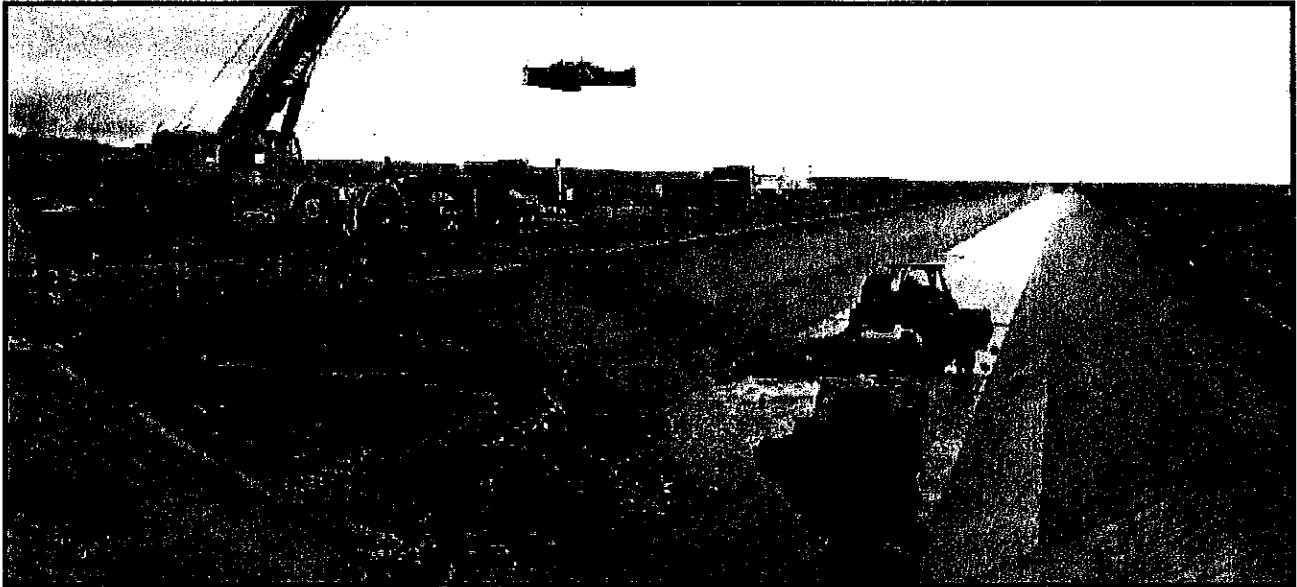




THE METROPOLITAN WATER DISTRICT  
OF SOUTHERN CALIFORNIA

# Profile

A summary of the delivery and distribution system, facilities and equipment.



*Maintaining the vast distribution system*

The Metropolitan Water District of Southern California is the nation's largest provider of treated drinking water. Each day during a normal year, the district moves more than 1.5 billion gallons of water through its distribution system, delivering supplies to 26 member agencies. Those agencies, in turn, sell that water to more than 300 subagencies or directly to consumers. In all, 19 million Southern Californians rely on Metropolitan for some or all of the water they use in their homes and businesses.

These people live within Metropolitan's six-county service area, which encompasses 5,200 square miles in Los Angeles, Orange, Riverside, San Bernardino, San Diego and Ventura counties. In geographic terms, that's nearly as large as the states of Connecticut and Rhode Island combined.

A billion-and-a-half gallons of water a day don't arrive by accident. By the time water enters Metropolitan's distribution system in the Southland, it has already traveled more miles than the average Orange County-to-Los Angeles commuter travels in a week.

Metropolitan imports its water from two sources—the Colorado River and the State Water Project. The SWP brings supplies south from the Sacramento-San Joaquin Delta, while the Colorado River Aqueduct moves water from the east. The CRA stretches 242 miles across the desert and mountains; the SWP courses 444 miles through the central part of the state topping the Tehachapi Mountains and flowing into the Southern California coastal plain.

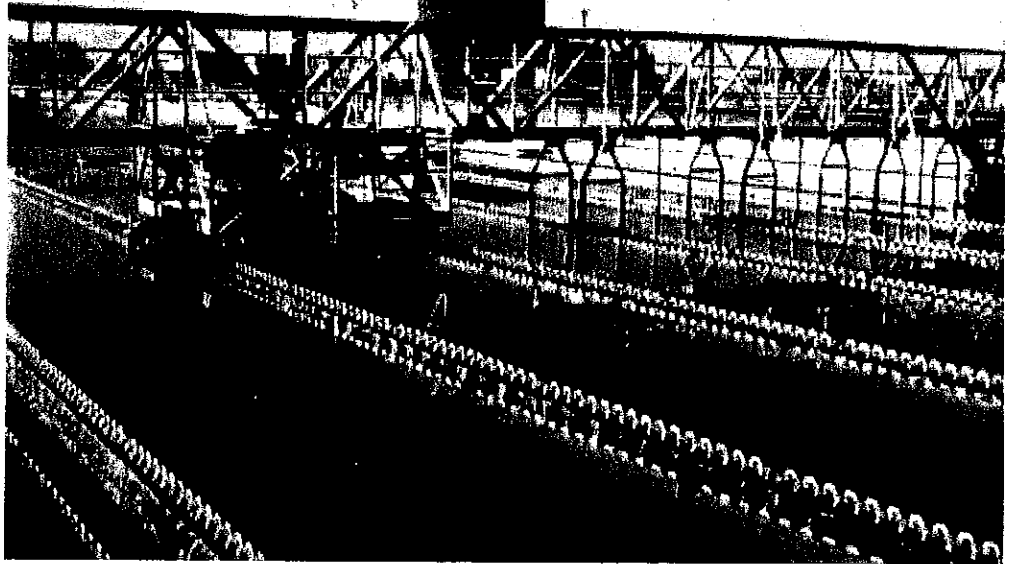
Metropolitan built and owns the CRA, so its responsibility for system operations and maintenance begins at its W. P. Whitsett Intake Pumping Plant on the Colorado River at Lake Havasu. From there, a series of canals, siphons, pipelines and four more pumping plants move the water west to Metropolitan's reservoirs.

Metropolitan's regional distribution system also links up to Lake Perris and Castaic Lake, which are terminal reservoirs for the East and West Branches of the state-owned and operated SWP.

Maintaining and operating a regional distribution system that includes hundreds of miles of pipelines, power transmission lines and unpaved roads, and five water treatment plants, nine reservoirs, 16 hydroelectric plants, 45 pressure control structures, thousands of pumps and valves, and hundreds of buildings, shops and other structures is a complex, time-intensive job.

It requires state-of-the-art technology, efficient operations and maintenance procedures, and experienced workers. It also requires a firm commitment to quality and customer service.

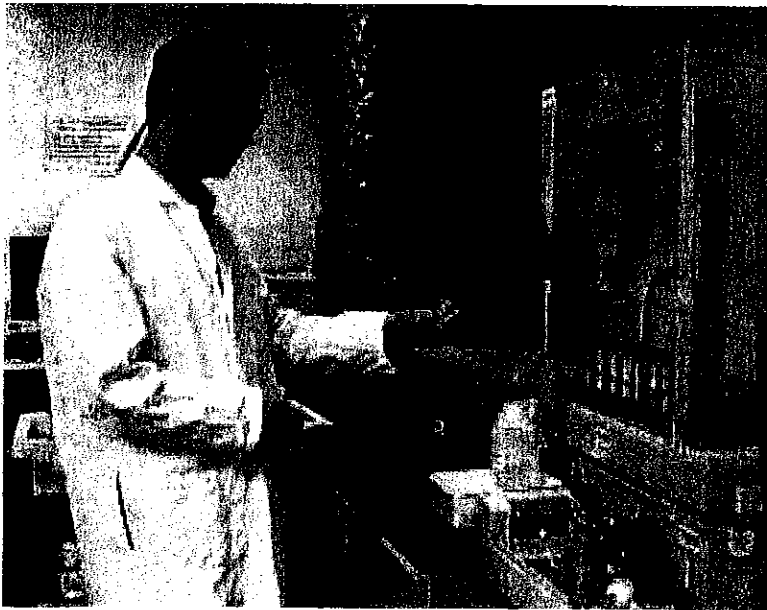
If you combined the length of the Colorado River Aqueduct and Metropolitan's regional water delivery/distribution system, you would have about 1,000 miles of pipelines, tunnels and canals. Conveyance pipelines range in size from 16 inches, about the size of a beach ball, to 21 feet 9 inches, large enough to hold two Greyhound buses side by side. Construction materials vary depending on the age of the pipeline; most pipelines are constructed of welded steel and prestressed concrete reinforced with steel. Metropolitan crews maintain every foot of these pipelines and tunnels and accompanying structures.



*F. E. Weymouth Water Treatment Plant*

While water flows through much of Metropolitan's service area thanks to gravity, it takes five pumping plants along the CRA in the California Mojave Desert to ensure the water gets here in the first place. These plants lift water a total of 1,617 feet with 45 giant motors that range in size from 4,300 to 12,500 horsepower.

As water is moved through Metropolitan's delivery system, it is stored for varying lengths of time in any of nine reservoirs. Together, these reservoirs have the capacity to hold more than 1 million acre-feet of water. One acre-foot equals about 326,000 gallons—the amount of water a Southern California family uses in two years. Metropolitan has built an 810,000-acre-foot reservoir in southwestern Riverside County that provides additional operating storage and a regional six-month emergency supply. Diamond Valley Lake was completed in 1999 and opened for recreational use in October 2003.



*Water Quality Lab*

In addition, a number of water transfer and banking programs with Southland, Central Valley and Colorado River agencies within California complement Metropolitan's portfolio of water resources, helping to ensure a more reliable water supply for urban Southern California.

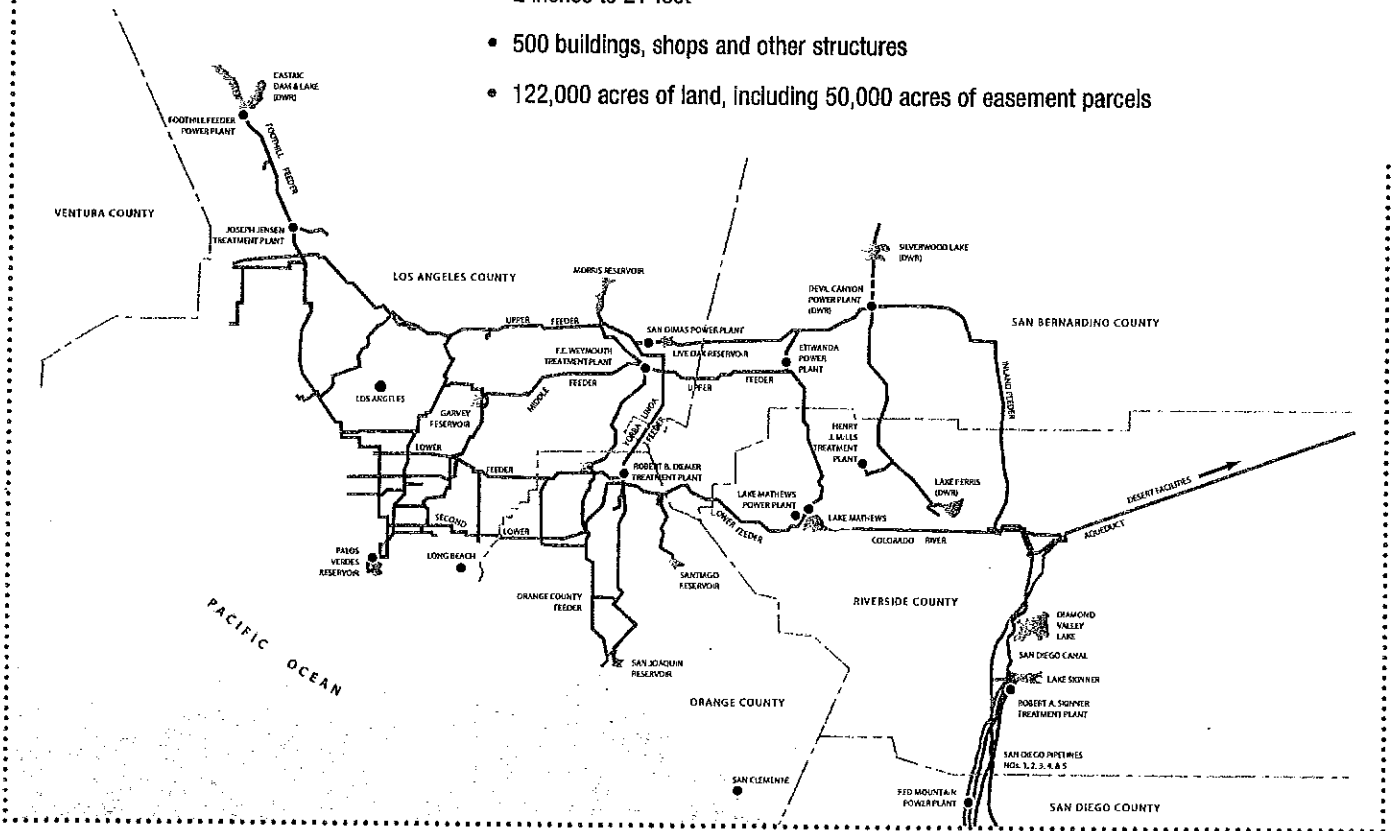
Before drinking water is delivered to member agencies, it is treated at one of Metropolitan's five water treatment plants to meet federal and state regulations. Metropolitan's plants all employ a multiple-step process, which includes primary disinfection, coagulation, flocculation, sedimentation, filtration and post-disinfection. In addition, Metropolitan's Joseph Jensen plant in Granada Hills and Henry Mills plant in Riverside have already been retrofitted with an ozone disinfection process. Plants in Yorba Linda, La Verne and the Skinner plant in Winchester are currently being retrofitted for ozone treatment. Ozone is able to destroy a wider range of organisms in drinking water than chlorine, while producing fewer regulated disinfection byproducts.

To maximize its resources and take advantage of the gravity flow conditions built into the system, Metropolitan operates and maintains 16 hydroelectric plants that have the capacity to produce 127 megawatts of power. One megawatt of power is equal to the power used by 10,000 100-watt light bulbs.

Metropolitan's water treatment plant capacity is about 2.6 billion gallons of water per day. Staff at the plants and at Metropolitan's highly regarded Water Quality Laboratory in La Verne conducts more than 300,000 water analyses each year to ensure that Metropolitan

Here's a snapshot of the primary equipment and structures in Metropolitan's water service system.

- 2,800 pipeline structures, including 45 pressure control structures
- 5,000 motors and pumps ranging in size from 1/2 hp, roughly a small chain saw engine, to 12,500 hp, or the equivalent of three diesel train engines
- 90,000 water delivery and treatment system components
- 30,000 linear feet of water treatment piping
- 308 miles of power transmission lines
- 1,200 high-voltage towers and hundreds of high-voltage components
- 1,000 miles of unpaved road
- 450 chemical and auxiliary storage tanks
- 11,500 water regulating valves and devices ranging in size from 2 inches to 21 feet
- 500 buildings, shops and other structures
- 122,000 acres of land, including 50,000 acres of easement parcels



### Mission Statement

The mission of the Metropolitan Water District of Southern California is to provide its service area with adequate and reliable supplies of high-quality water to meet present and future needs in an environmentally and economically responsible way.



**THE METROPOLITAN WATER DISTRICT OF SOUTHERN CALIFORNIA**

P.O. Box 54153 • Los Angeles • CA 90054-0165  
 700 N. Alameda Street • Los Angeles • CA 90012  
 Toll-free phone number: (800) CALL MWD

Printed on recycled paper