

RECLAMATION

Managing Water in the West

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

Delano-Earlimart Irrigation District Turnipseed Groundwater Bank Phase II

EA-09-108



**U.S. Department of the Interior
Bureau of Reclamation
Mid Pacific Region
South-Central California Area Office
Fresno, California**



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Mission Statements

The mission of the Department of the Interior is to protect and provide access to our Nation's natural and cultural heritage and honor our trust responsibilities to Indian Tribes and our commitments to 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.

The mission of the Delano-Earlimart Irrigation District is to protect, enhance, and manage the District's water and energy resources and related assets to benefit its growers, the community, and the region it serves through outstanding customer service, commitment to quality, and leadership in the water resources industry.

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Appendix A

List of Acronyms and Abbreviations

AB 32	Assembly Bill 32
AB 1493	Assembly Bill 1493
AF	acre-feet
APE	area of potential effects
ARB	Air Resources Board
CAA	Clean Air Act
CEQA	California Environmental Quality Act
CFR	Code of Federal regulations
cfs	cubic-feet per second
Corps	U.S. Army Corps of Engineers
CNDDB	California Natural Diversity Data Base
CVP	Central Valley Project
CWA	Clean Water Act
DEID	Delano-Earlimart Irrigation District
DWR	Department of Water Resources
EA	Environmental Assessment
EPA	Environmental Protection Agency
ESA	Endangered Species Act
ft	feet
FWCA	Fish and Wildlife Coordination Act
GHG	greenhouse gases
IS	Initial Study
ITA	Indian Trust Assets
MBTA	Migratory Bird Treaty Act
MND	Mitigated Negative Declaration
NEPA	National Environmental Policy Act
NHPA	National Historic Preservation Act
NKWSD	North Kern Water Storage District
NRHP	National Register of Historic Places
PM ₁₀	particulate matter less than 10 microns in diameter
Project	Turnipseed Groundwater Bank Project
Reclamation	U.S. Bureau of Reclamation
Recovery Act	American Recovery and Reinvestment Act of 2009
ROW	right-of-way
SHPO	State Historic Preservation Officer
SJVAB	San Joaquin Valley Air Board
SJVAPCD	San Joaquin Valley Air Pollution Control District
SIP	State Implementation Plan
State	State of California
TDS	total dissolved solids
U.S.	United States
USFWS	U.S. Fish and Wildlife Services

Section 1 Purpose and Need / Introduction

This Environmental Assessment (EA) / Initial Study (IS) was jointly prepared by the Bureau of Reclamation (Reclamation) as the lead federal agency and Delano-Earlimart Irrigation District (DEID) as the lead state agency to satisfy the requirements of both the National Environmental Policy Act (NEPA) and California Environmental Quality Act (CEQA).

1.1 Background / Project Description

DEID is located in southern Tulare County and northern Kern County along the county border, approximately northeast of the City of Delano (Figure 1). In 1993 DEID purchased and developed an 80-acre parcel specifically used as a groundwater recharge basin, commonly referred to as the Turnipseed Recharge Basin, which could receive water from either the district's distribution system or from direct diversions from the White River. DEID desires to convert the recharge basin into an extraction facility along with water supply regulation capabilities, all while retaining the basin's ability to still recharge groundwater. The project, hereto referred to as the Turnipseed Groundwater Bank Project (Project), has been broken up into two Phases, I and II respectively. In April 2008 DEID completed an IS/Mitigated Negative Declaration (MND), *Turnipseed Groundwater Banking*, for Phase I of the Project, and which is hereby incorporated by reference (DEID 2008). As part of Phase I, as analyzed in the IS/MND, DEID recently completed the construction of a pilot program extraction well in order to obtain cost estimates and extent of well depth required for the remaining extraction wells being proposed for the entire Project. In February 2010, Reclamation completed a Categorical Exclusion Checklist (CEC), *CEC-09-72*, which includes construction of five monitoring wells and one extraction well (minus the pilot program extraction well), and which is hereby incorporated by reference (Reclamation 2010). Phase II of the Project would involve the construction of up to three more extraction wells, deepening of the basin, and raising/improving the basin levees. Overall, the Project would convert the basin into a true groundwater bank which would allow DEID to recover up to 4,770 acre-feet (AF) annually for supplemental water during dry hydrological years and ultimately provide the district with the ability to better manage its varied water resources. DEID applied for and was selected as a potential recipient for federal funding assistance for Phase II of the Project. This opportunity was a result of a Federal legislation brought about, in part, by the current state of the nation's economy.

The American Recovery and Reinvestment Act (Recovery Act) of 2009 is a bill signed into law by President Barack Obama on February 17, 2009 in an effort to jumpstart the nation's economy, create and/or save jobs, and foster unprecedented levels of accountability and transparency in government spending (Recovery 2009). The Department of the Interior has been tasked with managing \$3 billion in investments as part of the Recovery Act, of which Reclamation will devote \$260 million for projects in the State of California (State) to expand water supplies, repair aging water infrastructure, and mitigate the effects of a devastating drought that the State is currently experiencing (Interior 2009). Through a Challenge Grant, Reclamation provides 50/50 cost-share using Recovery Act funds for approved projects focused on water conservation, efficiency, and marketing. Selected projects were scheduled to expend funds quickly and that would be completed by September 30, 2010.

1.2 Purpose and Need / Project Objectives

DEID needs a way to maximize its varied water resources. The purpose of the Project is to supplement surface supply irrigation demands during dry hydrological years and help reduce the impacts to groundwater levels by banking available surface water supplies in the underlying aquifer. More specifically, the benefits of the Project include improved water reliability for DEID by decreasing their dependence on CVP surface water; development of a water bank that would provide a mechanism for willing participants to buy, sell, lease, or exchange water to meet water demands; and the preservation of groundwater resources.

1.3 Scope / Project Location and Setting

This EA/IS was prepared to analyze the potential impacts of constructing and operating the Project, which includes the conversion of an existing five-cell, 80-acre recharge basin into a true groundwater banking facility. Monitoring wells, extraction wells, and improvements to the recharge basin's surface storage capacity are the main components of the Project.

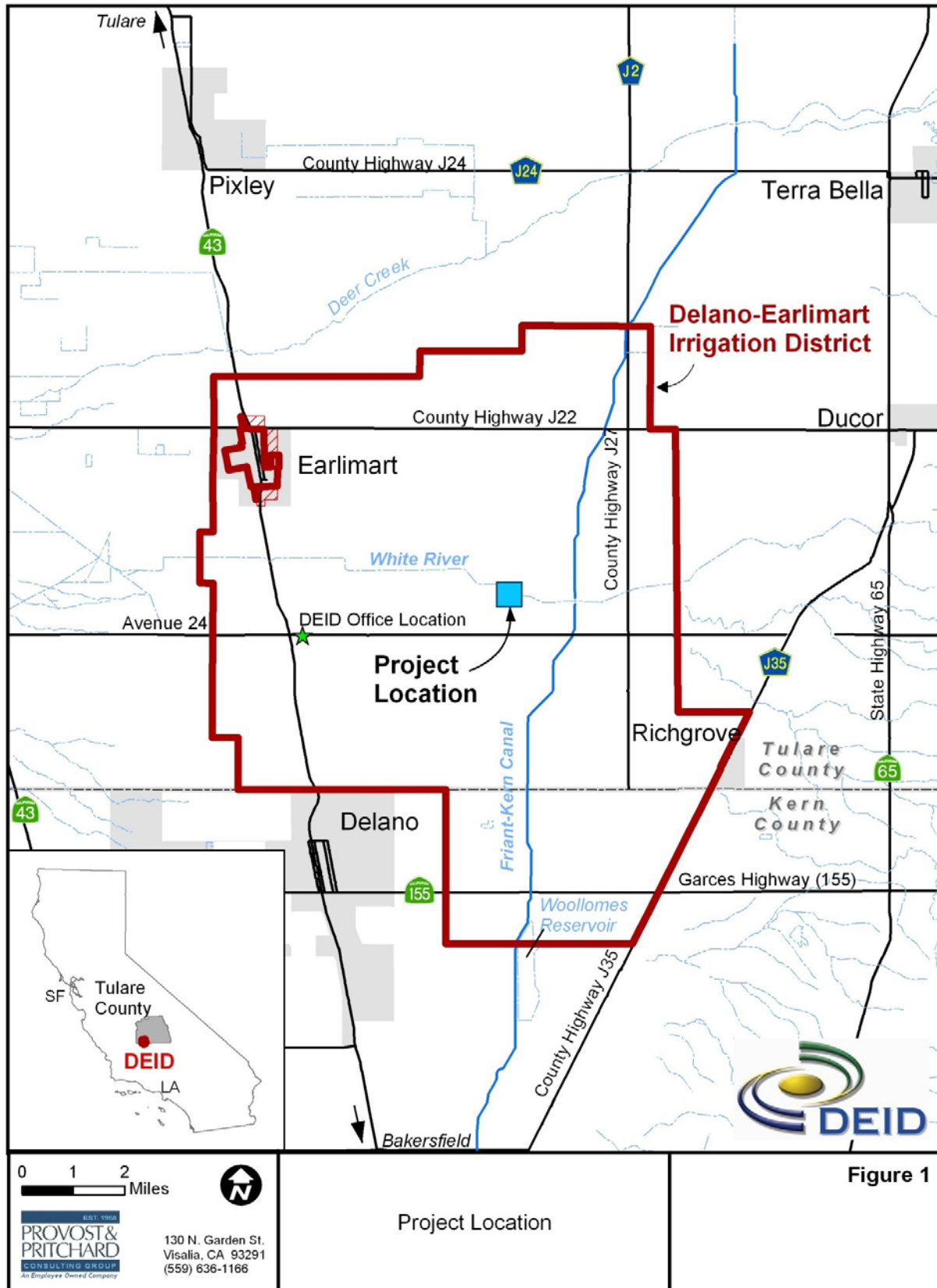
The Project is located in southern Tulare County within DEID, and situated within the north-half of the Northeast quarter of Section 17, Township 24 South, Range 26 East, Mount Diablo Base & Meridian. The recharge basin is bisected by the White River and is surrounded by agricultural lands (Figure 2).

This EA/IS was also prepared to analyze the potential impacts of the No Action Alternative.

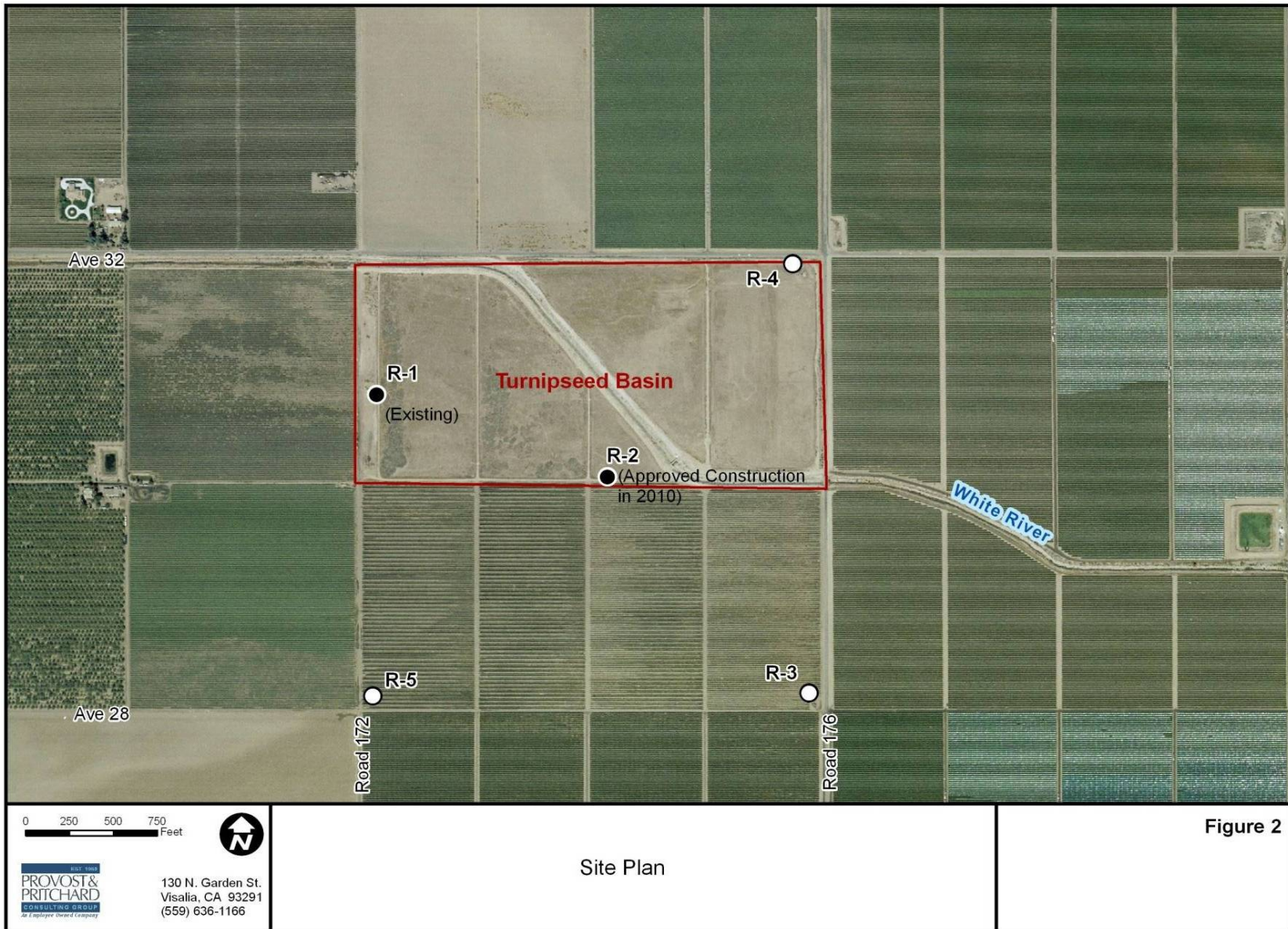
1.4 Potential Environmental Issues

This EA/IS will analyze the affected environment of the Proposed Action in order to determine the potential and cumulative impacts to the following resources:

- Water Resources
- Land Use
- Biological Resources
- Cultural Resources
- Indian Trust Assets (ITA)
- Socioeconomic Resources
- Environmental Justice
- Air Quality
- Global Climate Change
- Resources Exclusive to CEQA Analysis
 - ❖ Agricultural Resources
 - ❖ Geology and Soils
 - ❖ Hydrology & Water Quality
 - ❖ Noise
 - ❖ Transportation and Traffic
 - ❖ Mandatory Findings of Significance



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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. The No Action Alternative reflects future conditions without the Proposed Action and serves as a basis of comparison for determining potential effects to the human environment.

Absent federal funding assistance, construction of Phase II of the Project would, at a minimum, be delayed. It is DEID's intent to eventually construct and operate the Project; however, the timing would be speculative. Further, there is always the chance that the Project would never be built. With that said, the No Action Alternative could have two possible scenarios: A) no change from existing conditions as the project would not be built; or B) no change from existing conditions for at least a period of time, where the length of time is unknown, after which the project would be built as described in Section 2.2 below and the impacts analyzed in Section 3 and 4 of this EA/IS would be realized. In addition, DEID completed an IS/MND and Reclamation completed a CEC for Phase I of the Project prior to applying for the Recovery Act-funded Challenge Grant, which analyzed the environmental impacts of constructing and operating five new monitoring wells and up to six new extraction wells. Any other subsequent actions caused by scenario B of the No Action Alternative not already covered under Section 2.2 of this EA/IS, the IS/MND, or the CEC is speculative at best, is outside the scope of this EA/IS, and may require additional environmental analysis. As a result, scenario A of the No Action Alternative will be analyzed from this point forward in order to reduce repeating information since scenario B mirrors the Proposed Action (but at a later date).

2.1 No Action Alternative

Under the No Action Alternative, Reclamation would not award a Recovery Act-funded Challenge Grant to DEID that would partially fund the construction and operation of Phase II of the Project. The Turnipseed Recharge Basin would continue to operate exclusively as a recharge facility and conditions would remain the same as existing conditions.

2.2 Proposed Action

Reclamation proposes to award DEID with a Recovery Act-funded Challenge Grant to help the district fund the construction and operation of an 80-acre groundwater banking facility. The Proposed Action, which is essentially Phase II of the Project, would convert the existing recharge basin into a true groundwater bank by installing extraction wells to recover the recharged water during dry hydrological years where surface water supply demands for irrigation are deficient. The new extraction wells would be connected to DEID's existing distribution system with a short pipeline. Additionally, the surface storage and regulation capacity of the basin would be increased by approximately 64 AF (from 150-175 AF) by deepening the cells and building up/improving the levees. It is anticipated that the basin would be filled seasonally; however, there may be years when it would be dry and other years in which it would be operating continuously. Water depth in the basin would range from 0-5 feet (ft), although typical depths would be around 2-3 ft. The Proposed Action would start construction as soon as permitted and be completed by September 30, 2010.

More specifically, construction for the Proposed Action would include:

- Excavation of each cell to a depth of about 1 ft below current grade
 - Approximately 11,700 cubic-yards of soil would be excavated (enough to raise the levees up to the proposed height)
- Use excavated soil to raise/enforce approximately three miles of levees by roughly 1 ft
 - The slope of the levees would be at a 2:1 ratio
- Construct three extraction wells (refer to R-3, R-4, and R-5 in Figure 2)
 - Each well would up to 1,800 ft in depth
 - Each well would be equipped with high-accuracy saddle flow meters
 - Each well would have individual capacities of up to 2,500 gallons per minute
 - Bore holes would be around 28 inches
 - Pump, well head, and related appurtenances would require a concrete foundation of approximately 10 ft by 10 ft
 - Pumps would be powered by electricity
- Up to 500 ft of 18 inch diameter pipeline would be installed to connect to DEID's existing distribution system
 - R-3 would require roughly 100 ft of pipeline
 - R-4 would require roughly 200 ft of pipeline
 - R-5 would require roughly 100 ft of pipeline
 - Trenching required for the pipeline would be approximately 2 ft wide by 5 ft deep and would leave the pipeline with about 3 ft of cover
- Equipment to be used include: drill rig, scraper, excavator, bulldozer, and backhoe

2.2.1 Environmental Protection Measures

DEID would implement the following environmental protection measures to reduce environmental consequences associated with the Proposed Action (Table 1). Environmental consequences for resource areas assume the measures specified would be fully implemented.

Table 1. Environmental Protection Measures	
<u>Resource</u>	<u>Protection Measure</u>
Biological Resources	United States Fish and Wildlife Service (USFWS) approved pre-construction protocol level surveys for San Joaquin kit fox shall be conducted no fewer than 14 days and no more than 30 days prior to the onset of any ground-disturbing activity (USFWS 1999). DEID shall follow Standardized Recommendations for Protection of the San Joaquin kit fox prior to and during ground disturbance (USFWS, 1999).
Biological Resources	Areas subject to ground disturbance shall be surveyed for nesting burrowing owls no fewer than 14 days and no more than 30 days prior to start of construction according to established guidelines (CDFG 1995). Appropriate avoidance, minimization, or protection measures shall be determined in consultation with the California Department of Fish and Game in the event an active nest is located in an area subject to disturbance, or within the typical setback (i.e., occupied burrows or nests within 150 ft of an area subject to disturbance during the non-breeding season, or within 250 ft of an area subject to disturbance during the breeding season).

Section 3 Affected Environment & Environmental Consequences

This section of the EA/IS includes the NEPA analysis portion of the potentially affected environment and the environmental consequences involved with the Proposed Action and the No Action Alternative.

3.1 Water Resources

3.1.1 Affected Environment

Delano-Earlimart Irrigation District

DEID is a Friant Division CVP contractor with Reclamation and receives water diverted from the Friant-Kern Canal. DEID's annual entitlement from its CVP contract is for 108,800 AF Class 1 and 574,500 AF Class 2 supplies. When available, the district receives 215 Water (surplus CVP water) through annual contracts with Reclamation. DEID delivers surface water to approximately 400 landowners on roughly 56,500 acres of land through a completely piped system consisting of approximately 172 miles of pipeline, 527 irrigation turnouts, and 79 smaller metered deliveries to municipal and industrial water users. Currently, DEID provides 99% of its water supply for irrigation purposes and less than one percent (200 AF annually) to industrial uses. Farmers within DEID pump groundwater from privately-owned wells when surface water supplies are insufficient to meet their irrigation needs.

Groundwater Resources

The Proposed Action area overlies Tule Groundwater Subbasin of the San Joaquin Valley Basin, and confined within the Tulare Lake Hydrologic Region. On average, the subbasin water level has increased by four feet total from 1970 through 2000 (DWR 2005). Groundwater recharge is primarily from stream recharge (White River, Tule River, and Deer Creek) and from deep percolation of applied irrigation water (DWR 2005). Changes in the Tule Groundwater Subbasin level are evaluated by the State Department of Water Resources (DWR) by quarter township and computed through a custom DWR computer program using geostatistics, also known as kriging. Recent standing groundwater levels average about 130 to 150 ft below ground surface.

Groundwater levels underlying DEID have gradually stabilized since importation of surface water supplies. The drought period between 1987 through 1993 was an example for the need to have a conjunctive use program in the DEID area, as growers were forced to rely mostly on groundwater. In that seven-year span, the average depth to groundwater dropped roughly 27 feet (Brogan 2006). Currently, about 22 percent of the applied irrigation requirements within DEID are met by water users pumping from the groundwater basin. Farmers within DEID pump groundwater from roughly 200 private wells when surface water supplies are not sufficient to meet their irrigation needs (DEID 2003). The total amount pumped for agricultural use varies according to the amount of surface water available.

Water Quality

The quality of the CVP water conveyed in the FKC is considered to be of very good quality. Water quality data for the FKC indicates an average total dissolved solids (TDS) of 45 milligrams per liter for the period 1957 to 2000. Records indicate that there has not been much fluctuation in the quality of Friant Division CVP supplies from the FKC.

In general, groundwater quality throughout the region is suitable for most municipal and agricultural uses, with only local impairments. The primary constituents of concern for municipal uses are arsenic and nitrate, while salinity TDS is the primary area of concern for agricultural uses (DWR 2005). Owing to both its location and its high-quality surface water supplies, arsenic concentrations are not an issue in the groundwater underlying DEID; however, there are localized areas of elevated nitrate concentrations. In addition, salinity is relatively low in most of DEID and does not present a constraint on agricultural uses; however, similar to nitrate, there are localized areas of elevated TDS, which either affect crop choice or require blending of surface water and groundwater supplies.

3.1.2 Environmental Consequences

No Action Alternative

Under the No Action Alternative, Reclamation would not fund construction of the water bank. The surface storage capacity of the existing recharge basin would remain the same and no additional recovery or monitoring wells would be installed. Groundwater levels underlying DEID would not be able to benefit from the additional recharge, and ground water quality would not improve from blending with better-quality surface water supplies. DEID would continue to use its surface water supplies from the CVP as has historically occurred.

Proposed Action

The Proposed Action would not generate a new supply of water; rather, it would improve the reliability of DEID water supplies by using available surplus surface water to recharge the underlying groundwater subbasin for later use when groundwater pumping is necessary. The Proposed Action does not include additional groundwater pumping; rather, it would help to mitigate the water-level impacts associated with existing groundwater pumping. In particular, the increased ability to recharge available surface water supplies would help to mitigate the projected long-term decline in groundwater levels. Groundwater recoveries would not exceed the total water recharged, as to not deplete any groundwater supplies. Since the surface water supply has a lower salinity level than the existing groundwater, the long-term infiltration of these surface water supplies would serve to maintain and enhance the generally good quality of groundwater underlying the district area. Therefore, the Proposed Action would have slight beneficial impacts to DEID water resources.

Cumulative Impacts

DEID is currently engaged in a water banking project with North Kern Water Storage District (NKWSD). Under this project, which Reclamation has analyzed in a separate EA and which is hereby incorporated by reference, NKWSD would bank DEID's surplus CVP supplies (diverted off of the FKC) through its spreading ponds and, upon request, would extract groundwater for return to DEID at a later date (Reclamation 2009). The Proposed Action involves constructing a

water bank within DEID which the district would use to supplement its surface water supplies for in-district use and would not adversely affect the DEID's arrangement with NKWSD.

While banking opportunities may be made available to other interested parties through the use of DEID's groundwater bank, none have currently been identified, are outside the scope of this EA/IS, and may require separate environmental analysis. Typical water banking arrangements usually require that a small percentage is left behind to the groundwater basin for recharge purposes which is a benefit; however, Reclamation does not have approval authority for actions where there is no federal involvement.

The Proposed Action, when taken into consideration with other similar existing and proposed projects, would ultimately improve water resources management in DEID. There would be a cumulative positive impact on groundwater levels and quality, owing to the long-term, increased groundwater recharging capability during times of surface water supply availability.

3.2 Land Use

3.2.1 Affected Environment

Delano-Earlimart Irrigation District

DEID is composed of approximately 56,474 acres, of which 46,581 are irrigated to permanent crops. The major crops grown in the district include grapes, pistachios, almonds, and other fruit and nut trees, with a total of 23 different crops grown. Irrigation methods include drip, micro, gravity, and sprinkler. The Proposed Action site is a combination of an existing recharge basin and adjacent vineyards. The lands surrounding the Proposed Action area is zoned for agricultural use, with the majority being designated as prime agricultural lands.

3.2.2 Environmental Consequences

No Action Alternative

Under the No Action Alternative, DEID would not expand their groundwater bank, and thus not install any more recovery wells, deepen the existing recharge basins, or raise basin levees. Conditions related to the current use and operation of the Turnipseed Recharge Basin would remain the same.

Proposed Action

The Proposed Action would not involve the development of new agriculture lands since the district is almost fully developed to agriculture. There are no residences adjacent to the basin boundaries, and construction of the Proposed Action would not develop new sources of water that would support in any new housing or new permanent population growth that would exceed official regional or local population projections in the DEID service area. The main purpose of the Proposed Action is to improve DEID's water supply reliability in order to meet irrigation demands during dry hydrological years; therefore, no impacts to land use are anticipated.

Cumulative Impacts

In recent years, land use changes to the south of DEID have involved the urbanization of agricultural lands. These types of changes are typically driven by economic pressures and they

are as likely to occur without the Proposed Action as with it. Accordingly, no cumulative impacts to land use are anticipated.

3.3 Biological Resources

3.3.1 Affected Environment

The Proposed Action involves construction in a rural agricultural area that has been intensively farmed for several decades. The project area is dominated by agricultural habitat that includes field crops, orchards, and pasture. The vegetation is primarily crops and frequently includes weedy non-native annual and biennial plants. Much of the remaining habitat consists of isolated fragments supporting small, highly vulnerable animal and plant populations (Reclamation 2001).

Reclamation requested an official species list from the USFWS on January 26, 2010, via the Sacramento Field Office's website, http://www.fws.gov/sacramento/es/spp_lists/auto_list_form.cfm (document number 100126033012). The list is for the following 7½" USGS quads: Deepwell Ranch, McFarland, Pond, Ducor, Sausalito School, Delano East, Richgrove, Pixley, and Delano West (Attachment or Appendix of this list should probably be added to the EA, or the document number to provide an appropriate citation). Reclamation further queried the California Natural Diversity Database for records of protected species within 10 miles of the project location (CNDDB 2010). The two lists, in addition to other information within Reclamation's files were combined to create the following list (Table 2).

Table 2. Federally listed species with the potential to be present within or near the Project Area.				
<u>Common Name</u>	<u>Scientific Name</u>	<u>Status¹</u>	<u>Effects²</u>	<u>Occurrence in the Study Area³</u>
Amphibians				
California red-legged frog	<i>Rana aurora draytonii</i>	T	NE	Absent. No individuals or habitat in area of effect.
Birds				
burrowing owl	<i>Athene cunicularia</i>	P	NE	Possible. CNDDB ⁴ record do not report this species but habitat is present.
Fish				
delta smelt	<i>Hypomesus transpacificus</i>	T	NE	Absent. No natural waterways within the species' range will be affected by the proposed action.
Invertebrates				
Conservancy fairy shrimp	<i>Branchinecta conservatio</i>	E	NE	Absent. No individuals or habitat in area of effect.
valley elderberry longhorn beetle	<i>Desmocerus californicus dimorphus</i>	T	NE	Absent. No individuals or habitat in area of effect.
vernal pool fairy shrimp	<i>Branchinecta lynchi</i>	T, X	NE	Absent. No individuals or vernal pools in area of effect.

Mammals				
San Joaquin kit fox	<i>Vulpes macrotis mutica</i>	E	NE	Possible. CNDDDB records indicate this species occurs in the project area. The area could possibly be used for denning or as foraging habitat. DEID shall implement environmental protective measures as described in Section 2.2.1.
Tipton kangaroo rat	<i>Dipodomys nitratooides nitratooides</i>	E	NE	Absent. No individuals or habitat in area of effect. Disturbed agricultural lands do not provide habitat.
Plants				
California jewelflower	<i>Caulanthus californicus</i>	E	NE	Absent. CNDDDB records indicated this species is extirpated from area.
Kern mallow	<i>Eremalche kernensis</i>	E	NE	Absent. No individuals or habitat in area of effect.
San Joaquin adobe sunburst	<i>Pseudobahia peirsonii</i>	T	NE	Absent. CNDDDB records indicated this species is believed extirpated from area. Not expected to occur close enough to croplands to colonize bare soil.
Reptiles				
blunt-nosed leopard lizard	<i>Gambelia sila</i>	E	NE	Absent. No individuals or habitat in area of effect.
giant garter snake	<i>Thamnophis gigas</i>	T	NE	Absent. Species believed to have been extirpated from Tulare Basin.

1 Status= Listing of Federally special status species, unless otherwise indicated

E: Listed as Endangered

MBTA: Birds protected by the Migratory Bird Treaty Act

T: Listed as Threatened

X: Critical Habitat designated for this species

2 Effects = Effect determination

NE: No Effect anticipated from the Proposed Action to federally listed species

3 Definition Of Occurrence Indicators

Possible: Species or habitat recorded in area

Absent: Species not recorded in study area and/or habitat requirements not met

4 CNDDDB = California Natural Diversity Database 2010

3.3.2 Environmental Consequences

No Action Alternative

Under the No Action Alternative, Reclamation would not provide grant funds for the construction of the Project and conditions regarding biological resources would remain the same as described above. There would be no impacts to wildlife and special-status species as no new facilities would be constructed and historical operation and maintenance practices related to the Turnipseed Recharge Basin would continue.

Proposed Action

Reclamation has determined that the Proposed Action would have no effect to any of the species listed in Table 2, with certain restrictions, as described below. The project area consists of existing groundwater recharge cells within a recharge basin, surrounded by vineyards and almond orchards. The project description includes excavation (deepening) of each existing recharge cell, use of excavated material to build up and reinforce the basin's levees, construction of three additional extraction wells, and construction of 100-200 ft of pipeline per well to connect to DEID's distribution system.

San Joaquin kit fox This species is known within the vicinity of the project area, and is highly mobile. Potential effects to the species would be avoided through implementation of the standard avoidance measures (USFWS 1999). If kit foxes are detected during construction, all construction activities within the area would halt until further analysis, and if necessary consultation with the USFWS, is complete. The project consists of deepening existing basins, which will not reduce the amount of habitat available to the species.

Burrowing owl This species is considered as a Species of Special Concern under the California Endangered Species Act, and is protected under the Federal MBTA. No CNDDDB records show the species within the project area, but the habitat is suitable and burrowing owls have been detected within 8 miles (CNDDDB 2010). The IS/ MND prepared by DEID, under CEQA, determined that that avoidance measures recommended by the California Burrowing Owl Consortium and CDFG would be implemented, including preconstruction surveys, prevention of disturbance within 50 meters of occupied burrows during the non-breeding season (September 1 through January 31), and prevention of disturbance within 75 meters during the breeding season (February 1 through August 31) (CDFG 1995). Burrows that show evidence of use by burrowing owls would not be destroyed unless a qualified biologist confirms that the owls are not present and are not actively using the burrow.

California jewelflower & San Joaquin adobe sunburst The nearest recorded occurrences of either species are four (jewelflower) and five (sunburst) miles from the project area (CNDDDB 2010). The project area is within the already disturbed recharge basins, which have no potential to be habitat for the species, based on the ongoing periodic flooding of the areas.

Blunt-nosed leopard lizard & Tipton kangaroo rat The nearest recorded occurrences of these species are six (lizard) and four (Tipton) miles from the project area. As with the plant species above, the project area is the already disturbed recharge basins, which do not serve as habitat for either species, based on the ongoing periodic flooding of the areas. The levees are currently maintained to prevent the immigration of small burrowing mammal species such as kangaroo rats, which also precludes use by blunt-nosed leopard lizards.

Vernal pool fairy shrimp & VPFS critical habitat The nearest unit of vernal pool fairy shrimp critical habitat is nearly 10 miles from the project area, well outside the ability of the project to affect (CNDDDB 2010). The nearest recorded occurrence of the species outside of the critical habitat boundary is 7.5 miles from the project area (CNDDDB 2010). As with the plant species above, the project area consists of previously, highly disturbed recharge basins which have no ability to provide habitat for the species.

Other species The other species shown on the USFWS list have no potential to be within the project area. The disturbed areas of the basin does not provide habitat for California red-legged frog, giant garter snake, or Kern mallow. There are no elderberry bushes that would provide habitat for Valley elderberry longhorn beetle. Conservancy fairy shrimp would not be affected for the same reasons as the vernal pool fairy shrimp. Delta smelt are not present, and there are no downstream affects that could potentially affect the species.

Cumulative Impacts

Biological resources would continue to be affected by other types of activities that are ongoing but unrelated to the Proposed Action. Impacts to biological resources from the implementation of the Proposed Action would occur only during construction activities. The Proposed Action, when added to other existing and proposed actions, does not contribute to adverse cumulative impacts to wildlife resources since construction activities are short-term.

3.4 Cultural Resources

A cultural resource is a broad term that includes prehistoric, historic, architectural, and traditional cultural properties. The National Historic Preservation Act (NHPA) of 1966 is the primary Federal legislation that outlines the Federal Government's responsibility to cultural resources. Section 106 of the NHPA requires the Federal Government to take into consideration the effects of an undertaking on cultural resources listed on or eligible for inclusion in the National Register of Historic Places (NRHP). Those resources that are on or eligible for inclusion in the NRHP are referred to as historic properties. For Federal projects, cultural resource significance can be evaluated in terms of eligibility for listing in the NRHP.

The Section 106 process is outlined in the Federal regulations at 36 Code of Federal Regulations (CFR) Part 800. These regulations describe the process that the Federal agency (Reclamation) takes to identify cultural resources and the level of effect that the proposed undertaking would have on historic properties. In summary, Reclamation must first determine if the action is the type of action that has the potential to affect historic properties. If the action is the type of action to affect historic properties, Reclamation must identify the area of potential effects (APE), determine if historic properties are present within that APE, determine the effect that the undertaking would have on historic properties, and consult with the State Historic Preservation Officer (SHPO), to seek concurrence on Reclamation's findings. In addition, Reclamation is required through the Section 106 process to consult with Indian Tribes concerning the identification of sites of religious or cultural significance, and consult with individuals or groups who are entitled to be consulting parties or have requested to be consulting parties.

3.4.1 Affected Environment

The San Joaquin Valley is rich in historical and prehistoric cultural resources. Cultural resources in this area can include historical resources associated with agriculture but are also often prehistoric in nature and can include remnants of native villages inhabited before European settlement. It is possible that many cultural resources lie undiscovered across the valley. The San Joaquin Valley supported extensive populations of Native Americans, principally the Northern Valley Yokuts, in the prehistoric period. Cultural studies in the San Joaquin Valley

have been limited. The conversion of land and intensive farming practices over the last century may have disturbed many Native American cultural sites.

Archival investigation, public outreach, and pedestrian survey revealed that the only known cultural resource within the DEID service area is the channelized White River Channel. It is not formally listed as a historic property but for the purposes of this project it has been assumed eligible to the NRHP as a contributor for its significance to the development of irrigated agriculture in this portion of the San Joaquin Valley.

3.4.2 Environmental Consequences

No Action

Under the No Action Alternative, conditions related to any potentially historic properties would remain the same as before. Since there would be no change in operations and no additional ground disturbance, there would be no new impacts to potential historic properties.

Proposed Action

Under the Proposed Action, construction would disturb existing rights-of-way of the recharge basin, add fill to the levees of the channelized White River, and disturb immediately adjacent farmland. An archaeological inventory report identified the need to consult with SHPO. Identification efforts, as outlined in the affected environment section, were conducted and revealed the channelized White River was the only cultural resource within the project footprint. Due to the short timeline of the project, the limited opportunity for background research, and the minor project activities, Reclamation, assumed, for the purposes of this project and this project only, that the modified White River was eligible to the NRHP. Reclamation further determined that the Proposed Action impacts comprise a no adverse effect to historic properties pursuant to 36 CFR Part 800.5(b). SHPO concurred with this finding on January 26, 2010. In the unlikely event that project implementation revealed previously unidentified cultural resources, then procedures outlined at 36 CFR Part 800.13(B) would be followed and would insure that significant impacts are avoided.

Cumulative Impacts

Subject to the consultation with SHPO, the Proposed Action, when added to other existing and proposed actions, would not contribute to cumulative impacts to cultural resources.

3.5 Indian Trust Assets

ITA are legal interests in assets that are held in trust by the United States (U.S.) for Federally recognized Indian tribes or individuals. The trust relationship usually stems from a treaty, executive order, or act of Congress. The Secretary of the Interior is the trustee for the U.S. on behalf of Federally recognized Indian tribes. “Assets” are anything owned that holds monetary value. “Legal interests” means there is a property interest for which there is a legal remedy, such as a compensation or injunction, if there is improper interference. ITA cannot be sold, leased or otherwise alienated without the U.S.’ approval. Assets can be real property, physical assets, or intangible property rights, such as a lease, or right to use something; which may include lands, minerals and natural resources in addition to hunting, fishing, and water rights. Indian reservations, rancherias, and public domain allotments are examples of lands that are often

considered trust assets. In some cases, ITA may be located off trust land. Reclamation shares the Indian Trust responsibility with all other agencies of the Executive Branch to protect and maintain ITA reserved by or granted to Indian tribes, or Indian individuals by treaty, statute, or Executive Order.

3.5.1 Affected Environment

The nearest ITA is the Tule River Reservation approximately 22 miles northeast of the project location.

3.5.2 Environmental Consequences

No Action

Under the No Action Alternative, there would be no impacts to ITA as there would be no ground-disturbing activities and conditions would remain the same as existing conditions.

Proposed Action

There are no tribes possessing legal property interests held in trust by the U.S. in the lands involved with the Proposed Action. In addition, there are no ITA, Indian Reservations, or Public Domain Allotments found within DEID. The Proposed Action would not affect or interfere with the observation of religious or other ceremonies associated with ITA; therefore, no impacts to ITA are anticipated.

Cumulative Impacts

The Proposed Action, when added to other existing and proposed actions, would not contribute to cumulative impacts to ITA, since the Proposed Action would have no effect on ITA.

3.6 Socioeconomic Resources

3.6.1 Affected Environment

The socioeconomic setting is dependent upon population, employment, housing, and revenues earned by the primary private employers. Kern County's economy is based on diverse assets of agriculture, oil, aerospace, transportation, and warehousing services. The area located within DEID is primarily rural agricultural land which provides farm-related jobs. There are small businesses that support agriculture, for example: feed and fertilizer sales, machinery sales and service, pesticide applicators, transport, packaging, marketing, etc. within the surrounding area.

3.6.2 Environmental Consequences

No Action Alternative

Under the No Action Alternative, DEID would be unable to maximize its varied water resources and improve its surface water supply reliability through the use of groundwater banking. Some permanent crop acreage may return to annual crops, where it can be fallowed in water-short years (unlike permanent crops). Accordingly, socioeconomic resources could be expected to be slightly impacted. Fallowing results in losses in crop revenues, farm income, and farm employment, along with additional losses in related manufacturing, trade, and service industries.

Proposed Action

Over the long term, the Proposed Action would facilitate an increase in the reliability of DEID's surface water supply. This would subsequently help to maintain the economic viability of irrigated agriculture within the district, which presently includes a significant percentage of permanent crops. There is greater economic output associated with permanent crops, which includes a year-round demand for farm labor (as compared to annual crops). As a result, there would be slight beneficial impacts to socioeconomic resources.

Cumulative Impacts

The Proposed Action would result in an increase in DEID's water supply reliability, which would help sustain an economy of irrigated agriculture. When added to other similar existing and proposed actions, the Proposed Action would contribute to beneficial cumulative impacts to socioeconomic resources.

3.7 Environmental Justice

Environmental justice refers to the fair treatment of peoples of all races, income levels, and cultures with respect to the development, implementation, and enforcement of environmental laws, regulations, and policies. Fair treatment implies that no person or group of people should shoulder a disproportionate share of negative impacts resulting from the execution of Federal programs. Executive Order 12898, dated February 11, 1994, establishes the achievement of environmental justice as a Federal agency priority. The memorandum accompanying the order directs heads of departments and agencies to analyze the environmental effects of federal actions, including human health, economic, and social effects when required by National Environmental Policy Act, and to address significant and adverse effects on minority and low-income communities.

3.7.1 Affected Environment

The market for seasonal workers on local farms draws thousands of migrant workers, commonly of Hispanic origin from Mexico and Central America, into the San Joaquin Valley. Agriculture and related businesses are the main industry in DEID, which provides employment opportunities for these minority and/or disadvantaged populations. The areas around the districts have stable economies based on local grapes, pistachios, almonds, and other fruit and nut tree products.

3.7.2 Environmental Consequences

No Action Alternative

The No Action Alternative may result in a slight adverse impact to minority or low-income populations near the project location. Without the ability to improve DEID's water supply reliability, there could be a decrease in farm-related jobs which these communities rely upon.

Proposed Action

To the extent that water supply reliability is improved in DEID, it would serve to support the continued viability of the agricultural economy that has developed in reliance (in whole or in part) upon it, which provides jobs to the residents of disadvantaged populations. As a result, there would be beneficial impacts to environmental justice from the implementation of the Proposed Action.

Cumulative Impacts

The Proposed Action, when added to other existing and proposed actions, would have a slight beneficial contribution to cumulative impacts associated with environmental justice. The Proposed Action would help support and maintain jobs that low-income and disadvantaged populations rely upon.

3.8 Air Quality

3.8.1 Affected Environment

The Proposed Action 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 all 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. Table 3 presents the emissions thresholds covering the project location’s overlying air basin.

Table 3. San Joaquin Valley Attainment Status and Emissions Thresholds for Federal Conformity Determinations			
Pollutant	Federal Attainment Status^a	(tons/year)^b	(pounds/day)
Volatile organic compounds (VOC) (as an ozone precursor)	Nonattainment/Serious (8-hour ozone)	50	274
Nitrogen oxides (NO _x) (as an ozone precursor)	Attainment/Unclassified	50	274
Inhalable particulate matter (PM ₁₀)	Attainment	100	548
Carbon monoxide (CO)	Attainment/Unclassified	100	548

^aSJVAPCD 2009

^b40 CFR 93.153

3.8.2 Environmental Consequences

No Action Alternative

Under the No Action Alternative, there would be no impacts to air quality since no construction would take place.

Proposed Action

Short-term air quality impacts would be associated with construction, and would generally arise 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, 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), CO, VOC, sulfur dioxide, and small amounts of air toxics. Table 4 below provides a summary of the estimated emissions during construction.

Table 4 - Estimated Project Emissions During Construction	
Pollutant	Estimated Project Emissions ^a (tons/year)
VOC	3.2
NO _x	24.8
PM ₁₀	1.6
CO	32

^aRoad Construction Model Version 6.3.2, 2009

Comparison of the estimated Proposed Action emissions (Table 4) with the thresholds for Federal conformity determinations (Table 3) indicates that project emissions are estimated to be below these thresholds.

The Proposed Action also involves the operation of electrically-driven pumps and motors; accordingly, there would not be any direct emissions from the operation of project facilities/equipment. The air quality emissions from electrical power have already been considered in environmental documentation for the generating power plant; therefore, a conformity determination is not required. Accordingly, project construction and operations under the Proposed Action would not result adverse impacts to air quality beyond Federal thresholds.

Cumulative Impacts

The Proposed Action, when added to other existing and proposed actions, would not contribute to cumulative impacts to air quality since construction activities are short-term and operations would not result in cumulative adverse air quality impacts.

3.9 Global Climate Change

Climate change refers to significant change in measures of climate (e.g., temperature, precipitation, or wind) lasting for decades or longer. Many environmental changes (changes in

sun's intensity, changes in ocean circulation, deforestation, urbanization, burning fossil fuels, etc.) can contribute to climate change (EPA 2009). Gases that trap heat in the atmosphere are often called greenhouse gases (GHG). Some GHG such as carbon dioxide (CO₂) occur naturally and are emitted to the atmosphere through natural processes and human activities. Other GHG (e.g., fluorinated gases) are created and emitted solely through human activities. The principal greenhouse gases that enter the atmosphere because of human activities are: CO₂, methane (CH₄), nitrous oxide, and fluorinated gasses (EPA 2009).

During the past century, humans have substantially added to the amount of GHG in the atmosphere by burning fossil fuels such as coal, natural gas, oil, and gasoline to power our cars, factories, utilities, and appliances. The added gases, primarily CO₂ and CH₄, are enhancing the natural greenhouse effect, and likely contributing to an increase in global average temperature and related climate changes. At present, there are uncertainties associated with the science of climate change (EPA 2009).

More than 20 million Californians rely on regulated delivery of water resources such as the State Water Project and the CVP, as well as established water rights from rivers. 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. These changes may lead to impacts to the State's water resources and project operations. While there is general consensus in their trend, the magnitudes and onset-timing of impacts are uncertain and are scenario-dependent (Anderson et al. 2008).

3.9.1 Affected Environment

In 2002, with the passage of Assembly Bill 1493 (AB 1493), the State launched an innovative and proactive approach to dealing with GHG emissions and climate change at the state level. AB 1493 requires the California Air Resources Board to develop and implement regulations to reduce automobile and light truck GHG emissions; these regulations would apply to automobiles and light trucks beginning with their respective 2009 models (Hanemann 2007).

The State has adopted Assembly Bill 32 (AB 32) and has identified GHG reduction goals; the effect of increased GHG emissions as they relate to global climate change is inherently an adverse environmental impact. While the emissions of one single project will not cause global climate change, GHG emissions from multiple projects throughout the world could result in an impact with respect to global climate change.

3.9.2 Environmental Consequences

No Action Alternative

Under the No Action Alternative, there would be no impacts respecting global climate change since no construction would take place and there would not be any long-term electrical energy requirement.

Proposed Action

The Proposed Action would involve short-term impacts consisting of emissions during construction and long-term impacts are attributable to project operations and would involve the generation of electrical energy to power the electric motor pump drivers. These emissions would

vary annually, but have been estimated to average about 648 metric tons/year of CO₂ (PG&E 2009), which is negligible compared to the threshold for annually reporting GHG emissions (25,000 metric tons/year). Accordingly, construction and operations under the Proposed Action would result in below *de minimis* impacts to global climate change.

Cumulative Impacts

Greenhouse gas impacts are considered to be cumulative impacts. Full operation of the water bank is estimated to produce 1080 metric tons/year of CO₂. The Proposed Action, when added to other existing and proposed actions, would not contribute to cumulative impacts to global climate change owing to the *de minimis* magnitude of annual GHG emissions.

Section 4 Environmental Factors Potentially Affected

This section of the EA/IS includes the CEQA analysis portion of potentially affected issues that may result from implementation of the proposed project. Reference to the “project” in this section is synonymous with the term, “Proposed Action”, used in other sections.

4.1 CEQA Environmental Checklist

This checklist identifies physical, biological, social and economic factors that might be affected by the proposed project. Although some project elements could result in an environmental affect, modifications were made to the project description or mitigation measures have been proposed that would reduce all impacts to less than significant. The words “significant” and “significance” used throughout the following checklist and section are related to CEQA, not NEPA, impacts. In many cases, background studies performed in connection with the proposed project indicate no impacts. A “No Impact” answer in the last column reflects this determination. Where there is a need to clarify any issues, discussions are included in Section 4.2 following this checklist.

	Potentially Significant Impact	Less than Significant With Mitigation Incorporation	Less than Significant Impact	No Impact
<u>I. AESTHETICS</u>				
Would the project:				
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 type="checkbox"/>	<input checked="" type="checkbox"/>
c) Substantially degrade the existing visual character or quality of the site and its surroundings?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" 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"/>

II. AGRICULTURE 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 Dept. 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"/>

III. AIR QUALITY

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 type="checkbox"/>	<input checked="" 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 checked="" type="checkbox"/>	<input type="checkbox"/>

IV. BIOLOGICAL RESOURCES

Would the project:

	Potentially Significant Impact	Less than Significant With Mitigation Incorporation	Less than Significant Impact	No Impact
a) Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish 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 type="checkbox"/>	<input type="checkbox"/>	<input checked="" 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 type="checkbox"/>	<input checked="" 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"/>

V. CULTURAL RESOURCES

Would the project:

	Potentially Significant Impact	Less than Significant With Mitigation Incorporation	Less than Significant Impact	No Impact
a) Cause a substantial adverse change in the significance of a historical resource as defined in §15064.5?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

- | | | | | |
|---|--------------------------|-------------------------------------|-------------------------------------|--------------------------|
| b) Cause a substantial adverse change in the significance of an archaeological resource pursuant to §15064.5? | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| c) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" 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"/> |

VI. 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 checked="" type="checkbox"/> | <input type="checkbox"/> |
| ii) Strong seismic ground shaking? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input 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 checked="" type="checkbox"/> | <input 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"/> |

VII. 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 type="checkbox"/>	<input checked="" 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"/>

VIII. 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 checked="" 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 checked="" 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 checked="" type="checkbox"/>	<input 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"/>
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 checked="" type="checkbox"/>	<input type="checkbox"/>

j) Inundation by seiche, tsunami, or mudflow?

<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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IX. LAND USE AND PLANNING

Would the project:

a) Physically divide an established community?

Potentially Significant Impact	Less than Significant With Mitigation Incorporation	Less than Significant Impact	No Impact
<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 type="checkbox"/>	<input checked="" type="checkbox"/>
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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"/>
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X. MINERAL RESOURCES

Would the project:

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?

Potentially Significant Impact	Less than Significant With Mitigation Incorporation	Less than Significant Impact	No Impact
<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"/>
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XI. NOISE

Would the project:

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?

Potentially Significant Impact	Less than Significant With Mitigation Incorporation	Less than Significant Impact	No Impact
<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"/>
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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"/>
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- | | | | | |
|---|--------------------------|--------------------------|-------------------------------------|-------------------------------------|
| 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"/> |

XII. 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"/> |

XIII. PUBLIC SERVICES

Would the project:

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

XIV. RECREATION

Would the project:

- a) Would the project increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?
- b) Does the project include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment?

Potentially Significant Impact	Less than Significant With Mitigation Incorporation	Less than Significant Impact	No Impact
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

XV. TRANSPORTATION/TRAFFIC

Would the project:

- 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)?
- b) Exceed, either individually or cumulatively, a level of service standard established by the county congestion management agency for designated roads or highways?
- 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?
- d) Substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?

Potentially Significant Impact	Less than Significant With Mitigation Incorporation	Less than Significant Impact	No Impact
<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
<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"/> |

XVI. 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"/> |

XVII. MANDATORY FINDINGS OF SIGNIFICANCE

Would the project:

Potentially Significant Impact	Less than Significant With Mitigation Incorporation	Less than Significant Impact	No Impact
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- 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?
- b) Does the project have impacts that are individually limited, but cumulatively considerable? ("Cumulatively considerable" means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects)?
- c) Does the project have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly?

<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

4.2 Discussion of Potentially Affected Environmental Factors

Aesthetics

There would be no significant impact to aesthetics due to the low profile nature of the basin; no lights are proposed in this project. There would be no impact regarding to a scenic vista nor would the proposed project damage an existing scenic resource. The proposed project would fit in with the scenic viewshed of the region.

Agricultural Resources

The project would include the conversion of a recharge basin into a groundwater banking facility, which would allow DEID to bank surface water supplies when water is available and pump the banked groundwater during times of water scarcity. Water recharge facilities are an allowed agricultural use, according to the Tulare County General Plan (2001). Well construction would not convert farmland to non-farmland uses nor would it conflict with any Williamson Act contract; as banking is an allowable agricultural use.

Air Quality and Climate Change

Impacts to air quality have been discussed in Section 3.8; however, potential impacts resulting from Climate Change are discussed below.

While climate change has been a concern since at least 1988, as evidenced by the establishment of the United Nations and World Meteorological Organization's Intergovernmental Panel on Climate Change (IPCC 1998), the efforts devoted to GHG emissions reduction and climate change research and policy have increased dramatically in recent years. In 2002, with the passage of AB 1493, the State launched an innovative and pro-active approach to dealing with GHG emissions and climate change at the state level. AB 1493 requires the Air Resources Board (ARB) to develop and implement regulations to reduce automobile and light truck GHG emissions; these regulations will apply to automobiles and light trucks beginning with the 2009 model year (Hanemann 2007).

On June 1, 2005, Governor Arnold Schwarzenegger signed Executive Order S-3-05. The goal of this Executive Order is to reduce California's GHG emissions to: 1) 2000 levels by 2010, 2) 1990 levels by the year 2020, and 3) 80% below the 1990 levels by the year 2050. In 2006, this goal was further reinforced with the passage of AB 32, the Global Warming Solutions Act of 2006 (Hanemann 2007). AB 32 sets the same overall GHG emissions reduction goals while further mandating that ARB create a plan, which includes market mechanisms, and implement rules to achieve "real, quantifiable, cost-effective reductions of greenhouse gases." Executive Order S-20-06 further directs state agencies to begin implementing AB 32, including the recommendations made by the state's Climate Action Team. Climate change and GHG reduction is also a concern at the federal level; however, at this time, no legislation or regulations have been enacted specifically addressing GHG emissions reductions and climate change.

Temporary project construction emissions would be minimal, as demonstrated in Table 3 and there would be no operational emissions. The project would not significantly contribute to the emission of GHGs. The impact would be less than significant.

Biological Resources

Impacts have been discussed in Section 3.3.

Cultural Resources

All impacts have been discussed in Section 3.4.

Geology and Soils

The excavation and construction of wells and associated pipelines within the existing basin would involve the removal of 11,700 cubic yards of soil, which would be used to build up the levees. The levees will have slopes of 2:1. The project would result in a less than significant impact regarding soil erosion and topsoil loss. No substantial faults are known to exist in the Tulare County area according to the Alquist-Priolo Earthquake Fault Zoning Map; thus the project would have no impact regarding the danger associated with geologic instability. 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. 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 affects. In addition, there would be substantial risks 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.

Hazards and Hazardous Materials

The project would not involve the use or transport of hazardous materials nor is it on a site that has been designated a hazardous site by the Cortese List. There is no airport, public or private, in the vicinity, nor is there an adopted emergency evacuation plan. There is no impact.

Hydrology and Water Quality

DEID uses CVP surface water delivered from the Friant-Kern Canal. This water originates from the San Joaquin River. The water is tested annually by the Friant Water Authority and historically and currently, there are no constituents of concern. The proposed project would convert the existing 80-acre groundwater recharge facility into a true groundwater bank by installing production wells to recover the recharged water. Additionally, the above-ground storage capacity of the basin would be increased by deepening the cells and building up the levees. The project would use existing conveyance facilities and deepen existing recharge basins and raise basin levees to improve delivery capability and increase regulation storage. Above-ground storage capacity would be increased by 64 AF and improve DEID's ability to capture waters that are only available for a limited time period. According to the Federal Emergency Management Agency National Flood Insurance Program, the project site is located within Zone X500, outside of the 500 year flood plain. The nearest dam to the project site is the Success Dam on the Tule River, approximately 45 miles to the northeast. Due to the distance between the Dam and the project site, there would be no impact to the project if dam failure were to occur. Additionally, due to the lack of a significant water body near the project site, there would be no potential for seiche or tsunami to occur. There would be no impact. Potential impacts to groundwater resources have been discussed in Section 3.1.

Land Use and Planning

The proposed project is located in southern Tulare County, not in the vicinity of an established community. The site is zoned AE-20 and the proposed project is in conformance with that zone. There is no adopted Habitat Conservation Plan in the vicinity. There is no impact.

Mineral Resources

There are no mineral resources in the vicinity. There is no impact.

Noise

The project would convert an existing recharge basin into a groundwater banking facility. This phase of the project would include the construction of up to three recovery wells and associated pipelines, within the existing basin and ¼ mile south of the existing basin. The noise and vibration associated with these construction activities depends on the equipment used and distance from the source to the receptor. Typical construction equipment would include scrapers, backhoes, drilling rigs and miscellaneous equipment (i.e. pneumatic tools, generators, and portable air compressors). Typical noise levels generated by this type of construction equipment at various distances from the noise source are listed below:

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: Borba Farms Dairy EIR, BASELINE Consulting, 1999, Cunniff 1977

Noise levels generated by the equipment would range from 76 to 88 dBA at a distance of 50 feet from the noise source; at 100 feet, the noise levels would range from 70 to 82 dBA. Noise from construction activities would not exceed the Tulare County Noise Element (Tulare County 2001) noise standards of 60 dBA at the exterior of nearby residences, approximately 1500 feet away from the project site. The impact is less than significant.

Population and Housing, Public Services, Recreation

The project does not involve the addition of any new housing and would not require the need for any additional public services or recreational facilities.

Transportation/Traffic

The project would not cause an increase in local traffic. There is no impact.

Utilities and Service Systems

The project would not require an increase in utilities. There is no impact.

Mandatory Findings of Significance

The analysis conducted in this EA/IS results in a determination that the project would have a less than significant effect on the local environment. As described above, the potential for impacts to biological resources from the well construction would be less than significant following the implementation of the provided mitigation measures. Accordingly, the project would involve no potential for significant impacts through the degradation of the quality of the environment, the reduction in the habitat or population of fish or wildlife, including endangered plants or animals, the elimination of a plant or animal community or example of a major period of California history or prehistory. The project would not result in substantial adverse effects on human beings, either directly or indirectly. Adverse effects on human beings resulting from implementation of the project would be less than significant. Refer to Appendix A for the CEQA Checklist signature page and proposed adoption of a MND.

Section 5 Consultation and Coordination

Several Federal laws, permits, licenses and policy requirements have directed, limited or guided the NEPA analysis and decision making process of this EA/IS.

5.1 Fish and Wildlife Coordination Act (16 USC § 661 et seq.)

The Fish and Wildlife Coordination Act (FWCA) requires that Reclamation consult with fish and wildlife agencies (Federal and State) on all water development projects that could affect biological resources. The amendments enacted in 1946 require consultation with the FWS and State fish and wildlife agencies where the “waters of any stream or other body of water are proposed or authorized, permitted or licensed to be impounded, diverted or otherwise controlled or modified” by any agency under a Federal permit or license. Consultation is to be undertaken for the purpose of “preventing the loss of and damage to wildlife resources.”

Reclamation is proposing to fund the Project, and is neither issuing the district a permit or license; therefore, the FWCA does not apply.

5.2 Endangered Species Act (16 USC § 1531 et seq.)

Section 7 of the ESA requires Federal agencies to ensure that discretionary federal actions do not jeopardize the continued existence of threatened or endangered species or result in the destruction or adverse modification of the critical habitat of these species.

Reclamation has determined that the Proposed Action would have No Effect to species listed and critical habitats designated under the ESA, and no consultation with the USFWS is required. This determination is based on the information presented previously in Section 3.3.2 and is largely reliant on the absence of listed species from areas that would be affected by the Proposed Action. Pre-construction biological surveys would be conducted before any ground-disturbing activities are to begin. If the surveys find that no special-status species are present within the project area, Reclamation’s determination would remain. If the surveys detect the presence of listed species, then the Proposed Action would be paused while Reclamation revisits the ESA determination and completes any consultation that might be necessary with the USFWS.

5.3 National Historic Preservation Act (16 USC § 470 et seq.)

The NHPA of 1966, as amended, is the primary Federal legislation that outlines the Federal Government’s responsibility to consider the effects of their actions on historic properties. The 36 CFR Part 800 regulations that implement Section 106 of the NHPA describe how Federal agencies address these effects. Additionally, Native American human remains, cultural objects, and objects of cultural patrimony are protected under the Native American Graves Protection and Repatriation Act of 1990 (25 USC 32) and its implementing regulation outlined at 43 CFR Part 10. The Archaeological Resources Protection Act of 1979 (16 USC 470aa), as amended, and its implementing regulations at 43 CFR 7, protects archaeological resources on Federal land.

Pending SHPO concurrence, the Proposed Action is anticipated to not have any impacts on historic properties based on conclusions in Section 3.4.2.

5.4 Indian Trust Assets

ITA are legal interests in property held in trust by the U.S. for Federally-recognized Indian tribes or individual Indians. An Indian trust has three components: (1) the trustee, (2) the beneficiary, and (3) the trust asset. ITA can include land, minerals, federally-reserved hunting and fishing rights, federally-reserved water rights, and in-stream flows associated with trust land.

Beneficiaries of the Indian trust relationship are federally-recognized Indian tribes with trust land; the U.S. is the trustee. By definition, ITA cannot be sold, leased, or otherwise encumbered without approval of the U.S. The characterization and application of the U.S. trust relationship have been defined by case law that interprets Congressional acts, executive orders, and historic treaty provisions.

The Proposed action would not affect ITA. The nearest ITA is the Tule River Reservation approximately 22 miles northeast of the project location.

5.5 Migratory Bird Treaty Act (16 USC § 703 et seq.)

The MBTA implements various treaties and conventions between the U.S., Canada, Japan, Mexico, and the former Soviet Union for the protection of migratory birds. Unless permitted by regulations, the MBTA provides that it is unlawful to pursue, hunt, take, capture or kill, possess, offer to or sell, barter, purchase, deliver or cause to be shipped, exported, imported, transported, carried or received any migratory bird, part, nest, egg or product, manufactured or not. Subject to limitations in the MBTA, the Secretary of the Interior may adopt regulations determining the extent to which, if at all, hunting, taking, capturing, killing, possessing, selling, purchasing, shipping, transporting or exporting of any migratory bird, part, nest or egg will be allowed, having regard for temperature zones, distribution, abundance, economic value, breeding habits and migratory flight patterns.

The Proposed Action would not change the land use patterns of the cultivated or fallowed fields that do have some value to listed species of birds protected by the MBTA; therefore, it is anticipated that the Proposed Action would have no effect on birds protected by the MBTA.

5.6 Executive Order 11988 – Floodplain Management and Executive Order 11990 – Protection of Wetlands

Executive Order 11988 requires Federal agencies to prepare floodplain assessments for actions located within or affecting flood plains, and similarly, Executive Order 11990 places similar requirements for actions in wetlands.

The Proposed Action would modify an existing recharge basin to allow for groundwater recharge and extraction, and would not impact wetlands and/or floodplains.

5.7 Clean Air Act (42 USC § 176 et seq.)

Section 176 (c) of the Clean Air Act (CAA) (42 USC 7506 (c)) requires that any entity of the Federal government that engages in, supports, or in any way provided 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 CAA (42 USC 7401 (a)) before the action is otherwise approved. In this context, conformity means that such federal actions must be consistent with a 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 will, in fact conform to the applicable SIP before the action is taken. As described in Section 3.8.2, the Proposed Action would not result in air quality impacts that would exceed Federal thresholds.

5.8 Clean Water Act (16 USC § 703 et seq.)

Section 401

Section 401 of the Clean Water Act (CWA) (33 USC § 1311) prohibits the discharge of any pollutants into navigable waters, except as allowed by permit issued under sections 402 and 404 of the CWA (33 USC § 1342 and 1344). If new structures (e.g., treatment plants) are proposed, that would discharge effluent into navigable waters, relevant permits under the CWA would be required for the project applicant(s). Section 401 requires any applicant for an individual U.S. Army Corps of Engineers (Corps) dredge and fill discharge permit to first obtain certification from the state that the activity associated with dredging or filling will comply with applicable state effluent and water quality standards. This certification must be approved or waived prior to the issuance of a permit for dredging and filling.

No pollutants would be discharged into any navigable waters under the Proposed Action so no permits under Section 401 of the CWA are required.

Section 404

Section 404 of the CWA authorizes the Corps to issue permits to regulate the discharge of “dredged or fill materials into waters of the United States” (33 USC § 1344).

No activities such as dredging or filling of wetlands or surface waters would be required for implementation of the Proposed Action, therefore permits obtained in compliance with CWA section 404 are not required.

5.9 Public Review Period

Reclamation provided the public with an opportunity to comment on the draft Finding of No Significant Impact and the NEPA portion of the draft EA/IS from February 5, 2010 through February 24, 2010 and did not receive any comments. Through the State Clearing House, DEID made the CEQA portion of the draft EA/IS and the proposed adoption of a MND (#2010011085) available for public comment from January 28, 2010 through February 26, 2010.

Section 6 List of Preparers and Reviewers

U.S. Bureau of Reclamation

Michael Inthavong, Natural Resources Specialist, SCCAO

Mike Kinsey, Supervisory Natural Resources Specialist/Wildlife Biologist, SCCAO

Patricia Rivera, Indian Trust Assets, MP- 400

Tony Overly, Cultural Resources, MP-153

Jennifer Lewis, Ph.D., Wildlife Biologist - Reviewer

Provost & Pritchard Consulting Group

Emily Bowen, LEED AP

John LeVan, Project Planner

Julie Phillips, Principal AICP

Herb Simmons, Project Engineer

Delano-Earlimart Irrigation District

Dale Brogan, District Manager

Section 7 References

- Anderson, J., F., Chung, M. Anderson, L. Brekke, D. Easton, M. Ejeta, R. Peterson, and R. Snyder, 2008. *Progress on Incorporating Climate Change into Management of California's Water Resources*. Climatic Change 87:S91-S108, DOI 10.1007/s10584-007-9353-1.
- Baseline Consulting. 1999. Screen administrative draft #2 environmental impact report for Borba Farms Dairy. Kern County. July 12. Emeryville, CA.
- Brogan 2006. *Testimony of Dale R. Brogan, General Manager, Delano-Earlimart Irrigation District Before the United States House of Representatives Committee on Resources Subcommittee on Water and Power*. March 24, 2006. Fresno, California.
- CDFG (California Department of Fish & Game). 1995. Staff Report on Burrowing Owl Mitigation. California Department of Fish and Game, Sacramento, CA.
- CNDDDB (California Natural Diversity Database) 2010. California Department of Fish and Game's Natural Diversity Database, Version 3.1.1. RareFind 3. January 2, 2010.
- Cunniff, P. F. 1977. *Environmental Noise Pollution* (New York: Wiley).
- DEID (Delano-Earlimart Irrigation District) 2003. *Delano-Earlimart Irrigation District Groundwater Management Plan*. December, 2003.
- DEID (Delano-Earlimart Irrigation District) 2008. Initial Study/Mitigated Negative Declaration, *Turnipseed Groundwater Banking*. Prepared by: Provost & Pritchard, Inc. April, 2008.
- DWR (California Department of Water Resources) 2005. California Water Plan Update 2005; Volume 3 – Regional Reports; Chapter 8: Tulare Lake Hydrologic Region. California Department of Water Resources. September 2005.
- EPA (Environmental Protection Agency) 2009. Final Mandatory Reporting of Greenhouse Gases Rule. Website: <http://www.epa.gov/climatechange/emissions/ghgrulemaking.html>. Accessed: December 10, 2009.
- Interior (United States Department of the Interior) 2009. News Release: Secretary Salazar announces \$260 million in economic recovery investments to help California address long-term water supply challenges and devastating drought conditions. April 15, 2009. Website: <http://www.doi.gov/>. Accessed: January 13, 2010.
- IPCC (Intergovernmental Panel on Climate Change). 1998. The regional impacts of climate change: an assessment of vulnerability. Watson RT, Zinyowera MC, Moss RH (eds) Cambridge University Press, New York.

- PG&E (Pacific Gas & Electric Company). 2009. Pacific Gas and Electric Company Carbon Footprint Calculator Assumptions. Website: <http://www.pge.com/includes/docs/pdfs/about/environment/calculator/assumptions.pdf>. Accessed: November 17, 2009.
- Reclamation (Bureau of Reclamation) 2001. *Biological Opinion on U.S. Bureau of Reclamation Long Term Contract Renewal of Friant Division and CVC Contractors*. January, 2001. Prepared by the Bureau of Reclamation and U.S. Fish and Wildlife Service, Sacramento, CA.
- Reclamation (Bureau of Reclamation) 2009. Final Supplemental Environmental Assessment and Finding of No Significant Impact, *Storage of Delano-Earlimart Irrigation District Central Valley Project Water to North Kern Water Storage District thru 2026*, SEA/FONSI-09-74; Bureau of Reclamation, Fresno, California. September 11, 2009.
- Reclamation (Bureau of Reclamation) 2010. Categorical Exclusion Checklist, *DEID Turnipseed Groundwater Bank Phase I*, CEC-09-72; Bureau of Reclamation, Fresno, California. February 11, 2010.
- Recovery 2009. Track the Money. The Act. <http://www.recovery.gov/>. Accessed: January 12, 2010.
- Roadway Construction Emissions Model, Version 6.3.2. July 2009. Website: <http://airquality.org>.
- SJVAPCD (San Joaquin Valley Air Pollution Control District). 2009a. Air Quality Information. Resources. Ambient Air Quality Standards & Valley Attainment Status. Website: <http://www.valleyair.org/index.htm>. Accessed: October 9, 2009.
- Tulare County, 2001. County of Tulare, General Plan Policy Summary. December 2001.
- USFWS (U.S. Fish and Wildlife Service) 1998. Recovery Plan for the Upland Species of the San Joaquin Valley, California. Portland, OR.
- USFWS (U.S. Fish and Wildlife Service) 1999. Standardized Recommendations for Protection of the San Joaquin Kit Fox Prior to or During Ground Disturbance. Sacramento Fish and Wildlife Office, US Fish and Wildlife Service, June 1999.
- USFWS (U.S. Fish and Wildlife Service) 2010. Sacramento Fish and Wildlife Office. Endangered Species List. Available http://www.fws.gov/sacramento/es/spp_list.htm. Accessed: 2010.

Appendix A – CEQA Checklist Signature Page

3.10 CEQA

ENVIRONMENTAL FACTORS POTENTIALLY AFFECTED:

The environmental factors checked below are discussed in detail within this section. Though some project elements could result in an environmental affect, modifications were made to the project description, or mitigation measures have been proposed that would reduce all impacts to less than significant. For more information see subsequent discussion on the following pages.

- | | | |
|--|---|---|
| <input type="checkbox"/> Aesthetics | <input checked="" type="checkbox"/> Agriculture Resources | <input type="checkbox"/> Air Quality |
| <input type="checkbox"/> Biological Resources | <input type="checkbox"/> Cultural Resources | <input checked="" type="checkbox"/> Geology/Soils |
| <input type="checkbox"/> Hazards & Hazardous Materials | <input checked="" type="checkbox"/> Hydrology/Water Quality | <input type="checkbox"/> Land Use/Planning |
| <input type="checkbox"/> Mineral Resources | <input checked="" type="checkbox"/> Noise | <input type="checkbox"/> Population/Housing |
| <input type="checkbox"/> Public Services | <input type="checkbox"/> Recreation | <input type="checkbox"/> Transportation/Traffic |
| <input type="checkbox"/> Utilities / Service Systems | <input type="checkbox"/> Mandatory Findings of Significance | |

DETERMINATION: (To be completed by the Lead Agency) On the basis of this initial evaluation:

- ☐ I find that the proposed project COULD NOT have a significant effect on the environment, and a NEGATIVE DECLARATION will be prepared.
- ☒ I find that although the proposed project could have a significant effect on the environment, there will not be a significant effect in this case because revisions in the project have been made by or agreed to by the project proponent. A MITIGATED NEGATIVE DECLARATION will be prepared.
- ☐ I find that the proposed project MAY have a significant effect on the environment, and an ENVIRONMENTAL IMPACT REPORT is required.
- ☐ I find that the proposed project MAY have a "potentially significant impact" or "potentially significant unless mitigated" impact on the environment, but at least one effect 1) has been adequately analyzed in an earlier document pursuant to applicable legal standards, and 2) has been addressed by mitigation measures based on the earlier analysis as described on attached sheets. An ENVIRONMENTAL IMPACT REPORT is required, but it must analyze only the effects that remain to be addressed.
- ☐ I find that although the proposed project could have a significant effect on the environment, because all potentially significant effects (a) have been analyzed adequately in an earlier EIR or NEGATIVE DECLARATION pursuant to applicable standards, and (b) have been avoided or mitigated pursuant to that earlier EIR or NEGATIVE DECLARATION, including revisions or mitigation measures that are imposed upon the proposed project, nothing further is required.

DALE R. BROGAN

Signature

DALE R. BROGAN

Printed name

1/26/10

Date

DEVANO - EARUMART I.D.

For