

Environmental Assessment/Initial Study

Porterville Irrigation District In-Lieu Groundwater Recharge Project



September 2016

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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Attachment C - National Historic Preservation Act Consultation

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Abbreviations and Acronyms

Act	San Joaquin River Settlement Act
AF	Acre Feet
AF/y	Acre Feet per Year
APE	Area of Potential Effects
ARB	California Air Resources Board
CDFW	California Department of Fish and Wildlife
CEQ	Council on Environmental Quality
CEQA	California Environmental Quality Act
CFR	Code of Federal Regulations
CH ₄	Methane
CNDDDB	California Natural Diversity Database
CO	Carbon Monoxide
CO ₂	Carbon Dioxide
CRHR	California Register of Historical Resources
CVP	Central Valley [Water] Project
DFIRM	Digital Flood Insurance Rate Map
District	Tulare Irrigation District
DOC	Department of Conservation
DWR	Department of Water Resources
EA/IS	Environmental Assessment/Impact Study
EPA	Environmental Protection Agency
ESA	Endangered Species Act
FMMP	Farmland Mapping and Monitoring Program
FWCA	Fish and Wildlife Coordination Act
GHG	Greenhouse Gases
GSA	General Services Administration
IPac	U.S. Fish and Wildlife Service's Information for Planning and Conservation
ITA	Indian Trust Assets
KDWSD	Kaweah Delta Water Conservation District
LOA	Live Oak Associates, Inc.
MBTA	Migratory Bird Treaty Act
NAHC	Native American Heritage Commission
NEPA	National Environmental Policy Act
NHPA	National Historic Preservation Act
NO ₂	Nitrogen Dioxide
NO _x	Oxides of Nitrogen
NRDC	Natural Resources Defense Council
PEIS/R	Program Environmental Impact Statement/Impact Report
PID	Porterville Irrigation District
PM	Particulate Matter
PM ₁₀	Particulate Matter Less Than 10 Microns in Diameter

PM _{2.5}	Particulate Matter Less Than 2.5 Microns in Diameter
Reclamation	Bureau of Reclamation
ROD	Record of Decision
ROG	Reactive Organic Gases
SCADA	Supervisory Control and Data Acquisition
SHPO	State Historic Preservation Officer
SJRRP	San Joaquin River Restoration Project
SJVAB	San Joaquin Valley Air Basin
SJVAPCD	San Joaquin Valley Air Pollution Control District
SWPPP	Storm Water Pollution Prevention Plan
UFSWS	United States Fish and Wildlife Services
U.S.	United States
USBR	United State Bureau of Reclamation

Section 1 Introduction

1.1 Background

The development of irrigated agriculture in the Porterville area started in about 1870. By 1901, more than 5,000 acres were being irrigated by diversion from the Tule River and pumping from shallow groundwater. After a slight decrease in the early 1920s, irrigated agriculture steadily increased. The Porterville Irrigation District (District), located west of the City of Porterville, was organized under the laws of the State of California in August 1949 to contract for water from the Central Valley Project CVP. At that time, there were approximately 13,300 acres of irrigated land in the District. By 1989, irrigated acreage had dropped to 12,965 acres. The District currently encompasses approximately 17,000 acres. The major crops are walnuts, grapes, cotton, alfalfa and prunes¹. The District currently holds a contract for surface water supplies with the CVP's Friant Division (Friant Division)

In 1988, a coalition of environmental groups, led by the Natural Resources Defense Council (NRDC), filed a lawsuit challenging renewal of long-term water service contracts between the United States and the Friant Division. After more than 18 years of litigation, *NRDC, et al., v. Kirk Rodgers, et al.*, a settlement was reached (Settlement). On September 31, 2006, the Settling Parties, including NRDC, Friant Water Users Authority (now represented by Friant Water Authority), and the U.S. Departments of the Interior and Commerce, agreed on the terms and conditions of the Settlement, which was subsequently approved by the U.S. Eastern District Court of California on October 23, 2006. The Settlement established two primary goals:

- Restoration Goal – To restore and maintain fish populations in “good condition” in the main stem of the San Joaquin River below Friant Dam to its confluence with the Merced River, including naturally reproducing and self-sustaining populations of salmon and other fish.
- Water Management Goal – To reduce or avoid adverse water supply impacts on all of the Friant Contractors that may result from the Interim Flows and Restoration Flows provided for in the Settlement.

The Secretary of the Interior is authorized and directed to implement the terms and conditions of the Settlement in the San Joaquin River Settlement Act (Act), included in Public Law 111-11. The San Joaquin River Restoration Program (SJRRP) is implementing the Settlement. The SJRRP Implementing Agencies are: the Bureau of Reclamation (Reclamation), the U.S. Fish and Wildlife Service (USFWS), the National Marine Fisheries Service, the California Department of Water Resources, and the California Department of Fish and Wildlife (CDFW).

The SJRRP Program Environmental Impact Statement/Impact Report (PEIS/R) was finalized in July 2012 and the corresponding Record of Decision (ROD) was issued on September 28, 2012

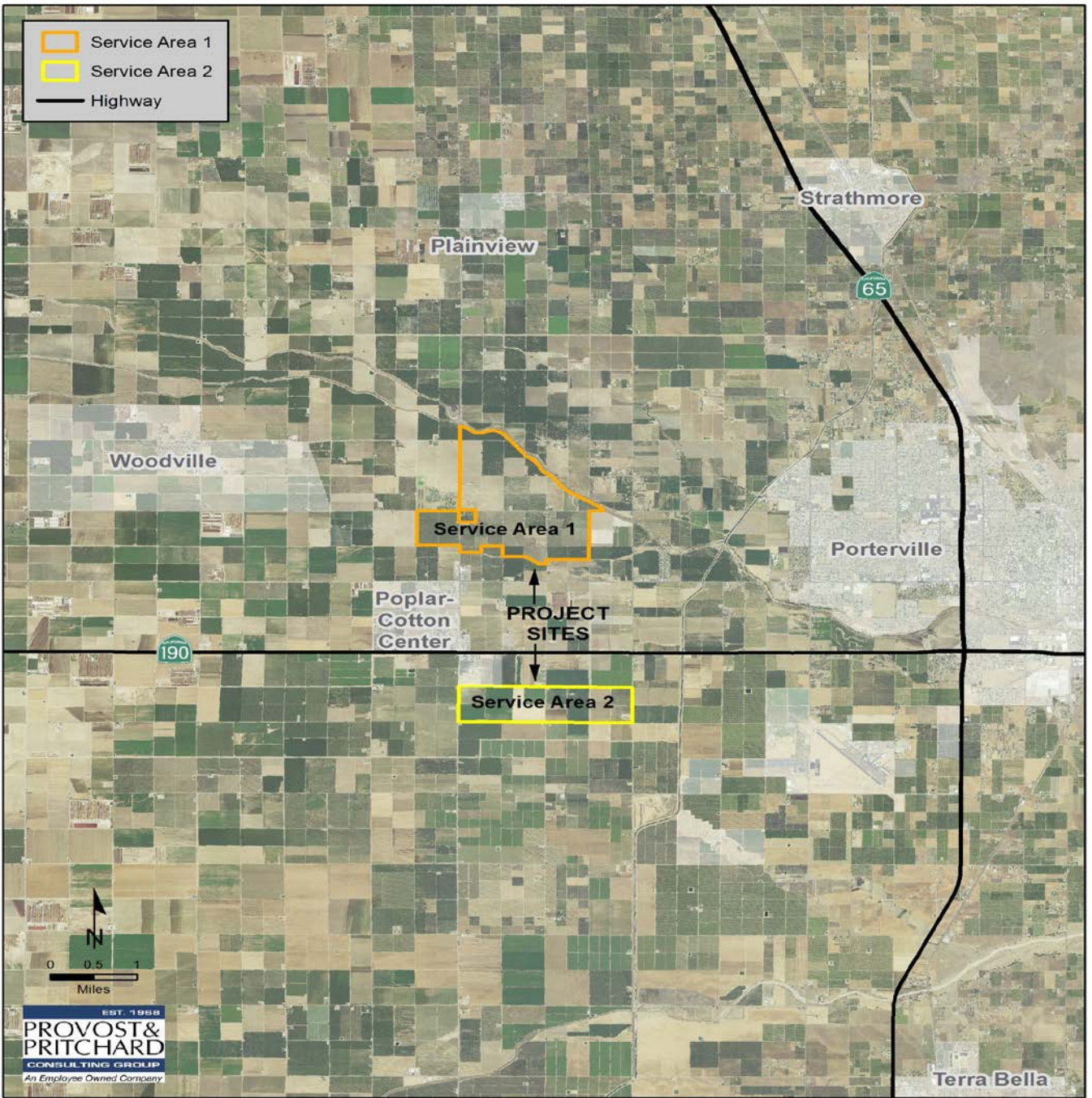
¹ Porterville Irrigation District, 2011 Water Management Plan, July 2012. Page, 1-1.

(Reclamation 2012a and 2012b). The PEIS/R and ROD analyzed at a project-level the reoperation of Friant Dam to release Interim and Restoration Flows to the San Joaquin River, making water supplies available to Friant Division long-term contractors at a pre-established rate, and the recapture of Interim and Restoration Flows at existing facilities within the Restoration Area and the Delta. The PEIS/R analyzed other elements of the SJRRP at a program level.

Part III of Title X, Subtitle A of Public Law 111-11 (Part III) authorizes the U.S. Department of the Interior, Reclamation, to provide financial assistance to local agencies within the CVP of California for the planning, design, environmental compliance, and construction of local facilities to bank water underground or to recharge groundwater to reduce, avoid, or offset the quantity of expected water supply impacts to Friant Division long-term contractors caused by Restoration flows authorized by Public Law 111-11. Because the Part III Guidelines were in development at the time of preparation of the SJRRP PEIS/R, potential actions in accordance with Part III were not included as an element of any of the alternatives analyzed in the PEIS/R.

The District is proposing to build new water conveyance facilities in two service areas within the District that currently do not have infrastructure to receive surface water deliveries. Service Area 1 encompasses approximately 1,400 acres of land that do not currently receive surface water from the District. The Proposed Action/Project would also consist of Service Area 2, an in-lieu service area that would serve approximately 720 acres within the District that does not have access to surface water (**Figure 1-1**). Both Service Areas are located within the District's CVP service area. Increasing the area that can take surface water deliveries would allow the District to utilize more of its Friant Division CVP contract water supply instead of transferring water out of the District. It would also allow the District to capture additional wet-year water supplies available and help offset water supply impacts caused by the San Joaquin River Restoration Settlement.

Reclamation is proposing to provide partial funding for the Proposed Action/Project in accordance with Part III. This environmental assessment/initial study (EA/IS) is being prepared to comply with the National Environmental Policy Act (NEPA) and the California Environmental Quality Act (CEQA). Reclamation is the lead agency for the NEPA process and the District is the lead agency for the CEQA process. Additional information about the Proposed Action/Project is described in Section 2.2 of this EA/IS.



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Figure 1-1: Proposed Action / Project Service Areas

1.2 Need for the Proposed Action

The District currently contains large areas of land that do not have access to surface water supplies. Due to this lack of infrastructure, farmers rely heavily on groundwater supplies in an area with rapidly decreasing groundwater levels. Implementing the in-lieu service areas described in the Proposed Action/Project would enable the District to expand its distribution area and allow for additional surface water deliveries, thereby utilizing more of its Friant Division CVP water supply in District, rather than transferring it out of the District. The Proposed Action/Project would allow the District to achieve the following objectives.

Water Supply and Water Management Objectives

The primary objectives of the Proposed Action/Project include:

- Allow the District to utilize more of its existing Friant Division contract allocation;
- Allow the District to capture more high flow water supplies (floodwater) available from the Friant Division as well as from the Tule River;
- Effectively utilize the existing groundwater reservoir beneath the District to store additional water supplies and improve water supply reliability; and
- Raise groundwater levels in the District to reduce pumping costs for private well owners.

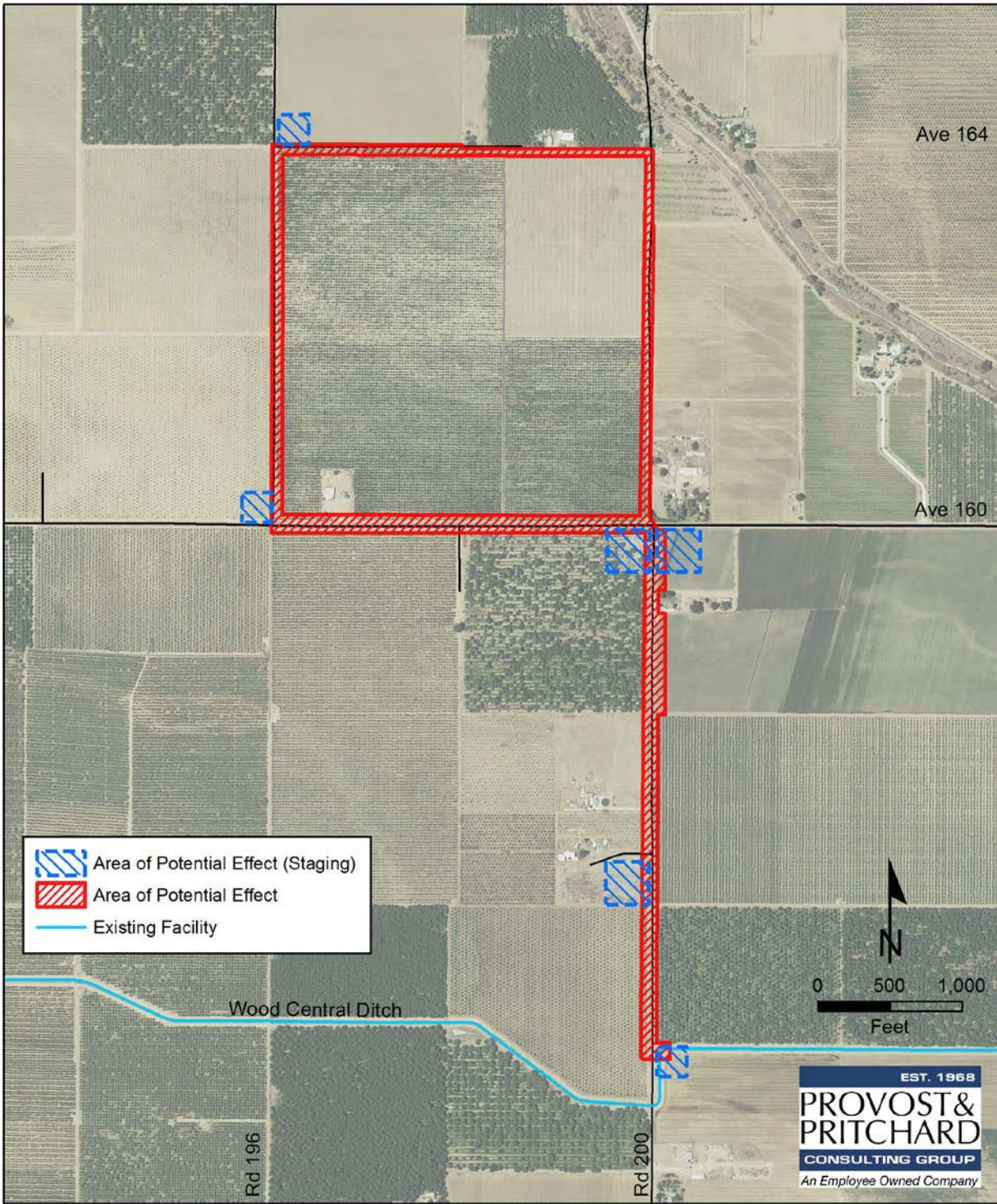
Section 2 Alternatives

This EA/IS considers two possible actions: the No Action/Project Alternative and the Proposed Action/Project. The No Action/Project 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/Project Alternative, Reclamation would not provide funding in accordance with Part III for design and construction of the In-lieu Groundwater Recharge Project (Proposed Action/Project). Without the assistance of federal funding resources, the pipelines would not be constructed and the District's conditions would remain the same. The District would still be incapable of using its entire CVP Friant surface water supply within the District, and the No Action Alternative would not contribute to achieving the Water Management Goal of the Settlement. The continued demand on water to meet irrigation supplies would force landowners to increase groundwater pumping and the depth to groundwater within the District would continue to increase. Without any increased capability for surface water distribution, the District would be limited to only its current facilities; therefore the continued reliance on groundwater would cause water levels to further decline.

As analyzed and disclosed in the SJRRP PEIS/R, the release of Restoration Flows will reduce the amount of water available to Friant Contractors during all years in which they are allocated. Without actions to implement the Water Management Goal of the Settlement, such as actions in accordance with Part III, this reduction would decrease the availability of wet-year recharge water and dry-year irrigation supplies.



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Figure 2-1: Service Area 1 Facilities

2.2 Proposed Action/Project

The District is proposing to build two new distribution facilities for distribution of currently allocated surface water supplies in areas within the District that currently do not have infrastructure to receive surface water deliveries. Increasing the District area that can take surface water deliveries would allow the District to utilize more of its Friant Division CVP contract water supply instead of transferring water out of the District. Without the proposed increase in conveyance infrastructure, the District must sell their excess water. The Proposed Action/Project would not increase the amount of water received by the District, nor would it lead to a change in water flowing in the Tule River or Friant-Kern Canal. There will be no groundwater impacts on the Tule River, given that the amount of water flowing will not change. Potential future actions to convey additional water supplies would be analyzed and disclosed in subsequent environmental documents, as appropriate.

The Proposed Action/Project would allow for more flexibility in conjunctive use of the storage and conveyance facilities of both the District, and of other water districts which currently receive the District's excess surface water supplies. It would allow the District, and potentially other Friant districts, to capture additional wet year water supplies available as Section 215 water, Uncontrolled Season Class 2 contract entitlement or as \$10 Recovered Water Account (Settlement Article 16(b)) water and help to offset water supply impacts caused by the Settlement. The intent of the Proposed Action/Project is to improve the tools that the District can use to optimally use its water supply, without involving any changes to the amount of surface water supplies allocated to the District. Under the Proposed Action/Project, Reclamation would provide partial funding for design and construction of the Proposed Action/Project.

Service Area 1 is a proposed in-lieu service area that would serve approximately 1,450 acres within the District boundary that does not currently have access to surface water. Water would be delivered through a gravity conveyance facility, which will consist of a turnout off Wood-Central Ditch that serves a main service lateral heading north along the Road 200 alignment, continuing west along Avenue 164 to Road 196. The design capacity for the Service Area 1 lateral would be approximately 22 cubic feet per second (cfs). This turnout would be a reinforced concrete structure outfitted with a control gate and flow measurement device, located upstream of an existing check structure. It is expected that this service lateral, approximately 10,000 feet long, would consist of reinforced concrete and PVC pipe with diameters ranging from 18 to 48 inches. This element of the Proposed Action/Project would require clearing and grubbing of about 3 acres. Piped sections of the facility would have a minimum cover depth of three feet. Currently, four road crossings are planned along the conveyance facility, three under Road 200 and one under Avenue 160. Turnout facilities along the facility would be provided to growers at approximately every quarter of a mile. Since Wood-Central Ditch is owned by Lower Tule River Irrigation District, the District secured an assurance letter preliminarily indicating excess capacity in Wood-Central Ditch would be utilized to convey additional water for PID.

Service Area 2 is an in-lieu service area that would serve approximately 720 acres within the District that currently does not have access to surface water. Water would be delivered to this area through gravity conveyance facilities, which would consist of utilizing the existing Poplar Ditch pipeline, which already has a turnout from the Friant-Kern Canal (FKC), and a new facility that runs south on either the Road 204 alignment or along Road 208, and east/west on the

Avenue 140 alignment. The design capacity for the Service Area 2 lateral would be approximately 8 cfs. This new facility would head south from the Poplar Ditch pipeline along either Road 204 or Road 208 approximately 2,600 feet to the Avenue 140 alignment to serve growers. The new facility would run along the Avenue 140 alignment between Road 200 and Road 208. This portion of the facility would be between 3,960 feet to 5,280 feet long depending which alignment is used from the Poplar Ditch Pipeline (Rd. 204 or Rd. 208). Along the alignment, the new facility would siphon underneath the Tule River Intertie. It is expected that this service lateral may vary between open channel and piped sections depending on hydraulics, land acquisition, topography of the land, and pipe costs. If an open channel system is adopted, the Proposed Action/Project will also include a two-acre detention basin as shown in Figure 1-3. This element of the Proposed Action/Project would require clearing and grubbing of about 2 acres.

Operation and Maintenance

The installed pipeline (and/or open channel) would require no on-site daily operating staff. Occasional service employees may be on site for scheduled, preventive maintenance as well as for unscheduled or emergency service. Site activities would include levee maintenance, weed abatement, trash removal, periodic sediment removal, and water control structure adjustments and maintenance. It is anticipated that maintenance activities would require approximately 50 round trips per year, dependent on CVP allocation.

Construction

Construction activity would likely start at the turnout from the Wood Central Ditch and road crossing at Road 200 then move on to the other two road crossings (Road 200 and Avenue 160). After the crossings are set, the contractor would be able to construct the facility in segments depending on land use along the alignment (i.e. if a crop is about to be harvested, construction will wait until after harvest). Construction activities are anticipated to be accomplished with large earthmoving equipment appropriate for this type of work such as graders, scrapers, loaders, excavators, backhoes, concrete trucks, pumper trucks, water trucks, hauling trucks, and dump trucks. Construction would occur over a single phase beginning in the fall of 2016 and take place over a period of approximately 8 months.

Service Area 1 could involve up to six staging areas, including: one acre southeast of Wood-Central Ditch at the origin of the new service lateral, two acres on the northwest corner of Road 200 and Avenue 156, two acres on the southeast corner of Road 200 and Avenue 160, one acre on the northeast corner of Road 196 and Avenue 160, and one acre on the northeast corner of Road 196 and Avenue 164. Service Area 2 could involve up to five staging areas, including: two acres near the northwest corner of Road 200 and Avenue 140; two two-acre parcels on the northwest and southeast corners of Road 204 and Avenue 140; three acres on the southwest corner of Road 204 and Avenue 144; and two acres on the southeast corner of Road 208 and Avenue 140. These staging areas would be returned to their previous function following completion of construction.

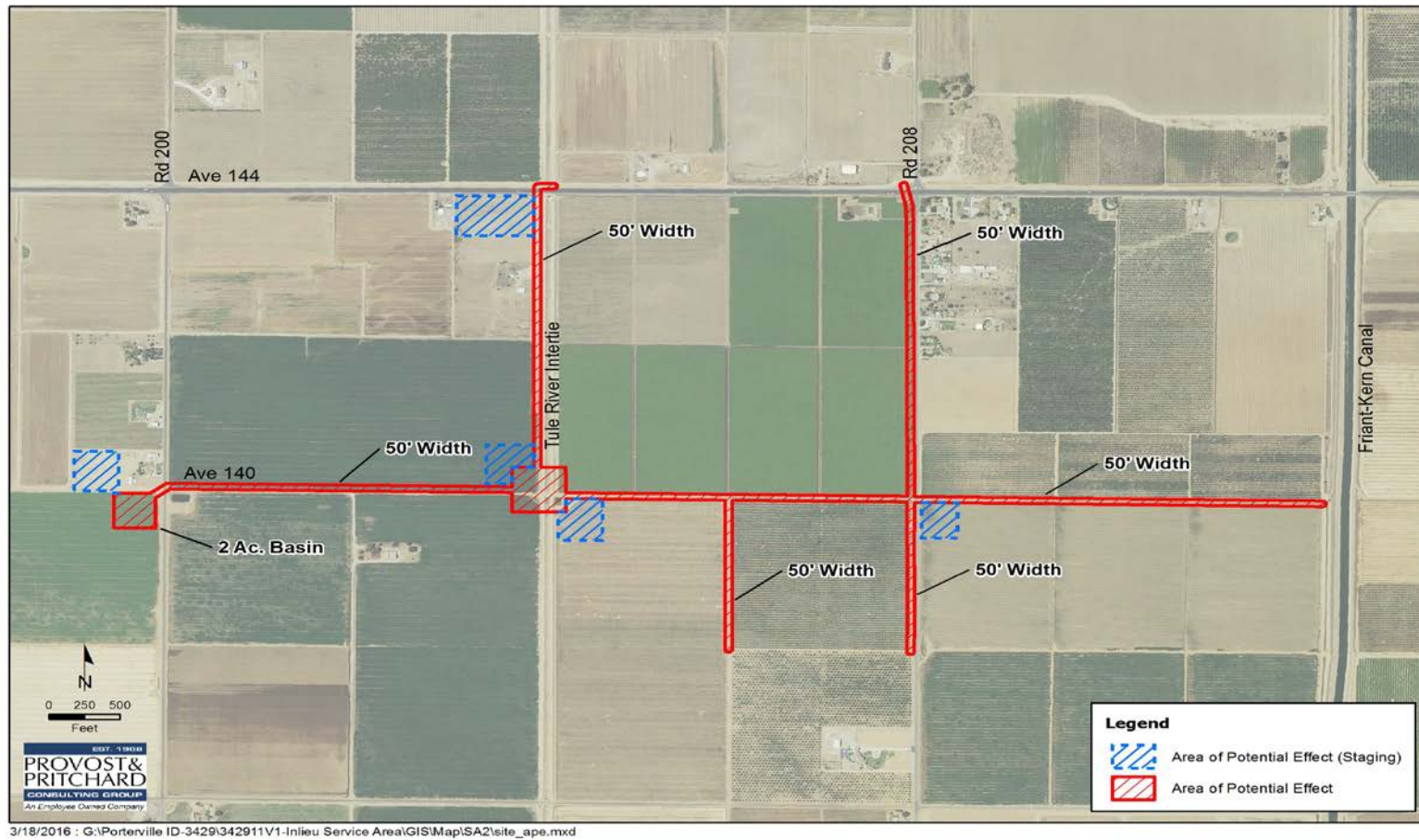


Figure 2-2: Service Area 2 Facilities

2.2.1 Environmental Commitments

The following environmental commitments will be incorporated into the Proposed Action/Project:

San Joaquin Kit Fox. (Pre-construction Surveys). Pre-construction surveys will be conducted no less than 14 days and no more than 30 days prior to the beginning of ground disturbance, construction activities, and/or any Proposed Action/Project activity likely to impact the San Joaquin kit fox. These surveys will be conducted in accordance with the USFWS *Standardized Recommendations*. The primary objective is to identify kit fox habitat features (e.g. potential dens and refugia) on the Proposed Action/Project sites and evaluate their use by kit foxes through use of remote monitoring techniques such as motion-triggered cameras and tracking medium. If an active kit fox den is detected within or immediately adjacent to the area of work, the USFWS and CDFW will be contacted immediately.

- **(Avoidance).** Should an active kit fox den be detected within or immediately adjacent to the area of work, a disturbance-free buffer will be established around the den in consultation with the USFWS and CDFW.
- **(Minimization).** Permanent and temporary construction activities and other types of Proposed Action/Project-related activities will be carried out in a manner that minimizes disturbance to kit foxes. In accordance with the USFWS Standard Recommendations, minimization measures include, but are not limited to:
 - Restriction of on-site Proposed Action/ Project-related vehicle traffic to established roads, construction areas, and other designated areas, with a speed limit no greater than 15 mph; after dark, speed will be limited to 10 mph. Off-road traffic outside of designated Proposed Project areas will be prohibited. Work at night will not be allowed.
 - All construction pipes, culverts, or similar structures with a diameter of 4 inches or greater that are stored at a construction site for one or more overnight periods will be thoroughly inspected for kit foxes before the pipe is subsequently buried, capped, or otherwise used or moved in any way. If a kit fox is discovered inside a pipe, that section of pipe will not be moved until USFWS has been consulted. If necessary, and under the direct supervision of a biologist, the pipe may be moved only once to remove it from the path of construction activity, until the fox has escaped; all excavated, steep-walled holes or trenches more than 2 feet deep will be covered with plywood or similar materials at the end of each work day. If the trenches cannot be closed, one or more escape ramps constructed of earthen-fill or wooden planks will be installed. Before such holes or trenches are filled, they will be inspected for trapped animals; holes or trenches more than 8 feet deep will be covered or fenced at the end of each day.

- If rodent control must be conducted, zinc phosphide will be used because of a proven lower risk to kit fox;
- Prior to the start of construction, a qualified biologist will conduct one tailgate meeting to train construction staff that will be involved with the Proposed Action/Project on the San Joaquin kit fox. This training will include a description of the kit fox and its habitat needs; a report of the occurrence of kit fox in the Proposed Action/Project area; an explanation of the status of the species and its protection under the Endangered Species Act; and a list of the measures being taken to reduce impacts to the species during Proposed Action/Project construction. The training will include a hand out with all of the training information included in it. The project manager will use this handout to train any additional construction staff that were not in attendance at the first meeting prior to starting work on the Proposed Action/Project.
- All food-related trash items such as wrappers, cans, bottles, and food scraps will be disposed of in securely closed containers and removed at least once a week from the Proposed Action/Project Area.
- No pets will be permitted in the Proposed Action/Project Area.
- Upon completion of the Proposed Action/Project, all areas subject to temporary ground disturbances, including staging areas, temporary roads, and borrow sites will be recontoured, if necessary, and revegetated to promote restoration of the area to pre-Proposed Action/Project conditions.
- SJKF sightings will be reported to CNNDDB.

Burrowing Owl. (Take Avoidance Survey). A take avoidance survey for burrowing owls will be conducted by a qualified biologist between 14 and 30 days prior to the start of construction. This take avoidance survey will be conducted according to methods described in the *Staff Report on Burrowing Owl Mitigation* (CDFG 2012). The survey area will include all suitable habitat on and within 200 meters of Proposed Action/Project impact areas, where accessible.

- ***(Avoidance of Active Nests).*** If Proposed Action/Project activities are undertaken during the breeding season (February 1-August 31) and active nest burrows are identified within or near impact areas, a 200-meter disturbance-free buffer will be established around these burrows, or alternate avoidance measures implemented in consultation with CDFW. The buffers will be enclosed with temporary fencing to prevent construction equipment and workers from entering the setback area. Buffers will remain in place for the duration of the breeding season, unless otherwise arranged with CDFW. After the breeding season (i.e. once all young have left the nest), passive relocation of any remaining owls may take place as described below.
- ***(Avoidance or Passive Relocation of Resident Owls).*** During the non-breeding season (September 1-January 31), resident owls occupying burrows in impact areas may either be avoided, or passively relocated to alternative habitat. If the Applicant chooses to

avoid active owl burrows within the impact area during the non-breeding season, a 50-meter disturbance-free buffer will be established around these burrows, or alternate avoidance measures implemented in consultation with CDFW and USFWS. The buffers will be enclosed with temporary fencing, and will remain in place until a qualified biologist determines that the burrows are no longer active. If the Applicant chooses to passively relocate owls during the non-breeding season, this activity will be conducted in accordance with a relocation plan prepared by a qualified biologist. Passive relocation may include one or more of the following elements: 1) establishing a minimum 50-foot buffer around all active burrowing owl burrows, 2) removing all suitable burrows outside the 50-foot buffer and up to 50 meters outside of the impact areas as necessary, 3) installing one-way doors on all potential owl burrows within the 50-foot buffer, 4) leaving one-way doors in place for 48 hours to ensure owls have vacated the burrows, and 5) removing the doors and excavating the remaining burrows within the 50-foot buffer.

American Badger. The American badger is relatively uncommon in the region, but individuals may occasionally pass through or forage/den within the Proposed Action/Project sites. If one or more badgers were denning on the site(s) at the time of construction, then these individuals would be at risk of Proposed Action/Project-related injury or mortality. ***(Pre-construction Surveys)***. A preconstruction survey for American badgers will be conducted by a qualified biologist within 30 days of the start of construction. Preconstruction surveys will be conducted in all suitable denning habitat of the Proposed Action/Project site.

- ***(Avoidance)***. Should an active natal den be identified during the preconstruction surveys, a suitable disturbance-free buffer will be established around the den and maintained until a qualified biologist has determined that the cubs have dispersed or the den has been abandoned.

Nesting Migratory Birds. ***(Avoidance)***. In order to avoid impacts to nesting raptors and migratory birds, the Proposed Action/Project will be constructed, if feasible, outside the nesting season, or between September 1st and January 31st.

- ***(Pre-construction Surveys)***. If Proposed Action/Project activities must occur during the nesting season (February 1-August 31), a qualified biologist will conduct preconstruction surveys for active raptor and migratory bird nests within 30 days prior to the start of these activities. The survey will include the proposed work area(s) and surrounding lands within 500 feet, where accessible, for all nesting raptors and migratory birds except Swainson's hawk; the Swainson's hawk survey will extend to ½ mile outside of work area boundaries. If no nesting pairs are found within the survey area, no further mitigation is required.
- ***(Establish Buffers)***. Should any active nests be discovered near proposed work areas, the biologist will determine appropriate construction setback distances based on applicable CDFW guidelines and/or the biology of the affected species. Construction-free buffers will be identified on the ground with flagging, fencing, or by other easily visible means, and will be maintained until the biologist has determined that the young have fledged.

Roosting Bats. (*Temporal Avoidance*). To avoid potential impacts to maternity bat roosts, tree removal will, to the extent feasible, occur outside of the period between April 1 and September 30, the time frame within which colony-nesting bats generally assemble, give birth, nurse their young, and ultimately disperse.

- **(*Pre-construction Surveys*).** If tree removal is to occur between April 1 and September 30 (general maternity bat roost season), then within 30 days prior to the removal of large trees, a qualified biologist will survey these trees for the presence of bats. The biologist will look for individuals, guano, and staining, and will listen for bat vocalizations. If necessary, the biologist will wait for nighttime emergence of bats from roost sites. If no bats are observed to be roosting or breeding, then no further action would be required, and construction could proceed.
- **(*Minimization*).** If a non-breeding bat colony is found in disturbance areas, the individuals will be humanely evicted via two-stage removal of trees, under the direction of a qualified biologist to ensure that no harm or “take” of any bats occurs as a result of construction activities.
- **(*Avoidance of Maternity Roosts*).** If a maternity colony is detected during pre-construction surveys, a disturbance-free buffer will be established around the colony and remain in place until a qualified biologist determines that the nursery is no longer active. The disturbance-free buffer will range from 50 to 100 feet as determined by the biologist.

Cultural and Paleontological Commitments:

- In the event cultural resources are encountered during construction within the APE, all ground disturbing activities will be halted within 50 feet of the discovery area. A qualified archaeologist should be contacted to evaluate the discovery as an archaeological site, which constitutes three or more artifacts or a feature, or an isolated find, which is fewer than three artifacts. If a site is found to be present, further testing may be required to determine CRHR or NRHP eligibility. In coordination with Reclamation, a testing plan will be implemented within the APE and area of impact to determine the nature and depth of the site. If a discovered site is determined NRHP/CRHR eligible and the resource cannot be avoided by project redesign, further treatment measures and Bureau coordination will be required. In the event that human remains are encountered, all work will be halted in the vicinity of the discovery area and the Office of the Medical Examiner will be notified. California State Law (Health and Safety Code Section 7050.5; Public Resources Code Sections 5097.94, 5097.98 and 5097.99) will be followed on state, county and private lands.

Section 3 Affected Environment and Environmental Consequences

This section includes analysis of the potential impacts of the Proposed Action/Project as compared to existing conditions in accordance with CEQA and to the no action alternative in accordance with NEPA.

Resources Not Further Analyzed

There would be no impacts to aesthetics due to the low profile nature of the underground pipeline; scattered turnouts would be the only visual components and they would not create light or glare. The Proposed Action/Project would not involve the use or transport of hazardous materials and there are no mineral resources in the vicinity. The Proposed Action/Project does not involve the addition of any new housing and would not require any additional public services or recreational facilities. The Proposed Action/Project would not cause an increase in local traffic nor would it create additional demand from utility providers. There would be no impact regarding the above mentioned resource categories.

3.1 Water Resources

3.1.1 Affected Environment

Porterville Irrigation District

The District is a Friant Division contractor and holds surface water rights on the Tule River. The District has a contract (175r-4309R) for 16,000 acre-feet (AF) of Class 1 water and 30,000 AF of Class 2 water from the CVP Friant Unit. The District also enters into annual contracts for Section 215 water (surplus CVP water).

Combined, the District has an average annual surface water supply of approximately 26,600 AF to meet grower demand and, in years of excess, recharge deliveries. The Friant Division was originally created with the purpose of establishing a conjunctive use system, in which groundwater is used during dry periods and is recharged using CVP water during wet periods. The District also follows a conjunctive use system in order to utilize the highly-variable surface water supplies it receives, in which irrigation demands not fully met by surface water supply are satisfied by landowner operated groundwater wells. Over the last several decades the District has observed a slow decline in groundwater elevations, due to local farmers' reliance on groundwater to meet irrigation needs. The trend in groundwater levels has been both up and down largely as a function of wet and dry cycles; however, the long-term trend has been downwards.

The District provides agricultural water supplies to approximately 90 farms within its service area and does not serve municipal and industrial water. The District does not own or operate any groundwater extraction facilities; therefore, each individual landowner within the District must use private groundwater wells to sustain irrigation during periods when the district is not

diverting surface water into its system. Additionally, landowners in areas not served by surface water conveyance facilities must use private groundwater wells year-round.

One of the Lower Tule River Irrigation District's conveyance facilities, the Wood-Central Ditch, runs on an east-west axis directly south of Service Area 1. It connects to the FKC approximately 0.5 mile due east of the Proposed Action/Project location. For the purposes of this Proposed Action/Project, the District secured an assurance letter from the Lower Tule River Irrigation District indicating that excess capacity in the Wood-Central Ditch would be used to convey additional water for the District. The new service lateral constructed as part of the Proposed Action/Project would convey CVP water from the Wood-Central Ditch to farmland that currently has no access to surface water supplies. Service Area 2 would utilize the existing Poplar Ditch Pipeline, owned by the District, to transport water from the FKC.

Groundwater Resources

The Proposed Action/Project area overlies the Tule Groundwater Subbasin of the San Joaquin Valley Basin, confined within the Tulare Lake Hydrologic Region. Major rivers and streams in the subbasin include the Tule and White Rivers and Deer Creek, which account for most of the estimated 34,400 AF per year (AF/y) of natural recharge to the subbasin. There are approximately 201,000 AF/y of applied water recharge into the subbasin. Annual urban and agricultural extraction are estimated to be 19,300 AF and 641,000 AF, respectively. The Tule Subbasin has experienced dramatic spikes and falls in groundwater levels over the 1970 to 2000 period, but on average did not show significant change over that time frame (DWR 2004)². However, the San Joaquin Valley Basin is in a condition of critical overdraft, indicating a need for recharge efforts³. There will be no groundwater impacts on the Tule River, given that the amount of water flowing will not change as a result of the Proposed Action/Project.

3.1.2 Environmental Consequences

No Action/Project Alternative

Under the No Action/Project Alternative, Reclamation would not provide partial funding for design and construction of the project. Landowners within Service Areas 1 and 2 would not have the opportunity to benefit from the District's surface water conveyance system, and groundwater levels underlying the District would not be able to benefit from additional recharge capability. The District would continue to use its surface water supplies as it has historically occurred. Groundwater levels in the Central Valley have been decreasing in response to increased dependence during the recent drought; therefore groundwater overdraft is expected to worsen under the No Action/Project Alternative.

Proposed Action /Project

The Proposed Action/Project would not generate a new supply of water; rather, it would improve the reliability of the District's water supplies by expanding its distribution area and allowing for additional water deliveries. The District does not currently utilize all of its Friant Division CVP

² Department of Water Resources, San Joaquin Valley Groundwater Basin Tule Subbasin, Section 5-22.11, Pages 1-5. Site Accessed March 2016. <http://www.water.ca.gov/groundwater/bulletin118/basindescriptions/5-22.13.pdf>

³ http://www.watereducation.org/sites/main/files/file-attachments/mathis_2015drought_groundwater_mathis.pdf. Site Accessed March 2016.

water supply within the District. Currently, some of the District's allotted water is transferred out of the District due to the District's lack of conveyance infrastructure. The Proposed Action/Project would allow the District to utilize more of its Friant Division CVP water supply within the District. Given that surface water supplies from the Friant Canal are of high quality, groundwater quality would not be adversely impacted by implementation of the Proposed Action/Project. Therefore, the Proposed Action/Project would have slight beneficial impacts to the District's water resources.

3.2 Biological Resources

3.2.1 Affected Environment

The Service Area 1 and Service Area 2 Proposed Action/Project sites are located in the southern San Joaquin Valley west of the City of Porterville. The Valley is bordered by the Sierra Nevada to the east, the Tehachapi Mountains to the south, the California coastal ranges to the west, and the Sacramento-San Joaquin Delta to the north. Eight biotic habitats / land use types were observed at the two sites during April 2015 and January 2016 biological field surveys conducted by Live Oak Associates, Inc. (Appendix C of Attachment A): orchard/vineyard, agricultural field, ruderal, fallow field, non-native grassland, residential, irrigation ditch, and tailwater basin (Figures 4a-4d). Out of all special status species identified in the biological survey, it was found that the Western Mastiff Bat, Pallid Bat, American Badger, California Condor, and San Joaquin Kit Fox (SJKF) had the potential to occur on or pass through the Project action area. Additionally, Swainson's hawks and White-tailed Kites were found to have the potential to nest in mature trees adjacent to the Proposed Action/Project sites.

At the time of the April 2015 field survey, orchards were the primary land use along the Service Area 1 preferred and alternate routes (Appendix C of Attachment A). At the time of the January 2016 field survey, one orchard occurred along the Service Area 2 preferred route, and one vineyard along its alternate route (Appendix C of Attachment A). Most of the orchards appeared to be regularly maintained, with vegetation in the understory sparse or absent. Where present, vegetation in orchard understories consisted of common weeds. Due to intensive disturbance and the lack of aquatic habitat, orchards and vineyards provide marginal habitat for amphibians and provide foraging and nesting habitat for a number of avian species. The Northern Harrier was found to have potential to forage in the vineyards of Service Area 2. A few small mammal species, various species of bat, and foraging raptors and mammalian predators may occur within the orchards as well. A detailed description of species which could potentially occur within orchard/vineyards can be found in Appendix C of Attachment A.

At the time of the April 2015 field survey, agricultural field habitat occurred along the Service Area 1 preferred route on the north side of Avenue 164 and the east side of Road 200, and occupied most of staging area 1-3 and the entirety of staging area 1-6. At the time of the January 2016 field survey, agricultural field was the predominant land use along the Service Area 2 preferred and alternate routes, occupied part of staging area 2-4 and all of staging areas 2-2, 2-3, and 2-5, and encompassed the proposed 2-acre basin. During the April 2015 survey, agricultural fields of the Service Area 1 site had recently been prepped for planting and were barren of vegetation, save occasional patches of common weeds. During the January 2016 survey, agricultural fields of the Service Area 2 site were planted to alfalfa, onions, cabbage, and grain

crops, or had recently been tilled. The margins of the Service Area 2 agricultural fields contained common weeds as well.

Intensive agricultural practices on the fields of the Service Areas likely limit their value to wildlife; however, some wildlife species likely occur in the fields. The agricultural fields of Service Areas 1 and 2 were found to potentially provide foraging habitat for Swainson's hawk, White-tailed Kite, Tri-colored Blackbird, Burrowing Owls, and Loggerhead Shrike. The Northern Harrier could potentially forage in the agricultural fields of Service Area 1 in particular. The dry-farmed grain field of Service Area 2 could provide denning habitat for the San Joaquin Kit Fox and the American Badger, as well as roosting and nesting habitat for the Burrowing Owl. The Alfalfa field of Service Area 2 could also provide foraging habitat for the Northern Harrier.

More generally, amphibians have the potential to use agricultural fields in the Project action area, which also provide foraging habitat for a number of avian species. A few mammal species and various species of bat may also occur within the agricultural fields of the Proposed Action/Project site. The presence of amphibians, reptiles, birds and small mammals is likely to attract foraging raptors and mammalian predators. A detailed account of the species that could potentially be found within the agricultural fields is contained in Appendix C of Attachment A.

Ruderal (disturbed) areas consisted of the roads and road margins of the two Service Area sites, barren or sparsely-vegetated strips of land bordering other land uses, and open areas associated with residences. At the time of the field surveys, ruderal land comprised the entirety of staging area 1-2 on the Service Area 1 site and the entirety of staging area 2-1 on the Service Area 2 site. Where vegetated, ruderal areas contained common weed species. On the Service Area 1 site, two Washington fan palms and a dead valley oak were observed in ruderal habitat along the north side of Avenue 160. Also on that site, several ornamental shrubs were located along the west side of Road 200, and several ornamental trees and shrubs were located at the northeast corner of Road 200 and Avenue 160.

Although the wildlife habitat value of the site's ruderal lands is relatively low, these lands certainly support some wildlife species, such as reptile, amphibian, bird, and mammalian species. The dead valley oak found on Service Area 1 provides potential nesting habitat for Swainson's hawk and White-tailed kite, foraging habitat for Townsend's Big-eared Bat, and roosting habitat for the Pallid Bat. At the time of the April 2015 survey, two overgrown, fallow fields occurred on the Service Area 1 site along the preferred route, both east of Road 200. The northernmost fallow field was located north of Avenue 160, while the southernmost was located at the proposed origin of the service lateral, and comprised the majority of staging area 1-1. Analysis of aerial imagery indicates these fields were in agricultural production as recently as February 2014. However, at the time of the field survey, the fields were not maintained, and contained dense growth of weeds. At the time of the January 2016 field survey, fallow fields did not occur on the Service Area 2 site.

Wildlife use of the fallow fields of the Service Area 1 site is expected to be similar to that described for agricultural fields. Because the fallow fields do not appear to have experienced recent maintenance, burrowing mammal activity is expected to be considerable, making these fields an attractive foraging option for raptors and mammalian predators. This habitat could also be used for denning by the SJKF. At the time of the April 2015 field survey, gopher burrows

were plentiful in the fallow field north of Avenue 160. Additionally, the fallow fields of Service Area 1 could provide foraging habitat for Swainson's hawk, Northern Harrier, and Loggerhead Shrike, and denning habitat for the American Badger. Burrowing Owls could find roosting, nesting, and foraging habitat in these fields as well.

At the time of the April 2015 field survey, the Service Area 1 site contained a short stretch of ruderal non-native grassland along the preferred route west of Road 200 and south of Avenue 160. Analysis of aerial imagery indicates that this approximately 10-acre property was formerly the site of an orchard, but the trees were removed sometime between 2006 and 2009. Since then, the property appears to be subjected to occasional disking and mowing, but has not been in cultivation. At the time of the field survey, the grassland was densely vegetated with common weeds. Dirt mounds and patches of bare ground occurred sporadically as a result of California ground squirrel activity. At the time of the January 2016 field survey, non-native grassland was absent from the Service Area 2 site.

Wildlife species with the potential to use the ruderal grassland of the Service Area 1 site would be similar to that described for other land uses. However, the abundance of California ground squirrels observed within the grassland introduces the possibility of the burrowing owl roosting/nesting and foraging on the property. As with the fallow fields, the non-native grassland is expected to be used regularly by foraging raptors, such as the Loggerhead Shrike, Northern Harrier, Tri-colored Blackbird, White-tailed Kite, and Swainson's Hawk, but may not be accessible to mammalian predators as it is surrounded by a chain-link fence. Regardless, there is potential for American Badger and San Joaquin Kit Fox denning on the site.

At the time of the April 2015 field survey, the Service Area 1 site included one residence, located west of Road 200 and south of Avenue 160 within staging area 1-4. The residence includes a home, compacted dirt and paved surfaces, and a landscaped yard including several ornamental trees and shrubs. At the time of the January 2016 field survey, the Service Area 2 site did not include any residential infrastructure.

A number of wildlife species adapted to human disturbance could be expected to occur in the residential area within the Service Area 1 site from time to time. Amphibians could disperse through the residential area during the winter and spring, and reptiles could forage in this land use type. Buildings and other human-made structures provide potential nesting habitat for a number of avian species, including the Loggerhead Shrike. Trees of the residential area are relatively short-statured and would not be expected to be used by nesting raptors. However, birds of prey may occasionally forage over the property. A variety of mammal species attracted to residential areas as well. Further detail of species that could potentially be found within the residential area can be found in Appendix C of Attachment A.

Three short segments of the Wood-Central Ditch pass through the Service Area 1 site at the one proposed and two potential turnout locations. This ditch is an earthen channel approximately 20 feet in width. At the time of the April 2015 field survey, it was dry. Its bed was densely vegetated with common weeds. Its banks were primarily barren of vegetation. A 500-foot segment of the Tule River Intertie and an 1,800-foot segment of an unnamed V-ditch pass through the Service Area 2 site along the preferred alignment. Both ditches are earthen channels; the Tule River Intertie is approximately 45 feet in width and the unnamed V ditch approximately

20 feet in width. At the time of the January 2016 field survey, the Tule River Intertie was inundated several feet and was primarily barren of vegetation. The V-ditch was dry, and its banks contained weedy growth of fiddleneck and Russian thistle.

Due to intensive maintenance practices, the irrigation ditches of the two sites would be of limited value to native wildlife. However, the Pacific chorus frog and western toad may breed in these ditches during periods of inundation, and consequently serve as prey for wading birds. At the time of the April 2015 survey of the Service Area 1 site, cliff swallows were nesting in the box culvert at Road 200's crossing of the Wood-Central Ditch. These nests would not be impacted by the proposed action/project, as construction would occur between September and January, outside of their nesting period, and would not occur in the vicinity of the known nesting site. California ground squirrel burrows were sporadically observed on the banks of this ditch, as well as on the banks of the unnamed V-ditch during the January 2015 survey of the Service Area 2 site. At the time of the April 2015 field survey, two tailwater basins were identified on the Service Area 1 site. One occurred along the alternate route immediately south of Avenue 160, and was only partially contained within the site. The second basin was entirely contained within staging area 1-3, at the southeastern corner of Avenue 160 and Road 200. Both basins were dry at the time of the field survey, and densely vegetated with common weeds. At the time of the January 2016 field survey, one tailwater basin was identified on the Service Area 2 site. Located immediately southeast of Avenue 140's crossing of the Tule River Intertie, the basin was situated partially within staging area 2-4 and partially within the proposed disturbance zone for the siphon under the Tule River Intertie. The basin floor was saturated at its deepest point, but otherwise dry. Sparse vegetative growth of mallow and an unidentified mustard were observed.

Wildlife use of irrigation basins would vary depending on the timing and degree to which the basins are inundated or saturated. During periods of inundation, amphibians could opportunistically breed in the basins and subsequently disperse through surrounding lands. During dry periods, reptile and amphibian use of the basins would be similar to that described for other land uses. Birds are expected to use the basins at an increased rate during periods of inundation and saturation, although avian use would be similar to other land uses when the basins are dry.

Periodic inundation likely precludes occupation of the basin floors by burrowing rodents; however, at the time of the field survey, gopher burrows were sporadically observed on the banks. Deer mice and western harvest mice could also inhabit the margins of the basins and could forage for insects, seeds, and plant parts in the basins when the basins are dry. Mammalian predator and raptor use of the basins would be similar to that described for other land uses. Further information can be found in Appendix C of Attachment A.

The FWS IPAC species list for the action area (Reference) was reviewed and the *California Natural Diversity Data Base (CNDDDB)* (CDFW 2016) was queried for special status species occurrences in the twelve USGS 7.5-minute quadrangle containing and surrounding the Proposed Action/Project sites (*Woodville, Porterville, Tulare, Cairns Corner, Lindsay, Frazier Valley, Success Dam, Fountain Springs, Ducor, Sausalito School, Pixley, and Tipton*). These species, and their potential to occur on the sites, are listed in Table 3-1 on the following pages.

Table 3-1- Special Status - Species Lists

Species	Status	Habitat	*Occurrence on the Proposed Action/Project site
PLANTS			
California Jewelflower (<i>Caulanthus californicus</i>)	FE, CE	Occurs in chenopod scrub, pinyon and juniper woodland, and sandy valley and foothill grassland. Blooms February–May; elevation 250-3,300 ft.	Absent. Historic and ongoing human disturbance of the project sites has rendered habitats unsuitable for this species.
Springville Clarkia (<i>Clarkia springvillensis</i>)	FE, CE CNPS 1B	Occurs in chaparral, cismontane woodland, and valley and foothill grassland habitats with granitic soil. Blooms May-July; elevation 800-4,000 ft.	Absent. Suitable habitat for Springville clarkia is absent from the project sites, and both sites are situated below the lower limits of this species' elevational range.
Striped Adobe-lily (<i>Fritillaria striata</i>)	CT CNPS 1B	Occurs in cismontane woodland and valley and foothill grassland habitats with clay soils. Blooms February-April; elevation 450-4,775 ft.	Absent. Historic and ongoing human disturbance of the project sites has rendered habitats unsuitable for this species.
San Joaquin Adobe Sunburst (<i>Pseudobahia peirsonii</i>)	FT, CE CNPS 1B	Occurs in grasslands of the Sierra Nevada foothills in heavy clay soils of the Porterville and Centerville series. Blooms March-April; elevation 300-2,625 ft.	Absent. Suitable heavy clay soils of the Porterville and Centerville series are absent from the two project sites.
Keck's Checkerbloom (<i>Sidalcea keckii</i>)	FE CNPS 1B	Occurs in valley grassland and foothill woodland, often in serpentine soils. Blooms April-May; elevations below 2,100 ft.	Absent. Historic and ongoing human disturbance of the project sites has rendered habitats unsuitable for this species.
Earlimart Orache (<i>Atriplex cordulata</i> var. <i>erecticaulis</i>)	CNPS 1B	Occurs in valley and foothill grassland. Blooms August-September; elevation 130-330 ft.	Absent. Historic and ongoing human disturbance of the project sites has rendered habitats unsuitable for this species.
Lost Hills Crownscale (<i>Atriplex coronata</i> var. <i>vallicola</i>)	CNPS 1B	Found in chenopod scrub and valley and foothill grasslands; alkaline soils. Blooms April-August; elevations below 2,080 ft.	Absent. Historic and ongoing human disturbance of the project sites has rendered habitats unsuitable for this species.
Brittlescale (<i>Atriplex depressa</i>)	CNPS 1B	Occurs in relatively barren areas with alkaline clay soils in chenopod scrub, playas, grasslands, and vernal pools of the Central Valley. Blooms April-October; elevations below 1,050 ft.	Absent. Historic and ongoing human disturbance of the project sites has rendered habitats unsuitable for this species.
Lesser Saltscale (<i>Atriplex minuscula</i>)	CNPS 1B	Occurs widely scattered locations of California's Central Valley with sandy alkaline soils in chenopod scrub, valley grasslands, and vernal pools. Blooms May-October; elevations below 660 ft.	Absent. Historic and ongoing human disturbance of the project sites has rendered habitats unsuitable for this species.
Vernal Pool Smallscale (<i>Atriplex persistens</i>)	CNPS 1B	Occurs in alkaline vernal pools. Blooms July-Oct.; elevations below 400 ft.	Absent. Vernal pool habitat is absent from both project sites.
Subtle Orache (<i>Atriplex subtilis</i>)	CNPS 1B	Occurs in valley and foothill grassland. Blooms August-October; elevation 130-330 ft.	Absent. Historic and ongoing human disturbance of the project sites has rendered habitats unsuitable for this species.
Recurved Larkspur (<i>Delphinium recurvatum</i>)	CNPS 1B	Occurs on alkaline soils in chenopod scrub, cismontane woodland, and grasslands. Blooms March-June; elevations below 2,500 ft.	Absent. Historic and ongoing human disturbance of the project sites has rendered habitats unsuitable for this species.

Species	Status	Habitat	*Occurrence on the Proposed Action/Project site
Spiny-sepaed Button Celery (<i>Eryngium spinoseplum</i>)	CNPS 1B	This annual/perennial occurs in vernal pools and valley and foothill grasslands of the San Joaquin Valley and the Tulare Basin. Blooms April-May; elevation 330-840 ft.	Absent. Historic and ongoing human disturbance of the project sites has rendered habitats unsuitable for this species.
Madera Leptosiphon (<i>Leptosiphon serrulatus</i>)	CNPS 1B	Occurs in oak woodland, cismontane woodland, and coniferous forest. Blooms April-May; elevation 1,000-4,260 ft.	Absent. Suitable habitats for this species are absent from the project sites, and both sites are situated outside of the species' elevational range.
Calico Monkeyflower (<i>Mimulus pictus</i>)	CNPS 1B	Occurs in foothill woodland habitats. Blooms March-May; elevation 1,400 to 4,000 ft.	Absent. Suitable habitat for calico monkeyflower is absent from the project sites, and both sites are situated below the lower limits of this species' elevational range.
ANIMALS			
Valley Elderberry Longhorn Beetle (<i>Desmocerus californicus dimorphus</i>)	FT	Mature elderberry shrubs of California's Central Valley and Sierra Foothills.	Absent. The newly revised range of this species by the USFWS does not include Tulare County.
Vernal Pool Fairy Shrimp (<i>Branchinecta lynchi</i>)	FT	Occurs in vernal pools, clear to tea-colored water in grass or mud-bottomed swales, and basalt depression pools.	Absent. Habitat suitable for this species is absent from the project sites. The closest known vernal pool fairy shrimp population was recorded approximately 3 miles east of the Service Area 2 site in 2002.
Blunt-Nosed Leopard Lizard (BNLL) (<i>Gambelia sila</i>)	FE, CE, CFP	Occurs in semiarid grasslands, alkali flats, and washes. Avoids densely vegetated areas. Inhabits the San Joaquin Valley and adjacent valleys and foothills north to southern Merced County.	Absent. Any potential blunt-nosed leopard lizard habitat that may have once been present has been eliminated through intensive agricultural uses. The closest known occurrence of BNLL was recorded approximately 12 miles southwest of the sites in 1959.
California Condor (<i>Gymnogyps californianus</i>)	FE, CE, CFP	Requires vast expanses of open savannah, grasslands, and foothill chaparral. Forages on large, dead animals. Nests on cliffs, often within deep canyons. Occurs in many habitats of the southern half of California.	Unlikely. The project sites do not offer suitable breeding habitat for this species, nor would they serve as a source of the large animal carcasses the condor feeds on. However, condors may occasionally fly over the sites. The closest known condor occurrence was documented in the Blue Ridge Condor Area, approximately 17 miles northeast of the sites, in 1976.

Species	Status	Habitat	*Occurrence on the Proposed Action/Project site
Swainson's Hawk (<i>Buteo swainsoni</i>)	CT	This breeding-season migrant to California nests in mature trees in riparian areas and oak savannah, and occasionally in lone trees at the margins of agricultural fields. Requires adjacent suitable foraging areas such as grasslands or alfalfa fields supporting rodent populations.	Possible. Swainson's hawks could potentially nest in the dead valley oak on the Service Area 1 site, or in mature trees adjacent to the two sites. Swainson's hawks could forage over agricultural fields of both sites, and fallow fields and non-native grassland of Service Area 1. However, Swainson's hawks are uncommon in the eastern portion of the San Joaquin Valley. The closest known nesting occurrences of this species were recorded approximately 10 miles northwest of the Service Area 1 site in 2000 and 2008.
White-Tailed Kite (<i>Elanus leucurus</i>)	CFP	Occurs in savanna, open woodlands, marshes, desert grassland, and cultivated fields. Prefer lightly grazed or ungrazed fields for foraging.	Possible. Kites could forage over the fields and grassland of the sites and theoretically also nest in the dead valley oak on the Service Area 1 site or mature trees adjacent to the sites; however, this species does not typically nest adjacent to roads. There are no known occurrences of this species within 10 miles.
Tricolored Blackbird (<i>Agelaius tricolor</i>)	CE	Nests colonially near fresh water in dense cattails or tules, or in thickets of willows or shrubs. Forages in grassland and cropland areas.	Possible. Tricolored blackbirds could potentially forage in the fields and grassland of the sites, but nesting habitat is absent. The closest known occurrence of this species was recorded approximately 10 miles east of the Service Area 2 site in 1971.
Tipton Kangaroo Rat (<i>Dipodomys nitratooides nitratooides</i>)	FE, CE	Occupies underground burrows in valley saltbush scrub and valley sink scrub habitats in the southern San Joaquin Valley.	Absent. Any potential Tipton kangaroo rat habitat that may have once been present has been eliminated through intensive agricultural uses. There are no modern occurrences of this species in the project vicinity. The two CNDDDB records within 10 miles were recorded in 1927 and 1943.
San Joaquin Kit Fox (<i>Vulpes macrotis mutica</i>)	FE, CT	Frequents desert alkali scrub and annual grasslands and may forage in adjacent agricultural habitats. Utilizes enlarged (6 to 10 inches in diameter) ground squirrel burrows as denning habitat.	Possible. Intensive agricultural practices, highly modified habitats, and ongoing disturbance make kit fox occupation of the project sites unlikely. However, individual SJKF may pass through or forage on the sites from time to time. The grassland and fallow fields of the Service Area 1 site and the dry-farmed grain field of the Service Area 2 site could potentially be used for denning. The CNDDDB lists 25 occurrences of SJKF within 10 miles of the project sites, all from more than 20 years ago.

Species	Status	Habitat	*Occurrence on the Proposed Action/Project site
Townsend's Big-eared Bat	CCT, CSC	Found throughout California. Primarily a cave-dwelling species, but may roost in tunnels, buildings, other human-made structures, and hollow trees.	Possible. Individuals of this species may forage over the sites from time to time, and could potentially roost on the Service Area 1 site in the dead valley oak on the north side of Avenue 160. The closest known occurrence was recorded approximately 9 miles east of the Service Area 1 site in 1988.
Western Spadefoot (<i>Spea hammondi</i>)	CSC	Mainly occurs in grasslands of San Joaquin Valley. Vernal pools or other temporary wetlands are required for breeding. Aestivates in underground refugia such as rodent burrows, typically within 1,200 ft. of aquatic habitat.	Absent. Wetland habitat suitable for breeding by the western spadefoot is absent from the project sites and surrounding lands. The closest known breeding occurrence was recorded approximately 6 miles southwest of the Service Area 2 site in 1978.
Foothill Yellow-Legged Frog (<i>Rana boylei</i>)	CSC	Occurs in rocky streams or pools in foothill woodlands or chaparral, with an isolated population on the floor of the Central Valley.	Absent. The project sites do not offer suitable habitat for this species, and no occurrences have been documented within 10 miles of the sites.
Coast Horned Lizard (<i>Phrynosoma blainvillii</i>)	CSC	Occurs in the lower Sierra foothills and throughout the central and southern California coast in relatively open areas.	Unlikely. The disturbed habitats of the sites are marginal to unsuitable for this species, and there are no known occurrences within 10 miles.
San Joaquin Coachwhip (<i>Coluber flagellum ruddocki</i>)	CSC	Occurs in open, dry areas including grassland and saltbush scrub. Takes refuge in rodent burrows and under shaded vegetation.	Unlikely. The disturbed habitats of the sites are marginal to unsuitable for this species, and there are no known occurrences within 10 miles.
Northern Harrier (<i>Circus cyaneus</i>)	CSC	Frequents meadows, grasslands, open rangelands, freshwater emergent wetlands. Nests on ground, generally in wet areas, although grassland, pasture, and cultivated fields may be used.	Present. A northern harrier was observed foraging over an alfalfa field and vineyard of the Service Area 2 site during the field survey, and may also forage on the agricultural fields, fallow fields, and grassland of the Service Area 1 site from time to time. Breeding habitat is absent from both sites. The CNDDDB lists no nesting occurrences in the project vicinity.
Burrowing Owl (<i>Athene cunicularia</i>)	CSC	Frequents open, dry annual or perennial grasslands, deserts, and scrublands characterized by low growing vegetation. Dependent upon burrowing mammals, most notably the California ground squirrel, for nest burrows.	Possible. Burrowing owls could roost, nest, or forage in the grassland and possibly also the fallow fields of the Service Area 1 site, and the dry-farmed grain field of the Service Area 2 site. Agricultural fields of either site could be used for foraging. There are no CNDDDB occurrences in the vicinity, but LOA observed a burrowing owl roosting in a pasture approximately 8 miles southwest of the Service Area 2 site in February 2015.

Species	Status	Habitat	*Occurrence on the Proposed Action/Project site
Loggerhead Shrike (<i>Lanius ludovicianus</i>)	CSC	Frequents open habitats with sparse shrubs and trees, other suitable perches, bare ground, and low herbaceous cover. In the Central Valley, nests in riparian areas, desert scrub, and agricultural hedgerows.	Possible. Shrikes could nest in trees associated with the residence in staging area 1-4 on the Service Area 1 site. Agricultural fields of both sites and fallow fields and grassland habitat of the Service Area 1 site could be used for foraging. There are no known occurrences of this species within 10 miles of the sites, however.
Pallid Bat (<i>Antrozous pallidus</i>)	CSC	Found in grasslands, chaparral, and woodlands, where it feeds on ground- and vegetation-dwelling arthropods, and occasionally take insects in flight. Prefers to roost in rock crevices, but may also use tree cavities, caves, bridges, and buildings.	Possible. Individuals of this species could forage on the sites, and could potentially roost on the Service Area 1 site in the dead valley oak on the north side of Avenue 160. There are no known occurrences of the pallid bat within 10 miles of the sites.
Western Mastiff Bat (<i>Eumops perotis</i> ssp. <i>californicus</i>)	CSC	Found in open, arid to semi-arid habitats, where it feeds on insects in flight. Roosts most often in crevices in cliff faces, but may also use high buildings, bridges, and tunnels.	Possible. Individuals of this species could forage over the sites, but roosting habitat is absent. There are no known occurrences of the western mastiff bat within 10 miles of the sites.
American Badger (<i>Taxidea taxus</i>)	CSC	Uncommon resident statewide; most abundant in drier open stages of most shrub, forest, and herbaceous habitats.	Possible. Badgers may occasionally pass through or forage on the project sites, and could potentially den in the non-native grassland or fallow fields of the Service Area 1 site or the dry-farmed grain field of the Service Area 2 site. The CNDDDB lists one historical occurrence of this species in the project vicinity, approximately 2 miles southeast of the Service Area 2 site.

Occurrence Terminology:

Present:	Species observed on the site at time of field surveys or during recent past.
Likely:	Species not observed on the site, but it may reasonably be expected to occur there on a regular basis.
Possible:	Species not observed on the site, but it could occur there from time to time.
Unlikely:	Species not observed on the site, and would not be expected to occur there except, perhaps, as a transient.
Absent:	Species not observed on the site, and precluded from occurring there because habitat requirements not met.

STATUS CODES

FE	Federally Endangered	CE	California Endangered
FT	Federally Threatened	CT	California Threatened
FPE	Federally Endangered (Proposed)	CCT	California Threatened (Candidate)
FPT	Federally Threatened (Proposed)	CFP	California Fully Protected
FC	Federal Candidate	CSC	California Species of Special Concern

CNPS	California Native Plant Society Listing		
1A	Plants Presumed Extinct in California	2	Plants Rare, Threatened, or Endangered in California, but more common elsewhere
1B	Plants Rare, Threatened, or Endangered in California and elsewhere		

3.2.2 Environmental Consequences

No Action/Project Alternative

No changes in conditions or habitats would occur under the No Action/Project Alternative. Operations and water management practices would not change. Therefore, the No Action/Project Alternative would not result in changes to biological resources or habitats.

Proposed Action/Project

As discussed in Section 1.0, the Proposed Action/Project is the construction of one new turnout on the Wood-Central Ditch, two new service laterals, and potentially also one new detention basin. Two additional turnouts on the Wood-Central Ditch are included in the analysis as optional components to be installed at some point in the future. The Proposed Action/Project also includes 11 staging areas. Temporary impacts may encompass up to 70 acres, including the disturbance corridors associated with service lateral construction, work zones surrounding the proposed and potential turnouts on the Wood-Central Ditch, and the 11 staging areas. Permanent impacts will consist of the footprints of the proposed and potential turnouts on the Wood-Central Ditch (less than one acre) and potentially also the footprint of the Service Area 2 lateral (five acres) and detention basin (two acres) if an open channel system is adopted during final design, for a maximum of eight acres. The Service Area 1 lateral would be installed as a buried pipeline, with surface habitats allowed to naturally vegetate after construction; therefore, impacts associated with this service lateral are considered to be temporary in nature. Proposed Action/Project impacts/effects to biological resources and associated mitigation to reduce the magnitudes of these impacts/effects are discussed below. See CEQA Initial Study Checklist (Attachment A) for more detail.

The Proposed Action/Project would not have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special-status species with implementation of the mitigation measures below:

San Joaquin Kit Fox Kit fox have not been documented in the Proposed Action/Project vicinity in recent years. The CNDDB lists 25 SJKF occurrences within a 10-mile radius of the two sites, but all were recorded more than 20 years ago. The marginal nature of most of the onsite habitats, matrix of intensive land uses surrounding the sites, and lack of recent San Joaquin kit fox observations in the vicinity make kit fox occurrence on the two Service Area sites relatively unlikely. Nevertheless, it is possible that SJKF pass through or forage/den on the sites from time to time. If a kit fox were present at the time of construction, then it would be at risk of project-related injury or mortality.

Mitigation Measures/Environmental Commitments Prior to the construction of the Proposed Action/Project one or more of the following measures/commitments will be implemented.

BIO -1: San Joaquin Kit Fox. (Pre-construction Surveys). Pre-construction surveys will be conducted no less than 14 days and no more than 30 days prior to the beginning of ground disturbance, construction activities, and/or any Proposed Action/Project activity likely to impact the San Joaquin kit fox. These surveys will be conducted in accordance with the USFWS *Standardized Recommendations*. The primary objective is to identify kit

fox habitat features (e.g. potential dens and refugia) on the Proposed Action/Project sites and evaluate their use by kit foxes through use of remote monitoring techniques such as motion-triggered cameras and tracking medium. If an active kit fox den is detected within or immediately adjacent to the area of work, the USFWS and CDFW will be contacted immediately.

- **(Avoidance).** Should an active kit fox den be detected within or immediately adjacent to the area of work, a disturbance-free buffer will be established around the den in consultation with the USFWS and CDFW.
- **(Minimization).** Permanent and temporary construction activities and other types of Proposed Action/Project-related activities will be carried out in a manner that minimizes disturbance to kit foxes. In accordance with the USFWS Standard Recommendations, minimization measures include, but are not limited to:
 - Restriction of on-site Proposed Action/ Project-related vehicle traffic to established roads, construction areas, and other designated areas, with a speed limit no greater than 15 mph; after dark, speed will be limited to 10 mph. Off-road traffic outside of designated Proposed Project areas will be prohibited. Work at night will not be allowed.
 - All construction pipes, culverts, or similar structures with a diameter of 4 inches or greater that are stored at a construction site for one or more overnight periods will be thoroughly inspected for kit foxes before the pipe is subsequently buried, capped, or otherwise used or moved in any way. If a kit fox is discovered inside a pipe, that section of pipe will not be moved until USFWS has been consulted. If necessary, and under the direct supervision of a biologist, the pipe may be moved only once to remove it from the path of construction activity, until the fox has escaped; all excavated, steep-walled holes or trenches more than 2 feet deep will be covered with plywood or similar materials at the end of each work day. If the trenches cannot be closed, one or more escape ramps constructed of earthen-fill or wooden planks will be installed. Before such holes or trenches are filled, they will be inspected for trapped animals; holes or trenches more than 8 feet deep will be covered or fenced at the end of each day.
 - If rodent control must be conducted, zinc phosphide will be used because of a proven lower risk to kit fox;
- Prior to the start of construction, a qualified biologist will conduct one tailgate meeting to train construction staff that will be involved with the Proposed Action/Project on the San Joaquin kit fox. This training will include a description of the kit fox and its habitat needs; a report of the occurrence of kit fox in the Proposed Action/Project area; an explanation of the status of the species and its protection under the Endangered Species Act; and a list of the measures being taken to reduce impacts to the species during Proposed Action/Project construction. The training will include a hand out with all of the training information included in it. The project manager will use this handout to train any

additional construction staff that were not in attendance at the first meeting prior to starting work on the Proposed Action/Project.

- All food-related trash items such as wrappers, cans, bottles, and food scraps will be disposed of in securely closed containers and removed at least once a week from the Proposed Action/Project Area.
- No pets will be permitted in the Proposed Action/Project Area.
- Upon completion of the Proposed Action/Project, all areas subject to temporary ground disturbances, including staging areas, temporary roads, and borrow sites will be recontoured, if necessary, and revegetated to promote restoration of the area to pre-Proposed Action/Project conditions.
- SJKF sightings will be reported to CNNDB.

Both of the Service Area sites have the potential to be used by burrowing owls from time to time for foraging, roosting, and/or nesting. If individual owls occupy burrows on or immediately adjacent to the Proposed Action/Project sites at the time of construction, then these owls would be at risk of construction-related injury or mortality.

BIO -2: Burrowing Owl. (Take Avoidance Survey). A take avoidance survey for burrowing owls will be conducted by a qualified biologist between 14 and 30 days prior to the start of construction. This take avoidance survey will be conducted according to methods described in the *Staff Report on Burrowing Owl Mitigation* (CDFG 2012). The survey area will include all suitable habitat on and within 200 meters of Proposed Action/Project impact areas, where accessible.

- ***(Avoidance of Active Nests).*** If Proposed Action/Project activities are undertaken during the breeding season (February 1-August 31) and active nest burrows are identified within or near impact areas, a 200-meter disturbance-free buffer will be established around these burrows, or alternate avoidance measures implemented in consultation with CDFW. The buffers will be enclosed with temporary fencing to prevent construction equipment and workers from entering the setback area. Buffers will remain in place for the duration of the breeding season, unless otherwise arranged with CDFW. After the breeding season (i.e. once all young have left the nest), passive relocation of any remaining owls may take place as described below.
- ***(Avoidance or Passive Relocation of Resident Owls).*** During the non-breeding season (September 1-January 31), resident owls occupying burrows in impact areas may either be avoided, or passively relocated to alternative habitat. If the Applicant chooses to avoid active owl burrows within the impact area during the non-breeding season, a 50-meter disturbance-free buffer will be established around these burrows, or alternate avoidance measures implemented in consultation with CDFW and USFWS. The buffers will be enclosed with temporary fencing, and will remain in place until a qualified biologist determines that the burrows are no longer active. If the Applicant chooses to passively relocate owls during the non-breeding season, this activity will be conducted in

accordance with a relocation plan prepared by a qualified biologist. Passive relocation may include one or more of the following elements: 1) establishing a minimum 50-foot buffer around all active burrowing owl burrows, 2) removing all suitable burrows outside the 50-foot buffer and up to 50 meters outside of the impact areas as necessary, 3) installing one-way doors on all potential owl burrows within the 50-foot buffer, 4) leaving one-way doors in place for 48 hours to ensure owls have vacated the burrows, and 5) removing the doors and excavating the remaining burrows within the 50-foot buffer.

The American badger is relatively uncommon in the region, but individuals may occasionally pass through or forage/den within the Proposed Action/Project sites. If one or more badgers were denning on the site(s) at the time of construction, then these individuals would be at risk of Proposed Action/Project-related injury or mortality.

- **BIO-3: American Badger.** The American badger is relatively uncommon in the region, but individuals may occasionally pass through or forage/den within the Proposed Action/Project sites. If one or more badgers were denning on the site(s) at the time of construction, then these individuals would be at risk of Proposed Action/Project-related injury or mortality. **(Pre-construction Surveys).** A preconstruction survey for American badgers will be conducted by a qualified biologist within 30 days of the start of construction. Preconstruction surveys will be conducted in all suitable denning habitat of the Proposed Action/Project site.
- **(Avoidance).** Should an active natal den be identified during the preconstruction surveys, a suitable disturbance-free buffer will be established around the den and maintained until a qualified biologist has determined that the cubs have dispersed or the den has been abandoned.

The majority of Service Area 1 and Service Area 2 consist of habitat that could potentially be used for nesting by one or more avian species protected by the federal Migratory Bird Treaty Act and related state laws. American robins and mourning doves may nest in the adjacent orchards or residential trees. Ornamental shrubs of the Service Area 1 site could be used by the disturbance-tolerant house finch or northern mockingbird. Cliff swallows are known to nest in the box culvert at the Road 200 crossing of the Wood-Central Ditch on the Service Area 1 site. Killdeer may nest on bare ground in ruderal areas of either Service Area site. Although unlikely, the dead valley oak on the Service Area 1 site could be used for nesting by the Swainson's hawk or white-tailed kite, and these special status raptors could also nest in mature trees immediately adjacent to the Proposed Action/Project sites. Any birds nesting within the sites at the time of construction have the potential to be injured or killed by Proposed Action/Project activities, and birds nesting adjacent to the sites could be disturbed by Proposed Action/Project activities such that they would abandon their nests. It is not anticipated that any trees will need to be removed as part of the Proposed Action/Project; however, if trees are removed they will be removed outside of the nesting season (September through January). If tree removal cannot be completed outside of the nesting season then a focused survey will be completed to ensure there are no nesting migratory birds present.

Bio-4: Nesting Migratory Birds. (Avoidance). In order to avoid impacts to nesting raptors and migratory birds, the Proposed Action/Project will be constructed, if feasible, outside the nesting season, or between September 1st and January 31st.

- ***(Pre-construction Surveys).*** If Proposed Action/Project activities must occur during the nesting season (February 1-August 31), a qualified biologist will conduct preconstruction surveys for active raptor and migratory bird nests within 30 days prior to the start of these activities. The survey will include the proposed work area(s) and surrounding lands within 500 feet, where accessible, for all nesting raptors and migratory birds except Swainson's hawk; the Swainson's hawk survey will extend to ½ mile outside of work area boundaries. If no nesting pairs are found within the survey area, no further mitigation is required.
- ***(Establish Buffers).*** Should any active nests be discovered near proposed work areas, the biologist will determine appropriate construction setback distances based on applicable CDFW guidelines and/or the biology of the affected species. Construction-free buffers will be identified on the ground with flagging, fencing, or by other easily visible means, and will be maintained until the biologist has determined that the young have fledged.

The Service Area 1 site contains a number of trees that could be used by roosting bats, including a dead valley oak and two palms along the north side of Avenue 160, and several ornamental trees located within staging area 4 and at the northeast corner of Road 200 and Avenue 160. Of these, only the ornamental trees at the northeast corner of Road 200 and Avenue 160 are proposed for removal under current Proposed Action/Project design. These trees are relatively immature, and are not expected to be used by bats associated with cavities or exfoliating bark; however, they may be used by foliage roosting species.

Bio-5: Roosting Bats. (Temporal Avoidance). To avoid potential impacts to maternity bat roosts, tree removal will, to the extent feasible, occur outside of the period between April 1 and September 30, the time frame within which colony-nesting bats generally assemble, give birth, nurse their young, and ultimately disperse.

- ***(Pre-construction Surveys).*** If tree removal is to occur between April 1 and September 30 (general maternity bat roost season), then within 30 days prior to the removal of large trees, a qualified biologist will survey these trees for the presence of bats. The biologist will look for individuals, guano, and staining, and will listen for bat vocalizations. If necessary, the biologist will wait for nighttime emergence of bats from roost sites. If no bats are observed to be roosting or breeding, then no further action would be required, and construction could proceed.
- ***(Minimization).*** If a non-breeding bat colony is found in disturbance areas, the individuals will be humanely evicted via two-stage removal of trees, under the direction of a qualified biologist to ensure that no harm or "take" of any bats occurs as a result of construction activities.
- ***(Avoidance of Maternity Roosts).*** If a maternity colony is detected during pre-construction surveys, a disturbance-free buffer will be established around the colony and

remain in place until a qualified biologist determines that the nursery is no longer active. The disturbance-free buffer will range from 50 to 100 feet as determined by the biologist.

Implementation of mitigation measures **BIO-1** through **BIO-5** would reduce any potential impacts to sensitive or special status species to less than significant. As discussed in further detail in Appendix C of Attachment A, there are no anticipated impacts to waters of the United States, water quality in seasonal drainages, stock ponds, and downstream waters, riparian or other sensitive habitats, or local policies or habitat conservation plans.

3.3 Land Use

3.3.1 Affected Environment

The District is comprised of roughly 16,900 acres. The Proposed Action/Project area is surrounded by irrigated fields and orchards, as well as rural residences. Service Areas 1 and 2 are situated within a region dominated by agricultural land uses. Additionally, there are five rural residences located from 50 to 100 feet away from either Service Area.

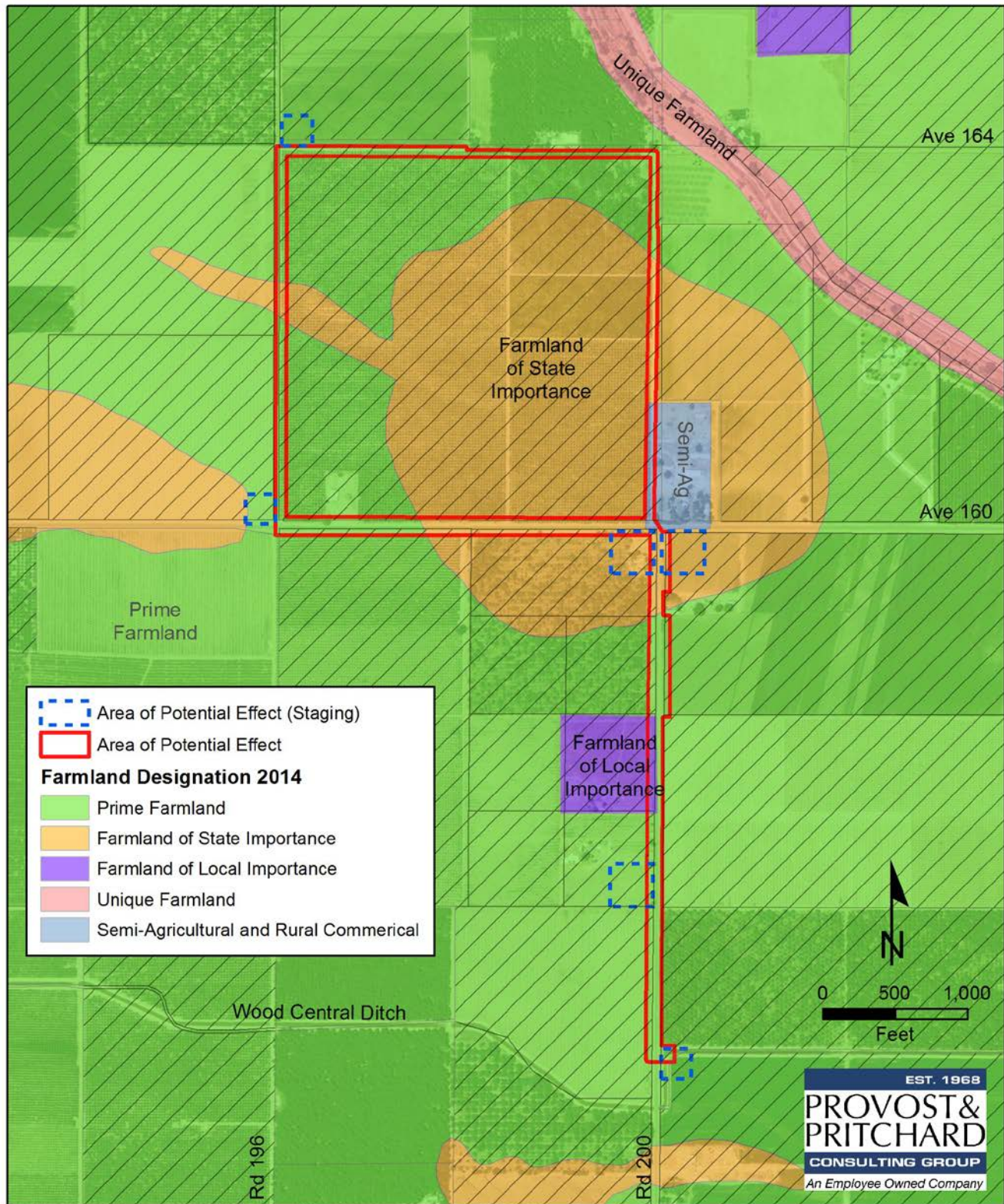
3.3.2 Environmental Consequences

No Action/Project Alternative

Under the No Action/Project Alternative, the District would not expand its current distribution facilities. Conditions related to the current land use are anticipated to continue and groundwater reliance would remain the same. Land use would not be impacted.

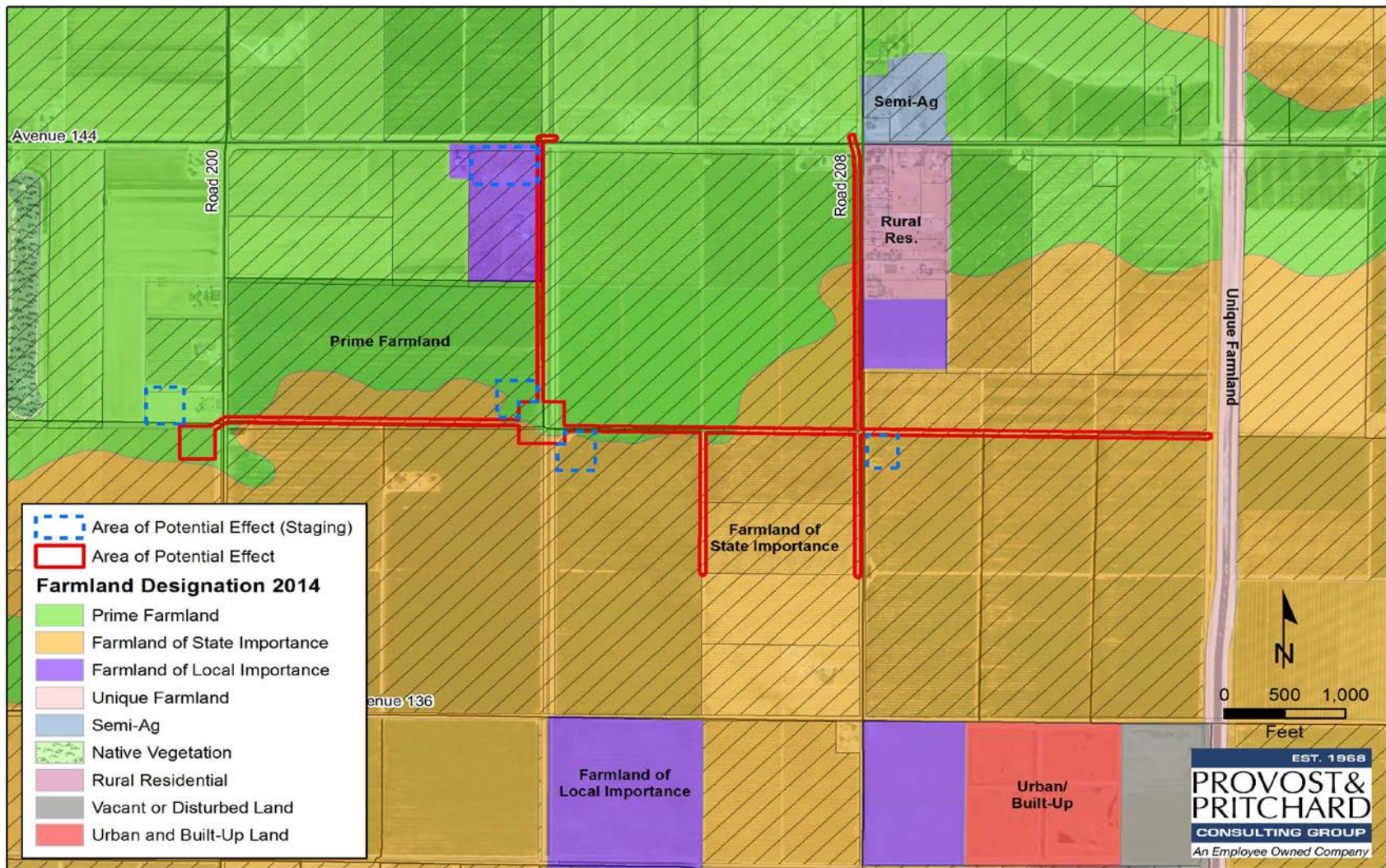
Proposed Action/Project

The Proposed Action/Project would not result in adverse impacts to lands designated as prime agricultural land since the construction of water facilities have been determined to be compatible uses within any agricultural preserve. Also, the Proposed Action/Project is not envisioned to lead to the development of new agricultural lands since the majority of the land within the District has already been developed for agricultural uses. Therefore, no adverse impacts to land use would occur.



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Figure 3-1: Service Area 1 Farmland



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Figure 3-2: Service Area 2 Farmland

3.4 Cultural Resources

A cultural resource is a broad term that includes prehistoric, historic, architectural, and traditional cultural properties. Title 54 USC § 306108, commonly known as Section 106 of the NHPA, and its implementing regulations found at 36 Code of Federal Regulations (CFR) Part 800, is the primary Federal legislation that outlines the Federal Government's responsibility to historic properties. The CEQA process is the primary State process for considering effects to cultural resources. Section 106 of the NHPA requires the Federal Government to take into consideration the effects of an undertaking on historic properties, which are those cultural resources listed on or eligible for inclusion in the National Register of Historic Places (NRHP). CEQA requires the State and local governments to identify Historic Resources, which are those cultural resources that could be eligible for inclusion on the California Register of Historic Resources (CRHR). For Federal Proposed Projects, cultural resource significance can be evaluated in terms of eligibility for listing in the NRHP.

The Section 106 process, as outlined in the Federal regulations at 36 CFR § 800, describes the steps 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.

Reclamation proposes to award grant funds to the Porterville ID for this project from the San Joaquin River Restoration Program (Title X, Part III, sec. 10202). The granting of Federal funds is an undertaking as defined in 36 CFR § 800.16(y) and is a type of activity that has the potential to cause effects on historic properties under 36 CFR § 800.3(a).

3.4.1 Affected Environment

The Central Valley of California is abundant with cultural resources ranging from small archaeological sites to pre-historic villages, and historic era resources ranging from bridges and buildings to canals and roads. Native Americans broadly used the landscapes south of the San Joaquin River and cultural resources related to that use have been identified and recorded within the region. Historic use of the landscape is also quite prevalent and broadly distributed over the landscape. The contemporary landscape is a heavily altered landscape consisting of agricultural fields of permanent and rotational crops, supporting infrastructure such as water conveyance systems, roads, farm outbuildings, residences, and other components of the built environment. While the potential for archaeological resources exists it is somewhat anticipated, due to the large scale landscape modification, that much of their context is heavily disturbed.

In an effort to identify historic properties, PID contracted ASM Affiliates (ASM) to conduct a cultural resources inventory of the APE (Whitley et. al. 2016). Two cultural resources were identified within the APE: segments of the Wood Central Ditch and Poplar Ditch, both of which are part of the Lower Tule River Irrigation District (LTRID) water delivery system.

The Wood Central Ditch has retained integrity of location, setting, feeling, and association based on the historic context by Whitley et. al. (2016) and is considered a contributing feature of the LTRID water conveyance system. The ditch still functions to deliver water within a similar agricultural landscape as when it was originally built. Similarly, the context (Whitley et al. 2016) suggests that the Poplar Ditch significantly contributed to the local development of agriculture as a contributing feature of the LTRID water conveyance system because its original function to deliver water within a similar agricultural landscape has not significantly changed from the time it was originally built. For the purposes of this undertaking only, Reclamation will treat the LTRID water conveyance system as a district eligible for inclusion in the National Register under Criterion A for the theme of development of irrigated agriculture in the south fork of the Kern River valley, and the Wood Central Ditch and Poplar Ditch as contributing elements to that district. The LTRID water conveyance system, and the Wood Central Ditch and Poplar Ditch as contributing elements to that district, would therefore also be treated as eligible for inclusion on the CRHR pursuant to Section 15064.5.

Utilizing these identification efforts, Reclamation entered into consultation with the California State Historic Preservation Officer (SHPO) on May 12, 2016, seeking their concurrence on a finding of “no adverse effect to historic properties pursuant to 36 CFR § 800.5(b).” Reclamation has received concurrence with this finding from the SHPO.

3.4.2 Environmental Consequences

No Action/ Project Alternative

Under the No Action Alternative, there would be no impacts to cultural resources since there would be no change in operations and no ground disturbance. Conditions related to cultural resources would remain the same as existing conditions.

Proposed Action/ Project

The Proposed Action/Proposed Project is a type of activity that has the potential to cause effects on historic properties under 36 CFR § 800.3(a). A records search, a cultural resources survey, and Tribal consultation identified historic properties within the APE. The only identified historic properties within the APE are the Wood Central Ditch and Poplar Ditch, which are components of the LTRID water conveyance system. Reclamation applied the criteria of adverse effect [36 CFR § 800.5(a)] for the current undertaking and found that the proposed activities would result in no significant alterations to the historic characteristics that make the Wood Central Ditch or the Poplar Ditch, eligible for the NRHP. The proposed actions of installing new turnouts for this project will not alter any physical characteristics of the Wood Central Ditch or its berm, or the Poplar Ditch, which is a pipeline segment within the APE. This turn-out installation is consistent with other similar existing facilities that convey irrigation water. Since there will be no significant alterations to the Wood Central Ditch and Poplar Ditch, the LTRID will also be unaffected. Therefore, Reclamation determined that there will be no adverse effect to historic

properties pursuant to 36 CFR § 800.5(b), and consequently, no cultural resources would be affected as a result of implementing the Proposed Action. Reclamation has received concurrence from the SHPO on its findings (Attachment C).

Although it was determined that there would be no impact to known cultural resources, the SVWBA recognizes that there could be an impact to undiscovered resources as a result of the Proposed Action/Proposed Project.

As such, the following mitigation/commitment will be implemented.

CUL 1:

If, in the course of Proposed Action/Proposed Project construction or operation, any archaeological, paleontological or historical resources are uncovered, discovered, or otherwise detected or observed, activities within one hundred (100) feet of the find will be ceased and the SVWBA will be notified immediately. The proponent will retain a qualified archaeologist to assess the significance of the find and make mitigation recommendations, if warranted. The archaeologist will document the resources using DPR 523 forms and file said forms with the California Historical Resources Information System (CHRIS). The resources will be photo documented and collected by the archaeologist for submittal to the Santa Rosa Rancheria's Cultural and Historical Preservation Department. The archaeologist will be required to submit to the County for review and approval a report of the findings and method of curation or protection of the resources. Further grading or site work within the area of discovery will not be allowed until the preceding steps have been taken.

This environmental commitment (Section 2.2.1) will be implemented as part of the Proposed Action/Project as well as Reclamations efforts to consider impacts to cultural resources through the Section 106 process; therefore, it is determined that there will be no impacts to cultural resources.⁴

3.5 Indian Trust Assets

3.5.1 Affected Environment

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

⁴ Whitley, David S., Peter A. Carey, and Jennifer Gorman. 2016. Class III Inventory/Phase I Survey, Porterville Irrigation District in-Lieu Project, Tulare County, California. Prepared by ASM Affiliates for Provost & Pritchard Consulting Group, Visalia, California.

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.

3.5.2 Environmental Consequences

No Action/Project Alternative

Under the No Action/Project 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/Project

The closest Indian Trust lands, the Santa Rosa Rancheria, are located 20 miles to the west of the Proposed Action/Project area, with the Tule River Tribal Indian Trust lands located 34 miles to the southwest. Neither the Santa Rosa Rancheria nor the Tule River Tribe will have ITA impacts resulting from the Proposed Action/Project. As a result, the Proposed Action/Project will have no effect on ITAs.

3.6 Indian Sacred Sites

Executive Order 13007 provides that each federal agency with statutory or administrative responsibility for management of federal lands would, 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

The Proposed Action/Project involves construction of two new water distribution facilities on land that is not owned by a federal agency and therefore is not subject to Executive Order 13007.

3.6.2 Environmental Consequences

No Action/Project Alternative

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

Proposed Action/Project

Native American consultation activities consisted of a Sacred Land File Search performed by the NAHC and no resources were identified. Notification letters and requests for consultation were sent to designated Native American contacts as identified by the NAHC, and no responses were received regarding the Proposed Action/Project. In addition, Reclamation sent letters to both the Santa Rosa Rancheria and the Tule River Tribe requesting their assistance in identifying sites of religious and cultural significance, and received no reply. The Proposed Action/Project is not located on federal lands and does not limit access to any known resources on federal lands. As a result there is no impact to Indian Sacred Sites as defined by Executive Order 13007.

3.7 Air Quality

3.7.1 Affected Environment

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

Despite years of improvements, the SJVAB does not meet some State and federal health-based air quality standards. To protect health, the San Joaquin Valley Air Pollution Control District (SJVAPCD) is required by federal law to adopt stringent control measures to reduce emissions. On November 30, 1993, the Environmental Protection Agency (EPA) promulgated final general conformity regulations at 40 CFR 93 Subpart B for all federal activities except those covered under transportation conformity. The general conformity regulations apply to a proposed Federal action in a non-attainment or maintenance area if the total of direct and indirect emissions of the relevant criteria pollutants and precursor pollutant caused by a proposed action equal or exceed certain emissions thresholds, thus requiring the Federal agency to make a conformity determination. Table 3-2 below presents the emissions thresholds and attainment status covering the Proposed Action/Project location’s overlying air basin.

Table 3-2 - San Joaquin Valley General Conformity “de minimis” Thresholds.

Pollutant	Federal Status	de minimis (Tons/year)	de minimis (Pounds/day)
VOC (Volatile Organic Compounds)/ROG (Reactive Organic Gases) (as an ozone precursor)	Nonattainment serious 8-hour ozone	50	274
NO _x (Nitrogen oxides) (as an ozone precursor)	Nonattainment serious 8-hour standard	50	274
PM ₁₀ (Particulate matter < 10 microns in diameter)	Attainment	100	548
CO (Carbon monoxide)	Attainment	100	548

Sources SJVAPCD 2009a; 40 CFR 93.153

3.7.2 Environmental Consequences

No Action/Project Alternative

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

Proposed Action/Project

Proposed Action/Project operations would not significantly contribute to criteria pollutant emissions, as water distribution through the facilities would be a passive process; however, there

would be emissions associated with construction. Construction of the Proposed Action/Project would be accomplished with graders, loaders, excavators, backhoes, concrete trucks, pumper trucks, water trucks, hauling trucks, and dump trucks. Construction would occur over a single phase beginning in the fall of 2016 and is expected to take approximately eight months.

There are five rural residences located along the east and west sides of the proposed pipeline, ranging from 50 to 100 feet away from the Proposed Action/Project area. 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 (particulate matter less than 10 microns in diameter) and PM_{2.5} (particulate matter less than 2.5 microns in diameter). Large earth-moving equipment, trucks, and other mobile sources powered by diesel or gasoline are also sources of combustion emissions, including nitrogen dioxide (NO₂), CO (carbon monoxide), carbon dioxide (CO₂), ROG (reactive organic gases), sulfur dioxide, and small amounts of air pollutants. Table 3-3 below provides a summary of the estimated emissions during construction of the Proposed Action/Project.

Table 3-3 - Calculated Maximum Unmitigated Proposed Action/Project Construction Emissions.

Pollutant	2016 Project Construction Emissions (tons/yr)	2017 Project Construction Emissions (tons/yr)	SJVAPCD Thresholds of Significance (tons/yr)
VOC/ROG (as an ozone precursor)	0.1998	0.1638	10
NO _x (as an ozone precursor)	2.1117	1.6421	10
CO	1.4993	1.1854	100
SO _x	0.0017	0.0017	27
PM ₁₀	0.6056	0.2978	15
PM _{2.5}	0.3532	0.1758	15

Sources: CalEEMod, March 2016 (see Appendix B to Attachment A).

Comparison of the estimated Proposed Action/Project construction emissions as seen above in Table 3-3, with the thresholds for federal conformity determinations indicates that Proposed Action/Project emissions are estimated to be below these thresholds. As shown by Table 3-4 below, the Proposed Action/Project would be largely passive during operation so there would be minimal operational emissions generated by its implementation. Emissions would be a result of an estimated 50 annual vehicle trips to the Proposed Action/Project sites for routine maintenance activities.

Table 3-4- Calculated Maximum Unmitigated Proposed Action/Project Operational Emissions.

Pollutant	Operational Emissions (tons/year)	SJVAPCD Thresholds of Significance (tons/yr)
VOC/ROG (as an ozone precursor)	3.6148	10
NO _x (as an ozone precursor)	0.0082	10
CO	0.0261	100
SO _x	0.00005	27
PM ₁₀	0.0029	15
PM _{2.5}	0.0009	15

Sources: CalEEMod, March 2016 (see Appendix B to Attachment A).

Therefore, construction and operation under the Proposed Action/Project would not result in adverse impacts to air quality exceeding federal thresholds.

3.8 Global Climate Change

Climate change refers to change in measures of climate (e.g. temperature, precipitation, or wind) lasting for decades or longer. Many environmental changes (changes in sun's intensity, changes in ocean circulation, deforestation, urbanization, burning fossil fuels, etc.) can contribute to climate change (EPA 2009). Gases that trap heat in the atmosphere are often called greenhouse gases (GHGs). Some GHGs such as CO₂ occur naturally and are emitted to the atmosphere through natural processes and human activities. Other GHGs (e.g. fluorinated gases) are created and emitted solely through human activities. The principal GHGs that enter the atmosphere because of human activities are: CO₂, methane (CH₄), nitrous oxides, and fluorinated gases (EPA 2009). During the past century, humans have substantially added to the amount of GHGs in the atmosphere by burning fossil fuels such as coal, natural gas, oil, and gasoline to power our cars, factories, utilities, and appliances. The added gases, primarily CO₂ and CH₄, are enhancing the natural greenhouse effect, and likely contributing to an increase in global average temperature and related climate changes. More than 20 million Californians rely on regulated delivery of water resources such as the State Water Project and the CVP, as well as established water rights from rivers. Increases in air temperature may lead to changes in precipitation patterns, runoff timing and volume, sea level rise, and changes in the amount of irrigation water needed due to modified evapotranspiration rates. These changes may lead to impacts to the State's water resources and Proposed Action/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).

3.8.1 Affected Environment

In 2002, with the passage of Assembly Bill 1493, the State launched an innovative and proactive approach to dealing with GHG emissions and climate change at the state level. Assembly Bill 1493 requires the California Air Resources Board to develop and implement regulations to reduce automobile and light truck GHG emissions. The State also 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 from a single project would 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.

3.8.2 Environmental Consequences

No Action/Project Alternative

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

Proposed Action/Project

The Proposed Action/Project would involve short-term impacts consisting of emissions during construction and long-term minimal impacts attributable to operations. The estimated unmitigated overall GHG emission due to Proposed Action/Project construction activities (see Attachment A - CEQA – Initial Study Checklist) is 160.29 metric tons of carbon dioxide equivalents in 2016 and 158.71 metric tons in 2017. Operational emissions are expected to be minimal; with an estimated rate of 3.77 metric tons of CO₂ equivalents per year (see Attachment A). Since the combined amount of GHGs emitted from the Proposed Action/Project is well below the 25,000 metric tons/year threshold, no report is required to be submitted to the EPA or the California Air Resources Board (CARB). Accordingly, construction and operation under the Proposed Action/Project would result in below *de minimis* impacts to the global climate.

The affects of climate change (i.e. sea level rise, rainfall and snowfall amounts, and habitat changes) on the Proposed Action/Project are not fully understood; however, water supplies on the Friant System vary from year to year due to various reasons which have already required Friant System water districts and users to adapt to water supply fluctuations and changes. The Proposed Action/Project would allow for additional distribution and storage of water supplies in the years that they are available to Porterville Irrigation District.

3.9 Socioeconomic Resources

3.9.1 Affected Environment

The agricultural industry, including dairy and food processing in Tulare County contributes to the overall economic stability of the San Joaquin Valley. Agriculture is the largest private employer in Tulare County; the Tulare County Farm Bureau estimates that farm employment accounts for nearly a quarter of all jobs⁵.

3.9.2 Environmental Consequences

No Action/Project Alternative

Under the No Action/Project Alternative, Reclamation would not provide funding for construction of the proposed facilities. The District would not be able to distribute allocated surface water supplies to Service Areas 1 and 2 and would continue to rely on groundwater in those areas.

⁵ Tulare County Farm Bureau. Site Accessed April, 2016. <http://www.tulcofb.org/index.php?page=agfacts>

Proposed Action/Project

Service Areas 1 and 2 are located in the general vicinity of a number of disadvantaged communities, including Cotton Center, Jones Corner, Woodville, Poplar-Cotton Center, and the City of Porterville. The Proposed Action/Project would not result in the District using any more water than is currently allocated; therefore it would not have a negative impact on these surrounding disadvantaged communities. Conversely, it would increase the District's ability to distribute currently allocated surface water supplies throughout its existing service area. As a result, the viability of farming practices would also benefit from a more reliable irrigation water supply, and would help to protect agriculture related jobs within the District. There would be slight potential for a beneficial impact to socioeconomics from the increased water supply reliability facilitated by the Proposed Action/Project. The Proposed Action/Project would not cause dislocation, changes in employment, or increase flood, drought, or disease nor would it disproportionately impact economically disadvantaged or minority populations.

3.10 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 and address potential adverse effects on minority and low-income communities.

3.10.1 Affected Environment

Agricultural enterprises in Tulare County employ seasonal workers on local farms that include migrant workers, commonly of Hispanic origin. Approximately 62 percent of the population within Tulare County is of Hispanic origin⁶, and the communities in which they reside depend on the County of Tulare for municipal and industrial water.

3.10.2 Environmental Consequences

No Action/Project Alternative

Under the No Action/Project Alternative, Reclamation would not provide funding for construction of the proposed facilities. Groundwater would continue to be the primary water source for Service Areas 1 and 2. The District would continue to be unable to use its allotted surface water supplies within District.

Proposed Action/Project

The Proposed Action/Project would serve to improve water supply reliability in Tulare County as well as for local farms. Agricultural operations would have reduced reliance on groundwater supplies, which would increase reliability for surrounding homes that rely on groundwater wells by necessity. As a result, there would not be any adverse impact to minority groups. There would be slight beneficial impacts to minority and/or disadvantaged populations from

⁶ US Census Bureau. Site Accessed March 2016. <http://quickfacts.census.gov/qfd/states/06/06107.html>

implementation of the Proposed Action/Project. The Proposed Action/Project would not disproportionately affect any one community.

3.11 Agriculture Resources

Agriculture is the dominant land use within the region surrounding the Proposed Action/Project area. It is identified as the largest private employer in the region accounting for a quarter of the jobs in the area⁷.

3.11.1 Affected Environment

A review of the “Important Farmlands” mapping by the California Department of Conservation’s (DOC’s) Farmland Mapping and Monitoring Program (FMMP) shows that the Proposed Action/Project Service Area 1 affected area is designated as Semi Ag, Prime Farmland, and Farmland of Statewide Importance. Surrounding properties are also designated as Prime Farmland and Farmland of Statewide Importance, with the exception of a strip of land designated as Unique Farmland. Service Area 2’s affected area is designated as Prime Farmland, Farmland of Statewide Importance, Rural Residential, and Semi-Ag. Service Area 2’s general vicinity also includes Farmland of Local Importance and Urban/Built-Up Land. The FMMP provides statistics on conversion of farmland to nonagricultural uses for Tulare County. Of the total land area that was inventoried (1,585,869 acres) in 2010, Tulare County had approximately 859,991 acres of Important Farmlands (including Prime Farmland, Farmland of Statewide Importance, Unique Farmland, and Farmland of Local Importance) and an additional 440,042 acres of grazing land. The remaining 285,836 acres of land were Urban and Built-up Land, Other Land, and Water Area. In the period between 2010 and 2012, Prime Farmlands showed a net decrease of 1,724 acres, Farmland of Statewide Importance had a net decrease of 2,303 acres, Unique Farmland had a net decrease of 120 acres, and Farmland of Local Importance had a net increase of 4,274 acres within the County⁸ (Figure 1-4 and Figure 1-5).

Historically, land use at the Proposed Action/Project site has been furrow-irrigated agricultural land and canal road right-of-way. According to the FMMP, the land is designated as Prime Farmland. No forest or timber land is present at the Proposed Action/Project site or in the vicinity. According to the U.S. Department of Agriculture Natural Resources Conservation Service, there are predominantly two soil types present within Service Area 1: Tagus loam (60.3%) and Exeter loam (29.6%). Also present in Service Area 1 are Flamen loam (3.3%) and Nord fine sandy loam (0.5%). Service Area 2 contains two soil units: Exeter loam (44.1% of the area) and Flamen loam (55.9%) (Figure 1-6 and Figure 1-7) (Appendix A to Attachment A).

3.11.2 Environmental Consequences

No Action/Project Alternative

Under the no Action/Project Alternative, agricultural lands within the Proposed Action/Project area would continue to be used. However, if surface water supplies are not distributed to Service

⁷ Tulare County Ag Commissioner's Annual Crop Report. <http://agcomm.co.tulare.ca.us/default/index.cfm/standards-and-quarantine/crop-reports1/crop-reports-2011-2020/2013-crop-report-pdf/>. Site accessed March 2016.

⁸ California Department of Conservation, 2015. California Farmland Conversion Report. http://www.conservancy.ca.gov/dlrp/fmmp/Documents/fmmp/pubs/2010-2012/FCR/FCR%202015_complete.pdf. Site accessed March 2016.

Areas 1 and 2, decreasing groundwater levels might threaten agricultural production on those lands. Eventually they would need to either construct much deeper wells or construct new infrastructure to distribute surface water supplies.

Proposed Action/Project

The Proposed Action/Project would include the construction of water distribution facilities, including pipelines, turnouts, and road crossings. The land that would be served by the new pipelines currently does not have access to surface water supplies. This would allow the District to more efficiently use allotted Friant Division surface water supplies when available, thus decreasing local dependence on diminishing groundwater supplies.

Proposed Action/Project construction would have a positive impact on the long-term viability of agriculture in the immediate vicinity. Additionally, water facilities are considered an allowable use within agricultural areas. The Proposed Action/Project sites for both Service Areas 1 and 2 are zoned for agricultural uses and are under Williamson Act Contracts. The Proposed Action/Project would not convert any agricultural land to non-agricultural land uses, nor would it result in the cancellation of any Williamson Act Contracts. The distribution of surface water to the land owners would improve landowners' ability to continue current farming operations by providing improved water supply reliability.

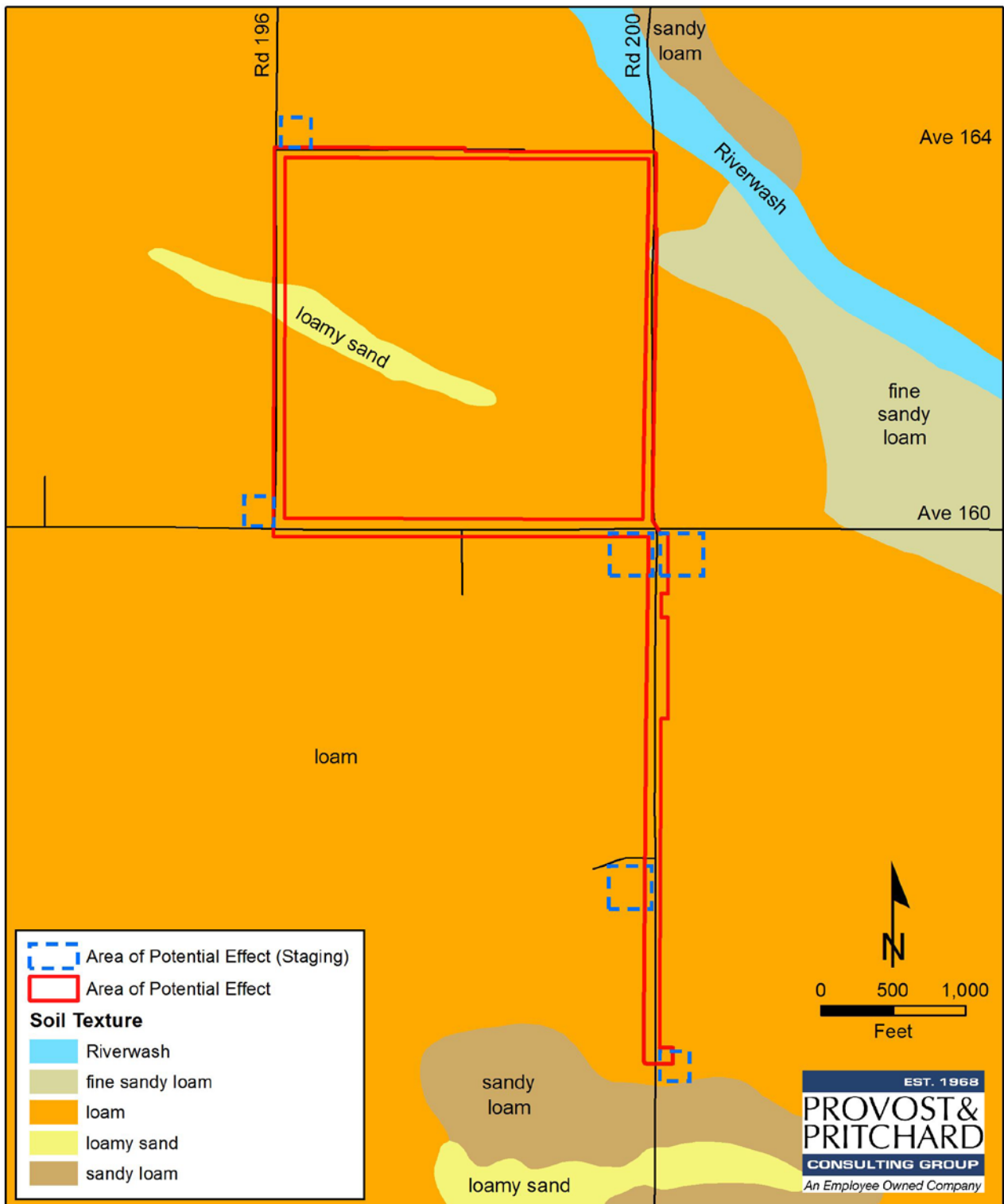
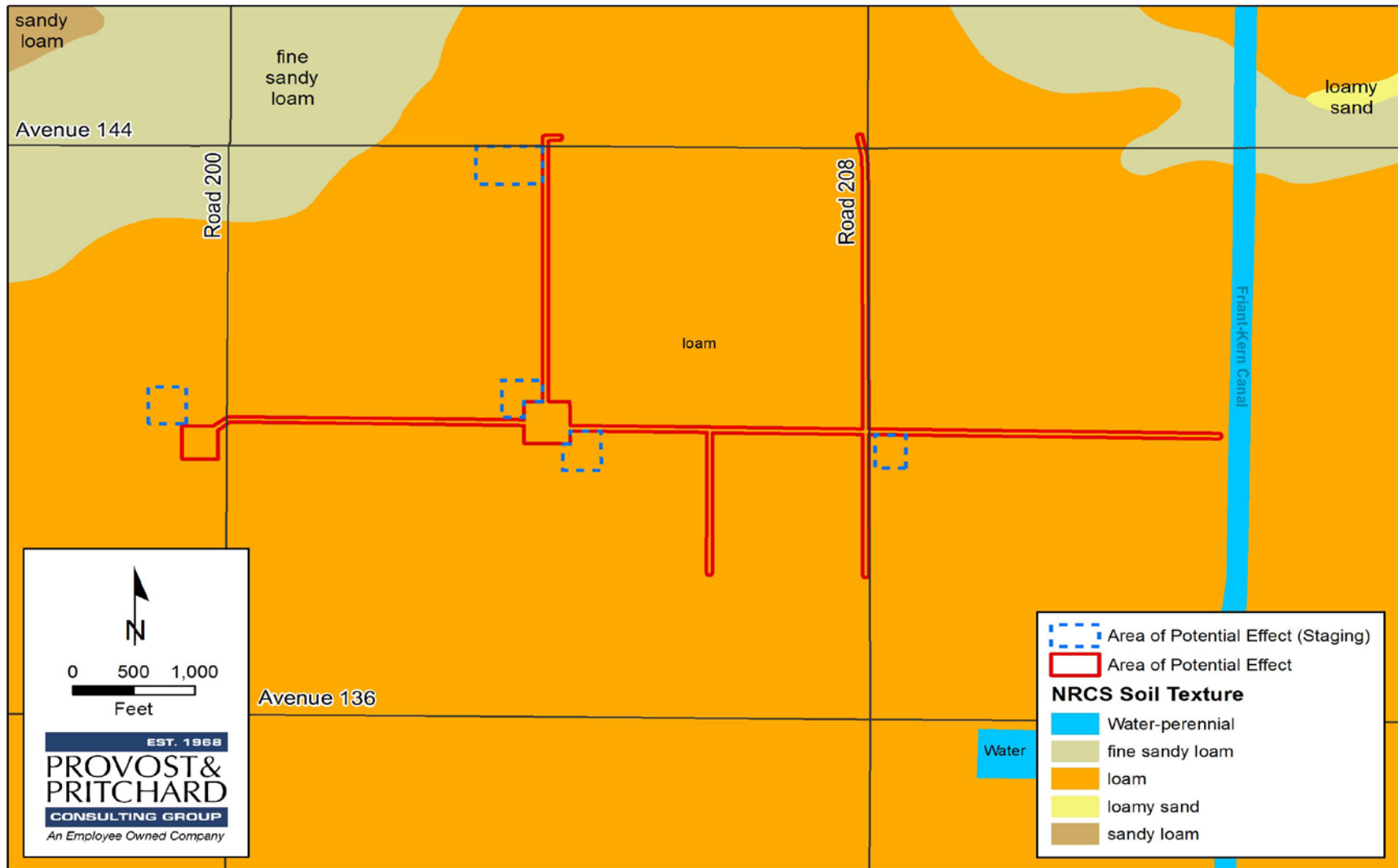


Figure 3-3: Service Area 1 Soils



3/18/2016 : G:\Porterville ID-3429\342911V1-Intlieu Service Area\GIS\Map\SA2\Soils.mxd

Figure 3-4: Service Area 2 Soils

3.12 Geology and Soils

3.12.1 Affected Environment

Tulare County is divided into two major physiographic and geologic provinces: the Sierra Nevada Mountains and the Central Valley. The Sierra Nevada Physiographic Province, in the eastern portion of the county, is underlain by metamorphic and igneous rock. It consists mainly of homogeneous granitic rocks, with several islands of older metamorphic rock. The central and western parts of the county are part of the Central Valley Province, underlain by marine and non-marine sedimentary rocks. It is basically a flat, alluvial plain, with soil consisting of material deposited by the uplifting of the mountains.⁹

Faulting and Seismicity

The Proposed Action/Project site is not located within an Alquist-Priolo Earthquake Fault Zone and no known faults cut through the local soil at the site. There are several faults located within a 70-mile radius of the Proposed Action/ Project Service Area 1 and 2 sites. An unnamed fault is approximately seven miles south/southeast, Poso Creek Fault is 26.5 miles southwest, and the San Andreas Fault is approximately 64 miles south/southwest of the Proposed Action/Project location. Ground shaking is the primary seismic hazard in Tulare County because of the county's seismic setting and its record of historical activity. The San Joaquin Valley portion of the Tulare County is located on alluvial deposits, which tend to experience greater ground shaking intensities than areas located on hard rock¹⁰. In 1973, five counties within the Southern San Joaquin Valley undertook the preparation of the Five County Seismic Safety Element to assess seismic hazards which projected that with the maximum probable earthquake of a magnitude 8 to 8.5 centered along the San Andreas Fault, "relatively low levels of shaking should be expected in the eastern and central parts of the San Joaquin Valley¹¹."

Soils

According to the U.S. Department of Agriculture Natural Resources Conservation Service, there are predominantly two soil types present within Service Area 1: Tagus loam (60%) and Exeter loam covering approximately 32.4%. Also present are Flamen loam (5.9%), Tujunga loamy sand (1.3%), and Nord fine sandy loam (0.4%). Both the Tagus loam and Nord fine sandy loam are well drained, the Exeter loam and Flamen loam are moderately well drained, and the Tujunga loamy sand is somewhat excessively drained. All soil types present are very limited for building due to flooding, and the Exeter and Flamen loams are further limited by shrink-swell. Service Area 2 consists primarily of Exeter loam, covering 44.1%, and Flamen loam, covering 55.9% (Appendix A to Attachment A).

3.12.2 Environmental Consequences

No Action/Project Alternative

Under the No Action/Project Alternative, Reclamation would not provide funding for construction of the proposed project. Current conditions would prevail. Groundwater

⁹ County of Tulare. 2010. General Plan Background Report. Page 8-4

¹⁰ County of Tulare. 2010. General Plan Background Report. Page 8-7

¹¹ Ibid. Page 8-6 and 7

dependence would continue in the service areas. There would be no impacts to geology and soils resulting from selection of the no action alternative.

Proposed Action/Project

Grading activities associated with the construction of the proposed pipelines would involve earthmoving, excavation, stockpiling, and grading. These activities could expose soils to erosion processes. The extent of erosion would vary depending on slope steepness/stability, vegetation/cover, concentration of runoff, and weather conditions.

The Proposed Action/Project sites are relatively flat which would reduce the potential for erosion and loss of topsoil to a certain degree. Topsoil materials would be stripped from the ground surface and then used to cover over the new pipeline. This would ensure that organic matter, the existing seed bank, and topsoil texture are maintained for soil-stabilizing efforts at the Proposed Action/Project site. To further prevent water and wind erosion during the construction period, a Storm Water Pollution Prevention Plan (SWPPP) will be prepared for the Proposed Action/Project in accordance with the State Water Resources Control Board Construction General Permit Order 2009-0009-DWQ. The SWPPP will incorporate Best Management Practices to ensure that potential water quality impacts during construction from soil erosion would be reduced to less than significant. Additionally, a Dust Control Plan will be implemented during construction including dust control measures to prevent loss due to wind erosion.

No substantial faults are known to exist in the Tulare County area according to the Alquist-Priolo Earthquake Fault Zoning Map; thus the Proposed Action/Project would have no impact regarding the danger associated with geologic instability. According to the United States Department of Agriculture Natural Resources Conservation Service, Service Area 1 contains four soil mapping units. Exeter loam, 0 to 2 percent slopes; Flamen loam, 0 to 2 percent slopes; Nord fine sandy loam, 0 to 2 percent slopes; and Tagus loam, 0 to 2 percent slopes. Service Area 2 contains two units: Exeter loam, 0 to 2 percent slopes, and Flamen loam, 0 to 2 percent slopes. Furthermore, all soils of the site have been significantly altered through decades of agricultural and water conveyance and storage practices such as grading, disking, and excavation.

No habitable structures would be constructed on the site nor would grading activities change the topography to the point where the Proposed Action/Project would expose people or structures to potential substantial adverse affects. No septic tanks or alternative waste water disposal systems are proposed as part of the Proposed Action/Project.

3.13 Noise

3.13.1 Affected Environment

The proposed basin site comprises furrow-irrigated agricultural land and orchards. Service Areas 1 and 2 are surrounded by agricultural fields, vacant land, canals, and rural residences.

Noise levels generated by farm-related equipment ranged from 69 to 100 dB (decibel) at a distance of 50 feet from the equipment.¹² Due to the seasonal nature of the agricultural industry, there are often extended periods of time when no noise is generated at the Proposed

¹² Tulare County General Plan Background Report, Pages 8-71 through 8-73

Action/Project site, followed by short-term periods of intensive mechanical equipment usage and corresponding noise generation.

According to Table 3.5-1 Land Use Compatibility for Community Noise Environment in the Tulare County General Plan Recirculated Draft EIR¹³ normally acceptable noise exposure for agricultural zoned property is between 50 and 75 Ldn (day-night average sound level). There are five rural residences located 50 to 100 feet from various areas of the Proposed Action/ Project site.

3.13.2 Environmental Consequences

No Action/Project Alternative

Under the no action alternative, there would be no changes to the current setting.

Proposed Action/Project

The Proposed Action/Project includes the construction and operation of two new distribution facilities for in-lieu groundwater recharge within regions of the District that currently do not have infrastructure to receive surface water deliveries. While operations would not be a substantial source of noise or vibrations, the noise and vibration associated with construction activities would depend on the equipment used and distance from the source to the receptor.

Typical construction equipment would include graders, scrapers, loaders, excavators, backhoes, concrete trucks, pumper trucks, water trucks, hauling trucks, and dump trucks. Typical noise levels generated by this type of construction equipment at various distances from the noise source are listed below in Table 3-5:

¹³ Tulare County General Plan Recirculated Draft EIR. <http://generalplan.co.tulare.ca.us/documents.html>

Table 3-5 - Noise Levels

Construction Equipment Noise Source	Typical Noise Level (dBA) 50 ft from Source
Air Compressor	81
Backhoe	80
Ballast Equalizer	82
Ballast Tamper	83
Compactor	82
Concrete Mixer	85
Concrete Pump	82
Concrete Vibrator	76
Crane Derrick	88
Crane Mobile	83
Dozer	85
Generator	81
Grader	85
Impact Wrench	85
Jack Hammer	88
Loader	85
Paver	89
Pile Driver (Impact)	101
Pile Driver (Sonic)	96
Pneumatic Tool	85
Pump	76
Rail Saw	90
Rock Drill	98
Roller	74
Saw	76
Scarifier	83
Scraper	89
Shovel	82
Spike Driver	77
Tie Cutter	84
Tie Handler	80
Tie Inserter	85
Truck	88

Source: U.S. Department of Transportation, 2015. Construction Noise Handbook.

https://www.fhwa.dot.gov/environment/noise/construction_noise/handbook/handbook09.cfm Accessed March 2016.

Noise levels generated by the equipment would range from 76 to 88 dBA at a distance of 50 feet from the noise source; at 100 feet, the noise levels would range from 70 to 82 dBA. Noise from

construction activities would exceed the Tulare County General Plan Noise Element (2012) “normally acceptable” noise standards of 75 dBA at the exterior of nearby residences. However, noise from construction activities would be temporary, and construction activities would be limited to the hours of 7 AM to 7 PM, Monday through Friday. Best practices guidelines would be implemented, as appropriate and feasible, in accordance with Tulare County General Plan policies.

3.14 Cumulative Impacts

According to the Council on Environmental Quality (CEQ) regulations for implementing the procedural provisions of NEPA, a cumulative impact is defined as *the impact on the environment which results from the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions regardless of what agency (Federal or non-Federal) or person undertakes such other actions*. Cumulative effects can result from individually minor but collectively significant actions taking place over a period of time.

The Proposed Action/Project does not involve land that is listed as a hazardous materials site pursuant to Government Code Section 65962.5 and is not included on a list compiled by the Environmental Protection Agency’s Toxic Release Inventory¹⁴.

Biological resources would continue to be affected by other types of activities that are ongoing but unrelated to the Proposed Action/Project. Impacts to biological resources from the implementation of the Proposed Action/Project would occur only during construction activities. The Proposed Action/Project would not have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special-status species with implementation of the environmental commitments as described in Section 2.

The Proposed Action/Project would result in an increase in the District’s surface water supply reliability and improve groundwater conditions. Reclamation will continue to fund projects involving the banking and recharge of groundwater in the region pursuant to Part III, which will also serve to improve groundwater supply and conditions in the region. These projects are expected to increase in number in 2022, when new funding is made available to Reclamation. As a result of improved water resource conditions, the Proposed Action could contribute to minor beneficial cumulative impacts in regards to socioeconomic resources resulting from increased local water supply reliability.

Therefore, the Proposed Action/Project, when added to other similar past, existing, and future actions would not considerably contribute to cumulative adverse impacts since construction activities are short-term.

¹⁴ EPA, 2016. <http://www.epa.gov/toxics-release-inventory-tri-program> Accessed March 2, 2016.

Section 4 Consultation and Coordination

4.1 Coordination

Reclamation coordinated with the following entities in preparation of this EA: the Settlement parties, SJRRP Implementing Agencies, and several tribes, as described in Section 3.4. This EA/IS was circulated for public review and comment for 30 days. Two comment letters were received and are included, with responses, in Attachment B.

4.2 Clean Water Act

Sections 401 and 404 of the Clean Water Act are not applicable since the Proposed Action/Project does not occur within waters of the United States. However, the Proposed Action/Project would prepare a Stormwater Pollution Prevention Plan (SWPPP) as part of its compliance Section 402 of the Clean Water Act.

4.3 Endangered Species Act

Section 7 of the Endangered Species Act (ESA) requires federal agencies, in consultation with the Secretary of the Interior, 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 USFWS has concurred with Reclamation's determination that the Proposed Action would not adversely affect SJKF (Attachment D).

4.4 Fish and Wildlife Coordination Act

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. Reclamation is coordinating with the USFWS on development of the proposed action in accordance with FWCA.

4.5 Title 54 U.S.C. § 306108, Commonly Known as Section 106 of the National Historic Preservation Act.

Title 54 U.S.C. § 306108, commonly known as Section 106 of the National Historic Preservation Act (formerly 16 U.S.C. 470 et seq.), requires Federal agencies to consider the effects of their undertakings on historic properties, properties determined eligible for inclusion in the National Register, and to afford the Advisory Council on Historic Preservation an opportunity to comment. Compliance with Section 106 follows a series of steps, identified in its implementing regulations found at 36 CFR Part 800, that include identifying consulting and interested parties, identifying historic properties within the area of potential effect, and assessing effects on any identified historic properties, through consultations with the SHPO, Indian tribes and other consulting parties. Reclamation initiated Section 106 consultation with the California SHPO, and made a finding of “no adverse effect to historic properties,” pursuant to 36 CFR §800.5(b), for the proposed undertaking. Reclamation has received concurrence from the SHPO with this finding (Attachment C)

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