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CASE STUDY

Judy Reservoir Pumping Station | Skagit County, Washington

New Pumping Station Keeps Water Flowing to Washington Residents

Judy Reservoir is the primary water source for residents of Skagit County in Washington State. Any disruption in service caused by problems at the pumping station impacts just about everyone in the county, where population has increased by nearly 50,000 in the past three decades.

A new \$3.2 million pumping station will alleviate water delivery issues for residents. The scope of work on the 1,900 square foot station included new water main piping, a main vault, utility installation and reconstruction of existing rockery. Construction began in 2020 and the facility became operational in February 2022.

The new station was necessary because the previous treatment plant needed periodic shutdowns for maintenance. "When we shut down the plant, customers would lose water," said Brandt Barnes, Skagit PUD's construction manager.

The new building allows workers to access the pumps and valves for maintenance. The three 250-horsepower pumps can deliver up to 9,000 gallons of water per minute. More importantly, workers do not have to shut off water to customers for easy access to the valves.

"It's a much more effective and efficient solution," Barnes said. "The raw water pumps need to be maintained regularly. We can extend the service life of the valves and not interrupt customers every time we need to work on the pump."

When pumps eventually need replacement, they will be hoisted out of the facility through two motorized roof hatches manufactured by BILCO. The hatches, 12-feet by 6-feet, 5-inches, were custom made for the project. Anderson Specialties procured the hatches for McClure and Sons, which built the pumping station.

"Because of the unique size and the distance between the pumps, it was a challenge to get the hatches installed for when we need to remove the pumps," Barnes said. "At first, we couldn't meet the truss opening. We had to double up the size of the opening, and the motorized hatches instead of using a hand crank was a good solution."

BILCO, the manufacturer of specialty access products, makes hatches of various sizes to allow for equipment access. "We looked at other manufacturers, but we all worked hard at coming up with a good solution," Barnes said.



Like many communities in the Western United States, Skagit County has a unique water supply that requires treatment. The county gets its fair share of snow (an average of 12 inches per year) and rain (an average of 47 inches per year). But the water that is distributed from the reservoir needs to go through a filtration process to remove algae.

With the new treatment plant in place, residents can be confident they can get around-the-clock water delivery.

"The major component to this project was being able to service pumps and not having to shut down the treatment plant," Barnes said. "The pump station we have now is much more efficient and maintenance-friendly, and that was the primary objective."

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