

RECLAMATION

Managing Water in the West

Draft Environmental Assessment

Westlands Water District Coalinga Canal Turnout Project (Milepost 11.58)

EA-11-053



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

June, 2012

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.

Table of Contents

Section 1	Introduction.....	1
1.1	Background.....	1
1.2	Purpose and Need	1
1.3	Scope.....	1
1.4	Resources Eliminated from Further Analysis.....	1
1.5	Potential Issues.....	2
Section 2	Alternatives Including the Proposed Action.....	5
2.1	No Action Alternative.....	5
2.2	Proposed Action.....	5
Section 3	Affected Environment and Environmental Consequences	9
3.1	Water Resources	9
3.1.1	Affected Environment	9
3.1.2	Environmental Consequences	9
3.2	Land Use	9
3.2.1	Affected Environment	9
3.2.2	Environmental Consequences	10
3.3	Biological Resources	10
3.3.1	Affected Environment	10
3.3.2	Environmental Consequences	10
3.4	Air Quality	11
3.4.1	Affected Environment	12
3.4.2	Environmental Consequences	12
3.5	Global Climate.....	13
3.5.1	Affected Environment	14
3.5.2	Environmental Consequences	15
Section 4	Consultation and Coordination	17
4.1	Public Review Period.....	17
4.2	Fish and Wildlife Coordination Act (16 U.S.C. § 661 et seq.).....	17
4.3	Endangered Species Act (16 U.S.C. § 1531 et seq.).....	17
4.4	National Historic Preservation Act (16 U.S.C. § 470 et seq.)	17
4.5	Indian Trust Assets	18
4.6	Migratory Bird Treaty Act (16 U.S.C. § 703 et seq.)	18
4.7	Executive Order 11988 – Floodplain Management and Executive Order 11990 – Protection of Wetlands.....	18
4.8	Clean Air Act (42 U.S.C. § 7506 (C))	18
4.9	Clean Water Act (33 U.S.C. § 1251 et seq.).....	19
Section 5	List of Preparers and Reviewers	21
Section 6	References.....	21

List of Tables and Figures

Figure 1-1 Project Location Map	3
Table 2-1 Environmental Protection Measures	6
Table 3-1 General Conformity de minimis Thresholds.....	13
Table 3-2 Estimated Operational Emissions	13
Table 3-3 Greenhouse Emissions.....	15

List of Acronyms and Abbreviations

APE	Area of Potential Effect
CAA	Clean Air Act
CFR	Code of Federal Regulations
CO ₂	Carbon dioxide
CWA	Clean Water Act
EA	Environmental Assessment
EPA	Environmental Protection Agency
FWCA	Fish and Wildlife Coordination Act
ESA	Endangered Species Act
GHG	greenhouse gases
ITA	Indian Trust Asset
MBTA	Migratory Bird Treaty Act
MP	MilePost
mg/m ³	Milligram per cubic meter
M&I	Municipal and Irrigation
National Register	National Register of Historic Places
NHPA	National Historic Preservation Act
PM _{2.5}	Particulate matter less than 2.5 microns in diameter
PM ₁₀	Particulate matter between 2.5 and 10 microns in diameter
PPM	Parts per million
Reclamation	Bureau of Reclamation
SLC	San Luis Canal
SIP	State Implementation Plan
SJVAB	San Joaquin Valley Air Basin
SJVAPCD	San Joaquin Valley Air Pollution Control District
µg/m ³	Microgram per cubic meter
WWD	Westlands Water District

THIS PAGE INTENTIONALLY LEFT BLANK

Section 1 Introduction

1.1 Background

Westlands Water District (WWD) covers almost 950 square miles of prime farmland in western Fresno and Kings Counties. Currently, WWD's district boundaries encompass 604,000 acres with an irrigable acreage of 567,800 acres.

WWD has an existing license from the Bureau of Reclamation (Reclamation) to operate the turnout at Coalinga Canal Milepost (MP) 11.58R to deliver water to its agricultural customer at this location, California Pistachios LLC, which operates a pistachio farm at this site (Figure 1).

1.2 Purpose and Need

The purpose of the proposed action is to replace the 35 year old diversion system at Coalinga Canal MP 11.58R, including the pump and piping which draws water from the canal for conveyance to California Pistachios LLC. WWD has determined that the existing system can no longer provide a stable water supply to its customer.

1.3 Scope

The scope of analysis in this EA includes the effects on the environment as a result of the removal and replacement of the existing turnout and pipeline diversion which supplies surface water to the agricultural customers at MP 11.58R.

1.4 Resources Eliminated from Further Analysis

Reclamation analyzed the affected environment of the Proposed Action and No Action Alternative and has determined that there is no potential for direct, indirect, or cumulative effects to the following resources:

- **Cultural Resources:** Cultural Resources 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 (National Register). Those resources that are on or eligible for inclusion in the National Register are referred to as historic properties.

On October 27, 2011 Reclamation's Cultural Resources Branch issued a determination that the Proposed Action has no potential to cause effects to historic properties pursuant to 36 CFR Part 800.3(a)(1).

- **Indian Trusts Assets:** Indian trust assets (ITA) are legal interests in assets that are held in trust by the United States Government for federally recognized Indian tribes or individuals. On July 7, 2011 Reclamation's ITA Branch issued the determination that there are no ITA within the Proposed Action area and therefore the proposed action does not have a potential to affect Indian Trust Assets.
- **Indian Sacred Sites:** Executive Order 13007 requires Federal land managing agencies to accommodate access to and ceremonial use of Indian sacred sites by Indian religious practitioners and to avoid adversely affecting the physical integrity of such sacred sites. There would be no adverse impacts to Indian Sacred Sites or changes to access to Indian Sacred Sites resulting from the Proposed Action.
- **Environmental Justice:** The February 11, 1994, Executive Order 12898 requiring Federal agencies to ensure that their actions do not disproportionately impact minority and disadvantaged populations went into effect. There is not a residential population within the Proposed Action area. There would not be any disproportionately high and adverse human health or environmental effects of its programs, policies, and activities on minority populations and low-income populations as there are no populations within the within the Proposed Action area.
- **Socioeconomic Resources:** The Proposed Action could prevent economic loss caused by a disruption in water delivery should the existing system fail. As such, the Proposed Action could have a minor beneficial effect on socioeconomic resources.

As there would be no impact to the resources listed above as a result of the Proposed Action or the No Action alternative, they will not be considered further.

1.5 Potential Issues

This EA will analyze the affected environment of the Proposed Action and No Action Alternative in order to determine the potential direct, indirect, and cumulative effects to the following resources:

- Water Resources
- Land Use
- Biological Resources
- Air Quality
- Global Climate



THIS PAGE INTENTIONALLY LEFT BLANK

Section 2 Alternatives Including the Proposed Action

This EA 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.

2.1 No Action Alternative

Under the No Action Alternative, Reclamation would not approve removal and replacement of the turnout for the private landowner at MP 11.58R.

2.2 Proposed Action

Reclamation proposes to approve the removal and replacement of an existing water diversion structure on the Coalinga Canal at Milepost 11.58R. Removal would consist of excavating an open trench to remove the existing 18 inch pipe on the WWD (diverter) side and within the existing operations and maintenance (O&M) road. The existing pressure tank would also be removed. However, the existing 150 horsepower turbine pump/motor/column and electrical connections would remain intact and would be connected to a new 18 inch polyvinyl chloride (PVC) pipe. The new pipe would then cross the maintenance road (approximately 87 inches wide) underground to connect to two flange connections in Reclamation's Coalinga Canal Right of Way. During the replacement, several minor refurbishments would also be made including the installation of a new concrete slab and a new 6 inch thick concrete wall with rebar (metal reinforcement bar) around the new pipe, concrete encasement of the new pipe under the O&M road, and a new 16 inch above-ground metering station with associated piping.

The open trench required for excavation would be backfilled and compacted once construction is complete. Any materials in excess of backfill needs would be hauled offsite or spread and compacted onsite.

Equipment that would be used for construction includes the following: case 580 backhoe concrete mixing truck and rammer dirt compactor. Construction would require approximately 30 working days to complete.

Table 2-1 Environmental Protection Measures

Resource	Protection Measure
Water Quality	During construction hazardous materials such as fuel, oil and paint may be on site. WWD and its contractor would be required to comply with all Federal, state and local laws, during and after construction pertaining to the use, storage, transportation and disposal of any hazardous material.
Biological Resources	<ol style="list-style-type: none"> 1. Between 14 and 30 days prior to the start of construction, a qualified biologist approved by the Service and DFG will conduct a pre-construction survey for San Joaquin kit foxes as specified in Service (2011). 2. All known and potential San Joaquin kit fox dens within the construction zone or kit fox dens outside the construction zone if otherwise authorized, shall be excavated pursuant to conditions described below prior to the onset of construction activities or otherwise protected as specified by Service. Hand excavation of known kit fox dens shall not occur until appropriate consultations are completed. Prior to excavation Reclamation shall notify Service and DFG of the intent to destroy the subject den or burrow(s) and the reasons why alternate courses of action are not possible. It is understood the Service may concur or recommend alternate methods to reduce impacts to the den or burrow(s). 3. As determined by a qualified biologist the destruction of a potential kit fox den may proceed without notification if no current or previous use of the den by kit foxes is known. However, if during excavation any potential den is determined to be a currently or previously used kit fox den (e.g., if kit fox sign is found inside), DFG and Service will be notified immediately of the change in status. 4. In the event that DFG and Service concurs that a known San Joaquin kit fox den would be unavoidably destroyed by planned project action, the following procedures shall be implemented: 5. Prior to construction, the subject den shall be carefully excavated using hand tools. Excavation will be performed by either a qualified biologist or under the direct supervision of a biologist to ensure that no animals are trapped or injured. Any kit foxes in residence shall be allowed to escape unimpeded. 6. The den shall be completely excavated and then refilled and compacted to prevent future use of the site by resident animals. 7. Documentation of the den loss shall be conveyed in writing to the Service, Sacramento Field Office, and to DFG in Fresno. 8. A qualified biologist will be on-site or on-call during all activities that could result in the take of a blunt-nosed leopard lizard or San Joaquin kit fox. The qualifications of the biologist(s) will be presented to the Service for review and approval prior to any groundbreaking at the project site. The biologist will have oversight over implementation of all measures described in the <i>Terms and Conditions</i> of the biological opinion issued for this project and if any of the requirements associated with these measures are not being fulfilled he/she will have the authority to stop project activities through communication with the Project Manager. If the biologist(s) exercises this authority, the Service and the California Department of Fish and Game (DFG) will be notified by telephone and electronic mail within one (1) working day. The Service contact is Mr. Daniel Russell, Division Chief, Endangered Species Program, Sacramento Fish and Wildlife Office, Sacramento (telephone [916] 414-6600). The DFG contact is the State Dispatch at (916) 654-4262. 9. Prior to initiation of any on-site preparation/construction activities, the Service-approved biologist will conduct an education and training session for all available individuals who will be involved in the site preparation or construction, including the project representative(s) responsible for reporting take to the Service and the DFG. Training sessions will be required for all new or additional personnel before they are allowed to access the project site. Attendance sheets identifying attendees and the contractor/company they represent will be provided to the Service with the post-construction compliance report. At a minimum, the training will include a description of the blunt-nosed leopard lizard, San Joaquin kit fox, and their habitat requirements. Additional information will include the general measures, as they relate to the project, that are being implemented to conserve the species; the penalties for non-compliance with these measures; travel within the marked project site will be restricted to established roadbeds and the boundaries (work area) within which the project must be accomplished. To ensure that employees and contractors understand their roles and responsibilities, training may have to be conducted in languages other than English. 10. The limits of the construction area will be flagged, if not already marked by other fencing, and all activity will be confined within the marked area. All access to and from the project area will be clearly marked in the field with appropriate flagging and signs. Prior to commencing construction activities, the contractor will determine construction vehicle parking sites and all access routes. All construction activity will be confined within the project site, which may include temporary

	<p>access roads, haul roads, and staging areas specifically designated and marked for these purposes. At no time will equipment or personnel be allowed to adversely affect habitat areas outside the project site without authorization from the Service.</p> <ol style="list-style-type: none"> 11. To the extent possible, nighttime construction must be minimized. 12. Permanent and temporary disturbances to habitats of the blunt-nosed leopard lizard and San Joaquin kit fox will be minimized to the maximum extent practicable. To minimize temporary disturbances, all project-related vehicle traffic will be restricted to established roads and other designated areas. These areas also would be included in pre-construction surveys and, to the maximum extent possible, would be established in locations disturbed by previous activities to prevent further adverse effects. 13. A 20-mile per hour speed limit will be required on unpaved roads within listed species habitats. 14. To prevent harassment, injury or mortality of blunt-nosed leopard lizards, San Joaquin kit foxes, or destruction of their burrows or dens no pets of any kind will be permitted on construction sites. 15. The onsite biological monitor will check for animals under all vehicles and equipment such as stored pipes before the start of work each morning. 16. To prevent inadvertent entrapment of blunt-nosed leopard lizards or San Joaquin kit foxes during the construction phase of the linear facilities, all excavated, steep-walled holes or trenches more than two feet deep shall be covered at the close of each working day by plywood or similar materials or provided with one or more escape ramps (with no greater than a 3:1 slope) constructed of earth fill or wooden planks. Before such holes or trenches are filled, they shall be thoroughly inspected for trapped animals by a qualified biologist. If a blunt-nosed leopard lizard or San Joaquin kit fox is trapped, then it shall be allowed to escape on its own. In addition, all construction pipe, culverts, or similar structures with a diameter of 7.6 centimeters (3 inches) or greater that are stored at the construction site for one or more overnight periods will be thoroughly inspected for listed animals before the pipe is subsequently moved, buried, or capped. If during inspection one of these animals is discovered inside a pipe that section of pipe shall not be moved until the animal has escaped on its own. If at any time a trapped listed animal is discovered, the on-site biologist will immediately place escape ramps or other appropriate structures to allow the animal to escape from the opening, or will contact the Service and/or DFG by telephone for guidance. The Service will be notified of the incident by telephone and electronic mail within one (1) working day. 17. All equipment will be maintained in accordance with the manufacturer's directions so there will be no leaks of fluids such as gasoline, oils, or solvents. 18. To eliminate an attraction to predators, all food-related trash items such as wrappers, cans, bottles, and food scraps will be disposed of in closed containers; these containers will be removed at least once every day from the entire project site. 19. Use of rodenticides and herbicides in project areas should be restricted. This is necessary to prevent primary or secondary poisoning of kit foxes and the depletion of prey populations on which they depend. All uses of such compounds should observe label and other restrictions mandated by the U.S. Environmental Protection Agency, California Department of Food and Agriculture, and other State and Federal legislation, as well as additional project-related restrictions deemed necessary by the Service. If rodent control must be conducted, zinc phosphide should be used because of a proven lower risk to kit fox.
Cultural Resources	<p>In the event that cultural resources or human remains are identified during the implementation of this project there may be additional considerations pursuant to Section 106 of the NHPA. If inadvertent discoveries of cultural resources or human remains occur during project implementation, work shall temporarily stop and Reclamation cultural resources staff shall be contacted immediately.</p>

THIS PAGE INTENTIONALLY LEFT BLANK

Section 3 Affected Environment and Environmental Consequences

This section identifies the potentially affected environment and the environmental consequences involved with the Proposed Action and the No Action Alternative, in addition to environmental trends and conditions that currently exist.

3.1 Water Resources

3.1.1 Affected Environment

The Coalinga Canal carries water from the turnout structure on the San Luis Canal to the Coalinga area, in Fresno County. The system includes a 1.6-mile intake channel to the Pleasant Valley Pumping Plant and 11.6 miles of canal. Reaches 1 and 2 of the canal are operated by the WWD. The canal serves agricultural customers throughout all of its reaches.

3.1.2 Environmental Consequences

No Action

Under the No Action alternative, there would be no improvements to the water diversion structure and thus there would be no effect to water resources. The water diversion structure would continue to degrade over time.

Proposed Action

Under the Proposed Action there would be no increase in design flow or changes to diversion. Replacement of the pipe, pressure tank and other improvements would enhance the reliability of the water service by WWD to its customer, California Pistachios LLC and any subsequent customers at MP 11.58R.

During construction, hazardous materials such as fuel, oil and paint may be on site. WWD and its contractor would be required to comply with all Federal, state and local laws, during and after construction pertaining to the use, storage, transportation and disposal of any hazardous material.

Cumulative Impacts

There would be no permanent impacts to water resources as all potential impacts are construction related and therefore temporary. All potential adverse impacts would be avoided through compliance with all applicable laws related to hazardous materials. As such, there would be no cumulative impacts associated with the Proposed Action.

3.2 Land Use

3.2.1 Affected Environment

The land use surrounding the Coalinga Canal is mainly agricultural however in some places, ruderal or fallow lands exist, which were likely once used for agriculture. The lands immediately surrounding the Proposed Action are used both for agriculture and agriculture

related activities, e.g. maintenance and staging areas. Lands directly north are fallow which support ruderal vegetation.

3.2.2 Environmental Consequences

No Action

Under the No Action Alternative, there would be no change in land use as there would be no construction or ground disturbance. Conditions would remain the same as existing conditions.

Proposed Action

Under the Proposed Action, the existing land use would be temporarily disturbed during construction, as these activities would prevent the immediate area from being used. However, the site would be restored to pre-construction conditions and would continue to be used for agriculture-related uses. Therefore, there would be no permanent adverse effect to land use.

Cumulative Impacts

The Proposed Action, through its replacement of the existing aged water conveyance system with an updated system, would contribute to stability of the existing agricultural uses; therefore, there would be no direct or cumulative adverse impacts to land use.

3.3 Biological Resources

3.3.1 Affected Environment

The proposed construction footprint would occur on the Coalinga Canal operations and maintenance road, which is bordered by the canal, orchards, and arid grassland. There is little shrub cover in the adjacent grasslands. On July 28, 2011, a preconstruction survey was completed, which found no evidence of kit fox use and no potential burrows, although the habitat was found to be suitable for the species. No western burrowing owls were seen. Kangaroo rat burrows were found in the general action area which may provide refuge for blunt-nosed leopard lizards. Grasslands adjacent to the area are known to have blunt-nosed leopard lizards and San Joaquin kit foxes. By checking with the Endangered Species Recovery Program, it was verified that, because this site is west of the California Aqueduct, the kangaroo rats would be either Heermann's kangaroo rats or short-nosed kangaroo rats, neither of which are listed or proposed for listing under the Endangered Species Act. A write-up of this information was sent to both the U.S Fish and Wildlife Service and California Department of Fish and Game (DFG). DFG confirmed the possibility that blunt-nosed leopard lizards might use the area.

3.3.2 Environmental Consequences

No Action

Under the No Action Alternative, routine activities on the privately owned farmland would continue to impact blunt-nosed leopard lizards and kit foxes. These impacts include ground disturbance which prevents burrows and dens from being dug, and pesticide use. Similar impacts would occur on the Reclamation-owned right-of-way, although those impacts are covered by an existing biological opinion, which also addressed the impacts on the private farmland, which are cumulative to the direct impacts that were covered by the biological opinion.

Proposed Action

Including a 50-foot buffer around the area of ground disturbance, a total of 10,000 square feet, or 0.23 acres, would be temporarily affected by the Proposed Action. The impacts are temporary because infrastructure is being replaced, with no changes to the baseline, other than the impacts due to the construction itself. No land use change would occur as a result of the Proposed Action; the current infrastructure is 35 years old and needs to be replaced.

If present, individual blunt-nosed leopard lizards within the temporary and permanent footprint of the site could be crushed by construction activities that collapse their burrows. These impacts could be greater due to fact that the project may well take place outside of the May 1st to August 1st timeframe. Activities that take place outside of this timeframe pose a greater risk because at least part of the population is underground and therefore more vulnerable to injury. In addition, any individual lizards that may be active during construction could be harassed, injured and/or killed by pedestrians, vehicles, and predators during overland movements. They could become trapped in the trenches dug as part of the project. Lizards could be killed or injured on the roads leading to the proposed project by vehicles driving to the proposed project. The incorporated minimization measures would reduce the extent of these effects.

A total of 0.23 acres of potential kit fox habitat would be temporarily impacted. If the preconstruction survey finds that no kit foxes are currently using the action area, as the previous survey indicated, then only foraging habitat would be impacted, and there would still be risk of harassing or striking a kit fox during access to the site, or of trapping one in a trench. These effects would be reduced in extent or avoided by the minimization measures in the project description. If a den is found to be present, it would not be collapsed unless it is shown to be vacant. This would nonetheless result in harm to the species, however, by making certain the den was empty, injury or death would be prevented.

With incorporation of the minimization and avoidance measures in table 1, there would not be significant adverse effects.

Cumulative Impacts

Cumulative impacts would include routine operations and maintenance of the Coalinga Canal, as described under the No Action. Also, activities on the private lands adjoining the canal right-of-way could affect both blunt-nosed leopard lizard and San Joaquin kit fox. These include rodent control, which may reduce burrow availability for the lizards and reduce the prey base of kit foxes, as well as result in secondary poisoning of kit foxes. Both species could be subject to harassment from the disturbance of routine farming activities.

3.4 Air Quality

Section 176 (C) of the Clean Air Act [CAA] (42 U.S.C. 7506 (C)) requires any entity of the federal government that engages in, supports, or in any way provides financial support for, licenses or permits, or approves any activity to demonstrate that the action conforms to the applicable State Implementation Plan (SIP) required under Section 110 (a) of the Federal CAA (42 U.S.C. 7401 [a]) before the action is otherwise approved. In this context, conformity means that such federal actions must be consistent with SIP's purpose of eliminating or reducing the

severity and number of violations of the National Ambient Air Quality Standards and achieving expeditious attainment of those standards. Each federal agency must determine that any action that is proposed by the agency and that is subject to the regulations implementing the conformity requirements would, in fact conform to the applicable SIP before the action is taken.

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

3.4.1 Affected Environment

The Proposed Action area lies within the San Joaquin Valley Air Basin (SJVAB) under the jurisdiction of the San Joaquin Valley Air Pollution Control District (SJVAPCD). The pollutants of greatest concern in the San Joaquin Valley are carbon monoxide (CO), ozone (O₃), O₃ precursors such as volatile organic compounds (VOC) or reactive organic gases (ROG), and inhalable particulate matter between 2.5 and 10 microns in diameter (PM₁₀) and particulate matter less than 2.5 microns in diameter (PM_{2.5}). The SJVAB has reached Federal and State attainment status for CO, nitrogen dioxide (NO₂), and sulfur dioxide (SO₂). Federal attainment status has been reached for PM₁₀ but is in non-attainment for O₃, PM_{2.5}, and VOC/ROG (see Table 3-1). There are no established standards for nitrogen oxides (NO_x); however, NO_x does contribute to NO₂ standards (SJVAPCD 2011).

3.4.2 Environmental Consequences

No Action

There would be no adverse impacts to air quality with the No Action Alternative.

Proposed Action

Air quality impacts from the Proposed Action would be limited to those resulting from construction emissions. Construction would begin in the summer of 2012 and would take place over an approximate working day period.

Construction of the Proposed Action would generate pollutant emissions from project construction. The primary pollutant-generating activities associated with these phases include:

- exhaust emissions from construction vehicles and equipment;
- exhaust emissions from vehicles used to deliver supplies to the project site or to haul materials from the site;
- exhaust emissions from worker commute trips;
- fugitive dust from equipment operating on exposed earth and from the handling of construction materials.

Construction equipment for the proposed action would include backhoes, concrete mixing truck and rammer dirt compactor.

Table 3-1 displays the de minimus daily thresholds or the amount of emissions determined to cause less than significant impacts to air quality.

Table 3-1 General Conformity de minimis Thresholds

Pollutant	Construction-Related
Criteria Air Pollutants and Precursors (Regional)	Average Daily Emissions (lb/day)
ROG (reactive organic gas)	54
NOX (oxides of nitrogen)	54
PM 10 (particulate matter 10 microns in diameter or smaller)	82 (exhaust)
PM 2.5 (particulate matter 2.5 microns in diameter or smaller)	54 (exhaust)
Local CO (carbon monoxide)	None

San Joaquin Valley Air Quality Management District

Table 3-2 displays the estimated operational hours for each type of construction equipment that would be utilized with the Proposed Alternative.

Table 3-2 Estimated Operational Emissions

Equipment	ROG lb/hr	NOX lb/hr	PM 10/2.5 lb/hr	CO lb/hr	Total Daily Hours	Estimated Total Hours
Case 580 backhoe (70 Horsepower)	0.0910	0.5664	0.0515	0.3623	8	210
Concrete mixing truck (350 Horsepower)	0.1782	1.8750	0.0660	0.5784	8	8
Rammer dirt compactor (6.5 Horsepower)	0.0066	0.0466	0.0017	0.0391	8	50
Total	0.2758	2.488	0.1192	0.9798		
Hourly emissions X 8 (daily operational hours)	2.2064	19.904	0.9536	7.8384		

All pollutants resulting from construction fall below the de minimis thresholds set by the District. Post-construction emissions would be from the maintenance vehicles (i.e. trucks and non-heavy equipment) used by WWD personnel to monitor or operate the distribution system during the irrigation season, on an as-needed basis. Due to the reduced maintenance needs of the new equipment, post-construction emissions would be expected to be less than pre-construction levels. Therefore, the Proposed Action would not cause adverse effects to air quality.

Cumulative Impacts

The Proposed Action would result in a temporary increase in emissions during the construction phase. While these emissions would be an adverse impact, they would be temporary and at a de minimis level and therefore are not considered an adverse cumulative impact. In addition, WWD would comply with the SJVAPCD's Regulation VIII in order to reduce any potential cumulative air quality impacts associated with operation of the Proposed Action.

3.5 Global Climate

Climate change refers to significant change in measures of climate (e.g., temperature, precipitation, or wind) lasting for decades or longer. Many environmental changes can contribute to climate change [changes in sun's intensity, changes in ocean circulation, deforestation, urbanization, burning fossil fuels, etc.] (EPA 2011a)

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 GHG that enter the atmosphere because of human activities are: CO₂, methane (CH₄), nitrous oxide, and fluorinated gasses (EPA 2011a).

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 2011b).

Climate change has only recently been widely recognized as an imminent threat to the global climate, economy, and population. As a result, the national, state, and local climate change regulatory setting is complex and evolving.

In 2006, the State of California issued the California Global Warming Solutions Act of 2006, widely known as Assembly Bill 32, which requires California Air Resources Board (CARB) to develop and enforce regulations for the reporting and verification of statewide GHG emissions. CARB is further directed to set a GHG emission limit, based on 1990 levels, to be achieved by 2020.

In addition, the EPA has issued regulatory actions under the CAA as well as other statutory authorities to address climate change issues (EPA 2011c). In 2009, the EPA issued a rule (40 CFR Part 98) for mandatory reporting of GHG by large source emitters and suppliers that emit 25,000 metric tons or more of GHG [as CO₂ equivalents (CO_{2e}) per year] (EPA 2009). The rule is intended to collect accurate and timely emissions data to guide future policy decisions on climate change and has undergone and is still undergoing revisions (EPA 2011c).

3.5.1 Affected Environment

Global mean surface temperatures have increased nearly 1.8°F from 1890 to 2006 (Intergovernmental Panel on Climate Change 2007). Models indicate that average temperature changes are likely to be greater in the northern hemisphere. Northern latitudes (above 24°North) have exhibited temperature increases of nearly 2.1°F since 1900, with nearly a 1.8°F increase since 1970 alone (Intergovernmental Panel on Climate Change 2007). Without additional meteorological monitoring systems, it is difficult to determine the spatial and temporal variability and change of climatic conditions, but increasing concentrations of GHG are likely to accelerate the rate of climate change.

More than 20 million Californians rely on the SWP and CVP. 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 California'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).

3.5.2 Environmental Consequences

No Action

There would be no changes to baseline greenhouse gas emissions with the No Action Alternative.

Proposed Action

The construction phase of the Proposed Action would result in the direct emissions of GHGs through the use of petroleum fuels. The operational phase of the Proposed Action would result in indirect emissions through the use of electrical power.

Table 3-3 Greenhouse Emissions

Equipment	CO2 lbs/hr	CO2e Total lbs	CH4 lbs/hr	CH4 Total lbs	CO2e	Total Daily Hours	Estimated Total Hours
Case 580 backhoe (70 Horsepower)	0.3623	76.083	0.0082	1.722	36.2	8	210
Concrete mixing truck (350 Horsepower)	0.5784	4.6272	0.0154	1.1232	23.6	8	8
Rammer dirt compactor (6.5 Horsepower)	0.0391	1.955	0.0006	0.03	0.63	8	50
Total	.9798	82.6652	0.0242	2.8752	60.43		

These emissions would not continue past the Proposed Action completion date. The total CO2e 143.1 lbs (0.14 tons total) is far below the 75,000 tons per year threshold for significant GHG emissions. As such, this would not result in a substantial change in GHG emissions, and there would be no adverse effect.

Cumulative Impacts

GHG generated by the Proposed Action is expected to be extremely small as GHG emissions are de minimis and temporary from construction. While any increase in GHG emissions would add to the global inventory of gases that would contribute to global climate change, the Proposed Action would result in potentially minimal to no increases in GHG emissions and a net increase in GHG emissions among the pool of GHG would not be detectable.

THIS PAGE INTENTIONALLY LEFT BLANK

Section 4 Consultation and Coordination

4.1 Public Review Period

Reclamation intends to provide the public with an opportunity to comment on the Draft Finding of No Significant Impact and Draft EA between June 18, 2012 and June 30, 2012.

4.2 Fish and Wildlife Coordination Act (16 U.S.C. § 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. Federal agencies are required to consult whenever a body of water is proposed to be impounded, diverted, controlled or otherwise modified, either by the agency or under a permit or license issued to another entity. The Proposed Action would only replace existing infrastructure and so the FWCA would not apply.

4.3 Endangered Species Act (16 U.S.C. § 1531 et seq.)

Section 7 of the Endangered Species Act requires Federal agencies, in consultation with the Secretary of the Interior and/or Commerce, to ensure that their actions do not jeopardize the continued existence of endangered or threatened species, or result in the destruction or adverse modification of the critical habitat of these species.

Reclamation has prepared a Biological Assessment for impacts to the blunt-nosed leopard lizard and San Joaquin kit fox and will send it to the Service with a request for formal consultation on those species. No anadromous fishes occur in the area and so no consultation is needed with the National Marine Fisheries Service.

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

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

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

4.5 Indian Trust Assets

ITA are legal interests in property held in trust by the United States 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 United States is the trustee. By definition, ITA cannot be sold, leased, or otherwise encumbered without approval of the United States. The characterization and application of the United States 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 because there are none located in the Proposed Action area. The nearest ITA is the Santa Rosa Rancheria approximately 26 miles ENE of the Proposed Action location.

4.6 Migratory Bird Treaty Act (16 U.S.C. § 703 et seq.)

The MBTA implements various treaties and conventions between the United States and Canada, Japan, Mexico and the former Soviet Union for the protection of migratory birds. Unless permitted by regulations, the Act provides that it is unlawful to pursue, hunt, take, capture or kill; attempt to 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 Act, 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.

No western burrowing owls were found in the area during the July 11, 2011 surveys. A preconstruction survey for kit foxes would also detect any burrowing owls and allow avoidance of take.

4.7 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 not affect either concern.

4.8 Clean Air Act (42 U.S.C. § 7506 (C))

Section 176 of the CAA 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 SIP required under Section 110

(a) of the CAA (42 U.S.C. § 7401 (a)) before the action is otherwise approved. In this context, conformity means that such federal actions must be consistent with a SIP's purpose of eliminating or reducing the severity and number of violations of the NAAQS 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. The Proposed Action would not affect the California SIP.

4.9 Clean Water Act (33 U.S.C. § 1251 et seq.)

Section 401

Section 401 of the Clean Water Act (CWA) (33 U.S.C. § 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 U.S.C. § 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 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. The Proposed Action would not discharge any pollutants into navigable waters.

Section 404

Section 404 of the CWA authorizes the U. S. Army Corps of Engineers to issue permits to regulate the discharge of "dredged or fill materials into waters of the United States" (33 U.S.C. § 1344). The Proposed Action would not discharge any materials into waters of the United States.

THIS PAGE INTENTIONALLY LEFT BLANK

Section 5 List of Preparers and Reviewers

Chuck Siek, Supervisory Natural Resources Specialist, SCCAO
 Shauna McDonald, Wildlife Biologist, SCCAO
 William Soule, Archaeologist, MP-153
 Patricia Rivera, ITA, MP-400

Section 6 References

Anderson, J, F Chung, M Anderson, L Brekke, D Easton, M Ejetal, R Peterson, and R Snyder. 2008. Progress on Incorporating Climate Change into Management of California's Water Resources. *Climatic Change* 87(Suppl 1):S91–S108 DOI 10.1007/s10584-007-9353-1

California Air Resources Board. 2011. California Air Basins. Website:
<http://www.arb.ca.gov/knowzone/basin/basin.htm> Accessed: June 11, 2012

Environmental Protection Agency (EPA). 2011a: Website – Climate Change, Basic Information.
<http://www.epa.gov/climatechange/basicinfo.html>

Environmental Protection Agency (EPA). 2011b: Website – Climate Change, Science.
<http://www.epa.gov/climatechange/science/index.html>

San Joaquin Valley Air Pollution Control District (SJVAPCD). 2011. Ambient Air Quality Standards and Valley Attainment Status. Website:
<http://www.valleyair.org/aqinfo/attainment.htm> Accessed: October 2011.

U.S. Census Bureau. 2011. State and County QuickFacts webpage: Fresno County, CA. Website:
<http://quickfacts.census.gov/qfd/states/06/06019.html>. Accessed: October 2011.

U.S. Fish and Wildlife Service (USFWS). 2011. Species List