



JULY 2007

project partners

PROGRAM DESCRIPTION

The Groundwater Replenishment (GWR) System is a jointly funded project of the Orange County Water District (OCWD) and Orange County Sanitation District (OCSD) with OCWD as the lead or constructing agency. The GWR System is a water supply project designed to ultimately reuse approximately 140,000 acre-feet per year (afy) of advanced treated wastewater (recycled water). The phase currently being constructed will supply approximately 72,000 afy and provide the backbone facilities for future expansion. The GWR System will supplement existing water supplies by providing a new, reliable, high-quality source of water to recharge the Orange County Groundwater Basin (the Basin) and protect the Basin from further degradation due to seawater intrusion. It will also postpone the need for OCSD to construct a new ocean outfall by treating excess storm flows.



The GWR System will be comprised of three major components: (1) Advanced Water Purification Facility (AWPF) and pumping stations; (2) a major pipeline connecting the purification facility to existing recharge basins; and (3) expansion of an existing seawater intrusion barrier. Phase 1 of the GWR System will have a nominal rated product water capacity of 70 million gallons per day (mgd). Timing of future phases will be determined by projected flow requirements for anticipated water demands.

The construction of the GWR System will consist of seven major construction contracts totaling \$410.3 million and a total program budget of \$480.9 million.

For more information regarding the Groundwater Replenishment System, contact our Website at www.gwrssystem.com.

purpose:

The GWR System will be comprised of three major components:

PROJECT HIGHLIGHTS

There are three major components to the GWR System Project:

1. Advanced Water Purification Facility in Fountain Valley - 94% complete.
2. A 13-mile pipeline from Fountain Valley to Anaheim (along the Santa Ana River) - 100% complete.
3. Expansion of the Seawater Intrusion Barrier facilities - 100% complete.

- 1 Advanced Water Purification Facility (AWPF) and pumping stations
- 2 A major pipeline connecting the treatment facilities to existing recharge basins
- 3 Expansion of an existing seawater intrusion barrier.

PROJECTS UNDER CONSTRUCTION



AWPF Microfiltration - Installed Membrane in a Rack



AWPF Microfiltration - Rack of Membrane in MEMSAP Unit



AWPF Microfiltration - Rack Lowered into a cell



AWPF Microfiltration - Rack Installed in a cell

Advanced Water Purification Facility (Budget \$305,300,000)

The AWPf contract includes all structures, piping and facilities that are within the boundaries of the OCWD and OCSD treatment site located at Ellis Avenue and Ward Street in Fountain Valley. Facilities include the Screening Facility at OCSD's Plant No. 1, the 96-inch diameter influent pipeline from the Screening Facility to Microfiltration Facility, Microfiltration Facility (86 mgd filtrate), Microfiltration Break Tank, Reverse Osmosis Facility (70 mgd permeate), UV System (70 mgd product), Chemical Feed/Lime Stabilization System, Product Water/Barrier Pump Station, and all yard piping. Included in the AWPf contract will be all electrical, instrumentation, and process control systems (PCS) associated with each facility. The MF and UV equipment was pre-selected by the District and their contracts were assigned to the Contractor.

The AWPf contractor continues finish work on the east and west side microfiltration buildings. Microfiltration membranes have been installed in all eight cells in train "A" and full functional acceptance testing of this train has been completed. Secondary effluent will be introduced in train "A" on August 1st to test full functionality at normal operating flows. Membrane installation has begun in the eight cells in train "B" and this work should be completed by the end of next week. Functional acceptance testing of the screenings facility, chemical injection vault, sodium hypochlorite system, microfiltration chemical area, microfiltration waste backwash and microfiltration backwash/reverse osmosis transfer pump station has all been completed in preparation of taking secondary effluent. Functional acceptance testing of all 15-5 million gallon per day reverse osmosis trains has been completed and reverse osmosis train sequencing is taking place. The control room has been set up with the permanent computers and commissioning activities are being done from that location. The UV software system has been successfully merged with the main AWPf system. Plant start-up and overall project completion is scheduled for November 2007.



AWPF Cartridge Filter

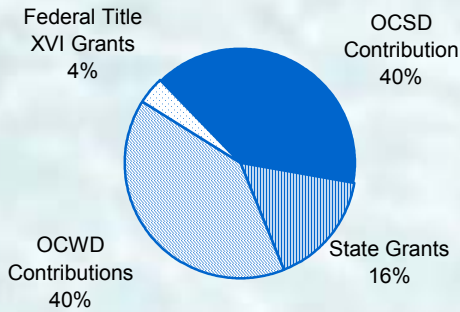
GWR System Active Projects Construction Schedule

ID	Project Name	2007					2008							
		Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	
1	Advanced Water Purification Facility	██████████												

GWR System Construction Schedule

ID	Project Name	2002	2003	2004	2005	2006	2007
1	Southeast Barrier	██████████	██████████				
2	Interim Water Purification Facility		██████████	██████████			
3	GWR System Unit III Pipeline			██████████	██████████		
4	GWR System Unit II Pipeline			██████████	██████████	██████████	
5	GWR System Unit I Pipeline			██████████	██████████	██████████	██████████
6	Barrier Facilities			██████████	██████████	██████████	
7	Advanced Water Purification Facility				██████████	██████████	██████████

Project Funding



EPA Grant	\$500,000
State Water Resources Control Board Grant	\$5,000,000
US Bureau of Reclamation Grant	\$20,000,000
Department of Water Resources Grant (Prop. 13)	\$30,000,000
Santa Ana Watershed Project Authority Grant (Prop. 13)	\$37,000,000
OCWD Contribution	\$198,560,000
OCSD Contribution	\$198,560,000

Projected vs. Actual Costs

