



# Minidoka Irrigation District

## Project Spotlight

### System Optimization Review

**Project Overview:** As part of ongoing efforts to improve water conservation and system efficiency, Minidoka Irrigation District (MID) conducted a System Optimization Review to better understand water movement and identify areas of loss throughout the system. The goal of the project was to collect accurate flow data, evaluate system performance, and prioritize infrastructure improvements based on measurable need. By measuring flows at key locations along canals, laterals, and at diversion points, MID was able to gain a clearer understanding of where inefficiencies exist and how water is being distributed throughout the system. This information provides a foundation for future projects focused on reducing loss, improving delivery, and enhancing long-term system performance .



*Lateral 33 Spill weir and automation installation  
Photo credit: Brandon Clement, February 2024*

#### PROJECT HIGHLIGHTS

**Location:** Rupert/Declo, Idaho

**Total Project Cost:** \$52,121

**USBR WaterSmart:** \$25,000

**MID:** \$27,121

**Start:** March 2023

**Finish:** May 2024

**Challenges Faced:** Prior to this effort, the District had limited system-wide data identifying where water losses were occurring. Without detailed measurements, it was difficult to quantify inefficiencies or prioritize improvements across the system. Variability in channel conditions, flow rates, and infrastructure age made it challenging to accurately assess performance. Developing a consistent and reliable method for collecting and analyzing data across a large and complex system was essential to the success of the project.



# Minidoka Irrigation District

## Project Spotlight

**The Solution:** To address these challenges, MID implemented a structured data collection and analysis program. Flow measurements were taken across multiple locations using standardized methods to ensure accuracy and consistency.

The collected data was then analyzed in coordination with an engineering firm to identify areas of significant water loss and develop a prioritized list of improvement projects. This process allows MID to make informed, data-driven decisions when planning future infrastructure upgrades.

**Implementation:** The System Optimization Review was completed in multiple phases, beginning with planning and site selection, followed by field data collection during the irrigation season. MID staff conducted flow measurements using specialized equipment to capture velocity, depth, and channel dimensions.

Data was compiled and shared with an engineering firm for analysis, cost evaluation, and development of a ranking matrix. Final phases included review of findings and integration into long-term planning, allowing MID to prioritize projects based on efficiency gains, cost, and overall system benefit.



*Bubbler automation site on Lateral 313  
Photo credit: Wayne Sherbeck*

**Project Benefits:** The System Optimization Review provides long-term benefits by giving the District a clearer understanding of system performance and water loss. With accurate data, MID can prioritize projects that deliver the greatest impact, improving efficiency and reducing unnecessary water diversion.

This data-driven approach supports better planning, increases drought resiliency, and ensures that resources are invested where they will provide the most benefit. Ultimately, the project strengthens MID's ability to deliver reliable water service while maximizing conservation efforts.