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CASE STUDY

Robert B. Diemer Water Treatment Plant | Yorba Linda, CA

Inefficient Water Treatment Plant Gets Major Upgrade With BILCO Doors

In densely populated Orange County in California, nearly 3 million people per day rely on water from the Robert B. Diemer Treatment Plant.

Workers completed a three-year rehabilitation project at the 61-year-old facility in March 2021, and the updates will help improve water quality and plant efficiency.

The \$38.5 million project for the Metropolitan Water District of Southern California was extensive. It included the replacement of flocculation and sedimentation equipment, strengthening a filter control building including reinforcement of interior concrete frames and filter decks, and replacement of 128 high-performance and rubber-lined butterfly valves and their actuators.

"Water was not being wasted," said Eber Luquin, project engineer for Environmental Construction, which dismantled the existing equipment and installed new components. "The equipment simply was not as efficient as it once was and water quality could be improved. The old, submerged mechanical equipment was coated in tar and some sealants used contained PCB properties."

The Diemer plant is one of the largest in the nation. The Metropolitan Water District of Southern California, known as the "Met," is a regional wholesaler and the largest supplier of treated water in the United States. Approximately 19 million people rely on water from the Met, which operates five water treatment plants.

Water entering the 212-acre plant comes from two sources, a 440-mile aqueduct that is part of the California state water project and a 242-mile aqueduct that funnels water from the Colorado River.

In any water treatment plant, flocculators are key pieces of equipment that help determine the amount of treatment water needs and the sequence in which chemical agents should be added. Readings from the flocculators can help water treatment plants operate efficiently. Flocculation is also essential in keeping the water supply clean.

Treatment plant workers will access flocculation equipment through stainless steel doors manufactured by The BILCO Company. The 10 single- and double-leaf doors are frequently used at water treatment plants and are engineered with lift-assistance



for easy opening, and an automatic hold-open arm locks the cover in the open position to ensure safe egress.

"BILCO hatches were selected due to their dependability and reputation with the plant," Luquin said. "The fact that these hatches are made with quality stainless steel material to the dimensions we required and have a drain port built in were important features."

Corrosion, especially at water treatment plants, can dramatically reduce the life of floor doors and other equipment. BILCO's doors are constructed with corrosion-resistant materials. Heavy-duty construction and a positive latching mechanism help prevent unauthorized access.

Water is a precious commodity in California, which has experienced numerous long-term droughts. It is important to maintain efficient and safe water management to collect every precious drop.

"The Diemer West Basin is an essential lifeline for the people of Southern California," Luquin said. "The supply from the Metropolitan Water District is a vital resource for smaller districts in the region. This project will help the system maintain peak efficiency."



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