

RECLAMATION

Managing Water in the West

Final Environmental Assessment

Tulare Irrigation District WaterSMART Funding Grant for Visalia Water Conservation Project and 25-year Exchange with the City of Visalia

EA-10-089



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

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Mission Statements

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

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

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List of Acronyms and Abbreviations

af	Acre-feet
APE	Area of Potential Effect
BOD	Biological Oxygen Demand
CFR	Code of Federal Regulations
City	City of Visalia
CO ₂	Carbon dioxide
CVP	Central Valley Project
EA	Environmental Assessment
Ec	electrical conductivity
EIR	Environmental Impact Report
EPA	Environmental Protection Agency
GHG	Greenhouse gases
ITA	Indian Trust Assets
mg/m ³	Milligram per cubic meter
NHPA	National Historic Preservation Act
National Register	National Register of Historic Places
NHPA	National Historic Preservation Act
PM _{2.5}	Particulate matter less than 2.5 microns in diameter
PM ₁₀	Particulate matter between 2.5 and 10 microns in diameter
PPM	Parts per million
RCP	Reinforced concrete pipeline
Reclamation	Bureau of Reclamation
Regional Board	Regional Water Quality Control Board
ROW	Right of Way
SHPO	State Historic Preservation Officer
SJVAB	San Joaquin Valley Air Basin
SJVAPCD	San Joaquin Valley Air Pollution Control District
SWP	State Water Project
TDS	total dissolved solids
TID	Tulare Irrigation District
µg/m ³	Microgram per cubic meter
WCP	Water Conservation Plant

Section 1 Purpose and Need for Action

1.1 Background

The Tulare Irrigation District (TID) and the City of Visalia (City) have proposed a cooperative and mutually-beneficial project to reduce local and regional water conflicts through conservation of treated wastewater supplies, which also allows for the diversification of TID's and the City's water supplies.

Currently, the City discharges its treated municipal wastewater effluent to an existing creek system; however, the City has been ordered to discontinue this practice by the Central Valley Regional Water Quality Control Board (Regional Board). The City has proposed upgrading their existing wastewater treatment plant (Water Conservation Plant or WCP) to include a new tertiary treatment process in order to improve the quality of their treated water. The City prepared a Draft Environmental Impact Report (EIR) in 2011 pursuant to the California Environmental Quality Act that evaluated the environmental impacts of the construction of the treatment plant and a system of pipelines to distribute the effluent for reuse (City of Visalia, 2011). The final EIR was certified on February 19, 2013. The upgrade in the treatment plant is not part of Reclamation's Proposed Action.

One of the reuses of the tertiary treated water is the proposed delivery to TID under an exchange program. Under this exchange arrangement, TID would owe the City one acre-foot (af) of Central Valley Project (CVP) water for every two received from the treatment plant. The source of return water from TID is primarily from the Friant Unit of the CVP and TID's contract for a water supply. Water returned to the City would be exclusively used for groundwater recharge in channels and facilities deemed advantageous to the City's underlying groundwater supply.

The City and TID have proposed conveying a portion of the tertiary treated water to TID via a new reinforced concrete pipe. The City also prepared a Recirculated Draft EIR in October 2012 which addressed project changes, including the TID facilities analyzed in this Environmental Assessment (EA).

TID applied for and has been selected as a potential recipient of Federal funding assistance through a 2011 WaterSMART grant in the amount of \$696,000 from the Bureau of Reclamation (Reclamation). The grant would be used for purchasing and installation of the new reinforced concrete pipe that would carry the tertiary treated water to TID and for groundwater recharge basin improvements.

TID has also requested that Reclamation approve a 25-year exchange of tertiary-treated water for a portion of TID's Class 1, Class 2, Section 215 or Recovered Water Account water (collectively referred to as "CVP water") between TID and the City as described in Section 2.2.

1.2 Need for the Proposed Action

TID needs to conserve water, get access to a more reliable supply of surface water, and improve groundwater recharge capabilities for itself and the City.

1.3 Scope

This EA discusses Reclamation's action, summarizes affected environment and impacts from the City's EIR and Recirculated Draft EIR, and analyzes impacts from Reclamation's Proposed Action, including Federal requirements not in the City's documents.

The Proposed Action is located in southern Tulare County, approximately 3 miles southeast of the City of Visalia (Figure 1). The area analyzed includes a linear portion along Road 68 between a point just southwest of the City's WCP and TID's Evans Ditch near Avenue 268, TID's existing conveyances to their water users, TID's Regulation basins identified as Basin No. 3, and Anderson Basin. The time period analyzed is the duration of construction for the proposed pipeline, and 25 years for the proposed tertiary treated water for CVP water exchange.

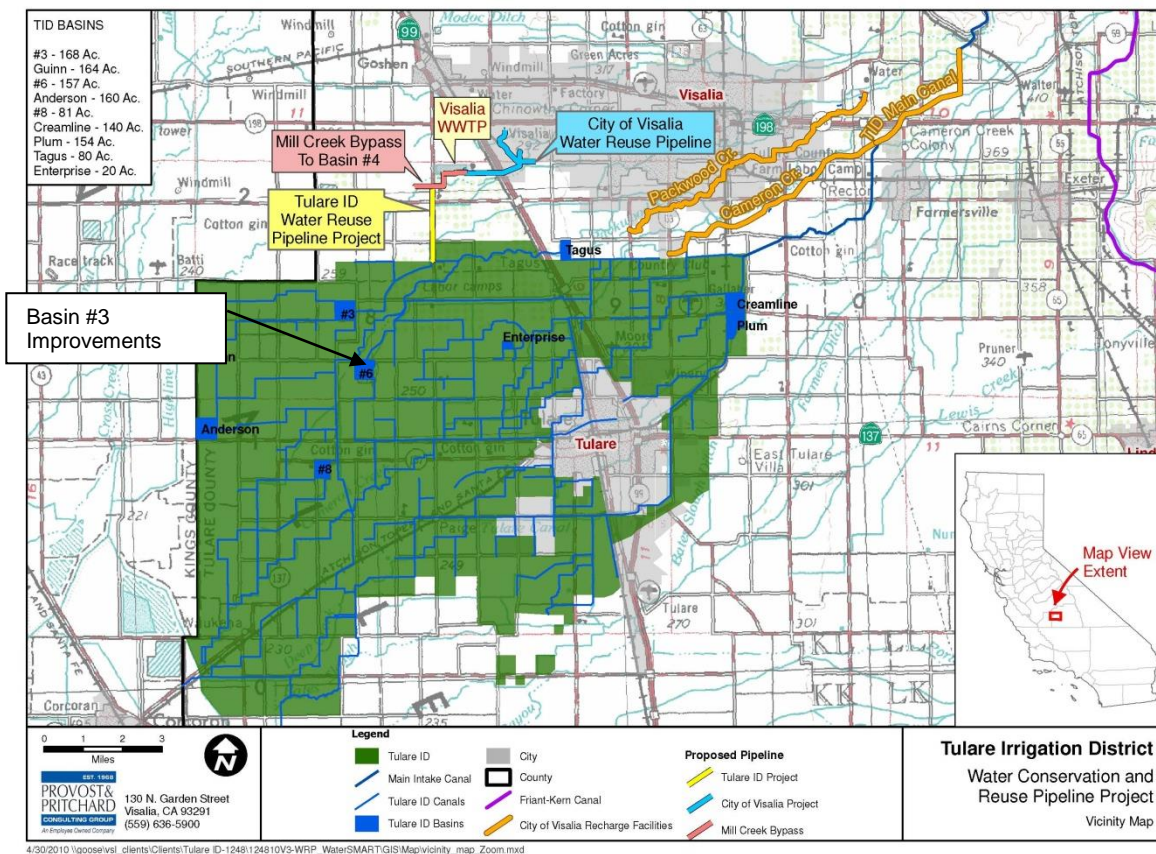


Figure 1. Project Location Map

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 that would result from implementation of the Proposed Action.

2.1 No Action Alternative

Reclamation would not award a WaterSMART Grant to TID that would provide partial funding for the construction of the TID Water Conservation and Reuse Pipeline (TID Pipeline) between TID and the City. Additionally, Reclamation would not approve a 25-year exchange of CVP water between TID and the City. No new TID conveyance structures or additional mechanical improvements would be constructed, and conditions would remain the same in TID. TID could transfer CVP water to the City on an annual basis under the existing Accelerated Water Transfer Program. The City could still move forward with their portions of their WCP project, delivering all plant effluent to other places as may be approved by the Regional Board.

2.2 Proposed Action

Reclamation would award a \$696,000 WaterSMART Grant for the construction of the TID Pipeline, and would approve a 25-year exchange of a portion of the City's treatment plant tertiary treated water for a portion of TID's available CVP water.

The TID Pipeline would be an approximately 8,300-foot long, 60-inch diameter, precast rubber-gasketed reinforced concrete pipeline (RCP). A concrete and metal water control structure would divert tertiary treated water from the City's planned Mill Creek Bypass Pipeline into the TID Pipeline (Figure 2). The TID Pipeline would continue south along the alignment of County Road 68 right of way (ROW). At its southern end, the TID Pipeline would terminate in an outfall into the existing Evans Ditch at the corner of County Road 68 and Avenue 268 (Figure 2). Once in Evans Ditch, the tertiary treated water would be delivered to TID's customers or incidentally spilled into Regulation Basin No. 3 or Anderson Basin on occasion when there is no immediate irrigation demand from TID farmers (Table 1).

The TID Pipeline, air vents, high-accuracy flow meters, and supervisory control and data acquisition equipment would be installed along Road 68 in a linear trenched area approximately 10 feet wide by 10 feet deep. Excavation of the trench would temporarily stockpile approximately 34,100 cubic yards of fill material in the road's ROW. All excavated material would be used as fill and compacted to cover the trench once the new pipeline is installed.

Equipment required to perform the construction include: long-boom excavators, backhoes, cranes, graders, scrapers, haulers, concrete trucks, water trucks, dump trucks, and pumper trucks. The equipment would be staged in a 20 foot wide corridor near the construction area in the road's ROW.

Construction would last approximately 4 months and would occur between July 2014 and September 2014. The connection to the Evans Ditch would occur during a dewatered period when TID typically does not deliver water in its canals.

Additionally, Reclamation would approve a 25-year exchange of TID's CVP water of up to 40,000 af annually. The CVP water would be diverted to the City from existing turnouts on the Friant-Kern Canal at either the St. Johns River or the Lower Kaweah River. The CVP water would be used by the City for groundwater recharge purposes in existing groundwater recharge basins and channels. In exchange, the City would send TID tertiary treated water via the TID Pipeline. The CVP water exchanged with the City would be on an intermittent basis, and consists primarily of Class 2 and other supplies surplus to the needs of TID as would occur in wetter hydrologic years.

The pipeline would deliver up to 100 cubic feet per second (cfs) of tertiary treated water. TID would receive on average approximately 12,000 af/year of tertiary treated water. Under the exchange arrangement, the aforementioned 2:1 exchange ratio will be achieved on a 10-year rolling average basis, with larger wet-year deliveries to the City amounting to one-half of the steady year-in, year-out deliveries to TID.

Table 1. Average Effluent Deliveries to TID

Month	Estimated Deliveries to Farmland (acre-feet)	Estimated Spills to Basin No. 3 (acre-feet)
January	206	594
February	613	187
March	956	0
April	956	0
May	956	0
June	956	0
July	956	0
August	955	0
September	955	0
October	955	0
November	706	249
December	500	300
Total	9,670	1,330
Grand Total	11,000	

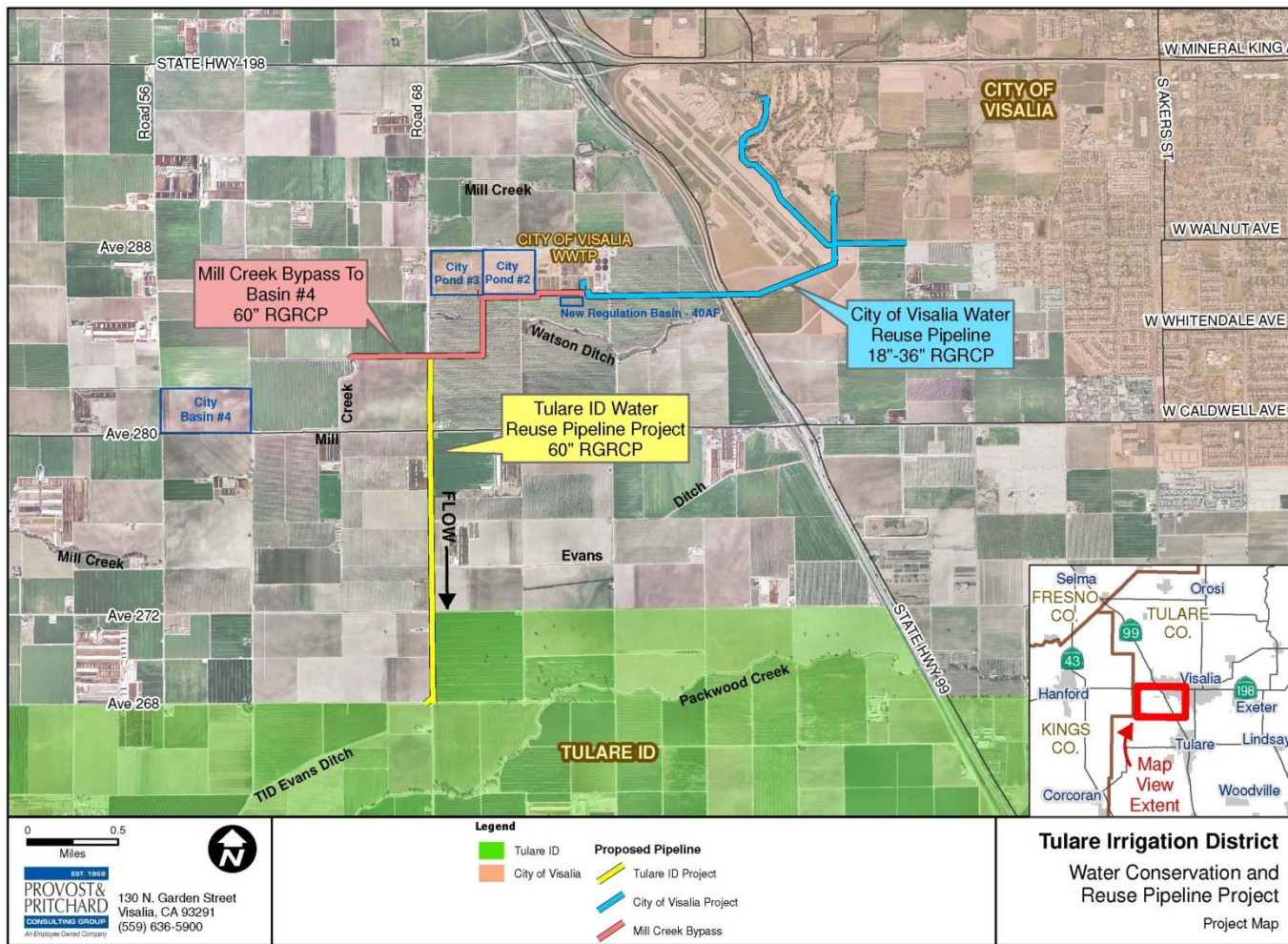


Figure 2. Tulare Irrigation District Water Conservation and Reuse Pipeline Project Facilities

2.3 Environmental Protection Measures

TID would implement the following environmental protection measures to reduce potential environmental consequences associated with the Proposed Action (Table 2). Environmental consequences for resource areas assume the measures specified would be fully implemented.

Table 2. Environmental Protection Measures

Resource	Measure
Air Quality	Implement control measures for construction emissions of particulate matter less than 10 microns in diameter (PM10) according to the San Joaquin Valley Air Pollution Control District's (SJVAPCD) Regulation VIII (SJVAPCD 2012b). One measure includes the use of water with all "land clearing, grubbing, scraping, excavation, land leveling, grading, cut and fill, and demolition activities" for fugitive dust suppression.
Biological Resources – Swainson's Hawks	If construction occurs during avian breeding season (February 15 to September 1), preconstruction surveys for nesting Swainson's hawks shall be performed within 0.5 mi of the project area according to established protocol (CDFG 1994). In the event that Swainson's hawks are found, the mitigation measure in the Staff Report Regarding Mitigation Impacts for Swainson's Hawks (<i>Buteo swainsoni</i>) in the Central Valley of California (CDFG 1994) shall be implemented during construction.
Biological Resources – San Joaquin Kit Fox (from USFWS letter to the State Water Resources Control Board)	<p>The City shall retain a qualified biologist to conduct a preconstruction survey no more than 60 days prior to project initiation. If any evidence of site occupation by kit fox is observed, the qualified biologist shall establish a buffer that provides sufficient protection (i.e., avoids dens) and complies with applicable regulations. The recommended buffers would be 50 feet for potential dens and 100 feet for known dens. If sufficient avoidance cannot be established, the City shall contact USFWS and DFG for further guidance. The measures listed below shall be implemented prior to and during construction at the project site.</p> <ul style="list-style-type: none"> • If any San Joaquin kit fox dens are found during preconstruction surveys, a qualified biologist shall evaluate the status of the dens no more than 14 days prior to project initiation. Provided that no evidence of kit fox occupation is observed, potential dens shall be marked and a 50-foot avoidance buffer delineated using stakes and flagging or

	<p>other similar material to prevent inadvertent damage to the potential den. If a potential den cannot be avoided, it may be hand excavated following USFWS standardized recommendations for the protection of the San Joaquin kit fox prior to or during ground disturbance. If kit fox activity is observed at a den, the den status shall change to known, per USFWS guidelines (1999), and the avoidance buffer distance shall be increased to 100 feet. Absolutely no excavation of San Joaquin kit fox known or pupping dens shall occur without prior authorization from USFWS and CDFG.</p> <ul style="list-style-type: none"> • All construction pipes, culverts, or similar objects with a diameter of 4 inches or more that are stored at a construction site for one or more overnight periods and shall be thoroughly inspected for kit foxes before the pipe is buried, capped, or otherwise used or moved in any way. If a kit fox is discovered inside a pipe, that section of pipe shall not be moved until USFWS has been consulted. If necessary, under the direct supervision of the biologist, the pipe may be moved once to remove it from the path of construction activity until the fox has escaped. <p>In order to be consistent with the Service's <i>Standard Recommendations for Protection of the Endangered San Joaquin Kit Fox Prior to or During Ground Disturbance</i> (2011), State Water Resources Control Board will require the City to conduct a preconstruction survey of the Project site no more than 30 days prior to the beginning of any Project activity that could impact the San Joaquin kit fox as a special condition to the City's financing agreement.</p>
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Section 3 Affected Environment and Environmental Consequences

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

3.1 Resources Not Analyzed in Detail

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

3.1.1 Cultural Resources

Reclamation conducted historic property identification efforts and identified that the Calloway Canal was previously determined to be not eligible for inclusion in the National Register of Historic Places under consensus with the State Historic Preservation Officer (SHPO). With no historic properties within the area of potential effect, Reclamation determined that a finding of no historic properties affected, pursuant to 36 CFR §800.4(d)(1), was appropriate for this undertaking.

Reclamation initiated consultation with the SHPO on May 6, 2014 via a mailed consultation package for this undertaking. On June 9, 2014, Reclamation received concurrence on this finding of effect (See Appendix A).

3.1.2 Indian Trust Assets (ITAs)

ITAs are legal interests in assets that are held in trust by the United States for federally recognized Indian tribes or individuals. There are no Indian reservations, rancherias or allotments in the project area. The nearest ITA is the Santa Rosa Rancheria, approximately 19 miles southwest of the project location. The Proposed Action does not have a potential to affect ITAs (See Appendix B).

3.1.3 Indian Sacred Sites

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

3.1.4 Environmental Justice

Executive Order 12898 requires each Federal agency to identify and address disproportionately high and adverse human health or environmental effects, including social and economic effects of its program, policies, and activities on minority populations and low-income populations.

There are no negative impacts to any population, and therefore, the Proposed Action would not have a significant or disproportionately negative impact on low-income or minority individuals or populations.

3.2 Water Resources

3.2.1 Affected Environment

Tulare Irrigation District

TID's average annual surface water supply totals approximately 163,400 af/year which is generated from two sources: Kaweah and St. John's Rivers pre-1914 water rights and a water service contract for agricultural and municipal and industrial surface water supplies (Class 1 and 2) with Reclamation from the Friant Division of the CVP. At present, TID provides only agricultural water supplies, conveying water to approximately 230 farms within its service area, and does not serve municipal and industrial water uses. The District owns few groundwater extraction facilities (wells) and none are used as a source of water for its distribution system; therefore, each individual landowner within TID must use private groundwater wells to sustain irrigation during periods when the district is not diverting surface water into its system.

TID's central diversion and conveyance facility, the Main Intake Canal, begins about 15 miles northeast of the district and generally extends southwesterly to convey surface water to the district's service area. The Main Intake Canal begins at its confluence with the Friant-Kern Canal at milepost 68.14 and, en route to the District, receives Kaweah and St. Johns River water at various points. The District utilizes a network of approximately 300 miles of earthen canals and 30 miles of pipeline to deliver water to landowners throughout its service area.

Groundwater Resources

The Proposed Action Area overlies the Kaweah Groundwater Subbasin of the San Joaquin Valley Basin, and confined within the Tulare Lake Hydrologic Region. Major rivers and streams in the subbasin include the Kaweah and St. Johns Rivers, which account for most of the estimated 62,400 af/year of natural recharge to the subbasin. There is an average of approximately 286,000 af/year of applied water recharge into the subbasin. Annual urban and agricultural extraction is estimated to be 58,800 af and 699,000 af, respectively. The subbasin water level has declined about 12 feet from 1970 through 2000 (DWR 2003). See the City of Visalia Water Conservation Plant Upgrades Project Recirculated Draft EIR (City of Visalia 2012) for additional details on groundwater resources.

3.2.2 Environmental Consequences

No Action

Under the No Action Alternative, Reclamation would not award a WaterSMART Grant to TID that would help fund the construction of the TID Pipeline, nor would Reclamation approve an exchange of water between TOD and the City. Water would continue to be conveyed in the existing canals and no additional water for agricultural users would be conveyed into the Evans Ditch. TID would continue to use its surface water supplies as has historically occurred. Private ground water wells would be used to sustain irrigation.

Proposed Action

Groundwater Impacts. Groundwater impacts were analyzed in the City of Visalia Water Conservation Plan Upgrades Project Draft EIR (City of Visalia 2011) and the City of Visalia Water Conservation Recirculated Draft EIR (City of Visalia 2012). Below is a summary of the discussion provided in the documents and their subsequent conclusions:

Project Impact on San Joaquin valley Groundwater Basin. The proposed project would not reduce the amount of groundwater recharged within the Kaweah River Hydrologic Unit (No. 5588.10) because all of the tertiary treated water from the treatment plant will stay within the Kaweah River watershed. Through the Exchange Agreement with TID, the Kaweah River watershed will also experience elevated levels of groundwater recharge above the City of Visalia. In addition the project does not propose to export any existing water supplies.

Localized Groundwater Impacts. The treatment plant currently discharges treated water into Mill Creek that is then used by downstream farmers for irrigation and for groundwater recharge in Basin No. 4 (all impacted lands are located with the Kaweah Delta Water Conservation District).

It is anticipated that 25% of the tertiary treated water will be conveyed to the park and golf course and the remaining 75% of the treated water will be delivered to TID for irrigation purposes. Based upon these parameters two modeling scenarios were run by AMEC Geomatrix utilizing MODFLOW2000, which is a groundwater modeling software. The modeling concluded that the project would have a significant change to the perched water table west of the treatment plant where water is currently being discharged into Mill Creek. The modeling showed that there was a lowering of the groundwater table, but not a net deficit in overall aquifer volume. Therefore, this localized impact is a significant and unavoidable impact that has no feasible mitigation measure.

Water Quality Impacts. As shown in Table 3, beneficial uses of the receiving water would not be impacted by any of the constituents considered, based on the water quality objectives listed. Two of the constituents listed would cause degradation of the groundwater: chloride and Electrical Conductivity (EC). Although background water quality was not established for sodium and total dissolved solids (TDS), the projected tertiary treated water concentration for these constituents would likely cause degradation of the groundwater. However, existing effluent concentrations of chloride, sodium, and TDS are below all water quality objectives, and therefore require no further analysis. EC was determined to have an impact but was within the

Basin Plan allowable incremental increase of 3 $\mu\text{mhos/cm}$ per year, averaged over 5 years (15 $\mu\text{mhos/cm}$ over the 5-year period). The remaining constituents would not impact the existing groundwater conditions or the beneficial uses. Although the quality of the tertiary treated water is poorer than the groundwater, the addition of the tertiary treated water would cause groundwater quality to fall below water quality thresholds.

Biological oxygen demand (BOD) concentrations in the tertiary treated water would be typically less than 10 mg/L. There has been concern from other locations that higher levels of BOD cause soil bacteria to develop into an anaerobic environment. The resulting oxygen-depleted environment causes soil pH to decline, which has the potential to cause metals to leach from the soils. The low levels of BOD in the City tertiary treated water should allow dissolved oxygen to persist throughout the vadose zone, and thereby avoid the depressed pH levels and associated leaching concerns.

The Porter-Cologne Act recognizes that “it may be possible for the quality of water to be changed to some degree without unreasonably affecting beneficial uses.” Additionally, the Water Quality Control Plan for the Tulare Lake Basin acknowledges, “No proven means exist at present that would allow ongoing human activity in the Basin and maintain ground water salinity at current levels throughout the Basin. Accordingly, the water quality objectives for ground water salinity control the rate of increase.” For the Kaweah River hydrographic unit, under which the City of Visalia falls, the maximum average annual increase in salinity measured as electrical conductivity shall not exceed 3 $\mu\text{mhos/cm}$ as averaged over a 5-year period (15 $\mu\text{mhos/cm}$ increase over 5 years). An analysis of this information is provided in the Antidegradation Analysis, City of Visalia Water Conservation Plant (Provost & Pritchard 2012).

Cumulative Impacts

An antidegradation analysis was prepared to determine if the proposed project would have a significant adverse effect on groundwater quality below the recycled water use area. The analysis modeled 26 constituents that could be present in the plant’s tertiary treated water as a result of the proposed project. Based on information in the Antidegradation Analysis, it was determined that the proposed project would not significantly affect groundwater quality for any of the constituents over a 20-year period. In particular, EC levels in the groundwater as a result of the proposed project would not significantly affect beneficial uses for groundwater (i.e., agricultural uses). EC was the only constituent of concern in the analysis with the potential to degrade groundwater quality significantly. However, the overall EC impact would not result in an exceedance of any water quality objective. Therefore, the proposed project would not contribute to a cumulatively considerable groundwater quality impacts.

Because the project would allow treated tertiary treated water to percolate into the ground from existing farmland or two basins, and because the Kaweah River watershed in the Visalia area is a contained basin, the proposed project would not result in a net deficit in aquifer volume within the regional Kaweah River Hydrologic Unit (No. 558.10). However, the proposed project would alter local groundwater levels within the basin because current effluent discharges into Mill Creek downstream of the plant would cease. This tertiary treated water would instead be conveyed through the proposed tertiary treated water conveyance system to other areas within the basin (i.e., the two basins and farmland). The result would be a lowering of the local groundwater table downstream of the plant, with the level rising in other areas of the basin.

Table 3. Water Quality Objectives – Constituents of Concern City of Visalia Antidegradation Analysis

Constituent	Units	Background GW Conc. ^a	Projected Recycled Water Conc. ^c	Water Quality Objective (GW)	Beneficial Use – Threshold Source	Will Degradation Occur?	Will Beneficial Use be Impacted?
Aluminum	µg/L	NS	110	200	MUN-Secondary MCL	No	No
Arsenic	µg/L	NS	1.4	10	MUN-Primary MCL	No	No
Barium	µg/L	NS	24	1000	MUN-Primary MCL	No	No
Boron	µg/L	NS	170	700	AGR	No	No
Bromodichloromethane	µg/L	NS	0.76	80	MUN-Primary MCL	No	No
Cadmium	µg/L	NS	<0.2	5.0	MUN-Primary MCL	No	No
Chloride	mg/L	22	76*	106	AGR	Yes	No
Chloroform	µg/L	NS	6.5	80	MUN-Primary MCL	No	No
Chromium VI (as Cr)	µg/L	NS	12	50	MUN-Primary MCL	No	No
Copper	µg/L	NS	8.1	200	AGR	No	No
Cyanide	µg/L	NS	5.7	150	MUN-Primary MCL	No	No
Electrical Conductivity @ 25 °C	µmhos/cm	510 ^b	667*	Source + 500 700	AGR	Yes	No
Iron	µg/L	NS	170	300	MUN-Secondary MCL	No	No
Lead	µg/L	NS	0.62	15	MUN-Primary MCL	No	No
Manganese	µg/L	NS	12	50	MUN-Secondary MCL	No	No
Mercury	µg/L	NS	0.95	1.2	MUN-Toxicity (PHG)	No	No
Nickel	µg/L	NS	4.8	12	MUN-Toxicity (PHG)	No	No
Nitrate as N	mg/L	10	5.7	10	MUN-Primary MCL	No	No
pH	pH units	7.1-7.7	6.5-8.5	6.5-8.4	AGR	No	No
Selenium	µg/L	NS	2.1	20	AGR	No	No
Silver	µg/L	NS	1.1	35	MUN-Toxicity (IRIS)	No	No
Sodium	mg/L	NS	67*	69	AGR	Likely	No
Sulfate	mg/L	NS	38	250	MUN-Secondary MCL	No	No
Total Dissolved Solids (TDS)	mg/L	NS	420*	450	AGR	Likely	No
Zinc	µg/L	NS	36	2000	AGR	No	No
Total Coliform Organisms	MPN/100 mL	NS	2.2	2.2	Basin Plan		No

a. Existing groundwater concentrations are approximated based on City of Visalia upgradient MW-A and dairy data near the recycled water use areas.

b. Background EC based on a weighted average of EC values for the various recycled water use areas.

c. Projected recycled water concentrations are based on existing effluent concentrations as reported in the City of Visalia's 2009-2011 self-monitoring reports

* Concentrations in the recycled water may decrease when process changes to UV disinfection, but credit has not been taken for those reductions in this table.

NS: Not Sampled

3.3 Land Use

3.3.1 Affected Environment

TID is comprised of roughly 70,000 acres, of which approximately 62,000 are irrigated to alfalfa, field corn, wheat, cotton, and various other crops. Portions of the Proposed Action Area where the pipeline is located are not used for agriculture; however the area served by the pipeline consists of many nut crops, dairy feed crops and cotton. The new pipeline would be located in existing roadways, either in the road itself, or within its ROW shoulder.

3.3.2 Environmental Consequences

No Action

Under No Action, there would be no change in land use.

Proposed Action

This Proposed Action would not change any land uses as the pipeline being installed would be underground and the above ground uses (mainly road and road shoulders) would be restored and returned to pre-construction conditions.

3.4 Biological Resources

3.4.1 Affected Environment

The Affected Environment for Reclamation's Proposed Action includes the area for the pipeline construction. Reclamation conducted a site visit on November 19, 2012 to examine the pipeline. The pipeline route does not contain elderberry shrubs and the only trees are a few small non-native trees of heaven. A species list of Federal threatened and endangered species for Tulare County was obtained from http://www.fws.gov/sacramento/es_species/Lists/es_species_lists-form.cfm on February 13, 2014 (document number 140213034619). Table 4 below lists these species and critical habitat and summarizes the effects determination and occurrence in the Proposed Action Area. The table is based on Reclamation's site visit, the City of Visalia's original draft EIR (City of Visalia 2011), and data in the California Natural Diversity Database (CNDDB, DFW 2014). The City of Visalia's draft EIR discusses other species.

Table 4. Special Status Species Potentially Occurring within the Proposed Action Area

<u>Species</u>	<u>Status</u>¹	<u>Effects</u>²	<u>Occurrence in the Proposed Action Area</u>³
Amphibians			
California red-legged frog (<i>Rana draytonii</i>)	T	NE	Absent. No longer occurs on valley floor.
California tiger salamander (<i>Ambystoma californiense</i>)	T, X	NE	Absent. No seasonal wetlands in or within 1.3 miles of the Proposed Action Area.
mountain yellow-legged frog (<i>Rana muscosa</i>)	FE, PX	NE	Absent. Proposed Action is outside the species' range.
Sierra yellow-legged frog (<i>Rana sierrae</i>)	PE, PX	NE	Absent. Proposed Action is outside the species' range.

<u>Species</u>	<u>Status¹</u>	<u>Effects²</u>	<u>Occurrence in the Proposed Action Area³</u>
Yosemite toad (<i>Bufo canorus</i>)	PT, PX	NE	Absent. Proposed Action is outside the species' range.
Birds			
California condor (<i>Gymnogyps californianus</i>)	E, X	NE	Absent. Not expected to use farm fields on the valley floor.
Least Bell's vireo (<i>Vireo bellii pusillus</i>)	E	NE	Absent. Suitable riparian habitat with a well-developed understory is lacking.
southwestern willow flycatcher (<i>Empidonax traillii extimus</i>)	E	NE	Absent. Suitable riparian habitat is lacking.
western snowy plover (<i>Charadrius alexandrinus nivosus</i>)	T	NE	Absent. Surveys conducted for the City of Visalia (2011), the November 19, 2012 site visit, and CNDDDB (CDFG 2012) records indicate this species is absent. In Tulare County, snowy plovers are known to use evaporation basins, which do not exist in the Proposed Action Area.
Western yellow-billed cuckoo (<i>Coccyzus americanus occidentalis</i>)	C	NE	Absent. Extensive cottonwood-willow riparian forest no longer occurs in San Joaquin Valley.
Fish			
delta smelt (<i>Hypomesus transpacificus</i>)	T	NE	Absent. No natural waterways within the species' range would be affected by the Proposed Action.
Little Kern golden trout (<i>Oncorhynchus aquabonita whitei</i>)	T, X	NE	Absent. Proposed Action is outside the species' range.
Owens tui chub (<i>Gila bicolor snyderi</i>)	E	NE	Absent. Proposed Action is outside the species' range.
Invertebrates			
Conservancy fairy shrimp (<i>Branchinecta conservatio</i>)	E	NE	Absent. No vernal pools in Proposed Action Area
valley elderberry longhorn beetle (<i>Desmocerus californicus dimorphus</i>)	T	NE	Absent. Elderberry shrubs are not present within 100 feet of the Proposed Action Area.
vernal pool fairy shrimp (<i>Branchinecta lynchi</i>)	T, X	NE	Absent. No vernal pools in Proposed Action Area.
vernal pool tadpole shrimp (<i>Lepidurus packardii</i>)	E, X	NE	Absent. No vernal pools in Proposed Action Area.
Mammals			
fisher (<i>Martes pennanti</i>)	C	NE	Absent. Proposed Action is outside the species' range.
Fresno kangaroo rat (<i>Dipodomys nitratoideis exilis</i>)	E, X	NE	Absent. Proposed Action is outside the species' range.
giant kangaroo rat (<i>Dipodomys ingens</i>)	E	NE	Absent. Proposed Action is outside the species' range.
San Joaquin kit fox (<i>Vulpes mactotis mutica</i>)	E	NE	Absent. No evidence of this species' occurrence was found in 2011 (City of Visalia). Although this area is at one edge of the species' range, it is so far from suitable occupied habitat that it would not be expected to be occupied; the foxes can use agricultural lands for foraging, but they must have other habitat nearby that they can use for denning (Warrick et al. 2007), and there is none near the Proposed Action Area.
Sierra Nevada bighorn sheep (<i>Ovis canadensis californiana</i>)	E	NE	Absent. Proposed Action is outside the species' range.
Tipton kangaroo rat (<i>Dipodomys nitratoideis nitratoideis</i>)	E	NE	Absent. There is no undisturbed saltbush scrub or arid grassland present in the Proposed Action Area.

<u>Species</u>	<u>Status</u>¹	<u>Effects</u>²	<u>Occurrence in the Proposed Action Area</u>³
Plants			
California jewelflower (<i>Caulanthus californicus</i>)	E	NE	Absent. There is no undisturbed saltbush scrub or arid grassland present in the Proposed Action Area.
Greene's tuctoria (<i>Tuctoria greenei</i>)	E	NE	Absent. No vernal pools in Proposed Action Area.
Hoover's spurge (<i>Chamaesyce hooveri</i>)	T, X	NE	Absent. No vernal pools in Proposed Action Area.
Keck's checker-mallow (<i>Sidalcea keckii</i>)	E, X	NE	Absent. Undisturbed grasslands are absent from the Proposed Action Area.
Kern mallow (<i>Eremalche kernensis</i>)	E	NE	Absent. There is no arid grassland or saltbush scrub in the Proposed Action Area.
Ramshaw sand-verbena (<i>Abronia alpina</i>)	C	NE	Absent. Proposed Action is outside the species' range.
San Joaquin adobe sunburst (<i>Pseudobahia peirsonii</i>)	T	NE	Absent. Undisturbed grasslands are absent from the Proposed Action Area.
San Joaquin Valley Orcutt grass (<i>Orcuttia inaequalis</i>)	T, X	NE	Absent. No vernal pools in Proposed Action Area.
Springville clarkia (<i>Clarkia springvillensis</i>)	T	NE	Absent. Proposed Action is outside the species' range.
Reptiles			
Blunt-nosed leopard lizard (<i>Gambelia sila</i>)	E	NE	Absent. There is no arid grassland or saltbush scrub in the Proposed Action Area.
Giant garter snake (<i>Thamnophis gigas</i>)	T	NE	Absent. The species no longer occurs in Tulare County, and suitable wetland habitat is absent.
¹ Status= Status of federally protected species protected under federal Endangered Species Act. E: Listed as Endangered under the federal Endangered Species Act. PE: Proposed for listing as Endangered under the federal Endangered Species Act. T: Listed as Threatened under the federal Endangered Species Act. PT: Proposed for listing as Threatened under the federal Endangered Species Act. X: Critical habitat designated under the federal Endangered Species Act. PX: Critical habitat proposed for designation under the federal Endangered Species Act. C: Candidate to become a proposed species. ² Effects = Endangered Species Act Effect determination NE: No Effect anticipated from the Proposed Action to federally listed species ³ Definition Of Occurrence Indicators Present: Species observed in the area. Absent: Species not recorded in study area and/or habitat requirements not met			

3.4.2 Environmental Consequences

No Action

Under the No Action Alternative, the pipeline would not be constructed. Therefore, minor impacts to birds that may use the few trees along the pipeline route would not occur.

Proposed Action

Under the Proposed Action, minor impacts could occur for migratory birds along the pipeline route if these birds are using the few small trees along the route, but TID would ensure that no nesting birds would be disturbed. A biologist would survey the trees, and if active nests were found, construction would be timed to avoid nesting activity.

Specifically for Swainson's hawks, a qualified biologist would conduct preconstruction surveys to identify any Swainson's hawks that may be nesting within 10 miles of the project site. If a Swainson's hawk is found within 10 miles of the project site, the mitigation measures in the Staff Report Regarding Mitigation Impacts for Swainson's Hawks (*Buteo swainsoni*) in the Central Valley of California (California Department of Fish and Game 1994) shall be implemented during construction.

The San Joaquin kit fox is not expected to occur as explained in Table 4. However, Environmental Protection Measures in Table 2 would be followed for the kit fox.

3.5 Air Quality

On November 30, 1993, the Environmental Protection Agency (EPA) promulgated final general conformity regulations with the Clean Air Act at 40 CFR 93 Subpart B for all federal activities except those covered under transportation conformity. The general conformity regulations apply to a proposed federal action in a non-attainment or maintenance area if the total of direct and indirect emissions of the relevant criteria pollutants and precursor pollutant caused by the Proposed Action equal or exceed certain *de minimis* amounts thus requiring the federal agency to make a determination of general conformity. These thresholds are presented in Table 4.

3.5.1 Affected Environment

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

3.5.2 Environmental Consequences

No Action

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

Proposed Action

Construction emissions would vary from day to day and by activity, timing and intensity, and wind speed, direction, and duration. Generally, air quality impacts from the Proposed Action would be temporary and localized in nature.

Short-term air quality impacts would be associated with construction, and would generally arise from dust generation (fugitive dust) and operation of construction equipment. Fugitive dust results from land clearing, grading, excavation, concrete work, and vehicle traffic on paved and unpaved roads. Fugitive dust is a source of airborne particulates, including PM₁₀ and PM_{2.5}.

Earth-moving equipment, trucks, and other mobile sources powered by diesel or gasoline are also sources of combustion emissions, including nitrogen dioxide, carbon monoxide, volatile organic compounds, sulfur dioxide, and small amounts of air toxics. Types of equipment to be used includes excavators, backhoes, loaders, and vacuum trucks. Table 5 below provides a summary of the estimated emissions during construction against federal and local emission thresholds in tons per year. Calculated emissions from the Proposed Action were estimated using the 2013 California Emissions Estimator Model (CalEEMOD) software (version 2013.2.1), which incorporates emission factors for reactive organic gases (ROG), NO_x, CO, SO₂, and both fugitive and exhaust PM₁₀, and PM_{2.5}.

Comparison of the estimated Proposed Action emissions (without mitigation) and the thresholds for Federal and local conformity determinations (Table 5) indicates that project emissions are estimated to be below these thresholds; therefore a conformity analysis with the applicable State Implementation Plan is not required. Nonetheless, the Proposed Action would implement the SJVAPCD's Regulation VIII (SJVAPCD 2012b) control measures for construction emissions of PM₁₀. One of these control measures includes the use of water for dust control with all "land clearing, grubbing, scraping, excavation, land leveling, grading, cut and fill, and demolition activities."

Table 5 - Estimated Tulare Irrigation District Visalia Pipeline Emissions During Construction and Federal and Local Emissions Thresholds in tons per year				
Pollutant	Attainment Status ^a	Thresholds for Federal Conformity Determinations	Local Significance Thresholds ^b	Estimated Project Emissions ^c
VOC ¹ (as an ozone precursor)	Nonattainment/Extreme (8-hour ozone)	10	10	0.18
NO _x ² (as an ozone precursor)	Attainment	50	10	2.04
PM ₁₀ ³	Nonattainment	100	15	0.13
PM _{2.5} ⁴	Nonattainment	100	15	0.11
CO ₂	-	-	---	189.94

1 = volatile organic compounds

2 = nitrogen oxides

3 = particulate matter less than 10 micrometers in diameter

4 = particulate matter less than 2.5 micrometers in diameter

^aSJVAPCD (2012a)

^b40 CFR 93.153

^cConstruction emissions estimated with CalEEMOD Windows Version 2013.2.1

3.6 Global Climate

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

Gases that trap heat in the atmosphere are often called greenhouse gases (GHG). Some GHG, such as carbon dioxide (CO₂), occur naturally and are emitted to the atmosphere through natural processes and human activities. Other GHG (e.g., fluorinated gases) are created and emitted solely through human activities. The principal GHG that enter the atmosphere because of human activities are: CO₂, methane, nitrous oxide, and fluorinated gasses (EPA 2011a).

During the past century humans have substantially added to the amount of human GHG activities in the atmosphere by burning fossil fuels such as coal, natural gas, oil and gasoline to power our cars, factories, utilities and appliances. The added gases, primarily CO₂ and methane, are enhancing the natural greenhouse effect, and are likely to be contributing to an increase in global average temperature and related climate changes (EPA 2014).

3.6.1 Affected Environment

More than 20 million Californians rely on the State Water Project and CVP. Increases in air temperature may lead to changes in precipitation patterns, runoff timing and volume, sea level rise, and changes in the amount of irrigation water needed due to modified evapotranspiration rates. These changes may lead to impacts to California's water resources and project operations.

3.6.2 Environmental Consequences

No Action

Under the No Action Alternative, there would be no impacts to global climate change since no construction would take place.

Proposed Action

The estimated GHG emission due to temporary Proposed Action construction activities is 189.94 metric tons of CO₂equivalents, using CalEEMOD. There are no on-going operational emissions from the Proposed Action.

Section 4 Consultation and Coordination

4.1 Public Review Period

The Draft EA was available for public review from July 25, 2014 to August 11, 2014. No comments were received.

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

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

The State Water Resources Control Board (SWRCB) is providing a grant to TID for the WCP upgrade using Environmental Protection Agency funds. The SWRCB, acting as the designated non-Federal representative, requested concurrence from the U.S. Fish and Wildlife Service (Service) that the WCP upgrade and the TID pipeline may affect but is not likely to affect the San Joaquin kit fox. The Service concurred on December 13, 2013 (See Appendix C). The Service's concurrence also covered Reclamation's Proposed Action.

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

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

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

Pursuant to 36 CFR §800.4(d)(1) Reclamation has determined there will be no Historic Properties affected by the proposed project. Reclamation sent a letter to the SHPO on May 12, 2014 requesting their concurrence with this determination and SHPO concurred in a letter dated June 9, 2014 (See Appendix A).

Section 5 References

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

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

California Department of Fish and Game (CDFG). 1994. Staff Report Regarding Mitigation for Impacts to Swainson's Hawks (*Buteo swainsoni*) in the Central Valley of California. Sacramento, CA.

City of Visalia. 2011. Water Conservation Plant Upgrades Project Draft Environmental Impact Report.

City of Visalia. 2012. Water Conservation Plant Upgrades Project Recirculated Draft Environmental Impact Report.

CNDDDB. 2014. California Natural Diversity Database, Government Version. California Department of Fish and Wildlife.

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

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

Environmental Protection Agency (EPA). 2014. Website - Causes of Climate Change. <http://www.epa.gov/climatechange/science/causes.html>

Provost & Prichard Consulting Group. June 2012. Antidegradation Analysis, City of Visalia Water Conservation Plan.

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

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

U.S. Fish and Wildlife Service (USFWS). 2011. Standard Recommendations for Protection of the Endangered San Joaquin Kit Fox Prior to or During Ground Disturbance.

Warrick, G. D., H. O. Clark, Jr., P. A. Kelly, D. F. Williams, and B. L. Cypher. 2007. Use of agricultural lands by San Joaquin kit foxes. *Western North American Naturalist* 67:270-277.

Appendix A

Cultural Resources Compliance Correspondence



United States Department of the Interior

BUREAU OF RECLAMATION
Mid-Pacific Regional Office
2800 Cottage Way
Sacramento, CA 95825-1898

IN REPLY REFER TO:

MAY 06 2014

MP-153
ENV-3.00

CERTIFIED – RETURN RECEIPT REQUESTED

Dr. Carol Roland-Nawi
State Historic Preservation Officer
Office of Historic Preservation
1725 23rd Street, Suite 100
Sacramento, CA 95816

Subject: National Historic Preservation Act (NHPA) Section 106 Compliance for the Tulare Irrigation District (TID) Water Conservation and Reuse Pipeline Project, Tulare County, California (11-SCAO-218)

Dear Dr. Roland-Nawi:

The Bureau of Reclamation is initiating consultation regarding funding a grant and approving a water transfer exchange for TID for a Water Conservation and Reuse Pipeline Project near Visalia, California (Figures 1 and 2). Reclamation is proposing to award a WaterSMART Water Use Efficiency Grant to TID for a new waste water pipeline project located approximately 3 miles southeast of Visalia, California. TID has also requested that Reclamation approve a 25-year transfer of Central Valley Project (CVP) water between TID and the city of Visalia. This project is a cooperative, mutually-beneficial project for TID and Visalia for water conservation and diversification of water supplies. The expenditure of Federal funds constitutes an undertaking as defined by Section 301(7) of the NHPA (16 U.S.C. 470), which requires compliance with Section 106 of the NHPA. Reclamation is consulting with you pursuant to the 36 CFR Part 800 regulations that implement Section 106 of the NHPA, requesting concurrence on a finding of no historic properties affected for this undertaking.

Reclamation is proposing to provide funding assistance for the construction of the TID Pipeline, as well as approve a CVP water transfer exchange for TID in support of this project. The proposed construction project consists of an approximately 9,500-foot-long, 60-inch-diameter precast rubber-gasketed reinforced concrete pipeline. A concrete and metal water control structure would divert effluent from Visalia's planned Mill Creek Bypass Pipeline (not part of this undertaking) into the TID Pipeline (Figure 2). The TID Pipeline would continue south along the western edge of the County Road 68 right-of-way (ROW). At its southern end, the TID Pipeline would terminate in an outfall into the existing Evans Ditch at the corner of County Road 68 and Avenue 268. The TID Pipeline, air vents, high-accuracy flow meters, and SCADA equipment would be installed along Road 68 in a linear trenched area approximately 10 feet wide by 10 feet deep. Approximately 34,100 cubic yards of excavated material would be stockpiled on the road's ROW

for later use as trench fill and as cover for the newly installed pipeline. Construction is anticipated to be completed within 4 months.

Additionally, Reclamation would approve a 25-year transfer exchange of TID's CVP water for Visalia's treated effluent between TID and Visalia for up to 40,000 acre-feet annually. The CVP water would be diverted by Visalia from existing turnouts on the Friant-Kern Canal at either the St. Johns River or the Lower Kaweah River. The CVP water would be used by Visalia for groundwater recharge purposes in existing groundwater recharge basins and channels. In exchange, Visalia would send TID treated effluent via the TID Pipeline.

The area of potential effects (APE) for this undertaking consists of construction activities needed for the TID Pipeline. The water transfer would use existing facilities and does not have the potential to effect historic properties. The APE is located in Sections 1, 12, and 13, T. 19 S., R. 23 E. and Sections 6, 7, and 18, T. 19 S., R. 24 E., Mount Diablo Meridian, as depicted on the Goshen 7.5' U.S. Geological Survey topographic quadrangle map (Figure 2). The APE includes an approximately 9,500-foot-long by 50-foot-wide construction zone for the pipeline. The vertical APE would be up to 10 feet deep along the pipeline trench.

In an effort to identify historic properties, Reclamation reviewed cultural resources survey reports provided by ICF International (ICF) and GFY Consulting, LLC (GFY), consultants to Visalia (report enclosed). Identification included a comprehensive records search completed at the Southern San Joaquin Valley Information Center, California Historical Resources Information System (ICF with contributions by GFY 2010/2013). ICF completed a cultural resource pedestrian survey of the project area in 2010 with negative results. In 2013, GFY reviewed all the 2010 field methods, research, and reporting and conducted a great deal more research to update and expand the 2010 report. Because the survey was conducted less than four years prior in plowed fields with excellent ground visibility, resurveying was not deemed necessary. GFY also conducted geoarchaeological investigations for the project. The enclosed reporting addresses a larger area than the current project APE, but includes all of Reclamation's undertaking. Reclamation finds the level of effort to identify historic properties appropriate for this undertaking.

On behalf of Visalia, GFY completed a buried site sensitivity model to further identify the potential for subsurface deposits. This investigation included a review of relevant background information, a review of geotechnical data collected in 2011, development of a buried site sensitivity model, and geoarchaeological field investigations by Parus Consulting, Inc. The model, methods, and findings of the investigation are described in the enclosed report. The investigation concluded:

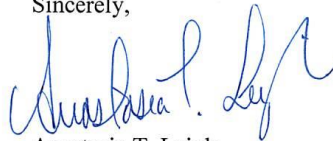
"In summary, it does not appear likely that implementation of the project would affect any significant buried archaeological sites or other deposits of cultural resources and a finding of 'No Historic Properties Affected' appears appropriate for the Project's vertical APE." (GFY 2013:4-14).

No further archaeological identification efforts were recommended. Reclamation has determined that a reasonable and good faith effort for identification of historic properties within the APE has been met and agrees with the recommendation.

A Sacred Lands File search requested by ICF International at the Native American Heritage Commission did not result in identification of any cultural resources in the project APE. Eight Native American contacts were notified by ICF of this project in 2010. On November 6, 2012, Reclamation submitted letters to three federally recognized tribes to invite their assistance in identifying the presence of, or concerns regarding, sites of religious and cultural significance pursuant to 36 CFR § 800.3(f)(2) and 36 CFR § 800.4(a)(4). In addition, Reclamation submitted letters to six non-federally recognized Native American individuals to inquire if they have any knowledge of, or concerns with, historic properties in the area, and to identify issues relating to the undertaking's potential effects on any such historic properties pursuant to 36 CFR § 800.4(a)(3). The only response received to date was from the Tejon Indian Tribe who indicated that the project was out of their area. If we are made aware of any concerns or requests to participate in the Section 106 process, we will seek to resolve those concerns and involve you and your staff as necessary or as requested.

Based on the results of the efforts to identify both surface and subsurface historic properties within the APE, Reclamation finds no historic properties present in the APE and, therefore, finds no historic properties affected for this undertaking. We invite your comments on the delineation of the APE and our efforts to identify historic properties, and request your concurrence with our finding that the undertaking will result in no historic properties affected pursuant to 36 CFR § 800.4(d)(1). Please contact Mr. Scott Williams, Archeologist, at 916-978-5042 or sawilliams@usbr.gov if you have any questions concerning this project.

Sincerely,



Anastasia T. Leigh
Regional Environmental Officer

Enclosures - 4

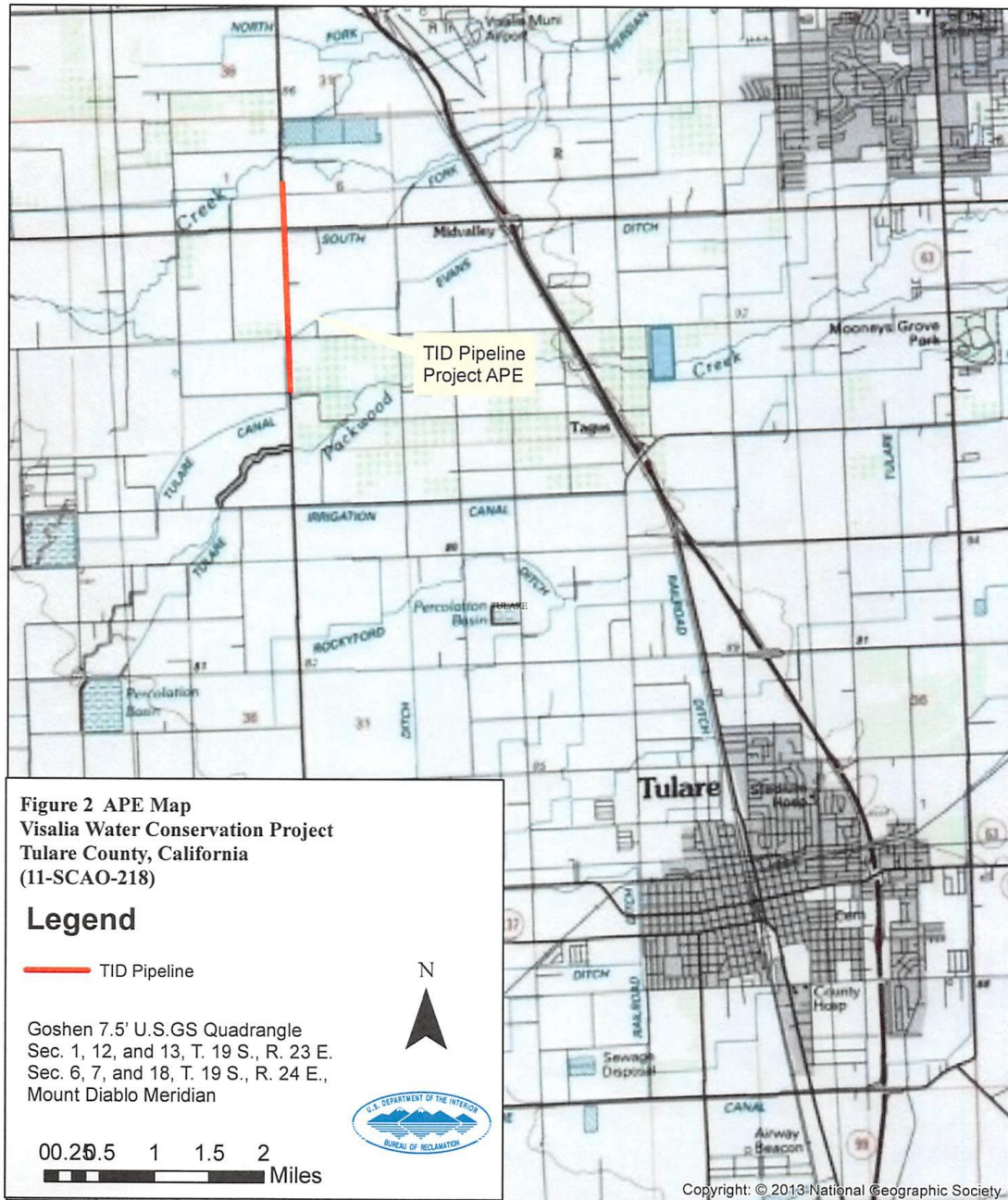
cc: Mr. David White
Bureau of Reclamation
2800 Cottage Way, MP-400
Sacramento, CA 95825
(w/o encl)



Figure 1. The proposed TID waste water pipeline project is located approximately 3 miles southeast of Visalia, California.

RECLAMATION

Managing Water in the West



**OFFICE OF HISTORIC PRESERVATION
DEPARTMENT OF PARKS AND RECREATION**

1725 23rd Street, Suite 100
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calshpo@parks.ca.gov
www.ohp.parks.ca.gov



June 9, 2014

Reply in Reference To: BUR_2014_0513_002

Anastasia T. Leigh, Regional Environmental Officer
Bureau of Reclamation
Mid-Pacific Regional Office
2800 Cottage Way
Sacramento, CA 95825-1898

RE: Tulare Irrigation District Water Conservation and Reuse Pipeline Project, Tulare County,
California (11-SCAO-218).

Dear Ms. Leigh:

Thank you for seeking my consultation regarding the above noted undertaking. Pursuant to 36 CFR Part 800 (as amended 8-05-04) regulations implementing Section 106 of the National Historic Preservation Act (NHPA), Bureau of Reclamation (Reclamation) is seeking my comments regarding the delineation of the Area of Potential Effects (APE), adequacy of the identification efforts, and a *Finding of No Historic Properties Affected* for the project.

Reclamation is proposing to award a WaterSMART Water Use Efficiency Grant to the Tulare Irrigation District (TID) for construction of a proposed pipeline to divert water from the Mill Creek Bypass Pipeline to Evans Ditch. This would involve construction of a 9,500 foot long, sixty-inch-diameter precast concrete pipeline and water control structure with sluice gates. The pipeline, air vents, flow meters and SCADA equipment would be installed along Road 68, in a trench approximately twelve feet wide and ten feet deep. The APE would consist of a fifty-foot wide corridor centered on the 9,500 foot pipeline route. The vertical APE would extend approximately ten feet below existing ground surface.

In addition to your letter received May 12, 2014, you have submitted the following documents as evidence of your efforts to identify and evaluate historic properties in the project APE:

- *City of Visalia Water Conservation Plant Upgrades Project Cultural Resources Survey Report* (ICF International, May 2013).
- *Geoarchaeological Report for the City of Visalia Water Conservation Plant Upgrades Project* (GFY Consulting LLC, September 2013).

Archival research included a records search at the Southern San Joaquin Valley Information Center on October 12, 2010 of the APE and a one mile radius. One previously recorded cultural resource, the South Fork of the Persian Ditch (P-54-002171), was determined to lie within the APE.

Native American consultation included contact with the Native American Heritage Commission (August 30, 2010) and Native American tribes and individuals likely to have knowledge of sites

of religious or cultural significance to them in the project area via letters and follow-up calls (October 2010). No such properties were identified through consultation efforts.

A pedestrian surface survey was conducted on October 14, 2010 using fifteen meter wide transects. Field survey identified the City of Visalia Water Conservation Plant (WCP) structures, Evans Ditch, and South Fork of the Persian Ditch (P-54-002171) within the APE.

Beginning at the WCP, which is less than fifty years in age, the TID will connect to existing structures and will continue along Road 68. The South Fork of the Persian Ditch passes under Road 68 through a concrete culvert at Avenue 280. The TID pipeline will pass beneath the existing culvert at this location. The pipeline will continue along Road 68, pass underneath Evans Ditch at Avenue 272 and will connect with Evans Ditch via an existing concrete culvert at Avenue 268. Neither ditch will be impacted by the project.

Pursuant to 36 CFR §800.4(d)(1) Reclamation has determined there will be *No Historic Properties Affected* by the proposed project. Based on your identification efforts, I concur with the *Finding of No Historic Properties Affected*. Identification efforts are sufficient and I also have no objections to the delineation of the APE, as depicted in the supporting documentation.

The geo-archaeological study provided, stated that the potential for buried archaeological deposits in the project area was low. There is conflicting information in the report that could render differing interpretations. I do not agree the probability for buried sites is low but rather moderate to high in some locations in the project area. However, at this time, this difference does not impact the *Finding of No Historic Properties Affected*. Be advised that under certain circumstances, such as unanticipated discovery or a change in project description, Reclamation may have additional future responsibilities for this undertaking under 36 CFR Part 800.

Thank you for seeking my comments and considering historic properties as part of your project planning. If you have any questions or concerns regarding archaeological resources, please contact Associate State Archaeologist, Kim Tanksley at (916) 445-7035 or by email at kim.tanksley@parks.ca.gov. Any questions concerning the built environment should be directed to State Historian, Kathleen Forrest at (916)445-7022 or by email at kathleen.forrest@parks.ca.gov.

Sincerely,



Carol Roland-Nawi, PhD
State Historic Preservation Officer

Appendix B

Indian Trust Assets Compliance Memo



KLEINSMITH, DOUGLAS <dkleinsmith@usbr.gov>

Re: ITA request for Tulare I.D. WaterSMART Funding

RIVERA, PATRICIA <privera@usbr.gov>
To: DOUGLAS KLEINSMITH <dkleinsmith@usbr.gov>

Wed, Feb 19, 2014 at 9:06 PM

Doug,

I reviewed the proposed action to award a WaterSMART Grant for the construction of the Tulare Irrigation District (TID) Water Conservation and Reuse Pipeline (TID Pipeline), and allowing TID to transfer a portion of its CVP water to the City of Visalia.

The TID Pipeline would be approximately 9,500-foot long, 60-inch diameter, precast rubber-gasketed reinforced concrete pipeline. A concrete and metal water control structure would divert effluent from the City's planned Mill Creek Bypass Pipeline into the TID Pipeline.

The proposed action does not have a potential to impact Indian Trust Assets. The nearest ITA is the Santa Rosa Rancheria, approximately 19 miles Southwest of the project location.

Patricia Rivera
Native American Affairs Program Manager
US Bureau of Reclamation
Mid-Pacific Region
2800 Sacramento, California 95825
(916) 978-5194

Appendix C

Endangered Species Concurrence Memo



United States Department of the Interior

FISH AND WILDLIFE SERVICE
Sacramento Fish and Wildlife Office
2800 Cottage Way, Room W-2605
Sacramento, California 95825-1846



In Reply Refer To:
08ESMF00-2014-I-0007

DEC 18 2013

Mr. Cedric S. Irving
State Water Resources Control Board
1001 I Street
P.O. Box 100
Sacramento, California 95812

Subject: Informal Consultation for the City of Visalia Water Conservation Plant Upgrades Project, Tulare County, California

Dear Mr. Irving:

This letter is in response to the California State Water Resources Control Board's (Board) request for concurrence, received on October 18, 2013, with the U.S. Fish and Wildlife Service (Service) on the proposed City of Visalia Water Conservation Plant Upgrades Project in Tulare County, California. The project, using Clean Water State Revolving Fund financing, proposes to upgrade the Water Conservation Plant (WCP) and make use of recycled WCP water to reduce the use of potable water and to reduce overdraft of the local groundwater table.

The Board, acting as the U.S. Environmental Protection Agency's designated non-federal representative for this project, has determined that the proposed project may affect, but is not likely to adversely affect the Swainson's hawk (*Buteo swainsoni*), burrowing owl (*Athene cunicularia*) and the federally endangered San Joaquin kit fox (*Vulpes macrotis mutica*) and is seeking concurrence from the Service on these determinations. The Service is unable to provide concurrence on the project's potential impacts to the Swainson's hawk and burrowing owl under Section 7 of the Endangered Species Act (ESA) as those species are not listed as endangered or threatened under the ESA. This letter addresses the Board's request for concurrence on the project's potential impacts to the San Joaquin kit fox only.

The proposed project will upgrade the City's existing WCP to produce recycled water suitable for reuse. The proposed project also develops an initial recycled water conveyance system (i.e., below-grade pipelines), which would convey the recycled water away from the plant. Using this conveyance system, the City is proposing an agreement with the Tulare Irrigation District (TID) to exchange water between the two entities. If the agreement is approved by the City and TID, the City would convey recycled water (or treated effluent) via a new below-grade pipeline south of the plant to existing TID facilities and TID would use existing surface canals and pipelines to convey surface water to existing City facilities.

No sign of kit fox was found during reconnaissance-level surveys conducted in the Action Area. The following avoidance and minimization measure will be implemented as part of the project:

MM BIO-1: Implement San Joaquin Kit Fox Avoidance Measures

The City shall retain a qualified biologist to conduct a preconstruction survey no more than 60 days prior to project initiation. If any evidence of site occupation by kit fox is observed, the qualified biologist shall establish a buffer that provides sufficient protection (i.e., avoids dens) and complies with applicable regulations. The recommended buffers would be 50 feet for potential dens and 100 feet for known dens. If sufficient avoidance cannot be established, the City shall contact USFWS and DFG for further guidance.

The measures listed below shall be implemented prior to and during construction at the project site.

- If any San Joaquin kit fox dens are found during preconstruction surveys, a qualified biologist shall evaluate the status of the dens no more than 14 days prior to project initiation. Provided that no evidence of kit fox occupation is observed, potential dens shall be marked and a 50-foot avoidance buffer delineated using stakes and flagging or other similar material to prevent inadvertent damage to the potential den. If a potential den cannot be avoided, it may be hand excavated following USFWS standardized recommendations for the protection of the San Joaquin kit fox prior to or during ground disturbance. If kit fox activity is observed at a den, the den status shall change to known, per USFWS guidelines (1999), and the avoidance buffer distance shall be increased to 100 feet. Absolutely no excavation of San Joaquin kit fox known or pupping dens shall occur without prior authorization from USFWS and DFG.
- All construction pipes, culverts, or similar objects with a diameter of 4 inches or more that are stored at a construction site for one or more overnight periods and shall be thoroughly inspected for kit foxes before the pipe is buried, capped, or otherwise used or moved in any way. If a kit fox is discovered inside a pipe, that section of pipe shall not be moved until USFWS has been consulted. If necessary, under the direct supervision of the biologist, the pipe may be moved once to remove it from the path of construction activity until the fox has escaped.

In order to be consistent with the Service's *Standard Recommendations for Protection of the Endangered San Joaquin Kit Fox Prior to or During Ground Disturbance* (2011), the Board will require the City to conduct a preconstruction survey of the Project site no more than 30 days prior to the beginning of any Project activity that could impact the San Joaquin kit fox as a special condition to the City's financing agreement.

The Service concurs with your determination that the project may affect, but is not likely to adversely affect San Joaquin kit fox. This concludes the Service's review of the proposed project. No further coordination with the Service under the Act is necessary at this time. Please note, however, this letter does not authorize take of listed species. As provided in 50 CFR §402.14, initiation of formal consultation is required where there is discretionary Federal

Mr. Cedric S. Irving

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involvement or control over the action (or is authorized by law) and if: 1) new information reveals the effects of the agency action that may affect listed species or critical habitat in a manner or to an extent not considered in this review; 2) the agency action is subsequently modified in a manner that causes an effect to the listed species or critical habitat that was not considered in this review; or 3) a new species is listed or critical habitat designated that may be affected by the action.

If you have any questions regarding this biological opinion, please contact Justin Sloan, Senior Fish and Wildlife Biologist, at the letterhead address or at (916) 414-6600.

Sincerely,



Thomas Leeman
Chief, San Joaquin Valley Division