

Massachusetts Cultural Resource Information System

Scanned Record Cover Page

Inventory No:	BOS.9034
Historic Name:	Longfellow Bridge - West Boston Bridge
Common Name:	Salt and Pepper Shaker Bridge - Cambridge Bridge
Address:	Cambridge St MBTA Survey Phase I
City/Town:	Boston
Village/Neighborhood:	West End; Cambridge Street; Charles River Basin
Local No:	934, RL-BO 172A
Year Constructed:	c 1900
Architect(s):	Holbrook, Cabot and Daly; Jackson, William; Phoenix Bridge Company; Wheelwright, Edmund March
Architectural Style(s):	Arch Rib Unspecified; Plate Girder
Use(s):	Other Transportation
Significance:	Engineering; Transportation
Area(s):	BOS.CA: Charles River Basin Historic District
Designation(s):	Nat'l Register District (12/22/1978)
Building Materials(s):	



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

This file was accessed on: Friday, August 7, 2020 at 12:39 PM

MASSACHUSETTS HISTORIC BRIDGE INVENTORY

Municipality: Boston/Cambridge District: 8

Street name/Rt. #: JT 3 Cambridge St., MBTA Red Line
Over

Street name/Rt. #: Charles River, Storrow Drive, Cambridge Parkway

Bridge key #: MDC896058141 Photo #s: 101:24A-27A, 32A-36A; 102:00A-11A

Bridge plan #: B-16-9/C-1-2

Common/historic name: Longfellow Bridge; Salt and Pepper Shaker Bridge; Cambridge Bridge

Current owner: MDC

UTM coordinates: _____ AASHTO rating: 37.4 (2/89)
452 (2-14-89)

National Register status (insert date) Field rating: _____

Entered: 12-22-78 Potential: _____
Eligible: _____ Non-eligible: _____

Date built (source): 1900-07*

Date(s) rebuilt (source): _____

Builder (source): Holbrook Cabot & Daly - substructure; Phoenix Bridge Co. - superstructure*

Designer (source): William Jackson, Chief Engineer; Edmund M. Wheelwright, Cons. Architect*

Structural type/materials: 311

11 simple spans, 12 lines of two-hinged steel plate girder rib arches. on granite faced concrete piers and abutments. [the pins visible at the crown of each arch rib are erection pins only, not hinges] Latticed diaphragms between arch ribs. Floor system carried on posts rising from upper flanges of each arch rib. Arch spans are graduated in span and rise, symmetrical about central, channel span. Originally, steel buckle plate floor carrying concrete, sand, and granite block pavement. 2 elevated railway lines on center line of bridge are separated by curbs and railings from roadways. Stone-faced NeoClassical towers at abutments and flanking channel span, those at channel span have ornately carved cutwaters: →

Overall length: 2135' Deck width/layout: 106.5' out-out

Skew: _____

Main unit, # spans: 11 lengths: 188.5' → 101.5'

Approaches, # spans: 2 lengths: _____

Plaque: _____ location: _____

Alterations, unusual features, comments:

→ Very ornate NeoClassical cast iron railings.

Alterations -

Original 2-span First St. underpass and 1-span pedestrian underpass through Cambridge abutment replaced (in the 1930s?) when Cambridge Parkway was built to connect Memorial Drive with Mons O'Brien Highway/Charles River Dam, and the eastbound lane of the Parkway now swings out over the Basin and under the first arch span of the bridge. Storrow Drive, likewise, has been built under the 2 arch spans closest to the Boston shore. The original deck system has been replaced.

* Cambridge Bridge Commission Report

Visual quality (bridge and setting): High x Average Low

Site integrity: Retained Violated x

Describe: A landmark bridge, if now less dominant visually than it was in 1907. Former Charlesbank Park on Boston shore has been replaced by Storrow Drive, Storrow Drive and Cambridge Parkway both now extend out under arch spans of the bridge, shortening its apparent length, and new high-rise buildings now dominate the skylines beyond both abutments.

History of bridge and site:

The present Cambridge Bridge was built on the site of the 1793 West Boston Bridge, a timber-pile structure incorporating a 30' drawspan, and 3483' long between abutments. The original bridge was rebuilt in 1864 and extensively repaired in 1871. The first street railway in Boston was built across this bridge in 1856; by the 1880s and '90s, traffic congestion on the bridge had become severe. Electrification of the street railways in 1889 resulted in much speedier and more comfortable travel on the system, which increased its ridership and produced even greater congestion. The Boston Elevated Railway Co. was chartered in 1894 to construct a rapid transit railway system to alleviate the congestion; a new West Boston Bridge was proposed to carry the Elevated's lines (as well as the surface railway and vehicular and pedestrian traffic) from Boston to Cambridge. Construction of the new bridge was authorized by the Legislature in 1898. An act of Congress was required to allow the new bridge to be built without a draw; this Act was passed and signed in 1900. Initial studies were done for a masonry arch bridge, but cost and aesthetic considerations eventually forced the present, compromise design, incorporating open-spandrel steel arches between vigorously treated masonry piers, abutments and towers. Construction was begun in the summer of 1900; the completed bridge was formally dedicated on July 31, 1907.

Sources: Report of the Cambridge Bridge Commission and Report of the Chief Engineer upon the Construction of Cambridge Bridge. Boston, by the City, 1909

Summary statement of significance:

The 3rd-oldest of 7 positively identified steel rib deck arches in the MDPW database; likewise, the 3rd-oldest of the 13 known steel rib arches of any configuration in the database. The oldest amongst the 7 examples in the database of the 2-hinged sub-type, the most popular form of steel arch construction in the 20th century.

A landmark bridge, appropriately ornamented with granite-faced Neo-Classical piers and towers, and a strong physical expression of Boston's civic pride at the turn of the century. A major contributing element within the Charles River Basin Historic District

Statement prepared by: S.J. Roper Date: 4/2/91

Field survey by: S.J. Roper MDPW Historic Bridge Specialist Date: 16 Nov. 1987

BRIDGES ALREADY ENTERED IN THE NATIONAL REGISTER -- CONCURRENCE REAFFIRMED

	<u>Municipality</u>	<u>Carries/Over</u>	<u>Br. Dept. No.</u>
Bridge:	<u>Boston/Cambridge</u>	<u>BT 3 Cambridge St./Charles R.</u>	<u>B-16-9/C-1-2</u>

has already been reviewed by the National Park Service and was formally entered in the National Register of Historic Places on 12/22/78, as a contributing element in the Charles River Basin Historic District.

After a review of all known bridges of comparable structural type identified in the MDPW statewide data base, the MDPW now reaffirms its concurrence with the decision to enter the above bridge.

Summary statement of significance:

A landmark bridge; a dramatic statement of Boston's civic pride at the turn of the century. Structurally, this is a cautious design when seen in a national context, but in Massachusetts, where steel rib arch bridges have never been common, this is the oldest known example of the 2-hinged arch sub-type.

Statement prepared by:

D.J. Roper, MDPW Historic Bridge SpecialistDate: 4/2/91

B-16-9/C-1-2
BOSTON SOUTH
QUAD.





FROM SE



FROM SW



FROM W



FROM NW

11-16-07



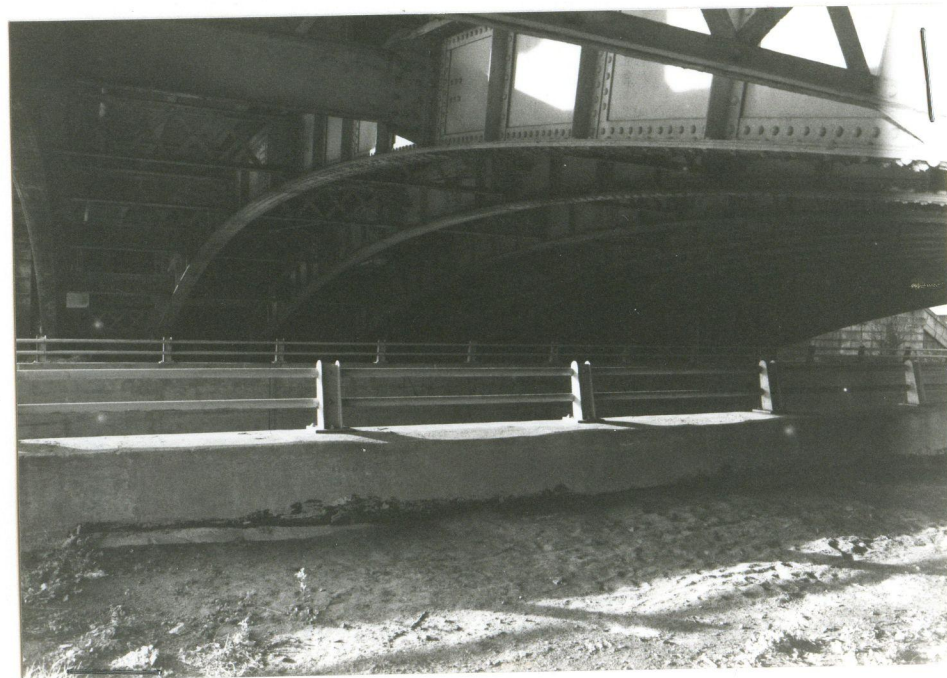
EASTERN END OF BRIDGE, LOOKING E. FROM NEAR PIER 2



FROM NEAR PIER 1, LOOKING WEST



WESTERNMOST ARCH, FROM SE



WESTERNMOST ARCH SPAN, FROM SE

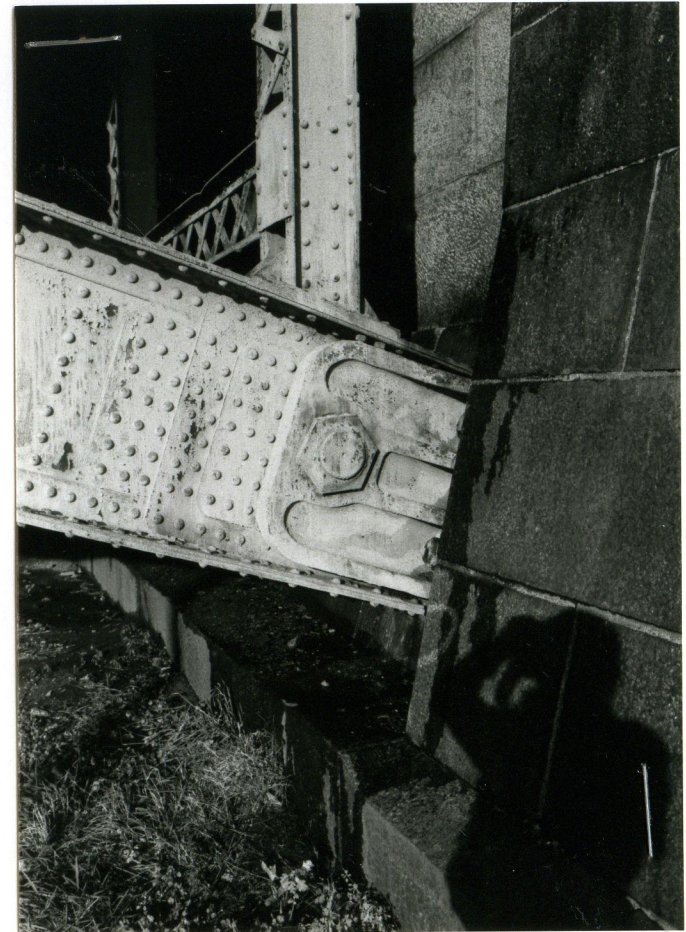
11-16-87



WESTERN MOST ARCH, SOUTHERN FACE, FROM S



WESTERN END, FROM SW

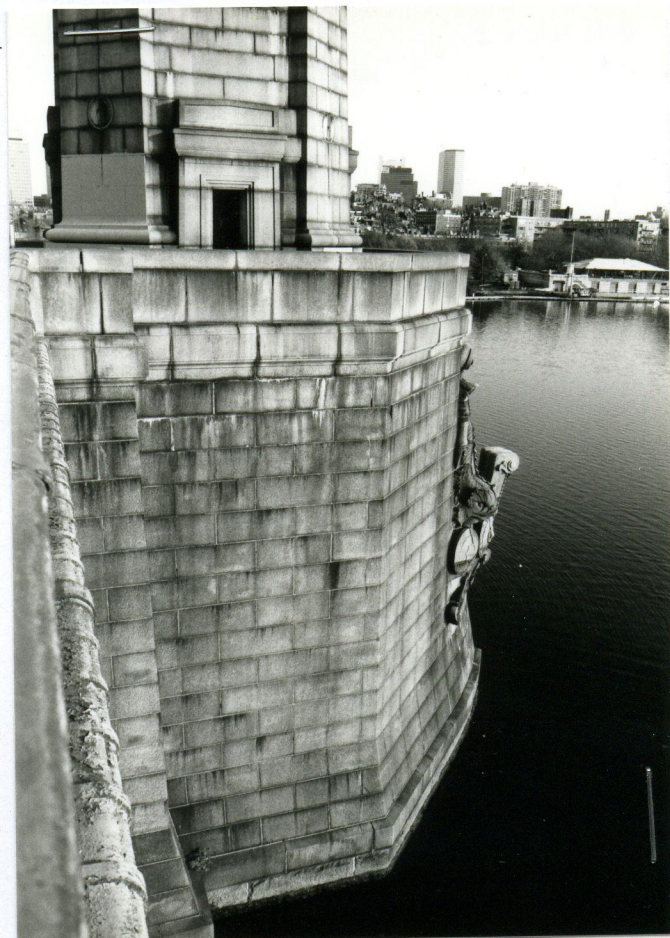


WESTERN MOST ARCH SPAN,
SOUTHERN RIB, EASTERN HINGE,
FROM S

11-16-87



N TOWER, PIER 5, FROM W



BASE OF PIER 5, SOUTHERN FACE



N TOWER, PIER 5, S WINDOW, FROM SE

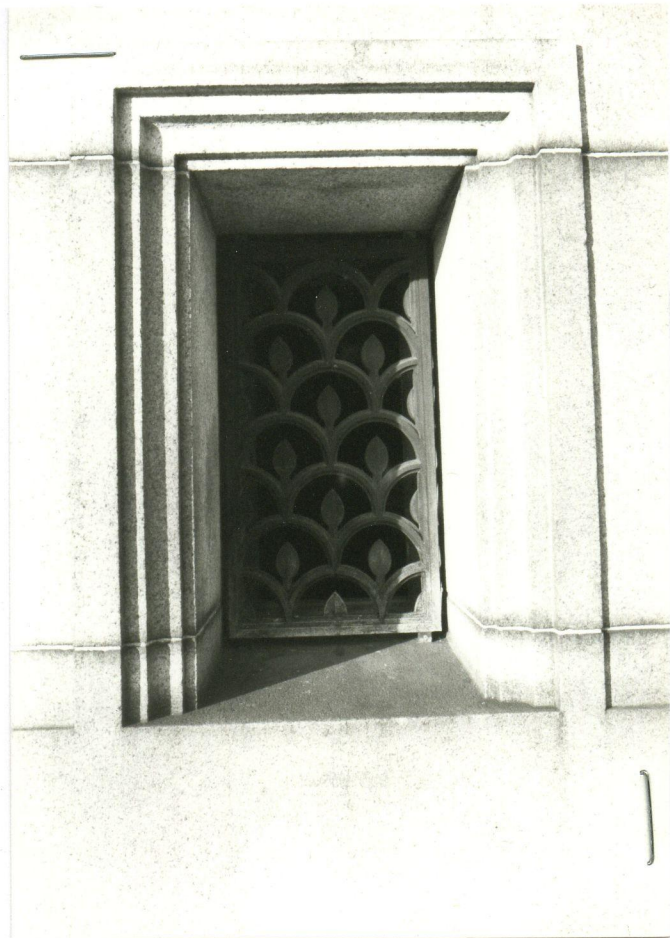


S TOWER ON PIER 6, FROM W

MHC Inventory scanning project, 2008-2013



S TOWER, PIER 5, SOUTHERN DOORWAY, FROM SE



N TOWER, PIER 5, S WINDOW/GRILLE

SOUTHERN BOSTON ABUTMENT TOWER, FROM S

11-16-87



FORM F - STRUCTURE

MASSACHUSETTS HISTORICAL COMMISSION
Office of the Secretary, State House, Boston

In Area no.	Form no.
RL-B0	172 A
RL-CA	100

1. Town Boston/ Cambridge
Address Charles River off Charles St.

Name Longfellow Bridge

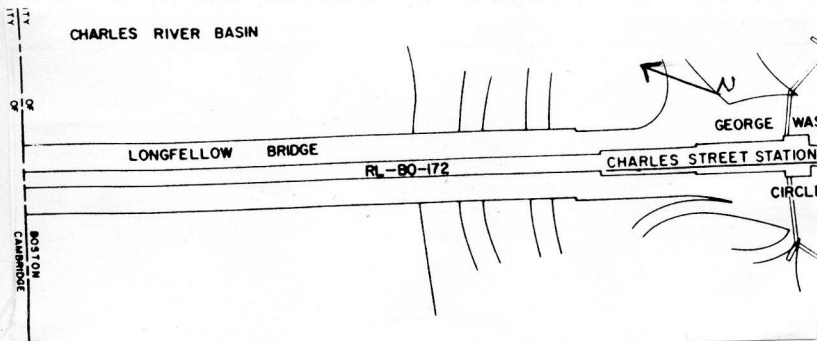
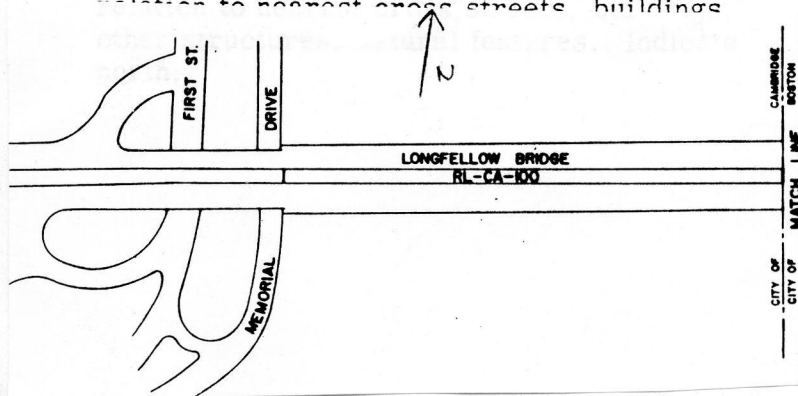
Present use highway bridge

Present owner _____

3. Type of structure (check one)

- | | | | |
|------------|-------------------------------------|--------------|-------|
| bridge | <input checked="" type="checkbox"/> | pound | _____ |
| canal | _____ | powder house | _____ |
| dam | _____ | street | _____ |
| fort | _____ | tower | _____ |
| gate | _____ | tunnel | _____ |
| kiln | _____ | wall | _____ |
| lighthouse | _____ | windmill | _____ |
| other | _____ | | _____ |

4. Map. Draw sketch of structure location in relation to nearest cross streets, buildings



5. Description

Date 1907, rapid Transit track

1912
Source Dan, Fifty Years of Unified Transportation, 1938

Construction material steel, masonry

Dimensions 1765' between abutments

Setting spans Charles River between Cambridge and Boston

Condition _____

DO NOT WRITE IN THIS SPACE
USGS Quadrant _____

MHC Photo no. _____

6. Recorded by Architectural Preservation Associates

Organization MBTA

Date April 1984

(over)

7. Original owner (if known) City of Boston/City of Cambridge.

Original use Highway, pedestrian and rapid transit bridge

Subsequent uses street car bridge

8. Historical significance.

When the Boston, Elevated Railway Co. and the Metropolitan Transit Commission began negotiating a new subway line from Cambridge to Boston, a major obstacle was the "ancient wooden bridge across the Charles River from Kendall Sq. to Charles St." (1) A special commission was set up to construct a new bridge here, and the old one was torn down. The new bridge was begun in 1900 under the direction of the City of Boston Engineering Dept. Edmund Wheelwright, former City Architect, is listed as architect, and William Jackson is listed as Chief Engineer.

The bridge carries roadway on either side of the central rapid transit reservation. Surface car tracks were laid soon after the bridge opened with decorative steel arches, now demolished, supporting the trolley wires.

The bridge is 105' wide and 1767' long between abutments; with approaches it is nearly one half mile long. The structure consists of 11 steel arch spans which vary in length and height, being taller and wider at the center. Each consists of 12 two hinged steel arch ribs. The bridge spans are supported on ten masonry piers with massive foundations resting on piles driven into boulder clay over bed rock. The two central piers are of cellular construction. All piers have concrete inner walls and are faced with Rockport granite. An elegant cast metal fence protects the users.

The Beaux Arts bridge is a landmark on the horizon because of the octagonal towers, four at the center and a smaller pair at each end, familiarly known as "pepper pots". These domed granite structures lend their nickname to the whole bridge, which was originally called the West Boston or the Cambridge Bridge. The structure is listed on the National Register of Historic Places. Cont.

9. Bibliography and/ or references.

(1) Dana, Edward, Fifty Years of Unified Transportation in Metropolitan Boston, Boston Elevated Railway C. 1938, p. 90

"The Cambridge Subway." Electric Railway Journal. vol. 39, #19 May 11, 1912

"The Cambridge Subway." Engineering News. vol. 67, #5, Feb. 1, 1912

Dana Library Historic Photograph File

INVENTORY FORM CONTINUATION SHEET

MASSACHUSETTS HISTORICAL COMMISSION
Office of the Secretary, Boston

Community:		Form No:
Boston	RL-BO	172 A
Cambridge	RL-CA	100
Property Name: Longfellow Bridge		

Indicate each item on inventory form which is being continued below.

Historical significance continued

On the Cambridge side the abutments are integrated with the road and sidewalk system, and with the landscaped river edge. On the Boston side it is integrated with the brief elevated section approaching the Beacon Hill Tunnel.

The bridge, which opened for auto traffic in 1909 and for the subway from Harvard Square to Park St. Under in 1912 cost \$2,655,000, of which the Boston Elevated Railway Co paid \$630,000.

Staple to Inventory form at bottom

BOSTON LANDMARKS COMMISSION

Building Information Form Form No. _____ Area Cambridge St.

Charles River Basin



ADDRESS _____ COR. _____

NAME Longfellow Bridge West Boston Bridge
present original

MAP No. 26N-11E SUB AREA Cambridge St.

DATE 1899-1907 Original drawings
source

ARCHITECT Edmund March Wheelwright " "
 Engineer: William Jackson source " "

BUILDER _____
 _____ source

OWNER Boston & Cambridge Bridges .MDC
original present

PHOTOGRAPHS _____ 4 3/3*87

TYPE (residential) single double row 2-fam. 3-deck ten apt.
(non-residential) bridge

NO. OF STORIES (1st to cornice) _____ plus _____

ROOF _____ cupola _____ dormers _____

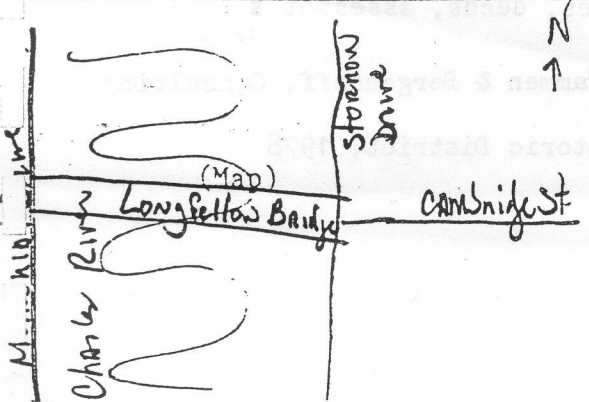
MATERIALS (Frame) clapboards shingles stucco asphalt asbestos alum/vinyl
(Other) brick stone concrete iron/steel/alum.

BRIEF DESCRIPTION Combination railway and highway bridge 105' wide and 1,768' long, with eleven steel arch spans supported on masonry piers and two massive abutments flanking the center arch, with two pairs of towers. The tower is covered with dressed granite from the Rockport quarry of the Cape Ann Granite Company.

EXTERIOR ALTERATION minor moderate drastic

CONDITION good fair poor _____ LOT AREA _____ sq. feet

NOTEWORTHY SITE CHARACTERISTICS _____ crosses Charles River



SIGNIFICANCE (cont'd on reverse)
 The Longfellow Bridge is part of the Charles River Basin Historic District.
 This bridge, finished in 1907 is the third bridge on the same site. The first, constructed in 1793, The West Boston Bridge, was the second bridge built over the Charles. It was replaced in 1852 and again in 1899-1907 when this (continued)

Moved; date if known _____

Themes (check as many as applicable)

Aboriginal	_____	Conservation	_____	Recreation	_____
Agricultural	_____	Education	_____	Religion	_____
Architectural	_____	Exploration/ settlement	_____	Science/ invention	_____
The Arts	_____	Industry	_____	Social/ humanitarian	_____
Commerce	_____	Military	_____	Transportation	_____
Communication	_____	Political	_____		
Community/ development	_____				

Significance (include explanation of themes checked above)

present structure was completed. Nicknamed the Salt and Pepper Bridge because of its distinctively shaped towers the bridge marks the entrance, from the Charles, to the Harbor. It is remarkably intact with virtually no changes since its construction. Edmund Wheelwright was Boston's City Architect from 1891 to 1895 and in partnership with Parkman B. Haven designed a number of municipal buildings including the subway entrance at Park Street (1897) the Pine St. Inn (1894) and the Massachusetts Historical Society (1899). The firm also designed Horticultural Hall (1900) and the New England Conservatory of Music (1903).

Although the subway did not begin service until 1912 the bridge was built with lanes for vehicular traffic and rapid transit tracks in anticipation of the expansion of rapid transit service.

Preservation Consideration (accessibility, re-use possibilities, capacity for public use and enjoyment, protection, utilities, context)

is included in the Charles River Basin Historic District, 1978

Bibliography and/or references (such as local histories, deeds, assessor's records, early maps, etc.)

Original Drawings seen at office of Howard, Needles, Tammen & Bergendoff, Consulting Engineers

National Register form for the Charles River Basin Historic District, 1978

DETERMINATION OF ELIGIBILITY (MHC OPINION)

TO: BETSI FRIEDBERG

RETURN TO REVIEWER BY _____
(DATE)

FROM: WM. SMITH

DATE: JULY 3, 1991

TOWN: Boston / Cambridge

PROPERTY: B-16-9/C-1-2 Cambridge St. over Charles River
(NAME AND ADDRESS)

Longfellow Bridge

1. Does this property meet the criteria for NR eligibility?

YES contributing element in Charles River Basin Historic District
12/22/78

NO

A. Criteria

- a. events
- b. lives
- c. characteristics
- d. information

B. Local _____ State _____ National _____

2. Statement of Significance: OR Why not eligible?

1900 - 1907 11 simple spans, 12 two hinged steel
plate girders, ribs, arches, bridge.

Landmark Bridge - oldest known example of a
2 hinged Arch Bridge in Massachusetts.

Neo-classical details - a MAJOR bridge.

DOE LETTER WRITTEN

FILED IN ER FILE _____

(DATE)

CONCUR
for 9/14/91

Boston/Cambridge B-16-9/C-1-2 Cambridge St. over Charles River

1900-1907 (Longfellow Bridge) two hinged, arch bridge with neo-classical details. Oldest known example of a two hinged, arch bridge in Massachusetts. This bridge has been reviewed by the National Park Service and was formally entered in the National Register of Historic Places on December 22, 1978, as a contributing element in the Charles River Basin Historic District.

Colrain C-18-8 Adamsville Rd over North River

1937 two hinged, steel rib, through arch. Good example of an uncommon structural type in Massachusetts. Located adjacent to the potential National Register district of the 19th century factory village of Griswoldville.

Charlemont/Shelburne C-5-7/S-11-3 North River Rd. over North River

1937 (Four Mile Square bridge) two hinged, steel rib, through arch. Good example of an uncommon structural type in Massachusetts. The Massachusetts Historical Commission disagrees with the Massachusetts Department of Public Works on this bridge, because it is identical to the above bridge in Colrain (C-18-8) and both bridges meet criteria for National Register eligibility.

Cummington C-21-2 State 9 over East Brook, Westfield River

1939 (Dudley Manon bridge) steel box rib, half through arch. The only known example of this structural type in Massachusetts.

Dover/Wellesley D-10-998/W-13-0 Access Rd to Elm Bank over Charles River

1897 (Cheney bridge) three hinged, spandrel braced, steel deck arch. Oldest example of a very uncommon structural type in Massachusetts. This bridge has been reviewed by the National Park Services and was formally entered in the National Register of Historic Places on July 10, 1987 as a contributing element in the Elm Bank Estate.

Erving/Gill E-10-14/G-4-9 State 2 over Connecticut River

1932 (French King bridge) steel three span continuous, spandrel braced deck truss. An unusual variation of an uncommon structural type in Massachusetts. The French King bridge was named the most beautiful steel bridge in its class in America in 1932.

Lowell L-15-30 Broadway over Pawtucket Canal

1919 (Broadway Bridge) spandrel braced, rib deck arch. This bridge is a very unusual structural type and is a contributing element in the Lowell Locks and Canals Historic District, which was formally entered as a National Register District on July 13, 1976 and as a National Historic Landmark on December 22, 1977.

Tyngborough T-9-1 State 113 over Merrimack River

1930 two hinged, steel trussed rib, through arch. A landmark structure and a very uncommon bridge type in Massachusetts.

Waltham W-4-1 Farwell St. over Charles River

1935 (James Harold Bridge) three hinged, spandrel braced, steel deck arch. Late example of an unusual structural type in Massachusetts with noted art deco details. This bridge was reviewed March 20, 1991 with an Eligible recommendation.

Winchester W-40-14 Mystic Valley Parkway
over Aberjona River

1896 three hinged, spandrel braced, steel deck arch bridge. Oldest example of an unusual structural type. Altered by adding two welded arch ribs between the three original arches; however, bridge is definitely a contributing element in the Mystic Valley parkway. A National Register nomination is currently being prepared by the Metropolitan District Commission.

The following bridge is conditionally not eligible; review when fifty years old.

Gloucester G-5-17 State 128 over Annisquam River


1950 fixed steel rib, deck arch. This bridge is an unusual structural type in Massachusetts. Awarded an honorable mention in a national bridge design competition in 1950. This landmark bridge is in an outstanding natural setting.

The following bridge does not appear to meet National Register criteria for individual listing. However the bridge is located near an area that may be historic. Further survey work is needed in order to determine the presence of historic resources, plans for bridge replacement should take into consideration potential impact to adjacent properties.

Huntington H-27-6 State 6, Worthington Road,
over Westfield River & P.C.
Railroad

If you have any questions, please feel free to contact William Smith of this office.

Sincerely,


Judith B. McDonough
Executive Director
State Historic Preservation Officer
Massachusetts Historical Commission

JBM/WS/hl

cc: Frank Bracaglia, MDPW



September 18, 1991

Mr. Donald E. Hammer, Acting Director
 Division Administration
 Federal Highway Administration
 Transportation Systems Center
 55 Broadway - 10th Floor
 Cambridge, MA 02142

ATTN: Mr. H. Pearlman

RE: Massachusetts Bridges, National Register Eligibility

Dear Mr. Fusco:

The Massachusetts Historical Commission has reviewed the historic bridge inventory forms prepared by the Massachusetts Department of Public Works. The Massachusetts Historical Commission concurs with the preliminary findings of the Massachusetts Department of Public Works except where noted with additional comments.

The following bridges meet criteria for listing in the National Register of Historic Places.

Amesbury/Newburyport A-7-14/N-11-10 Main St. over Merrimack River

1909 (chain bridge) single span steel wire suspension bridge. This landmark bridge is the only known suspension bridge in the MDPW database. MHC concurs with the previous determination of July 7, 1980

Boston/Cambridge B-16-7/C-1-4 State 2 over Charles River,
 Soldiers Field Road

1928 (B.U. Bridge) two hinged, trussed rib, steel through arch bridge. Oldest of the five known steel rib through arches in Massachusetts. This bridge has been reviewed by the National Park Service and was formally entered in the National Register of Historic Places on December 22, 1978 as a contributing element in the Charles River Basin Historic District.

Massachusetts Historical Commission, Judith B. McDonough, *Executive Director, State Historic Preservation Officer*
 80 Boylston Street, Boston, Massachusetts 02116 (617) 727-8470

Office of the Secretary of State, Michael J. Connolly, *Secretary*