

## Midvale Irrigation District Conservation Program Level II

**Client/** Mr. Ron Vore  
**Reference:** Wyoming Water Development Commission  
6920 Yellowtail Road  
Cheyenne, WY 82002  
307-777-7626

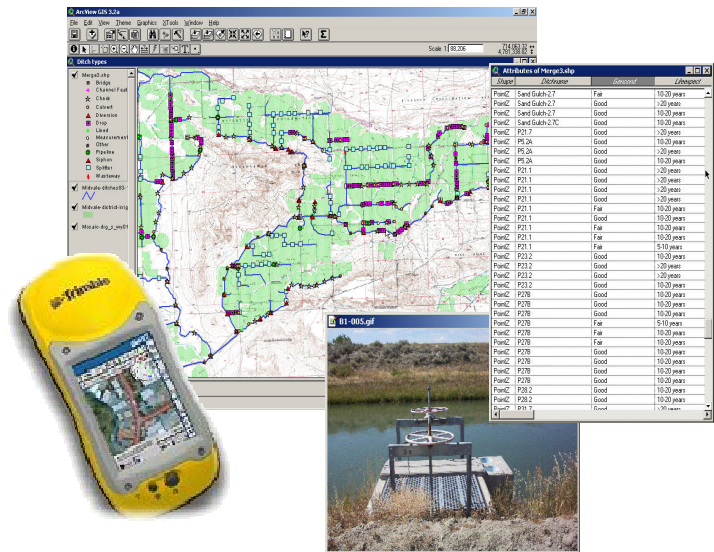
**Project Manager:** Brad Anderson

On May 29, 2003, Anderson Consulting Engineers, Inc. (ACE) entered a contract with the Wyoming Water Development Commission (WWDC) to provide professional services to the Midvale Irrigation District Conservation Program Level II Project. The Midvale Irrigation District (District) consists of approximately 72,000 irrigated acres in the vicinity of Riverton, Wyoming. Water is supplied by the Wind River and its tributaries. Runoff is stored in Bull Lake and, to a lesser degree, Pilot Butte Reservoir. A diversion dam diverts water from the Wind River into the Wyoming Canal which conveys the irrigation diversions from the diversion dam to Pilot Butte Reservoir and ultimately to lands in the northern part of the Riverton Unit. Pilot Canal serves the irrigated lands in the southern part. The total distribution system consists of over 84 miles of main canal and 300 miles of primary laterals.

The objective of the project is to prepare a Rehabilitation Plan that identifies practical and economic improvements including installation of pressurized pipe systems, construction of regulation storage reservoirs, canal/lateral lining, rehabilitation of existing structures, automation of structures and measurement devices, integration of hydropower generation, and implementation of on-farm improvements. Included in the plan are conceptual level costs estimates to support a legislative request for Level III construction funding.

Specific tasks incorporated in the project include:

- Conducting an inventory of all structures along the Wyoming Canal, Pilot Canal and lateral system, condition assessment, GPS location, and identification of potential rehabilitation needs. This effort included documentation of all individual farm turnouts.
- Conducting seepage investigations within the study area and evaluate alternative measures to reduce potential seepage losses.
- Evaluate the feasibility of gravity pressure pipelines and canal lining projects that will conserve water and satisfy the irrigation demands of the individual service areas.
- Evaluation of the potential regulation storage opportunities and optimize the capacity to minimize operational waste. Specifically, ACE investigated the potential to integrate improvements to Ocean Lake and the management of water stored in Pilot Butte Reservoir.
- Conducting an irrigation efficiency analysis including a determination of the farm delivery requirement and alternatives to improve on-farm application efficiencies.
- Development of a database/GIS mapping that facilitates the planning process, documents the inventory of structures, and provides valuable data to the District to promote operation and management of water deliveries.
- Evaluate alternative sources to fund the proposed rehabilitation plan.



Midvale Irrigation District GIS Development