

RECLAMATION

Managing Water in the West

Environmental Assessment

**Ivanhoe Irrigation District Control System Project –
69 Main WaterSMART Water and Energy Efficiency Grant**



**U.S. Department of the Interior
Bureau of Reclamation
Mid Pacific Regional Office
Sacramento, California**

November 2012

Mission Statements

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

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

Table of Contents

Section 1	Introduction.....	1
1.1	Background.....	1
1.2	Need for Proposal	1
1.3	Potential Resource Issues.....	3
1.4	Resources Not Analyzed in Detail.....	3
1.4.1	Indian Sacred Sites.....	3
1.4.2	Indian Trust Assets	3
1.4.3	Environmental Justice	3
Section 2	Alternatives Including the Proposed Action.....	4
2.1	No Action Alternative.....	4
2.2	Proposed Action.....	4
2.2.1	Construction Elements	4
Section 3	Affected Environment & Environmental Consequences	8
3.1	Air Quality	8
3.1.1	Affected Environment.....	8
3.1.2	Environmental Consequences	9
3.1.2.1	No Action Alternative	9
3.1.2.2	Proposed Action.....	9
3.2	Surface Water and Groundwater Resources	10
3.2.1	Affected Environment.....	10
3.2.2	Environmental Consequences	10
3.2.2.1	No Action Alternative	10
3.2.2.2	Proposed Action.....	11
3.3	Biological Resources	11
3.3.1	Affected Environment.....	11
3.3.2	Environmental Consequences	14
3.3.2.1	No Action Alternative	14
3.3.2.2	Proposed Action.....	14
3.4	Cultural Resources	14
3.4.1	Affected Environment.....	15
3.4.2	Environmental Consequences	15
3.4.2.1	No Action Alternative	15
3.4.2.2	Proposed Action.....	15
3.5	Cumulative Effects.....	15
Section 4	Consultation and Coordination	16
4.1	Public Review Period.....	16
4.2	National Historic Preservation Act (16 U.S.C. § 470 et seq.)	16
Section 5	References	17

List of Tables and Figures

Figure 1-1	District Location Map
Figure 2-1	Site Location Map
Figure 2-2	Proposed Control Structure
Table 3-1	Emissions Model
Table 3-2	Summarized Estimated Proposed Action Emissions
Table 3-3	Observed Plant Species In and Around Proposed Action Area
Table 3-4	Observed Wildlife Species In and Around Proposed Action Area
Table 3-5	California Natural Diversity Database (CNDDDB) Search Results
Table 3-6	U.S. Fish and Wildlife Service Species List

Appendices

Appendix A	Photographs
------------	-------------

List of Acronyms and Abbreviations

AF	Acre-feet
CAA	Clean Air Act
CAAQS	California Ambient Air Quality Standards
CARB	California Air Resources Board
CFR	Code of Federal Regulations
CNDDDB	California Native Diversity Database
CO	Carbon Monoxide
CVP	Central Valley Project
District	Ivanhoe Irrigation District
DOI	Department of the Interior
EA	Environmental Assessment
EJ	Environmental Justice
EPA	Environmental Protection Agency
FONSI	Finding of No Significant Impact
GHG	Greenhouse Gases
ITA	Indian Trust Assets
KDWCD	Kaweah Delta Water Conservation District
NAAQS	National Ambient Air Quality Standards
National Register	National Register of Historic Places
NEPA	National Environmental Policy Act
NHPA	National Historic Preservation Act
NO ₂	Nitrogen Dioxide
O ₃	Ozone
Pb	Lead

PM _{2.5}	Particulate matter less than 2.5 microns in diameter
PM ₁₀	Particulate matter between 2.5 and 10 microns in diameter
ppm	Parts per million
Reclamation	Bureau of Reclamation
SHPO	State Historic Preservation Officer
SIP	State Implementation Plan
SJVAB	San Joaquin Valley Air Basin
SJVAPCD	San Joaquin Valley Air Pollution Control District
SO ₂	Sulfur Dioxide
µg/m ³	Microgram per cubic meter
U.S.C.	U.S. Code
USFWS	U.S. Fish and Wildlife Service

Section 1 Introduction

1.1 Background

The Bureau of Reclamation (Reclamation) proposes to provide WaterSMART Water and Energy Efficiency Grant funds to the Ivanhoe Irrigation District (District) for the implementation of the Control System Project – 69 Main. Under the WaterSMART program, Reclamation provides cost-shared funding on a competitive basis for on-the-ground water conservation and energy efficiency projects. The WaterSMART grant program is under the authority of Section 9504(a) of the Secure Water Act, Subtitle F of Title IX of the Omnibus Public Land Management Act of 2009, P.L. 111-11 (42 USC 10364).

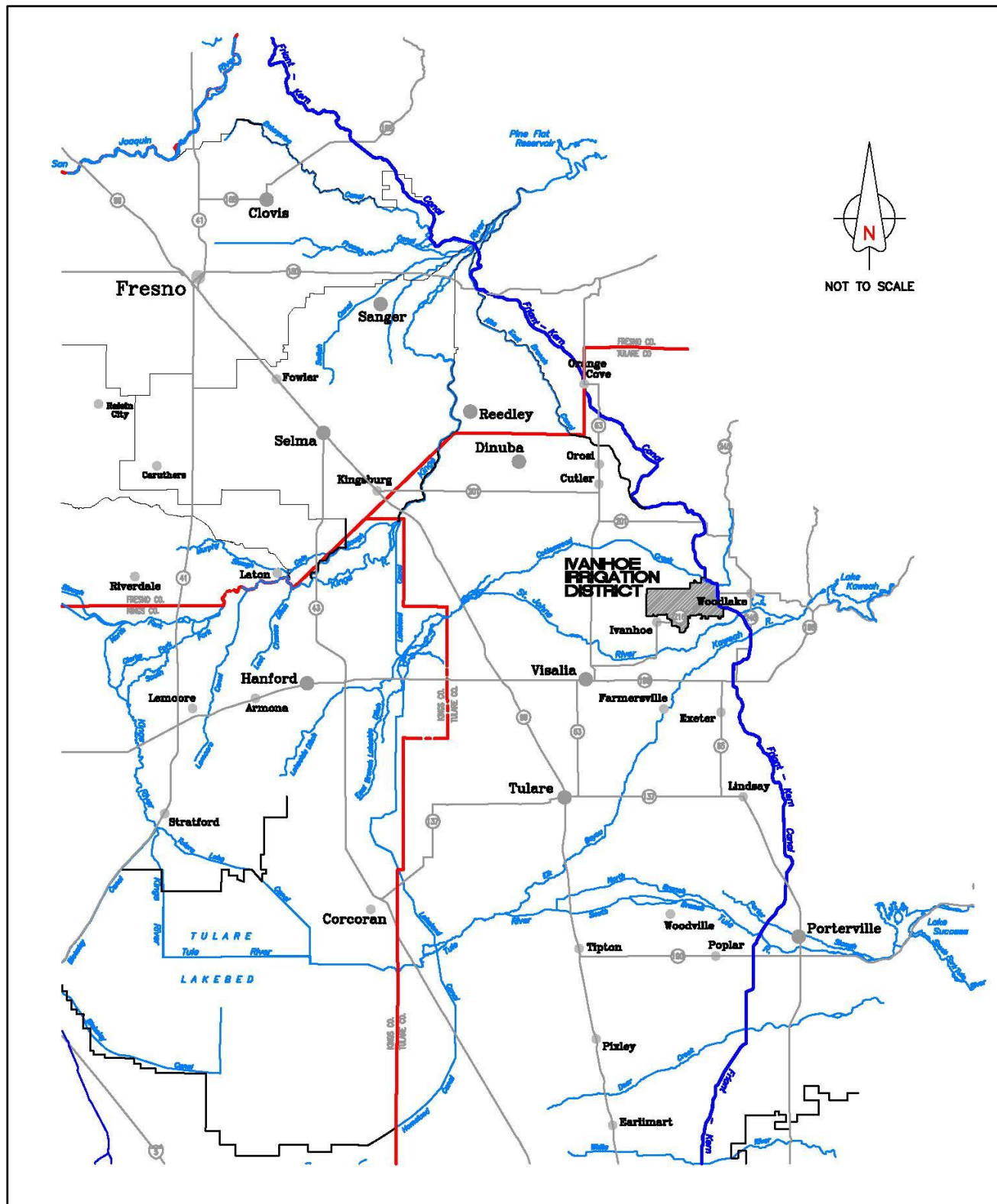
Reclamation would further the goals and objectives of the WaterSMART program as they apply to water management operations in the District by providing funding for the installation of supervisory control and data acquisition (SCADA) equipment, the construction of a new water control structure and above ground low-flow bypasses, the installation of three new pumps and associated electrical wiring, the construction of air vents and the removal of an existing baffle structure (Proposed Action).

In accordance with the National Environmental Policy Act (NEPA) this Environmental Assessment (EA) discloses potential environmental impacts associated with the construction and operation of the Proposed Action.

1.2 Need for Proposal

Historically, water deliveries conveyed through the District's 69 Main Lateral have been accomplished through multiple, repetitive manual adjustments, while only being able to control accurately during elevated delivery conditions. The purpose of the Proposed Action is to increase the District's ability to accurately deliver the necessary amount of surface water during reduced flow conditions within the District. Due to operation constraints, the 69 Main Lateral loses an average of 298 acre-feet (AF) to direct recharge that could be marketed to District landowners to provide surface water deliveries and recharged through in-lieu operations. The Proposed Action would increase the District's water supply reliability which would result in better management of California's water resources. In addition, the Proposed Action would result in a decrease in the amount of groundwater currently extracted to meet the District's water supply needs.

FIGURE 1-1
DISTRICT LOCATION MAP



1.3 Potential Resource Issues

This EA analyzes the affected environment of the Proposed Action and No Action Alternative in order to determine the potential impacts and cumulative effects to the following environmental resources:

- Air Quality
- Water Resources
- Biological Resources
- Cultural Resources
- Indian Sacred Sites
- Indian Trust Assets
- Environmental Justice

1.4 Resources Not Analyzed in Detail

Effects on several environmental resources were examined and found to be minor. Because of this, the following resources were eliminated from further discussion from this EA: Aesthetic Resources, Agriculture and Forestry Resources, Geology and Soils, Greenhouse Gas Emissions, Hazards and Hazardous Materials, Land Use and Planning, Mineral Resources, Noise, Population and Housing, Public Services, Recreation, Transportation/Traffic, Utilities and Service Systems.

1.4.1 Indian Sacred Sites

No Indian sacred sites have been identified within the footprint of the Proposed Action.

1.4.2 Indian Trust Assets

Indian Trust Assets (ITA) are legal interests in assets that are held in trust by the United States government for federally recognized Indian tribes or individual Indians. There are no Indian reservations, Rancherias or allotments in the Proposed Action area. The Proposed Action does not have a potential to affect ITA. The nearest ITA is located 50 miles north in Fresno County.

1.4.3 Environmental Justice

Executive Order 12898, "Federal Actions to Address Environmental Justice (EJ) in Minority Populations and Low-Income Populations" requires federal agencies, to the greatest extent practicable, and as permitted by law, to achieve EJ by identifying and addressing disproportionately high and adverse human health and environmental effects, including interrelated social and economic effects, of their programs, policies and activities on minority populations and low-income populations. The Proposed Action would support delivery of agricultural water. Low income and minority populations are commonly found working in agricultural settings, therefore, the Proposed Action would not disproportionately affect the health or environment of minority or low-income populations as change in the need for farm labor is not anticipated.

Section 2 Alternatives Including the Proposed Action

This EA considers two possible actions: No Action and the Proposed Action. The No Action Alternative reflects future conditions without the Proposed Action and serves as a basis of comparison for determining potential effects to the human and natural environment.

2.1 No Action Alternative

Without federal funding assistance, the project would, at a minimum, be delayed. It is the District's intent to eventually construct and operate the project; however, the timing would be speculative and it is possible that the project would never be built. Consequently, for the No Action Alternative, Reclamation would not award a grant to the District and they would continue to operate and maintain their internal distribution system under existing conditions.

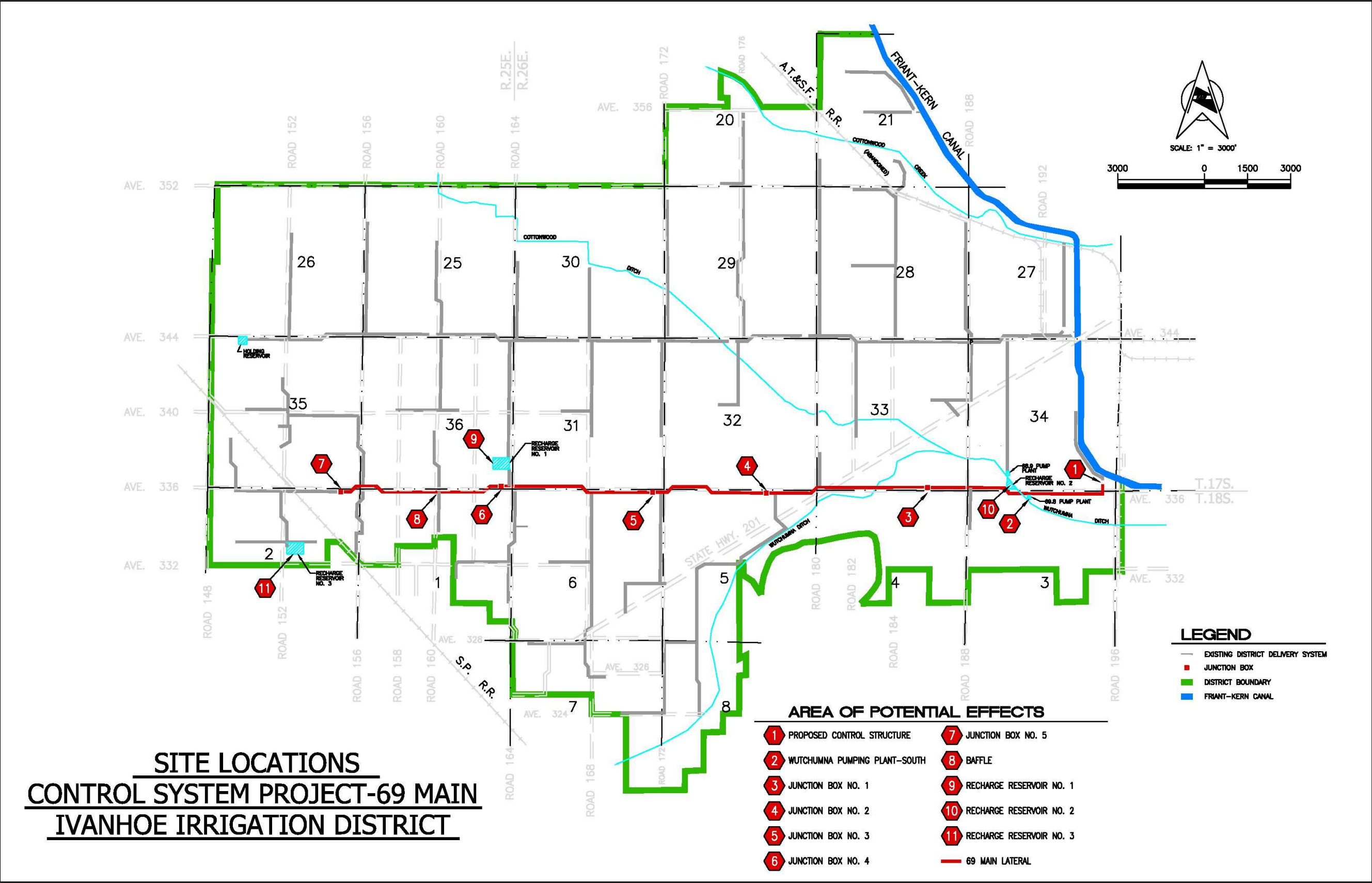
2.2 Proposed Action

The Proposed Action would consist of Reclamation providing grant funds to support the acquisition and installation of SCADA equipment, the construction of a new water control structure and above ground low-flow bypasses, the installation of three new pumps and associated electrical wiring, the construction of air vents and the removal of an existing baffle structure.

2.2.1 Construction Elements

- Site Preparation: Initial construction staking would be completed prior to construction activities to set a temporary benchmark in which to construct the proposed control structure and associated excavation of earthen material. The existing lands where earthen materials would be excavated are within the existing District right-of-way and would not require any clearing or grubbing.
- Ground Disturbance: Approximately 270 cubic yards would be excavated over a footprint of 2,500 square feet for the construction of the new control structure (Figure 2-2). This excavation would have a depth of approximately eight (8) feet. Additional ground disturbances (See Figure 2-1 for locations) are proposed where an existing baffle structure would be removed and where additional air vents would be installed. The baffle removal proposes to excavate approximately four (4) cubic yards, an area measuring approximately 24 square feet with a maximum depth of five (5) feet. The installation of approximately 10 air vents would require an excavation area measuring no more than 25 square feet with a maximum depth of five (5) feet. All ground disturbances would be confined to the right-of-way of the 69 Main Lateral. It is anticipated that one (1) backhoe would be used to do the bulk of the earthwork excavation and placement of earthen material. Additional equipment used would consist of a water truck for dust control and one (1) loader and several dump trucks to move any unused material.

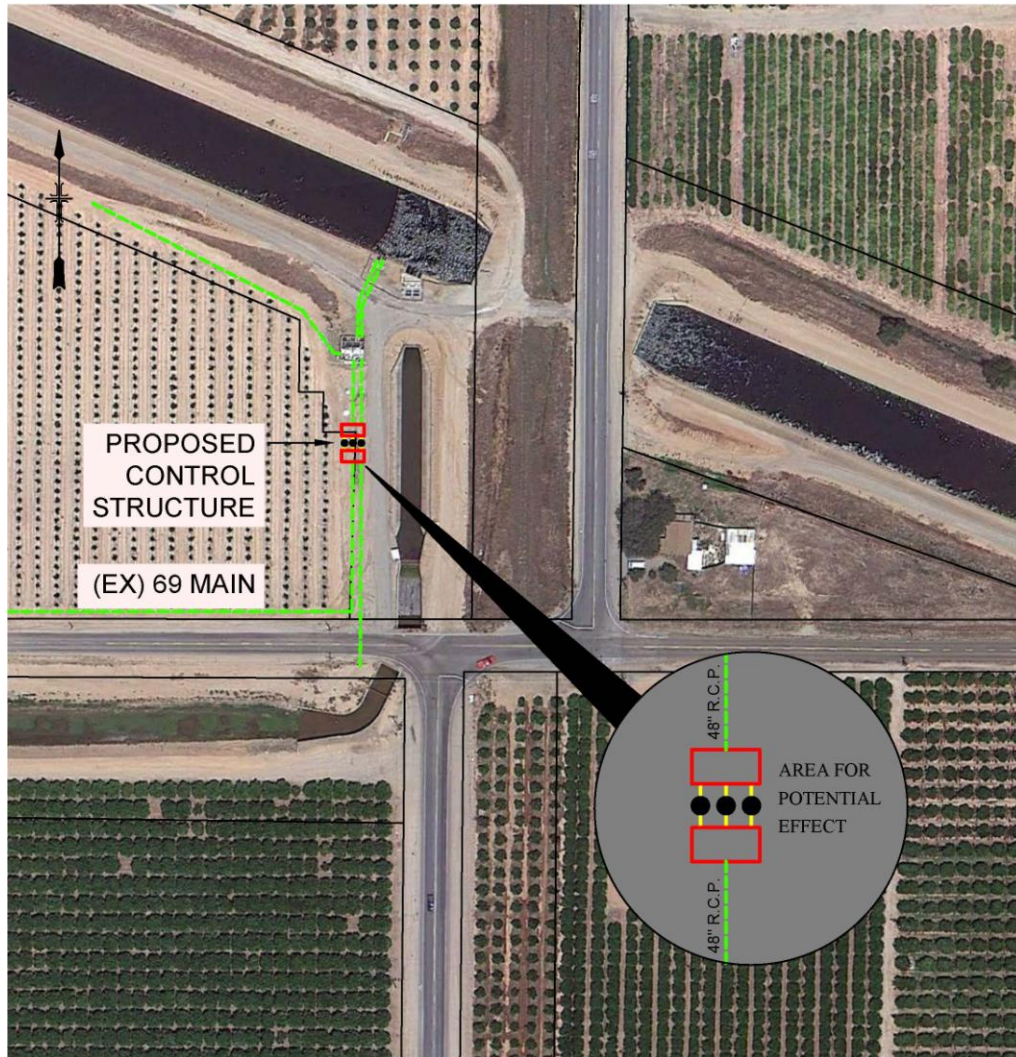
FIGURE 2-1



- SCADA Installation: The installation of the SCADA equipment would include sensors, data controllers, antennas for radio transmission and solar power panels. This equipment would be housed adjacent to the existing and proposed control structures to control the movement of control gates and valves. In addition, the installation of the control center at the District's office would be completed.
- New Control Structure: A new control structure would be installed downstream of the 69 Main turnout from Reclamation's Friant-Kern Canal (Figure 2-2). Construction of the control structure would involve excavating approximately 270 cubic yards of earthen material for the installation of an underground reinforced concrete structure, which would house three control gates/valves and a few feet of 12-inch to 24-inch conveyance piping. As mentioned above, SCADA equipment would also be installed at the proposed control structure. Upon completion of the proposed structure, the excavated area, less the area for the new structure would be backfilled and returned to its original form. Any additional earthen material would be hauled to the District's yard for future use. All construction activities would be confined to the right-of-way of the 69 Main Lateral. Vehicle access would be within the District's right-of-way and the right-of-way of Reclamation along the access road to the District's Friant-Kern Canal turnout and would not require any road improvements.
- Baffle Structure Removal: The removal of the existing baffle structure would involve the excavation of approximately four (4) cubic yards of earthen material, the removal of the existing reinforced concrete pipe and the placement of approximately six (6) linear feet of reinforced pipe. Upon completion of the baffle removal and placement of reinforced concrete pipe, the area of disturbance would be backfilled and returned to its original condition. All construction activities would be confined to the right-of-way of the 69 Main Lateral. Vehicle access would be within the District's right-of-way and would not require any road improvements.
- Air Vents: The installation locations of the proposed air vents along the 69 Main Lateral would be determined upon completion of the new control structure and installation of the SCADA system. All locations and construction activities would, however, be within the District's existing right-of-way for the 69 Main Lateral and would require no more than a couple of cubic yards of material to be removed and backfilled. Vehicle access would be within the District's right-of-way and would not require any road improvements.
- Pumps: The installation of three new pumps and motors along with the associated electrical at the District's Wutchumna Ditch Pumping Plant would be installed in the existing pumping plant facility and would not require the excavation of earthen material.

Construction is anticipated to begin in March 2013 and would be completed by August 2013.

FIGURE 2-2
PROPOSED CONTROL STRUCTURE



Section 3 Affected Environment & Environmental Consequences

This section identifies the potentially affected environmental resources and the environmental consequences that could result from the No Action Alternative and Proposed Action.

3.1 Air Quality

Section 176 (c) of the Clean Air Act (CAA) (42 U.S.C. 7506 (c)) requires that any entity of the Federal government that engages in, supports, or in any way provided financial support for, licenses or permits, or approves any activity to demonstrate that the action conforms to the applicable State Implementation Plan (SIP) required under Section 110 (a) of the CAA (42 U.S.C. 7401 (a)) before the action is otherwise approved. In this context, conformity means that such federal actions must be consistent with a SIP's purpose of eliminating or reducing the severity and number of violations of the National Ambient Air Quality Standards (NAAQS) and achieving expeditious attainment of those standards. Each federal agency must determine that any action that is proposed by the agency and that is subject to the regulations implementing the conformity requirements will, in fact conform to the applicable SIP before the action is taken.

On November 30, 1993, the U.S. 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 direct and indirect emissions of the relevant criteria pollutant(s) and precursor pollutant(s) caused by the Proposed Action equal or exceed certain threshold amounts, thus requiring the Federal agency to make a determination of general conformity.

3.1.1 Affected Environment

The Proposed Action lies within the San Joaquin Valley Air Basin (SJVAB), which is managed by the San Joaquin Valley Air Pollution Control District (SJVAPCD). NAAQS and California Ambient Air Quality Standards (CAAQS) have been established for the following criteria pollutants: carbon monoxide (CO), ozone (O₃), sulfur dioxide (SO₂), nitrogen dioxide (NO₂), particulate matter (PM₁₀ and PM_{2.5}) and lead (Pb). The CAAQS also set standards for sulfates, hydrogen sulfide and visibility.

Areas are classified under the Federal Clean Air Act as either “attainment” or “non-attainment” areas for each criteria pollutant based on whether or not the NAAQS have been achieved. Attainment relative to the State standards is determined by the California Air Resources Board (CARB). The SJVAB is designated as a State and Federal non-attainment area for O₃ and PM_{2.5} and a State and Federal attainment area for CO, SO₂, NO₂, and Pb. The Basin is in Federal attainment, but State non-attainment for PM₁₀. (SJVAPCD, 2011).

The Road Construction Emissions Model, Version 6.3.1, was used to estimate construction emissions for the Proposed Action. The modeling results are provided in Table 3-1, below.

TABLE 3-1
EMISSIONS MODEL

Road Construction Emissions Model, Version 6.3.2											
Emission Estimates for -> ID 69 Main Lateral				Total	Exhaust	Fugitive Dust	Total	Exhaust	Fugitive Dust		
Project Phases (English Units)	ROG (lbs/day)	CO (lbs/day)	NOx (lbs/day)	PM 10 (lbs/day)	PM 10 (lbs/day)	PM 10 (lbs/day)	PM 2.5 (lbs/day)	PM 2.5 (lbs/day)	PM 2.5 (lbs/day)	CO2 (lbs/day)	
Grubbing/Land Clearing	4.5	18.6	33.8	6.5	1.5	5.0	2.4	1.4	1.0	3,476.3	
Grading/Excavation	4.8	20.9	34.3	6.8	1.8	5.0	2.7	1.6	1.0	3,899.1	
Drainage/Utilities/Sub-Grade	4.3	17.5	29.7	6.6	1.6	5.0	2.5	1.5	1.0	3,247.2	
Paving	2.9	10.9	14.5	1.3	1.3	-	1.2	1.2	-	1,467.2	
Maximum (pounds/day)	4.8	20.9	34.3	6.8	1.8	5.0	2.7	1.6	1.0	3,899.1	
Total (tons/construction project)	0.2	0.8	1.3	0.3	0.1	0.2	0.1	0.1	0.0	145.8	
Notes: Project Start Year ->	2012										
Project Length (months) ->	4										
Total Project Area (acres) ->	1										
Maximum Area Disturbed/Day (acres) ->	1										
Total Soil Imported/Exported (yd ³ /day)->	0										
PM10 and PM2.5 estimates assume 50% control of fugitive dust from watering and associated dust control measures if a minimum number of water trucks are specified.											
Total PM10 emissions shown in column F are the sum of exhaust and fugitive dust emissions shown in columns H and I. Total PM2.5 emissions shown in Column J are the sum of exhaust and fugitive dust emissions shown in columns K and L.											
Emission Estimates for -> ID 69 Main Lateral				Total	Exhaust	Fugitive Dust	Total	Exhaust	Fugitive Dust		
Project Phases (Metric Units)	ROG (kgs/day)	CO (kgs/day)	NOx (kgs/day)	PM 10 (kgs/day)	PM 10 (kgs/day)	PM 10 (kgs/day)	PM 2.5 (kgs/day)	PM 2.5 (kgs/day)	PM 2.5 (kgs/day)	CO2 (kgs/day)	
Grubbing/Land Clearing	2.0	8.5	15.4	3.0	0.7	2.3	1.1	0.6	0.5	1,580.1	
Grading/Excavation	2.2	9.5	15.6	3.1	0.8	2.3	1.2	0.7	0.5	1,772.3	
Drainage/Utilities/Sub-Grade	2.0	7.9	13.5	3.0	0.7	2.3	1.1	0.7	0.5	1,476.0	
Paving	1.3	5.0	6.6	0.6	0.6	-	0.5	0.5	-	666.9	
Maximum (kilograms/day)	2.2	9.5	15.6	3.1	0.8	2.3	1.2	0.7	0.5	1,772.3	
Total (megagrams/construction project)	0.2	0.7	1.2	0.2	0.1	0.2	0.1	0.1	0.0	132.2	
Notes: Project Start Year ->	2012										
Project Length (months) ->	4										
Total Project Area (hectares) ->	0										
Maximum Area Disturbed/Day (hectares) ->	0										
Total Soil Imported/Exported (meters ³ /day)->	0										
PM10 and PM2.5 estimates assume 50% control of fugitive dust from watering and associated dust control measures if a minimum number of water trucks are specified.											
Total PM10 emissions shown in column F are the sum of exhaust and fugitive dust emissions shown in columns H and I. Total PM2.5 emissions shown in Column J are the sum of exhaust and fugitive dust emissions shown in columns K and L.											

3.1.2 Environmental Consequences

3.1.2.1 No Action Alternative

Under the No Action Alternative, there are no effects on air quality since conditions and trends would remain the same as existing conditions.

3.1.2.2 Proposed Action

The Proposed Action would not conflict with or obstruct the implementation of the air quality management plan of the SJVAB. Post-construction operations would not contribute to criteria pollutant emissions; however, emissions would be associated with construction. Post operation would not generate any additional traffic trips. Standards set by the SJVAPCD, CARB, and Federal agencies relating to the Proposed Action would be required and incorporated at applicable design and approval stages. Specific air quality impacts related to criteria pollutants are discussed in Table 3-1.

TABLE 3-2
SUMMARIZED ESTIMATED PROPOSED ACTION EMISSIONS

<u>Pollutant</u>	<u>Construction (Total Tons)</u>
ROG	0.20
NO _x	1.30
PM ₁₀	0.30
PM _{2.5}	0.10

As indicated in Table 3-2 above, the Proposed Action has been estimated to emit less than the *de minimis* threshold for NO_x and ROG and PM_{2.5}. In addition, PM₁₀ emissions from the Proposed Action have been estimated to be well below the SJVAPCD threshold of 15 tons/year since the Proposed Action is proposed to be constructed in four (4) months. Therefore, the Proposed Action would not impact air quality.

3.2 Surface Water and Groundwater Resources

3.2.1 Affected Environment

The District receives their water supply through three (3) different sources: The District's Central Valley Project (CVP) – Friant Division contract, pre-1914 Kaweah River Rights through the Wutchumna Water Company and through a portion of the Kaweah Delta Water Conservation District's (KDWCD) Longs Canal Company water. The District's primary distribution system consists of 48 miles of reinforced concrete pipe, which includes two (2) main laterals and 31 sub laterals. The majority (10,336) of the 10,880 irrigable acres in the District is irrigated through micro irrigation methods.

The District lies within the Kaweah River Basin and is a participating member of the KDWCD Groundwater Management Plan (Plan). The goal of the Plan is to offer efficient and effective groundwater management in an effort to provide a sustainable, high quality supply of groundwater for agricultural, environmental, and urban use for the future. (KDWCD 2012)

3.2.2 Environmental Consequences

3.2.2.1 No Action Alternative

Under the No Action Alternative, there would be no impacts associated with water resources, since existing conditions would remain the same. Under the No Action Alternative, use of groundwater resources within the District would continue under current conditions.

3.2.2.2 Proposed Action

Under the Proposed Action, the District's 69 Main Lateral would be upgraded in order to more efficiently monitor and control the District's water resources. Construction activities would occur entirely out of water channels, thus no channel alterations or similar water quality impacts would be associated with the Proposed Action's construction efforts. Drainage patterns in the area would not change as a result of the Proposed Action, and no water courses would be altered. The Proposed Action would not result in an increase of the rate of surface runoff because it would not significantly increase impermeable ground area. In addition, the Proposed Action would result in upgrades to existing structures and does not propose to construct any structure that would obstruct flood flows.

The Proposed Action would increase the availability of surface water delivery by 298 AF, which is currently lost to direct recharge as a result of improperly managed surface water deliveries. The increase in surface water delivery would result in a net reduction of groundwater reliance as a source of supply for District landowners, while continuing to be a source of groundwater recharge supply through in-lieu recharge efforts.

3.3 Biological Resources

3.3.1 Affected Environment

The affected environment includes farmland edges, a small residential area, ditch bank, three recharge basins and rural roadside habitats. The affected environment includes portions of the District's 69 Main Lateral, which is located alongside Avenue 336 in Tulare County. The potential impacts would be related to the areas disturbed by earth movement. The Proposed Action would not include the disturbance of any native habitat.

To assist in the determination of the environmental impacts of the Proposed Action, a reconnaissance-level biological survey was conducted on August 18, 2011 by a qualified biologist. The observed plant and wildlife species are listed in Tables 3-3 and 3-4 below.

TABLE 3-3
OBSERVED PLANT SPECIES PRESENT IN AND AROUND
PROPOSED ACTION AREA

<u>Plant Species</u>	<u>Introduced Species</u>
Fleabane (<i>Conyza sp.</i>)	✓
Mexican Sprangletop (<i>Leptocloa unervia</i>)	
Nutsedge (<i>Cyperis sp.</i>)	✓
Beavertail Cactus (<i>Opuntia sp.</i>)	✓
Prickly Lettuce (<i>Lactuca seriola</i>)	✓
Panicled Willow-Herb (<i>Epilobium sp.</i>)	
Sow Thistle (<i>Sonchas sp.</i>)	✓
Willow (<i>Salix sp.</i>)	
Cottonwood (<i>Populus fremontii</i>)	
Watergrass (<i>Paspalum sp.</i>)	
Feathergrass (<i>Miscanthus sinensis</i>)	✓

TABLE 3-4
OBSERVED WILDLIFE SPECIES PRESENT IN AND AROUND
PROPOSED ACTION AREA

<u>Wildlife Species</u>
House Sparrow (<i>Passer domesticus</i>)
House Finch (<i>Carpodacus mexicanus</i>)
Great Blue Heron (<i>Ardea herodias</i>)
Black Phoebe (<i>Sayornis nigricans</i>)

A California Natural Diversity Database (CNDDB) search was conducted for the environmental assessment that was completed by Reclamation for the District's Partial Assignment of their CVP Contract and associated water supply to KDWCD in 2009. The search results were verified during another CNDDB search that was conducted on August 31, 2011 for the Proposed Action. The results of the CNDDB search are listed in Table 3-5 below.

TABLE 3-5
CNDDB SEARCH RESULTS

<u>Common Name</u>	<u>Scientific Name</u>	<u>Federal Listing Status</u>	<u>Habitat and Occurrence Notes</u>
Hoovers spurge	<i>Chamasyae hooverii</i>	Threatened	No suitable habitat exists in the Proposed Action area.
San Joaquin Orcutt grass	<i>Orcuttia inequalis</i>	Threatened	No suitable habitat exists in the Proposed Action area.
Vernal pool fairy shrimp	<i>Brachinecta lynchii</i>	Threatened	No suitable habitat exists in the Proposed Action area.
Vernal pool tadpole shrimp	<i>Lepidurus packardi</i>	Endangered	No suitable habitat exists in the Proposed Action area.
Valley elderberry long-horn beetle	<i>Desmocerus californicus</i>	Threatened	No suitable habitat exists in the Proposed Action area; no shrubs were observed during surveys.
California tiger salamander	<i>Ambystoma californense</i>	Threatened	No suitable habitat exists in the Proposed Action area.
Blunt-nosed leopard lizard	<i>Gambelia sila</i>	Endangered	No suitable habitat exists in the Proposed Action area.
California condor	<i>Gymnogyps californica</i>	Endangered	No suitable habitat exists in the Proposed Action area.
Tipton kangaroo rat	<i>Dipdomys nitrooides</i>	Endangered	No suitable habitat exists in the Proposed Action area.
San Joaquin kit fox	<i>Vulpes mactotis mutica</i>	Endangered	No suitable habitat exists in the Proposed Action area for foraging or for denning. This species may incidentally make temporary visits to the area via the Friant-Kern Canal, but this part of Tulare County is not prime habitat.

The CNDDDB query produced six records for the San Joaquin kit fox between 1975 and 2001. All of those records are from populations that are presumed to be extant by the California Department of Fish and Game. Two of the occurrence records cover large geographic areas rather than geographic points. Combined, these two occurrence records encompass the District in its entirety and approximately half of KDWCD. These local records of San Joaquin kit fox suggest that the species could traverse, forage or occupy portions of the action area if suitable habitat is present. (Kamansky – 2011)

A U.S. Fish and Wildlife Service (USFWS) species list was generated from the USFWS website on November 5, 2012. Species identified by USFWS as potentially occurring with the same USGS Quadrangle as the Proposed Action (Ivanhoe) are the shown in Table 3-6, below.

TABLE 3-6
USFWS SERVICE SPECIES LIST

<u>Common Name</u>	<u>Scientific Name</u>	<u>Federal Listing Status</u>	<u>Habitat and Occurrence Notes</u>
Conservancy fairy shrimp	<i>Branchinecta conservation</i>	Endangered	No suitable habitat exists in the Proposed Action area.
Vernal pool fairy shrimp (and critical habitat)	<i>Brachinecta lynchii</i>	Threatened	No suitable habitat exists in the Proposed Action area.
Vernal pool tadpole shrimp (and critical habitat)	<i>Lepidurus packardii</i>	Endangered	No suitable habitat exists in the Proposed Action area.
Valley elderberry long-horn beetle	<i>Desmocerus californicus</i>	Threatened	No suitable habitat exists in the Proposed Action area; no shrubs were observed during surveys.
Delta smelt	<i>Hypomesus transpacificus</i>	Threatened	No suitable habitat exists in the Proposed Action area.
California tiger salamander	<i>Ambystoma californense</i>	Threatened	No suitable habitat exists in the Proposed Action area.
California red-legged frog	<i>Rana draytonii</i>	Threatened	No suitable habitat exists in the Proposed Action area.
Blunt-nosed leopard lizard	<i>Gambelia sila</i>	Endangered	No suitable habitat exists in the Proposed Action area.
Giant garter snake	<i>Thamnophis gigas</i>	Threatened	No suitable habitat exists in the Proposed Action area.
California Condor	<i>Gymnogyps californica</i>	Endangered	No suitable habitat exists in the Proposed Action area.
Tipton Kangaroo Rat	<i>Dipodomys nitrooides</i>	Endangered	No suitable habitat exists in the Proposed Action area.
San Joaquin Kit Fox	<i>Vulpes mactotis mutica</i>	Endangered	No suitable habitat exists in the Proposed Action area for foraging or for denning. This species may incidentally make temporary visits to the area via the Friant-Kern Canal, but this part of Tulare County is not prime habitat.
Hoovers Spurge	<i>Chamasyae hooverii</i>	Threatened	No suitable habitat exists in the Proposed Action area.
San Joaquin Orcutt Grass	<i>Orcuttia inequalis</i>	Threatened	No suitable habitat exists in the Proposed Action area.

3.3.2 Environmental Consequences

3.3.2.1 No Action Alternative

Under the No Action Alternative, biological resource conditions within the Proposed Action area would remain unchanged.

3.3.2.2 Proposed Action

The Proposed Action area is annually excavated, graded, and sprayed for maintenance purposes resulting in the absence of sufficient habitat criteria required to support special-status species.

During pre-construction meetings with the contractor, a qualified biologist will present documents to those present for information regarding kit fox biology and how to identify a kit fox if one should be present during construction; however, it is unlikely that kit fox are present within the Proposed Action area.

Based on the lack of potentially suitable habitat for kit fox and the fact that construction would occur during daylight hours only, Reclamation has determined that the Proposed Action would have no effect to San Joaquin kit fox or any other special-status species.

3.4 Cultural Resources

“Cultural Resources” is a broad term that applies to prehistoric, historic, and architectural resources, as well as to traditional cultural properties. Cultural resources can include both archaeological sites, which contain evidence of past human use, and the built environment, which consists of structures such as buildings, roadways, dams, and canals. The National Historic Preservation Act (NHPA) of 1966, as amended, is the primary Federal legislation that outlines the Federal government’s responsibilities related to cultural resources. Section 106 of the NHPA requires the Federal government to take into consideration the effects of its undertakings on historic properties. Historic properties are, by definition, cultural resources that are included in, or eligible for inclusion in, the National Register of Historic Places (National Register). The evaluation criteria for National Register eligibility are outlined at 36 CFR Part 60.4.

Compliance with Section 106 of the NHPA follows a process outlined at 36 CFR Part 800. This process includes determining the area of potential effects (APE) for an undertaking, consulting with Indian tribes and other interested parties, identifying if historic properties are present within the APE, assessing the effects the undertaking will have on historic properties, and resolving any adverse effects to historic properties before an undertaking is implemented. The Section 106 process also requires consultation with the State Historic Preservation Officer (SHPO), or Tribal Historic Preservation Officer (THPO) where applicable, to seek concurrence with the finding of effect for the undertaking.

3.4.1 Affected Environment

The proposed project is located within the District's right-of-way, in areas previously disturbed by the construction of the 69 Main Lateral and its appurtenant facilities. Reclamation contacted the Tachi Yokut Tribe and Tule River Indian Tribe, inviting their participation in the Section 106 process and seeking their assistance in identifying any resources of religious or cultural significance that might be affected by Reclamation's undertaking. Section 106 historic properties identification efforts were conducted by RSO Consulting on behalf of the District. These efforts included a records search at the Southern San Joaquin Valley Information Center and a pedestrian survey of the APE. No previously recorded prehistoric or historic-era cultural resources were identified through these efforts. The underground 69 Main Lateral and its various aboveground components were the only cultural resources identified in the APE.

Reclamation evaluated the 69 Main Lateral and its appurtenant features for National Register eligibility and determined that they are not eligible for National Register inclusion. Pursuant to 36 CFR Part 800.4(d)(1), Reclamation has initiated consultation with the California SHPO on a finding of no historic properties affected for this undertaking. Reclamation will conclude the Section 106 process prior to implementation of the Proposed Action.

3.4.2 Environmental Consequences

3.4.2.1 No Action Alternative

Under the No Action Alternative there would be no undertaking and no potential to affect cultural resources.

3.4.2.2 Proposed Action

Under the Proposed Action Alternative, improvements to the 69 Main distribution system would take place beginning in 2013. As with the No Action Alternative, since there are no historic properties in the APE, the Proposed Action would result in no significant impacts to cultural resources.

3.5 Cumulative Effects

There are no other known past, present, and reasonably foreseeable future actions that would cumulatively result in significant impacts to the human environment when taking into consideration the actions analyzed within this EA.

Section 4 Consultation and Coordination

4.1 Public Review Period

Reclamation will make the EA available for a fifteen (15) day public comment period.

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

The National Historic Preservation Act (NHPA) of 1966, as amended, is the primary legislation that outlines the Federal government's responsibilities related to cultural resources. Section 106 of the NHPA requires that Federal agencies take into consideration the effects of their undertakings on historic properties. Historic properties are defined as cultural resources that are included in, or eligible for inclusion in, the National Register. The process for implementing Section 106 of the NHPA is found at 36 CFR Part 800. The Section 106 process includes requirements to identify historic properties that could be affected by a proposed undertaking, to seek and gather information about significant cultural resources from Indian tribes and other interested parties, and to consult with the SHPO on a finding of effect for an undertaking.

Pursuant to 36 CFR § 800.4(d)(1), Reclamation has followed the Section 106 process and is consulting with the California SHPO on a finding of no historic properties affected.

Section 5 References

- Kamansky's Ecological Consulting. 2012. Ivanhoe Irrigation District SCADA System Installation Reconnaissance-level Biological Survey Report.
- Kaweah Delta Water Conservation District. 2012. Groundwater Management Plan – 2010 Annual Report. August 16, 2012.
- United States Bureau of Reclamation. 2007. New Melones Resource Management Plan/Environmental Impact Statement Resource Inventory Report.
- U.S. Fish and Wildlife Service. 2012. Threatened and Endangered Species list for USGS 7.5-minute quadrangle Ivanhoe. Website accessed on November 5, 2012.
http://www.fws.gov/sacramento/es_species/Lists/es_species_lists-overview.htm

APPENDIX A
PHOTOGRAPHS



Photo 1: 69 Main Lateral downstream of the Friant-Kern Canal turnout where the new control structure will be installed. Note moss screen structure, air vent and Friant meter boxes are shown in the background.



Photo 2: 69 Main Lateral – Junction Box No. 1 where SCADA equipment and above ground low-flow bypasses will be installed. Note structure as described in report. All Junction Boxes are similar in structure.



Photo 3: 69 Main Lateral – Baffle Structure to be removed.



Photo 4: 69 Main Lateral – Typical Air Vent.



Photo 5: Typical above ground bypass as installed at Southern San Joaquin Municipal Utility District (SSJMUD). SSJMUD has similar Junction Boxes to the District.



Photo 6: 69 Main Lateral – Recharge Reservoir No. 1 control structure where SCADA sensor equipment will be installed to provide real-time reservoir levels.



Photo 7: 69 Main Lateral – Recharge Reservoir No. 2 control structure where SCADA sensor equipment will be installed to provide real-time reservoir levels.