Chapter 2

Proposed Action and Alternatives

2.1 Purpose and Need

The purpose of the Proposed Action is to minimize the DMC conveyance conditions that restrict the CVP Tracy Pumping Plant to less than its authorized pumping capacity of 4,600 cubic feet per second (cfs).

The need for this action results from the following conditions:

- There are unmet CVP water supply demands south of the Delta, and conditions along the DMC constrain CVP operations, reducing the water supplies reliably delivered to CVP water service contractors south of the Delta.
- The amount, timing, and location of water deliveries from the DMC, apparent canal subsidence, siltation, the facility design, and other factors have resulted in a mismatch between authorized Tracy Pumping Plant export capacity and DMC conveyance capacity.
- A lack of operational flexibility compromises the ability of the CVP and SWP to respond to emergencies, conduct necessary system maintenance, and provide capacity to respond to environmental opportunities in the Delta.

2.2 Background

2.2.1 Overview of the Central Valley Project and the State Water Project

The CVP and SWP (collectively, the Projects) use a common water supply in California's Central Valley. The Projects maintain facilities in the Central Valley to deliver water supplies to water right holders as well as Project contractors. The CVP is operated and maintained by Reclamation. The CVP delivers about 7 million acre-feet (maf) annually—for agriculture (6.2 maf), urban (0.5 maf), and wildlife refuge (0.3 maf) use (California Department of Water Resources 1998). Service areas for CVP contracting agencies are shown on Figure 2-1. CVP water is pumped from the Tracy Pumping Plant located northwest of the

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Figure 2-1
CVP Service Areas

City of Tracy. The Tracy Pumping Plant consists of six pumps. The pumps discharge water into the DMC, a gravity-flow canal located in the western San Joaquin Valley. The DMC travels south for 117 miles from the Tracy Pumping Plant to the Mendota Pool, a small reservoir at the confluence of the San Joaquin River and Fresno Slough. A portion of CVP water is diverted into the O'Neill Forebay and pumped into the San Luis Reservoir, a joint-use facility built and used by the State and Federal governments to store water diverted from the Delta. The DMC capacity starts at 4,600 cfs in the northernmost section and decreases to 4,200 cfs at O'Neill Forebay and 3,200 cfs at the Mendota Pool as the canal capacity decreases by design, subsidence, and siltation.

The SWP is operated and maintained by the California Department of Water Resources (DWR) and conveys an annual average of 2.5 maf of water from northern California to agricultural and urban water users south of the Delta. Service areas for SWP contracting agencies are shown on Figure 2-2. SWP water is pumped into the California Aqueduct at the SWP Harvey O. Banks Pumping Plant (Banks Pumping Plant) near the town of Tracy. The capacity of the aqueduct is 10,300 cfs, decreasing to 10,000 cfs as contractors divert water from the system. Currently, diversions into the California Aqueduct are constrained to an average daily flow of 6,680 cfs.

Some conveyance and storage facilities are joint CVP/SWP facilities. Both the CVP and the SWP use the San Luis Reservoir, O'Neill Forebay, and more than 100 miles of the California Aqueduct and its related pumping and generating facilities. Reservoir releases and Delta exports must be coordinated to ensure that each project receives its share of benefit from shared water supplies and bears its share of joint obligations to protect beneficial uses. Operation of the Projects is governed by the Coordinated Operation Agreement (COA). The COA was authorized in 1986 and is both an operations agreement and a water rights settlement. Currently, DWR and Reclamation are revising the COA. As a result, Reclamation has issued a Draft Long-Term Central Valley Project Operations Criteria and Plan (OCAP); a final OCAP is anticipated to be issued in late 2004. The OCAP outlines future CVP and SWP operations. In conjunction with the draft OCAP, a draft biological assessment was released that evaluates the potential effects of CVP and SWP operations on listed and proposed species. A formal Federal Endangered Species Act (ESA) consultation with the U.S. Fish and Wildlife Service (USFWS) and the National Oceanic and Atmospheric Administration, National Marine Fisheries Service (NOAA Fisheries) on OCAP was initiated on March 15, 2004.

2.2.2 Delta-Mendota Canal/California Aqueduct Intertie Background

An intertie connecting the DMC and the California Aqueduct was studied in 1988 by Westlands Water District and Reclamation. The original concept of an intertie involved a pumped connection between DMC and the California Aqueduct that would allow up to 600 cfs of CVP supplies to be diverted from the

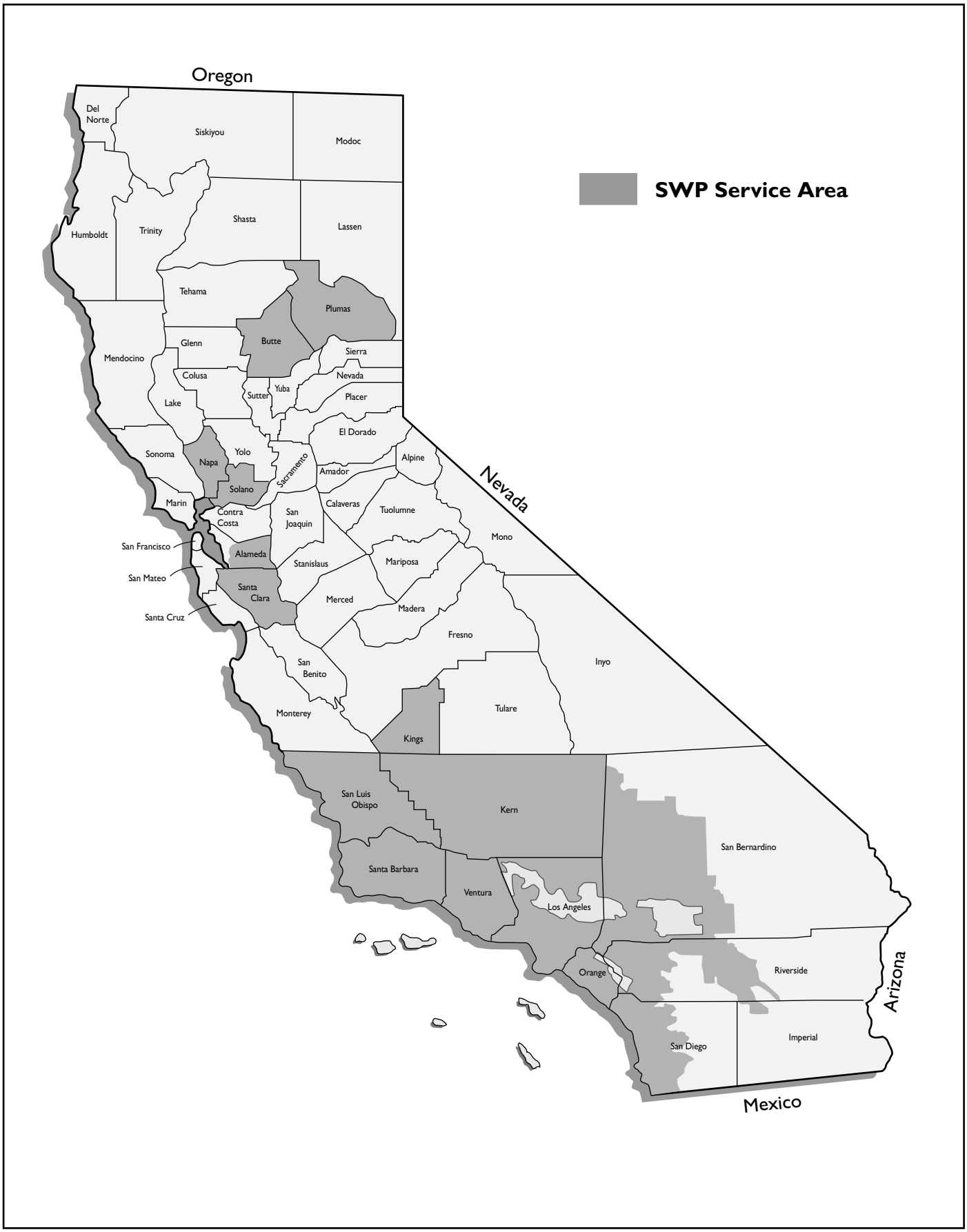

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Figure 2-2
SWP Service Areas

DMC to the California Aqueduct and conveyed either to San Luis Reservoir or directly to Westlands Water District. This project was withdrawn before final environmental studies were completed.

An emergency arose in spring 2001 that called for the installation of a temporary intertie in June 2001 because of damage to the canal lining of the California Aqueduct that affected water deliveries to SWP contractors. At that time, DWR met environmental compliance requirements and installed a temporary intertie. The temporary intertie used rented portable pumping equipment and pipelines to deliver about 100 cfs of SWP water supplies from the DMC to the California Aqueduct for about a 30-day period. Since the one-time operation of the temporary intertie in 2001, discussions have focused on a variety of options to restore capacity in the DMC and address outages or water delivery reductions that could occur as a result of pumping plant or conveyance outages on either the California Aqueduct or the DMC. The following section discusses the Proposed Action and alternatives that have been considered.

2.3 Proposed Action

The Intertie consists of constructing and operating a pumping plant and pipeline connection between the DMC and the California Aqueduct. The Intertie would be used in a number of ways to achieve multiple benefits, including meeting current water supply demands, allowing for the maintenance and repair of the CVP Delta export and conveyance facilities, and providing operational flexibility to respond to emergencies related to both the CVP and the SWP.

The Intertie would include a 450-cfs pumping plant at the DMC that would allow up to 400 cfs to be pumped from the DMC to the California Aqueduct via an underground pipeline. The additional 400 cfs would bring the Tracy Pumping Plant to its authorized amount of 4,600 cfs. Because the California Aqueduct is located approximately 50 feet higher in elevation that the DMC, up to 900 cfs flow could be conveyed from the California Aqueduct to the DMC using gravity flow.

The Intertie would be owned by the Federal government and operated by the Authority. An agreement among Reclamation, DWR, and the Authority would identify the responsibilities and procedures for operating the Intertie. A permanent easement would be obtained by Reclamation where the Intertie alignment crosses State property.

2.3.1 Location

The site of the Proposed Action is in an unincorporated area of the San Joaquin Valley in Alameda County, west of the city of Tracy (see Figure 2-3). The site is in a rural area zoned for general agriculture and is under Federal and State ownership. The Intertie would be located at milepost 7.2 of the DMC,

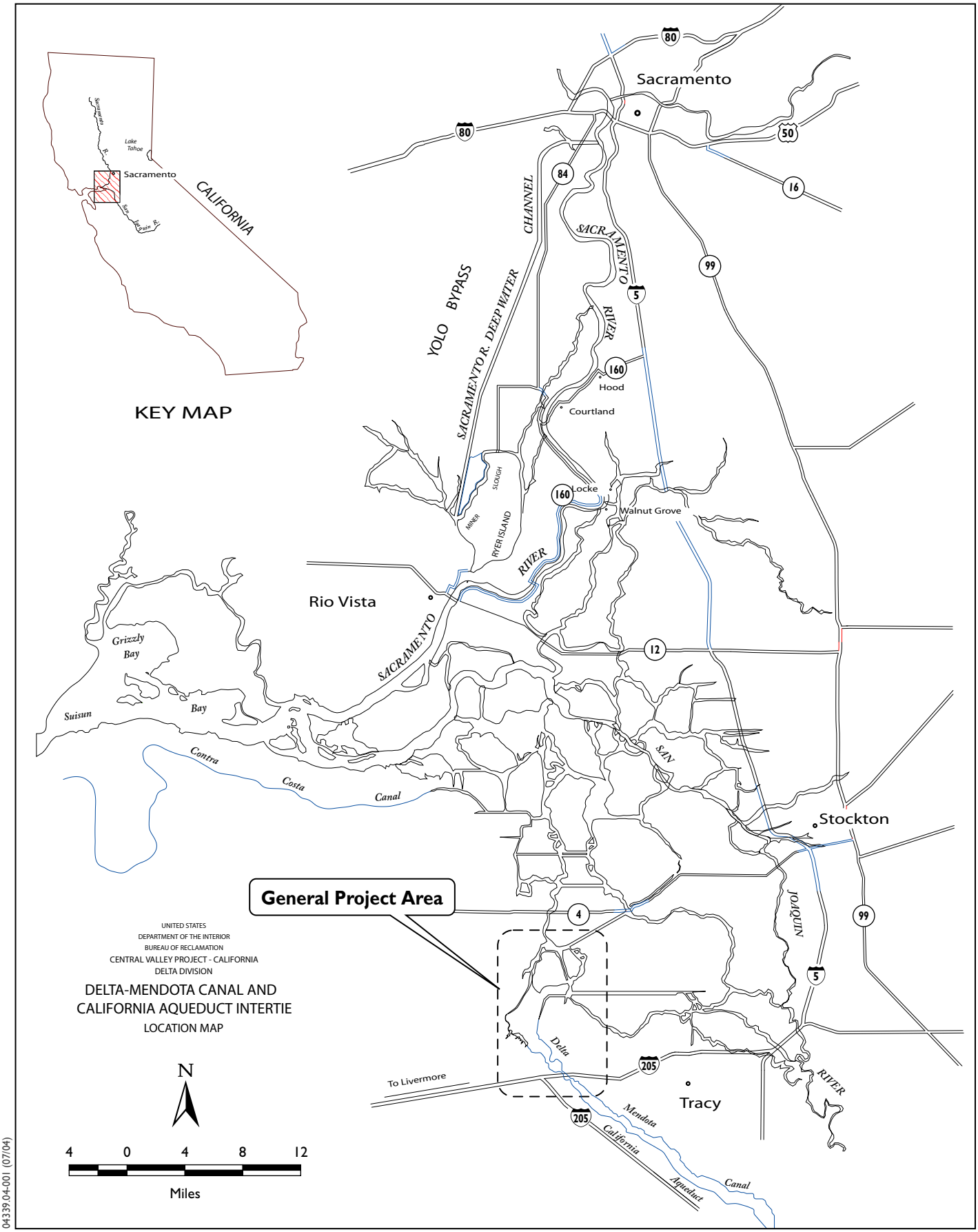

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Figure 2-3
Regional Location Map

connecting with milepost 9.1 of the California Aqueduct where the DMC and Aqueduct are approximately 500 feet apart. (See Figure 2-4).

2.3.2 Operations

The Intertie would be used under three different scenarios:

1. Up to 400 cfs would be pumped from the DMC to the California Aqueduct to help meet water supply demands of CVP contractors. This would allow Tracy Pumping Plant to pump to its authorized capacity of 4,600 cfs, subject to all applicable export pumping restrictions for water quality and fishery protections.
2. Up to 400 cfs would be pumped from the DMC to the California Aqueduct to minimize impacts on water deliveries attributable to required reductions in water levels in the DMC south of the Intertie, or the California Aqueduct north of the Intertie, for system maintenance or because of an emergency outage.
3. Up to 900 cfs would be conveyed from the California Aqueduct to the DMC using gravity flow to minimize impacts on water deliveries attributable to required reductions in water levels in the California Aqueduct south of the Intertie, or the DMC north of the Intertie, for system maintenance or for an emergency outage of the DMC, Tracy Pumping Plant, or Tracy Fish Facility.

The Intertie would provide operational flexibility in using the conveyance capacities of the DMC and California Aqueduct. It would not result in changes to authorized or permitted levels of pumping or capacity of the Tracy Pumping Plant or Banks Pumping Plant.

Water conveyed through the Intertie to minimize reductions to water deliveries during system maintenance or an emergency outage of any portion of the CVP or SWP Delta export and conveyance facilities could include pumping CVP water at Banks Pumping Plant or pumping SWP water at Tracy Pumping Plant through use of Joint Point of Diversion (JPOD). In accordance with COA Articles 10(c) and 10(d), JPOD may be used to replace conveyance opportunities lost because of scheduled maintenance or unforeseen outages. Use of JPOD for this purpose could occur under Stage 2 operations defined in State Water Resources Control Board (SWRCB) Decision 1641 (D-1641), or could occur as a result of a temporary urgency request to the SWRCB. Use of JPOD for this purpose does not result in any net increase in allowed exports at CVP and SWP export facilities. Use of Stage 2 JPOD requires review and approval by SWRCB.

2.3.3 Project Components

The primary project component of the proposed Intertie is a pumping plant with a rated pumping capacity of 450 cfs. Figure 2-5 provides a preliminary site plan

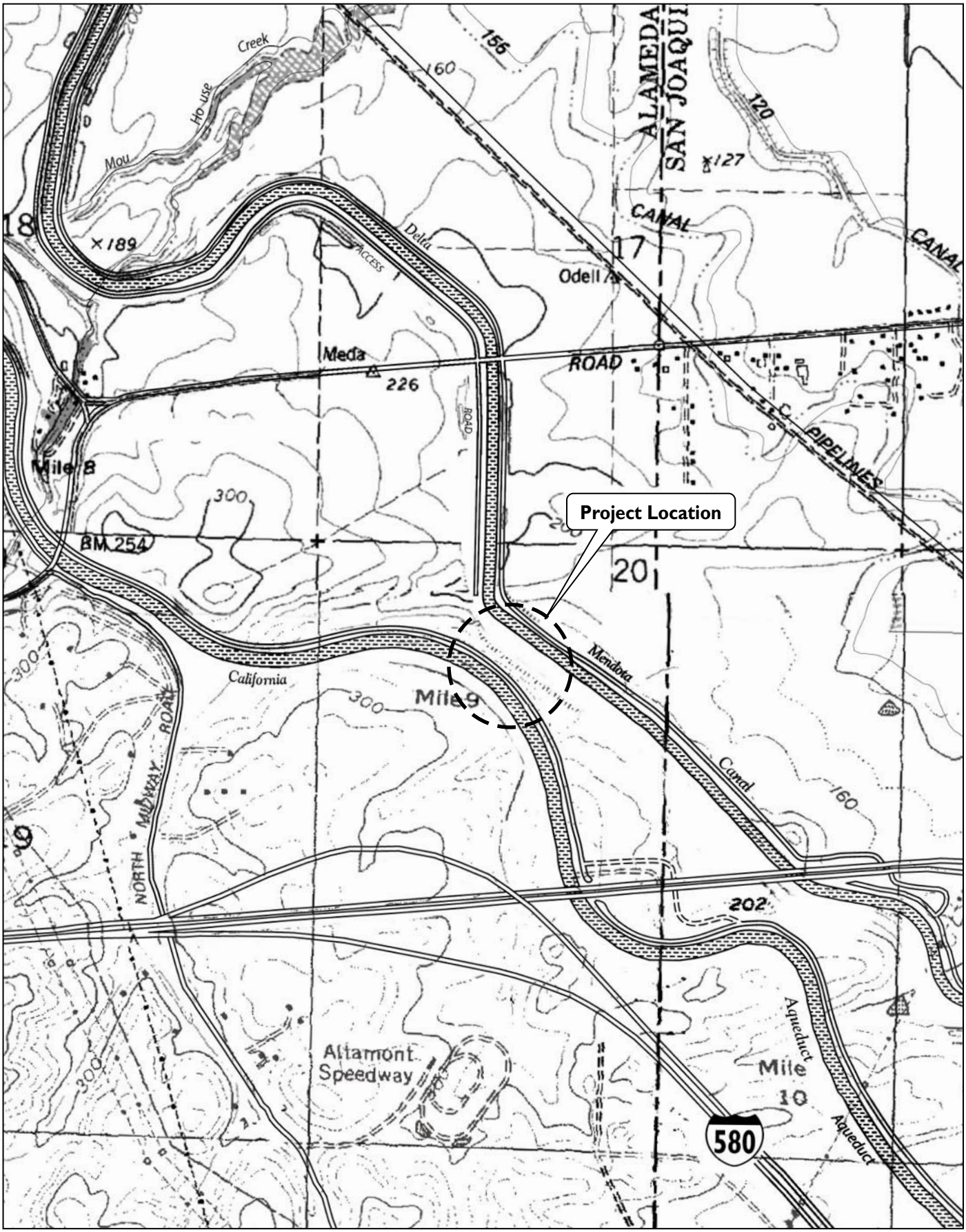

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Figure 2-4
Detailed Location Map

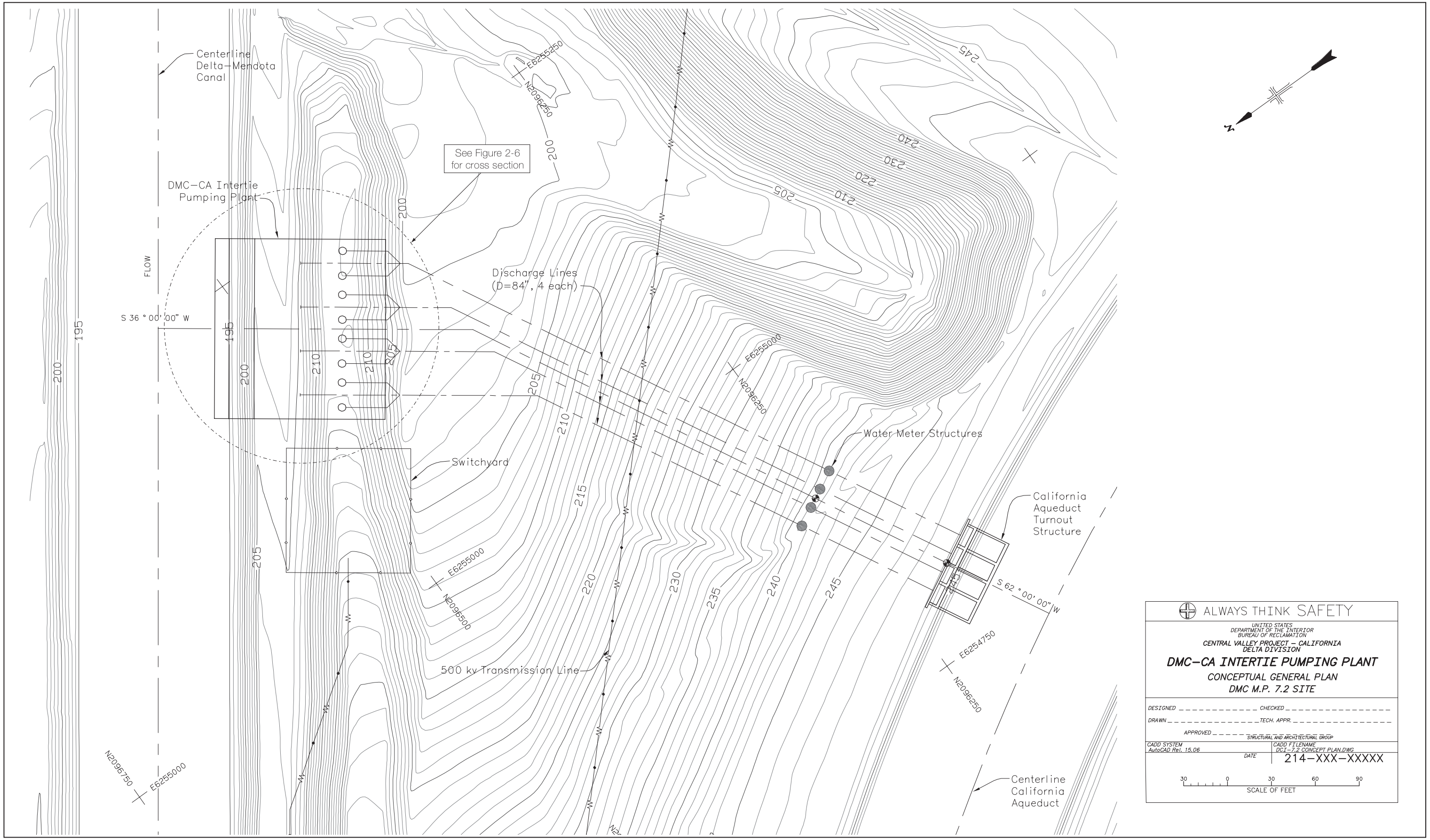

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Figure 2-5
Proposed Action Site Plan

and Figure 2-6 illustrates a cross section of the Proposed Action's components. Although the project footprint allows for the installation of eight turbine pumps, the Proposed Action only includes the installation of four electrically powered pumping units within the pumping plant structure, each rated at 112.5-cfs capacity. Water would be withdrawn from the DMC through a conventional-style intake structure consisting of four bays (one bay for each of four pairs of pump units) with trashracks mounted flush with and parallel to the existing canal sideslope. Each intake bay would contain stoplog slots to allow isolation of the intake structure from the pumping plant sump. Water would be pumped uphill a vertical distance of about 50 feet through belowground pipelines and discharged into the California Aqueduct.

Each pair of pumping units would be connected via a manifold to a 7-foot-diameter discharge pipe. A flow measurement structure would be located midway between the pumping plant and the outlet structure to allow monitoring of flow rates in each pipe. Four discharge pipes would cross under the California Aqueduct operation and maintenance (O&M) road and connect to an outlet structure on the California Aqueduct. Motor-operated slide gates would be mounted over each discharge pipe at this structure. In emergency situations these slide gates would be closed to prevent uncontrolled release of aqueduct water. The outlet structure would incorporate stoplog slots to allow it to be isolated for maintenance purposes. Under reverse flow operations, water would be withdrawn from the California Aqueduct using gravity flow. The pumping plant would incorporate reverse flow pipelines and valves, which would bypass the pumping units and discharge directly into the pumping plant sump.

During initial startup, the pumping plant would be operated in manual and local automatic mode. Shortly after startup, installation of supervisory control and data acquisition (SCADA) equipment would allow the facility to operate in full automatic mode and would integrate data feedback to the Delta and CVP Operations Centers to facilitate overall system operations. A switchyard would be located northwest of the pumping plant. A new power transmission line would be extended to the new switchyard site from the Tracy switchyard located 4.5 miles to the north. The O&M roads along the DMC and California Aqueduct would be realigned to accommodate project structures. A new access road would connect the DMC and California Aqueduct, and a service yard would be constructed adjacent to the pumping plant. The road would be 16–20 feet wide and paved for all-weather access. Guardrails, drainage culverts, and suitable erosion control measures would be installed as necessary for safety and controlling surface runoff. A pre-engineered steel building on the southeast end would house the pumping plant units and motor control equipment. A 7-foot-high chain link security fence with razor wire on top would be installed around the pumping plant and associated facilities. The exterior of the facilities would be lighted.

2.3.4 Construction Activities

Cofferdams would be installed on the DMC and California Aqueduct to allow construction of the canal turnouts. Construction of the intake structure on the

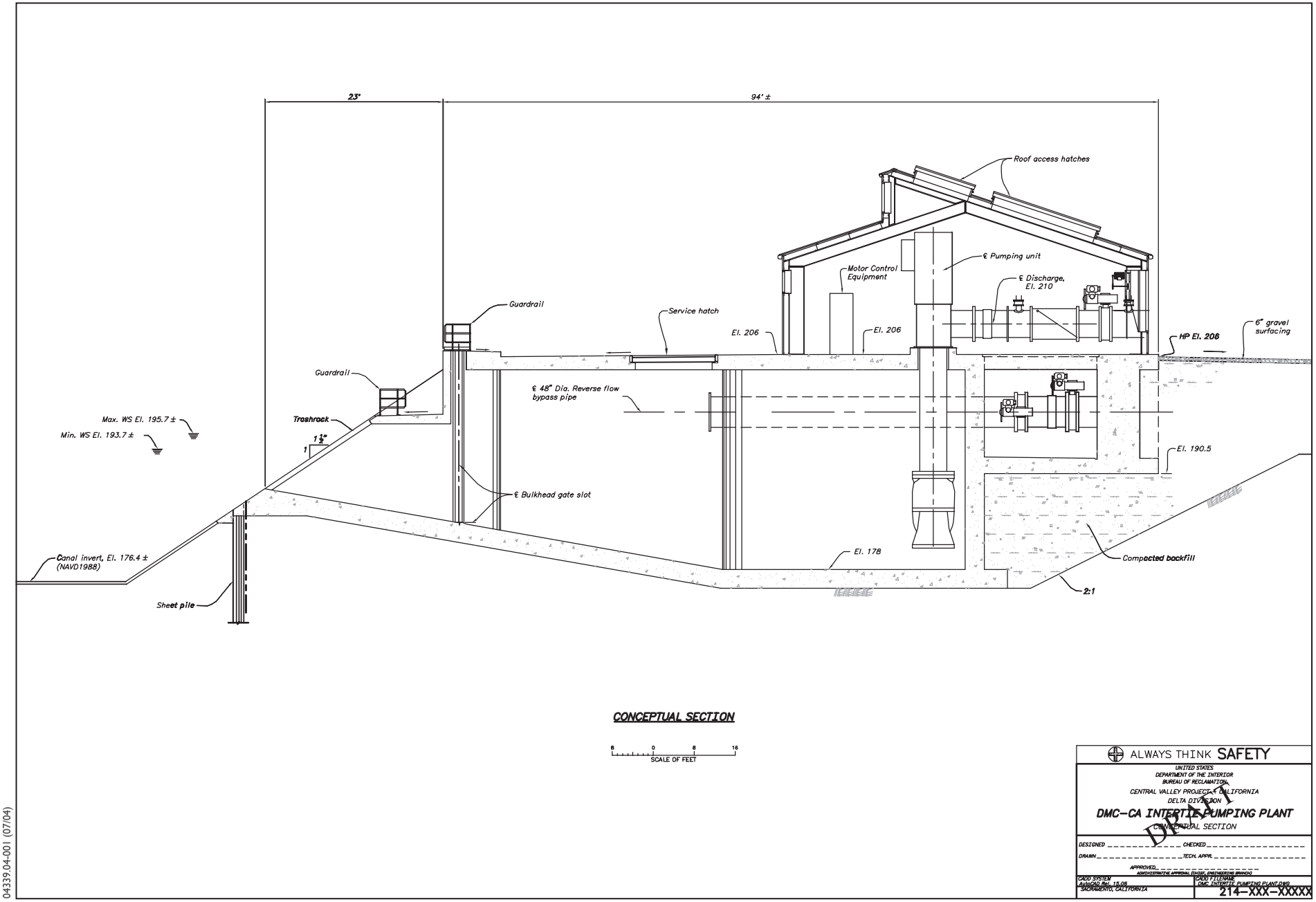

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Figure 2-6
Proposed Action Cross Section

DMC and the outlet structure on the California Aqueduct would likely require lowering the water surfaces of both canals. To minimize impacts on water deliveries, these drawdowns would be timed to occur during periods of lower demand and would be limited in duration. Construction of appropriate detours through the worksites would maintain access to the DMC and California Aqueduct for operations and maintenance staff . Relatively deep excavations would be required at the DMC intake site and the Aqueduct outlet site. The excavation sideslopes would be shored using sheet piling. A dewatering system would be installed outside as necessary to maintain reduced groundwater levels in the construction area. These measures would ensure the stability of the excavation and allow construction to proceed in dry conditions.

Excavated material not reused in permanent construction would be disposed of in spoilbanks in the Federal and State right-of-way land between the two canals. The new spoilbanks would be placed adjacent to the existing spoilbanks and canal embankments within 2,600 feet of their point of origin. No material would be hauled or disposed of outside the right-of-way.

Temporary staging and stockpile areas would be required to store construction equipment and other construction-related material. Typical construction equipment would include road graders, bulldozers, scrapers, hydraulic excavators, compactors, dump trucks, concrete trucks, cranes, and power augers. Construction materials would include contractor offices and various support facilities; pipe, pumps, valves, and other permanent machinery and equipment; temporary equipment such as dewatering systems; and imported earth materials such as gravel and asphalt. The staging and stockpile areas would be located in flat areas along the Federal right-of-way on both the sides of the canal. Areas disturbed by construction activities would be restored by grading and revegetating at the completion of construction. During construction these areas would be controlled using best management practices (BMPs) to minimize potential temporary effects.

Construction of the proposed Intertie would be completed within approximately 15 months after award of the construction contract. However, the pumping plant would be partially operational after 8–10 months. Construction activity would not be restricted by hours per day or days per week.

2.3.5 Environmental Commitments

The following measures have been adopted as part of the Proposed Action and would be incorporated into the construction specifications to address project-related impacts on environmental resources.

Erosion and Sediment Control Plan

Reclamation will prepare and implement an 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. The plan will include all the necessary local jurisdiction requirements regarding erosion control and will implement BMPs for erosion and sediment control as required.

Standard erosion and sediment control measures and practices will be used during and after construction to control accelerated soil erosion and sedimentation. These measures include:

- minimize site disturbance,
- perform initial cleanup,
- use bio-swales or other biotechnical erosion control methods, and
- use native indigenous vegetation when re-seeding or replanting.

Stormwater Pollution Prevention Plan

A stormwater pollution prevention plan (SWPPP) will be developed by a qualified engineer or erosion control specialist and implemented prior to construction. The objectives of the SWPPP will be to (1) identify pollutant sources that may affect the quality of stormwater associated with construction activity and (2) identify, construct, and implement stormwater pollution prevention measures to reduce pollutants in stormwater discharges during and after construction. Reclamation and/or its contractor(s) will develop and implement a spill prevention and control program as part of the SWPPP to minimize effects from spills of hazardous, toxic, or petroleum substances during construction of the Proposed Action. The program will be a component of the SWPPP, which will be completed before any groundbreaking or surface-disturbing activities begin. Implementation of this measure would comply with State and Federal water quality regulations. The SWPPP will be kept on site during construction activity and will be made available upon request to representatives of the Regional Water Quality Control Board (RWQCB). The SWPPP will include, but is not limited to, the following items:

- a description of potential pollutants to stormwater from erosion;
- a description of the management of dredged sediments and hazardous materials present on site during construction (including vehicle and equipment fuels); and
- details of how the sediment and erosion control practices will comply with State and Federal water quality regulations.

California Building Standards Code

The State of California's minimum standards for structural design and construction are given in the California Building Standards Code (CBSC) (24 CCR). Reclamation will ensure that all proposed project facilities meet or exceed all applicable CBSC standards. Design and construction of the proposed project facilities in accordance with these standards will prevent or minimize the potential for structural damage from unstable soils, geologic units, and seismic ground shaking events.

Sensitive Biological Species

The following avoidance and minimization measures have been incorporated into the project description to avoid potential adverse effects on sensitive biological species. Additional information is provided in Chapter 3—Section 3.6, Vegetation and Wildlife.

Avoid San Joaquin Kit Fox Dens by Conducting Preconstruction Searches and Implementing Protection Measures, If Necessary

Within 30 days before the beginning of construction activities, qualified wildlife biologists (as defined by USFWS) will conduct systematic kit fox den searches in all suitable habitat subject to ground-disturbing activities in the Proposed Action area and a 200-foot-wide buffer around this area. Biologists will conduct den searches by systematically walking 30-to-100-foot-wide transects throughout the survey area. If a den is found, biologists will measure the size; evaluate the shape of the den entrances; and note tracks, scat, prey remains, or recent excavations at the site. Dens will be classified in one of three den status categories (potential den, known den, or natal or pupping den), consistent with those defined by USFWS (U.S. Fish and Wildlife Service 1999).

All dens will be assigned a number and mapped on topographic maps. Den sites will be flagged in the field with pin flags marked with the den number. Potential, known, and natal or pupping dens will be distinguished from each other in the field by the pin flag color. Disturbance and destruction of dens will be avoided. Reclamation will notify USFWS and DFG immediately if a natal or pupping den is found in the survey area. Reclamation will notify USFWS and DFG verbally of the results of preconstruction den searches and den excavations within 5 days after these activities are completed and before the start of construction in the area. Reclamation will notify USFWS and DFG in writing of the results within 30 days after these activities are completed.

Avoid San Joaquin Kit Fox Dens by Establishing and Observing Exclusion Zones

Following preconstruction kit fox den searches and den excavations and before construction, qualified wildlife biologists will establish exclusion zones around the remaining dens following the procedures described by USFWS. Exclusion zones will be marked in the field with stakes and flagging. The radii of the zones will be:

- potential den—50 feet,
- known den—100 feet, and
- natal or pupping den—to be determined in coordination with USFWS.

Construction-related activities will be prohibited or greatly restricted within these zones. Essential vehicle operation on existing roads and foot travel will be permitted. All other construction activities, vehicle operation, material and equipment storage, and other surface-disturbing activities will be prohibited within the exclusion zones. All stakes and flagging will be removed within 60 days after construction.

Avoid San Joaquin Kit Fox Migration Corridor

In order to avoid impacts on the potential wildlife migration corridor between the DMC and California Aqueduct, fencing will be limited to the general areas surrounding the pumping plant and canal turnouts. During the construction phase of the project, after each working day, a minimum 200-foot-wide area will be kept free of impediments that might block the corridor. In addition, upon completion of the construction of the Intertie, only the intake and outlet structures at each canal will be surrounded by permanent fencing. The flow measurement structure will not be enclosed. The corridor will remain unblocked, allowing kit fox and other wildlife to move freely through the area.

Avoid Adverse Effects on Red-Legged Frog

Implementation measures have been incorporated into the project design to avoid red-legged frogs and their habitat and prevent any indirect impacts during project construction. These measures include: placing exclusionary and silt fencing between the work area and the wetland areas and establishing a 50-foot no-disturbance buffer zone around all wetland areas. The location of the exclusion zone will be identified on the final grading plans and construction specifications. During construction, standard BMPs will be employed that include the use of erosion control methods (such as straw wattles and erosion control blankets and mats), sediment check dams, and use of straw over disturbed areas. Previously disturbed areas will be hydroseeded with native plant species upon project completion.

Prior to and during construction of the Intertie and transmission line, an on-site qualified biologist will perform preconstruction surveys and spot-check monitoring for red-legged frog and the proper installation and maintenance of the barrier fencing. During construction of the culvert proposed at the southwestern terminus of the northernmost drainage (DMC milepost 6.95), a qualified biologist will monitor for BMP effectiveness. The biological monitor will notify the appropriate agencies immediately if any red-legged frogs are sighted.

Avoid Adverse Effects on Western Burrowing Owl

The following survey guidelines have been incorporated into the project description to avoid and minimize impacts on breeding and wintering burrowing owls.

- Preconstruction surveys will be performed according to the DFG guidelines for burrowing owl mitigation (California Department of Fish and Game 1995). If construction is going to take place during the breeding season (February 1–August 30), the preconstruction surveys will consist of visually checking all potential habitat within the project boundaries and within 250 feet of where construction activities could occur. If construction is going to take place during the wintering season (September 1–January 31), preconstruction surveys will consist of visually checking all potential habitat only in areas where there would be some ground disturbance.
- A qualified wildlife biologist will conduct preconstruction surveys for burrowing owls within 1–2 weeks prior to the beginning of construction activities. If occupied burrows are found during the preconstruction surveys, Reclamation will immediately notify DFG of the burrow location(s) and will coordinate with DFG to implement appropriate avoidance and minimization measures. Passive relocation techniques may be appropriate to clear burrowing owls from occupied burrows. If it is determined that eggs or nestlings are present, passive relocation may not be allowed until after the breeding season. If the destruction of occupied burrows is unavoidable, existing unsuitable burrows will be enhanced or new burrows will be created in accordance with DFG Guidelines.

Air Quality

Because construction of the Proposed Action could have a short-term increase in particulate matter 10 microns in diameter or less (PM10) emissions, the project has committed to comply with the Bay Area Air Quality Management District (BAAQMD) feasible control measures for construction PM10 emissions. The BAAQMD's feasible control measures are summarized in Chapter 3, Table 3.7-4.

Noise Control

To reduce the potential for construction noise impacts, the construction contractor will employ noise-reducing construction practices between the hours of 7:00 p.m. and 7:00 a.m. on Monday through Friday and 5:00 p.m. and 8:00 a.m. on Saturday and Sunday such that the noise from construction does not exceed the applicable noise criteria in the Alameda County noise ordinance (as described in Chapter 3, Table 3.8-3.)

Measures that can be used to limit noise may include, but are not limited to:

- limiting hours of construction operation,
- locating equipment as far as practical from noise-sensitive uses,
- using sound control devices such as mufflers on equipment,
- using equipment that is quieter than standard equipment,
- selecting haul routes that affect the fewest number of people,
- using noise-reducing enclosures around noise-generating equipment,
- constructing barriers between noise sources and noise-sensitive land uses or taking advantage of existing barrier features (terrain, structures) to block sound transmission, and
- temporarily relocating residents (i.e., providing hotel vouchers) during periods of high construction noise that cannot be effectively reduced by other means.

Cultural Resources

The following avoidance and minimization measures have been incorporated into the project description to avoid potential adverse effects on sensitive cultural resources. See Chapter 3—Section 3.10, Cultural Resources, for additional information.

Inadvertent Damage or Destruction of Buried Archaeological Sites and Human Remains

In the unlikely event that buried cultural resources (such as chipped or ground stone, historic debris, building foundations, or non-human bone) or human remains are inadvertently discovered during ground-disturbing activities, construction work will stop and the following measures will be implemented.

The contractor will immediately cease work within 100 feet of the find. All construction personnel will leave the area. Vehicles and equipment will be left in place until a qualified archaeologist identifies a safe path out of the area. The on-site supervisor will flag or otherwise mark the location of the find and keep all

traffic away from the resource. The on-site supervisor will immediately notify the Reclamation archaeologist within 24 hours of the find.

Upon cessation of work and notification of responsible parties, the Reclamation archaeologist will determine whether the resource can be avoided. If avoidance is feasible and impacts on the cultural resource have not occurred, the project can proceed in accordance with recommendations from the Reclamation archaeologist. If the resource cannot be avoided or it already has been affected by construction, treatment of the find must comply with the discovery procedures of Section 106 of the National Historic Preservation Act (NHPA) (36 CFR 800.13[3]). These procedures consist of a determination of significance; consultation among Reclamation, other consulting parties (such as DWR), and State Historic Preservation Officer (SHPO); and, if the resource is determined to be significant, suitable implementation of mitigation, in consultation with SHPO.

If any burials or fragmentary human remains of Native American origin are encountered as a result of project construction, the contractor will immediately cease work within 100 feet of the find. All construction personnel will leave the area. Vehicles and equipment will be left in place until a qualified archaeologist identifies a safe path out of the area. The on-site supervisor will flag or otherwise mark the location of the find and keep all traffic away from the resource. The on-site supervisor will immediately notify the Reclamation archaeologist within 24 hours of the find. Reclamation is responsible for compliance with the Native American Graves Protection and Repatriation Act (43 CFR 10) if inadvertent discovery of Native American remains occurs on Federal lands. Reclamation and the Authority are responsible for compliance with State laws relating to the disposition of Native American burials (PRC 5097 and California Health and Safety Code 7050.5[b]).

According to California Health and Safety Code, six or more human burials at one location constitute a cemetery (Section 8100), and disturbance of Native American cemeteries is a felony (Section 7052). Section 7050.5 requires that construction or excavation be stopped in the vicinity of discovered human remains until the county coroner can determine whether the remains are those of a Native American. If the remains are determined to be Native American, the coroner must contact the Native American Heritage Commission (NAHC). No construction or disturbance of the area will occur until either the descendants of the deceased Native Americans have recommended a means of treating or disposing of, with appropriate dignity, the human remains and any associated grave goods as provided in PRC 5097.98; or the descendant fails to make a recommendation within 24 hours after being notified by the NAHC.

2.4 No Action Alternative

A no action alternative is required pursuant to NEPA, and a no project alternative is required for CEQA. This document refers to this alternative as the "No Action" Alternative. This alternative represents the future conditions without the Proposed Action. Under the No Action Alternative, the Intertie between the DMC and California Aqueduct would not be constructed or implemented. CVP operations would continue without the use of an intertie connection to the California Aqueduct. It is anticipated that maintenance and repairs to the DMC would increase, water supply deliveries would be interrupted during O&M activities, and conveyance capabilities would continue to be constrained.

The No Action Alternative assumes that project operations would continue under the existing regulatory and legal constraints. Because the No Action Alternative represents future conditions, it is possible that other actions may take place and projects may be constructed and implemented in the foreseeable future that could affect environmental resources absent the Proposed Action. NEPA requires the disclosure of effects that these foreseeable actions may have on environmental resources. These effects are discussed in Chapter 3 of this EA/IS in the analysis of those specific resource areas.

2.5 Alternatives Considered but Not Pursued

A number of alternatives that had the potential to meet the project purpose and need were considered by Reclamation and the Authority. The following sections discuss these alternatives briefly and explain why they were not considered further in this EA/IS.

2.5.1 Delta-Mendota Canal/California Aqueduct Intertie at Delta-Mendota Canal Milepost 7.69

This alternative would entail the construction and operation of a 450-cfs intertie between the DMC at milepost 7.69 and the California Aqueduct. This was the site of the temporary intertie that was constructed in June 2001. With the exception of the location, all other elements of this alternative would be identical to that of the Proposed Action. However, after a preliminary analysis of the suitability of the site, this alternative was eliminated from further consideration because of:

- greater security concerns because of adjacent public roads,
- higher potential for soil erosion,
- the presence of panel fractures in the California Aqueduct,
- greater distance to a power source,

- greater travel distance from maintenance headquarters,
- a higher gradient access road required, and
- less space for construction and staging areas.

2.5.2 Delta-Mendota Canal/California Aqueduct Intertie at Milepost 3.54

This proposal would entail the construction and operation of a 200-cfs intertie between the DMC at milepost 3.54 and the California Aqueduct at Bethany Dam using a reconstructed interim canal and new pump station. This alternative would provide only 200-cfs capacity rather than 450 cfs under the Proposed Action. Proposals and cost estimates were not prepared for a higher capacity intertie (i.e., greater than 200 cfs) because such proposals would be significantly higher in cost as a result of extensive canal widening, turnout enlargement, new siphon construction, and associated environmental impacts. Additionally, re-establishing the canal would entail excavating buried sections of canal and the siphon, lining the entire length of the canal with concrete, and removing significant trash accumulations at certain locations. This alternative would not meet the project purpose of restoring the capacity of Tracy Pumping Plant to allow pumping of the authorized amount of 4,600 cfs, and therefore, this alternative was rejected from further consideration.

2.5.3 Raise Delta-Mendota Canal Lining and Structures

This alternative would raise approximately 67 miles of the DMC lining and structures by an average of 18 inches to increase DMC capacity to 4,600 cfs from the Tracy Pumping Plant to the O'Neill Forebay. This proposal would require a lengthy design and construction phase, a greater impact area, and substantially greater costs than the Proposed Action. This proposal would require a detailed inventory of the affected structures and an assessment of the future potential for loss of capacity (i.e., predict future subsidence) as well as a number of related improvements (raising of bridges, etc). This alternative was rejected as a viable option for logistical, economic, and timing reasons.

2.5.4 Use the State Water Project Banks Pumping Plant and the California Aqueduct to Pump Water for the Central Valley Project

A proposal known as the *virtual intertie* could provide additional south-of-Delta water supplies. This proposal involves using the Banks Pumping Plant to pump water and convey it through the California Aqueduct on behalf of the CVP.

The SWP and the CVP have an agreement in place known as JPOD, authorized by D-1641, which allows CVP water to be pumped at Banks Pumping Plant. However, use of the current JPOD is limited because transporting water for SWP contractors has first priority. Reclamation has discussed with DWR the potential for getting higher priority use of Banks Pumping Plant to pump CVP water in conjunction with a South Delta Improvements Program (SDIP) proposal to increase diversion capability at Banks Pumping Plant from 6,680 cfs to 8,500 cfs. These discussions are reflected in a Draft Proposition Concerning CVP/SWP Integrated Operations (July 2003).

Although the virtual intertie has the potential to increase CVP south-of-Delta water supplies, it does not meet the basic purpose of the Proposed Action to "eliminate the DMC conveyance conditions that restrict the CVP Tracy Pumping Plant to less than its authorized pumping capacity of 4,600 cfs." Obtaining CVP priority pumping at Banks Pumping Plant through a virtual intertie would still result in an unmet need for additional CVP south-of-Delta water supplies and a mismatch between authorized Tracy Pumping Plant export capacity and DMC conveyance capacity. The CVP could use an additional 2,000 cfs of Delta export capacity and conveyance capacity to meet south-of-Delta contractor deliveries. The CVP needs capacity at both Banks and the Intertie to fully use CVP supplies. Consequently, there still would be need for the Proposed Action.