Addendum to the
Freeport Regional Water Project
Final Environmental Impact Report
State Clearinghouse No. 2002032132

Prepared for:

Freeport Regional Water Authority
Sacramento County Water Agency
East Bay Municipal Utility District

Prepared by:

Jones & Stokes
2600 V Street
Sacramento, CA 95818-1914

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Chapter 1
Introduction

Background

The Freeport Regional Water Authority (FRWA) was created by exercise of a joint powers agreement between the Sacramento County Water Agency (SCWA) and the East Bay Municipal Utility District (EBMUD). FRWA's basic project purpose is to increase water service reliability for customers, reduce rationing during droughts, and facilitate conjunctive use of surface water and groundwater supplies in central Sacramento County. FRWA has approved the Freeport Regional Water Project (FRWP) to meet this basic project purpose and others summarized under Project Purpose/Objectives and Need below.

Project Purpose/Objectives and Need

The FRWP is intended to contribute to meeting the objectives of SCWA and EBMUD. The primary need for the project, and its purposes and objectives, are discussed below.

Need

The project is needed because:

- The SCWA Zone 40 Water Supply Master Plan is based on a conjunctive use water supply program that will protect the long-term sustainable yield of the central Sacramento County groundwater basin recommended by the Sacramento Water Forum Agreement, and surface water is necessary to fulfill that water supply program; and
- EBMUD forecasts water shortages during drought periods, based on maintenance of existing Mokelumne River basin supply, or catastrophic events exacerbated by increased flows for senior water right holders, resource protection, and increasing population.

Purposes/Objectives

The purposes and objectives of the project are to:

- support acquisition of additional SCWA surface water entitlements for a conjunctive use program in its Zone 40 area, consistent with the Sacramento Area Water Forum Agreement and County of Sacramento General Plan policies;
- provide facilities through which SCWA can deliver existing and anticipated surface water entitlements to Zone 40 area;
- provide facilities through which EBMUD can take delivery of a supplemental supply of water that would substantially meet its need for water and reduce existing and future customer deficiencies during droughts; and
- improve EBMUD system reliability and operational flexibility during droughts, catastrophic events, and scheduled major maintenance at Pardee Dam or Reservoir and meet settlement agreements with Contra Costa Water District and Santa Clara Valley Water District.

Freeport Regional Water Project

The FRWP is a water supply project to achieve the identified water delivery needs of FRWA. The design capacity of the system is 185 million gallons per day (mgd). Up to 85 mgd of water would be diverted under Sacramento County's existing Reclamation water service contract and other anticipated water entitlements. This water would be used to meet municipal and industrial demands in the Zone 40 area of south Sacramento County, consistent with the Water Forum Agreement.

Up to 100 mgd of water also would be diverted under EBMUD's amended Bureau of Reclamation (Reclamation) water service contract. This supplemental water would be used to reduce existing and future EBMUD customer deficiencies to manageable levels during drought conditions and would provide an alternative water supply in case of planned or unplanned outages at EBMUD's Mokelumne River diversion facilities.

As more fully described in the Adopted Final Environmental Impact Report for the Freeport Regional Water Project (Adopted Final FRWP EIR), the project consists of the following components:

- a 185 mgd–capacity intake facility (Freeport intake facility) and pumping plant located on the Sacramento River near the community of Freeport;
- a reservoir and a water treatment plant (known as the Zone 40 Surface Water Treatment Plant [WTP]) located in central Sacramento County;

- a terminal facility located at the point of delivery to the Folsom South Canal (FSC);
- a canal pumping plant located at the FSC terminus;
- a series of settling basins;
- an aqueduct pumping plant situated near the Mokelumne Aqueducts/Camanche Reservoir area;
- electrical transmission lines supplying power to various project facilities (e.g., aqueduct pumping plant and pretreatment facility); and
- four pipelines carrying the water from the intake facility to the Zone 40 SWTP and to the Mokelumne Aqueducts:
  - a 185 mgd–capacity (84-inch) pipeline from the intake facility to the turnout to the Zone 40 SWTP,
  - an 85 mgd–capacity (60-inch) pipeline from the turnout to the Zone 40 SWTP,
  - a 100 mgd–capacity (66-inch) pipeline from the turnout to FSC, and
  - a 100 mgd–capacity (66-inch) pipeline from the terminus of the FSC to the Mokelumne Aqueducts.

California Environmental Quality Act Process

FRWA has prepared and certified extensive environmental documentation under the California Environmental Quality Act (CEQA) for its proposed FRWP. This documentation includes:

- The Draft EIR/EIS for the Freeport Regional Water Project (Jones and Stokes Associates 2003) (State Clearinghouse number 2002032132); and
- The Final EIR for the Freeport Regional Water Project (Jones and Stokes Associates 2004)

Additionally, FRWA has prepared and has circulated a draft Initial Study/Supplemental Mitigated Negative Declaration (IS/MND) for the FRWP. It addresses several changes to the Adopted FRWP EIR and the associated environmental impacts of these modifications.

CEQA requires that EIRs describe and evaluate reasonable alternatives to a proposed action and must describe an alternative that assumes that the proposed action and alternatives would not be implemented. The Adopted FRWP EIR examined the impacts of the proposed project and several alternatives in detail and identified mitigation measures to reduce these impacts to less-than-significant levels. Certain impacts could not be reduced to less-than-significant levels.

FRWA and its member agencies certified the Final FRWP EIR, with Alternative 5 being the approved project, and adopted CEQA Findings in April 2004. Alternative 5 consists of the Freeport Intake Facility, Zone 40 Surface Water Treatment Plant, Canal Pumping Plant, Aqueduct Pumping Plant and Pretreatment Facility, and pipelines running primarily along Cosumnes River Boulevard, Power Inn Road, Gerber Road, Clay Station Road, Elliott Road, Liberty Road, Buena Vista Road, and Cord Road. This constitutes the approved project and is further described in Chapter 2.

The impacts and mitigation measures associated with the approved project and previously addressed in the Adopted FRWP EIR are presented in Tables S-1 and S-2. Table S-1 summarizes the significant environmental impacts in the Adopted FRWP EIR, and Table S-2 summarizes the less-than-significant environmental impacts in the Adopted FRWP EIR. The tables are organized to present impacts by environmental topic area and to indicate the significance of each impact, available mitigation measures, and the significance of each impact with mitigation implemented. This information is provided for reference and to summarize the environmental documentation conducted to date.

FRWA has incorporated certain mitigation measures into the project description as environmental commitments. These commitments include preparation and implementation of the measures listed below.

- General construction measures to reduce or eliminate construction-related effects, in particular those related to traffic disruptions and dust generation as they may affect area residences and businesses.
- Erosion and sediment control plan to control short-term and long-term erosion and sedimentation effects and to restore soils and vegetation in areas affected by construction activities.
- Stormwater pollution prevention plan in compliance with the National Pollutant Discharge Elimination System.
- Traffic control plan for construction activities to reduce construction-related effects on the roadway system and traffic and circulation patterns throughout the affected project area during the construction period.
- Dust suppression plan to reduce fugitive emissions during construction activities.
- Fire control plan to ensure appropriate fire prevention and response methods.
- Phase I and Phase II hazardous materials studies to identify existing hazardous materials and, if necessary, manage hazardous materials within construction areas.
- Hazardous materials management plan, including the appropriate practices to reduce the likelihood of a spill of toxic chemicals and other hazardous materials during construction.

- Channel and levee restoration plan to ensure levee flood protection and all water channels and levees affected by project construction activities are restored to preconstruction conditions.
- Hydrologic simulation modeling and scour analysis to identify potential effects and identify measures for minimizing or avoiding adverse effects related to scour, erosion, and sedimentation.
- Agricultural land restoration to ensure agricultural lands that have been disturbed during the construction process are returned to preproject levels of production, where practicable.
- Spoil disposal plan to ensure that spoil material from construction activities is properly disposed of off site, or used in the construction process when feasible.
- Environmental training to ensure the avoidance and/or protection of sensitive resources.
- Access point/staging areas plan to minimize the extent of effects resulting from construction activities.
- Trench safety plan to minimize the amount of time that trenches are present and ensure adequate safety.
- Private property acquisition and access measures to notify, compensate, and provide adequate access to private property owners.
- Noise compliance with local ordinances for noise-generating facilities.
- Coordinated operations among FRWA, Sacramento Regional County Sanitation District (SRCSD), and the City of Sacramento to avoid potential timing-related conflicts between diversions and discharges.
- Project planning, coordination, and communication plan to provide consistency with local agency policies and limit potential conflicts with other local activities.

Purpose of Addendum

Pursuant to Section 15164 of the State CEQA Guidelines, an addendum to an EIR is appropriate when: (1) minor technical changes or additions are necessary to make the previous EIR adequate, (2) the changes made to the EIR discussed in the Addendum do not raise important new issues about significant effects on the environment, and (3) none of the conditions requiring a subsequent or supplemental EIR is present. An addendum does not need to be circulated for public review but must be considered in agency decision-making.

During design, minor changes have been made to proposed facilities and pipeline alignments. FRWA has reviewed information regarding the minor additional facility and alignment modifications to the FRWP discussed in this Addendum and determined that, due to the minor nature of the modifications, none of the

conditions that would require the preparation of a subsequent or supplemental environmental document apply. FRWA has determined that an addendum to the Adopted FRWP EIR is the appropriate vehicle to document these changes in compliance with CEQA.

Project modifications made since the Adopted Freeport EIR are:

- refinements to the pipeline alignment,
- addition of a temporary bypass road at Cosumnes River Boulevard,
- modified site and orientation to the Canal Pumping Plant,
- chemical addition at the Canal Pumping Plant,
- access road to the Canal Pumping Plant changed to off of Clay Station Road,
- blasting near Camanche Reservoir,
- changed location and size of electrical substation and Aqueduct Pumping Plant,
- addition of an electrical cable bussing structure at the Aqueduct Pumping Plant,
- revisions to the power supply feed to the Aqueduct Pumping Plant, including transmission line and towers,
- addition of a communication/radio tower at key facilities,
- increase in pipe diameter in some sections, and
- change in construction work hours.

The purpose of this addendum is to describe the additional facility and alignment refinements that have been identified and to document the fact that no new significant environmental effects could result.

Organization of Addendum

Chapter 1 provides an overview of the project, describes the CEQA process to date, and identifies the need to prepare an addendum. Chapter 2 describes the minor modifications to the FRWP, Chapter 3 discusses the environmental effects of these modifications, and Chapter 4 lists references cited.

Table S-1. Summary of Previously Addressed Significant Impacts and Mitigation Measures from the Adopted FRWP EIR for the Approved Alternative

Resource Topic/Impact	Mitigation Measure	Level of Significance after Mitigation
Hydrology, Water Supply, and Power—No significant impacts		
Water Quality—No significant impacts		
Fish—No significant impacts		
Recreation—No significant impacts		
Vegetation and Wetland Resources		
Temporary disturbance to or potential loss of sensitive vegetation and wetland resources near active construction areas	Implement Mitigation Measure 7-1: Confine construction activities and equipment to the designated construction work area Implement Mitigation Measure 7-2: Avoid and protect sensitive vegetation and wetland resources near designated construction work areas Implement Mitigation Measure 7-3: Reestablish preconstruction site conditions to allow natural colonization of plant species and reseed, if necessary	LS
Potential introduction and spread of noxious weeds	Implement Mitigation Measure 7-4: Implement best management practices during construction activities	LS
Degradation of blue oak woodlands and loss of individual locally protected trees	Implement Mitigation Measure 7-5: Identify and avoid oak woodland and individual locally protected trees Implement Mitigation Measure 7-6: Obtain and comply with county tree removal permits and implement conditions of permits	LS
Loss of or disturbance to riparian communities	Implement Mitigation Measure 7-7: Establish a protection buffer around woody riparian communities Implement Mitigation Measure 7-8: Compensate for unavoidable riparian woodland losses	LS

Resource Topic/Impact	Mitigation Measure	Level of Significance after Mitigation
Loss of or disturbance to jurisdictional waters of the United States, including wetlands	Implement Mitigation Measure 7-9: Avoid and minimize impacts on jurisdictional waters of the United States, including wetlands, by installing protective barriers and implementing best management practices	LS
	Implement Mitigation Measure 7-10: Obtain and comply with state and federal wetland permits	
	Implement Mitigation Measure 7-11: Compensate for unavoidable impacts on jurisdictional waters of the United States	
Potential loss of special-status plant populations	Implement Mitigation Measure 7-12: Conduct preconstruction surveys in areas not previously inventoried	LS
	Implement Mitigation Measure 7-13: Avoid known special-status plant populations during project design	
	Implement Mitigation Measure 7-14: Compensate for impacts on special-status plant populations	
Wildlife		
Loss or alteration of vernal pools, vernal swales, and other temporary ponds that could provide habitat for vernal pool fairy shrimp, vernal pool tadpole shrimp, midvalley fairy shrimp, and California linderiella	Implement Mitigation Measure 8-1: Conduct surveys and develop a mitigation plan for vernal pool fairy shrimp and vernal pool tadpole shrimp	LS
Potential mortality of, disturbance to, or removal of habitat of the valley elderberry longhorn beetle during construction	Implement Mitigation Measure 8-2: Conduct preconstruction surveys for valley elderberry longhorn beetle and avoid or compensate for loss of habitat	LS
Potential mortality of, disturbance to, or loss of habitat for giant garter snake and western pond turtle	Implement Mitigation Measure 8-3: Avoid, minimize, and compensate for unavoidable impacts on jurisdictional waters of the United States, including wetlands, and implement associated wildlife protection and compensation measures	LS

Resource Topic/Impact	Mitigation Measure	Level of Significance after Mitigation
Potential mortality of, disturbance to, or loss of habitat for the California tiger salamander and western spadefoot	Implement Mitigation Measure 8-4: Conduct preconstruction surveys and compensate for loss of California tiger salamander and western spadefoot habitat if these species are present	LS
Loss of or disturbance to active raptor nests or tricolored blackbird nests	Implement Mitigation Measure 8-5: Conduct surveys for nesting raptors and tricolored blackbirds	LS
Disturbance of nesting Swainson's hawks	Implement Mitigation Measure 8-5	LS
	Implement Mitigation Measure 8-6: Consult with the California Department of Fish and Game if hawks are present and follow mitigation guidelines to avoid disturbance of nesting hawks and/or the removal of hawks' nesting trees	
Loss of Swainson's hawk and white-tailed kite foraging habitat	Implement Mitigation Measure 8-7: Consult with California Department of Fish and Game and Sacramento County and compensate for loss of foraging habitat	LS
Loss of or disturbance to nesting western burrowing owls	Implement Mitigation Measure 8-5	LS
	Implement Mitigation Measure 8-8: Consult with California Department of Fish and Game and follow the burrowing owl mitigation guidelines	
Potential loss of habitat for Sacramento anthicid beetle and Sacramento valley tiger beetle	Implement Mitigation Measures 7-7 and 7-8	LS
Geology, Soils, Seismicity, and Groundwater—No significant impacts		
Land Use—No significant impacts		
Agricultural Resources		
Loss or conversion of prime farmland and farmland of statewide importance	Implement Mitigation Measure 11-1: Comply with Sacramento County General Plan requirements	LS

Resource Topic/Impact	Mitigation Measure	Level of Significance after Mitigation
Traffic and Transportation—No significant impacts		
Air Quality		
Short-term increase in NOx and CO emissions in Sacramento County	Implement Mitigation Measure 13-1: Include air quality mitigation measures as part of the proposed project's construction management plan	LS
Short-term increase in NOx emissions in San Joaquin County	Implement Mitigation Measure 13-1	LS
Short-term increase in PM10 emissions in San Joaquin County	Implement Mitigation Measure 13-2: Comply with Regulation VIII for control measures of fugitive PM10	LS
Noise		
Short-term increases in construction noise levels during daytime hours	Implement Mitigation Measure 14-1: Provide public notice of proposed activities and provide noise shielding to the extent feasible	SU
Exposure of noise-sensitive land uses to general construction noise at night	Implement Mitigation Measure 14-1 Implement Mitigation Measure 14-2: Minimize nighttime construction activity	SU
Public Health and Safety—No significant impacts		
Visual Resources		
Adverse impacts on views of the Zone 40 Surface WTP	Implement Mitigation Measure 16-1: Reduce visual intrusion by preparing design plans consistent with rural visual character, providing vegetative buffer	LS
Adverse change to views of the canal pumping plant site	Implement Mitigation Measure 16-1	LS
Adverse change to views of the aqueduct pumping plant and pretreatment facility site (Camanche site and optional Brandt site)	Implement Mitigation Meaure16-2: Implement appropriate aesthetic treatment at the aqueduct pumping plant and pretreatment facility site	LS

Resource Topic/Impact	Mitigation Measure	Level of Significance after Mitigation
Cultural Resources		
Disturbance of known cultural resources	Implement Mitigation Measure 17-1: Prepare and implement a cultural resources significance evaluation, effects analysis, and mitigation plan for known cultural resources	LS
Disturbance of unidentified cultural resources	Implement Mitigation Measure 17-2: Prepare and implement a cultural resources inventory, significance evaluation, effects analysis, and mitigation plan for unidentified cultural resources Implement Mitigation Measure 17-3: Prepare and implement a plan for unanticipated discovery of cultural resources	LS

LS = Less than significant
SU = Significant and unavoidable

Table S-2. Summary of Previously Addressed Less-than-Significant Impacts and Mitigation Measures from the Adopted FRWP EIR for the Approved Alternative

Resource Topic/Impact	Mitigation Measure
Hydrology, Water Supply, and Power	
Changes in Upper Sacramento River Basin hydrologic conditions	No mitigation required
Changes in Lower Sacramento River, Delta Inflow, and Delta Outflow hydrologic conditions	No mitigation required
Changes in Mokelumne River Basin hydrologic conditions	No mitigation required
Changes in south-of-Delta water supply delivery operations	No mitigation required
Hydropower and energy production changes at CVP facilities	No mitigation required
Water Quality	
Potential contaminant discharges during construction could occur for approximately 2 years, and disturbed construction areas would be exposed to storms that could transport materials	No mitigation required
Operational effects during reverse flow in the Sacramento River associated with diversion of water from the Freeport intake facility could result in diluted discharges	No mitigation required
Operational effects on water quality in the Sacramento River downstream of the diversion (the Freeport intake facility) could result due to reduced background streamflow and increased SRWWTP effluent discharges	No mitigation required
Changes to reservoir temperature patterns for Camanche and Pardee Reservoirs attributable to project-related diversions of Sacramento River water	No mitigation required
Increased inorganic mineral content and nutrients could incrementally increase the frequency or duration of adverse taste and odor events in EBMUD terminal reservoirs	No mitigation required
Changes to Folsom South Canal water quality, attributable to project-related diversions of Sacramento River water that will be discharged to the FSC	No mitigation required
Operation effects on Delta water quality	No mitigation required
Pipeline operation effects on surface drainages attributable to change in discharge levels	No mitigation required
Fish	
Negative impact on spawning habitat of fish species from construction-related activities	No mitigation required
Negative impact on rearing habitat of fish species from construction-related activities	No mitigation required
Negative impact on migration habitat of fish species from construction-related activities	No mitigation required
Introduction of contaminants harmful to fish populations during construction	No mitigation required

Resource Topic/Impact	Mitigation Measure
Creation of additional habitat for predators of native fish populations from temporary structures	No mitigation required
Direct injury to fish from construction activities	No mitigation required
Adverse impacts on spawning habitat of fish resulting from decreased flows during ongoing operations	No mitigation required
Adverse impacts on rearing habitat of fish resulting from decreased flows during ongoing operations	No mitigation required
Adverse impacts on migration habitat of fish resulting from decreased flows during ongoing operations	No mitigation required
Adverse impacts on water temperature resulting from changes in reservoir storage and river flow during operations	No mitigation required
Potential risk of fish entrainment at the intake facility	No mitigation required
Adverse impacts on fish habitat resulting from changes in reservoir storage during project operations	No mitigation required
Recreation	
Temporary disruption to recreational opportunities during construction of the intake facility	No mitigation required
Temporary disruption to recreational opportunities during construction of the pipeline from the intake facility to Zone 40 Surface WTP/FSC	No mitigation required
Temporary disruption to recreational opportunities along the Folsom South Canal	No mitigation required
Temporary disruption to recreational opportunities during construction of the pipeline from the Folsom South Canal to the Mokelumne Aqueducts	No mitigation required
Change in water-dependent and water-enhanced recreation opportunities at Shasta, Oroville, and Trinity Reservoirs and the Sacramento River	No mitigation required
Change in water-dependent and water-enhanced recreation opportunities at Folsom Reservoir	No mitigation required
Change in water-dependent recreation opportunities on the lower American River	No mitigation required
Disruption to recreation opportunities on the Sacramento River associated with location of the intake facility	No mitigation required
Potential inconsistency with local plans and policies addressing recreation	No mitigation required
Vegetation and Wetland Resources	
Temporary disturbance to and permanent loss of developed areas, agricultural land, eucalyptus stands, artificially created roadside drainage ditches, and annual grassland habitat within construction corridor	No mitigation required
Wildlife	
Loss of or disturbance to developed and agricultural lands and associated wildlife habitats	No mitigation required
Temporary loss or alteration of Swainson's hawk foraging habitat	No mitigation required

Resource Topic/Impact	Mitigation Measure
Temporary loss of San Joaquin pocket mouse habitat	No mitigation required
Geology, Soils, Seismicity, and Groundwater	
Localized erosion and sedimentation from construction-related activities	No mitigation required
Threat of hydrological hazards from potential trench dewatering	No mitigation required
Destruction of unique geological features from construction-related activities	No mitigation required
Threat of ground shaking and fault rupture	No mitigation required
Subsidence south of the Delta from increased groundwater pumping	No mitigation required
Land Use	
Construction-period conflicts with residential and urbanized land uses	No mitigation required
Postconstruction conflicts with residential and urbanized land uses	No mitigation required
Inconsistency with local plans and policies and land use designations	No mitigation required
Conflicts with planned new land uses	No mitigation required
Disproportionate impacts on low income residents and other environmental justice considerations	No mitigation required
Agricultural Resources	
Loss of agricultural production	No mitigation required
Nonrenewal or termination of Williamson Act Contracts	No mitigation required
Reduction in agricultural productivity in the San Joaquin Valley	No mitigation required
Traffic and Transportation	
Alteration of present patterns of vehicular circulation, increased traffic delay, and increased traffic hazards during construction of facilities	No mitigation required
Damage to the roadway surface during construction of facilities	No mitigation required
Disruption of rail traffic during construction	No mitigation required
Interference with emergency response routes during construction	No mitigation required
Interference with bicycle routes during construction	No mitigation required
Congestion of roadways and the permanent alteration of present patterns of vehicular circulation from the facility operations	No mitigation required
Air Quality	
Short-term increase in ROG and PM10 emissions in Sacramento County from construction	No mitigation required
Short-term increase in ROG and CO emissions in San Joaquin County from construction	No mitigation required
Long-term increase in emissions in Sacramento and San Joaquin Counties from operations	No mitigation required
Noise	

Resource Topic/Impact	Mitigation Measure
Exposure of existing structures to vibration from pile driving activities	No mitigation required
Increase in noise levels from facility operation	No mitigation required
Public Health and Safety	
Exposure of people to existing contamination	No mitigation required
Contamination of soil and water during construction	No mitigation required
Increased risk of fires during construction	No mitigation required
Increased flooding along Sacramento River	No mitigation required
Increased flooding during pipeline construction	No mitigation required
Increased risk from use and storage of hazardous materials during operations at water treatment plants and intake facility	No mitigation required
Increased risk from transportation of hazardous materials during operations	No mitigation required
Visual Resources	
Short-term changes to views associated with construction of project components	No mitigation required
Adverse changes to views of the intake facility site	No mitigation required
Adverse changes to views along the pipeline from the intake facility to Zone 40 Surface WTP/FSC	No mitigation required
Adverse changes to views along the pipeline from the FSC to the Mokelumne Aqueducts	No mitigation required
Cultural Resources—No less-than-significant impacts	

Chapter 2

Refinements to the Project

Introduction

Since adoption of the FRWP EIR, FRWA has completed preliminary design of the FRWP facilities and pipeline and is in the Final Design phase. FRWA has made minor modifications to the design of some of the facilities, and some new activities have been identified. This chapter describes those modifications to the project.

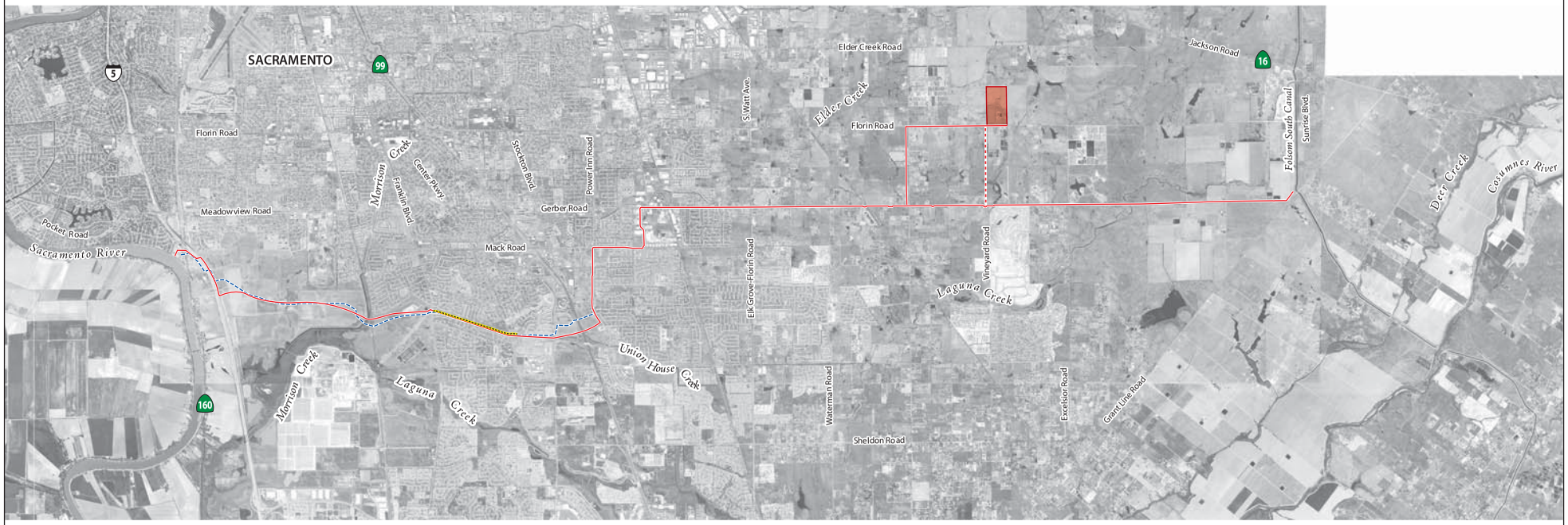
Pipeline Alignment Refinements

Freeport Regional Water Authority Pipeline

As shown in Figure 1, the FRWA alignment runs from the intake facility at the Sacramento River to its terminus at the FSC. It connects to the turnout for the Zone 40 SWTP near the intersection of Gerber Road and Bradshaw Road. The turnout extends to the SWTP while the main pipeline continues to the FSC.

The following changes are being made to the FRWA Alignment previously described in the Adopted FRWP EIR:

- construction of a temporary bypass road near Franklin Boulevard and Cosumnes River Boulevard to reduce traffic impacts during pipeline construction;
- realignment of the pipeline from the turnout to the SWTP;
- increased diameter of the pipeline connecting the turnout to the Zone 40 SWTP from 60 inches to 66 inches;
- increased diameter of the pipeline connecting the turnout to the FSC from 66 inches to 72 inches; and
- expanded construction hours to allow temperature-sensitive construction work.



Legend

- Proposed Sacramento County Water Agency Zone 40 Surface Water Treatment Plant
- Revised Vineyard Road Pipeline Extension Alignment
- Revised Segments of Freeport Regional Water Authority Alignment
- Approved Freeport Regional Water Authority Alignment
- Temporary Bypass Road

0 1 2
Miles

N

03072.03 EIR-Addendum (1-06)

Jones & Stokes

Figure 1
Revised Pipeline Alignments
from the Freeport Intake Facility to the
Zone 40 Surface Water Treatment Plant and Folsom South Canal

Location and Design

Pipeline Diameter

Modifications to the pipeline diameter have been made in two locations. For the pipeline turnout to the Zone 40 SWTP, the original 60-inch-diameter pipeline will be increased to 66 inches. For the pipeline continuing beyond the turnout to the FSC, the original 66-inch-diameter pipeline will be increased to 72 inches. These changes were made to increase the energy efficiency of the pipeline. A 66-inch pipe and 72-inch pipe will decrease energy costs for pumping and have lower life-cycle costs than a 60-inch pipe and 66-inch pipe, respectively. These modifications will not require any changes to the 130-foot-wide right-of-way needed for all pipeline alignments discussed in the Adopted FRWP EIR. The 130-foot-wide right-of-way consists of a 40-foot-wide permanent operation corridor, 90-foot-wide temporary construction corridor, and a 7-foot trench from ground level to the top of the pipe. The total trench depth will average 15-feet with a trench width of 12- to 14-feet. While there are some pipeline segments that will not require a full 130-foot-wide right-of-way (the in-road segments of the joint pipeline and the Folsom South Canal Connection [FSCC] segments in particular), that width is used consistently for purposes of this analysis.

Construction

General construction of the pipeline remains the same and is generally described as trenching in paved and unpaved areas, with a small amount of tunneling in strategic areas where trenching is not practical.

A few construction details have been modified and are described below. A majority of the pipeline would be installed by unsupported, sloped trenching.

Bypass Road

To assist with the flow of traffic in an urban area, FRWA has decided to construct a temporary bypass road in one specific location. The temporary bypass road will be constructed from Franklin Boulevard to 800 feet east of Center Parkway parallel to Cosumnes River Boulevard to reduce traffic impacts during the pipeline construction. It will use existing Franklin Boulevard and Center Parkway intersections. (Figure 1)

The temporary bypass road will provide two lanes of travel in each direction with 12-foot traffic lanes and 4-foot shoulders. Its pavement will consist of 2 inches of asphalt concrete and 8 inches of aggregate base. Once the pipeline section is completed in this area, the bypass road will be removed, and the area will be restored to its preconstruction condition.

Hours of Construction

Work on the weekends and in early morning hours may be required or desirable to accommodate temperature-sensitive construction work. Temperature-sensitive construction work, such as welding, requires appropriate work conditions. Welding the closure pieces of the pipe requires the steel to be as close to the eventual water temperature as possible (i.e., 55°F). These temperatures are usually attainable only during early morning hours. Welding will start no earlier than 6:00 a.m. Additionally, construction on the weekend may be needed during pipeline construction to minimize traffic impacts.

Turnout to the Zone 40 Surface Water Treatment Plant

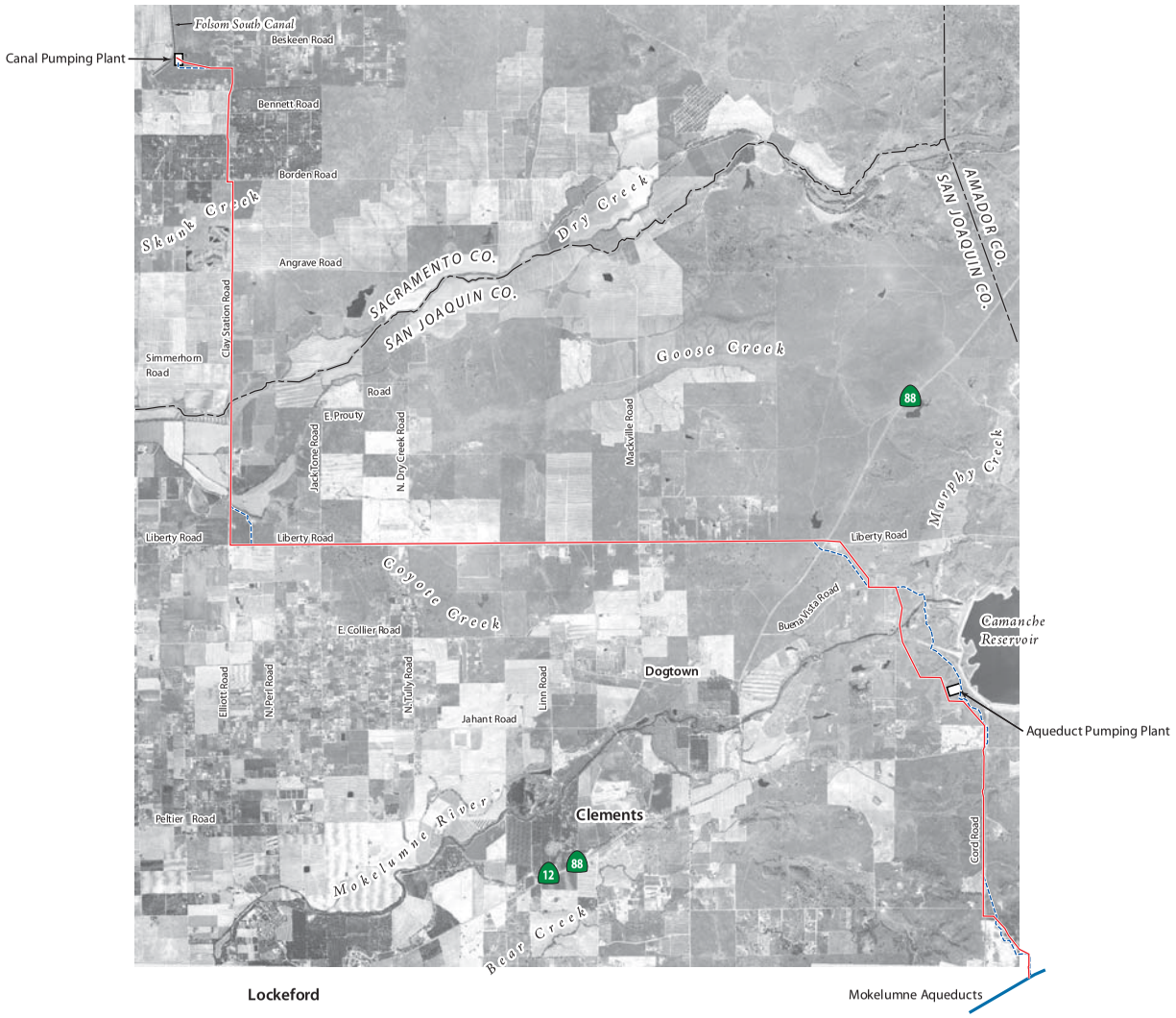
The adjoining turnout, or raw water pipeline, to the Zone 40 SWTP will be modified. The alignment of the 66-inch pipeline will now travel east on Gerber Road and then north, following the proposed Vineyard Road Extension to the SWTP. The effects of this modification are analyzed in an Initial Study/Negative Declaration for the Zone 40 Central Surface and Groundwater Treatment Plant, Pipelines, and Corporation Yard by the Sacramento County Department of Environmental Assessment and Review.

Folsom South Canal Connection Pipeline

As shown in Figure 2, water would be conveyed through the FSC from the delivery point to the terminus of the FSC. Extending from a new pumping plant near the southern end of the existing FSC to the Mokelumne Aqueducts, a new pipeline alignment would be constructed (commonly referred to as the FSCC pipeline).

The following changes are being made to the FSCC alignment previously described in the Adopted FRWP EIR:

- increased diameter of the pipeline connecting the FSC Pumping Plant to the Mokelumne Aqueducts from 66 inches to 72 inches;
- alignment changes as a result of property-owner issues; avoidance of wetlands, vernal pools, elderberry bushes, and large trees; future development projects; traffic impacts; and pump energy conservation.
- excavation using blasting near Camanche Reservoir; and
- expanded construction hours to allow temperature-sensitive construction work.



030723 EIR-Addendum (1-06)

Jones & Stokes

Figure 2
Revised Pipeline Alignments
from the Folsom South Canal to the Mokelumne Aqueducts

Location

While the general location of the FSCC has not changed, there have been some refinements to the alignment. Figure 2 illustrates the initial alignment and the newly proposed alignment. These modifications were made for the reasons stated above.

Design

The Adopted FRWP EIR states that the FSCC pipeline configuration will consist of an approximately 66-inch-diameter pipe with a capacity of 100 mgd. The original 66-inch-diameter pipeline will be increased to 72 inches. This change was made to increase the energy efficiency of the pipeline. A 72-inch pipe will decrease energy costs for pumping and has a lower life-cycle cost than a 66-inch pipe. The pipeline will be buried beneath a minimum of 5 feet of cover material. However, where extensive rock excavation is required, only 2 or 3 feet of cover will be used to minimize rock excavation.

Construction

Most pipeline construction would be conducted by trenching in paved and unpaved areas, with tunneling in strategic areas where trenching is not practical. The strength of the bedrock in a short segment of approximately 3,000-feet along the FSCC alignment may necessitate the use of additional explosives to fracture the bedrock for trenching. The andesitic conglomerate bedrock only occurs south of the Camanche Reservoir Spillway and continues south approximately 2,850 feet. For this portion, chemical explosives would be used to crack the rock sufficiently for a bulldozer to dislodge it for excavation.

Hours of Construction

While no specific construction work hours were stated in the Adopted FRWP EIR, work on the weekends and early morning hours may be required or desirable to accommodate temperature-sensitive construction work. Temperature-sensitive construction work, such as welding, requires appropriate work conditions. Welding the closure pieces of the pipe requires the steel to be as close to the eventual water temperature as possible (i.e., 55°F). These temperatures are usually attainable only during early morning hours. Welding will start no earlier than 6:00 a.m. Additionally, construction on the weekend may be needed during pipeline construction to minimize traffic impacts.

Facilities Refinements

Communication System

The primary data communication system among the four primary sites (the intake site, bifurcation site, the Zone 40 Surface Water Treatment Plant/flow control station, and the terminal facility) will use fiber optic (FO) cabling. These locations are interconnected by the raw water pipelines. The only planned FRWP FO conduit is run parallel to the raw water pipelines and consists of 3-inch conduit 48 inches below grade and 24 inches from the edge of the pipe.

Additional sites that are more remote cannot be serviced by FO cabling. FRWA is proposing use of a spread-spectrum radio system for communication between among components of the FRWP when fiber optic cable system is not operating or when facilities are too remote to be serviced by FO cabling. The use of radio for communication will require the construction of antennae and support structures at these sites:

- intake,
- bifurcation (the location of the turnout to the Zone 40 SWTP),
- Zone 40 SWTP and flow control station,
- terminal facility,
- Area Control Center-9,
- Deer Creek check structure (on FSC),
- Laguna Creek check structure (on FSC),
- EBMUD Canal Pumping Station, and
- Aqueduct Pumping Plant.

FRWA performed a radio-path analysis to determine the required antenna locations and heights. The radio-path analysis results for height of antenna bases above existing ground elevation are shown below:

Antenna Base Heights at FRWP Sites	
Location	Height (feet above ground)
Intake	100[a]
Bifurcation	20–40
Zone 40 SWTP	40
ACC-9	20–40
Terminal Weir Structure	20–40
Deer Creek Check Structure	20–40
Laguna Creek Check Structure	20–40
Canal Pumping Plant	20–60
Aqueduct Pumping Plant	30–40

[a]Antenna will be mounted on the existing Freeport Tank—no separate antenna mast will be required.

Antenna heights are given as a range because the actual heights will depend on the radio frequency selected and the radio repeater sites used. The antenna masts themselves can be wooden poles (like power poles) or galvanized steel monolithic poles. No fortified frame structure towers will be needed at these heights.

Antenna Sizes and Types

Both omnidirectional (ability to boost signal in more than one direction) and unidirectional antennas will be required for the FRWP. Both antenna types are available in compact and visually inconspicuous shapes, sizes, and colors. The locations that require communication in multiple directions (repeater sites) will likely use pole antennae very similar to the one shown in Figure 3. Antenna length will be about 10 feet.

Locations requiring a unidirectional antenna will use a Yagi-type antenna, although other shapes are available. These antennae will be about 4 feet long and look like the antenna shown in Figure 4.

Antennas required for the FSSC alignment may consist of a 24-inch diameter dish. These antennas will look very similar to the antenna depicted in Figure 5.

Canal Pumping Plant

The Canal Pumping Plant would be required to direct water from the existing FSC into the new FSCC pipeline. There are several refinements to this facility:

Figure 3
Pole Antenna

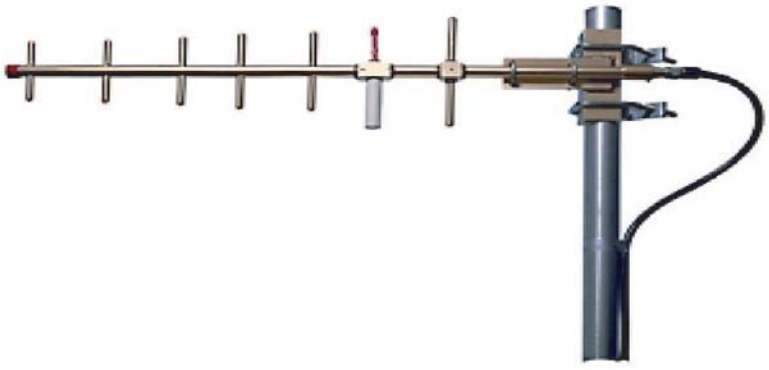


Figure 4
Yagi-Type Antenna

Jones & Stokes

Figure 5
Dish Antenna

- revisions to site orientation and size of Canal Pumping Plant,
- location change of access road to Canal Pumping Plant off of Clay Station Road, and
- a chemical addition at Canal Pumping Plant as a general disinfectant.

Location and Design

The Canal Pumping Plant would be located near the terminus of the FSC where it would connect with the new FSCC pipeline (Figure 2). While the general location has not changed, some modifications to the site orientation and size of the facility are being proposed. The new plant orientation increases the usable space for the existing property owner while still accommodating the Canal Pumping Plant. The pumping plant will be oriented in the north-south direction, as shown in Figure 2. The total estimated acreage for the plant is increasing from 3.2 acres to 5.6 acres.

The Adopted FRWP EIR states that the main access to the plant would be along the canal levee road. The main access road was relocated to avoid travel on the canal levee road. Access into the Canal Pumping Plant for construction and operation will be via Clay Station Road. The new access road is intended to provide a safer and more direct route to the pumping plant.

Operation and Maintenance

To maintain the pipeline, it was determined that 12.5% sodium hypochlorite may be injected periodically into the pipeline at the pumping plant to disinfect water in the pipeline. Sodium hypochlorite is a compound that can be effectively used for water purification. It is used on a large scale for surface purification, bleaching, odor removal, and water disinfection. The chemical would be used no more than once a year for disinfection and would not be stored on site.

Aqueduct Pumping Plant

The Aqueduct Pumping Plant would be located just west of the Camanche Reservoir dike, on EBMUD property. There are several refinements to these facilities:

- change in the location and size of the electrical substation,
- change in height of the cable bussing structure at the electrical substation,
- revisions to the power supply feed to the Aqueduct Pumping Plant, and
- use of pipeline trench spoil as fill material.

In addition to these changes, a supplemental radio communication tower will be constructed at this site and is discussed in this document under Communication System.

Location

The electrical substation site at the Aqueduct Pumping Plant was detailed on Figure 2-13 in the Adopted FRWP EIR document. The size of the electrical substation has increased to accommodate the equipment required to meet all of the present and future power needs. The location has also changed to provide the lowest overall cost and fewest technical issues, minimize aesthetic concerns, minimize impacts to wetlands, and provide the most room for future expansion, if needed. Figure 6 shows the location of facilities near the Camanche Reservoir.

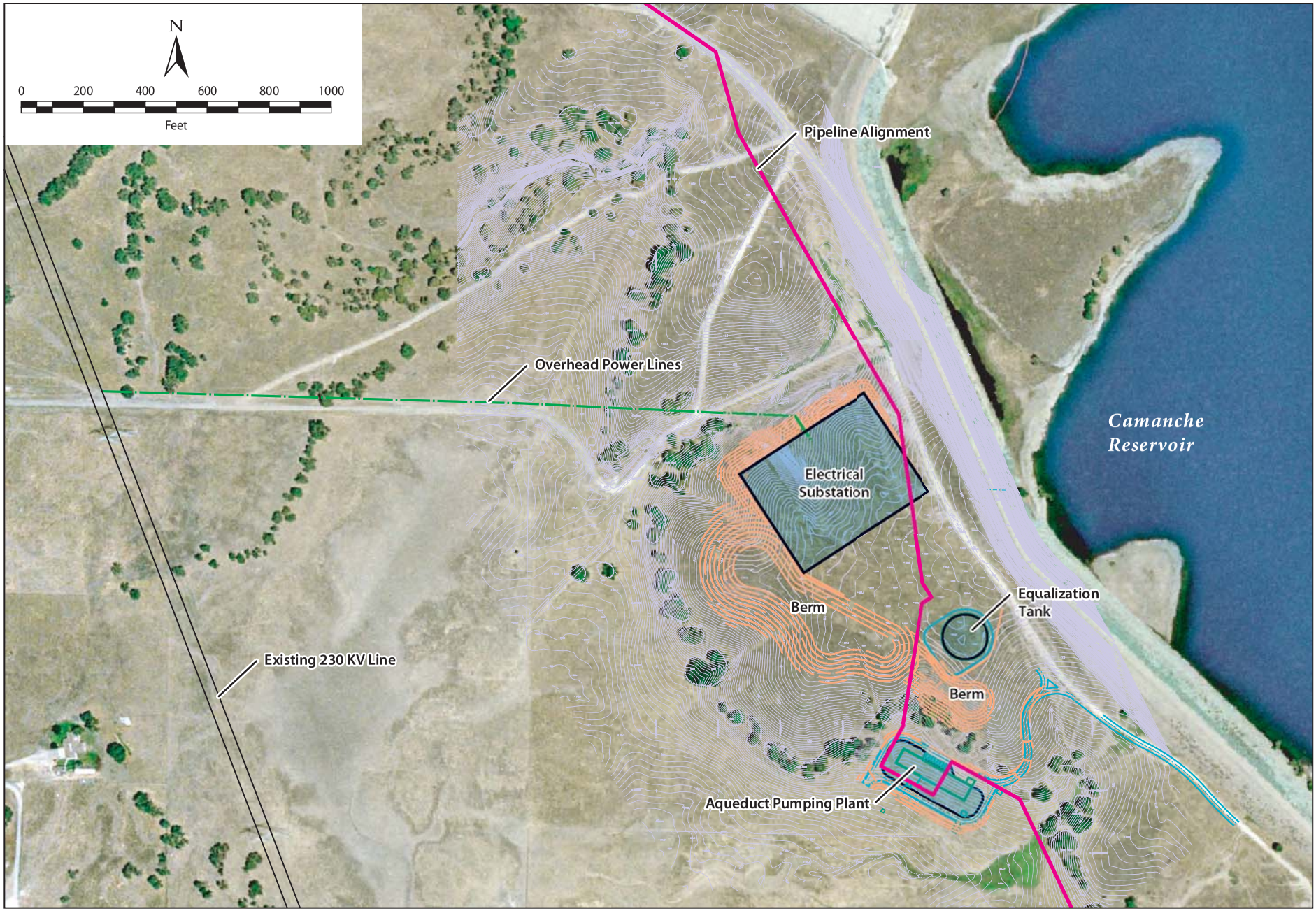
Design

In addition to the change in the size and location of the electrical substation, the size of the electrical cable bussing structure at the substation also has been increased. The cable bussing structure may reach heights of 100 feet above ground. This height is needed to meet the National Electrical Safety Code and allow the most compact design of the substation.

Pacific Gas and Electric Company (PG&E) will provide electric transmission service to power the Aqueduct Pumping Plant. PG&E's Rancho Seco-Bellota 230kV No. 2 electric transmission line is being proposed to serve the pumping plant's electric power requirements. It is located near the Aqueduct Pumping Plant's electric substation site and has the capacity to serve the new electrical load.

The new route will interconnect PG&E's existing Rancho Seco-Bellota 230kV No. 2 transmission line with the proposed EBMUD electric substation. This new route taps the electric transmission line between towers 11/50 and 11/51 and is approximately 1 mile in length. The new towers will use tubular steel poles (TSPs) and 1113 kcmil all aluminum conductor. Switches on each side will be installed on the poles at the tap point with the existing transmission line along with a switch on the tap line itself. PG&E will construct and own the new tap line and related facilities up to the pull-off structure at the Aqueduct Pumping Plant's electric substation.

Modifications will be required within the existing Rancho Seco Substation, owned by Sacramento Municipal Utility District (SMUD), in Sacramento, California that are not considered an action of the FRWP. Construction of the transmission line will include installation of new TSPs and stringing of new conductor for the 230-kV circuit. In addition, construction will require the



03072.03 EIR-Addendum (3-06)

Jones & Stokes

Figure 6
Aqueduct Pumping Plant Facilities

acquisition and preparation of the right-of-way (ROW) as required for the 230-kV transmission line; establishment of work areas, staging areas, pull and tension sites; and access to pole sites and pull sites along the transmission line route. Typically a 100-foot-wide ROW is needed for a transmission line of this voltage, which is subject to change as a result of the California Public Utility Commission (CPUC) permit process, final engineering, and any necessary adjustments during construction.

Prior to construction of the line, trees will be removed in the following locations: (1) where necessary to access the construction area around each structure, (2) in conductor pull sites, and (3) in areas as required to avoid contact between the conductors and vegetation. Following construction, tree trimming and removal and clearing of vegetation around transmission poles will be performed and will follow proper guidelines [e.g., CPUC's General Order 95, Public Resources Code Sec. 4293 (pertaining to removal of hazardous trees that could fall on the line), PG&E's Transmission Right-of-Way Vegetation Management Program and Transmission Routine Patrol Standard (PG&E 2003), and the International Society of Arboriculture's pruning guidelines and the ANSI A300 Pruning Standards].

A minimum of 15 feet of clearance between vegetation and conductors is required for safety and to minimize tree-related outages (PG&E 2003). PG&E may remove fast-growing trees or trim vegetation back farther than the minimum required to achieve at least 3–4 years of clearance before the next trim.

When all construction is completed, there will be a final walk down of the work areas with the crews and the biological monitor to ensure that proper cleanup and restoration have been carried out. The final walk down will include access roads, pull sites, landing zones, staging areas, and pole locations.

Construction

Consistent with the environmental commitments outlined in the Adopted FRWP EIR, FRWA, in coordination with the construction contractor, will ensure that spoil material from excavation activities during construction will be hauled to an appropriate off-site disposal location or used within the construction right-of-way, where feasible. At the Aqueduct Pumping Plant site, the facilities may be partially underground, and excess trench spoil from the FSCC pipeline construction could be contoured around the facilities to create a naturalistic earthen berm that will serve as a visual screen, thereby reducing visibility of the built features.

Chapter 3

Analysis of Project Adjustments

Introduction

This chapter presents the environmental effects of the proposed changes to the FRWP and their relationship to the analysis conducted in the Adopted FRWP EIR and associated CEQA findings.

Hydrology, Water Supply, and Power

The Adopted FRWP EIR thoroughly analyzed the potential hydrologic changes associated with construction and operation of project facilities, including substantial changes in reservoir storage and river flows, the amount of water available to other water users, and the production of hydroelectric power. The original hydrologic analysis and findings adequately address all aspects of the original project description. The project adjustments addressed in this addendum do not result in any effects beyond those already analyzed in the hydrologic analysis in the Adopted FRWP EIR because water diversions will not be changed; therefore, hydrology, water supply, and power are not discussed further in this Addendum.

Water Quality

The Adopted FRWP EIR thoroughly analyzed the potential water quality impacts associated with construction and operation of project facilities, including changes in temperature, chemical concentration, turbidity, and pH. The original water quality analysis and findings adequately address all aspects of the original project description. The project adjustments addressed in this addendum do not result in any effects beyond those already analyzed in the water quality analysis in the Adopted FRWP EIR because construction and operational parameters remain essentially the same; therefore, water quality is not discussed further in this Addendum.

Fish

The Adopted FRWP EIR thoroughly analyzed the potential impacts to fish associated with construction and operation of project facilities, including changes to rearing, migration, and physical habitat. The fish analysis and findings adequately address all aspects of the original project description. The project adjustments addressed in this addendum do not result in any effects beyond those already analyzed in the fish analysis in the Adopted FRWP EIR because construction and operational parameters remain essentially the same; therefore, fish are not discussed further in this Addendum.

Recreation

The Adopted FRWP EIR thoroughly analyzed the potential recreation impacts associated with construction and operation of project facilities, including accessibility, long-term disruption, and physical deterioration of recreational facilities. The original recreation analysis and findings adequately address all aspects of the original project description. The project adjustments being addressed in this Addendum that merit additional discussion are the revised pipeline alignment and changes in the location and size of the pumping plants. All other project adjustments are consistent with the recreation analysis in the Adopted FRWP EIR and are not discussed further in this Addendum.

Pipeline Refinements

The revised FSCC pipeline alignment includes a different crossing of both State Route (SR) 12 and SR 88 than what was discussed in the Adopted FRWP EIR. Construction of the pipeline alignment would temporarily disrupt access to recreation areas and scenic routes (SR 88 and Liberty Road) that are considered part of San Joaquin County's bicycle route system in the San Joaquin County General Plan. Access to the lower Mokelumne River and the north and south shores of the Camanche Reservoir may be disrupted by construction of the pipeline across SR 88, Liberty Road, and SR 12. However, the revised pipeline will be tunneled beneath the highway crossings to minimize disruption of traffic through the area.

Additionally, per the Adopted FRWP EIR, during construction all recreation facilities would remain accessible and available for use by the public. As described in Chapter 2 under Environmental Commitments, the traffic control plan will ensure that roadways remain open during the construction period and that access to recreation sites is maintained. The impact on recreation during construction of the FSCC pipeline is considered less than significant because access to recreation sites would continue and the disruption would be short term. Furthermore, the adopted mitigation and environmental commitments already in place are appropriate for the modifications and will be implemented accordingly.

Site Orientation and Size of Pumping Plants

Similar to the pipeline refinement, modification to the Canal Pumping Plant and Aqueduct Pumping Plant will not result in impacts beyond those already discussed in the Adopted FRWP EIR. The new facilities do not interrupt the FSC bike trail near the Canal Pumping Plant, nor do they change the accessibility or use of the Camanche Reservoir near the Aqueduct Pumping Plant. Overall, the project adjustments at these facilities are small in nature and do not affect the types of impacts or substantially change the extent of impacts on recreation resources already analyzed in the Adopted FRWP EIR.

Electric Transmission Service Facilities

Construction and operation of electric transmission service facilities will not result in impacts beyond those presented in the Adopted FRWP EIR. While the project adjustments provide more detail about the size and location of these facilities, the potential impacts on recreation resources have been fully addressed. While recreation use at Camanche Reservoir is relatively high, recreation use near the electric transmission facilities is extremely low. There are already several large transmission lines and towers in the area, and the addition of the new towers for electrical transmission will not greatly affect recreational uses in the area. The modifications are small in nature and do not change the types of impacts or substantially change the extent of impacts on recreation resources.

Vegetation and Wetland Resources

The Adopted FRWP EIR thoroughly analyzed the potential vegetation and wetland resource impacts associated with the project. The original vegetation and wetland resource analysis and findings adequately address all aspects of the original project description. The project adjustments being addressed in this Addendum that merit additional discussion are pipeline refinements, revisions to site orientation, and changes in size of pumping plants and related facilities (e.g., access road, electrical structures, and electric transmission service facilities). All other project adjustments are consistent with the vegetation and wetland resource analysis in the Adopted FRWP EIR and are not discussed further in this Addendum.

Pipeline Refinements

The location of the pipeline is being modified slightly in several locations (Figure 2) for several reasons, including avoidance of biological resources such as wetlands, vernal pools, elderberry bushes, large trees, and riparian/woodland

habitat. Where the modifications are being made for reasons other than avoiding impacts on biological resources, they have been designed to minimize impacts.

As presented in the Adopted FRWP EIR, the project will have several significant impacts on vegetation and wetland resources, including those on sensitive vegetation and wetland resources, blue oak woodlands, locally protected trees, riparian communities, jurisdictional waters of the United States (e.g., wetlands), and special-status plant populations. All of these significant impacts can be mitigated to a less-than-significant level through the implementation of mitigation measures already adopted by FRWA.

The pipeline refinements will not result in any impacts in addition to those already presented in the Adopted FRWP EIR and, in many cases, will reduce the level of impacts on vegetation and wetland resources. Because the refinements are small in nature, the new alignments will be located in the same vegetation type as what was originally analyzed in the Adopted FRWP EIR. Additionally, the adopted mitigation measures are appropriate for the modifications and will be implemented accordingly.

Site Orientation and Size of Pumping Plants

Similar to the pipeline refinements, modifications to the Canal Pumping Plant and the Aqueduct Pumping Plant will not result in impacts beyond those presented in the Adopted FRWP EIR. Although several wetlands are near both pumping plants, and there are blue oak woodlands adjacent to the Aqueduct Pumping Plant, the modifications are small in nature and do not change the types of impacts or substantially change the extent of impacts on wetland resources and vegetation.

Electric Transmission Service Facilities

Construction and operation of electric transmission service facilities will not result in impacts beyond those presented in the Adopted FRWP EIR. While the project adjustments provide more detail about the size and location of these facilities, the potential impacts on vegetation and wetland resources have been fully addressed. The modifications are small in nature and do not change the types of impacts or substantially change the extent of impacts on wetland resources and vegetation.

Wildlife

The Adopted FRWP EIR thoroughly analyzed the potential wildlife impacts associated with construction and operation of project facilities, including mortality, injury, displacement, and habitat suitability for candidate, sensitive, or

special-status species. The original biological analysis and findings adequately address all aspects of the original project description. The project adjustments being addressed in this Addendum that merit additional discussion are the revised pipeline alignments and changes to the location and size of the pumping plants, including electric transmission service facilities. All other project adjustments are consistent with the biological analysis in the Adopted FRWP EIR and are not discussed further in this Addendum.

Pipeline Refinements

The location of the pipeline is being modified slightly in several locations (Figure 2) for several reasons, including avoidance of biological habitats such as vernal pools and swales, chaparral, grasslands, and riparian/woodland habitat. Where the modifications are being made for reasons other than avoiding impacts on biological resources, they have been designed to minimize impacts.

To reduce or avoid potential impacts on special-status species during construction of the FRWP, FRWA will fulfill its ongoing construction-related environmental commitments (Jones and Stokes 2003) and implement the mitigation measures required by the U.S. Fish and Wildlife Service (USFWS) in the biological opinion (BO) for the project (U.S. Fish and Wildlife Service 2004), which are consistent with the adopted mitigation measures. These measures will make the effects of the pipeline less than significant.

There have been no new species discovered in the project area that were not considered in the Adopted FRWP EIR. The pipeline refinements will not result in impacts beyond the types of impacts presented in the Adopted FRWP EIR and, in many cases, will reduce the level of impacts on habitat resources. Additionally, the adopted mitigation measures are appropriate for the modifications and will be implemented accordingly.

Site Orientation and Size of Pumping Plants

Similar to the pipeline refinements, modifications to the Canal Pumping Plant and the Aqueduct Pumping Plant, including electric transmission service facilities, will not result in impacts beyond the types of impacts presented in the Adopted FRWP EIR. There are several habitats for special-status species in the proximity of both pumping plants; however, the modifications to the facilities are small in nature and do not change the types of impacts or substantially change the extent of impacts on wildlife resources. These modifications have been designed in a manner to avoid or minimize impacts on sensitive resources.

Electric Transmission Service Facilities

Construction and operation of electric transmission service facilities will not result in impacts beyond those presented in the Adopted FRWP EIR. While the project adjustments provide more detail about the size and location of these facilities, the potential impacts on wildlife resources have been fully addressed. The modifications are small in nature and do not change the types of impacts or substantially change the extent of impacts on wildlife.

Geology and Soils

The Adopted FRWP EIR thoroughly analyzed the potential geologic changes associated with construction and operation of project facilities, including substantial changes in seismicity, soil erosion, and groundwater. The original geologic analysis and findings adequately address all aspects of the original project description. The project adjustments addressed in this addendum do not result in any effects beyond those already analyzed in the geology and soils analysis in the Adopted FRWP EIR because the minor changes do not affect geotechnical considerations; therefore, geology and soils are not discussed further in this Addendum.

Land Use/Agricultural Resources

The Adopted FRWP EIR thoroughly analyzed the potential land use and agricultural changes associated with the construction and operation of project facilities. The original land use analysis and findings adequately address all aspects of the original project description. The project adjustments addressed in this addendum do not result in any effects beyond those already analyzed in the land use analysis in the Adopted FRWP EIR because proposed uses have not changed and facilities are still sited in similar areas; therefore, land use and agriculture are not discussed further in this Addendum.

Traffic

The Adopted FRWP EIR thoroughly analyzed the potential traffic and transportation impacts associated with construction and operation of project facilities, including local and emergency access requirements, local and regional circulation patterns, damage to roadways, and pedestrian safety. The original traffic analysis and findings adequately address all aspects of the original project description. The project adjustments being addressed in this Addendum that merit additional discussion are the revised pipeline alignment, revisions to the construction work hours, the addition of a temporary bypass road at Cosumnes River Boulevard, and changes to the access road to the Canal Pumping Plant. All other project adjustments are consistent with the traffic and transportation analysis in the Adopted FRWP EIR and are not discussed further in this Addendum.

Pipeline Refinements

The location of the pipeline is being slightly modified in several locations (Figure 2) for several reasons, including minimizing traffic impacts. Where the modifications are being made for reasons other than avoiding impacts on traffic and transportation of the community, they have been designed to minimize impacts.

Pipeline construction, while temporary in nature, could have substantial effects in the vicinity of the activities. In response to these circumstances, FRWA has worked closely with local jurisdictions, community groups, and individuals to identify ways to minimize construction impacts as much as possible. Traffic-related impacts of construction are substantially reduced by the implementation of the general construction measures, under the environmental commitments outlined in the Adopted FRWP EIR. The pipeline refinements will not result in any new types of impacts or increase the severity of impacts addressed in the Adopted FRWP EIR. In some cases, the changes to the pipeline alignment will result in minimizing the traffic effects of construction. An example of this is the modification to the pipeline near the intersection of Liberty Road and Elliot Road in San Joaquin County. The new alignment avoids the traffic intersection of these two roads, reducing the number of project-related vehicles in the intersection.

Construction Hours

FRWA has determined that construction work in the early morning hours and on the weekends may be required for temperature-sensitive work conditions. These changes were also made to assist in minimizing traffic-related effects along the alignment by avoiding rush hour traffic for commuters.

The change in construction hours will not result in any traffic-related types of impacts in addition to those already presented in the Adopted FRWP EIR and, in many cases, will reduce the level of impacts on traffic. Additionally, the adopted mitigation measures are appropriate for the modifications and will be implemented accordingly.

Temporary Bypass Road

The addition of the temporary bypass road that will run parallel to Cosumnes River Boulevard is intended to assist with the flow of traffic in that urban location. It will provide a traffic detour along the north side of Cosumnes River Boulevard and allow the traffic to continue around the construction zone. Once this section of the pipeline is completed, the bypass road will be removed and the area will be restored to its preconstruction condition.

This modification was made to avoid impacts on traffic and transportation of the community; therefore, it has been designed to minimize impacts. Additionally, traffic-related impacts of construction are substantially reduced by the implementation of the General Construction Measures, under the environmental commitments outlined in the Adopted FRWP EIR.

Access to the Canal Pumping Plant

Modifications to the access road to the Canal Pumping Plant were made to avoid travel on the canal levee road. The new access on Clay Station Road is intended to provide a safer and more direct route to the pumping plant. The original route along the narrow and elevated canal levee road presented a challenge to large trucks accessing the Canal Pumping Plant. The threat of water quality contamination to the FSC is greatly reduced with the new access road located on a level surface, like Clay Station Road. The Adopted FRWP EIR discussed in the traffic analysis that access to the Canal Pumping Plant would include lesser roads, including Clay Station Road, which eventually becomes Elliot Road. This modification to the access road will not exceed the traffic thresholds outlined in the Adopted FRWP EIR for Clay Station Road; therefore, it will not result in any new types of impacts or increase the severity of impacts already addressed.

Air Quality

The Adopted FRWP EIR thoroughly analyzed the potential air quality changes associated with construction and operation of project facilities, including substantial changes in particulate matter and emission standards. The original air quality analysis and findings adequately address all aspects of the original project description. The project adjustments are consistent with the air quality analysis in the Adopted FRWP EIR because construction and operational parameters have not changed; and are not discussed further in this Addendum.

Noise

The Adopted FRWP EIR thoroughly analyzed the potential noise impacts associated with construction and operation of project facilities, including noise and vibration. The original noise analysis and findings adequately address all aspects of the original project description. The project adjustments being addressed in this Addendum that merit additional discussion are pipeline refinements, extended construction hours, chemical blasting for excavation purposes, and electric transmission service facilities. All other project adjustments are consistent with the noise analysis in the Adopted FRWP EIR and are not discussed further in this Addendum.

Pipeline Refinements

Modifications to the pipeline alignment have been designed to minimize impacts. The new alignment does not come close to any new noise-sensitive land uses. Noise-sensitive land uses typically include residences, hospitals, schools, guest lodging, libraries, and certain types of recreation. The alignment changes are generally located in rural areas with very few sensitive receptors.

The changes to the pipeline alignment will not result in any noise-related types of impacts in addition to those already presented in the Adopted FRWP EIR. Additionally, the adopted mitigation measures are appropriate for the modifications and will be implemented accordingly.

Construction Hours

FRWA has determined that construction work in the early morning hours and on the weekends may be required for temperature-sensitive work conditions. However, construction activities will not exceed County Codes for noise standards. Construction activities that occur between 6:00 a.m. and 9:00 p.m., Sunday though Saturday, are exempt from the provision of the San Joaquin County's Development Title, as are noises resulting from the maintenance or modification of private or public utility facilities. In Sacramento County, construction activities between 6:00 a.m. and 8:00 p.m., Monday through Friday, and between 7:00 a.m. and 8:00 p.m. on weekends are exempt from the noise ordinances.

The change in construction hours will not result in any noise-related types of impacts in addition to those already presented in the Adopted FRWP EIR. Additionally, the adopted mitigation measures are appropriate for the modifications and will be implemented accordingly.

Access to the Canal Pumping Plant

Modifications to the access road to the Canal Pumping Plant were made to avoid travel on the canal levee road. The new access on Clay Station Road is intended to provide a safer and more direct route to the pumping plant. The original route along the narrow and elevated canal levee road presented a challenge to large trucks accessing the Canal Pumping Plant. The threat of water quality contamination to the FSC is greatly reduced with the new access road located on a level surface, like Clay Station Road. The Adopted FRWP EIR discussed in the noise analysis that construction activities would result in increased noise levels in areas adjacent to the Canal Pumping Plant. This modification to the access road will not result in noise impacts greater than those discussed in the Adopted FRWP EIR; therefore, it will not result in any new types of impacts or increase the severity of impacts already addressed.

Chemical Blasting for Excavation

It is anticipated that excavation of the FSCC pipe alignment will require chemical blasting from station 77500 to station 80350 near Camanche Reservoir Dam (Figure 6). The noise and vibration effects of blasting were not specifically analyzed for this location in the Adopted FRWP EIR, but the effects of excavation and pile driving near Pardee Dam resulting in similar effects were analyzed and discussed. The results of the Pardee Dam analysis are similar to the proposed blasting near Camanche Reservoir Dam and are adequate for purposes of this analysis.

The use of chemical explosive is proposed for rock excavation along the FSCC pipeline alignment between stations 77500 and 80350. Holes drilled along the bottom of the pipe trench are filled with the chemical explosive and then ignited. The blasts from chemical explosives are relatively small and are designed to crack the rock sufficiently to allow a bulldozer to rip the rock. The explosive is not meant to expel or dislodge any rock.

Specific information on the size and extent of blasting has not been determined at this time. Noise and vibration generated by blasting are complex functions of the charge size, charge depth, hole size, degree of confinement, initiation methods, spatial distribution of charges, and other factors. To provide a general indication of the potential for airblast and vibration from blasting, data developed from the blasting assessment for a mining project in north California are presented below in Table 3-1 (Jones & Stokes 1999). Specifically, Table 3-1 presents estimated airblast and ground-vibration values as a function of distance based on a 293-pound charge under average normal confinement. It is anticipated that blasting charges associated with the use of chemical explosives will be much smaller than this.

Table 3-1. Estimated Airblast and Ground-Vibration Levels for a 293-Pound Charge

Distance (feet)	ppv under Average Normal Confinement (in/sec)	Probable Peak Air Overpressure (dB)
250	1.4	130
500	0.46	123
750	0.24	119
1,000	0.15	116
1,250	0.11	114
1,500	0.08	112
1,850	0.057	110
2,000	**0.05**	**109**
2,250	0.042	108
3,450	0.021	103
4,400	0.014	101
5,150	0.011	99
6,200	0.008	97
7,200	0.006	96

Table 3-2. Average Human Response to Airblast and Ground Vibration from Blasting

Response	Ground Vibration Range ppv (inches per second)	Airblast Range (dB)
Barely to distinctly perceptible	0.02–0.10	50–70
Distinctly perceptible to strongly perceptible	0.10–0.50	70–90
Strongly perceptible to mildly unpleasant	0.50–1.00	90–120
Mildly unpleasant to distinctly unpleasant	1.00–2.00	120–140
Distinctly unpleasant to intolerable	2.00–10.00	140–170

Source: Bender pers. comm.

The results in Table 3-1 indicate that a 293-pound charge could exceed the ground vibration thresholds (between 0.5 in/sec and 2.0 in/sec) within a distance of 200 to 500 feet of a blast. In addition the same charge could exceed the airblast threshold (130 dB) within about 250 feet of a blast. Table 3-2 displays the airblast range and effect on the human ear.

While the area where blasting will occur is directly downstream from the Camanche Dam, there are no occupied structures within several thousand feet of this area. The effects from ground vibrations to unoccupied structures, like the dam and spillway, were analyzed in the Adopted FRWP EIR as part of Alternative 6 to enlarge Pardee Reservoir using blasting. These vibration effects to Pardee Dam were considered less than significant and are similarly found to be less than significant to Camanche Dam. Because airblast and ground vibration levels from chemical blasting are anticipated to be substantially less than those indicated in Table 3-1 and because there are no occupied structures within several thousand feet, noise and vibration impacts on occupied structures associated with blasting would also be less than significant. Therefore, there is no substantial evidence that this change to the project will cause significant new environmental effects or a substantial increase in previously identified significant effects of the project.

Construction Hours

FRWA has determined that construction work in the early morning hours and on the weekends may be required for temperature-sensitive work conditions (e.g., pipeline welding). Activities such as pipeline welding do not typically require substantial noise-generating equipment. The loudest piece of equipment would likely be a generator. Furthermore, these activities would be of a short duration overall and at any one location. Construction noise levels during daytime hours and nighttime hours were analyzed in the Adopted FRWP EIR and the impact was found to be significant and unavoidable. However, mitigation was identified and adopted as part of the CEQA findings that would minimize these potential impacts to the extent feasible. Therefore, the clarification of construction work hours does not introduce a new impact or substantial new information. Construction hours would conform to local requirements for timing of construction.

Electric Transmission Service Facilities

Construction and operation of electric transmission service facilities will not result in impacts beyond those presented in the Adopted FRWP EIR. While the project adjustments provide more detail about the size and location of these facilities, the potential impacts on noise levels have been fully addressed. The modifications are small in nature and do not change the types of impacts or substantially change the extent of impacts on noise levels.

Public Health and Safety

The Adopted FRWP EIR thoroughly analyzed the potential public health and safety impacts associated with the project. The original public health and safety

analysis and findings adequately address all aspects of the original project description. The project adjustment being addressed in this Addendum that merits additional discussion is the use of sodium hypochlorite at the Clay Station Pumping Plant. All other project adjustments are consistent with the public health and safety analysis in the Adopted FRWP EIR and are not discussed further in this Addendum.

Use of Sodium Hypochlorite at the Canal Pumping Plant

Sodium hypochlorite is proposed for use at the Canal Pumping Plant to control potential biofouling in the pipeline between the pumping plant and the Mokelumne Aqueducts. There is a possibility that the pipeline capacity will be reduced because of the growth of algae or other organisms in the pipe. That growth can be removed through chemical treatment and flushing.

Sodium hypochlorite, in liquid form, would be injected into and slowly distributed through the pipeline with low velocity flow of water. The chlorinated water would be conveyed to the Mokelumne Aqueducts for treatment at existing EBMUD treatment facilities. It is expected that this operation would be very infrequent, likely much less than annually.

Sodium hypochlorite solution is a yellowish liquid with a characteristic odor. The substance to be used at the Canal Pumping Plant is very similar to household bleach, albeit with a higher concentration (about 10–12% hypochlorite at the intake vs. 3–6% in household bleach). It is widely used in homes, schools, hospitals, swimming pools, drinking water supplies, and for disinfecting hard surfaces and surgical instruments.

As is typical, the proposed method of delivery of sodium hypochlorite for the Canal Pumping Plant is by truck. During unloading, the truck would park within a containment basin, which in its simplest form would consist of a depressed concrete pad with entry and exit ramps at each end. The sodium hypochlorite would be pumped directly from the truck into the pump facility and pipeline. The containment basin would serve as a safety device in the event of any leaks. The truck would not need to be on site for more than a few days at a time.

The project description in the Adopted FRWP EIR identified the possible use of chemicals, and sodium hypochlorite in particular, at the intake facility and Zone 40 SWTP. The related impact discussion found the impact to be less than significant, in part because compliance with applicable regulations would reduce potential impacts related to the use and storage of hazardous materials. While the Clay Station Pumping Plant was not specifically mentioned, the impact discussion adequately describes the potential impact of its use at the Canal Pumping Plant. Therefore, the proposed use of sodium hypochlorite at the Canal Pumping Plant does not introduce a new impact or substantial new information.

Visual Resources

The Adopted FRWP EIR thoroughly analyzed the potential visual resources impacts associated with the project. The original visual resources analysis and findings adequately address all aspects of the original project description. The project adjustments being addressed in this Addendum that merit additional discussion are the change in size and orientation of the Canal and Aqueduct Pumping Plants, the electrical cable bussing structure at the Aqueduct Pumping plant, and addition of communication towers at key facilities. All other project adjustments are consistent with the visual resources analysis in the Adopted FRWP EIR and are not discussed further in this Addendum.

Communication Towers

The project description in the Adopted FRWP EIR identified the need for utility towers or poles at each of the major facilities. The project description also identified the need for a communication system linking the facilities, but it did not specify the need for towers as a part of the communication system. However, the type of tower or pole required for the communication system is similar to those needed for utility purposes, which were described and analyzed in the Adopted FRWP EIR. The related impact discussion found the impact to be less than significant. While the communication towers were not specifically mentioned, the impact discussion adequately describes the potential impact of their installation at the various project facilities. Therefore, the proposed installation of communication towers does not introduce a new impact or substantial new information.

Canal Pumping Plant Site

The changes in site orientation and size of the Canal Pumping Plant Site are minor in nature, and the analysis conducted in the Adopted FRWP EIR adequately addresses the project adjustments. While the site orientation and size of footprint have changed, the potential effects on visual resources have not changed. The viewer exposure in this area would be relatively low, and only a small number of rural residents would be affected. This impact was identified as a significant impact, and appropriate mitigation was adopted in the CEQA findings. Therefore, the proposed changes in site orientation and size do not introduce new impacts or substantial new information.

Electric Transmission Service Facilities

Construction and operation of electric transmission service facilities will not result in impacts beyond those presented in the Adopted FRWP EIR. While the

project adjustments provide more detail about the size and location of these facilities, the potential impacts on visual resources have been fully addressed. Viewer exposure is relatively low in this area, consisting of a few rural residents. There are already several large transmission lines and towers in the area, and the addition of the new towers for electrical transmission will not greatly affect the viewshed of the area. The modifications are small in nature and do not change the types of impacts or substantially change the extent of impacts on visual resources.

Aqueduct Pumping Plant Site

Similar to the Canal Pumping Plant, the changes in site orientation and size of the Aqueduct Pumping Plant Site, including changes to the electrical substation and addition of the electrical cable bussing structure, are relatively minor in nature, and the analysis conducted in the Adopted FRWP EIR adequately addresses the project adjustments. While the site orientation and size of footprint have changed, the potential effects on visual resources have not changed. The viewer exposure in this area would be relatively low, and only a small number of rural residents would be affected. This impact was identified as a significant impact, and appropriate mitigation was adopted in the CEQA findings. Therefore, the proposed changes in site orientation and size do not introduce new impacts or substantial new information.

Additionally, the Adopted FRWP EIR analyzed the installation of transmission lines and towers to the site and found that they could affect views from rural residences and rural roadways. Viewer exposure in this area would be relatively low, only a small number of rural residents would be affected, and the transmission lines would be relatively distant from SR 12. There are already several large transmission lines and towers in the area. In general, these new features introduced into the viewsheds by the proposed project, including those being considered as a part of the project adjustments, would not limit or alter existing views from the roadways or residences in terms of vividness, intactness, or unity. Visual impacts attributable to overhead utility lines were found to be less than significant. Therefore, the proposed changes in location of the transmission lines and towers do not introduce new impacts or substantial new information.

Finally, trench spoils from pipeline construction will be placed at the Aqueduct Pumping Plant to provide a visual buffer and improve visual resources associated with the presence of the pumping plant. While this is being treated as a project adjustment because it was not specifically mentioned in the Adopted FRWP EIR, it is consistent with environmental commitments made in the document and consistent with the visual resource mitigation measure for the Aqueduct Pumping Plant as adopted in the CEQA findings. Therefore, the clarification of use of trench spoils at the Aqueduct Pumping Plant does not introduce a new impact or substantial new information.

Cultural

The Adopted FRWP EIR thoroughly analyzed the potential cultural resource changes associated with construction and operation of project facilities, including substantial changes in archaeological resources, modified landscapes, and historic and prehistoric buildings. The original cultural resource analysis and findings adequately address all aspects of the original project description. The areas surveyed for cultural resources include the areas encompassing the project adjustments, and no additional impacts would occur as a result of these adjustments. The project adjustments are consistent with the cultural resource analysis in the Adopted FRWP EIR and are not discussed further in this Addendum.

References

Bender, Wesley. Blasting Consultant. 1998. Letter to Troy Reimche, April 28, 1998

Jones & Stokes 1999. Draft Environmental Impact Report Teichert Aggregate Facility.

Jones and Stokes Associates 2003. Draft EIR/EIS for the Freeport Regional Water Project (State Clearinghouse number 2002032132)

Jones and Stokes Associates 2004. Final EIR for the Freeport Regional Water Project

PG&E 2003. PG&E's Transmission Right-of-Way Vegetation Management Program and Transmission Routine Patrol Standard

U.S. Fish and Wildlife Service 2004. Biological Opinion for the Freeport Regional Water Project