MINNESOTA HISTORIC BRIDGE INVENTORY

Bridge No: 093844
County Name: Hennepin
City/Township: Minneapolis

Inventory Number: HE-MPC-9005
National Register Eligible: Yes
Criteria: C
Context: Historic Iron and Steel Bridges in Minnesota
Period of Significance: 1896-1947
Retains Integrity: Yes

UTM Coordinates: 15:480177:4986869
USGS Quadrangle: Minneapolis North

Structural Data

Main Span Type: Superstructure: single-span, steel, rigid-connected, deck, lattice arch with concrete-slab approach span on each end (north and south)
number main spans: 312
number appr spans: 01
structure length: 96.50
deck width: 21.00

Substructure: limestone and concrete abutments with flared concrete wingwalls; built-up steel piers for approach spans; concrete skewbacks for steel arch span

Floor/Decking: concrete deck carried by 1-beam floor beams

Other Features: upper and lower chords: 2 angles; metal lattice railings

Historical Data

Year built: 1896
Contractor/Builder: Gillette-Herzog Manufacturing Company, Minneapolis, Minnesota
Designer:

Statement of significance:

Standing on a north-south alignment in a municipal golf course in Columbia Park in northeast Minneapolis, the Columbia Park Steel Arch Bridge carries golf cart and pedestrian traffic over trackage of the Soo Line Railway. The crossing has a symmetrical, three-span superstructure consisting of a riveted, 90-foot, double-ribbed, steel-arch main span flanked by short, concrete-slab approach spans. The steel arch is part of the original 1896 construction; the slab spans were installed in 1976, replacing approaches of undetermined design.

The bridge's substructure appears to have been built in three stages. As part of the original construction, the crossing was equipped with limestone abutments and presumably limestone piers, although the design of these features has not been documented. In the late 1920s, both abutments received flared, concrete wingwalls, and the base of the west abutment was reinforced with concrete. At the same time, the steel arch was set on concrete skewbacks that replaced (or encased) the original piers. In 1976, a concrete bench was placed on the tops of both abutments to support the new slab approach spans. None of these alterations significantly affected the original design of the steel arch span. The two ribs in the span are identically detailed: paired angle sections form the upper and lower chords, which are tied together by a lattice work consisting of paired angle-section verticals and crossed, single, steel bars. The ribs are connected by top-lateral bracing and sway bracing, both consisting of angle sections. The bridge originally featured a plank deck. In 1976, the deck was rebuilt with pre-cast, concrete panels supported by rolled 1-beam floor beams, without a stringer system. The floor beam at mid span directly rests on the arch ribs; otherwise, the ribs support the floor beams by means of paired, angle-section vertical members, which are sway braced by angle sections. The bridge's deck accommodates a 19-foot roadway between metal lattice-work railings.
The Minneapolis Park Board acquired land for Columbia Park in the city's northeast corner in 1892. The initial improvement plan called for the construction of a modest network of boulevards, including a carriage bridge over the Soo Line Railway corridor that cut through the east part of the grounds. In 1894, the park board invited bridge builders to submit designs for the Columbia Park crossing. Five firms responded with a total of nine plans ranging in price from $1,097 to $1,849. None proved satisfactory. After shelving the project for a year, the board once again solicited proposals, this time restricting the bidding to a predetermined steel-arch design with a not-to-exceed cost of $3,500. Under these new guidelines, the board in May 1896 awarded a construction contract to the Gillette-Herzog Manufacturing Company of Minneapolis, the lowest bidder at $1,435. The contractor completed the bridge before the end of the year.

Until 1919, Columbia Park was mainly a hiking and picnicking area. In that year, however, the park board landscaped the east half of the grounds with a six-hole golf course, which was soon upgraded to nine holes. "Columbia Park," announced the park board in its year-end report for 1920, "is coming rapidly to the front as one of the most useful parks of the system." While the city was congratulating itself on its improvements, problems were developing with one of the park's original features. In November 1926, the Soo Line notified the park board "that the steel arch plank deck highway bridge built over its tracks in Columbia Park was in need of repair." After conducting its own investigation, the park board agreed, but was of the opinion that the railroad should underwrite the work. When the Soo Line refused, the park board brought suit against the railroad. In the spring of 1929, the matter was settled out of court, with the city agreeing to pay the cost of the present repairs and the railroad agreeing to share the cost of future maintenance. Although surviving documents do not discuss the nature of the repair work, field-inspection evidence suggests that the bridge's substructure was rebuilt. Thirty years elapsed before the Columbia Park Bridge once again figured in park board proceedings. In its annual report for 1958, the board announced that "the steel arch bridge...which was constructed in 1896 was found to have deteriorated and to be in hazardous condition. The bridge has been closed to vehicular traffic, but is still open for use by pedestrians." Although the board rebuilt the bridge's deck, floor system, and approach spans in 1976, the structure remained a pedestrian crossing. The structure is currently designated as Bridge No. 93844 in the statewide bridge inventory maintained by the Minnesota Department of Transportation.

The Columbia Park Bridge is one of only two steel-arch bridges, originally designed for highway use, that survive in Minnesota. The other survivor, erected in 1908, is the Minnesota Soldiers Home Bridge (Bridge No. 5756), which has been listed on the National Register. The Columbia Park Bridge is eligible for the National Register for its design under Criterion C in the area of engineering, within the historic context of "Iron and Steel Bridges in Minnesota." The Multiple Property Documentation Form (MPDF) associated with this context specifically states, in Registration Criterion 10, that steel arch bridges are eligible under Criterion C because "such bridges are very rare."

References:
Minnesota Department of Transportation Bridge Database; Bridge No. 93844 File, in Minnesota Department of Transportation, Waters Edge Building, St. Paul; Bridge No. 93844 File, in Minneapolis Department of Public Works, City of Lakes Building, Minneapolis; Minneapolis Board of Park Commissioners, Proceedings, 1894 (p. 70), 1896 (pp. 34, 38), 1926 (p. 152), 1927 (pp. 74-75), 1929 (pp. 46, 88), 1976 (137), in Municipal Information Public Library, Minneapolis City Hall; Minneapolis Board of Park Commissioners, Annual Reports, 1921 (pp. 79-80), 1920 (p. 20), 1927 (p. 80), 1958 (p. 51); Theodore Wirth, Minneapolis Park System 1883-1944 (n.p.: Minneapolis Board of Park Commissioners, 1945), 63-64, 252-255; Fredric L., Quivik, "Iron and Steel Bridges in Minnesota," Multiple Property Documentation Form, 1988, Sec. F, 9, in State Historic Preservation Office, Minnesota Historical Society, St. Paul; field inspection by Chad Perkins, 7 October 1996; field inspection by Jeffrey A. Hess, 28 August 1997.

Form Prepared By: Jeffrey A. Hess