Massachusetts Cultural Resource Information System

Scanned Record Cover Page

Inventory No:	BOS.927
Historic Name:	Charles River Railroad Bridge at North Station
Common Name:	MBTA Historical Survey, Phase II (Milepost #0.28)
Address:	Charles River
City/Town:	Boston
Village/Neighborhood:	West End; Charles River Basin
Local No:	
Year Constructed:	1931
Architect(s):	Keller and Harrington; Phoenix Bridge Company
Architectural Style(s):	Movable Rolling Lift Bascule
Use(s):	Other Rail Related; Other Transportation
Significance:	Engineering; Transportation
Area(s):	
Designation(s):	
Building Materials(s):	

Commonwealth of Massachusetts
Massachusetts Historical Commission
220 Morrissey Boulevard, Boston, Massachusetts 02125
www.sec.state.ma.us/mhc

McGinley Hart & Associates
Architects & Planners
A.G. Lichtenstein & Associates
DMC Engineering
Jane Carolan

Historic Structure Inventory Form

MBTA Historical Property Survey, Phase II
MBTA Contract No. X2PS26

LOCATION

Railroad route Boston /North Station
Location Charles River at North Station
USGS quad BOSTON SOUTH

Milepost # 0.28 **Val plan #**
Town/City Boston/Cambridge
UTM Ref. 19.329900.4692590

PHYSICAL CHARACTERISTICS

Structure type Rolling lift bascule

Bridge typology code 1 [1] 2 [2] 3 [3] 4 [38]

Overall length 147-0 **Width** **Spans** 2 **Span lengths** **B.D./O.D.** OD

Tracks 4 **Skew** **Materials** steel **Condition** In service. **Height**

HISTORICAL SUMMARY

Date 1931 **Date(s) rebuilt**
Builder Phoenix Bridge Co., Phoenixville, Pa.
Common Name (if any) Draw 1
Designer Keller & Harrington

CULTURAL RESOURCE EVALUATIONS

National Register status

Local landmark designation

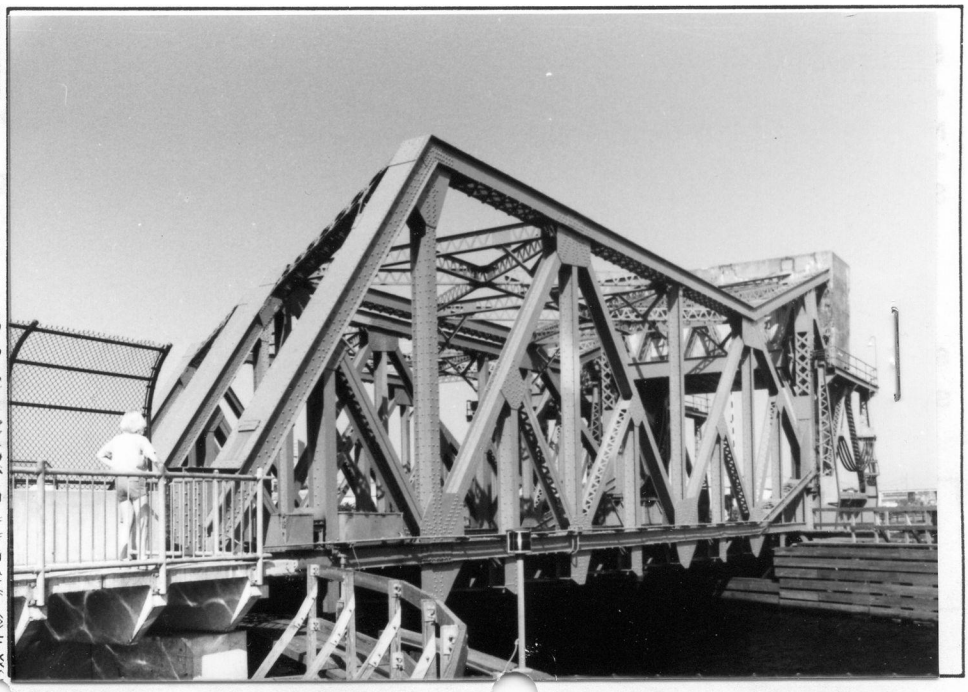
HAER Doc. # MA-22 **Type and date of HAER documentation** 2 photos (1982)

MDPW # **MHC finding** **Date of finding**

National Register recommendation

Eligible. The bridge is one of the last of two remaining Scherzer rolling lift railroad bridges in the state, and with the pending demolition of the older bridge over Fort Point Channel (Dorchester 0.44), the 1931 span will be the sole example.

GRAPHICS



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Historic railroad name Multiple

HISTORY & DESCRIPTION

Part of the extensive terminal improvement program by the Boston & Maine in the 1920s, and the last element to be completed, was the replacement and realignment of the railroad's crossings of the Charles River. The Boston & Lowell had been the first railroad in the United States to build a moveable bridge when, in 1835, they had to figure out an efficient way to cross the Charles River into Boston. The railroad's solution was a moveable span with a horizontal swing, hinged at one end. A system of cables supported the free end of the span. The structure was the forerunner of the jackknife bridge, invented in 1849. One by one, the three other railroads crossing the Charles adopted this solution (and later the jackknife design), which became a characteristic feature of the railroads north of Boston. Not until 1931 were the Charles River Bridges replaced. To the very end, the bridges were air- and steam-operated.

In 1931, after extensive filling and dredging, the channel of the Charles was relocated further away from North Station to allow the terminal tracks to converge into eight main leads. These were carried over the river on four new double-track structures in the form of single-leaf rolling-lift bascules, a design made famous by the Scherzer Rolling Lift Bridge Company of Chicago. These four were nearly identical, varying only in their length and the degree of their skew, two spans crossing the channel at a slightly greater skew than the others. Two were 87 feet in length, and two 97 feet. Each span carried a single 629-ton overhead concrete counterweight operated by two electric motors; the motors were controlled from the second floor of the new signal and interlocking station, located nearby on the north side of the river. Today only two of the bascule spans remain, the westernmost (Lifts 3 and 4) having been removed in 1961 after the railroad discontinued long-haul passenger service. A pier fire in 1984 severly damaged much of the supporting structure on the Boston side of the river, rebuilt in 1984-86.

Sources

"Rare Old Bridges Replaced in B. & M. Railroad Terminal Improvements at Boston," Engineering News-Record 107 (5 November 1931):718-722.
"Boston & Maine Completes Large Terminal Improvement at Boston," Railway Age 92 (5 March 1932): 390-395.
Stott, Peter, A Guide to the Industrial Archeology of Boston Proper (Cambridge, 1984), pp. 54-55.

Surveyor Peter Stott
Survey date 10/14/87

Reviewer AGL
Review date 11/23/87

Survey photographs
101/32 -- 2877.24

GLOSSARY

Val Plan:	Railroad property valuation plan.	*HAER:*	Historic American Engineering Record
USGS quad:	U.S. Geological Survey quadrangle map	*B.D./O.D.:*	Ballasted deck/open deck
UTM Ref.:	USGS map grid reference in the Universal Transverse Mercator grid system.		

HISTORIC RESOURCE DATA SHEET

CENTRAL ARTERY (I-93) / THIRD HARBOR TUNNEL (1-90) PROJECT

BUILDING IDENTIFICATION

Building No. 425

Area Charles River | Corridor Primary | Reviewer | Record Date 2/15/90

Sub Area 1 | Map No. 27-12 | Photo No. | Revised 7/12/90

Name of Building Draw 1 - MBTA North Commuter | Project Area No. | Bsmt Insp. Date

Address R.R. Yard Charles River / North Station | Type (Use) R.R.

Architect Keller & Harrington Engrs. | Current Owner MBTA Commuter Rail

Builder Phoenix Bridge Co., Phoenixville, PA | Original Owner Boston & Maine Railroad

Date of Building 1930 | No. Stories

HISTORIC DESIGNATION

NR Status

Boston Landmark Status | NR District

District Status | National Historic Landmark

EXISTING CONDITIONS

Structure Rolling lift bascule bridge

Superstructure Steel truss, concrete counterweight

Substructure Masonry piers

Exterior Materials steel, concrete

Roof | Mortar

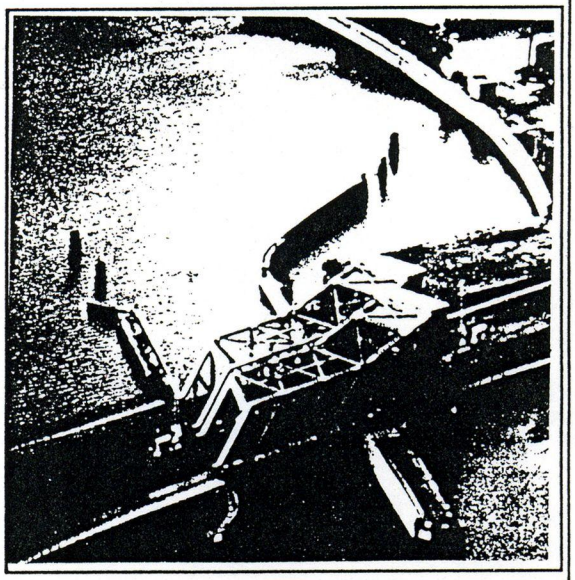
Soils

Condition

Alterations

Signs of Distress

Potential Impact



POTENTIAL FOR IMPACT	
Rating	(0-4)
Structure	
SubStructure	
Soil	
Condit	
Subtot	
Proximity	
Total	
Scaled Total	

Scaled Rating (0-100)
High 66-100
Med 34-65
Low 0-33

NESI Utility Impacts
URNC Utility Proxim.
URCN Util. Sc. Total
Bsmt Insp. Date

ENGINEERING DATA

Data Source HAER Doc. No. MA-22, (MBTA)

Added Info. Requ'd.

Engineering Data Description

2 Photos; MBTA Survey Form, 1989, MH & A

RECOMMENDATIONS