



Modernizing Idaho's Water Infrastructure

An Ongoing Story Series on the Idaho Water Resource Board's Aging Infrastructure Grant Program **ISSUE NO. 24**

Fremont-Madison Irrigation District Six canal automation projects

Overview: Fremont Madison Irrigation District (FMID), formed in 1935, holds and delivers storage water in Island Park and Grassy Lake Reservoirs to over 180 diversions on the Henry's Fork of the Snake River and its tributaries.

FMID owns and operates the Crosscut Canal and eight large deep wells that either pump water into one of the rivers in our watershed or directly into a canal. Through contracts with the Bureau of Reclamation, they operate and maintain Island Park and Grassy Lake Reservoirs.

FMID is working with four member canal companies, Southeast Idaho Canal Company (SICC), Rexburg Irrigation Canal Company (RICC), North Fremont Canal Systems Inc. (NFCS) and the Silkey Canal Company (SCC) on the canal-automation projects.

The Challenge: Several of the canal structures that needed automation are several decades old. They were operated in the same way folks were doing it a century ago. This leads to inefficient use of the resource. "By making these improvements in our delivery system, we can better manage the resource to maximum benefit for our patrons while also leaving more water in the rivers and reservoirs," officials said.

Automation projects help make better planned and measured



New concrete structure and canal automation equipment installed on the Middle Branch of the Fall River canal system. (Photo courtesy Aaron Dalling, FMID)

- **Type of project:** Canal automation for improved water measurement and management.
- **Location:** St. Anthony, Idaho
- **Total project cost:** \$210,000
- **Idaho Water Resource Board Aging Infrastructure Grant:** \$69,320
- **Canal Co. cost-share:** \$140,741
- **Start:** June 2025
- **Finish:** Spring 2026

adjustments to water flow 24/7. These adjustments lead to a steady and consistent flow in the canals and rivers, which is better for the irrigator and the environment.

This project is urgent, officials said. The Silkey Canal headgate is nearly impossible to manage. The structure is barely functional and dangerous to operate. Each of these projects are urgent from a drought-resiliency standpoint. "We need to improve our water management to be more drought resilient in the face of climate change," officials said.



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Fremont-Madison I.D. and partners - six canal automation projects (cont.)

Improved water management:

"In the Henry's Fork area, we are highly dependent on natural flow in our area. On average, about 90 percent of our water comes from natural flow, while only about 10 percent comes from water stored in reservoirs. We are highly dependent on water being stored as snow at high elevations and coming down the river system when we need it in mid and late summer. As our climate becomes warmer, that snow melts off earlier, leaving us with diminished water supplies during the peak of our irrigation season in July and August. This project will reduce our overall water demand, making us more drought resilient."

The Solution: FMID has automated six water control structures and installed remote operation and telemetry equipment at each site in partnership with the four participating canal companies. This project will help manage water deliveries more efficiently for 52,761 acres of irrigated cropland, bolster partnerships, and promote conservation among water users within our service area.

The Projects: FMID installed remote control and automation equipment on:

- The main splitter structure for RICC.
- Two control structures on the Marysville Canal in the NFCS delivery system.
- The Marysville Canal main penstock gate.
- On the Middle Branch of the Fall River Canal, which is a part of SICC delivery system.



New concrete structure and canal automation equipment installed on the Middle Branch of the Fall River canal system allowed the canal co. to eliminate a section of redundant canal, saving water and improving efficiency. (Photo courtesy Aaron Dalling, FMID)

- On the lower section of the Middle Branch of the Fall River Canal, FMID removed a screw gate and replaced it with a concrete structure and an automated overshot gate.
- Silkey Canal headgate.

Project Benefits: Canal automation was indicated named in the 2015 Henry's Fork Basin Study as one of the most economic methods of conserving water in the Henry's Fork Watershed.

"This project will help us conserve water, reduce our carbon footprint and make our water deliveries more consistent and precise," officials said. This will also result in better relationships with our partners."

This project will increase the water

reliability for an irrigated agriculture economy that averages nearly \$350 million dollars in crop sales per year in Fremont, Madison and Teton counties. (2017 Census of Agriculture).

Water savings: This project will keep an estimated 2,000-acre feet of water in Island Park and Grassy Lake Reservoirs. Reducing outflow from the reservoirs during the irrigation season will benefit water quality in the rivers at a time when most of the fishing occurs.

Higher water levels in the reservoirs benefits boating, fishing, camping, etc., enhancing the local economy.

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