RECLAMATION

Managing Water in the West

Draft Environmental Assessment

Root Creek Water District Surface Water Supply Project

EA-06-117

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

June 2011

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.

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List of Acronyms, Abbreviations, and Definitions

AF	acre-feet
AF/Y	acre-feet per year
APE	area of potential effects
CAA	Clean Air Act
CFR	Code of Federal regulations
cfs	cubic-feet per second
CO	carbon monoxide
CO_2	carbon dioxide
CNDDB	California Natural Diversity Data Base
CVP	Central Valley Project
CVPIA	Central Valley Project Improvement Act
CWA	Clean Water Act
EA	Environmental Assessment
EPA	Environmental Protection Agency
ft	feet
FWCA	Fish and Wildlife Coordination Act
GHG	greenhouse gases
IS	Initial Study
ITA	Indian Trust Assets
MBTA	Migratory Bird Treaty Act
MID	Madera Irrigation District
ND	Negative Declaration
NEPA	National Environmental Policy Act
NHPA	National Historic Preservation Act
NO_x	nitrogen oxides
NRHP	National Register of Historic Places
PM_{10}	particulate matter less than 10 microns in diameter
RCWD	Root Creek Water District
Reclamation	Bureau of Reclamation
ROW	right-of-way
RRA	Reclamation Reform Act of 1982
Section 215	Section 215 refers to a section in the RRA, which defines temporary water supplies that are unusually large and not storable for project purposes and, among other measures, allows non-storable water to be applied to lands otherwise ineligible to receive federal water
SHPO	State Historic Preservation Officer
SIP	State Implementation Plan
SJVAB	San Joaquin Valley Air Board
SJVAPCD	San Joaquin Valley Air Pollution Control District
SWID	Shafter-Wasco Irrigation District
U.S.	United States
USFWS	U.S. Fish and Wildlife Services
VOC	volatile organic compounds
Westside	Westside Mutual Water Company, LLC

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Section 1 Purpose and Need

1.1 Background

Root Creek Water District (RCWD) is an agricultural district serving approximately 9,200 acres in Madera County. The lands within RCWD and the surrounding area rely primarily on groundwater for irrigation and as a result, the groundwater basin underlying area is subject to severe overdraft. Groundwater overdraft within RCWD itself is estimated at approximately 3,400 acre-feet (AF) per year (AF/Y). RCWD was formed for the purpose of obtaining surface water supplies and utilizing conjunctive use to reduce overdraft conditions within the district. Although located within the Friant Division Central Valley Project (CVP) service area, RCWD does not have a Federal water supply contract with the Bureau of Reclamation (Reclamation) and must rely on water transfers with willing sellers to obtain surface water supplies.

In 2002, RCWD and Madera Irrigation District (MID) reached an agreement where MID would annually transfer a portion of its available CVP supplies to RCWD (Appendix A). In 2006, RCWD reached an agreement with Westside Mutual Water Company, LLC (Westside), a California limited liability company, whereby Westside agreed to sell to RCWD banked groundwater or other non-CVP waters available to Westside each year as requested by RCWD. In 2009, RCWD reached an agreement with MID, Shafter-Wasco Irrigation District (SWID), and Westside that would provide RCWD with annual deliveries of Westside's non-CVP water via exchange for SWID CVP water supplies (Appendix A). As part of the 2002 agreement, MID has agreed to deliver RCWD's acquired surface water supplies through the Madera Canal and Lateral 6.2; however, there are no existing facilities in place by which to convey the water from Lateral 6.2 to RCWD's distribution system.

The Madera Canal and Lateral 6.2 are part of the CVP. Reclamation holds title to both conveyance facilities and Lateral 6.2 is operated and maintained by MID. RCWD and MID have requested Reclamation approval to construct two new turnouts on Lateral 6.2, in addition to approval for water-related actions involving CVP water. In accordance with the California Environmental Quality Act, RCWD prepared an Initial Study (IS) and adopted a Negative Declaration (ND) on November 17, 2010 for this project, which is hereby incorporated by reference (RCWD 2010).

1.2 Purpose and Need

Groundwater overdraft underlying RCWD and the surrounding region has resulted in dropping water levels leading to inoperable agricultural wells, increased pumping costs, and a decrease in water quality and reliability of community well water supplies. RCWD needs to acquire reliable, high-quality surface water supplies to help alleviate the current groundwater overdraft conditions and to maintain viable agriculture.

In order to receive their surface water supplies, RCWD needs to construct facilities that would interconnect their existing, in-district delivery system with that of Lateral 6.2. RCWD and MID needs Reclamation approval for construction-related activities on Lateral 6.2 and associated

easements and right-of-way (ROW). In addition, RCWD and the corresponding CVP contractor(s) need Reclamation approval for actions involving CVP water ultimately being delivered to RCWD.

1.3 Scope

In accordance with section 102(2)(c) of the National Environmental Policy Act (NEPA) of 1969, as amended, this Environmental Assessment (EA) has been prepared to analyze the potential direct, indirect, and cumulative impacts resulting from the Proposed Action, which involves approvals for CVP water-related actions and construction activities on Reclamation facilities and associated easements and ROW. This EA has also been prepared to analyze the effects of the No Action Alternative.

RCWD and the corresponding CVP contractor(s) would require Reclamation approval for transfers and/or exchanges of CVP water for ultimate delivery to RCWD. The annual transfers from MID to RCWD would be for up to 10,000 AF, when available, and occur up to Contract Year 2035. The annual exchanges involving RCWD, SWID, Westside, and MID would be for up to 7,000 AF, when available, and occur up to Contract Year 2035. RCWD is also requesting a temporary contract with Reclamation for Section 215 water, if available, for Contract Year 2011 (March 1, 2011 to February 29, 2012). Subsequent temporary Section 215 contracts for RCWD would be approved and covered in a separate annual environmental analysis that Reclamation prepares jointly for all non-CVP contractors. RCWD would use the acquired surface water supplies for existing agricultural uses.

Construction activities would involve two turnouts on Lateral 6.2 and pipelines from the turnouts to RCWD's and MID's existing distribution systems. Construction activities would encompass Reclamation, private, and RCWD lands within Madera County (Figure 1) and would take approximately two months to complete. Use of the Madera Canal would also be required.

1.4 Potential Environmental Issues

This EA will analyze the potential effects to the following resources:

- Water Resources
- Land Use
- Biological Resources
- Cultural Resources
- Indian Trust Assets (ITA)
- Indian Sacred Sites
- Socioeconomic Resources
- Environmental Justice
- Air Quality
- Global Climate

1.5 Reclamation's Legal and Statutory Authorities and Jurisdiction Relevant to the Proposed Federal Action

1.5.1 Temporary Supplies of Water

Under Section 215 of the Reclamation Reform Act of 1982 (RRA) (Public Law 97-293):

> (a) Neither the ownership limitations of this title nor the ownership limitations of any other provision of Federal reclamation law shall apply to lands which receive only a temporary, not to exceed one year, supply of water made possible as a result of -
>
> (1) an unusually large water supply not otherwise storable for project purposes; or
>
> (2) infrequent and otherwise unmanaged flood flows of short duration.
>
> (b) The Secretary shall have the authority to waive payments for a supply of water described in subsection (a). *[(43 U.S.C. 390oo)]*

In addition, Section 215 allows the non-storable waters to be applied to lands otherwise ineligible to receive Federal water.

The RRA of 1982 applies to all irrigation land within an irrigation/water district, which has a water service contract with Reclamation and is subject to the acreage limitation and full-cost provisions of Reclamation law. Acquisition of irrigation water by exchange shall not subject the non-CVP users of such water to Federal Reclamation law and the associated rules and regulations.

1.5.2 Contracts for Additional Storage and Delivery of Water

The Central Valley Project Improvement Act (CVPIA) of 1992, Title 34 (of Public Law 102-575), Section 3408(c), Additional Authorities authorizes the Secretary of the Interior to enter into contracts pursuant to Reclamation law and this title with any Federal agency, California water user or water agency, State agency, or private nonprofit organization for the exchange, impoundment, storage, carriage, and delivery of CVP and non-CVP water for domestic, municipal, industrial, fish and wildlife, and any other beneficial purpose, except that nothing in this subsection shall be deemed to supersede the provisions of section 103 of Public Law 99-546 (100 Stat. 3051).

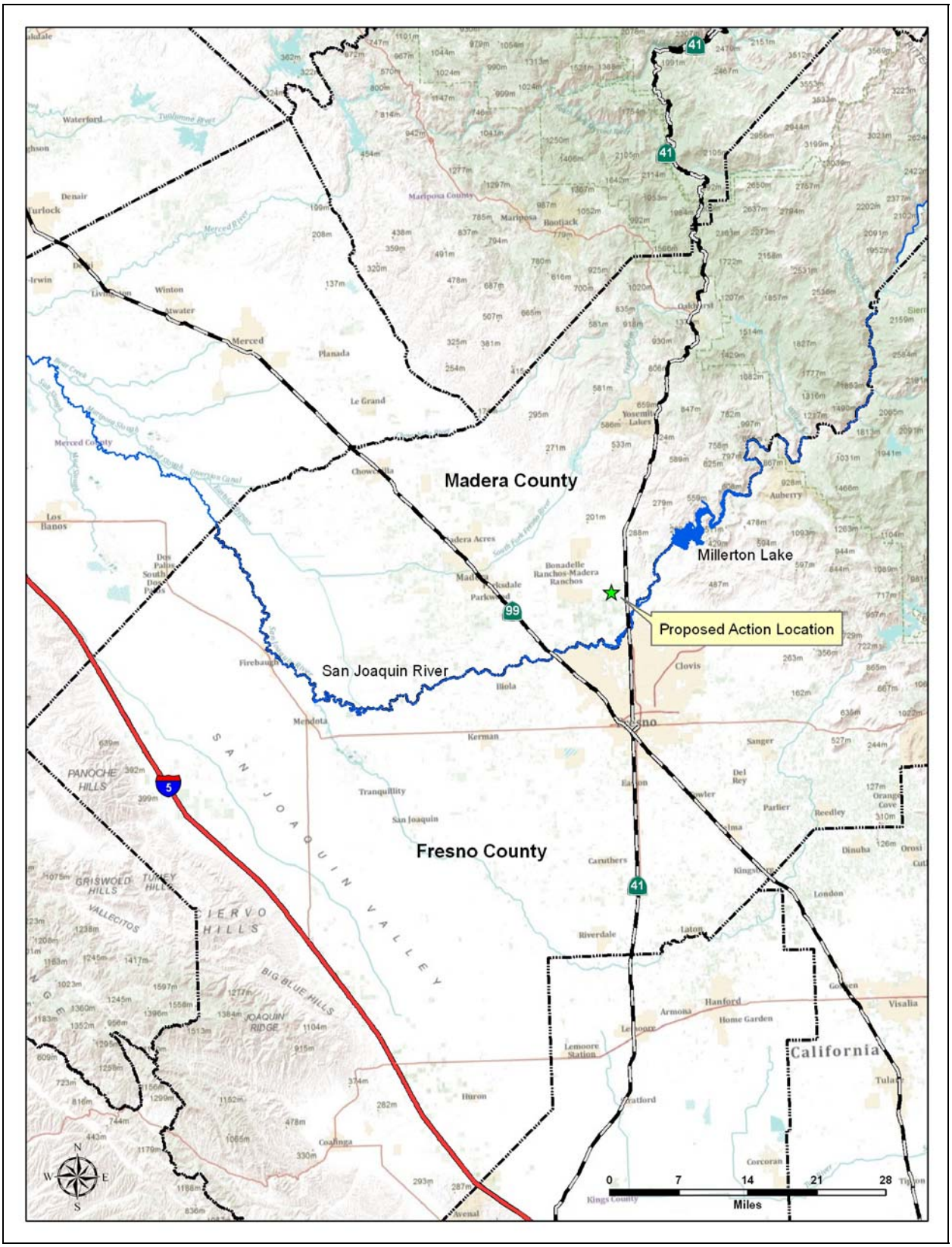

Figure 1. Proposed Action Location/Vicinity Map

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 the transfers and/or exchanges involving CVP water that would ultimately be delivered to RCWD. A Section 215 contract would not be executed with RCWD and permits for construction on Reclamation facilities and associated easements and ROW would not be issued. RCWD would need to obtain other sources of surface water supplies and/or methods by which to obtain Westside non-CVP water that does not require Reclamation approval. These actions may require separate environmental review and is not within the scope of this EA.

2.2 Proposed Action

Reclamation is proposing to approve the following requests made by MID, RCWD, and SWID:

- Issuance of an MP-620 permit (for alteration or modification of Reclamation facilities) to MID to construct two turnouts on Lateral 6.2 (one of the turnouts would be for RCWD and the other would replace an existing MID turnout located approximately 260 feet (ft) down Lateral 6.2);
- Approval of long-term annual transfers of up to 10,000 AF of CVP water from MID to RCWD;
- Execution of a temporary contract for Section 215 water with RCWD for Contract Year 2011; and
- Approval of long-term annual exchanges of up to 7,000 AF of water between SWID and RCWD facilitated by Westside and MID for ultimate delivery of CVP water to RCWD.

The MP-620 permit would be issued to MID and would cover both turnouts and easements for the pipelines within Reclamation easement and ROW. Each turnout would involve excavation and concrete structure on Lateral 6.2. Each pipeline from the turnouts would pass through a meter vault at the edge of Reclamation's ROW. MID's new turnout would include a 24-inch diameter pipeline which would then extend towards MID's existing distribution system approximately 0.25 miles south of Lateral 6.2. This facility would replace MID's existing turnout downstream of the new turnout. The existing turnout would be abandoned and left in place. Excavation to bury the pipeline would be approximately 5 ft deep and 10 ft wide. RCWD's new turnout would include a 36-inch diameter pipeline, which would transition to a 48-inch diameter pipeline at the meter vault, and then extend towards RCWD's existing distribution system roughly 2.75 miles south of Lateral 6.2. Excavation would be roughly 10 ft wide and up to 11 ft deep depending on elevation to allow at least 3 ft of cover. At Avenue 12 and Root

Creek, excavation would involve jack and boring underneath the road and creek (refer to Figure 2 and Appendix B for overview of the pipeline and engineering drawings).

The long-term annual transfers between MID and RCWD would occur up to Contract Year 2035, or sooner as long as there is an existing agreement in place. More specifically, MID would annually transfer up to 25 cubic-feet per second (cfs), less minor Lateral 6.2 conveyance losses as appropriate, from May 1 to August 31 and up to 50 cfs from September 1 to April 30. When available, MID would deliver a portion of its CVP supplies to RCWD via the Madera Canal, Lateral 6.2, and then through the newly built RCWD turnout and pipeline.

The Section 215 contract for RCWD would be for Contract Year 2011, ending on February 29, 2012. As declared available by Reclamation, the Section 215 water would be conveyed through the Madera Canal, Lateral 6.2, and then through the newly built RCWD turnout and pipeline for RCWD's in-district use.

The annual exchanges between RCWD and SWID would occur up to Contract year 2035, or sooner as long as there is an existing agreement in place. More specifically, Westside would transfer to SWID through non-CVP facilities, on RCWD's behalf, up to 3,500 AF for years 1-4, up to 5,000 AF for years 5-9, and up to 7,000 AF for years 10+ of non-CVP water plus an additional amount to compensate for conveyance losses to RCWD's turnout. SWID would then make available a like amount of its CVP supplies stored behind Friant Dam for ultimate delivery to the RCWD turnout without conveyance losses being charged to RCWD. The CVP water would be conveyed through the Madera Canal by Reclamation, Lateral 6.2 by MID for in-district delivery along the newly built RCWD pipeline.

2.2.1 Environmental Protection Measures

RCWD 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

Resource	***Protection Measure***
Biological Resources*	Preconstruction survey for San Joaquin kit fox between 14 to 30 days prior to ground disturbance and if present, implement protective measures (USFWS 2011).
Biological Resources*	Conduct preconstruction surveys for western burrowing owl and implement protective measures, if required, to minimize potential effects (DFG 1995).
Biological Resources*	Avoidance measures for California tiger salamander (CTS) would be implemented. Burrows avoided; flagged, barrier tape placed, and biological monitor on site to ensure avoidance. Measures would be implemented to avoid impeding travel.

Biological Resources*	No water conveyed in federal facilities and applied to lands in RCWD would be applied to native lands, or to lands fallowed or left untilled for 3 or more years unless such lands are surveyed for listed species, and if determined to be inhabited, then no water may be applied until effects of such planned delivery of water is consulted upon for their effects.
Air Quality	Implement control measures for construction emissions of PM_{10} according to the San Joaquin Valley Air Pollution Control District's (SJVAPCD) Regulation VIII – Rule 8021.

*Environmental Protection Measures can be found in Appendix C

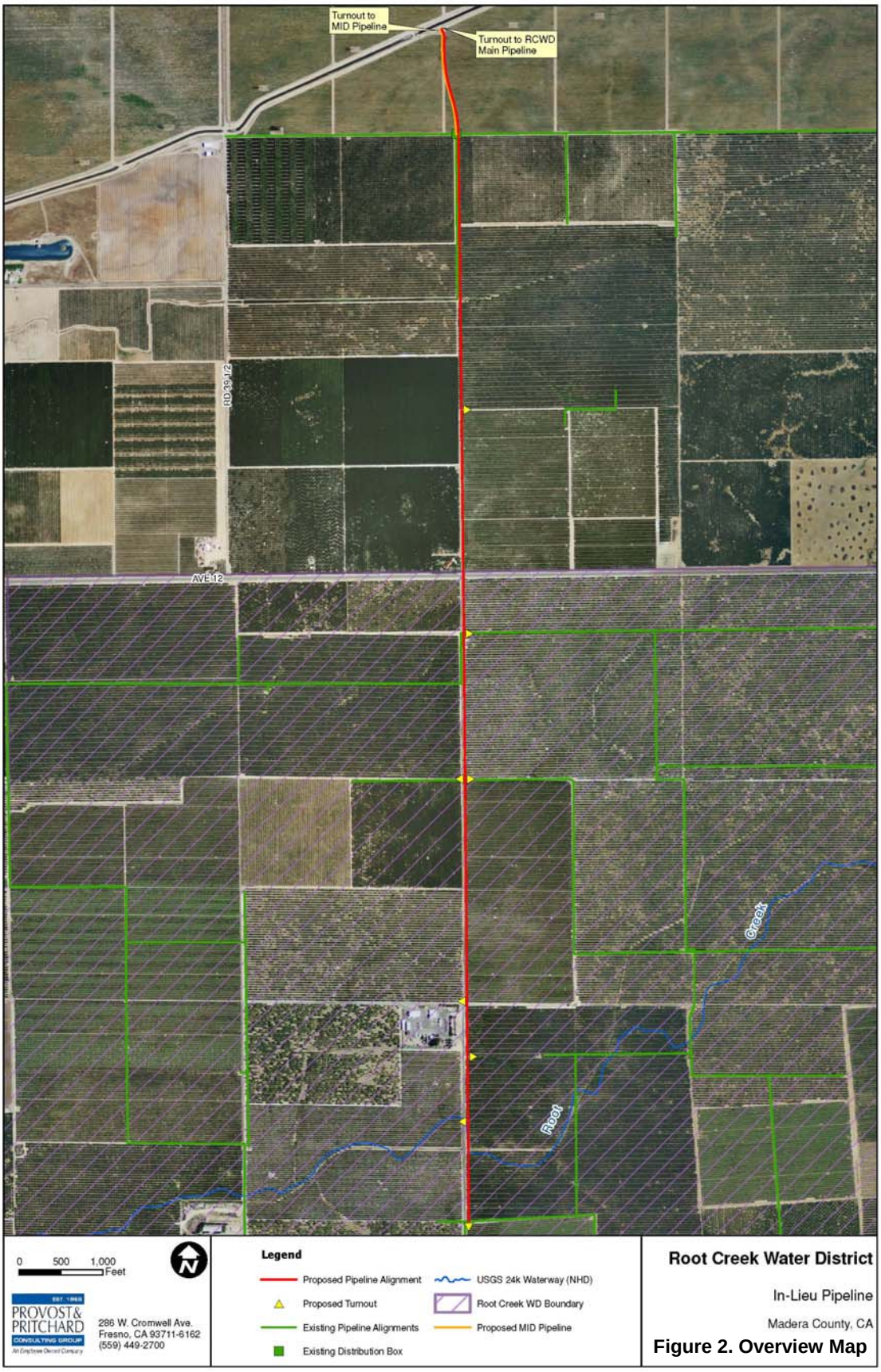

Figure 2. Overview Map

Section 3 Affected Environment & 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

MID and SWID are Friant Division CVP contractors, which can receive Class 1 and Class 2 supplies from Millerton Lake stored behind Friant Dam.

Class 1 water is considered as the first 800,000 AF supply of CVP water stored in Millerton Lake, which would be available for delivery from the Friant-Kern Canal and/or Madera Canals as a dependable water supply during each Contract Year.

Class 2 water is considered as the next 1,400,000 AF supply of non-storable CVP water which becomes available in addition to the Class 1 supply, and because of its uncertainty as to the availability and time occurrence, would not be dependable in character and would be furnished only if and when available as determined by Reclamation per Contract Year.

Class 1 and 2 waters are not inclusive of waters released by Reclamation from Friant Dam for environmental and/or other obligations.

3.1.1 Affected Environment

Madera Irrigation District

MID has a long-term CVP contract with Reclamation for 85,000 AF/Y Class 1 and 186,000 AF/Y of Class 2 water from the Friant Division. The water is released from behind Friant Dam into the Madera Canal where it is then conveyed throughout MID.

Root Creek Water District

RCWD does not have a contract for surface water supplies and relies primarily on groundwater for irrigation. As a result, RCWD has actively pursued transfers to import surface water supplies and promote conjunctive use within its district.

Shafter-Wasco Irrigation District

SWID has a long-term CVP contract with Reclamation for 50,000 AF/Y of Class 1 and 39,600 AF/Y of Class 2 water from the Friant Division. The water is released from Friant Dam into the Friant-Kern Canal where it is conveyed down to and diverted by SWID.

Westside Mutual Water Company, LLC

Westside has certain rights to stored groundwater in North Kern Water Storage District and has occasionally purchased non-CVP surface supplies from willing sellers. As mentioned earlier, RCWD reached an agreement to purchase water from Westside; however, Westside's water is stored in Kern County and RCWD is located in Madera County, and there are no mechanisms in

place for RCWD to physically obtain this water. As a result, MID and SWID have been included in the agreement to help facilitate the movement of water for ultimate delivery of SWID CVP water supplies to RCWD. The portion of the agreement that involves Westside transferring its water supplies to SWID does not require Reclamation approval. The water can be delivered to SWID via private facilities interconnecting North Kern Water Storage District and SWID, and does not involve the Friant-Kern Canal and/or CVP water. Therefore, this portion of the agreement would not be considered in the environmental consequences section since it could occur without Reclamation approval.

Root Creek

Root Creek is a small, intermittent, ephemeral stream originating in the foothills east of RCWD. The Root Creek watershed encompasses 39 square miles and is bisected by RCWD. Water generally drains from the east to the west. The Root Creek channel has been extensively modified by agricultural operations over a period of decades. Segments of the creek channel has a morphology indicative of typical 'drainage ditches'; canalized and denuded of natural vegetation. In many other areas the channel is simply a swale between rows of crops, predominately permanent orchards. Some segments of the Root Creek Channel within the project area are about 5 to 15 ft wide and 1.5 to 2 ft deep.

Flows from Root Creek vary considerably between wet and dry years and throughout each year. The creek is typically dry from May through October. Most of the Root Creek flows cannot be used for agricultural purposes since they tend to occur over short time periods and come during the winter when water demands are not high.

Reclamation Conveyance Facilities

The Madera Canal and Lateral 6.2 would be utilized to convey CVP water to RCWD. The Friant-Kern Canal is not involved with the Proposed Action and is therefore not discussed in the environmental consequences section.

The 35.9-mile-long Madera Canal was completed in 1945 and carries water northerly from Millerton Lake to furnish lands in Madera and Merced counties with supplemental and new irrigation supplies. The Madera Canal has a capacity of up to 1,250 cfs. Approximately 79 percent of the Madera Canal is earth-lined.

Lateral 6.2 was completed in 1956 and is approximately 28 miles long. Lateral 6.2 diverts from the Madera Canal at approximately milepost 6.2 and generally flows south and west with a capacity of up to 340 cfs.

Groundwater Resources

Kern County Groundwater Subbasin SWID is located within the Kern County Groundwater Subbasin, which has a surface area of approximately 1,945,000 acres. Review of the subbasin indicates that except for seasonal variation resulting from recharge and pumping, the groundwater levels in wells have remained relatively unchanged from 1970 to 2000. Natural recharge is primarily from stream seepage, mostly from the Kern River; however, recharge due to applied irrigation water is the largest contributor. Water banking projects account for over 3,000,000 AF of storage of the 3,900,000 storage capacity. SWID is one of several entities to implement a groundwater management plan (DWR 2006).

Madera Groundwater Subbasin MID and RCWD are located within the Madera Groundwater Subbasin, which has a surface area of approximately 394,000 acres. The subbasin water level has declined nearly 40 ft from 1970 through 2000. Water level declines have been more severe in the eastern portion of the subbasin from 1980 to 2004 (DWR 2004). Natural recharge is mostly from the San Joaquin River and Fresno River, and applied irrigation water.

The lands within RCWD and the surrounding area rely primarily on groundwater for irrigation and as a result, the groundwater basin underlying area is subject to severe overdraft. Groundwater overdraft within RCWD itself is estimated at approximately 3,400 AF/Y.

3.1.2 Environmental Consequences

No Action Alternative

Under the No Action Alternative, there would be no impacts to Reclamation conveyance facilities since no construction would occur. MID and SWID would continue to use their CVP supplies within their districts as has historically occurred. There would be no impact to the Kern County Groundwater Subbasin since conditions would remain as existing conditions. The Madera Groundwater Subbasin would continue to experience overdraft conditions.

Proposed Action

SWID would only make available a like-amount for MID to convey to RCWD from which it receives from Westside and would not experience a net gain or loss in water supply. MID would only transfer their CVP supplies to RCWD after they have determined, at the time, that the district would still be able to provide the landowners within their district with adequate water supplies. Therefore, the Proposed Action would not adversely impact MID or SWID water supplies.

The Section 215 contract is temporary and would be in effect for the remainder of the 2011 Contract Year. If and when determined available by Reclamation, the Section 215 water would be provided to RCWD after all preceding obligations are met. Reclamation has historically entered into one-year Section 215 contracts with CVP and non-CVP contractors who are able to divert this water and put it to beneficial use, which would otherwise be non-storable for CVP purposes and possibly spilled from Friant Dam.

The Proposed Action would involve modifications to Lateral 6.2 and include construction within the O&M road. The excavation would be temporary, backfilled, and recompacted back to pre-construction activities. Reclamation engineers have reviewed and approved the designs for the new turnouts. MID has agreed to convey the water to RCWD but only when there is excess capacity as to not interfere with others who receive water from the Madera Canal and Lateral 6.2; therefore, no adverse impacts to Reclamation facilities or water delivery would occur.

Construction is expected to take two months to complete and occur in the fall when Root Creek has been historically dry. In addition, the pipeline alignment would be jack and bored under Root Creek; therefore, no impacts to Root Creek would occur.

The Proposed Action would help RCWD promote conjunctive use within its district and help alleviate the surrounding region's dependence on groundwater. There would be slight beneficial

impacts to the Madera Groundwater Subbasin. There would be no impact to the Kern County Groundwater Subbasin since no net water is entering or leaving the region.

3.2 Land Use

3.2.1 Affected Environment

Much of the landscape within the San Joaquin Valley has been converted from native lands to agriculture uses and lands in SWID, MID, and RCWD, as well as lands held by Westside are primarily agricultural; less than 5 percent of the valley floor was left uncultivated by 1979 (USFWS 1998). Besides agricultural uses, other major land uses include urbanized areas and land for transportation.

Land use within RCWD is predominantly agriculture consisting of grapes, almonds, citrus, pistachios, pastures, and olives, with associated domestic and agricultural support facilities.

The pipeline alignment would extend through Reclamation property for Lateral 6.2, private property, and along an existing, earthen farm field road and along the earthen County Road #40.

3.2.2 Environmental Consequences

No Action Alternative

Under the No Action Alternative, there would be no construction of turnouts or of new pipelines and land use conditions would remain the same as existing conditions. There would be no impacts to land use.

Proposed Action

The Proposed Action would supply reliable, high-quality surface water to RCWD to sustain existing agriculture. There would be temporary construction within Reclamation property and along an existing dirt farm road during excavation; however, these areas would be returned to pre-construction conditions upon completion of the Proposed Action. The pipeline would extend into private land; however, the landowner has given approval for the pipeline alignment into his property and would also benefit from having a more reliable distribution system and surface water supply for agricultural irrigation. As a result, the Proposed Action would not result in adverse impacts to lands use.

3.3 Biological Resources

3.3.1 Affected Environment

Most of the valley's native habitat had been altered by man by the mid 1940's, and as a result, severely degraded or destroyed habitat for native species. When the CVP began operations, over 30 percent of all natural habitats in the Central Valley and surrounding foothills had been converted to urban and agricultural land use (Reclamation 1999). Prior to widespread agriculture, land within the Proposed Action area provided habitat for a variety of plants and animals, especially those associated with valley grasslands. With the advent of irrigated agriculture and urban development over the last 100 years, many species have become threatened and endangered because of habitat loss. Of the approximately 5.6 million acres of valley grasslands and San Joaquin saltbrush scrub, the primary natural habitats across the valley, less

than 10 percent remains today. Much of the remaining habitat consists of isolated fragments supporting small, highly vulnerable populations (Reclamation 1999).

Native habitats south of the Tehachapi Mountains, in southern California, including those in inland coastal valleys and also inland desert lands where suitable soils are found and water can be applied, have been heavily impacted through land conversion for agriculture. Additionally, the coastal areas have been especially heavily impacted by land conversion for housing and urban development, transportation, trade, and attendant infrastructure.

The human population in California is heavily concentrated along the coast, with recent growth occurring in the Central Valley. Human population is expected to continue to grow in California, both in the San Joaquin Valley, as well as in southern California. While economic factors such as the recent housing downturn have arrested urban development, conversion of agricultural lands in the San Joaquin Valley occurred during the housing boom, and that trend is likely to continue with future population growth.

Reclamation generated an official species list on June 23, 2011, for counties covering the Proposed Action area in Madera, Fresno, Kings, Tulare and Kern County using the U.S. Fish and Wildlife Service (USFWS) Sacramento Field Office's website: http://www.fws.gov/sacramento/es/spp_lists/auto_list_form.cfm (Document # 110623063137). Species and critical habitat present in quadrangles covering lands belonging to Westside that are located outside the San Joaquin Valley, in Santa Barbara, Ventura, Riverside, Imperial and San Diego Counties also were included. Species and critical habitat within quadrangles in Santa Barbara, Ventura, Riverside, and Imperial counties were identified using the California Natural Diversity Database (CNDDB) Quad Mapper: http://imaps.dfg.ca.gov/viewers/cnddb_quickviewer/app.asp (accessed 6/17/2011-6/20/2011), Ventura Fish and Wildlife Serve website: http://ecos.fws.gov/ipac/wizard/chooseLocation!prepare.action (accessed 6/21/2011), and the Carlsbad Fish and Wildlife Service Offices website: http://www.fws.gov/carlsbad/TEspecies/CFWO_Species_List.htm (accessed 6/20/2011), in addition to other information within Reclamation's files. Reclamation also queried the CNDDB for records of listed species and critical habitat in the vicinity of RCWD (CNDDB 2011). The list developed from the above, was compiled and is presented in Table 2. This list includes all federally and state listed species, as well as other species considered when evaluating effects of the Proposed Action. This Action Area for the Proposed Action includes lands in the following USGS 7½ minute quadrangles: Iris, Oasis, Valerie, Mecca, Newbury Park, Camarillo, Oxnard, Val Verde, Piru, Fillmore, Moorpark, Simi, Saticoy, Santa Paula, Goleta, Dos Pueblos Canyon, Arvin, Tejon Hills, Conner SW, Coal Oil Canyon, Pentland, Oildale, Rosedale, Rio Bravo, Stevens, Tupman, Oil Center, Gosford, Belridge, Caneros Rocks, Deepwell Ranch, McFarland, Famoso, North of Oildale, Pond, Wasco NW, Wasco, Wasco SW, Lost Hills NW, Lost hills, Antelope Plain, Emigrant Hill. Shale Point, Blackwells Corner, Sawtooth Ridge, Ducor, Sausalito School, Richgroove, Lone Tree Hill, Dudley Ridge, Los Viejos, Avenal Gap, West Camp, Success Dam, Lindsay, Porterville, Guijarral Hills, Avenal, La Cima, Woodlake, Ivanhoe, Exeter, Rocky Hill, Monson, Traver, Stokes Mountain, Orange Cover North, Wahtoke, Reedley, Orange Cover South, Sanger, Friant, Lanes Bridge, Gregg, Herndon, Fresno North, Madera,

Bonita Ranch, Gravelly Ford, Biola, Firebaugh NE, Poso Farm, Firebaugh, Mendota Dam, Daulton, Raynor Creek, Berenda, Kismet, and Chowchilla.

Table 2. Federally listed, candidate, and other listed species within or near the Proposed Action area

Common Name	Scientific Name	Listing	Determination	Basis for Determination
PLANTS				
Bakersfield Cactus	*Opuntia treleasei*	FE, SE	NE	No suitable habitat would be converted or disturbed. No land use changes affecting this species would occur.
Brand's phacelia	*Phacelia stellaris*	FC	NE	No suitable habitat would be converted or disturbed. No land use changes affecting this species would occur.
Braunton's milk-vetch	*Astragalus brauntonii*	FE	NE	No suitable habitat would be converted or disturbed. No land use changes affecting this species would occur.
Braunton's milk-vetch	*Astragalus brauntonii*	CH	NE	No critical habitat would be disturbed. No land use changes affecting critical habitat would occur. No conversion of habitat.
California jewelflower	*Caulanthus californicus*	FE	NE	No suitable habitat would be converted or disturbed. No land use changes affecting this species would occur.
California Orcutt grass	*Orcuttia californica*	FE, SE	NE	No suitable habitat would be converted or disturbed. No land use changes affecting this species would occur.
Coachella Valley milk-vetch	*Astragalus lentiginosus var. coachellae*	FE	NE	No suitable habitat would be converted or disturbed. No land use changes affecting this species would occur.
Coachella Valley milk-vetch	*Astragalus lentiginosus var. coachellae*	CH	NE	No critical habitat would be disturbed. No land use changes affecting critical habitat would occur. No conversion of habitat.
Coastal dunes milk-vetch	*Astragalus tener var. titi*	FE, SE	NE	No suitable habitat would be converted or disturbed. No land use changes affecting this species would occur.
Conejo buckwheat	*Eriogonum crocatum*	SR	NE	No suitable habitat would be converted or disturbed. No land use changes affecting this species would occur.
Del Mar manzanita	*Arctostaphylos glandulosa ssp. crassifolia*	FE	NE	No suitable habitat would be converted or disturbed. No land use changes affecting this species would occur.
Encinitas baccharis	*Baccharis vanessae*	FT, SE	NE	No suitable habitat would be converted or disturbed. No land use changes affecting this species would occur.
Gambel's water cress	*Nasturtium gambellii (= Rorippa gambellii)*	FE, ST	NE	No suitable habitat would be converted or disturbed. No land use changes affecting this species would occur.
Gambel's water cress	*Nasturtium gambellii (= Rorippa gambellii)*	CH	NE	No critical habitat would be disturbed. No land use changes affecting critical habitat would occur. No conversion of habitat.
Greene's tuctoria	*Tuctoria greenei*	FE, SR	NE	No suitable habitat would be converted or disturbed. No land use changes affecting this species would occur.
Greene's tuctoria	*Tuctoria greenei*	CH	NE	No critical habitat would be disturbed. No land use changes affecting critical

Table 2. Federally listed, candidate, and other listed species within or near the Proposed Action area				
Common Name	Scientific Name	Listing	Determination	Basis for Determination
				habitat would occur. No conversion of habitat.
Hairy Orcutt grass	*Orcuttia pilosa*	FE, SE	NE	No suitable habitat would be converted or disturbed. No land use changes affecting this species would occur.
Hairy Orcutt grass	*Orcuttia pilosa*	CH	NE	No critical habitat would be disturbed. No land use changes would occur as a result of this action. No conversion of habitat.
Hartweg's golden sunburst	*Pseudobahia bahiifolia*	FE, SE	NE	No suitable habitat would be converted or disturbed. No land use changes affecting this species would occur.
Hidden Lake bluecurls	*Trichostema austromontanum ssp. compactum*	FT	NE	No suitable habitat would be converted or disturbed. No land use changes affecting this species would occur.
Hoover's spurge	*Chamaesyce hooveri*	FT	NE	No suitable habitat would be converted or disturbed. No land use changes affecting this species would occur.
Hoover's spurge	*Chamaesyce hooveri*	CH	NE	No critical habitat would be disturbed. No land use changes affecting critical habitat would occur. No conversion of habitat.
Keck's checker-mallow	*Sidalcea keckii*	FE	NE	No suitable habitat would be converted or disturbed. No land use changes affecting this species would occur.
Keck's checker-mallow	*Sidalcea keckii*	CH	NE	No critical habitat would be disturbed. No land use changes affecting critical habitat would occur. No conversion of habitat.
Kern mallow	*Eremalche kernensis*	FE	NE	No suitable habitat would be converted or disturbed. No land use changes affecting this species would occur.
Lyon's pentachaeta	*Pentachaeta lyonii*	FE, SE	NE	No suitable habitat would be converted or disturbed. No land use changes affecting this species would occur.
Marcescent dudleya	*Dudleya cymosa ssp. marcescens*	FT, SR	NE	No suitable habitat would be converted or disturbed. No land use changes affecting this species would occur.
Mariposa pussy-paws	*Calyptridium pulchellum*	FT	NE	No suitable habitat would be converted or disturbed. No land use changes affecting this species would occur.
Mexican flannelbush	*Fremontodendron mexicanum*	FE, SR	NE	No suitable habitat would be converted or disturbed. No land use changes affecting this species would occur.
Mexican flannelbush	*Fremontodendron mexicanum*	CH	NE	No critical habitat would be disturbed. No land use changes affecting critical habitat would occur. No conversion of habitat.
Munz's onion	*Allium munzii*	FE, ST	NE	No suitable habitat would be converted or disturbed. No land use changes affecting this species would occur.
Munz's onion	*Allium munzii*	CH	NE	No critical habitat would be disturbed. No land use changes affecting critical habitat would occur. No conversion of habitat.
Nevin's	*Berberis nevinii*	FE, SE	NE	No suitable habitat would be converted

Table 2. Federally listed, candidate, and other listed species within or near the Proposed Action area				
Common Name	Scientific Name	Listing	Determination	Basis for Determination
barberry				or disturbed. No land use changes affecting this species would occur.
Nevin's barberry	*Berberis nevinii*	CH	NE	No critical habitat would be disturbed. No land use changes affecting critical habitat would occur. No conversion of habitat.
Orcutt's hazardia	*Hazardia orcuttii*	ST	NE	No suitable habitat would be converted or disturbed. No land use changes affecting this species would occur.
Otay Mesa mint	*Pogogyne nudiuscula*	FE, SE	NE	No suitable habitat would be converted or disturbed. No land use changes affecting this species would occur.
Otay tarplant	*Deinandra conjugens (=Hemizonia conjugens)*	FT, SE	NE	No suitable habitat would be converted or disturbed. No land use changes affecting this species would occur.
Otay tarplant	*Deinandra conjugens (=Hemizonia conjugens)*	CH	NE	No critical habitat would be disturbed. No land use changes affecting critical habitat would occur. No conversion of habitat.
Palmate-bracted bird's-beak	*Cordylanthus palmatus*	FE, SE	NE	No suitable habitat would be converted or disturbed. No land use changes affecting this species would occur.
Peirson's milk-vetch	*Astragalus magdalenae var. peirsonii*	FE	NE	No suitable habitat would be converted or disturbed. No land use changes affecting this species would occur.
Peirson's milk-vetch	*Astragalus magdalenae var. peirsonii*	CH	NE	No critical habitat would be disturbed. No land use changes affecting critical habitat would occur. No conversion of habitat.
Ramshaw sand-verbena	*Abronia alpine*	FC	NE	No suitable habitat would be converted or disturbed. No land use changes affecting this species would occur.
Salt marsh bird's-beak	*Cordylanthus maritimus* ssp. *maritimus*	FE, SE	NE	No suitable habitat would be converted or disturbed. No land use changes affecting this species would occur.
San Bernardino blue grass	*Poa atropurpurea*	FE	NE	No suitable habitat would be converted or disturbed. No land use changes affecting this species would occur.
San Bernardino blue grass	*Poa atropurpurea*	CH	NE	No critical habitat would be disturbed. No land use changes affecting critical habitat would occur. No conversion of habitat.
San Benito evening primrose	*Camissonia benitensis*	FT	NE	No suitable habitat would be converted or disturbed. No land use changes affecting this species would occur.
San Diego ambrosia	*Ambrosia pumila*	FE	NE	No suitable habitat would be converted or disturbed. No land use changes affecting this species would occur.
San Diego button-celery	*Eryngium aristulatum var. parishii*	FE, SE	NE	No suitable habitat would be converted or disturbed. No land use changes affecting this species would occur.
San Diego mesa mint	*Pogogyne abramsii*	FE, SE	NE	No suitable habitat would be converted or disturbed. No land use changes affecting this species would occur.
San Diego thorn-mint	*Acanthomintha ilicifolia*	FT, SE	NE	No suitable habitat would be converted or disturbed. No land use changes affecting this species would occur.

Table 2. Federally listed, candidate, and other listed species within or near the Proposed Action area				
Common Name	Scientific Name	Listing	Determination	Basis for Determination
San Diego thorn-mint	*Acanthomintha ilicifolia*	CH	NE	No critical habitat would be disturbed. No land use changes affecting critical habitat would occur. No conversion of habitat.
San Fernando Valley spineflower	Chorizanthe parryi var. fernandina	SE	NE	No suitable habitat would be converted or disturbed. No land use changes affecting this species would occur.
San Jacinto Valley crownscale	*Atriplex coronata* var. *notatior*	FE	NE	No suitable habitat would be converted or disturbed. No land use changes affecting this species would occur.
San Jacinto Valley crownscale	*Atriplex coronata* var. *notatior*	CH	NE	No critical habitat would be disturbed. No land use changes affecting critical habitat would occur. No conversion of habitat.
San Joaquin adobe sunburst	*Pseudobahia peirsonii*	FT, SE	NE	No suitable habitat would be converted or disturbed. No land use changes affecting this species would occur.
San Joaquin Valley Orcutt grass	*Orcuttia inaequalis*	FT, SE	NE	No suitable habitat would be converted or disturbed. No land use changes affecting this species would occur.
San Joaquin Valley Orcutt grass	*Orcuttia inaequalis*	CH	NE	No critical habitat would be disturbed. No land use changes affecting critical habitat would occur. No conversion of habitat.
San Joaquin woolly-threads	*Monolopia congdonii (=Lembertia congdonii)*	FE	NE	No suitable habitat would be converted or disturbed. No land use changes affecting this species would occur.
Santa Ana River woollystar	*Eriastrum densifolium ssp. sanctorumJ*	FE, SE	NE	No suitable habitat would be converted or disturbed. No land use changes affecting this species would occur.
Slender-horned spineflower	*Dodecahema leptoceras*	FE, SE	NE	No suitable habitat would be converted or disturbed. No land use changes affecting this species would occur.
Spreading navarretia	*Navarretia fossalis*	FT	NE	No suitable habitat would be converted or disturbed. No land use changes affecting this species would occur.
Spreading navarretia	*Navarretia fossalis*	CH	NE	No critical habitat would be disturbed. No land use changes affecting critical habitat would occur. No conversion of habitat.
San Benito evening primrose	*Calyptridium pulchellum*	FT	NE	No suitable habitat would be converted or disturbed. No land use changes affecting this species would occur.
Springville clarkia	*Springville clarkia*	FT, SE	NE	No suitable habitat would be converted or disturbed. No land use changes affecting this species would occur.
Succulent (=fleshy) owl's-clover	*Castilleja campestris ssp. succulenta*	FT, SE	NE	No suitable habitat would be converted or disturbed. No land use changes affecting this species would occur.
Succulent (=fleshy) owl's-clover	*Castilleja campestris ssp. succulenta*	CH	NE	No critical habitat would be disturbed. No land use changes affecting critical habitat would occur. No conversion of

Table 2. Federally listed, candidate, and other listed species within or near the Proposed Action area				
Common Name	Scientific Name	Listing	Determination	Basis for Determination
				habitat.
Thread-leaved brodiaea	*Brodiaea filifolia*	FT, SE	NE	No suitable habitat would be converted or disturbed. No land use changes affecting this species would occur.
Thread-leaved brodiaea	*Brodiaea filifolia*	CH	NE	No critical habitat would be disturbed. No land use changes affecting critical habitat would occur. No conversion of habitat.
Triple-ribbed milk-vetch	*Astragalus tricarinatus*	FE	NE	No suitable habitat would be converted or disturbed. No land use changes affecting this species would occur.
Vail Lake ceanothus	*Ceanothus ophiochilus*	FT, SE	NE	No suitable habitat would be converted or disturbed. No land use changes affecting this species would occur.
Vail Lake ceanothus	*Ceanothus ophiochilus*	CH	NE	No critical habitat would be disturbed. No land use changes affecting critical habitat would occur. No conversion of habitat.
Ventura Marsh milk-vetch	*Astragalus pycnostachyus* var. *lanosissimus*	FE, SE	NE	No suitable habitat would be converted or disturbed. No land use changes affecting this species would occur.
Ventura Marsh milk-vetch	*Astragalus pycnostachyus* var. *lanosissimus*	CH	NE	No critical habitat would be disturbed. No land use changes affecting critical habitat would occur. No conversion of habitat.
Willowy monardella	*Monardella linoides ssp. viminea (=M. viminea)*	FE, SE	NE	No suitable habitat would be converted or disturbed. No land use changes affecting this species would occur.
Willowy monardella	*Monardella linoides ssp. viminea (=M. viminea)*	CH	NE	No critical habitat would be disturbed. No land use changes affecting critical habitat would occur. No conversion of habitat.
INVERTEBRATES				
Casey's June beetle	*Dinacoma caseyi*	FPE	NE	No suitable habitat would be converted or disturbed. No land use changes affecting this species would occur.
Casey's June beetle	*Dinacoma caseyi*	CH	NE	No critical habitat would be disturbed. No land use changes affecting critical habitat would occur. No conversion of habitat.
Conservancy fairy shrimp	*Branchinecta conservatio*	FE	NE	No suitable habitat would be converted or disturbed. No land use changes affecting this species would occur.
Hermes copper butterfly	*Hermelycaena (Lycaena) hermes*	FC	NE	No suitable habitat would be converted or disturbed. No land use changes affecting this species would occur.
Kern Primrose sphynx Moth	*Euproserpinus euterpe*	FT	NE	No suitable habitat would be converted or disturbed. No land use changes affecting this species would occur.
Laguna Mountains skipper	*Pyrgus ruralis lagunae*	FE	NE	No suitable habitat would be converted or disturbed. No land use changes affecting this species would occur.

Table 2. Federally listed, candidate, and other listed species within or near the Proposed Action area				
Common Name	Scientific Name	Listing	Determination	Basis for Determination
Laguna Mountains skipper	*Pyrgus ruralis lagunae*	CH	NE	No critical habitat would be disturbed. No land use changes affecting critical habitat would occur. No conversion of habitat.
Longhorn fairy shrimp	*Branchinecta longiantenna*	E	NE	No suitable habitat would be converted or disturbed. No land use changes affecting this species would occur.
Longhorn fairy shrimp	*Branchinecta longiantenna*	CH	NE	No critical habitat would be disturbed. No land use changes affecting critical habitat would occur. No conversion of habitat.
Quino checkerspot	*Euphydras editha quino (=E.e.wrighti)*	FE	NE	No suitable habitat would be converted or disturbed. No land use changes affecting this species would occur.
Quino checkerspot	*Euphydras editha quino (=E.e.wrighti)*	CH	NE	No critical habitat would be disturbed. No land use changes affecting critical habitat would occur. No conversion of habitat.
Riverside fairy shrimp	*Streptocephalus woottoni*	FE	NE	No suitable habitat would be converted or disturbed. No land use changes affecting this species would occur.
Riverside fairy shrimp	*Streptocephalus woottoni*	CH	NE	No critical habitat would be disturbed. No land use changes affecting critical habitat would occur. No conversion of habitat.
San Diego fairy shrimp	*Branchinecta sandiegoensis*	FE	NE	No suitable habitat would be converted or disturbed. No land use changes affecting this species would occur.
San Diego fairy shrimp	*Branchinecta sandiegoensis*	CH	NE	No critical habitat would be disturbed. No land use changes affecting critical habitat would occur. No conversion of habitat.
Valley elderberry longhorn beetle	*Desmocerus californicus dimorphus*	FT	NE	No elderberry bushes occur in RCWD in areas that would be disturbed. No land use changes would occur as a result of this action. No conversion of habitat.
Vernal pool fairy shrimp	*Branchinecta lynchi*	FT	NE	No suitable habitat would be converted or disturbed. No land use changes affecting this species would occur.
Vernal pool fairy shrimp	*Branchinecta lynchi*	CH	NE	No critical habitat would be disturbed. No land use changes affecting critical habitat would occur. No conversion of habitat.
Vernal pool tadpole shrimp	*Lepidurus packardi*	FE	NE	No suitable habitat would be converted or disturbed. No land use changes affecting this species would occur.
Vernal pool tadpole shrimp	*Lepidurus packardi*	CH	NE	No critical habitat would be disturbed. No land use changes affecting critical habitat would occur. No conversion of habitat.
FISH				
Bonytail Chub	*Gila elegans*	FE, SE	NE	No suitable habitat would be converted or disturbed. No change to waters of aquatic habitat for this species.
Bonytail Chub	*Gila elegans*	CH	NE	No critical habitat would be disturbed. No change to waters of critical habitat or

Table 2. Federally listed, candidate, and other listed species within or near the Proposed Action area				
Common Name	Scientific Name	Listing	Determination	Basis for Determination
				to waters flowing to critical habitat.
Central Valley steelhead	*Onchorhynchus mykiss*	FT	NE	No suitable habitat would be converted or disturbed. No change to waters of aquatic habitat for this species, including water quality in the Delta.
Colorado squawfish	*Ptychocheilus lucius*	FE, SE	NE	No suitable habitat would be converted or disturbed. No change to waters of aquatic habitat for this species.
Colorado squawfish	*Ptychocheilus lucius*	CH	NE	No critical habitat would be disturbed. No change to waters of critical habitat or to waters flowing to critical habitat.
Delta smelt	*Hypomesus transpacificus*	FT, ST	NE	No suitable habitat would be disturbed. No change to waters of aquatic habitat for this species, including water quality in the Delta.
Desert pupfish	*Cyprinodon macularius*	FE, SE	NE	No suitable habitat would be converted or disturbed. No change to waters of aquatic habitat for this species.
Desert pupfish	*Cyprinodon macularius*	CH	NE	No critical habitat would be disturbed. No change to waters of critical habitat or to waters flowing to critical habitat.
Lahontan cutthroat trout	*Onchorhynchus(=Salmo) clarki henshawi*	FT	NE	No suitable habitat would be converted or disturbed. No change to waters of aquatic habitat for this species.
Paiute cutthroat trout	*Onchorhynchus(=Salmo) clarkis seleniris*	T	NE	No suitable habitat would be converted or disturbed. No change to waters of aquatic habitat for this species.
Little Kern golden trout	*Onchorhynchus(=Salmo) aquabonita whitei*	T	NE	No suitable habitat would be converted or disturbed. No change to waters of aquatic habitat for this species.
Little Kern golden trout	*Onchorhynchus(=Salmo) aquabonita whitei*	CH	NE	No critical habitat would be disturbed. No change to waters of critical habitat or to waters flowing to critical habitat.
Razorback sucker	*Xyrauchen texanus*	FE, SE	NE	No suitable habitat would be converted or disturbed. No change to waters of aquatic habitat for this species.
Razorback sucker	*Xyrauchen texanus*	CH	NE	No critical habitat would be disturbed. No change to waters of critical habitat or to waters flowing to critical habitat.
Santa Ana sucker	*Catostomus santaanae*	FT	NE	No suitable habitat would be converted or disturbed. No change to waters of aquatic habitat for this species.
Santa Ana sucker	*Catostomus santaanae*	CH	NE	No critical habitat would be disturbed. No change to waters of critical habitat or to waters flowing to critical habitat.
Steelhead-Central Valley DPS	*Oncorhynchus mykiss*	FT	NE	No suitable habitat would be converted or disturbed. No change to waters of aquatic habitat for this species, including water quality in the Delta.
Steelhead-Southern California DPS	*Oncorhynchus mykiss*	FE	NE	No suitable habitat would be converted or disturbed. No change to waters of aquatic habitat for this species.
Steelhead-Southern California DPS	*Oncorhynchus mykiss*	CH	NE	No critical habitat would be disturbed. No change to waters of critical habitat or to waters flowing to critical habitat.
Tidewater goby	*Eucyclogobius newberryi*	FE	NE	No suitable habitat would be converted

Table 2. Federally listed, candidate, and other listed species within or near the Proposed Action area				
Common Name	Scientific Name	Listing	Determination	Basis for Determination
				or disturbed. No change to waters of aquatic habitat for this species.
Tidewater goby	*Eucyclogobius newberryi*	CH	NE	No critical habitat would be disturbed. No change to waters of critical habitat or to waters flowing to critical habitat.
Unarmored threespine stickleback	*Gasterosteus aculeatus williamsoni*	FE, SE	NE	No suitable habitat would be converted or disturbed. No change to waters of aquatic habitat for this species.
AMPHIBIANS				
Arroyo toad	*Bufo californicus*	FE	NE	No suitable habitat would be converted or disturbed. No land use changes affecting this species would occur. No conversion of habitat.
Arroyo toad	*Bufo californicus*	CH	NE	No critical habitat would be disturbed. No land use changes affecting critical habitat would occur. No conversion of habitat.
California red-legged frog	*Rana draytonii*	FT	NE	No known extant populations within 30 miles. No land use changes affecting this species would occur. No conversion of habitat.
California red-legged frog	*Rana draytonii*	CH, PCH	NE	No critical or proposed critical habitat would be disturbed. No land use changes affecting critical habitat would occur.
California tiger salamander, central population	*Ambystoma californiense*	FT, SCE	NLAA	No vernal pool habitat would be disturbed. No effects to wetland habitat for this species. Nearest record to area of disturbance is approximately 1.8 miles; nearest potential breeding pond to area of disturbance is approximately 0.8 miles. Burrows would be avoided. Movement would not be impeded.
California tiger salamander, central population	*Ambystoma californiense*	CH	NE	Designated and proposed critical habitat would not be disturbed. No disturbance of suitable wetland habitat and no land use changes. Avoidance of burrows. Movement would not be impeded.
Desert slender salamander	*Batrachoseps aridus*	FE, SE	NE	No suitable habitat would be converted or disturbed. No land use changes affecting this species would occur.
Mountain yellow-legged frog – Southern California DPS	*Rana muscosa*	C, SCE	NE	No suitable habitat would be converted or disturbed. No land use changes affecting this species would occur.
Mountain yellow-legged frog – Southern California DPS	*Rana muscosa*	CH	NE	No critical habitat would be disturbed. No land use changes affecting critical habitat would occur. No conversion of habitat.
Yosemite toad	*Bufo canorus*	C	NE	No suitable habitat would be converted or disturbed. No land use changes affecting this species would occur.
REPTILES				
Blunt-nosed leopard lizard	*Gambelia (=Crotaphytus) sila*	FE, SE	NE	No open scrub, grassland or other suitable habitat would be disturbed.

Table 2. Federally listed, candidate, and other listed species within or near the Proposed Action area				
Common Name	Scientific Name	Listing	Determination	Basis for Determination
				Small area of canal bank to be disturbed canal bank is more than 15 miles from nearest record and other suitable habitat is not available nearby.
Coachella Valley fringe-toed lizard	*Uma inornata*	FT, SE	NE	No suitable habitat would be converted or disturbed. No land use changes affecting this species would occur.
Coachella Valley fringe-toed lizard	*Uma inornata*	CH	NE	No critical habitat would be disturbed. No land use changes affecting critical habitat would occur. No conversion of habitat.
Desert tortoise	*Gopherus agassizii*	FT, ST	NE	No suitable habitat would be converted or disturbed. No land use changes affecting this species would occur.
Desert tortoise	*Gopherus agassizii*	CH	NE	No critical habitat would be disturbed. No land use changes affecting critical habitat would occur. No conversion of habitat.
Flat-tailed horned lizard	*Phrynosoma mcallii*	FPT	NE	No suitable habitat would be converted or disturbed. No land use changes affecting this species would occur.
Giant garter snake	*Thamnophis gigas*	FT, ST	NE	Nearest record for the species is at Mendota Pool, approximately 30 miles from site of disturbance on Lateral 6.2. Lateral 6.2 is not connected hydrologically to Mendota Pool. Population at Mendota is small.
BIRDS				
Bald Eagle	*Haliaeetus leucocephalus*	MBTA, FD, SE	NE	No suitable habitat would be converted or disturbed. No land use changes affecting this species would occur.
Bank swallow	*Riparia riparia*	MBTA, ST	NE	No suitable habitat would be converted or disturbed. No land use changes affecting this species would occur.
Bank swallow	*Riparia riparia*	CH	NE	No critical habitat would be disturbed. No land use changes affecting critical habitat would occur. No conversion of habitat.
Belding's savannah sparrow	*Passerculus sandwichensis beldingi*	MBTA, SE	NE	No suitable habitat would be converted or disturbed. No land use changes affecting this species would occur.
California black rail	*Laterallus jamaicensis coturniculus*	ST	NE	No suitable habitat would be converted or disturbed. No land use changes affecting this species would occur.
California condor	*Gymnogyps californianus*	FE, SE	NE	No suitable habitat would be converted or disturbed. No land use changes affecting this species would occur.
California condor	*Gymnogyps californianus*	CH	NE	No critical habitat would be disturbed. No land use changes affecting critical habitat would occur. No conversion of habitat.
California least tern	*Sternula antillarum browni*	FE, SE	NE	No suitable habitat would be converted or disturbed. No land use changes affecting this species would occur.
Coastal California	*Polioptila californica californica*	FT	NE	No suitable habitat would be converted or disturbed. No land use changes

Table 2. Federally listed, candidate, and other listed species within or near the Proposed Action area				
Common Name	Scientific Name	Listing	Determination	Basis for Determination
gnatcatcher				affecting this species would occur.
Coastal California gnatcatcher	*Polioptila californica californica*	CH	NE	No critical habitat would be disturbed. No land use changes affecting critical habitat would occur. No conversion of habitat.
Golden Eagle	*aquila chrysaetos*	SC, MBTA	NE	No suitable habitat would be converted or disturbed. No land use changes affecting this species would occur.
Least Bell's vireo	*Vireo bellii pusillus*	FE, SE	NE	No suitable habitat would be converted or disturbed. No land use changes affecting this species would occur.
Least Bell's vireo	*Vireo bellii pusillus*	CH	NE	No critical habitat would be disturbed. No land use changes affecting critical habitat would occur. No conversion of habitat.
Light-footed clapper rail	*Rallus longirostris levipes*	FE, SE	NE	No suitable habitat would be converted or disturbed. No land use changes affecting this species would occur.
Marbled murrelet	*Brachyramphus marmoratus*	FT, SE	NE	No suitable habitat would be converted or disturbed. No land use changes affecting this species would occur.
Marbled murrelet	*Brachyramphus marmoratus*	CH	NE	No critical habitat would be disturbed. No land use changes affecting critical habitat would occur. No conversion of habitat.
Mountain plover	*Charadrius montanus*	FPT	NE	No suitable habitat would be converted or disturbed. No land use changes affecting this species would occur.
Mountain plover	*Charadrius montanus*	CH	NE	No critical habitat would be disturbed. No land use changes affecting critical habitat would occur. No conversion of habitat.
Short-tailed albatross	*Phoebastria albatrus*	FE	NE	No suitable habitat would be disturbed. No conversion of habitat.
Southwestern willow flycatcher	*Empidonax traillii extimus*	FE, SE	NE	No suitable habitat would be converted or disturbed. No land use changes affecting this species would occur.
Southwestern willow flycatcher	*Empidonax traillii extimus*	CH	NE	No critical habitat would be disturbed. No land use changes affecting critical habitat would occur. No conversion of habitat.
Swainson's Hawk	*Buteo swainsoni*	MBTA, SC, ST	NE	Land disturbance to canal bank would be a minimal area and mostly temporary. Species is unlikely to occur in area of disturbance. Avoidance measures implemented for any nesting individuals.
Western yellow-billed cuckoo	*Coccyzus americanus occidentalis*	C, SE	NE	No suitable habitat would be disturbed. No land use changes would occur as a result of this action. No conversion of habitat.
Western Burrowing Owl	*Athene cunicularia hypugea*	MBTA,	NE	Surveys for the species in area of land disturbance. Avoidance measures would be implemented. Burrows avoided. Land disturbance to canal bank would be a minimal area and

Table 2. Federally listed, candidate, and other listed species within or near the Proposed Action area				
Common Name	Scientific Name	Listing	Determination	Basis for Determination
				mostly temporary.
Western snowy plover	*Charadrius alexandrinus nivosus*	FT	NE	No suitable habitat would be converted or disturbed. No land use changes affecting this species would occur.
Western snowy plover	*Charadrius alexandrinus nivosus*	CH	NE	No critical habitat would be disturbed. No land use changes affecting critical habitat would occur. No conversion of habitat.
Yellow-billed cuckoo	*Coccyzus americanus*	C	NE	No suitable habitat would be converted or disturbed. No land use changes affecting this species would occur.
Yuma clapper rail	*Rallus longirostris yumanensis*	FE, ST	NE	No suitable habitat would be converted or disturbed. No land use changes affecting this species would occur.
MAMMALS				
Buena Vista Lake shrew	*Sorex ornatus relictus*	FE	NE	No suitable habitat would be converted or disturbed. No land use changes affecting this species would occur.
Buena Vista Lake shrew	*Sorex ornatus relictus*	CH	NE	No critical habitat would be disturbed. No land use changes affecting critical habitat would occur. No conversion of habitat.
Fisher	*Martes pennant*	C	NE	No suitable habitat would be converted or disturbed. No land use changes affecting this species would occur.
Fresno kangaroo rat	*Dipodomys nitratoides exilis*	FE, SR	NE	No known extant populations. No disturbance of grassland or sink shrubland habitat. No suitable habitat would be converted or disturbed. No land use changes affecting this species would occur.
Fresno kangaroo rat	*Dipodomys nitratoides exilis*	CH	NE	No critical habitat would be disturbed. No land use changes affecting critical habitat would occur. No conversion of habitat.
Giant kangaroo rat	*Dipodomys ingens*	FE, SE	NE	No suitable habitat would be converted or disturbed. No land use changes affecting this species would occur. No conversion of habitat.
Pacific pocket mouse	*Perognathus longimembris pacificus*	FE	NE	No suitable habitat would be converted or disturbed. No land use changes affecting this species would occur. No conversion of habitat.
Peninsular bighorn sheep DPS	*Ovis canadensis cremnobates*	FE, ST	NE	No suitable habitat would be converted or disturbed. No land use changes affecting this species would occur. No conversion of habitat.
Peninsular bighorn sheep DPS	*Ovis canadensis cremnobates*	CH	NE	No critical habitat would be disturbed. No land use changes affecting critical habitat would occur. No conversion of habitat.
San Bernardino kangaroo rat	*Dipodomys merriami parvus*	FE	NE	No suitable habitat would be converted or disturbed. No land use changes affecting this species would occur. No conversion of habitat.
San Bernardino kangaroo rat	*Dipodomys merriami parvus*	CH	NE	No critical habitat would be disturbed. No land use changes affecting critical

Table 2. Federally listed, candidate, and other listed species within or near the Proposed Action area				
Common Name	Scientific Name	Listing	Determination	Basis for Determination
				habitat would occur. No conversion of habitat.
San Joaquin kit fox	Vulpes macrotis mutica	FE, ST	NLAA	Land disturbance would be temporary, and limited primarily to vineyard, roadways and a small section of canal levee. Species records nearest to disturbance area date from the 1990's and are approximately 5 and 6 miles away, but south of the San Joaquin River. The nearest records north of San Joaquin River both are from 1990 and are over 15 miles west of RCWD, across U.S. Highway 99, a divided freeway. A pre-activity survey and avoidance measures would be implemented.
Sierra Nevada (= California) bighorn sheep	*Ovis canadensis californiana*	FE	NE	No suitable habitat would be converted or disturbed. No land use changes affecting this species would occur. No conversion of habitat.
Southern sea otter	*Enhydra lutris nereis*	FT	NE	No suitable habitat would be disturbed. No conversion of habitat.
Stephens' kangaroo rat	*Dipodomys stephensi*	FE, ST	NE	No suitable habitat would be converted or disturbed. No land use changes affecting this species would occur. No conversion of habitat.
Tipton kangaroo rat	*Dipodomys nitratoides nitratoides*	FE, SE	NE	No suitable habitat would be converted or disturbed. No land use changes affecting this species would occur. No conversion of habitat.

Listing:

CF: FEDERAL CANDIDATE SPECIES
CH: CRITICAL HABITAT
FD: FEDERAL DELISTED
FE: FEDERAL ENDANGERED SPECIES
FPE: FEDERALLY PROPOSED ENDANGERED
FPT: FEDERALLY PROPOSED THREATEND
FT: FEDERAL THREATENED SPECIES
MBTA: MIGRATORY BIRD TREATY ACT
R: FEDERAL RECOVERY
SC: FEDERAL SPECIES OF CONCERN
SCE: STATE CANDIDATE SPECIES (ENDANGERED)
SE: STATE ENDANGERED SPECIES
ST: STATE THREATENED SPECIES
SR: STATE RARE SPECIES
NE: NO EFFECT
NLAA: NOT LIKELY TO ADVERSELY AFFECT

3.3.2 Environmental Consequences

No Action Alternative

Under the No Action Alternative, conditions would remain the same as described above. There would be no impacts to biological resources since conditions would remain the same as existing conditions.

Proposed Action

The area for the Proposed Action includes lands within RCWD, MID, Westside, and SWID, and the Madera Canal and Madera Canal Lateral 6.2. RCWD would use the acquired water supplies for existing agricultural purposes, including recharge of groundwater supplies supporting agricultural activities.

The contract for 215 Water from Reclamation through February 2012 would potentially make water available to RCWD. RCWD has a lower priority than CVP Friant Contractors and 215 Water may not be made available to RCWD even when its availability is declared. However, when 215 Water is available to RCWD, supplies would be expectedly high and flows in the San Joaquin River also would be expectedly high. The 215 Water that could be obtained by RCWD, in addition to that obtained by other contractors, would not measurably affect water resources in the San Joaquin below the mouth of the Merced River and would not affect fisheries resources or their habitat.

Water transferred between Westside and SWID could occur without approval by Reclamation. This action would involve either physical delivery of surface water from Westside's rights using existing facilities, or potentially moving Westside's water in NKWSD to the adjacent SWID using existing facilities. These elements of the Proposed Action do not require construction and would use existing facilities for customary water movement. Additionally, no land use changes would occur on SWID lands or to Westside's lands in the San Joaquin Valley or elsewhere in relation to this element. As such this element would not contribute to any affect to listed species or designated critical habitat.

The exchange of SWID's water supplies in Millerton Lake for Westside's water would potentially reduce slightly the amount of water carried in the FKC and delivered to SWID. This small reduction (up to 7,000 AF per year) of water transported in the FKC would not affect listed species or critical habitat. Actions in SWID would remain the same and no increase or decrease in water supply would occur.

The proposed transfer of up to 10,000 AF of water from MID's CVP supply to RCWD would not affect MID's ability to meet its water needs and would therefore not affect MID's ongoing land use practices. Water supplied to RCWD from MID would remain in the same groundwater basin in which MID is located and there would be no change in MID's land use related to the Proposed Action. MID's transfer to RCWD would occur via existing facilities, including the Madera Canal and Madera Canal Lateral 6.2, save for the construction of the turnout at lateral 6.2. Potential impacts to wildlife, fisheries and listed species or their critical habitat would not occur from the proposed transfer and transport of water from MID to RCWD. Any potential effects would occur through effects from construction, as discussed below.

The Proposed Action includes construction of two turnouts on Lateral 6.2 of the Madera Canal adjacent to RCWD and lands within RCWD. Besides the two turnouts, two pipelines also would be constructed and together this would require ground disturbance. However, the land to be disturbed is already highly disturbed. Disturbance would occur to a bare, earthen canal bank along Madera Canal Lateral 6.2, where new turnouts would be established. Disturbance also would occur along the alignment of the two pipelines, which follows an existing field road and through a vineyard, and along an improved earthen Roadways (Madera County Road 40). The

pipeline would cross two ephemerally wetted areas along the roadway alignments, but since a boring technique would be used, no disturbance above the ground surface would occur at these areas.

Construction activities are expected to occur in early fall and take approximately 4 to 6 weeks to complete. A small number of small shallow, inactive rodent burrows were found near areas that would be disturbed. Although potential breeding habitat for CTS is lacking within approximately 0.8 miles of areas to be disturbed, CTS may travel overland more than one mile. Consequently, avoidance measures to avoid burrows and prevent impeding movement would be implemented for CTS. Flagging and avoidance of burrows would be implemented to avoid effects to CTS.

Although San Joaquin kit foxes (SJKF) have been reported within 10 miles of the area to be disturbed, agricultural practices and disturbance such as disking for weed control has greatly degraded any habitat for denning. Land disturbance would be temporary and limited primarily to a vineyard, roadways and a small section of a canal levee. Regardless, a pre-activity survey and avoidance measures would be implemented for SJKF to ensure there is no effect on the SJKF.

Limited habitat in areas that would be disturbed exists for other species because the land is either roadway, or is in agricultural production, primarily in vineyard, citrus, olive or pistachio production.

Swainson's hawks could forage in the limited open area along the 6.2 Lateral, and this area also may be suitable for burrowing owls, however, most land that would be disturbed is unsuited to raptors. The nearest recorded occurrence for burrowing owl is located approximately 12.5 miles away from the areas that would be disturbed in RCWD. Protection for burrowing owls and other migratory birds would be afforded by preconstruction surveys that would be conducted before any ground-disturbing activities are to begin. If the surveys detect the presence of listed species or migratory birds, then the Proposed Action would be paused until Reclamation completes any consultation with the USFWS that might be necessary, and until any additional protective measures are identified and incorporated for any migratory birds.

Because the areas to be disturbed are already highly disturbed and provide marginal habitat for wildlife by implementing the avoidance measures specified (see Appendix C), the potential to affect to wildlife, including listed species is negligible and the Proposed Action is anticipated to have no adverse impacts on biological resources.

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.

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 are generally prehistoric in nature and include remnants of native human populations that existed before European settlement. Prior to the 18th Century, many Native American tribes inhabited the Central Valley. 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 destroyed many Native American cultural sites.

3.4.2 Environmental Consequences

No Action Alternative

Under the No Action Alternative, there would be no impacts to cultural resources since no construction would occur and existing conditions related to cultural resource would remain the same.

Proposed Action

The Proposed Action is the type of activity that has the potential to affect historic properties. A records search, cultural resources survey, and Tribal consultation were performed for the APE in 2007 by consultants hired by RCWD. A subsequent report was provided to Reclamation and was submitted as part of Reclamation's SHPO consultation package. Reclamation determined that the Proposed Action would result in no adverse impacts to historic properties pursuant to 36 CFR Part 800.5(b) and consulted with the SHPO on August 7, 2007. The SHPO concurred with Reclamation's determination on August 22, 2007. Since no historic properties would be adversely affected, there would no adverse impacts to cultural resources by implementing the Proposed Action (see Appendix D for cultural resources determination).

3.5 Indian Trust Assets

ITA are legal interests in assets that are held in trust by the U.S. Government 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 United States 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 a compensation or injunction, if there is improper interference. ITA can not be sold, leased or otherwise alienated without the United States' 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 Table Mountain Rancheria approximately 10 miles northeast of the Proposed Action 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. within the area involved with the Proposed Action; therefore, this action does not have a potential to affect ITA (refer to Appendix D for ITA concurrence).

3.6 Indian Sacred Sites

Executive Order 13007 provides that in managing Federal lands, each Federal agency with statutory or administrative responsibility for management of Federal lands will, to the extent practicable and as permitted by law, accommodate access to and ceremonial use of Indian sacred sites by Indian religious practitioners, and avoid adversely affecting the physical integrity of such sacred sites.

3.6.1 Affected Environment

In 2007, the Native American Heritage Commission was contacted in order to determine whether sacred sites have been identified either within or in close proximity to the Proposed Action area. There were no known Indian sacred sites or access roads/paths leading to Indian sacred sites identified.

3.6.2 Environmental Consequences

No Action

Under the No Action Alternative, there would be no impacts to Indian sacred sites since conditions would remain the same as existing conditions.

Proposed Action
Since no known Indian sacred sited have been identified either within or in close proximity, the Proposed Action would not impact Indian sacred sites and/or prohibit access to and ceremonial use of this resource.

3.7 Socioeconomic Resources

3.7.1 Affected Environment
The agricultural industry significantly contributes to the overall economic stability of the San Joaquin Valley. The CVP allocations each year allow farmers to plan for the types of crops to grow and to secure loans to purchase supplies. Depending upon the variable hydrological and economical conditions, water transfers and exchanges could be prompted. The economic variances may include fluctuating agricultural prices, insect infestation, changing hydrologic conditions, and increased fuel and power costs.

3.7.2 Environmental Consequences
No Action Alternative
Under the No Action Alternative, there would be minor impacts to socioeconomic resources. Continued reliance on and pumping groundwater could contribute to groundwater overdraft resulting in dropping water levels for agricultural wells, thus increasing pumping costs.

Proposed Action
The Proposed Action would provide RCWD with reliable surface water supplies and alleviate some of the district's reliance on groundwater pumping. There would be minor benefits to socioeconomics as compared to the No Action Alternative since continued heavy reliance on groundwater would lead to increased pumping costs.

3.8 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 NEPA, and to address adverse effects on minority and low-income communities.

3.8.1 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 within RCWD, which provides employment opportunities for these minority and/or disadvantaged populations.

3.8.2 Environmental Consequences

No Action Alternative

The No Action Alternative may result in minor impacts to minority or low-income populations within RCWD. Without the ability to improve the district's water supply reliability to sustain existing agriculture, there could be a minor decrease in farm-related jobs which these communities rely so heavily upon.

Proposed Action

The Proposed Action would result in increased conjunctive use in RCWD, which would help maintain the existing agriculture industry with a reliable surface supply of irrigation water. As a result, farm-related jobs for minority and disadvantaged populations within RCWD would slightly benefit from a sustained agricultural economy. The Proposed Action would not cause dislocation, adverse changes in employment, or increase flood, drought, or disease to minority or low-income populations.

3.9 Air Quality

3.9.1 Affected Environment

The Proposed Action area lies within the San Joaquin Valley Air Basin (SJVAB), the second largest air basin in California. 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 all meet State and Federal health-based air quality standards. To protect health, the 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

[a]SJVAPCD 2009 [b]40 CFR 93.153

3.9.2 Environmental Consequences

No Action Alternative

Under the No Action Alternative, there would be no impacts to air quality, inasmuch as 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 PM_{10} 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 NO_2, CO, volatile organic compounds (VOCs, a precursor of ozone), sulfur dioxide, and small amounts of air toxics. Table 4 provides a summary of the estimated emissions during construction.

Table 4. Estimated Project Emissions During Construction	
Pollutant	[a](tons/year)
VOC	0.1
NO_x	0.8
PM_{10}	0.2
CO	0.5
CO_2	84.3

[a]Road Construction Emissions Model, Version 6.3.2

Comparison of the estimated Proposed Action emissions (Table 4) with the thresholds for Federal conformity determinations and the local significance thresholds (Table 3) indicates that estimated emissions are well below these thresholds. In addition, RCWD would comply with the SJVAPCD's Regulation VIII – Rule 8021 control measures (see Appendix C for Rule 8021 control measures) for construction emissions of PM_{10} as stated in their 2010 IS/ND. One of these control measures includes the use of water with all "land clearing, grubbing, scraping, excavation, land leveling, grading, cut and fill, and demolition activities" in order to suppress fugitive dust emission. After construction is completed, the Proposed Action also involves the

importation of surface water supplies by gravity conveyance; therefore, no adverse impacts to air quality would occur and no general conformity analysis is required.

3.10 Global Climate

Climate change refers to significant change in measures of climate that last for decades or longer. Burning of fossil fuels is considered a major contributor to perceived global climate change. Carbon dioxide (CO_2), which is produced when fossil fuels are burned, is a greenhouse gas (GHG) that effectively traps heat in the lower atmosphere. Some carbon dioxide is liberated naturally, but this may be augmented greatly through human activities. Increases in air temperature may lead to changes in precipitation patterns, runoff timing and volume, sea level rise, and changes in the amount of irrigation water needed due to modified evapotranspiration rates. 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).

3.10.1 Affected Environment

California adopted Assembly Bill 32, which identified GHG reduction goals and noted the effect of increased GHG emissions as they relate to global climate change. 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 adverse impact with respect to global climate change.

Locally, impacts would be limited to GHG emissions (primarily CO_2) during construction. In lieu of a specific threshold of significance, it is noteworthy that the EPA has issued the Final Mandatory Reporting of Greenhouse Gases Rule which requires that sources of GHG emissions greater than 25,000 metric-tons per year are required to submit annual reports to the EPA (EPA 2009).

3.10.2 Environmental Consequences

No Action Alternative

The No Action Alternative would involve no change to the composition of GHG in the atmosphere and therefore would not contribute to global climate change.

Proposed Action

The Proposed Action would involve short-term impacts consisting of emissions during construction, which have been estimated at about 84.3 metric tons for CO_2. In addition, the importation of surface water supplies as a result of the transfers and exchanges would be conveyed by gravity and help alleviate the need to pump groundwater, which utilizes electric pumps and involves CO_2 emissions. Accordingly, construction and operations under the Proposed Action would result in no adverse impacts to the global climate or contribute to adverse climate change.

3.11 Cumulative Impacts

There would be cumulative beneficial impacts to the Madera Groundwater Subbasin since long-term importation of surface water supplies and promotion of conjunctive use within the region would help to alleviate the area's dependence on groundwater pumping.

Impacts to land use would be temporary during excavation for the buried pipeline since the areas disturbed would be returned to pre-construction conditions. Cumulative effects resulting in long-term surface water supply reliability for irrigation would be slightly beneficial for the overall land use and sustaining agriculture within the affected environment.

Transfers and exchanges proposed under the Proposed Action would not alter the baseline conditions of biological resources; similar amounts of water are being applied for similar existing lands uses, namely agricultural production. Water would be supplied to agricultural lands to address groundwater overdraft; water is needed to meet crop growth needs and address overdraft. Land use changes would not occur under the Proposed Action. Water supplies in excess of needs by the source, Westside, would be available to meet varying demands for crop production on other lands for similar purpose when and where needed. This would occur through some facility of conveyance, or transfer/exchange. The Section 215 water that may be taken by RCWD through water year 2012 could incrementally increase the amount of water taken under this provision, although it would not cumulatively adversely impact biological resources. Other state or local actions in the area that may contribute cumulatively to changes in biological resources includes the Gateway Village development. Lands that would be affected are largely agricultural, providing limited habitat for wildlife. An Environmental Impact Report for this project has been finalized and determined that the project would have no adverse impact on biological resources. The Proposed Action would not contribute to cumulative adverse impacts to biological resources.

In Reclamation's consultation with the SHPO, the APE defined was that of a much larger area than just the pipeline alignment. The APE also included lands that could potentially receive this water via future connections to the pipeline. The SHPO agreed with the APE as defined by Reclamation and concurred that the Proposed Action would not result in adverse impacts to cultural resources. Since the APE covered reasonably foreseeable related actions, the Proposed Action would not contribute to adverse cumulative impacts to cultural resources.

The Proposed Action would not contribute to cumulative impacts to ITA and Indian sacred sites, since the Proposed Action would have no effect on either resource.

Slight beneficial impacts to socioeconomics and environmental justice would be within historical variations, and therefore would not contribute to cumulative impacts.

According to Table 4, the Proposed Action would involve short-term emissions during construction, which are all well-below the annual threshold levels. Future construction-related projects for interconnecting turnouts on the pipeline are speculative in scope but would most likely be much smaller in scale to the Proposed Action, occur in subsequent years so to not contribute and exceed the annual thresholds for emissions, and may require separate approval

and environmental review. In addition, the pipeline as described in the Proposed Action would connect to existing distribution systems and does not require future turnouts/modifications in order to function. As a result, the Proposed Action would not contribute to cumulative adverse impacts to air quality.

GHG impacts are considered to be cumulative impacts. GHG generated by the Proposed Action is estimated to be 84.3 metric-tons of CO_2, which is well-below the EPA threshold (25,000 tons/year) magnitude required for reporting. In addition, long-term operation of the pipeline would utilize gravity to convey imported surface water supplies; thereby alleviating the need to pump groundwater, which utilizes electric motors and produces CO_2 emissions. 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 increases in GHG emission and the long-term operation of the pipeline would decrease electrically-driven groundwater pumps within RCWD.

The Proposed Action, when added to other related past, existing, and foreseeable projects do not contribute to adverse increases or decreases in environmental conditions. Overall, there would be no adverse cumulative impacts caused by the Proposed Action.

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Section 4 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.

4.1 Public Review Period

Reclamation intends to provide the public with an opportunity to comment on the draft EA and Finding of No Significant Impact during a 30-day public comment period from July 5, 2011 through August 3, 2011.

4.2 Fish and Wildlife Coordination Act (16 USC § 651 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 Proposed Action does not involve federal water development; therefore, the FWCA does not apply.

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

Section 7 of the Endangered Species Act requires Federal agencies to ensure that all federally associated activities within the United States 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. Pre-construction biological surveys for SJKF are required before any ground-disturbing activities are to begin. Additionally, measures for avoidance of effects to SJKF and CTS would be implemented (see Appendix C).

Reclamation initiated informal consultation with USFWS on the Proposed Action and determined that the Proposed Action is not likely to adversely affect SJKF and CTS. Reclamation has further determined that the Proposed Action would not affect critical habitat or other federally listed species, including anadromous fish. Contingent upon concurrence for Reclamation's determination regarding SJKF and CTS by USFWS, the project would not adversely affect listed species.

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

The NHPA of 1966, as amended, is the primary Federal legislation that outlines the Federal Governments' responsibility to consider the affects 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.

As determined in Section 3.4.2, Reclamation determined that the Proposed Action would not adversely impact cultural resources. The SHPO concurred in a letter dated August 22, 2007 (see Appendix D).

4.5 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 (see Appendix D for ITA determination). The nearest ITA is the Table Mountain Rancheria approximately 10 miles northeast of the Proposed Action location.

4.6 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 birds protected by the MBTA. Protective measures to avoid take of migratory birds would be implemented and therefore it is anticipated that the Proposed Action would have no effect on birds protected by the MBTA.

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 floodplains, and similarly, Executive Order 11990 places similar requirements for actions in wetlands.

The Proposed Action would construct facilities that would ultimately deliver surface water to existing agriculture that would otherwise pump groundwater. The pipeline would not involve excavation through wetlands or affect floodplains.

4.8 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 3.9.2, the Proposed Action would not result in air quality impacts that would exceed State, Federal, and local thresholds and no general conformity analysis is required.

4.9 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 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 Army Corps of Engineers to issue permits to regulate the discharge of "dredged or fill materials into waters of the United States" (33 USC § 1344).

The pipeline alignment would involve jack and boring under Root Creek when the creek is most likely to be dry. 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.

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