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CASE STUDY
Lake Mead | Nevada

Las Vegas Bets on Elaborate Project To Ensure City's Water Supply

A drought that has extended for nearly two decades has imperiled the water supply to the Las Vegas valley. The Lake Mead Low Lake Level Pumping Station, which is set to open in 2020, will have the capacity to deliver up to 900 million gallons of water a day to two water treatment facilities and help ensure water to more than 2.25 million residents in the region.

Situated just miles from Hoover Dam, the \$650 million project spearheaded by the Southern Nevada Water Authority is one of the most sophisticated and powerful pumping stations in the world. Twelve heavy-duty floor doors manufactured by The BILCO Company are included in the project.

"There are conduits and drain lines that required access," said Tyler Askin, project manager for Barnard, the contractor that installed the floor doors. "The doors were a product that one of our suppliers had used in the past and the specifier thought they would be a good choice for this application."

Work on the Lake Mead project started in 2015. Among the first steps in the project was to create a forebay, a 12,500 square foot cavern that is 500 feet beneath the pumping station. Pumps draw water from the forebay, and the water then enters the header pipe and flows through two large-diameter aqueduct systems to deliver water to two treatment plants.

Twenty-two low lift pumps will deliver raw water to the Alfred Merritt Smith Water Treatment Facility, and 12 high lift pumps will deliver raw water to the River Mountains Water Treatment facility. The water is treated with ozone and then goes through a filtration system before entering the transmission system and eventually, the homes in the Las Vegas valley.

The pumps at the Low Lake Pumping Station provide the power. The 22 low lift pumps weigh approximately 68 tons and the high lift pumps weigh 79 tons. Each pump is capable of producing 30 million gallons of water every day.

Valves at the pumping station are protected by a series of BILCO floor access doors throughout the facility. They are strategically placed on the project's vaults to provide regular access to valves that require adjustment and maintenance. The doors are reinforced for AASHTO H-20 wheel loading to allow vehicles to drive over them and are equipped with recessed padlock hasps for vault security. They also feature BILCO's patented engineered lift assistance for easy one-hand operation and worker safety.

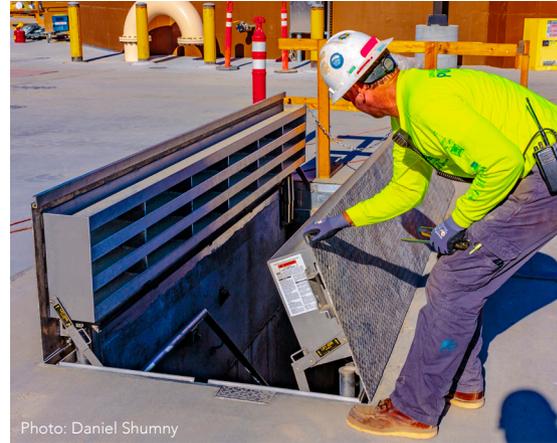


Photo: Daniel Shumny

Single and double leaf doors from BILCO were used at the project, which will have the capacity to deliver up to 900 million gallons of water per day.



Foster Engineered Products of Phoenix, Ariz., and Vice President Jen Foster procured the doors for Barnard as BILCO's local sales representative.

Situated about 30 miles from the bright lights of Las Vegas, the pumping station escapes the attention of most of the region's residents. It will be a critical part of the region's infrastructure, and ensure its water supply. "It's not alongside a highway where you can see progress every day," Askin said. "Water's not something people think about until they don't have it. This will help make sure that doesn't happen."

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