

The City of San Diego Miramar Water Treatment Plant Upgrade & Expansion Project Construction Overview

The City of San Diego Water Department's Miramar Water Treatment Plant (WTP) began operation in 1962. The treatment plant is the sole provider of drinking water to an estimated 500,000 customers in the northern section of the City. The plant is located in the Scripps Miramar Ranch community on the shore of Miramar Reservoir, which is also a popular recreation site. Currently the plant produces 140 million gallons of drinking water a day (mgd). Water sources for the treatment plant are imported water from northern California and the Colorado River brought into San Diego by the San Diego County Water Authority and local rainfall captured in the reservoir.

The need to upgrade and expand the existing plant is primarily due to the area's rapid population growth, the obsolescence of the facility's controls and equipment, and recent changes in state and federal drinking water standards. The upgrade and expansion will increase the treatment plant capacity to 215 mgd. The upgrade and plant expansion project is being administered through the City of San Diego's Engineering and Capital Projects Department. The treatment plant will remain in full operation throughout the expansion and upgrade. The project is expected to be completed in 2010.

The upgrade and expansion project began in summer 1998 with two initial phases of construction starting in April 2001 and ending in February 2005. Following the early phase work, the construction work was divided into four components, identified as Contracts A, B, C and D. Contract A concluded in 2007. (See schedule of Contracts A, B, C and D on page two.)

Contract B

The most prominent aspect of Contract B work is building four new high efficiency flocculation-sedimentation (floc-sed) basins to replace the four existing basins. The floc-sed basins are a critical part of water treatment. In the basins, particles in the water are forced to clump together (flocculation) to form larger particles and then settle to the bottom of a tank (sedimentation).

Contract B also includes demolishing the existing filters, the existing flocculation and sedimentation basins, the operations building and other existing structures. These are demolished as the new replacement facilities become operational. A portion of the interior roadway and the Administration Building parking area will be paved in Contract B.

(continued)



Flocculation-Sedimentation Basins 7 and 8.



Pipeline carrying untreated water into the plant is in a tunnel under floc-sed basin 3.

Contract C

The predominant work in Contract C is furnishing and installing the ozone disinfection equipment. The drinking water will be disinfected with ozone, instead of chlorine, which is currently used. Ozone is a highly effective way to eliminate any germs and viruses in the water at drinking water treatment plants and has been used for this purpose for over 100 years. Strict federal and state regulations for drinking water quality must be still met, as with chlorine disinfection.

Chlorine will still be used at the plant. Before the ozonated water leaves the treatment plant, chlorine will be added to provide a disinfectant “residual” so that the water remains disinfected in the storage tanks and pipelines prior to being used by customers.

Contract D

Contract D work will include installing a Master Standard Urban Stormwater Mitigation Plan, Retaining Wall and Drainage, Landscaping and Water Conservation System and Fencing. Minimal landscaping will be installed between the new fence and public roadways. Paving work will be completed in other contracts, prior to Contract D.

Construction Contracts Overview (as of October 2010)	
Contract A	Dates: Aug. 2003 – Dec. 2007 Contractor: Western Summit Constructors, Inc. Cost: \$81.3 million
Contact B	Dates: Nov. 2007 – Dec. 2009 Contractor: Western Summit Constructors, Inc. Cost: \$50.4 million
Contract C	Dates: May 2008 – Mar. 2010 Contractor: Archer Western Contractors, Ltd. Cost: \$17 million
Contract D	Dates: Late 2011 – Early 2013 Contractor: T.B. Penick & Sons, Inc Cost: \$2.1 million (estimated)