

Moreno Valley Regional Water Reclamation Facility

WHAT GOES AROUND...

Water treatment and sewer treatment are two sides of the same coin. EMWD sees sewage treatment as a way to convert a nuisance and an expense into a resource that extends water supplies in many ways. By the 1920s, wastewater processing consisted of primary treatment—a mechanical process involving settling, skimming off floating materials and removing sludge. By the end of World War II, it became apparent this wasn't enough.

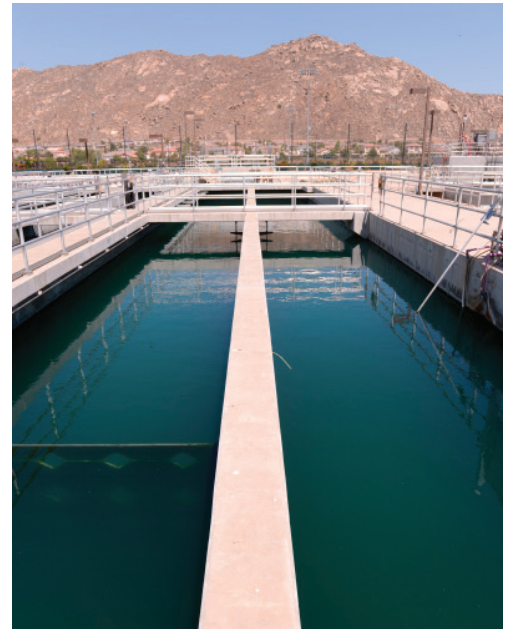
What came next incorporated biological processes into a more advanced secondary treatment. This advance in technology is based on what occurs in nature—after heavier solids have dropped, naturally occurring biological organisms consume remaining suspended and soluble organic compounds and biologically oxidize nutrients. Simply put, a treatment plant speeds up the natural water cycle process.

During the late 1980s, an even more advanced treatment—known as tertiary—became feasible and was, in some instances, required. This highest treatment level requires filtration to remove suspended solids and disinfection for the destruction of pathogenic organisms. Water at this level can be used for most any purpose short of direct human consumption.

Every gallon of water that is used at least one more time means one more gallon can be left in the ground, or one less gallon would need to be imported through aqueducts from hundreds of miles away.

IN THE BEGINNING...

The 8,000 residents of unincorporated Sunnymead must have had second thoughts after turning down a plan to build a sewer system during the mid-1960s. So, in March 1966, support was high for a \$4.8 million bond issue. During groundbreaking ceremonies for the new plant in July 1967, residents acted as if it were a community holiday.



MORENO VALLEY OPERATIONS

- Typical daily flows:
11.5 million gallons per day
- Current capacity:
16 million gallons per day
- Ultimate capacity:
18 million gallons per day

**with ability to divert about 2 million gallons per day to the Perris facility*

EASTERN MUNICIPAL WATER DISTRICT

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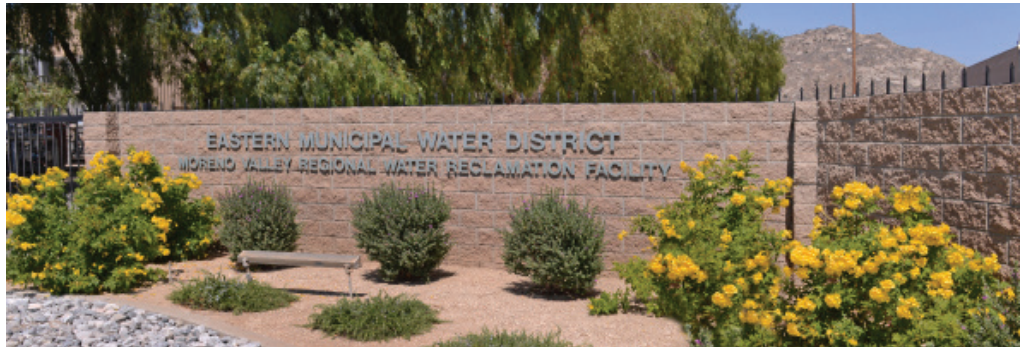
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By 1968, the then-called Sunnymead Water Reclamation Facility was open for business at 1 million gallons a day (mgd).

Today, the renamed Moreno Valley Regional Water Reclamation Facility typically treats an average of 11 mgd.

This plant was the first of EMWD's to use the biological nutrient removal process known by the acronym, BARDENPHO. BAR refers to Barnard, the name of the process developer; DEN, from denitrification; and PHO, phosphorous removal. This advanced, five-step biological process removes nitrogen and phosphorus to levels set by regulatory agencies. Improvements made to the process in 2005 resulted in more than doubling the plant's treatment capacity with the same footprint while reducing energy consumption.

Today this facility has a 2 megawatt (1,000 kilowatts) solar array which helps power the facility. The plant uses tertiary treatment to remove virtually all suspended solids and bacteria.

WET WEATHER STORAGE

Even though households continue to generate 200 to 250 gallons of wastewater every day, customers for recycled water are not always able to be so consistent.

During rainy weather, the plant can temporarily store 260 million gallons on site. It also stores another 330 million gallons near Nuevo at a site referred to as Skiland, and 287 million gallons at Trumble Road, adjacent to EMWD's headquarters complex.

IT'S A 24/7 OPERATION

Specially trained and state-certified individuals staff the plant 18 hours every day of the year. Alarms connected to EMWD's Central Control in Perris can alert personnel if emergencies occur at other times.