

Goshen Irrigation District Master Plan Level II

Client/ Mr. Bruce Brinkman
Reference: Wyoming Water Development Commission
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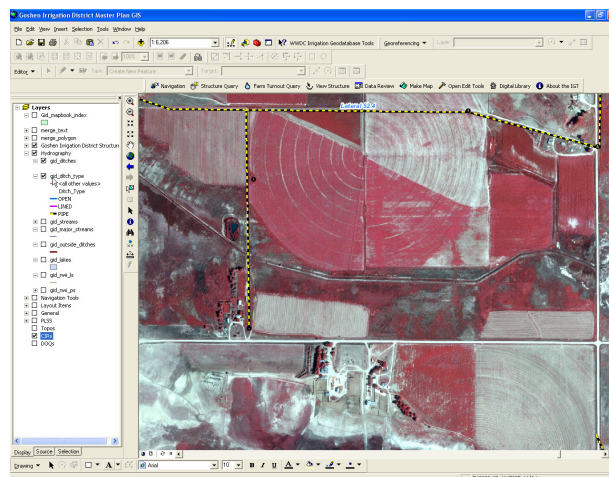
On June 15, 2006, Anderson Consulting Engineers, Inc. (ACE) entered a contract with the Wyoming Water Development Commission (WWDC) to provide professional services to the Goshen Irrigation District Conservation Program Level II Project. Whalen Dam diverts water from the North Platte River into the Gering-Ft. Laramie Canal which services 52,484 irrigated acres in Wyoming and an additional 54,850 irrigated acres within the Gering-Ft. Laramie Irrigation District in Nebraska.

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, 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:

- Conduct an inventory of the structures along the Fort Laramie Canal, Cherry Creek Lateral, Springer Main Lateral, and East Springer Main Lateral and identify potential rehabilitation needs.
- Develop 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 as well as implementation of planned improvements.
- Prepare a prioritized 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, and as appropriate, implementation of on-farm improvements.
- Conduct a reconnaissance level water quality investigation in order to characterize the overall quality of waters delivered to GID irrigators.
- Evaluate alternative sources to fund the proposed rehabilitation plan.
- Prepare conceptual level designs and cost estimates that support a legislative request for Level II investigation funding or Level III construction funding.
- Identify potential environmental permitting requirements associated with implementation of the rehabilitation plan.

The GID GIS incorporates ACE's Irrigation Geodatabase Tool (IGT) which enables the novice user to navigate, to utilize the extensive databases, and to generate maps. The IGT consists of a suite of tools developed using Visual Basic and packaged into a user-friendly graphic user's interface (GUI). The IGT allows the user to easily query the extensive geodatabase to extract information such as structure condition, functionality, and rehabilitation needs. The IGT facilitates data editing in an easy to read data form, bypassing cumbersome editing routines otherwise required by the GIS software. Using the IGT, ACE staff are preparing a prioritized list of rehabilitation needs for the GID.



Goshen Irrigation District GIS