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PENNSYLVANIA RAILROAD, "EIGHT-TRACK" BASCULE BRIDGE  
(Chicago and Northern Pacific Railroad,  
"Eight-Track" Bascule Bridge)  
(Union Stock Yards and Transit Company,  
"Eight-Track" Bascule Bridge)  
I&M Canal National Heritage Corridor  
Spanning Sanitary and Ship Canal,  
West of Western Avenue  
Chicago  
Cook County  
Illinois

HAER No. IL-99

PHOTOGRAPHS

WRITTEN HISTORICAL AND DESCRIPTIVE DATA

Historic American Engineering Record  
National Park Service  
Department of the Interior  
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HISTORIC AMERICAN ENGINEERING RECORD

Index to Photographs

HAER  
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I&M Canal National Heritage Corridor  
Across the Sanitary and Ship Canal,  
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NOTE: Photographs taken by Martin Stupich, HAER photographer,  
1988.

- IL-99-1 GENERAL VIEW TAKEN FROM THE WESTERN AVENUE BRIDGE  
LOOKING WEST.
- IL-99-2 VIEW OF ALL FOUR DOUBLE-TRACKED BASCULE BRIDGES FROM  
SOUTH, LOOKING NORTH.
- IL-99-3 TWO EASTERNMOST SPANS LOOKING NORTH.
- IL-99-4 DETAIL OF THE EASTERNMOST SPAN.
- IL-99-5 DETAIL OF PIVOT GIRDERS OF EASTERNMOST SPAN.
- IL-99-6 SOUTH PORTALS OF THE FOUR DOUBLE-TRACKED BASCULE  
BRIDGES.
- IL-99-7 VIEW FROM THE MIDDLE OF THE BASCULE BRIDGES, LOOKING  
NORTH.
- IL-99-8 DETAIL OF BUILDER'S PLATE, PROCLAIMING THE INVENTOR OF  
THIS BRIDGE TYPE, WILLIAM SCHERZER.
- IL-99-9 DETAIL OF A TYPICAL DECK TRUSS APPROACH SPAN FROM THE  
SOUTH, LOOKING SOUTHEAST.
- IL-99-10 DETAIL OF PIER FROM NORTH SIDE OF CANAL.
- IL-99-11 DETAIL OF BRIDGE SUPPORT, OF APPROACH SPAN.
- IL-99-12 DETAIL OF LIFT GEAR.

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Location: Across Sanitary and Ship Canal, west of  
Western Avenue Chicago, Cook County,  
Illinois

UTM: 16 E.442950 N.4631740  
Quad: Englewood

Date of Construction: 1901, 1909-10

Builder: 1901, Scherzer Rolling Lift Bridge  
Company

1909-10, Chicago Bridge & Iron Works

Present Owner: Unknown

Present Use: Bridge

Significance: The design and history of these four  
parallel, double-track, double-leaf  
bridges is the most unusual of the  
bridges built in the Heritage Corridor.

Project Information: The Illinois and Michigan Canal was  
designated a National Heritage Corridor  
in 1984. The following year HABS/HAER  
embarked on an extensive inventory and  
documentation project of the 100 mile-  
long corridor. Field work for this  
project was concluded in 1988. Final  
editing of the documentation was  
completed in 1992.

Historians: Charles Scott, Frances Alexander, and  
John Nicolay, 1986.

PENNSYLVANIA RAILROAD,  
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HAER No. IL-99  
(Page 2)

The original design for this bridge called for a 399'-0" long, 116'-0" wide, swing bridge pivoting on a 78'-7" diameter center pier to be placed across the Chicago Drainage Canal. The three railroads crossing the river at this point opposed the design, fearing that damage to any part of the bridge would close the span to all three railroads. As a result, the Sanitary District requested new designs and competitive bids. Eventually, the construction contract was awarded to the Scherzer Rolling Lift Bridge Company. Scherzer designed the crossing as four parallel double-tracked, double-leaf bridges. The bridges were built as four, through truss spans but with pin connections permitting an eventual transformation into double-leaf, rolling-lift spans.

Each bridge is a three-hinged, through truss bridge with one pin at the center of the span in the upper chord, one pin at the intersection of each lower chord, and the end post over the pier. As the 1909 deadline neared for converting fixed bridges to movable spans, the Sanitary District decided that the expense of building four new single-leaf, rolling lift-spans was only slightly more than the cost of modifying the existing through-truss bridges. Because the single-leaf bridges did not need two sets of operating machinery for each bridge, they had lower operating costs

In 1908 Chicago Bridge & Iron Works was awarded a contract to erect new, single-leaf spans using the existing approach spans and piers. Since the piers were inadequate to accommodate the width of the track girder required by the rolling-lift span, a new pier was built behind each of the existing piers; a plate and track girder was installed to span the two piers. Except for this modification, the approach spans were not altered.

The history and configuration of the "eight track" crossing is the most unusual one encountered in the I & M Canal National Heritage Corridor. The four bridges, with their inclined top chords and somewhat streamlined counterweights alternating between north and south piers, possess a graceful, triangular symmetry. The incorporation of the existing approach spans into the new crossing reduced construction costs; the use of a single leaf reduced future operations and maintenance costs. From an engineering standpoint, alternating the counterweights between the north and south piers reduced the compression on piers. Although the piers were strong enough to accommodate the increased load of the counterweights, there was insufficient room to place the operating machinery of adjacent spans on the same pier. Consequently, the placement of the counterweights was alternated between the north and south piers. Beginning with the easternmost span on July 12, 1909, construction proceeded with

one span being modified at a time. The bridge returned to full service on October 2, 1909 and continues to serve rail traffic today.

The bridges are four parallel single-leaf, Scherzer rolling lift bascule bridges, each containing double tracking. The lift bridges are approximately 140' in length and originally carried the Pittsburgh, Cincinnati, Chicago & St. Louis Railroad, the Illinois Stock Yards & Transit Railroad, and the Chicago & Northern Pacific railroad across the Chicago Drainage Canal. The substructure consists of ashlar limestone piers capped with concrete. The approach spans are riveted-steel Warren trusses erected in 1901. The lift spans are through Warren trusses with inclined top chords. The bridge is now fixed and has the lowest vertical clearance (16'-0") of any bridge crossing the Sanitary and Ship Canal.

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PENNSYLVANIA RAILROAD,  
"EIGHT-TRACK" BASCULE BRIDGE  
HAER No. IL-99  
(Page 4)

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