Benson Bridge
Spanning Cutler Reservoir
Benson vicinity
Cache County
Utah

HAER No. UT-48

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PHOTOGRAPHS

WRITTEN HISTORICAL AND DESCRIPTIVE DATA

Historic American Engineering Record
Rocky Mountain Regional Office
National Park Service
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HISTORIC AMERICAN ENGINEERING RECORD

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Location:	Spanning a narrow portion of Cutler Reservoir, formerly a free-flowing portion of the Logan River (sometimes also referred to as an extension of the Little Bear River), 1.3 miles west of Benson, Cache County, Utah UTM: A 12/420660 E 4626330 N B 12/420700 E 4626330 N Quad: Newton, Utah 7.5' (1964)
Date of Construction:	1915 (no modifications shown)
Present Owner:	County of Cache County Commissioner's Office Logan, Utah
Present Use:	Vehicular traffic, largely utilized as access for farm vehicles. It is currently closed, due to dangerously weak wooden flooring. It is to be removed and replaced by poured cement structure in Spring 1987.
Significance:	The Benson Bridge is a steel through Pratt truss bridge. It is one of only 53 remaining truss bridges in Utah and one of only three remaining pin connected truss bridges left in Utah. It is also the oldest bridge still remaining in Cache County.
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I. HISTORY

Shortly after Cache Valley began to become colonized by white settlers in the 1850s (primarily Mormons), it became apparent that there was a need to establish a road system in the area and, where those roads encountered rivers and streams, to either build bridges, establish ferries or construct fords. The many streams extant in the Cache County area presented a difficult challenge, since crossing many of these watercourses required construction of bridges, which were very expensive. To help alleviate this dilemma, the first session of the County Court directed that all money not spent otherwise be used for construction of roads and bridges (Ricks 1953: 35; County of Cache Book A, p. 3). The very first bridge construction funded by Cache County in 1860 (across the north branch of the Logan River) resulted in bankrupting the County Treasury (Ricks 1953: 35; County of Cache Book A, p. 16-19). It was necessary to supplement appropriations for bridge construction with voluntary labor donations.

Yet, another way that was used to establish reliable and regular crossings for commerce was by granting an individual the right to establish ferry service in a particular area. In 1857, the County Court granted Joel Ricks the rights to operate a ferry across the Little Bear River below its junction with the Logan River (Ricks 1953: 35). This locality is also sometimes referred to as the lower Logan River and is in approximately the same location as that occupied by the present Benson Bridge.

Later, in the 19th century, a wooden bridge was constructed at the ferry landing to span this portion of the Logan River. This bridge stood until early 1915 when, by a vote of the County Commissioners, a steel bridge was constructed there (Cache County Commissioners Record Book I, p. 139):

> It was moved by Com. Meikle and seconded by Com. Facer that the contract for the building of the following bridges be let to L. J. Ross of Caldwell, Idaho,
> ....
> ....
> A 125 foot steel structure across Logan River in Benson Precinct.
>
> Said motion carried unanimously.

This vote was taken on January 2. By June, there apparently was some concern that the work was not being done according to specifications. Mr. W. B. Maughan, who was supervising the construction of the bridge,

appeared before the County Commissioners on June 9 to make them aware of this (Cache County Commissioners Record, Book I, p. 167):

> Engineer Humphrey and A. H. Chambers, were invited to appear before the board and each gave his opinion as to the manner in which the work was being done. After thoroughly discussing the question, it was referred to Engineer Humphrey and Mr. W. B. Maughan. Mr. _____ Lindley, foreman of the Forbes Bridge Company appeared before the board in the interest of the work that was being done on the bridge at Benson.

In discussing the history of the bridge with a long-time local resident of Benson by the name of James Charles Maughan, the author established that Mr. Maughan was present during the original construction of the steel bridge (J. C. Maughan, personal communication, 1987). Mr. Maughan was born in 1904 and, therefore, would have been 11 years old when the bridge was built. He indicated that the bridge was new when constructed and was erected on site rather than brought in as a unit. He also indicated that no modifications of any kind have been done to the bridge (other than a very recent floor covering over a few holes in the original wood flooring). Thus, the bridge stands today as it appeared when constructed in 1915 and, until was closed in November 1966, it largely served to provide access for farmers and their vehicles between Benson/Logan and agricultural fields on the west side of Cutler Reservoir.

III. THE BRIDGE

A. Description

The bridge is located on a very narrow section of Cutler Reservoir where the Logan River and Little Bear River enter. The area is a level part of the Cache Valley, where grain crops are grown. Many of the surrounding areas are marshland. Along the reservoir shoreline are cattails and other sedges, a few willows and grasses. In 1969, a marina was built near the eastern side of the bridge by the Cache County Recreation Board (Cardon 1982: 16). Facilities include boat docks, boat ramps, and a sand beach.

The well-maintained gravel county road approaches the bridge from both the west and east. Where the bridge was placed, a long landfill approach, totaling 475 feet, was laid on the east side and another shorter landfill, totaling about 100 feet, was laid on the west side. They were placed there to reduce the bridge length necessary to span this portion of the reservoir. The filled portion on the east side is built up with broken up concrete rip-rap, gravel

and dirt. It does not appear to be eroding. At its end, the landfilled area appears to leave a gap of about 130 feet for the bridge structure to span. At this point, the road surface lies about 20 to 25 feet above the current reservoir level (which, at this point, appears to have a substantial current, probably because of the narrow passage under the bridge).

Built in 1915, the bridge itself represents a classic Pratt truss type (Waddell 1916: 468; Comp/Jackson, 1977). As noted previously, it was built new on-site and has had no modifications since its construction. Prior to its construction, a wooden bridge was present on the site, of which several pilings just under the water near the present bridge are still visible. The truss bridge was apparently constructed of steel beams made by the Cambria Steel Company of Johnstown, Pennsylvania, as seen on several beams which bear the word "CAMBRIA."

The bridge is all steel except for the flooring, which consists of lengths of 3" x 6" wooden beams set on their sides and nailed together with large wire nails. The floor rests on underlying steel girders which stretch the length of the span. The bridge rests on, and is bolted to, four large cement-filled, steel-cased drums, two on each side of the bridge. Between each set of drums is a high steel wall which retards erosion and helps hold the bridge and steel drums in place. The superstructure of the bridge is made up of a series of steel plate girders, supplemented in between by lattice-work girders with steel rod chords holding individual sections together. This is a pin connected structure, a construction technique largely abandoned in favor of riveted construction, but used for short span structures that were built around the turn of the century. In fact, this bridge represents one of only three pin-connected trusses remaining in the State of Utah.

Some dimensions and structural characteristics of the bridge are as follows:

Length: 128 feet
Width: 16 feet
Height (from bridge deck to top of superstructure: 18 feet
Number of upright lattice work beams on each side of bridge: 7
Number of lattice work beams angled to the bridge deck at each end and on each side of the bridge 2
Number of girders across the top of the bridge: 5 (these are interspersed with crossing chords of steel rod)
Extra reinforced girders lie at the top of each end of the bridge.

B. Significance and Future

The Benson Bridge has been in its present location for 72 years and is unique in that it represents one of the few remaining truss bridges in the State and one of only three remaining pin connected truss bridges. In addition, its setting is picturesque and reminiscent of a period of time during the late 19th century when such bridges were commonplace in country settings such as this (open fields and marshy areas in sparsely-populated agricultural areas). For these reasons, the bridge is considered to be quite significant.

Unfortunately, the bridge is in poor condition. The deck needs replacement, the approaches are gradually eroding, and portions of the bridge itself are badly rusted. The bridge is also too low and possible too wide to accommodate modern farm vehicles. According to the Utah Department of Transportation (UDOT), it is not possible to continue to use this bridge for through road use. However, of the two remaining through truss pin connected structures left in the State, the one located near Bear River City in Box Elder County is still in use and is in good condition. According to Ron Rasmussen of UDOT, it is the best remaining example of a pin connected structure remaining in the State (including the Benson Bridge). Thus, while it is unfortunate to know that the 72-year-old Benson Bridge will be demolished, there will remain an intact, operative structure of similar design within the same geographic region.

IV. REFERENCES CITED

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