



Modernizing Idaho's Water Infrastructure

An Ongoing Story Series on the Idaho Water Resource Board's Aging Infrastructure Grant Program **ISSUE NO. 16**

Falls Irrigation District modernizes pumphouse and pumping infrastructure

Overview: The Falls Irrigation District's main pump station, located next to American Falls Dam and Reservoir, provides more than 25,000 acre-feet of water each year from the American Falls Reservoir to 12,621 acres of irrigated farms in Power County.

The pump station supplies irrigation water to 281 water users, supporting \$18.7 million of crops produced annually. Primary crops grown in the area include corn, potatoes, sugar beets, wheat, hay, pasture, and 205 acres of landscaping. Additionally, many ancillary industries rely on agricultural production in the area, including the dairy industry, potato and sugar beet processing, fertilizer and amendments, irrigation supply companies, wholesale and retail trade, mechanics, and trucking.

Aging Infrastructure: Built in the late 1950s, the pump station has far exceeded its service life. It has a high risk of failure every irrigation season, official said. The pumps, motors, and electrical equipment are now obsolete and very costly and



New pumps getting installed inside the Falls Irrigation District pumphouse adjacent to American Falls Dam. (photo courtesy Shawn Tischendorf)

difficult to maintain, requiring annual winter servicing and custom manufacturing when parts break or fail.

If the equipment were to fail during the irrigation season, the consequences would be devastating to the many farmers who rely on Falls Irrigation District water for their livelihoods. Rehabilitation of the pump station is long overdue – it's necessary for the District to continue providing

water deliveries to the district's water users now and into the future.

The main pump station draws water from American Falls Reservoir and pumps it uphill underneath the town of American Falls through a buried 60-inch pipe to a canal discharge splitter basin. Water then flows from the splitter basin by gravity into the District's East Canal and West Canal. The District also owns numerous groundwater wells that farmers can pump into the canal in times of low surface water availability and to augment canal flows.

During the winter of 2024-25, Falls Irrigation District has been replacing the aging pumps and synchronous motors with new pumps and

- **Type of project:** New water pumps, pumphouse rehabilitation, new electronics and pumping infrastructure.
- **Location:** American Falls
- **Total project cost:** \$9.8 million
- **Idaho Water Resource Board AIG:** \$3 million
- **IWRB Loan:** \$9M
- **BOR WaterSmart grant:** \$3.7M
- **Start:** October 2024
- **Finish:** June 2025



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Falls Irrigation District new pumps and pumping infrastructure (cont.)

induction motors powered with variable frequency drives (VFD) and soft starts. The project also involves installing a new station service transformer, flow meters, intake valves, electric hoist, industrial control panel with SCADA system, motor control center (MCC) to power valves and building loads, air conditioning system, and water line for building service.

In addition, approximately 700 feet of 60-inch steel pipeline on the suction and discharge of the pump station is showing signs of internal coating failure and corrosion and will be recoated to extend its service life.

Project benefits: The primary benefit of this project is to enable the District to provide reliable water service to the District's water users, thereby supporting the economy of Power County, which greatly relies on irrigated agriculture. Secondary benefits include water and energy efficiency improvements that the rehabilitated pump station will create by decreasing over-pumping from the reservoir, thereby improving drought resilience and contributing to water conservation for recreational and environmental uses, downstream users, and future development.

Timeline: Construction began in October 2024 with the demolition and removal of the old pumping equipment in the main pump house. New pumps are being installed during the winter of 2024-25. Substantial completion is expected to occur in March 2025, prior to the beginning of irrigation season. Final completion is expected to occur in June 2025.



The floor of the Falls Irrigation District pumphouse had to be demolished and restored with new rebar, utilities and concrete to provide services for the new water pumps and modern electrical tie-ins for real-time water measurement and use. (Photo courtesy Shawn Tischendorf/Falls Irrigation District)

Project benefits: Additional benefits of the project include reduced energy use and hydropower availability, water supply stability and sustainability, drought resilience, water quality, fish and wildlife, and recreation.

Energy savings: Changing the motors to variable speed induction motors with Variable Frequency Drives (VFD), coupled with flow meters, a control panel, and SCADA system, will result in vastly improved flow control and substantial energy and water savings.

The reduction in electrical demand will free up existing hydropower generation for other uses, helping the state meet its renewable energy goals. Additionally, reducing over-pumping will leave more water in the American Falls Reservoir for hydropower generation through the

American Falls Dam, further adding to the region's hydropower capacity.

Water savings: 1,684 acre-feet of water per year from reduced over-pumping, which will improve the District's water supply sustainability by extending its surface water storage later into the season, officials said. Additionally, the VFD's should stretch the District's water supplies in drought years.

Extending surface water storage in American Falls Reservoir will have environmental benefits by maintaining cooler reservoir water temperatures for fish and wildlife and providing recreational opportunities for anglers and boaters.

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