Form No. 10-300 Rev. 10-74

UNITED STATES DEPARTMENT OF THE INTERIOR
NATIONAL PARK SERVICE

NATIONAL REGISTER OF HISTORIC PLACES INVENTORY -- NOMINATION FORM

FOR NPS USE ONLY	
RECEIVED	HA- 7]]
DATE ENTERED	

SEE INSTRUCTIONS IN *HOW TO COMPLETE NATIONAL REGISTER FORMS*
TYPE ALL ENTRIES -- COMPLETE APPLICABLE SECTIONS

1 NAME

HISTORIC

AND/OR COMMON
Bush River Bridge

2 LOCATION

STREET & NUMBER

__ NOT FOR PUBLICATION

CITY, TOWN
Perryville __ VICINITY OF

CONGRESSIONAL DISTRICT
1

STATE	CODE	COUNTY	CODE
Maryland	24	Harford	015

3 CLASSIFICATION

CATEGORY	OWNERSHIP	STATUS	PRESENT USE	
__DISTRICT	__PUBLIC	X OCCUPIED	__AGRICULTURE	__MUSEUM
__BUILDING(S)	X PRIVATE	__UNOCCUPIED	__COMMERCIAL	__PARK
__STRUCTURE	__BOTH	__WORK IN PROGRESS	__EDUCATIONAL	__PRIVATE RESIDENCE
__SITE	**PUBLIC ACQUISITION**	**ACCESSIBLE**	__ENTERTAINMENT	__RELIGIOUS
__OBJECT	__IN PROCESS	__YES: RESTRICTED	__GOVERNMENT	__SCIENTIFIC
	__BEING CONSIDERED	__YES: UNRESTRICTED	__INDUSTRIAL	X TRANSPORTATION
		__NO	__MILITARY	__OTHER

4 OWNER OF PROPERTY

NAME: AMTRAK

STREET & NUMBER: 955 L'Enfant Plaza, SW

CITY, TOWN: Washington, D.C. __ VICINITY OF STATE:

5 LOCATION OF LEGAL DESCRIPTION

COURTHOUSE, REGISTRY OF DEEDS, ETC: Real Estate Department-AMTRAK

STREET & NUMBER: 955 L'Enfant Plaza

CITY, TOWN: Washington, D.C. STATE:

6 REPRESENTATION IN EXISTING SURVEYS

TITLE
Northeast Corridor Aerial Reconnaissance of Historic Structures

DATE
13-15 April 1977 X FEDERAL __STATE __COUNTY __LOCAL

DEPOSITORY FOR SURVEY RECORDS: Federal Railway Administration
2100 2nd Street, S.W. Room 4613

CITY, TOWN: Washington, D.C. 20590 STATE:

7. DESCRIPTION

HA-1711

CONDITION		CHECK ONE	CHECK ONE
__EXCELLENT	__DETERIORATED	__UNALTERED	X_ORIGINAL SITE
__GOOD	__RUINS	XALTERED	__MOVED DATE_____
X FAIR	__UNEXPOSED		

DESCRIBE THE PRESENT AND ORIGINAL (IF KNOWN) PHYSICAL APPEARANCE

The Bush River Bridge is a single-leaf Strauss bascule bridge with a below deck counterweight. The superstructure is of structural steel and the foundation is of timber pile. The substructure is 12 feet above mean high water.

From north to south, Bush River Bridge consists of 41 concrete slab approach spans, each 26 feet long; a through girder bascule span 40 feet long; an approach span 30 feet long; and 62 concrete slab spans 26 feet long. Two girders supporting the bridge gearing carry the forces developed when the bridge is opened. They are of varying depth--9 feet, 8 inches at the heel to 4 feet, 6 inches at the toe. The bascule span rotates about a heel trunnion 2 feet, 8 1/2 inches above the bottom flange of the through girders. A strut is attached from the top of the bascule girder to the rack. As the rack moves, it pulls the strut back, thus causing the bascule girder to rotate about the heel trunnion. The counterweight is attached to the opposite end of the rack through linkages. It hangs below the fixed span adjacent to the bascule span and moves downward as the rack moves.

The bridge is powered by a 75-horsepower diesel engine, located in a house to the south of the bascule span. The operation of friction clutches directs the power to either the bridge locks or the bridge moving machinery. The bridge is opened in the summer on weekends only and a track crew is required to operate it.

Structurally, Bush River Bridge is in good condition, but the mechanical workings are worn and in need of repair.

8 SIGNIFICANCE

HA-171

PERIOD	AREAS OF SIGNIFICANCE -- CHECK AND JUSTIFY BELOW				
_ PREHISTORIC	_ ARCHEOLOGY-PREHISTORIC	_ COMMUNITY PLANNING	_ LANDSCAPE ARCHITECTURE	_ RELIGION	
_ 1400-1499	_ ARCHEOLOGY-HISTORIC	_ CONSERVATION	_ LAW	_ SCIENCE	
_ 1500-1599	_ AGRICULTURE	_ ECONOMICS	_ LITERATURE	_ SCULPTURE	
_ 1600-1699	_ ARCHITECTURE	_ EDUCATION	_ MILITARY	_ SOCIAL/HUMANITARIAN	
_ 1700-1799	_ ART	X ENGINEERING	_ MUSIC	_ THEATER	
_ 1800-1899	_ COMMERCE	_ EXPLORATION/SETTLEMENT	_ PHILOSOPHY	X TRANSPORTATION	
X 1900-	_ COMMUNICATIONS	_ INDUSTRY	_ POLITICS/GOVERNMENT	_ OTHER (SPECIFY)	
		_ INVENTION			

SPECIFIC DATES 1913 BUILDER/ARCHITECT Pennsylvania Steel Co.

STATEMENT OF SIGNIFICANCE

The Bush River Bridge is the only operational below deck counterweight type of Strauss bascule bridge on the Northeast Corridor rail line. It was constructed in 1913 by the Pennsylvania Steel Company for the Philadelphia, Baltimore and Washington railroad.

The movable bridge is an ancient type that can be changed in position so as to open a clear passage, or to afford an increased headway for ships and boats in navigable channels. Engineers choose this type of bridge when no other way of giving vertical clearance for the passage of vessels on a waterway exists. The introduction of railroads to the U.S. in the early 1800's greatly spurred the development and construction of this type of bridge. Along the eastern seaboard the large number of navigable rivers and inlets to be crossed resulted in the construction of fifteen movable bridges on what is today the Northeast Corridor rail line. There are three basic types of movable bridges--the bascule, the swing, and the vertical lift. On the Northeast Corridor rail line there are nine bascule bridges, five swing bridges, and one vertical lift bridge. These bridges were prefabricated at the construction company's plant and then built by unskilled labor at the site. The machinery to operate the bridges was not standardized and each one has unique mechanical components.

The earliest forerunners of the bascule type of movable bridge date from medieval times when they were used to cross moats to castles and forts. Some bascules were developed in Europe during the first half of the nineteenth century, but the first modern bascule bridge in this country was the Van Buren Street Bridge built in Chicago in 1893. It was designed by William Scherzer and was the first of the structures known as the Scherzer rolling lift bascule bridge.

The Strauss bascule, of which Bush is a variety, developed about the same time as the Scherzer rolling lift. Patented by Joseph Strauss, the first one was completed in 1905. The three basic types of Strauss bridges are the vertical overhead counterweight type, the underneath counterweight, and the heel trunnion. The below deck counterweight bridge is similar to the overhead type but the counterweight is located below the roadway. This arrangement is well suited to locations which provide ample clearance between high water level and grade.

The Bush River Bridge was built from the same plans as the bridge over the Gunpowder River in Maryland, but that bridge no longer operates as a movable bridge.

9 MAJOR BIBLIOGRAPHICAL REFERENCES

HA-1711

Condit, Carl. American Building. Chicago: University of Chicago Press, 1968.

Hool, George, ed. Movable and Long-Span Bridges. New York: McGraw-Hill Book Co., Inc., 1923.

10 GEOGRAPHICAL DATA

ACREAGE OF NOMINATED PROPERTY 1

UTM REFERENCES

	ZONE	EASTING	NORTHING
A	18	39,30,60	4,36,5,83,0
B			
C			
D			

VERBAL BOUNDARY DESCRIPTION

This bridge is on the Northeast Corridor rail line, across the Bush River at Perryman, Maryland.

LIST ALL STATES AND COUNTIES FOR PROPERTIES OVERLAPPING STATE OR COUNTY BOUNDARIES

STATE	CODE	COUNTY	CODE
STATE	CODE	COUNTY	CODE

11 FORM PREPARED BY

NAME / TITLE
Anne Baggerman, Cultural Resources Planner August 10, 1977

ORGANIZATION
DeLeuw, Cather, Parsons and Associates

DATE
202-452-5242

STREET & NUMBER
Northeast Corridor Project
1201 Connecticut Avenue

TELEPHONE

CITY OR TOWN
Washington, D.C.

STATE

12 STATE HISTORIC PRESERVATION OFFICER CERTIFICATION

THE EVALUATED SIGNIFICANCE OF THIS PROPERTY WITHIN THE STATE IS:

NATIONAL ___ STATE ___ LOCAL ___

As the designated State Historic Preservation Officer for the National Historic Preservation Act of 1966 (Public Law 89-665), I hereby nominate this property for inclusion in the National Register and certify that it has been evaluated according to the criteria and procedures set forth by the National Park Service.

STATE HISTORIC PRESERVATION OFFICER SIGNATURE

TITLE

DATE

FOR NPS USE ONLY

I HEREBY CERTIFY THAT THIS PROPERTY IS INCLUDED IN THE NATIONAL REGISTER

DATE

DIRECTOR, OFFICE OF ARCHEOLOGY AND HISTORIC PRESERVATION

ATTEST: DATE

KEEPER OF THE NATIONAL REGISTER

GPO 892-453

Form No. 10-300a
Rev. 10-74

HA-1711

UNITED STATES DEPARTMENT OF THE INTERIOR
NATIONAL PARK SERVICE

NATIONAL REGISTER OF HISTORIC PLACES INVENTORY -- NOMINATION FORM

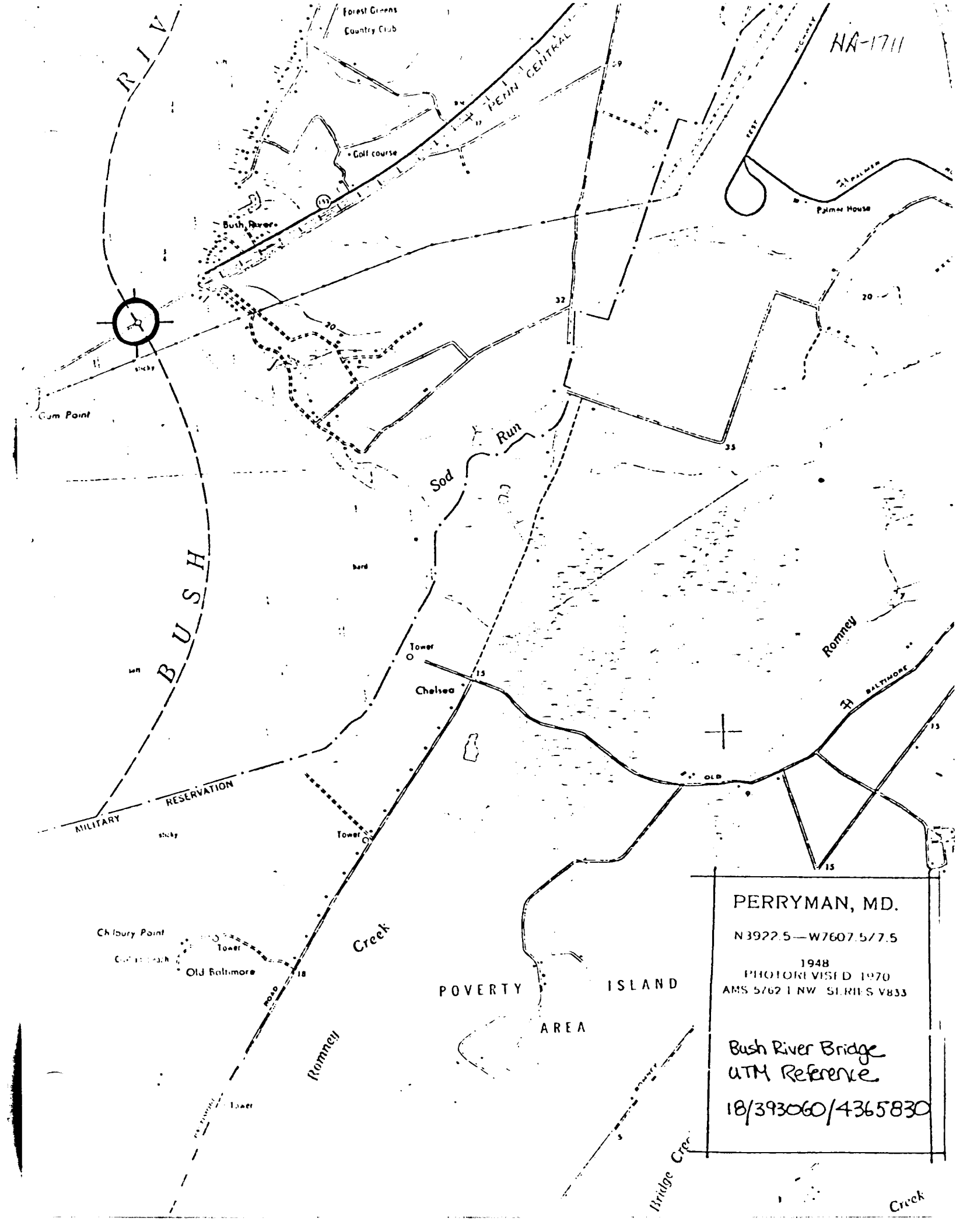
FOR NPS USE ONLY
RECEIVED
DATE ENTERED

Major Biographical References (continued):

Hovey, Otis Ellis. Movable Bridges, Vol. I and II. New York: John Wiley and Sons, Inc., 1926.

Railroad Gazette, Vol XXXVIII, No. 11, March 17, 1905.

U.S. DOT, Northeast Corridor High Speed Rail Passenger Service Improvement Project, Tasks 15.1 and 15.2, Vol. VI, Jan. 1977.


HA-1711
Forest Greens
Country Club
PENN CENTRAL
Golf course
Bush River
Palmer House
Gum Point
Sod Run
BUSH
RIV
Tower
Chelsea
Romney
BALTIMORE
OLD
MILITARY RESERVATION
Tower
Chlsbury Point
Tower
Old Baltimore
Creek
POVERTY ISLAND
AREA
Romney
Tower
Bridge Cree
Creek
PERRYMAN, MD.
N3922.5—W7607.5/7.5
1948
PHOTOREVISED 1970
AMS 5762 I NW SERIES V833
Bush River Bridge
UTM Reference
18/393060/4365830

Bush River RR Bridge - Perryman, MD
April 77
DeLeuw, Cather / Parsons - Wash, DC
View of Bascule
DCP-MD-2 HA-1711

HA-1711

Bush River RR Bridge-Perryman, MD
April 77
DeLeuw, Cather/Parsons-Wash, DC
View to North
DCP-MD-1 HA-1711