2000e-004	0.0000	2.1877
Total	4.9900e-003	1.5000e-003	0.0148	3.0000e-005	2.5200e-003	2.0000e-005	2.5400e-003	6.7000e-004	2.0000e-005	6.9000e-004	0.0000	2.1852	2.1852	1.2000e-004	0.0000	2.1877

3.3 Grading - 2016**Mitigated Construction On-Site****Acres of Grading: 1.5**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0482	0.0000	0.0482	0.0262	0.0000	0.0262	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0209	0.2206	0.1434	1.5000e-004		0.0120	0.0120		0.0110	0.0110	0.0000	13.9177	13.9177	4.2000e-003	0.0000	14.0058
Total	0.0209	0.2206	0.1434	1.5000e-004	0.0482	0.0120	0.0602	0.0262	0.0110	0.0372	0.0000	13.9177	13.9177	4.2000e-003	0.0000	14.0058

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	4.9900e-003	1.5000e-003	0.0148	3.0000e-005	2.5200e-003	2.0000e-005	2.5400e-003	6.7000e-004	2.0000e-005	6.9000e-004	0.0000	2.1852	2.1852	1.2000e-004	0.0000	2.1877
Total	4.9900e-003	1.5000e-003	0.0148	3.0000e-005	2.5200e-003	2.0000e-005	2.5400e-003	6.7000e-004	2.0000e-005	6.9000e-004	0.0000	2.1852	2.1852	1.2000e-004	0.0000	2.1877

3.4 Building Construction - 2016

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0905	0.5650	0.4045	6.0000e-004		0.0376	0.0376		0.0362	0.0362	0.0000	51.0663	51.0663	0.0112	0.0000	51.3020
Total	0.0905	0.5650	0.4045	6.0000e-004		0.0376	0.0376		0.0362	0.0362	0.0000	51.0663	51.0663	0.0112	0.0000	51.3020

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	2.7400e-003	0.0110	0.0161	3.0000e-005	7.2000e-004	1.9000e-004	9.1000e-004	2.0000e-004	1.8000e-004	3.8000e-004	0.0000	2.3749	2.3749	2.0000e-005	0.0000	2.3753
Worker	0.0131	3.9300e-003	0.0386	8.0000e-005	6.6000e-003	5.0000e-005	6.6400e-003	1.7500e-003	4.0000e-005	1.8000e-003	0.0000	5.7231	5.7231	3.1000e-004	0.0000	5.7296
Total	0.0158	0.0149	0.0547	1.1000e-004	7.3200e-003	2.4000e-004	7.5500e-003	1.9500e-003	2.2000e-004	2.1800e-003	0.0000	8.0980	8.0980	3.3000e-004	0.0000	8.1049

3.4 Building Construction - 2016

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0904	0.5643	0.4040	6.0000e-004		0.0375	0.0375		0.0362	0.0362	0.0000	51.0055	51.0055	0.0112	0.0000	51.2410
Total	0.0904	0.5643	0.4040	6.0000e-004		0.0375	0.0375		0.0362	0.0362	0.0000	51.0055	51.0055	0.0112	0.0000	51.2410

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	2.7400e-003	0.0110	0.0161	3.0000e-005	7.2000e-004	1.9000e-004	9.1000e-004	2.0000e-004	1.8000e-004	3.8000e-004	0.0000	2.3749	2.3749	2.0000e-005	0.0000	2.3753
Worker	0.0131	3.9300e-003	0.0386	8.0000e-005	6.6000e-003	5.0000e-005	6.6400e-003	1.7500e-003	4.0000e-005	1.8000e-003	0.0000	5.7231	5.7231	3.1000e-004	0.0000	5.7296
Total	0.0158	0.0149	0.0547	1.1000e-004	7.3200e-003	2.4000e-004	7.5500e-003	1.9500e-003	2.2000e-004	2.1800e-003	0.0000	8.0980	8.0980	3.3000e-004	0.0000	8.1049

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

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

4.2 Trip Summary Information

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

4.3 Trip Type Information

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

4.4 Fleet Mix

LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
0.440734	0.064177	0.163340	0.171044	0.043309	0.007147	0.018445	0.078827	0.002062	0.001765	0.006503	0.000787	0.001863

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

[illegible]

5.2 Energy by Land Use - NaturalGas

Unmitigated

[illegible]

5.2 Energy by Land Use - NaturalGas

Mitigated

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

5.3 Energy by Land Use - Electricity

Unmitigated

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

5.3 Energy by Land Use - Electricity

Mitigated

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

6.0 Area Detail

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	0.0466	0.0000	1.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	3.0000e-005	3.0000e-005	0.0000	0.0000	3.0000e-005
Unmitigated	0.0466	0.0000	1.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	3.0000e-005	3.0000e-005	0.0000	0.0000	3.0000e-005

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.0454					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	1.1900e-003					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	0.0000	0.0000	1.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	3.0000e-005	3.0000e-005	0.0000	0.0000	3.0000e-005
Total	0.0466	0.0000	1.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	3.0000e-005	3.0000e-005	0.0000	0.0000	3.0000e-005

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.0454					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	1.1900e-003					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	0.0000	0.0000	1.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	3.0000e-005	3.0000e-005	0.0000	0.0000	3.0000e-005
Total	0.0466	0.0000	1.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	3.0000e-005	3.0000e-005	0.0000	0.0000	3.0000e-005

7.0 Water Detail

7.1 Mitigation Measures Water

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

7.2 Water by Land Use

Unmitigated

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

7.2 Water by Land Use

Mitigated

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

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

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

8.2 Waste by Land Use

Unmitigated

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

Mitigated

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

9.0 Operational Offroad

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