Logan Creek Bridge
Spanning Logan Creek, on Going-to-the-Sun Road
Glacier National Park
Flathead County
Montana

WEST GLACIER

HAER No. MT-75

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Historic American Engineering Record
National Park Service
Department of the Interior
Washington, DC 20013-7127

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HISTORIC AMERICAN ENGINEERING RECORD

LOGAN CREEK BRIDGE
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Location: Spanning Logan Creek, on Going-to-the-Sun Road, approximately twenty-one miles northeast of the park entrance at West Glacier, Glacier National Park, Flathead County, Montana
UTM: Mount Cannon Quad. 12/296720/5400050

Date of Construction: 1926-1927

Structural Type: Two-span concrete slab bridge with masonry arch facades

Contractor: Williams & Douglas, Tacoma, Washington

Engineer: Bureau of Public Roads

Owner: Glacier National Park

Use: Vehicular bridge

Significance: The Logan Creek Bridge is one of approximately seventeen prominent masonry and concrete structures on Going-to-the-Sun Road in Glacier National Park, and is one of the oldest existing bridges on the road. The 51-mile stretch of scenic road is significant as a unique engineering accomplishment of the early twentieth century, and as the first product of a 1925 cooperative agreement between the National Park Service and the Bureau of Public Roads. The Logan Creek Bridge was part of the first contract following the landmark agreement.

Project Information: Documentation of the Logan Creek Bridge is part of the Going-to-the-Sun Road Recording Project, conducted during the summer of 1990 under the co-sponsorship of HABS/HAER and Glacier National Park. Researched and written by Kathryn Steen, HAER Historian, 1990. Edited and transmitted by Lola Bennett, HAER Historian, 1992.

Going-to-the-Sun Road

The Logan Creek Bridge is a 53-foot, two-span reinforced concrete slab bridge with masonry arch facades, spanning Logan Greek on Going-to-the-Sun Road, a scenic park road that winds through the spectacular mountains and valleys in the middle of Glacier National Park. The 51-mile road, built in sections between 1911 and 1933, and rebuilt during the next two decades, runs east and west through the park. Starting in the west, the road runs from West Glacier, along the 10-mile eastern shore of Lake McDonald and then up McDonald Greek for an additional ten miles. About one mile beyond the junction with Logan Greek, the road begins its ascent to Logan Pass. The road climbs at a 6-percent grade, passes through a tunnel, and turns at a major switchback called "The Loop." Following the contours of the sides of Haystack Butte and Pollock Mountain, the road passes over several bridges, culverts and retaining walls before reaching Logan Pass. The road descends to the east along the sides of Piegan Mountain and Going-to-the-Sun Mountain before running along the north shore of St. Mary Lake. The road exits the park as it crosses Divide Creek near St. Mary, Montana.[1]

Significance of the Road

Going-to-the-Sun Road is significant as an outstanding engineering feat of the early twentieth century. In addition, the road was the first product of the interagency cooperative agreement between the National Park Service (NPS) and the Bureau of Public Roads (BPR). The agreement, signed in 1925, allowed the National Park Service to utilize the roadbuilding expertise of the Bureau of Public Roads while still retaining control to protect the landscape.[2]

Logan Creek Bridge

In 1925, Glacier National Park signed a $900,000 contract with the construction firm of D.A. Williams and A.R. Douglas of Tacoma, Washington, to build a 12-mile section on the Going-to-the-Sun road. The section ran from 1⅛ miles west of Logan Creek up to Logan Pass. The contractors worked on the road for four seasons and completed the project in October, 1928. There were several structures along Williams and Douglas' section of road, including the West Side Tunnel, the Granite Greek Gulvert, and the Haystack Creek Gulvert, in addition to the Logan Greek Bridge. The Logan Greek Bridge, near Williams and Douglas' headquarters at the western end of their contract, was one of the first structures Williams and Douglas built and is now one of the oldest existing bridges on the road.[3]

In the summer of 1926, Williams and Douglas built a single 20-foot span, reinforced concrete slab bridge over Logan Greek. The contractors constructed the bridge with masonry arch facades on sides. Most of the masonry--a buff limestone--on the Williams and Douglas contract came from cliff excavation on the higher sections of the road. At the end of September, the BPR's resident engineer, W.G. Peters, could report that Williams and Douglas finished most of their masonry work September 18.[4]

At the end of October, Peters had more sensational news. Logan Creek had its worst flood in recent memory and boulders and trees washed down the rlver and completely clogged the new bridge. Water and silt spilled over the top of the brldge and washed out the approaches, although the brldge itself suffered no damage. However, Peters recommended that the bridge be modified to carry "at least twice the present waterway." Durlng the summer of 1927 (or posslbly 1928), Willlams and Douglas added a second arch to the Logan Creek Bridge.[5]

Descriptlon

The Logan Creek Bridge is a two-span, 53-foot concrete slab bridge with masonry arch facades. Particularly when vlewed from the downstream (north) side, there are noticeable differences between the two spans. The newer arch, the one on the western side, seems to have been constructed on a smaller radius, making the arch more pronounced than its more gradually-sloping neighbor. Each arch spans 20' and is 4'-7½" above the water. The total height of the bridge in 10'-5". The roadway is 21'-6" wlde.

The Logan Creek Bridge has an interesting arrangement of rocks in the facade. Most of the rocks below the level of the keystones are significantly smaller than those above. The keystones are prominent in the design, both being red and larger than the other ringstones. After Williams and Douglas had built some of their first structures, the National Park Service's landscape architects began to enforce their pollcy to mix stones randomly, as found in nature.[6]

ENDNOTES

1. See the Historic American Engineering Record report HAER MT-67 on the Going-to-the-Sun Road.

2. C.H. Purcell, F.A. Kittredge, J.A. Elliott, T.C. Vint, and C.J. Kraebel, Suggested Procedure for Cooperation Between the National Park Service and the Bureau of Public Roads in Major Traffic-Way Projects Within the National Parks, April 22, 1925 (Record Group 79, National Archives, Washington, D.C.)

3. W.G. Peters, "The Transmountain Highway, Glacier National Park," Western Construction News (August 10, 1929), pp. 395, 401.

4. W.G. Peters, "Monthly Progress Report, September 1926," (Record Group 79, National Archives).

5. W.G. Peters, "Monthly Progress Report, October 1926," (Glacier National Park Library Historical Files).

6. Ernest A. Davidson, "Report to Chief of Division of Landscape Architecture Covering Features of Landscape Interest in Construction of Avalanche-Logan Pass Section of Transmountain Highway, Glacier National Park, 1925 to 1928," (January 24, 1929), p. 6 (Record Group 79, National Archives, Washington, D.C.)

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