



Modernizing Idaho's Water Infrastructure

An Ongoing Story Series on the Idaho Water Resource Board's Aging Infrastructure Grant Program **ISSUE NO. 21**

Fremont-Madison Irrigation District Crosscut Canal Modernization Project

Overview: The Fremont-Madison Irrigation District (FMID), created in 1935, serves water users who raise potatoes, barley, wheat and alfalfa on approximately 280,000 acres of farmland in the Henrys Fork Basin. The District works with 44 canal companies, 144 diversions, pumps and ditch companies to deliver storage water throughout the basin. FMID also is contracted by the Bureau of Reclamation to operate and maintain Island Park and Grassy Lake Reservoirs.

FMID owns and operates the Crosscut Canal, which serves two purposes – first to supply water to three branches of the Fall River Canal and second, to deliver storage water from the Henry's Fork to the Teton River. The Fall River Canal system serves roughly 10,000 acres of irrigated land; the Crosscut Canal delivers supplemental storage water to the Teton River for the benefit of over 50,000 acres of farmland.

The structure proposed for improvements is the last diversion on the Crosscut Canal, where water is diverted into the East Branch of the Fall River Canal. All the water that flows through this structure is delivered to the Teton River. This results in a wide swing in flow based on the supply and demand on the Teton River.

Project need: FMID proposes to upgrade and modernize a check



The newly modernized Crosscut Canal check structure was rebuilt during the winter months so it could be operational in the 2025 irrigation season. (Photo courtesy FMID)

- **Type of project:** Canal modernization and automation.
- **Location:** Ashton, Idaho
- **Total project cost:** \$80,850
- **Idaho Water Resource Board Aging Infrastructure Grant:** \$26,681
- **FMID cost-share:** \$54,170
- **Start:** November 2024
- **Finish:** May 2025

structure on the Crosscut Canal. Aging defects in the structural aspect of the check structure needed to be improved, and the water-regulation aspect of the structure needed to be modernized to phase out using check boards to regulate water flow.

When the gauge shows zero at the end of the Crosscut Canal during the irrigation season, all the water is being diverted into the East Branch of the Fall River Canal. "When this is the case, all the boards are in the structure to prevent waste. There is so much pressure on the boards at



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FMID: Crosscut Canal modernization and automation (cont.)

high flow they then must be cut out with a chainsaw or broken out with a backhoe,” said Aaron Dalling, Executive Director of FMID. “This is inefficient and time-consuming.”

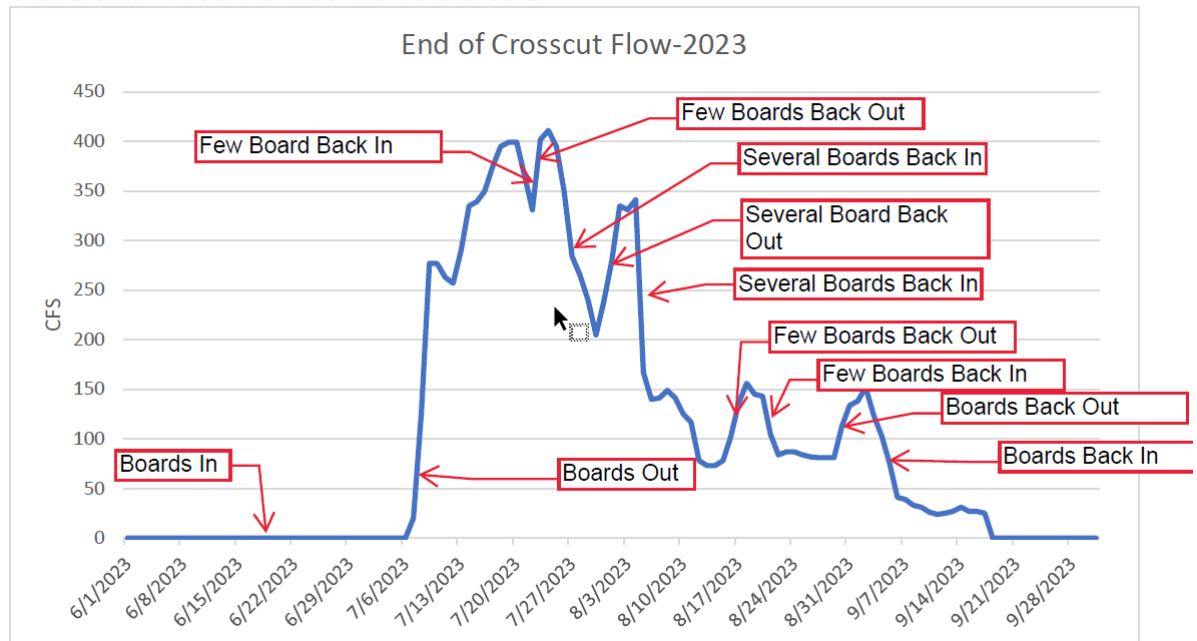
Work required: With the aid of an Aging Infrastructure Grant from the Idaho Water Resource Board, FMID made upgrades to the check structure by removing two pillars and replacing them with one pillar and two automated steel gates. The pillars that were removed

were roughly 50 years old; the concrete below the water level was deteriorating and needed repair.

The Automation equipment installed at the headgate “will help us conserve and manage water more efficiently,” Dalling said. “We will be able to set the level needed in the canal remotely from our existing SCADA system, the gates will then adjust automatically when flow changes occur. This will allow us to make flow changes right when they are needed, instead of waiting until the number of boards in the structure can be adjusted. This will also result in better relationships with our partners.”

Project benefits: The project will increase water reliability for an irrigated agriculture economy that averages nearly \$350 million dollars

Chart 1-Canal flows at the end of the Crosscut Canal



Top: Graph of canal flows at the end of the Crosscut Canal show the challenge in managing flows with check boards. Below: Damage to concrete foundation in a pillar removed as part of the project. (Courtesy FMID)



in crop sales per year in the three counties where FMID delivers water – Fremont, Madison and Teton (2017 Census of Agriculture), Dalling said. “In tough water years, projects like this are critical to stretch a limited water supply and produce as much food and fiber as possible,” he said.

In addition to providing water for

the local agriculture economy, the Henry's Fork is a world-famous fly-fishing destination which contributes \$50 million dollars to the local economy. This is in addition to \$14 million in property tax revenue from second homes owned by anglers in Fremont County.

“This project will help us maintain a more constant delivery to the Teton River. This will improve the river for irrigators and recreationists,” Dalling said.

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