

BLACKHAWK BRIDGE
Iowa Bridges Recording Project
Spanning Mississippi River
at Iowa State Highway 9
Lansing
Allamakee County
Iowa

HAER No. IA-43

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HISTORIC AMERICAN ENGINEERING RECORD
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In 1916 the Interstate Bridge Company, which was formed in 1914, received a charter from Congress to build a bridge over the Mississippi River at Lansing, Iowa. The committee from which the company was formed was composed of J.P. Conway, Thomas Bakewell, Moritz Kerndt, Fred Schafer, Julius Boeckh, and Captain Harry Short. The formation of this company was the first concrete step towards realization of long-held dreams in the community to create a river crossing between Iowa and Wisconsin at this location. Conway, who was elected Mayor of Lansing in 1913, and Bakewell, who was a city councilman, had been particularly active in plans to create a bridge company since 1898. The early efforts of these two men occurred at a time when the once booming community was experiencing a reversal of its fortunes.

In 1848 a man by the name of W.L. Garrison first settled the site on which the city of Lansing now stands. A post office was established there in 1849; the town was organized in 1850 and surveyed in 1851; incorporation as a city took place in 1867. The community soon had an excellent steamboat landing and became the supply point for the rapidly growing northeastern Iowa and southern Minnesota region. From 1855 to 1890 the town prospered as a shipping point for wheat, other grains, and products of the regional lumber industry. The Chicago, Dubuque & Minnesota Railroad Company extended tracks along the river into Lansing in 1872, but the anticipated benefits of the rail connection were never to be realized due to a decline in the grain business in the late 1870s and 1880s, a decline in the lumber business that began in the 1880s, and due to the failure of the railroads to extend a line inland. The population of the community, which had reached 2,280 in 1875, had decreased to 1,542 by 1910. Talk of a bridge to Wisconsin had long been part of local debate, but there was nothing but talk until Conway and Bakewell formed the committee from which the Interstate Bridge Company was created.¹

No actual progress towards construction took place, however, until the Interstate Bridge Company relinquished its charter to the Iowa-Wisconsin Bridge Company in 1929. The leadership of the latter company reflected the regional importance of the proposed bridge: John A. Thompson, Des Moines, Iowa, president; V.W.

¹Ellery M. Hancock, Past and Present of Allamakee County, Iowa 1 (Chicago: S.J. Clarke Publishing Company, 1913), 450-588; John Hotopp, "Iowa's Great River Road Cultural and Natural Resources," 1:2, (Iowa City, IA: Office of the State Archeologist, September 1977), 1088-1089, a report prepared by the Office of State Archaeologist for the Iowa Department of Transportation, September, 1977; W.E. Alexander, History of Winneshiek and Allamakee Counties, Iowa (Sioux City, IA: Western Publishing Company, 1882), 699-707.

O'Conner, St. Paul, Minnesota, chairman of the board; A.B. Wilder, Minneapolis, Minnesota, N.W. Elsberg, Minneapolis, Minnesota, and Thomas H. Bakewell, Lansing, Iowa, vice-presidents; Charles H. Young, St. Paul, Minnesota, Edward O'Connor, Sacred Heart, Minnesota, Harold H. Bohn, Saint Paul, Minnesota, H.T. Wagner, Waterloo, Iowa, and J.W. Dempsey, Lansing, Iowa, directors; and Oscar R. Thorson, Minneapolis, Minnesota, secretary-treasurer. The bridge was financed with a stock issue of \$750,000, with most of the investors coming from Allamakee and Winneshiek counties in Iowa.²

Chief engineer and designer of the bridge was Melvin B. Stone of Minneapolis, Minnesota. He was assisted by Sven A. Norling, Minneapolis, hydraulic engineer; J.N. Gilbert of Lansing, resident engineer; M.E. Johnson, Minneapolis, superintendent of erection; James M. Knox, Minneapolis, superintendent of steel; and George Boushay, Minneapolis, superintendent of concrete construction. Chris Peterson was job foreman. The construction was performed by Industrial Engineering Company of Minneapolis and McClintic-Marshall Company of Chicago, Illinois.

The ground-breaking ceremony for the bridge was held on March 5, 1929, but it was not until the following January that construction on the piers began in earnest. The first steel for the superstructure arrived in Lansing in January 1931, and on May 22, 1931 the gap between the two cantilevered arms was closed. On June 17, 1931, the bridge was dedicated and opened to traffic as a toll bridge and the first passenger bridge to join the states of Iowa and Wisconsin. The bridge was named in honor of native American chieftain Black Hawk of the Sac and Fox Indians, and a plaque was mounted on the bridge bearing his name. The ceremony which followed the official opening featured a parade from the bridge to city park, an address of welcome by Lansing Mayor R.G. Miller, an exhibition and maneuver by drum corps, a high dive from the bridge, and "surf board riding on Mississippi," followed in the evening by a display of fireworks on the river front.

Then, as now, the bridge consisted of a three-span cantilevered through truss of approximately 1,127', comprised of two cantilevered units of about 415' and one suspended span of about 297'. Each cantilevered unit consists of an anchor arm of about 237' with a cantilever of about 178'. The two cantilevers and the suspended span provide a channel crossing of about 653'. The cantilevered units are carried by concrete piers supported by foundation piles. The bridge was originally about 25' wide with

²Albert S. Tousley, ed., The Book of the Black Hawk Bridge (Lansing, IA: Teepee Press, 1931)7-8.

an approximately 22' roadway. The original bridge floor was of sheet asphalt plank on treated timber plank supported by steel beams. According to the Prospectus issued in 1931 to obtain financing, the bridge was designed to accommodate 2,300 vehicles per hour with a maximum vehicle load of thirty tons. Figures provided by The Book of the Black Hawk Bridge, a promotional document produced for the dedication ceremony in 1931, indicate that the entire bridge project, from Second Street, Lansing to the Burlington railroad tracks at the foot of the Wisconsin bluffs, was about 2 3/4 miles. Between the main river span and the Wisconsin approach bridge over the Winneshiek Slough ran a roadway 2 miles long, through the Winneshiek Bottoms, with an average fill of 11', requiring 250,000,000 cubic yards of dirt. The bridge was reported to be 1,285' in length, 1,735' overall, with a clearance of 55' above high water. There was a 450' approach bridge over the Winneshiek Slough and several smaller bridges over the Henderson, Stevens, Indian and Big sloughs. The road bed between the main span and the Wisconsin bluffs was paved with crushed stone. There were no approach spans on the Iowa side of the river. There was a toll booth at the Iowa end of the bridge, located immediately adjacent to the southwest end.

The Book of the Black Hawk Bridge reflects the expectations of the community regarding the economic benefits of the bridge. "Waning passenger traffic, both by river and railway, threatened us with isolation, but, by this last great turn of good fortune, we are placed upon a main artery of travel and in the current of interstate traffic,"³ the book exclaims. The book further documents the change in transportation orientation of the city, "once a prosperous steamboat town," by proclaiming that the bridge "is bringing back to Lansing much that the railroads took away."⁴ The bridge, of course, could only realize its potential as part of a highway system. The book recognized this fact in referring to Iowa State Highway Number Nine: "Its value to northeastern Iowa is incalculable, for, by the end of 1931, a goodly share of it will be paved, and all of it is well surfaced, an excellent all-weather, year round highway."⁵

The financial success of the bridge was not as great as the directors of the bridge company had hoped, however. In 1945 an ice breaker caused a jam against the wooden relief structures over the sloughs and flooding washed out some of the approach spans over the Wisconsin bottoms. The resulting damage caused

³Ibid, 3.

⁴Ibid, 16.

⁵Ibid, 25.

the bridge to be closed. In 1955 major rehabilitation of the bridge and approaches was performed by the Iowa State Highway Commission at a cost of \$1,300,000. The existing rail, floor planks and timber stringers were replaced with an open steel grid deck on steel stringers and the timber curb and handrail system was replaced with a steel system. The east approach I-beam span and east abutment were constructed at that time. In both the through truss and deck truss spans, strengthening was done to selected truss and floor system members to bring the structure up to an H-20 design loading. There have also been several minor rehabilitations since 1955. In 1957 the bridge was acquired by the states of Iowa and Wisconsin and rededicated.⁶

An October, 1993 report by Howard, Needles, Tammen & Bergendoff, consulting engineers, indicated that the total bridge length is 1,630'- 6 15/16" between centerline of bearings at the abutments. There are no approach spans on the Iowa side of the river. Five of the six east approach spans between the approach road through the bottoms and the main bridge are 90' deck trusses. These spans are carried on concrete piers supported by foundation piles. The end span adjacent to the east abutment, which spans the Winneshiek Slough and the Chicago, Burlington and Quincy Railroad near the east end of the bottoms is a simply supported 46' I-beam span. It was originally constructed of timber. The west abutment is a full height closed abutment with retaining walls extending from each end. The east abutment is of pile bent construction. The original bridge floor was replaced by an open steel grid in 1957. The two lane roadway is reported to be 21' between curbs.⁷

Although the Black Hawk Bridge does not serve any primary routes, it provides a regionally important vehicular crossing of the Mississippi River midway between La Crosse, Wisconsin and Prairie du Chien, Wisconsin. According to bridge consultant Clayton

⁶Howard, Needles, Tammen & Bergendoff and Wilbur Smith & Associates, "Mississippi River Toll Bridges: Bridge Location, Revenue and Traffic Studies at Lansing, Iowa," (Kansas City, MO: Howard, Needles, Tammen & Bergendoff, July 1968), I-4, a report prepared for the Iowa Department of Transportation, on file at the offices of the Iowa Department of Transportation, Ames, Iowa.

⁷Howard, Needles, Tammen & Bergendoff, "Black Hawk Bridge: Iowa 9 Over the Mississippi River, Lansing, Iowa," (Kansas City, MO: Howard, Needles, Tammen & Bergendoff, October 1993), A report prepared for the Iowa Department of Transportation, on file at the offices of the Iowa Department of Transportation, Ames, Iowa.

Fraser, it is one of only five long-span cantilever truss bridges remaining in Iowa.⁸

⁸Clayton B. Fraser, "Iowa Historic Bridge Inventory," a report prepared by Fraserdesign, Loveland, CO. for the Iowa Department of Transportation, January 1994, on file at the Iowa Department of Transportation, Ames, Iowa.

APPENDIX
IMPLICATIONS FOR FURTHER RESEARCH

Several questions concerning the Black Hawk Bridge arose during the research and writing of this report. Some of these questions, due to limitations in the scope of the Iowa Historic Bridges Recording Project, have remained unanswered. It is suggested that scholars interested in this bridge consider pursuing the following:

1. What were the toll revenues before the bridge was closed as a result of damage to the substructure? Could the bridge have eventually met original expectations for revenue generation?
2. Who was Melvin Stone?
3. What was the complete corporate history of McClintic-Marshall Company?
4. How was the substructure work performed?

SOURCES CONSULTED

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ADDENDUM TO
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This appendix is an addendum to a 8-page report previously transmitted to the Library of Congress.

APPENDIX: ADDITIONAL REFERENCES

Interested readers may consult the Historical Overview of Iowa Bridges, HAER No. IA-88: "This historical overview of bridges in Iowa was prepared as part of Iowa Historic Bridges Recording Project - I and II, conducted during the summers of 1995 and 1996 by the Historic American Engineering Record (HAER). The purpose of the overview was to provide a unified historical context for the bridges involved in the recording projects."