

Enloe Bridge No. 90021
(North Dakota Bridge No. 126-09.0)
Spanning the Red River of the North
between Minnesota and North Dakota
on County State-Aid Highway 28
Wolverton vicinity
Wilkin County
Minnesota

HAER No. MN-72

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PHOTOGRAPHS
WRITTEN HISTORICAL AND DESCRIPTIVE DATA

Historic American Engineering Record
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HISTORIC AMERICAN ENGINEERING RECORD

ENLOE BRIDGE NO. 90021
(North Dakota Bridge No. 126-09.0)

Location: Spanning the Red River of the North between Minnesota and North Dakota on County State-Aid Road 28, 4.3 miles south of Wolverton, Roberts Township, Wilkin County, Minnesota; and 4 miles north of Abercrombie, Richland County, North Dakota.

UTM: 14.673630.5151820

Date of Construction: 1917

Present Owners: County Highway Department, Breckinridge, Wilkin County, Minnesota, and County Highway Department, Wahpeton, Richland County, North Dakota

Present Use: The bridge was barricaded and closed to traffic in March, 1990 because of general structural deterioration and damage from a 1989 flood.

Significance: The steel Pratt through-truss Enloe Bridge No. 90021 is significant for being fabricated and built by the Great Northern Bridge Company, an active and important early-twentieth-century Minneapolis bridge building company.

Historians: Frances P. Alexander, Holly K. Chamberlain, and Travis Dolence, The 106 Group Ltd., Bloomington, Minnesota, July 1993.

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LOCATION DESCRIPTION

Enloe Bridge No. 90021 carried local vehicular traffic on County State-Aid Highway Number 28 over the Red River of the North in Roberts Township, Wilkin County, Minnesota to Eagle Township, Richland County, North Dakota. The structure is sited in a rural western Minnesota county near the town of Wolverton. The north-south route of Minnesota Trunk Highway Number 75 runs less than 100 feet to the east. The name of the bridge reflects its proximity to the small settlement of Enloe, at the conjunction of Highway 28 and the tracks of the Chicago, Milwaukee, St. Paul, and Pacific Railroad to the west of the bridge in North Dakota.

PHYSICAL DESCRIPTION

Enloe Bridge No. 90021 is a fixed, five-span structure with a steel, Pratt, through truss main span and four steel, I-beam deck girder approach spans. The bridge has pinned and riveted connections and roller expansion devices. The end posts and top chords of the main span truss are constructed of box girders while the verticals are laced channels. The knee braced portal and top lateral struts are built of angle irons, and the diagonal members are eye bars. The main span rests on concrete-filled steel caissons, and the approach spans are supported by a series of steel I-beam verticals with angle iron, diagonal bracing. The abutments are steel-framed with timber infill. The roadway deck is timber, and the side railings are constructed of angle iron members. The bridge plates have been removed.

Crossing the Red River of the North at a 90 degree angle, Enloe Bridge No. 90021 has a total length of 162.5 feet, with the main span measuring 96 feet. The structure is 36 feet wide, with a vertical clearance of 13 feet.

HISTORICAL INFORMATION

The Boards of County Commissioners of Wilkin County, Minnesota and Richland County, North Dakota determined in early 1917 to cooperate on the construction of two mutually-beneficial bridges. On April 4 of that year, the commissioners jointly sought bids for the building of steel bridges over the Red River of the North and the Bois de Sioux River. Bridge specifications were on file at the offices of both county auditors but the sealed bids were to be accepted at only one -- that of Richland County.¹ The locations of the proposed bridges were close enough to render the solicitation of bids at the same time a logical course of action. The new Enloe Bridge over the Red River was to replace an existing structure built in 1905, and repaired at least three times since its construction. Nearby landowners had submitted a petition requesting that a new bridge be built.²

¹"Joint Bridge Notice," Wilkin County Gazette, 11 April 1917.

²Sources were unclear as to whether both counties were involved in the construction of the original bridge. Certainly, Richland County was instrumental in building it, and both counties were involved in subsequent maintenance. The original span was referred to in Richland County records as

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As per specifications from the commissioners, the Enloe Bridge was to be a 96-foot steel span with three 16-foot approaches.³ The bidding process resulted in four proposals for the two bridges, all from Minnesota bridge-building concerns. A joint meeting of the commissioners of the two counties to open the bids occurred on May 10, 1917. The lowest bid, by \$310, was from Great Northern Bridge Company, a notable Minneapolis firm which was a commercial descendant of the influential Commodore P. Jones and Seth Maurice Hewett bridge construction partnership begun in 1882. Incorporated in 1911, Great Northern was founded by S.M. and W.E. Hewett, C.P. and R.C. Jones, and Charles T. Glasser. The company was in operation until 1923, building at least three other bridges in Minnesota which were still extant as of August 1988: Otter Tail River Bridge (1911), and Red River Bridge (1922), both Wilkin County, and the Clearwater River Bridge (1912) in Red Lake County.⁴

Great Northern had offered a slightly more extensive "menu" of construction options than had the other bidders. The bid was broken down so that commissioners could determine not only the individual costs of each bridge, as had one other company, but also put forth the option of different prices for building the bridges on concrete pedestals or steel tubes. The motion to award the contract to Great Northern included the specifications that the Enloe Bridge was to be built on steel tubes and cost \$6,290.⁵ Commissioners participating in the decision from Richland County were P.E. Sletmoe, Theodore Larson, W.J. Koppelman, August Hoefs, and D.D. Swank. Commissioners from Wilkin County were John Hult (chair of the joint board), Charles Gran, Louis Gewalt, J.P. Bakken, and W.H. Doege.⁶ Enloe Bridge was inspected and accepted on August 28, 1917.

Bridge No. 115, a pile bridge built by Northwestern Bridge Company for \$1080. The records were unclear as to whether the new bridge was also called Bridge No. 115. "Bridge Record, Richland County," Richland County Highway Department Files, Wahpeton, North Dakota.

³The bridge over the Bois de Sioux River was to be a 75-foot steel span with two 15-foot approaches. "Commission Proceedings," Wilkin County Gazette, 16 May 1917.

⁴Jeffrey A. Hess, Final Report of the Minnesota Historic Bridge Survey: Part 1, prepared for Minnesota Historical Society and Minnesota Department of Transportation, 1988, pp. 18 and 76; Hess, Final Report of the Minnesota Historic Bridge Survey: Part 2, prepared for Minnesota Historical Society and Minnesota Department of Transportation, 1988, p. 10.

⁵The Bois de Sioux River Bridge was to be built on concrete pedestals and cost \$4,700. "Commission Proceedings," Wilkin County Gazette, 16 May 1917.

⁶Ibid.

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General deterioration and damage from a 1989 flood mandated the bridge's closing by the Wilkin and Richland county commissioners in March, 1990. The circa 1989 sufficiency rating was 15.5, making the Enloe Bridge the most deteriorated span in Wilkin County. In April 1991, a joint meeting of the Wilkin and Richland county commissioners was held to discuss whether or not to replace the bridge. Public consensus was that having a truck capacity bridge in the same location was important for transport of farm produce (especially from North Dakota production areas to shipping and processing points in and near Minneapolis), gravel, and farm machinery. Without the bridge, farmers would have to transport loads of chemicals, such as anhydrous ammonia, through towns. Also, several farmers farmed land on both sides of the river.

The commissioners opted to undertake replacement as a joint project, mirroring the decision of their counterparts earlier in the century. The North Dakota Department of Transportation, however, turned down Richland County's request for funding because of there being other usable bridges in the vicinity (one five miles north and one four miles south) and shortage of funds. Public concern mandated that the decision be reconsidered. A public meeting was held in July 1991 in Wahpeton, North Dakota to garner public input. The NDDOT once again denied funding, however, as it did another time following a March 1992 public meeting in Abercrombie. In April 1992, about 14 citizens from both North Dakota and Minnesota travelled to Bismarck, North Dakota to protest the latter state's decision not to provide funding for replacing the Enloe Bridge. NDDOT officials agreed to reconsider the funding decision once again. In May, a telephone conference was held among Richland County Commissioners, NDDOT officials, and concerned citizens to discuss bridge funding. The result of the meeting was that NDDOT agreed to fund North Dakota's portion of the replacement cost of the Enloe Bridge but with the stipulation that other bridge projects slated for funding would have to be delayed.⁷

The 1987 traffic count for Enloe Bridge was 55 vehicles per day. This figure was expected to increase to 88 vehicles per day by 1997. Funding for the new structure will be supplied by Federal bridge replacement monies (80 per cent), Richland County (10 per cent), and Wilkin County (10 per cent).⁸

Minnesota Highway Commission

The original bridge crossing the Red River where the Enloe Bridge now stands was built in 1905, the same year the Minnesota Highway Commission (MHC) was formed to

⁷Susan M. A. Larson, "Residents not giving up on Enloe Bridge project," newspaper article on file at Richland County Highway Department; Larson, "Enloe bridge plans will now resume," newspaper article on file at Richland County Highway Department, Courthouse, Wahpeton, North Dakota.

⁸Official Proceedings, Wilkin County Board of County Commissioners, 6 March, 1990; "Facts on Enloe Bridge Project," Richland County Highway Department Files, Courthouse, Wahpeton, North Dakota.

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coordinate highway and bridge construction statewide. The earlier span must have been unaffected by the activities of the MHC, instead reflecting the end of an era of county, rather than state, control of bridge building. In 1911, the MHC solidified its influence over state roadways by, among other specifications, establishing standards which all bridges costing over \$500 had to meet. Further control for the MHC came in the form of the Dunn Law of 1913, which stipulated stricter bridge width and clearance standards, and mandated that bridge contracts let by counties be handled in a specific manner. The Enloe Bridge bid process was in accordance with the state requirements, in that bridge plans were on file at the Wilkin County auditor's office for the requisite three weeks prior to awarding the contract. The plan for the Enloe Bridge was very likely a standardized one available from the MHC after such plans became available in 1913.⁹

Alterations

A North Dakota State Highway Department Bridge Inventory appraisal sheet dated July 10, 1991 indicates that the Enloe Bridge had suffered damage from collisions, including a bent upper sway brace at the southeast corner, and bent railings. Other deterioration included loose bottom laterals, a displaced exterior stringer on the south side of the approach to span number one, rusty superstructure, piling, and caissons, concrete splitting of the northwest and southeast caissons, and heavy decay of east backwall, wingwalls, and deck planks.¹⁰ No dates were indicated for the occurrence of these problems but they can primarily be attributed to general usage and age, and damage from a 1989 flood. The bridge was closed and barricaded in October 1990.¹¹ Additional deterioration has occurred as a result of major flooding in late spring and early summer 1993.

PROJECT INFORMATION

This documentation was prepared in July, 1993 at the request of the Wilkin County (Minnesota) Highway Department and the Richland County (North Dakota) Highway Department in compliance with Section 106 of the National Historic Preservation Act of 1966. Project historians were Frances P. Alexander, Holly K. Chamberlain, and Travis Dolence of The 106 Group, Ltd., Bloomington, Minnesota. Project photographer was Mike Whye.

⁹Hess, Part 1, pp. 22-26.

¹⁰Structure Inventory and Appraisal Sheet, North Dakota State Highway Department Bridge Inventory, 10 July 1991.

¹¹Ibid.

SOURCES

"Commission Proceedings," Wilkin County Gazette, 16 May 1917.

Hess, Jeffrey A. Final Report of the Minnesota Historic Bridge Survey: Part 1. Prepared for Minnesota Historical Society and Minnesota Department of Transportation, 1988.

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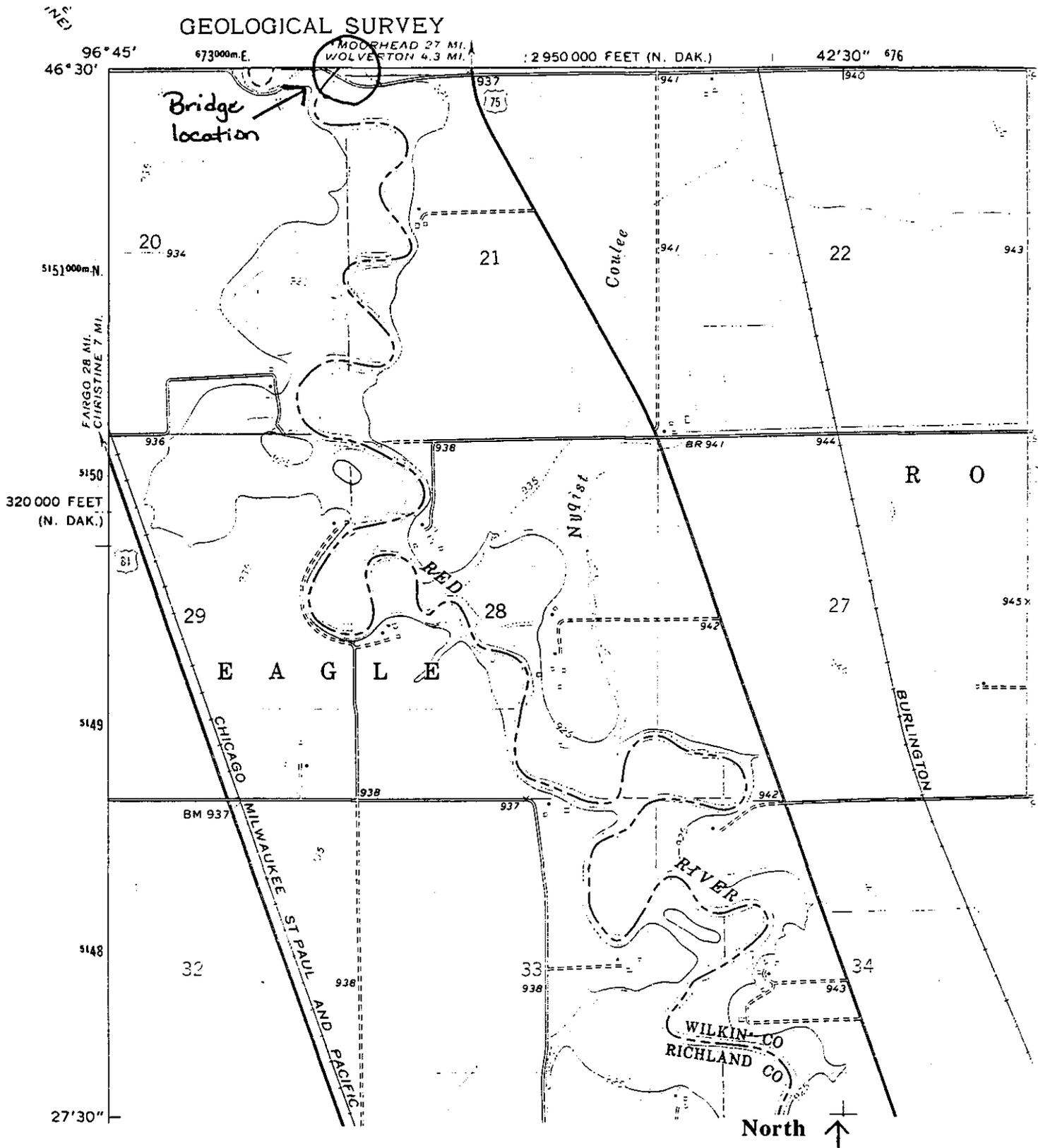
"Joint Bridge Notice," Wilkin County Gazette, 11 April 1917.

Richland County Highway Department Files, Courthouse, Wahpeton, North Dakota.

Standard Atlas, Richland County. Alden Publishing, 1910.

Structure Inventory and Appraisal Sheet, North Dakota State Highway Department, 10 July 1991.

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Source: USGS Abercrombie, North Dakota/Minnesota Quad, 1966
Scale: 1" = 1000'