

ARROWROCK DAM, RESIDENCE
Boise River, 22 miles upstream east of Boise
Twin Springs vicinity
Boise County
Idaho

HAER ID-27-B
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PHOTOGRAPHS

WRITTEN HISTORICAL AND DESCRIPTIVE DATA

HISTORIC AMERICAN ENGINEERING RECORD
PACIFIC WEST REGIONAL OFFICE
National Park Service
U.S. Department of the Interior
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ARROWROCK DAM, RESIDENCE (Building No. 51)

HAER No. ID-27-B

Location: Boise River, 22 miles upstream east of Boise
Twin Springs Vicinity
Boise County
Idaho

UTM: 11:586580:4827140
Quad: Arrowrock Dam, Idaho, 1:24,000

Dates of Construction: 1951

Builder: United States Bureau of Reclamation

Project Engineer: United States Bureau of Reclamation

Present Owner: United States Bureau of Reclamation

Present Use: Arrowrock Dam Maintenance Specialist Residence

Significance: Arrowrock Dam is a key component of the Boise Project, an irrigation project designed by the United States Reclamation Service (USRS) to irrigate roughly 390,000 acres in the Boise and Payette Valleys in southwestern Idaho. This Project helped to make the Boise and Payette Valleys the most agriculturally productive region in Idaho. In large measure this was due to Arrowrock Dam on the Boise River, a dam that created a reservoir of more than 272,200 acre-feet of water for irrigation. Arrowrock Dam was the highest dam in the world when it was completed in 1915, measuring 350.5 feet high from bedrock. Experimental elements of its gravity-arch design would be applied to later dams that were even higher. It was only one of two Reclamation dams built with sand cement for the concrete. It was the first USRS dam built whose design required Ensign valves for its outlets to release water. Ensign valves were an important step in the rapid evolution of water regulating valves triggered by construction of ever higher dams at the beginning of the twentieth century. Those key people who work at the dam require housing to be available anytime for its operation. Building No. 51 serves as housing for maintenance personnel.

Description:

Located farther downstream from the warehouse is Building No. 51. This 26 foot by 32 foot residence was built in 1951.¹ The single-story ranch style rectangular building with basement is positioned on a slightly northwest-southeast axis facing the Boise River. It has a gable roof covered in composite shingles. A brick chimney pierces the center of the roof's ridge. The building is clad in horizontal wood boards and rests upon a high concrete foundation. There is a lawn on the riverside of the residence. One garage each is situated on either side of the residence.

The front elevation that faces the Boise River has a center entrance with a window to the left and right of it. The door is a wood panel with a half light window at the top and it is covered by a metal screen door. Concrete steps provide access to the entrance. The window to left of the door is a twelve light fixed sash and is the only one of its type in this residence. The window to the right of the door is a paired double-hung two-over-two wood sash. All of the other main floor windows in the residence are also this two-over-two wood sash style. The residences rear elevation (southwest) has another paired rectangular window on the right, a smaller single window in the middle and a regular size one on the left. The basement has two sets of paired rectangular three light steel windows within the foundation. All other windows in the foundation are this three light steel style. The southeast gable end has a paired window near the northeast corner. The basement contains the same three light window in the southeast side as in other elevations. In the center of this elevation is the same type of door as on the front elevation. It too is covered with a screen door. A rectangular vent is situated near the peak of the gable. The northwest gable end has two equally spaced windows. The foundation had just two three light windows. A narrow basement hatchway is also located at this end of the building.

A companion garage, built of the same ranch style and materials, is situated immediately southeast of Building No. 51. It has a shallow pitch gable roof sheathed in composite shingles and is clad in horizontal wood boards. The garage faces southwest. This end has a vehicle pull up door, while the rear elevation (northeast) has a fixed-sash eight light wood window. The garage's northwest side has a pedestrian entrance that is the same style of door as on the residence, while the opposite (southeast) elevation has no doors or windows.

Another smaller garage is to the northwest of Building No. 51. It is much older as it came from the former residence, Building No. 14, which was

¹ Reclamation. *Boise Project Buildings and Quarters Inventory* (2012), Building No. 51 February 24, 1970.

located here. It has a steep-pitched, gable roof with exposed rafter tips and is clad in narrow wood clapboard with composite shingles covering the roof. Just as the other garage this front elevation does not face the river. It has vehicular wood swing doors on the front elevation with a narrow wood board door on the rear (northeast) elevation. The other elevations do not have any doors or windows.

History:

Many of Reclamation's project works, especially dams were built in remote areas far away from any civilization or city. Prior to the late 1960s roads were poor and transportation inadequate for commuting in these areas. Additionally, there were not technological advances we have today so personnel such as those at Arrowrock Dam had to be there onsite in case something happened 24 hours a day. Therefore, personnel who worked at these facilities had to reside at them so housing was built by Reclamation for those employees. Arrowrock Dam had several residences either built after the dam was constructed or were reused housing in the construction camp. By 1941 a Reclamation map shows five residences at the dam site - one residence at the crest of the dam and four downstream – two on the south side and two on the north side. Those on the north side were old buildings left over from the construction camp. In 1949 there were three families living in residences at the dam site. In 1951 Building No. 51 and its associated garage was built to replace an older residence at the dam for the maintenance personnel on the south side of the Boise River. It was designed in a ranch architectural style. The first inhabitants of this new building were Rudolph Bollinger and his family.² At this time Mr. Bollinger was assistant damtender.³ Later when the other old residence below the dam was razed the old garage was reused. In the 1950s and a narrow basement entrance was added to the northwest side of Building No. 51.⁴ In 1960 Building No. 51 received some maintenance. The painted window frames, doors, and siding were blistering and peeling. It was scraped and cleaned and given a new coat of paint. The hardwood floors in Building No. 51 were sanded and sealed. In 1962 the new maintenance specialist Wayne Davis and his family moved into Building No. 51. To accommodate his family, considerable work was completed on the residence's basement, which included laying a new tile floor and installing sheetrock. The plumbing was also modified for an automatic washing machine.⁵ In 1966, the aesthetics of Building No. 51 were

² Reclamation, *Boise Project, Idaho, Annual History, 1940*, 39; Reclamation, *Boise Project, Idaho, Annual History, 1941*, 40.

³ Bill Wheeler, "Arrowrock is Termed 14th Largest Dam," (*Boise*) *Idaho Statesman*, May 22, 1949, 6.

⁴ Reclamation, *Boise Project, Idaho, Annual History, 1956*, 5; Reclamation, *Boise Project, Idaho, Annual History, 1958*, 45-46; Reclamation, *Boise Project, Idaho, Annual History, 1959*, 56 & 57.

⁵ Reclamation, *Boise Project, Idaho, Annual History, 1960*, 60; Reclamation, *Boise Project, Idaho, Annual History, 1962*, 87.

improved with a new flowerbed. A field drain was also constructed for the residence. A closet was built in the downstairs bedroom. In 1971, Building No. 14 was razed and the garage was now used for as additional storage for Building No. 51.⁶ Today maintenance personnel still reside in Building No. 51.

- Sources: U.S. Department of the Interior, Bureau of Reclamation. 2012. *Boise Project Buildings and Quarters Inventory*.
- U.S. Department of the Interior, Bureau of Reclamation. *Boise Project, Idaho, Annual History*. Various dates. Available at Reclamation's Pacific Northwest Regional Office, Boise.
- Wheeler, Bill. "Arrowrock is Termed 14th Largest Dam." (*Boise*) *Idaho Statesman*, May 22, 1949.

Historian(s): A rough draft of the historical narrative was done by Denis Gardner of Hess, Roise and Company in Minneapolis, Minnesota in 2002. Kelsey J. Doncaster of Reclamation completed, revised, edited and finalized the document in 2013.

Project Information: By the late 1990s, many of the Ensign valves at Arrowrock Dam were no longer functioning as reliably due to wear from long use. Reclamation decided to replace 10 of the original valves with new clam shell-type gates and retire the other 10 Ensign valves from service. Since Arrowrock Dam has been determined eligible for the National Register of Historic Places, this Historic American Engineering Record documentation was undertaken to mitigate the adverse effects of valve replacement and other alterations. Large format photography of this building was done by Clayton B. Fraser of Fraserdesign in Loveland, Colorado in June 1999.

⁶ Reclamation, *Boise Project, Idaho, Annual History, 1966*, 77 & 78; Reclamation, *Boise Project, Idaho, Annual History, 1967*, 74; Reclamation, *Boise Project, Idaho, Annual History, 1971*, 89.