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Mike Andrews

The Shoshone Irrigation Project

Educational Exhibits as Mitigation

The Bureau of Reclamation of the U.S. Department of the Interior is responsible for the development and conservation of the nation's water resources in the Western United States. With its original purpose "to provide for the reclamation of arid and semiarid lands in the West," Reclamation set about to construct large irrigation systems, especially during the first half of this century. These irrigation projects played a significant role in the settling of the West.

Reclamation's history includes building large and impressive dams, many of which are listed in the National Register of Historic Places. In contrast, the irrigation systems which are fundamental elements of these projects are subtle and unremarkable to most people. In fact, some archeologists consider them so unremarkable as to not be worthy of evaluation. The necessity of historic preser-

vation compliance for projects at the high-profile dams is rarely debated. However, it can be a challenge to comply with the National Historic Preservation Act for projects on the canals and ditches, especially if one wants to get beyond a cookbook approach. The Shoshone Irrigation Project in northwest Wyoming illustrates such challenges and one possible solution for their resolution.

Irrigation systems are dynamic systems. They require a great deal of periodic maintenance to be kept operational. Many of the system's components suffer from exposure to the elements: earthen walls erode, canal bottoms silt up, concrete structures are subject to freeze-thaw action, and wooden features deteriorate. As a result, constant vigilance is required to keep a system from quickly becoming inoperative. During this maintenance it is usually appropriate to replace deterior-

rated or obsolete features with the latest technology for increased water efficiency, thus changing the historic fabric of the system.

The Bureau of Reclamation's Shoshone Irrigation Project near Cody, Wyoming, is an old reclamation with considerable history and unique engineering features that faced such changes. By the 1980s, time and nature had taken their toll and the system needed substantial rehabilitation and upgrading. Engineering features of the project include Buffalo Bill Dam, two large concrete diversion dams (Willwood and Corbett dams), two reservoirs with earthen dams (Deaver and Ralston), four power generating plants, six and one-half miles of water conduit tunnels, about 150 miles of main canals, and more than 1,200 miles of laterals, ditches, and drains. The project serves about 100,000 acres of land stretching along 40 miles of the Shoshone River Valley.

Because of its contributions to the history of the Shoshone River Valley as an example of engineering accomplishments, the project is eligible for the National Register of Historic Places. Buffalo Bill Dam (the largest concrete dam of its kind when completed in 1910) is also designated a National Historic Civil Engineering Landmark by the American Society of Civil Engineers. The Heart Mountain Relocation Camp, significant for its role as home to 10,000 Japanese relocatees during World War II, is also located on the project. The project's formulation dovetails with early Reclamation history and highlights the entrepreneurial spirit of Buffalo Bill Cody.

To address the needs of this aging project, the Bureau of Reclamation initiated the Shoshone Rehabilitation and Betterment Program in 1989. The goals of the program were to rehabilitate a flume across Frannie Creek, a tunnel through Cedar Mountain, a series of drop structures on the main canal near Powell, and to put many miles of canal laterals into pipe. Totaling over \$15 million,

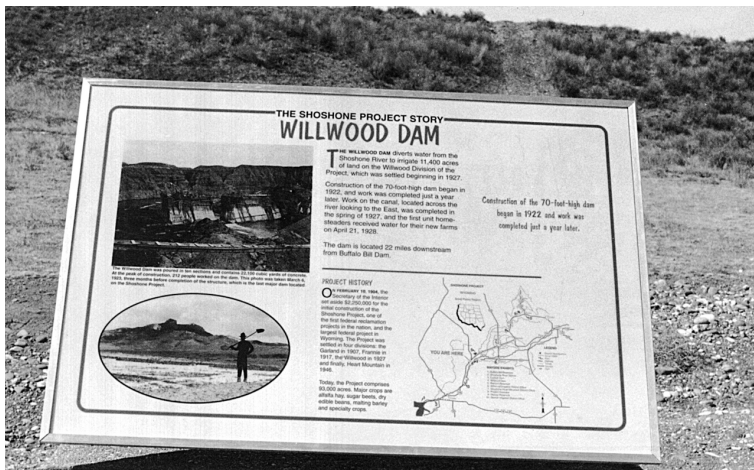
the program would take about five years to implement.

Reclamation began complying with Section 106 through a series of individual inventories and consultations. This was necessitated by the work plans and schedule which were developed annually. While this approach was acceptable for pre-historic sites affected by the project, there was clearly a need for a programmatic approach to address the cumulative impacts to the Shoshone Irrigation Project. The previous approach of documenting all affected structures according to HABS/HAER standards not only proved to be of little public value but required a substantial amount of labor and cost. As a result, Reclamation proposed and the Wyoming SHPO agreed to the development of a program to mitigate these effects through a public education/exhibit program. An integral part of this program was to document and share the historic and technological contributions of the project with the public through a series of educational exhibits. The program, which was enthusiastically supported by the Advisory Council, specified that:

- All historic irrigation features would be documented through inventory and recordation on a single-page Irrigation Feature Form which includes photograph and map.
- Reclamation would develop a portable exhibit highlighting the contributions of the Shoshone Irrigation Project to the settlement and history of the Valley. As part of this plan, the exhibit would be made available for loan to schools, libraries, and other organizations.
- Reclamation would develop a series of integrated wayside exhibits which would comprise a self-guided driving tour of the project. This driving tour would highlight engineering as well as historical values of the system. We envisioned that 10 to 14 exhibits would be developed, supplemented by the publication of a booklet designed to guide visitors through the project. Reclamation contracted the Joint Powers Board of the four individual Irrigation Districts (which operated the system) for the planning, preparation, and implementation of the mitigation, thereby bringing community members into the project. The driving tour was clearly to be the centerpiece of the mitigation plan.

In addition to the above, Reclamation developed a separate agreement with the Montana SHPO for mitigating the effect of replacing the Frannie Flume. This steel structure supported by a wooden trestle was located in the Montana portion of the project and had outlived its usefulness. Mitigation involved the production of a video tape

Typical wayside from the Shoshone Irrigation Project: Willwood Dam. Photo by the author.



documenting the history of the flume including its construction, maintenance, and demolition.

With the development of a Statement of Work (copies available from the author) in 1994, and with much helpful advice from the National Park Service Denver Service Center, the project began. The Statement of Work stipulated minimum conceptual and technical requirements, and allowed creativity for the scope, concepts, text, art work, and theme of the project. Reclamation and the Wyoming SHPO retained review and approval oversight for the project. Ultimately, the services of Dr. Paul Fees, Director of the Buffalo Bill Historical Society, and Dr. Robert Bonner, a historian, were enlisted by the Board to complete the project.

The portable exhibit was installed on a commercially available, aluminum-frame table-top display. The contributions of the Shoshone Irrigation Project to local and regional history and economy were brought to life through photographs and text, including quotes from individual Project farmers. The display is currently housed at the Shoshone Irrigation District Office in Powell, Wyoming, and is made available frequently to educational groups.

The driving tour was completed and dedicated in 1996. Ten wayside exhibits were developed, fabricated, and installed at Buffalo Bill Reservoir, Willwood Dam, Corbett Dam, Ralston Reservoir, Deaver Reservoir, and the Powell, Willwood, and Deaver Offices of the project. Fiberglass embedment panels were used to display historical facts, anecdotes, and original artwork.

Each wayside exhibit integrates the same color palette, typeface, and logo to underscore the continuity of the tour. The logo, an oval containing a silhouetted figure with a shovel over his shoulder, is continued also on the table-top display and in the driving tour booklet as well. Each exhibit also contains the entire tour route along with the major irrigation project features, local highways, towns, and other wayside exhibit locations. Exhibit locations were selected using a set of criteria, including security for the display, the potential for handicapped accessibility, adequate parking, safety precautions, and other variables specified in the Statement of Work. Although the overall tour clearly caters to the motoring public (each installation contains adequate parking for two or three cars/RVs), paths are constructed at several of the locations and the displays are placed usually on prominent topographic features overlooking one or more of the irrigation system features.

A booklet, *Land, Water and People: The Shoshone Project Story*, which accompanies the tour, contains a brief history of the major divisions on the project, their importance to the area, as well as

a description of the exhibits. A glossary of water-related terms used in the exhibits and a short list of recommended readings on the history of the area are included.

The project implementation was not without its problems. Differences in the expectations of the Shoshone Irrigation District, which bore the cost of mitigation, and the preservation community were vast at the beginning. While the District was concerned about expense of the program, Reclamation and the Wyoming SHPO were most interested in quality and educational excellence of the exhibits. As a result, what Reclamation and the SHPO envisioned as a two-year project took about seven years to complete. However, the final product, largely because of professionalism and the mandates of the Statement of Work, was lauded by all parties.

Reclamation has received considerable positive feedback that the exhibits not only are successful in delivering the message of history, settlement, and engineering, but they also have contributed to the tourism in the area. In addition, the project also established partnerships where none had existed before. Reclamation, the SHPO and Advisory Council, along with the Joint Powers Board, the County Roads Department, and Wyoming Game and Fish Department, all contributed to the success of the project. The Advisory Council has recommended similar programs to other agencies. If the project proves to be a long-term success, it was due to the combined creativity of historic preservation specialists, the willingness of the Bureau of Reclamation and the Irrigation District manager to take a chance with an experimental idea, and the dedication of professionally qualified museum specialists. Without the interplay of agencies and individuals with a desire to see this mitigation through and, ultimately, an atmosphere of cooperation, this project would not have been achieved.

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