



United States Department of the Interior



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SCAO-7000
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DEC 11 2006

MEMORANDUM

To: Area Manager
Attn: SCAO-1000

From: Study Team
Santa Margarita River Feasibility Study

Subject: Decision Regarding Alternatives for Further Study Santa Margarita River Conjunctive Use Project

The Study Team partners (Reclamation, Marine Corps Base Camp Pendleton and Fallbrook Public Utility District) have reached agreement on a Proposed Action and two action alternatives which, along with the “no project” alternative, are recommended for economic and environmental feasibility study under the Santa Margarita Project authority (Section 3 of the Feasibility Studies Act of 1966, September 7, 1966, Public Law 89-561, 80 stat. 707). The study is proposed pursuant to Congressional direction in House Conference Report 108-10, House Report 108-212, House Report 109-86, and appropriations in Fiscal Years 2005 and 2006.

The proposed Santa Margarita River Conjunctive Use Project would upgrade existing surface water diversion, groundwater recharge, groundwater extraction, and water treatment systems on Camp Pendleton and deliver treated water to Fallbrook. The project was conceived as a physical solution to resolve *United States v. Fallbrook Public Utility District, et al.*, Case No. 1247-SD-T (S.D. Cal.), filed in 1951.

The attached Memorandum to Files from the Area Planning Officer, dated June 2, 2005, described and recommended a Proposed Action and alternatives for further study, and presented the rationale for those recommendations. The recommended alternatives were selected or modified from the *Santa Margarita River Conjunctive Use Pre-Feasibility Plan Formulation Study*, May 2005, (attached) which documented the technical analysis of 44 alternatives, including those suggested in 2001 and 2002 by Stetson Engineers, Inc., San Rafael, California (Stetson). Alternatives 1F, modified 1D, and modified 2B were recommended.

The Proposed Action and alternatives have been further modified through negotiations among the Study Team partners supported by preliminary engineering designs from the Technical Service Center, hydrologic models by Stetson, and environmental work by North State Resources, Inc., Sacramento, California. Negotiations primarily involved brine disposal and

direct diversion options. System sizing has been tentatively set at 40 cubic feet per second (cfs) maximum capacity, subject to hydrologic analysis and contingent on established water rights.

Preamble

Fallbrook and Camp Pendleton entered into a Memorandum of Understanding (MOU) on January 22, 2001, agreeing to jointly participate in the design and possible construction and operation of a project as a physical solution to *United States v. Fallbrook Public Utility District, et al.* (No. 1247-SD-C), utilizing the permit pooling concept and affirming their intention to pursue this joint project in all good faith and with full cooperation.

In 2004, Fallbrook, Camp Pendleton and Reclamation signed a MOU to cooperate in the preparation of studies to determine the feasibility of a groundwater conjunctive use project and to assess the environmental effects of the project under the National Environmental Policy Act and the California Environmental Quality Act, including a reasonable range of alternatives.

All alternatives will provide Camp Pendleton its prior rights water, and the balance of the water delivered by the project ("Project Yield") will be split 60% to Camp Pendleton and 40% to Fallbrook or as otherwise agreed by the parties. To the maximum extent possible, permits 8511, 11357 and 15000 will continue to be pooled, consistent with the 2001 MOU.

Project Description

The proposed project will be located in the lower Santa Margarita River basin within Marine Corps Base Camp Pendleton and the Community of Fallbrook, San Diego County, California. Project components include additional production wells and collection pipeline, replacement of the existing diversion structure, additional percolation ponds, rehabilitation of Lake O'Neill's original capacity, upgraded conveyance ditch, at least one Advanced Water Treatment (AWT) plant, direct diversion options, pipelines to Fallbrook or across Camp Pendleton to Orange County that connect to the southern California regional water distribution system, pumping stations, recharge of the Lower Ysidora sub-basin with tertiary treated Title 22 reclaimed water from either the Fallbrook Outfall Pipeline or Camp Pendleton's new Southern Region Tertiary Treatment Plant (SRTTP) to maintain a seawater intrusion barrier, optional constructed treatment wetlands, a brine pipeline from the AWT plant to the Lemon Grove Pump Station for subsequent disposal to the MCB Boat Basin, Del Mar Jetty, Fallbrook Outfall Pipeline or Oceanside Ocean Outfall; and an Open Space Management Zone.

In addition to the proposed action, there are two alternatives plus the "no action" alternative to be analyzed in the Feasibility Report/EIS/EIR. The project study area for the proposed Conjunctive Use Project encompasses the area within 100 feet of centerline for all linear features and the area within 100 feet of all proposed project components/facilities. The project study area also encompasses the 1384 acres of Open Space Management Zone.

Proposed Action

- Replace existing sheet pile diversion structure with an inflatable (Obermeyer-type) spillway gate diversion structure, raising head elevation by 1.7 feet to maintain a 200-cfs instantaneous diversion capacity.
- Increase O'Neil diversion ditch capacity from existing 60 cfs to 200 cfs.
- Increase headgate capacity from existing 60 cfs to 200 cfs at diversion structure.
- Install new production wells and associated collection system.
- Modify 5 existing recharge ponds.
- Rehabilitate two existing unused recharge ponds.
- Construct an AWT plant in Haybarn Canyon with filtration treatment trains consistent with surface water diversion and groundwater extraction supplies, a backwash facility, a pipeline and pump station to lift treated water to Reservoir Ridge and a new brine disposal pipeline to the existing Lemon Grove Pump Station.
- Install a new brine discharge pipeline from Lemon Grove for ocean discharge via one of the following options: the Camp Pendleton Boat Basin or Del Mar Jetty; the Fallbrook Outfall Pipeline via a cross-connection from the existing 527B pipeline in the City of Oceanside; or the Oceanside Ocean Outfall via existing 527B pipeline.
- Install a pump station within the recharge pond area with a pipeline sized for 10 cfs direct diversion to the AWT plant.
- Install a bi-directional pipeline from Reservoir Ridge to Fallbrook for treated water delivery, terminating at a connection to the San Diego County Aqueduct, with two pump stations located as follows:
 1. At the Camp Pendleton boundary with the Naval Weapons Station.
 2. At Knoll Park, with a balancing reservoir for temporary water storage.
- Rehabilitate Lake O'Neill to its original design capacity.
- Establish an Open Space Management Zone near Fallbrook.
- Water rights assigned under permits 8511, 11357, and 15000 that are not developed by the conjunctive use project would be dedicated for in-stream environmental purposes.

Alternative 1

- Replace existing sheet pile diversion structure with an inflatable (Obermeyer-type) spillway gate diversion structure, raising head elevation by 1.7 feet to maintain a 200-cfs instantaneous diversion capacity.
- Increase O'Neil diversion ditch capacity from existing 60 cfs to 200 cfs.
- Increase headgate capacity from existing 60 cfs to 200 cfs at diversion structure.
- Install new production wells and associated collection system.
- Rehabilitate 5 existing recharge ponds.
- Modify two existing unused recharge ponds.
- Construct an AWT plant in Haybarn Canyon, with a pipeline and pump station to lift treated water to Reservoir Ridge and a new brine disposal pipeline to the Lemon Grove Pump Station.
- Install a new brine discharge pipeline from Lemon Grove for ocean discharge via one of the following options: the Camp Pendleton Boat Basin or Del Mar Jetty; the Fallbrook Outfall Pipeline via a cross-connection from the existing 527B pipeline in the City of Oceanside; or the Oceanside Ocean Outfall via existing 527B pipeline.
- Install a bi-directional pipeline from Reservoir Ridge to Fallbrook for treated water delivery, terminating at a connection to the Red Mountain Reservoir pressure zone, with two pump stations located as follows:
 1. At the Camp Pendleton boundary with the Naval Weapons Station.
 2. At Knoll Park, with a balancing reservoir for temporary water storage.
- Rehabilitate Lake O'Neill to its original design capacity.
- Establish an Open Space Management Zone near Fallbrook.
- Construct treatment wetlands in Pueblitos Canyon.
- Construct a gravity pipeline from Fallbrook Outfall Pipeline, or force main pipeline from Camp Pendleton's SRTTP, to Pueblitos Canyon Treatment Wetlands.
- Construct a gravity pipeline for de-nitrified water from Pueblitos Canyon Treatment Wetlands to Lower Ysidora sub-basin recharge area.
- Construct spreading pipelines for groundwater recharge of denitrified water (seawater intrusion barrier).

- Water rights assigned under permits 8511, 11357 and 15000 that are not developed by the conjunctive use project would be dedicated for in-stream environmental purposes.

Alternative 2

- Replace existing sheet pile diversion structure with an inflatable (Obermeyer-type) spillway gate diversion structure, raising head elevation by 1.7 feet to maintain a 200-cfs instantaneous diversion capacity.
- Increase O'Neil diversion ditch capacity from existing 60 cfs to 200 cfs.
- Increase headgate capacity from existing 60 cfs to 200 cfs at diversion structure.
- Install new production wells and associated collection system.
- Rehabilitate 5 existing recharge ponds.
- Modify two existing unused recharge ponds.
- Construct an AWT plant in Haybarn Canyon with filtration treatment trains consistent with surface water diversion and groundwater extraction supplies, a backwash facility, a pipeline and pump station to lift treated water to Reservoir Ridge and a new brine disposal pipeline to the existing Lemon Grove Pump Station.
- Install a new brine discharge pipeline from Lemon Grove for ocean discharge via one of the following options: the Camp Pendleton Boat Basin or Del Mar Jetty; the Fallbrook Outfall Pipeline via a cross-connection from the existing 527B pipeline in the City of Oceanside; or the Oceanside Ocean Outfall via existing 527B pipeline.
- Install a pump station within the recharge pond area with a pipeline sized for 10 cfs direct diversion to the AWT plant.
- Construct a bi-directional pipeline to Orange County for delivery of treated Santa Margarita River water to MWDOC, including at least two pumping stations.
- Rehabilitate Lake O'Neill to its original design capacity.
- Construct a gravity pipeline from Fallbrook Outfall Pipeline, or force main pipeline from Camp Pendleton's SRTTP, to Lower Ysidora sub-basin recharge area.
- Construct spreading pipelines for groundwater recharge of tertiary treated effluent in the Lower Ysidora sub-basin (seawater intrusion barrier).
- Establish an Open Space Management Zone near Fallbrook.
- Construct an inflatable (Obermeyer-type) spillway gate at Fallbrook Sump.
- Construct sediment settling basins at Fallbrook Sump.

- Construct a 25-cfs pumping plant at Fallbrook Sump.
- Construct a raw water pipeline from Fallbrook Sump to Red Mountain Reservoir.
- Water rights assigned under permits 8511, 11357, and 15000 that are not developed by the conjunctive use project would be dedicated for in-stream environmental purposes.

No Action Alternative

- Fallbrook continues to meet all of its potable water demands from imported water purchased from SDCWA.
- The existing water rights permits expire and are not extended by the State Water Resources Control Board.
- Camp Pendleton continues to use its existing diversion structure, ditch, and Ponds 1 through 5.

The various components of the Proposed Action and alternatives are summarized on a table at the end of this document. General descriptions and rationale for the recommendations follow:

Discussion and Rationale

Proposed Action

The proposed action would upgrade the existing Santa Margarita River diversion facilities owned and operated by Camp Pendleton. The existing sheet pile diversion dam would be replaced by an inflatable (Obermeyer style) spillway gate diversion structure. This structure would consist of a concrete sill and steel gates that can be raised and lowered pneumatically using heavy gage rubber bladders. Fish passage capability has been considered but will not be pursued further.

The headworks near the dam and the diversion ditch would be modified to increase the flow capacity to 200 cfs. The existing diversion capacity is currently about 60 cfs. The existing water measurement structure, culverts, and pond turnout would also be upgraded to ultimately enhance ground water recharge to the three downstream well field basins. Upgraded sizing for these improvements will be determined based on the hydrology report.

The five existing percolation ponds would be rehabilitated and the turnout gates upgraded for remote automation. These ponds have a surface area of 49 acres. Two existing, but unused, percolation ponds would also be modified, increasing the total surface area to 95 acres. Lake O'Neill would be dredged to its original storage capacity. A 10-cfs pump station is proposed within the recharge pond area, with a pipeline to a proposed AWT plant in Haybarn Canyon.

The gates on the diversion structure would be configured in the raised position during most of the year. During extreme flood events, the gates would be lowered to enable debris and sediment to be transported past the structure. The diversion structure would be designed with the capability to release not less than the historic leakage and bypass (approximately 3 cfs) through and over the existing sheet pile dam.

Water diverted from the Santa Margarita River would be released into the percolation ponds for recharge to the ground water aquifer, pumped directly to the AWT plant, or bypassed to Lake O'Neill. Water stored at Lake O'Neill would be released to the Santa Margarita River for recharge during periods of low river flow on an annual basis consistent with current practice.

More than twelve existing ground water production wells operated and maintained by Camp Pendleton would be augmented or replaced by the installation of up to 9 new wells in the Upper Ysidora and Chappo sub-basins, along with appurtenant collection pipelines, power lines, and access roads. Up to 40 cfs total (final amount to be determined by feasibility hydrology) would be pumped and delivered to the Haybarn Canyon AWT plant.

The recently constructed Iron-Manganese Treatment Plant (IM-2) at Haybarn Canyon would be expanded and integrated into the proposed treatment train for pre-treatment of all the project source water. The existing IM-1 plant would become obsolete.

At the AWT plant, a portion of the ground water would be treated by carbon filtration (GAC). Another portion would be treated by low pressure reverse osmosis (RO) to reduce dissolved solids. A filtration treatment train adequate to comply with the Surface Water Treatment Rule (SWTR) is also proposed, with associated backwash facilities.

GAC treated groundwater water, direct diversion surface flows, and RO desalted groundwater would be combined and disinfected to produce potable water with a total dissolved solids (TDS) level of 425 milligrams per liter (mg/L). After disinfection, the treated product water would be pumped from the AWT plant to distribution facilities.

The reverse osmosis portion of the treatment process would generate a reject stream of brackish water. Reject water would have a TDS of about 7,000 to 10,000 mg/L. This reject water would be disposed to Camp Pendleton's existing Lemon Grove pump station via a new brine disposal pipeline following Vandergrift Boulevard and the existing levee and floodwall system protecting the airfield. From the Lemon Grove pump station. Brine disposal would be by one of the following options:

1. to the Camp Pendleton Boat Basin or the ocean via a new pipeline discharging off the Del Mar Jetty;
2. to the Oceanside Outfall using the existing Camp Pendleton outfall pipeline (the portion in Oceanside is owned by City of Oceanside) with a new connection to the Fallbrook Outfall Pipeline on Tremont Street in Oceanside where the two pipelines are only a few feet apart. The Fallbrook Outfall is a 16-inch diameter ductile iron pipeline constructed in the 1980's. Fallbrook has an agreement with the City of Oceanside for the discharge of 2.4 million gallons per day (mgd) of effluent through the Oceanside Outfall.
3. to the Oceanside Ocean Outfall by perpetuating Camp Pendleton's existing 10 year lease of outfall capacity from the City of Oceanside.

After treatment, a pump station and pipeline at Haybarn Canyon would lift product water (up to 37 cfs, to be determined by feasibility hydrology) to Camp Pendleton's 4 million gallon Reservoir Ridge tank. This 39-inch diameter pipe would be about 3,000 feet long and has a static head approximately 410 feet above the treatment plant. From the Reservoir Ridge tank, the product water would be available to Camp Pendleton's existing storage and distribution facilities or could be delivered to Fallbrook via 36- to 24-inch diameter bi-directional pipeline reaches (final size to be determined by feasibility hydrology), terminating at a connection to the San Diego Aqueduct, about 13 miles away.

Two booster pump stations are required to convey water from the Camp Pendleton Reservoir Ridge tanks. The first booster pump station would be constructed near the guard shack on Ammunition Road between Camp Pendleton and the Naval Weapons Station, Detachment Fallbrook. This plant would be located on the Camp Pendleton side of the boundary fence and would require associated electrical power drops.

The second booster pump station would be located at Knoll Park in Fallbrook. A dedicated pipeline would connect the Knoll Park pump station to the existing pipeline connecting the San Diego Aqueduct to Red Mountain Reservoir, with discharge pressure adequate to overcome the aqueduct head elevation of approximately 1433 feet. An elevated regulating tank and a 24-inch outlet tee upstream of the pump station would next allow some water to be directly used in Fallbrook's Gheen Zone. Pressure reducing valves on the pumping plant outlet would allow service to Fallbrook's Red Mountain pressure zone.

Any water not used by Fallbrook would be delivered into the San Diego Aqueduct. The Camp Pendleton to Fallbrook pipeline would be bi-directional so that water could be delivered back to Camp Pendleton during emergency outages or during severe drought periods when ground water is insufficient to meet demands.

A supervisory control and data acquisition (SCADA) system would be included to control the ground water well supply system and the pumping plants conveying water between Camp Pendleton and Fallbrook systems. The spillway gates on the Obermeyer diversion structure, turnouts to the percolation ponds and Lake O'Neill, production and monitoring wells, flow measurement, and pumping plants would be designed for remote operation and/or data acquisition. The control room for the SCADA would be located at Camp Pendleton's existing operations center on Vandergrift Boulevard across from the Marine Corps Air Station.

The 1,384 acres of land owned by Fallbrook at the site of the formerly proposed Fallbrook Dam and Reservoir would be included in the project as an Open Space Management Zone (OSMZ) to help protect water quality. A resource management plan would be developed for this land to allow for passive recreation use. Mitigation, if required for the project, could be incorporated into the OSMZ. It is anticipated that title to the land would be transferred to Reclamation or a mutually agreed upon land management authority, such as the Fallbrook Lands Conservancy, the County of San Diego, or the Mission Resource Conservation District.

Alternative 1

This alternative is similar to the Proposed Action in terms of diversion system upgrades, ground water collection, ground water treatment, brine disposal, and pumping to Reservoir Ridge. It differs from the Proposed Action in that there would be no direct diversion from the recharge pond area and no surface water treatment at the AWT plant. The alternative also includes the use of Title 22 water used to recharge the lower Ysidora basin with a constructed treatment wetland.

Under this alternative, the pipeline from the Knoll Park pump station would terminate at a connection to Red Mountain pressure zone. The Red Mountain pressure zone is directly connected to Fallbrook's Red Mountain Reservoir, an existing 1,300 acre-foot treated water storage facility at an elevation of 1137 feet. Fallbrook currently obtains treated water to fill Red Mountain Reservoir by an outlet off the San Diego Aqueduct.

The continued use of Red Mountain Reservoir as a treated water storage facility may be affected by rules recently promulgated by the U.S. Environmental Protection Agency. This alternative also anticipates that the San Diego County Water Authority will increase the capacity of the existing 3 cfs pump station to deliver treated water from Red Mountain Reservoir to the San Diego Aqueduct.

Title 22 water would be delivered to a recharge area adjacent to the Santa Margarita River, where it would be allowed to recharge the aquifer through approximately two miles of perforated spreading pipeline. This would create a groundwater mound to (1) prevent seawater intrusion, (2) improve water quality in the Lower Ysidora sub-basin aquifer, (3) increase the storage capacity of the Chappo and Upper Ysidora sub-basin aquifers, and (4) increase the water supply yield of the project. It is not envisioned that the production wells will extract any of this mounded tertiary treated effluent.

The Title 22 water would be supplied from either the SRTTP or the Fallbrook Outfall Pipeline. A new turnout and pipeline would be constructed near the golf course on Camp Pendleton delivered to recharge the lower Ysidora basin as described below via an approximately 5.0 mile gravity pipeline. An existing 12-inch diameter pipe along the alignment from Sewage Treatment Plant 2 to Horse Lake may be incorporated into this pipeline.

A component of this alternative is the Pueblitos Canyon treatment wetlands which would be constructed to reduce the nitrate (NO_3) level of Fallbrook's and/or Camp Pendleton's Title 22 water. The size of the treatment wetlands would not exceed 45 acres. The polished (de-nitrified) water would be delivered via a 16-inch diameter pipeline approximately 1 mile to a recharge area adjacent to the Santa Margarita River. The de-nitrified water would be allowed to recharge the aquifer through approximately two miles of perforated spreading pipelines.

The target TDS of 425 mg/L for the treated water, mentioned earlier, would ensure the tertiary treated effluent will not exceed 750 mg/L. This is the Basin Plan objective for groundwater recharge in the Ysidora Hydrologic Area.

Alternative 2

This alternative would have similar ground water collection, water treatment, pumping to Reservoir Ridge as in the Proposed Action and Alternative 1, along with the Proposed Action's 10 cfs direct diversion, and also includes recharge of the lower Ysidora basin with Title 22 water. Under this alternative, Title 22 water would be delivered directly to the recharge area via a new pipeline from the SRTTP or the Fallbrook outfall pipeline with no treatment wetland.

Subject to acceptance by Camp Pendleton of adequate assurances that Alternative 2 could not work to its disadvantage, this alternative would also have a separate diversion and delivery of Santa Margarita River water to Fallbrook as follows:

1. A second Obermeyer style spillway gate diversion structure would be constructed at an area known as the Fallbrook Sump. This area is within the OSMZ at the confluence of the Santa Margarita River and Sandia Creek. The Obermeyer structure would consist of a concrete sill and steel gates that can be raised and lowered pneumatically using heavy gage rubber bladders. No fish passage facilities would be pursued.
2. The pool created when the Obermeyer structure is raised would cover an area of _____ acres at the Fallbrook Sump. A sedimentation basin would be constructed with a 25-cfs pump station to lift raw water through a new pipeline to Red Mountain Reservoir.
3. A "cross-base" bi-directional pipeline connected to the Municipal Water District of Orange County (MWDOC) system would be built on Camp Pendleton. This 30-inch diameter pipeline (size to be determined based on feasibility hydrology) would be approximately 24 miles in length. The pipeline would cross the Santa Margarita River directly across from Haybarn Canyon and follow an alignment to the existing Kinder-Morgan Petroleum Pipeline. The cross-base pipeline would then parallel the Kinder-Morgan pipeline to an area near San Mateo Creek, at which point the cross-base pipeline would parallel San Mateo Road and Cristianitos Road, cross Cristianitos Creek, and connect to the South Orange County pipeline (SOC). The hydraulic head at the SOC pipeline connection is about 800 feet.

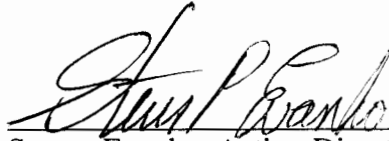
One booster pumping plant between Haybarn Canyon AWT and Horno Summit would likely be necessary for water delivery to MWDOC. This booster plant would require appurtenant power lines and power drops. The pipeline would be bi-directional to provide Camp Pendleton a source of water during emergency outages or during severe drought periods. Thus, a return booster pumping plant, along with appurtenant power lines and power drops, north of Horno summit would be necessary. A ground level regulating tank at Horno summit, at an approximate elevation of 860 feet, would control pumping plant operations for this pipeline.

Tertiary treated effluent (Title 22 water) from the SRTTP or the Fallbrook outfall would be delivered to a recharge area adjacent to the Santa Margarita River, where it would be allowed to recharge the aquifer through approximately two miles of perforated spreading pipeline. The Title 22 water would be supplied from either the SRTTP or the Fallbrook Outfall Pipeline. The Basin Plan objective for NO₃ is 10 mg/L. If the Title 22 water meets the NO₃ objective, treatment wetlands would not be required.

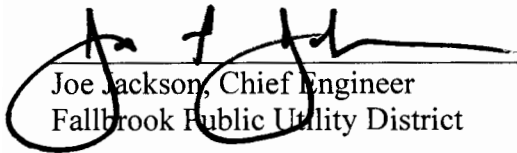
Comparison Table

Facilities Construction Work	Proposed Action	Alternative 1	Alternative 2
Ground water collection			
Replace existing sheet pile diversion dam with inflatable dam, 3 cfs minimum bypass	X	X	X
Increase O'Neill ditch capacity from 60 to 200 cfs from CP SMR diversion	X	X	X
Dredge Lake O'Neill to restored capacity	X	X	X
Rehabilitate recharge ponds 1 to 5	X	X	X
Construct/rehabilitate recharge ponds 6 & 7	X	X	X
Drill up to 9 additional ground water wells, number determined by hydrologic study	X	X	X
Add ground water collector main from wells to Haybarn Canyon AWT plant	X	X	X
Direct Diversion			
Construct 10 cfs pump station within the recharge pond area, pipeline to AWT plant	X		X
Inflatable dam at Fallbrook sump			X
Brine disposal			
Construct brine pipeline from AWT plant to existing Lemon Grove pump station	X	X	X
Pipeline to new outfall at Del Mar jetty	X		
Discharge via Fallbrook Outfall		X	
Discharge via Oceanside Ocean Outfall			X
Water Treatment and Distribution			
Construct Haybarn Canyon AWT plant	X	X	X
Include surface water treatment	X		X
Pipeline to Reservoir Ridge	X	X	X
Pipeline to SD Aqueduct, w/ pump stations	X		
Pipeline from Reservoir Ridge to Red Mtn Pressure Zone, w/ pump stations		X	
Settling basins, 25-cfs pump station, FPUD sump to Red Mtn Reservoir pipeline.			X
Construct cross base pipeline connecting to MWDOC, with pump stations			X
Integrate SCADA system to be operated at Camp Pendleton	X	X	X
Lower Ysidora Recharge			
Pipeline from SRTTP or Fallbrook outfall to Lower Ysidora spreading basin		X	X
Pueblitos Canyon treatment wetland option		X	

Study approval signatures:



Steven Evanko, Acting Director
Office of Water Resources
Marine Corps Base, Camp Pendleton

Date: 11 Dec 06

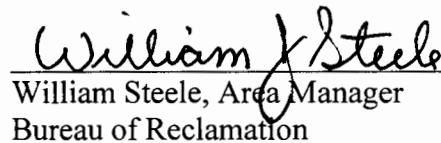
Joe Jackson, Chief Engineer
Fallbrook Public Utility District

Date: 12 - 11 - 06

Meena Westford, Area Planning Officer
Bureau of Reclamation

Date: December 11, 2006

Concur:



William Steele, Area Manager
Bureau of Reclamation

Date: December 11, 2006