



# Modernizing Idaho's Water Infrastructure

An Ongoing Story Series on Idaho Water Resource Board Regional Water Sustainability Projects **ISSUE No. 5**

## North Fremont Canal final phase: 15-mile pipeline

**Overview:** Starting with Phase One in 2004, North Fremont Canal Systems, Inc. has undertaken a major infrastructure upgrade, converting open canal channels with old and deteriorating check structures, headgates, and other dilapidated infrastructure to buried pressurized pipelines. These pipelines each have enough fall in elevation to create the pressure needed for the irrigation systems without the need for pumps. This has eliminated hundreds of electric pumps and will eliminate even more in Phase 5.

The fifth and final phase of the project has been funded by the Idaho Water Resource Board (IWRB), the Natural Resources Conservation Service (NRCS) and North Fremont Canal water users. The total cost of the project is \$19.7 million to convert 15 miles of the Marysville Canal from an open-ditch system to a pressurized pipeline.

Construction began in the fall of 2024 and will be completed in April 2025.

**North Fremont Canal Systems, Inc.** was formed in 1987 to coordinate efforts between the three main canals north of the Fall River. The three canal companies are Marysville, Farmers Own and Yellowstone Canal Companies. North Fremont is a water delivery entity. The three canal companies were formed in the 1890s to deliver irrigation water to farms.

Over time, the Ashton area become one of the largest seed-potato producing areas in the United States. "Potato production is vital to our



*Phase 5 of the North Fremont Canal pipeline project getting under way in the fall of 2024. The project is the final phase of 20+ years of canal-improvement projects in the Ashton area. (Photo courtesy North Fremont Canal)*

- **Type of project:** Water efficiency and energy savings project.
- **Location:** Ashton, Idaho
- **Total project cost:** \$19.7 million
- **IWRB funding:** \$7.8M
- **NRCS funding:** \$7.1M
- **Start date:** October 2024
- **End date:** May 2025

nation's food supply," said Aaron Dalling, project manager. "Providing adequate water to this area is important to nationwide potato production and food security."

The North Fremont Canal Systems deliver water to more than 120 landowners covering 34,200 acres of productive cropland.

**The Challenge:** The open ditch system on North Fremont has been experiencing significant seepage losses. The NRCS estimates that Phase five will reduce water loss each irrigation season by 5,500-acre feet. North Fremont has junior water



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## North Fremont Canal water efficiency project (cont.)

rights, so it is highly dependent on storage water. In 2022, North Fremont received less than a 60 percent allocation of its storage water held in Island Park, Grassy Lake and Palisades Reservoirs.

“We were forced to leave several thousand acres of farmland out of production to stretch the water on the acres we planted,” Dalling said. “This is not good for our national food supply, the farmers, or the local economy. The Phase 5 pipeline project will help us conserve our available water, stretching its availability in drought years like 2022 and will allow for additional water held in the reservoirs in subsequent drought years.”

**Energy savings:** This project will eliminate the need for 30 irrigation pumps and the associated power requirements because of the gravity flow in the pressured water pipeline. The five phases of the project are collectively estimated to reduce power demand by 4,500 megawatts.

**Updating aging infrastructure:** The project is replacing 31 aging water control structures, 30 old irrigation pumps and several headgate and turnout structures. Many of these structures and pumps are over 40 years old.

**Aquifer recharge:** The Phase 5 pipeline project does provide some benefit to the Eastern Snake Plain Aquifer. Despite reduced incidental recharge, the pipeline will allow delivery of water to designated recharge locations known as the Atchley Gravel Pit and Clark Canyon. This will provide an opportunity for



*Tight window for construction requires trenching and pipeline placement when weather allows throughout the winter months. (Courtesy North Fremont Canal)*

managed aquifer recharge in the North Fremont system in years when water is plentiful.

**Water savings:** The project is estimated to save approximately 5,500 acre-feet of water per year, resulting in less water being diverted from the Henrys Fork. This will allow North Fremont to stretch its water supplies further into the growing season in drought years.

North Fremont holds storage water through the Fremont-Madison Irrigation District (FMID). FMID is the contracted entity with the Bureau of Reclamation for the storage water in Island Park and Grassy Lake Reservoirs. North Fremont diverts more FMID storage water than any

other irrigation company. As such, NFCS has the highest impact to FMID's storage water carryover each year.

With North Fremont diverting less water, it will allow FMID to save additional storage water. This will directly benefit all 2,200 individual space-holders and 44 canal companies within FMID in years the district's junior storage rights do not fill. Hence, the project will directly benefit all of the spaceholders within FMID and nearly 285,000 acres of irrigated crop and pastureland in the area.

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For more information go to [idwr.idaho.gov](http://idwr.idaho.gov)