RECLAMATION

Managing Water in the West

18-USFO-CR-06

Minidoka Gravity Division Historic Context and Evaluation

U.S. Department of the Interior
Bureau of Reclamation
Upper Snake Field Office

June 2019

Table of Contents

Figures

Cover photo: North Main Canal of the Minidoka Gravity Division, Minidoka Project, Idaho. May 2019. View East-Northeast.

History of Irrigation in Idaho[1]

Idaho irrigation began sporadically around the State of Idaho, spurred by different settlement groups and reason. The first recorded irrigation occurred in 1838, when Reverend Henry H. Spalding, a missionary at Lapwai, dug a ditch from the Clearwater River in north-central Idaho to supply his dying garden with water (Idaho Agriculture n.d). Farther south, the discovery of gold in the Boise Valley in the early 1860s encouraged development of agriculture to feed the growing mining community. And as a part of the expansion of Mormon communities out of Utah, emigrants began to settle in southeastern Idaho in the early 1850s bringing irrigation experience with them to the Upper Snake River area. Early ditches, built around 1855 by Mormon settlers, are still in use (Idaho Agriculture n.d.).

The first right to divert water from the Boise River for irrigation purposes was granted in 1864. The water was used for irrigation at the Boise townsite and to supply Fort Boise. By 1870, farming in the Boise Valley was well established, but most farming was limited to lands along the river and the development of new lands was hindered by lack of reliable irrigation facilities. In the early 1880s, A. D. Foote proposed construction of the New York Canal to irrigate thousands of acres on the south side of the Boise River. Foote began construction of his canal, but numerous problems persisted, and after 16 years of work, only a small trickle of water flowed through Foote's canal.

Private organizations around Boise toyed with irrigation possibilities after 1887, but made no definitive investigations of the idea. Meanwhile, in Minidoka County, water wheels were used to irrigate 200 acres of the "Old Jimmy Howell Place." Other dry farming and single farmer irrigation projects also existed in southeastern Idaho at this time. Federal interest was first demonstrated by the U.S. Geological Survey conducting investigations of irrigation possibilities of Idaho in 1889-90. The Idaho State Engineer ordered further surveys five years later.

In 1894, Congress passed the Carey Act to encourage state and private cooperation in developing irrigated agriculture. It allowed the state to acquire undeveloped arid land for agricultural use (Lovin 1987). According to Lovin (1987), this allowed for profits to corporations and private landowners in the sale of water from irrigation facilities in the arid west. In theory, this act allowed the capture of wasted water and would promote development of not only agricultural but also later industry as populations moved into these reclaimed areas (Lovin 1987).

By 1900, about 148,000 acres of land in the vicinity of Boise was under irrigation with the potential of several hundred thousand additional acres if reliable irrigation facilities could be constructed. But the money required for such development was great, and few could raise the funds needed for construction. Farther east, in 1900, Ira B. Perrine combined Idaho, Illinois, and Pennsylvania interests to bring water to the Twin Falls area. Perrine convinced Stanley Milner, a Salt Lake City businessman, to invest $30,000 in a survey for the irrigation project. In 1903, the State of Idaho contracted with Twin Falls Land and Water Company (Perrine's group), and the company built Milner Dam, named for Stanley Milner.

Congress passed the Reclamation Act in 1902, paving the way for Federal involvement in large scale irrigation projects in the arid west with the stipulation that water users repay construction costs. D.W. Ross, Reclamation's District Engineer in Idaho, initiated the work of Reclamation in Idaho. Surveys began

[1] Information from this section is adapted from Stene 1997 and Simonds 1997 unless otherwise cited.

on the headwaters of the Snake River in order to determine water storage potential. The money and expertise needed to bring water to undeveloped areas would be supplied by the government and repaid by the water users under a low-cost, long-term loan program. Between 1902 and 1907, Reclamation began around 30 irrigation projects throughout the western United States, including the Minidoka and Boise Projects in Idaho.

These projects included water storage, water conveyance, and hydropower features. Historically, these components have been documented separately even though they relate to each other and could not exist independently.

Minidoka Project: Gravity Division 1906-1916[2]

The canal system associated with the Minidoka Project is located in Minidoka and Cassia Counties, Idaho. As discussed in this document, it includes only those canals and laterals branching off the North Main Canal north of the Snake River, known as the Gravity Division. It extends west from the headgates at Minidoka Dam, past the project towns of Acequia, Minidoka, Rupert and Heyburn, to Jerome County (Figure 1). The South Pumping Division, managed by the Burley Irrigation District, was transferred to private ownership in 2000. On November 17, 1902, Secretary of the Interior Ethan A. Hitchcock withdrew the irrigable land of the Minidoka Project from public entry. Survey parties started initial work looking toward locating canals in the project area on both sides of the Snake River. Surveys indicated the north side could be irrigated by gravity with canals. In December 1903, D.W. Ross reported to

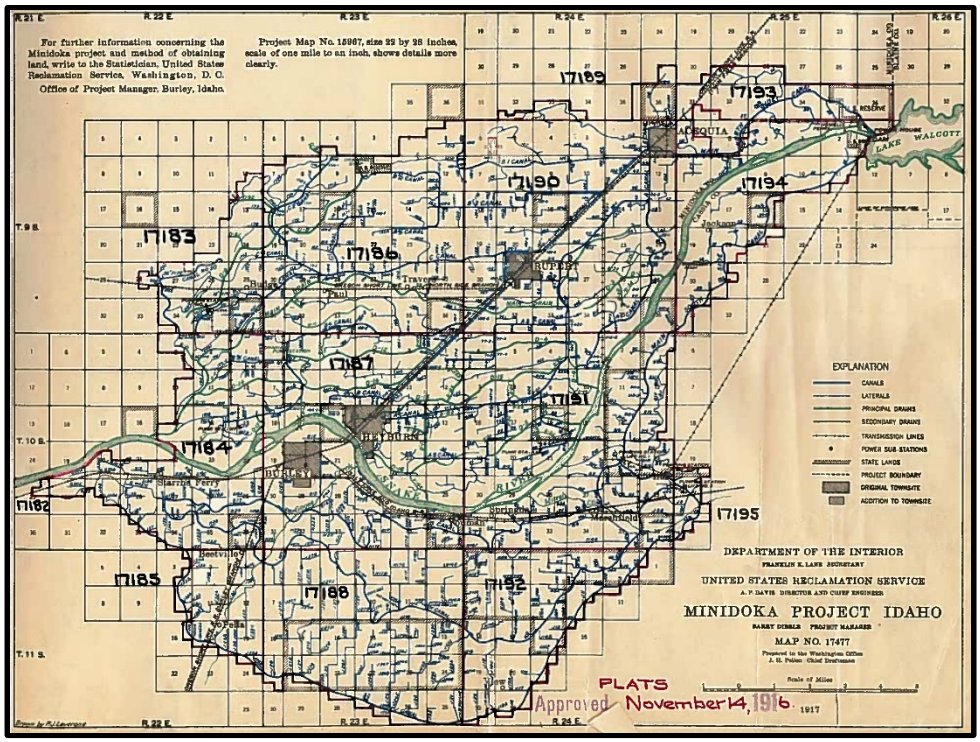

Figure 1. Minidoka Project Canal System, 1917. On File with Reclamation, Upper Snake Field Office, Heyburn, Idaho.

[2] Information adapted from Polson 2018 and Stene 1997

Reclamation, recommending immediate construction of the project. A consulting board reviewed a report of estimated costs the next spring. In March, the board reported favorably to the Secretary of the Interior. Ethan A. Hitchcock gave the Minidoka Project his approval on April 23, 1904, and allotted $2.6 million to the Project. The Minidoka Project was the largest government project designed to reclaim the arid lands in the Snake River Valley. The Dam was completed in 1906 (Figure 2).

In the spring of 1905, Reclamation opened the contract bidding for the Project's canal systems and awarded contracts that July. Excavation of the canal systems commenced immediately upon approval of Reclamation furnished concrete, steel gates, and controlling machinery to all the contractors, and took over the construction of five structures in the canals and built them of wood to speed progress (Figure 3). In spite of this effort, the contractors did not complete their work until July 1907.The completion of Minidoka Dam in 1906 kicked off settlement in the Magic Valley as it was set up to deliver water for agriculture and industry. In addition to the dam, an extensive network of canals, laterals and sublaterals were constructed to deliver water to the region. The survey for the northside canal system was completed in 1904 and covered over 65,000 acres (Fogg 1915). The design then commenced. Construction contracts were let out for bid in 1905 for the main canals and supporting structures with the hope that they could convey water for the 1906 growing season. The North Side Canal and structures were completed in July 1907 (Figure 4). The ‘A’ canal system excavation involved the movement of 1,068,156 cubic yards moved primarily with fresnoes and was finished in 1906 (Fogg 1915).

Figure 2. Minidoka Dam. Spillway from North Embankment. WJL. October 1911. Reclamation Photograph Minidoka Project: 551.

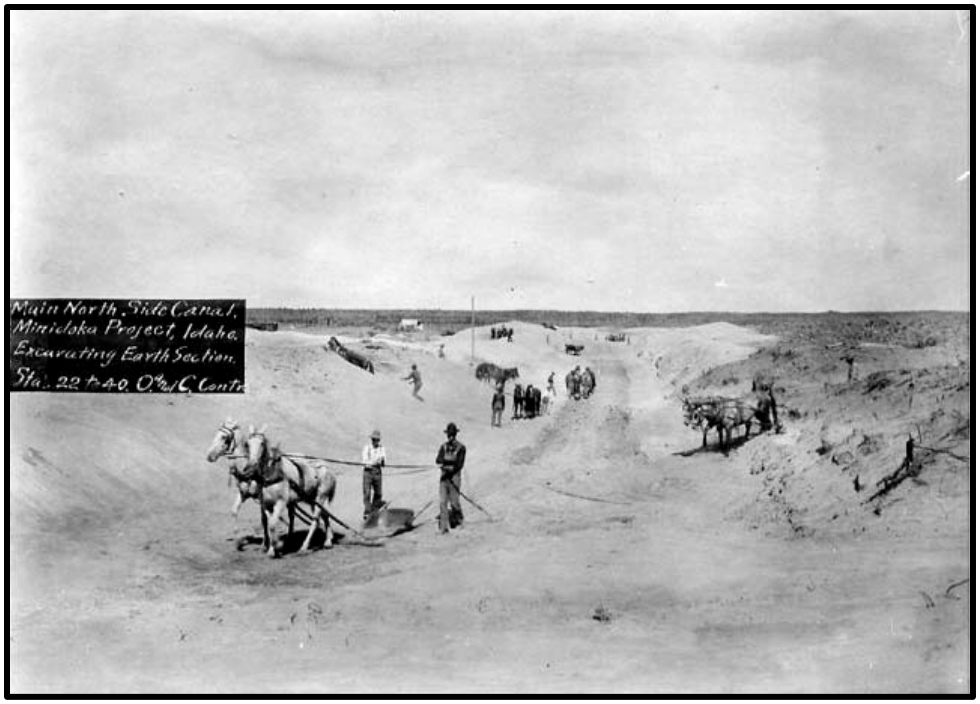

Figure 3. Main North Side Canal, Excavating Earth Section, c.1905. Minidoka Project, Idaho. Reclamation Photo No. P17-100-4018.

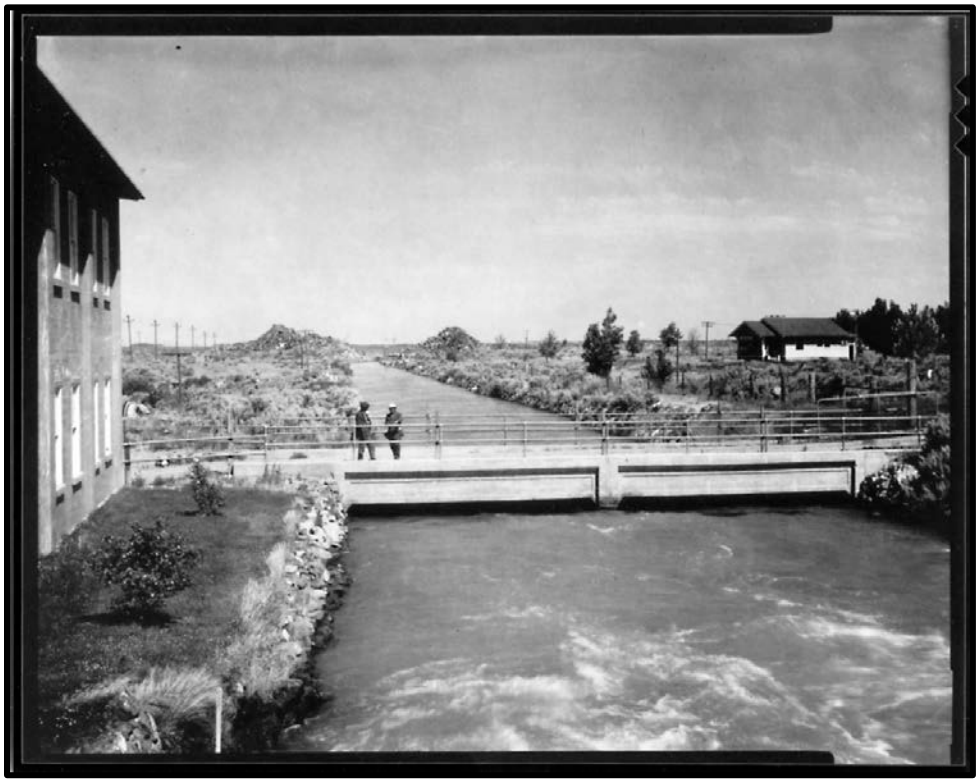

Figure 4. Bridge over North Side Canal at Dam Complex, 1918. HAER No. ID-16-129

The sublateral system was estimated to include 140 miles of canal lines delivering 1 second foot for 40 acres to be delivered to each 80-acre farm unit (Fogg 1915). The sublaterals were originally to be built by contract, but a decision was made to construct them using government forces and a change in policy by the Chief Engineer resulted in the assignment of partial responsibility for the construction of these canals and ditches to the homesteaders (Fogg 1915). To accomplish this, Reclamation attempted to organize the settlers into small local districts, resulting in almost 400 districts being formed. The response was mixed. Some sublaterals were built to specification, some landowners refused to do the work, and some were built substandard. Work to fix the substandard sublaterals was complete in 1912. In the end, approximately two-thirds of the work was completed by the government and one-third by the settlers.

In 1908, a plan to credit settlers who had built their own sublateral system was put into place. This system allowed for the purchase of laterals from the settlers for credits for reduction in their water rights charges. To accomplish this in 1909, Mr. N.E. Webster, Jr., an accountant, Mr. J.A. Beemer, assistant engineer, and a Mr. Clinton Spencer made a complete survey of the situation (Fogg 1915). Mr. Webster offered a maximum price of $0.10 per cubic yard in credits and quitclaim deeds and affidavits were taken in exchange (Fogg 1915).

Unlike many Reclamation projects, the Minidoka Project began before the formation of any official water users' associations. Residents moved quickly in organizing water users' associations. North Side farmers established the Minidoka Irrigation District (MID). On December 2, 1916, the Department of Interior entered an agreement with MID turning control of the Gravity Division over to the water users.

Minidoka Gravity Division Historic District

The Gravity Division of the Minidoka Canal System has not been officially evaluated for its eligibility to be listed in the National Register. Many components or features of system have been evaluated and found either eligible or not eligible. In recent years, Reclamation has treated the system as eligible under Criterion A for its contributions to agriculture and reclamation and evaluated components in context of the overall system because of the integral part it played in the development of the Magic Valley. As part of this consultation, it has been established that the period of significance for the system is 1906-1917. Although this should be revised to 1906-1916 as that is when the main canals were finished until the project was turned over to MID. Additionally, it has been established that the primary and secondary canals are eligible for listing in the National Register if they retain their original location, workmanship, materials, design and association. Current Idaho State Historical Society guidance states: “SHPO will not consider those elements below main canals and named primary laterals, and equivalent drains to be eligible for this National Historic Register of Historic Places. Recordation beyond that level is not required” (Reid 2017).

Given what is already known about the contributions that the Minidoka Project, and specifically the Gravity Division made to irrigation in the Magic Valley region, Reclamation has evaluated the eligibility of the Minidoka Gravity Division Historic District (District) as a whole, as follows.

Evaluation

As required by Section 106 of the National Historic Preservation Act, Reclamation is evaluating the eligibility of the District to be listed in the National Register. This evaluation of the District takes into account the historical context presented in this report, the National Register listing of the associated

Minidoka Dam and Powerplant, previous determinations of eligibility of contributing elements, and reviews each of the four National Register Criteria. What this evaluation does not do is identify each contributing element or make eligibility determinations for individual components of the District. That work will need to be completed after documentation of the District.

Criterion A

The Idaho State Historical Society (ISHS) has identified time periods and themes important in Idaho including *Beginning the New Century (1904-1920).* The ISHS defines this period as beginning:

> …with the impact of the Carey Act, Reclamation Act, and other irrigation/reclamation efforts and large scale irrigation, and continues with the ensuing boom in agriculture and population growth of the timber industry, progressive reform movement, and large-scale transportation and engineering achievements. The period ends with the close of World War I and the initial war recovery period. (ISHS 2015)

The District falls entirely within this period and was part of the first federal reclamation project in the State of Idaho, the Minidoka Project. Although there had been earlier canals, the large-scale irrigation projects were unprecedented in Idaho. The irrigation water supplied to Minidoka County led to the development of agriculture and settlement of the region and the formation of four government project towns: Rupert, Heyburn, Minidoka and Acequia. Although the entire system has yet to be documented, it is known that many of the primary canals and drains retain high integrity of location, design, workmanship, materials, setting, feeling and association.

Based on this information Reclamation has determined that the District is eligible for listing in the National Register under Criterion A for its association with the themes of agriculture, reclamation and early settlement of southeastern Idaho.

Criterion B

Although the names of several individuals known to have been involved with the development of the District, none have been identified as locally, regionally or nationally significant. Therefore, Reclamation has determined that the District is not eligible for listing in the National Register under Criterion B.

Criterion C

The District primarily relies on gravity to move water through the system, although several pumps have been added in as needed. As an engineering feat, the design and plan were based on existing principles and did not introduce any new technologies or styles. The canals are primarily earthen except for the North Main Canal which has rock lined sections. As a system, Reclamation has determined that the lack of innovative design and the standard construction do not contribute to the historic significance of the District. Therefore, the District is not eligible for listing in the National Register under Criterion C.

While this is true of the District, individual elements may be eligible under Criterion C. These determinations will be made after the system has been documented.

Criterion D

The District is a conglomeration of historic surface features including canals, drains and pumps that have been subject to regular operation and maintenance for more than a century. Better information on the District is better found in archives. Therefore, Reclamation has determined that the District is not eligible for listing in the National Register under Criterion D.

References Cited

Fogg, P. M.
1915 A History of the Minidoka Project, Idaho, to 1912 Inclusive. Unpublished manuscript on file at the Bureau of Reclamation, Upper Snake Field Office.

Idaho Agriculture
n.d. Agriculture & Irrigation. https://imnh.iri.isu.edu/digitalatlas/geog/agirrig/agirtext/agigmain.htm accessed 12/12/2018.

Idaho State Historical Society
2015 Consulting with the Idaho State Historic Preservation Office: Guidelines and Procedures for Cultural Resource Review and Consultation in Idaho. Boise, Idaho.

Lovin, Hugh T.
1987 The Carey Act in Idaho, 1895-1925: An Experiment in Free Enterprise Reclamation. *The Pacific Northwest Quarterly* 78(4):122-133.

Polson, Nikki
2018 Cultural Resources Evaluation of Lateral 128 of the Minidoka Canal System, Minidoka Project, Minidoka County, Idaho. Upper Snake River Office Report No. 18-USFO-CR-013. Heyburn, Idaho.

Reid, Ken
2017 "Linear Agricultural Irrigation Resources." Memo from the SHPO to Idaho Transportation Department, Contractors and Consultants, January 27, 2017.

Simonds, Wm. Joe
1997 The Boise Project. Denver, Colorado.

Stene, Eric A.
1997 Minidoka Project History. Boise, Idaho.