Maryland Historical Trust

Maryland Inventory of Historic Properties number: WA-III-168

Name: SANDY HOOK BRIDGE

The bridge referenced herein was inventoried by the Maryland State Highway Administration as part of the Historic Bridge Inventory, and SHA provided the Trust with eligibility determinations in February 2001. The Trust accepted the Historic Bridge Inventory on April 3, 2001. The bridge received the following determination of eligibility.

MARYLAND HISTORICAL TRUST

Eligibility Recommended ___X___ Eligibility Not Recommended _____

Criteria: ____A ____B X C ____D Considerations: ___A ___B ___C ___D ___E ___F ___G ___None

Comments: _____

Reviewer, OPS: Anne E. Bruder Date: 3 April 2001

Reviewer, NR Program: Peter E. Kurtze Date: 3 April 2001

MARYLAND INVENTORY OF HISTORIC BRIDGES
HISTORIC BRIDGE INVENTORY
MARYLAND STATE HIGHWAY ADMINISTRATION/
MARYLAND HISTORICAL TRUST

MHT No. WA-III-168

SHA Bridge No. 21041 **Bridge name** Sandy Hook Bridge

LOCATION:

Street/Road name and number [facility carried] U.S. Route 340 over the Potomac River, CSX Railroad, C & O Canal, and Sandy Hook Road

City/town Sandy Hook **Vicinity** X

County Washington

This bridge projects over: Road X **Railway** X **Water** X **Land** ____

Ownership: State X **County** ____ **Municipal** ____ **Other** ____

HISTORIC STATUS:

Is the bridge located within a designated historic district? Yes X **No** ____

National Register-listed district ____ **National Register-determined-eligible district** ____
Locally-designated district ____ **Other** ____

Name of district Sandy Hook

BRIDGE TYPE:

Timber Bridge ____:
Beam Bridge ____ **Truss -Covered** ____ **Trestle** ____ **Timber-And-Concrete** ____

Stone Arch Bridge ____

Metal Truss Bridge X

Movable Bridge ____:
Swing ____ **Bascule Single Leaf** ____ **Bascule Multiple Leaf** ____
Vertical Lift ____ **Retractile** ____ **Pontoon** ____

Metal Girder X:
Rolled Girder X **Rolled Girder Concrete Encased** ____
Plate Girder ____ **Plate Girder Concrete Encased** ____

Metal Suspension ____

Metal Arch ____

Metal Cantilever ____

Concrete ____:
Concrete Arch ____ **Concrete Slab** ____ **Concrete Beam** ____ **Rigid Frame** ____
Other ____ **Type Name** ____

DESCRIPTION:

Setting: Urban _____ **Small town** ___X___ **Rural** _____

Describe Setting:

Bridge No. 21041 carries U.S. Route 340 over the Potomac River, CSX Railroad, Chesapeake and Ohio Canal (C & O) and Sandy Hook Road at the town of Sandy Hook in Washington County. U.S.Route 340 runs generally in a north/south direction in the area while the Potomac River, the CSX Railroad and the C & O Canal run in a generally east/west direction. The bridge spans from Washington County, Maryland to Loudoun County, Virginia and is a major crossing of the Potomac River in this area.

Describe Superstructure and Substructure:

Bridge No. 21041, constructed in 1946-1947, is a 14-span, arched deck truss with flanking steel beam simple-spans measuring 686.4 meters (2252 feet) in total length. The bridge comprises four (4) truss units which are continuous. The two (2) center truss spans are each 57.9 meters (190 feet) in total length, while the end spans are each 34.7 meters (114 feet) in total length. The truss chords consist of built-up rolled steel beam sections with cover plates and diagonals consisting of built-up angle sections. The floor system has modified steel beam floorbeams which in turn support eight (8) steel beams, the exterior beams being smaller than the interior composite sections. All structural steel connections are riveted with gusset plates. All original roadway joints are finger joints and the bridge has intermittent cast iron soil pipe drain scuppers.

The approach span on the Maryland side is 13.5 meters (44.33 feet) in length and consists of a seven (7) composite steel beam section. These beams are supported on rockers and the span has a concrete deck and balustrades. The approach span on the Virginia side is 20.1 meters (66.16 feet) in length and consists of a seven (7) composite steel beam section.

There are thirteen (13) solid shaft piers. Pier No. 1 is straight and Piers No. 2 through 12 are tapered and oblong in section with a two (2) layered cap section and a scored pointed arch section on each face in elevation. Pier No. 13 is a rectangular tapered section.

The abutment on the Maryland side (north) is a concrete full cantilevered abutment with circular wingwalls and arched balustrades. There are also two (2) flanking counterfort curtain wall sections which support an approach steel beam section at this abutment. The abutment on the Virginia side (south) is a combination pedestal and variable height semi-cantilevered abutment with short wingwalls.

The original construction consisted of reinforced concrete bridge deck which supported two (2) interior mountable curbs and an exterior elaborate ornamental metal railing. The sidewalk areas were built at grade with the roadway.

The floorbeam seats consist of curved plates. The supports for the truss are pinned connections with cast iron fixed shoes and rockers.

The original clear roadway width was 7.9 meters (26 feet) with two (2) travel lanes and two (2), .91 meter (3 foot) sidewalks. The sidewalk areas were protected by the 22.8 centimeter (9 inch) mountable curb section. The bridge has a 65 degree skew to the C & O Canal and the CSX Railroad and a 90 degree skew to the Potomac River.

The bridge is in satisfactory condition and has a sufficiency rating of 77.5.

Discuss Major Alterations:

In 1978, a major rehabilitation of the bridge was undertaken consisting of the removal and replacement of the concrete bridge deck and interior curbing with a new concrete deck and two (2) interior jersey barrier sections. Portions of the existing balustrades on the Maryland-side abutment (north) were removed and replaced with a solid concrete vertical wall scored to approximate the original features of the balustrade. The majority of the balustrade on the curved walls on this side of the bridge remained in place. On the Virginia side (south), the entire limits of balustrade were removed and replaced with the same solid vertical wall section with scored panels.

The new roadway section with two (2) lanes is 7.6 meters (25 feet) wide and the sidewalk areas vary from .91 meters (3 feet) to .96 meters (3.18 feet) with .42 meters (1.41 foot) interior parapet sections.

The original railing was modified with the addition of a structural Tee section welded to the top rail for purposes of upgrading the railing to conformity to AASHTO safety criteria. The roadway joint and backwall were replaced at each abutment. A chain link safety fence was added to the bridge at span no. 2, which spans the CSX Railroad.

The 1997 inspection report noted that the paint is chalking through the steel deck truss and the bottom chords had areas of light rusting. All metal under the finger dams had heavy to severe rust scaling with minor to heavy section loss on diaphragm angles and gusset plates. Several hanger rods for the top diagonal sway bracing were broken and several were loose. The floor beam over pier no. 4 from the Virginia side had three (3) holes rusted through the web.

HISTORY:

WHEN was the bridge built 1946-1947
This date is: Actual X **Estimated** _____
Source of date: Plaque ____ **Design plans** ____ **SHA bridge files/inspection form** X
Other (specify): A History of Road Building in Maryland, State Roads Commission of Maryland, 1959

WHY was the bridge built?

In the spring of 1936, the spring thaw caused the Potomac River to rise to unprecedented heights, resulting in serious damage or complete destruction of four (4) bridges. This included the Harpers Ferry Bridge which carried U.S. Route 340 over the Potomac River, joining Sandy Hook, Maryland and Loudoun County, Virginia. The replacement of this structure was delayed by wartime restrictions and therefore, for eleven (11) years, the Baltimore and Ohio Railroad Bridge carried both motor vehicles and trains. In order to accommodate motor vehicles, the State Roads Commission constructed a wood floor between the tracks. The Sandy Hook Bridge was finally constructed to replace the Harpers Ferry Bridge in 1946-1947.

WHO was the designer?

State Roads Commission

WHO was the builder?

Unknown

WHY was the bridge altered?

The bridge was rehabilitated to replace the deteriorated deck and to upgrade the bridge to current design and safety specifications.

Was this bridge built as part of an organized bridge-building campaign?

There is no evidence that the bridge was built as part of an organized bridge building campaign.

SURVEYOR/HISTORIAN ANALYSIS:

This bridge may have National Register significance for its association with:
A - Events __X__ B- Person _____
C- Engineering/architectural character __X__

Was the bridge constructed in response to significant events in Maryland or local history?

Yes; in the spring of 1936, the spring thaw caused the Potomac River to rise to unprecedented heights, resulting in serious damage or complete destruction of four (4) bridges; the Hancock Bridge, the Shepherdstown Bridge, the Harpers Ferry Bridge (at the location of the present-day Sandy Hook Bridge), and the Point of Rocks Bridge. As a result of the flooding, martial law was declared by Governor Nice and the National Guard patrolled flooded communities. Delayed by wartime restrictions, replacement of the Harpers Ferry Bridge did not occur until 1946-1947, when the Sandy Hook Bridge was constructed.

When the bridge was built and/or given a major alteration, did it have a significant impact on the growth and development of the area?

There is no evidence that the construction of this bridge had a significant impact on the growth and development of this area.

Is the bridge located in an area which may be eligible for historic designation and would the bridge add to or detract from the historic/visual character of the potential district?

This bridge is located within the Sandy Hook Historic District, however, the bridge post-dates the district's period of significance. The bridge has a significant visual impact on the district due to its scale, however, it does not detract from the character of the district.

Is the bridge a significant example of its type?

The bridge is a significant example of a deck truss bridge.

Does the bridge retain integrity of important elements described in Context Addendum?

The bridge retains the character-defining elements of its type, as defined by the Statewide Historic Bridge Context, including the truss components and the substructure units retain integrity.

Is the bridge a significant example of the work of a manufacturer, designer, and/or engineer?

This bridge is a significant example of the work of the State Roads Commission in the 1940s, as the State designed few structures of this magnitude or type.

Should the bridge be given further study before an evaluation of its significance is made?

No further study of this bridge is required to evaluate its significance.

BIBLIOGRAPHY:

County inspection/bridge files _____ **SHA inspection/bridge files** ____X____
Other (list):

State Roads Commission of Maryland
1959 *A History of Road Building in Maryland.* Maurice Leeser Company, Baltimore, MD.

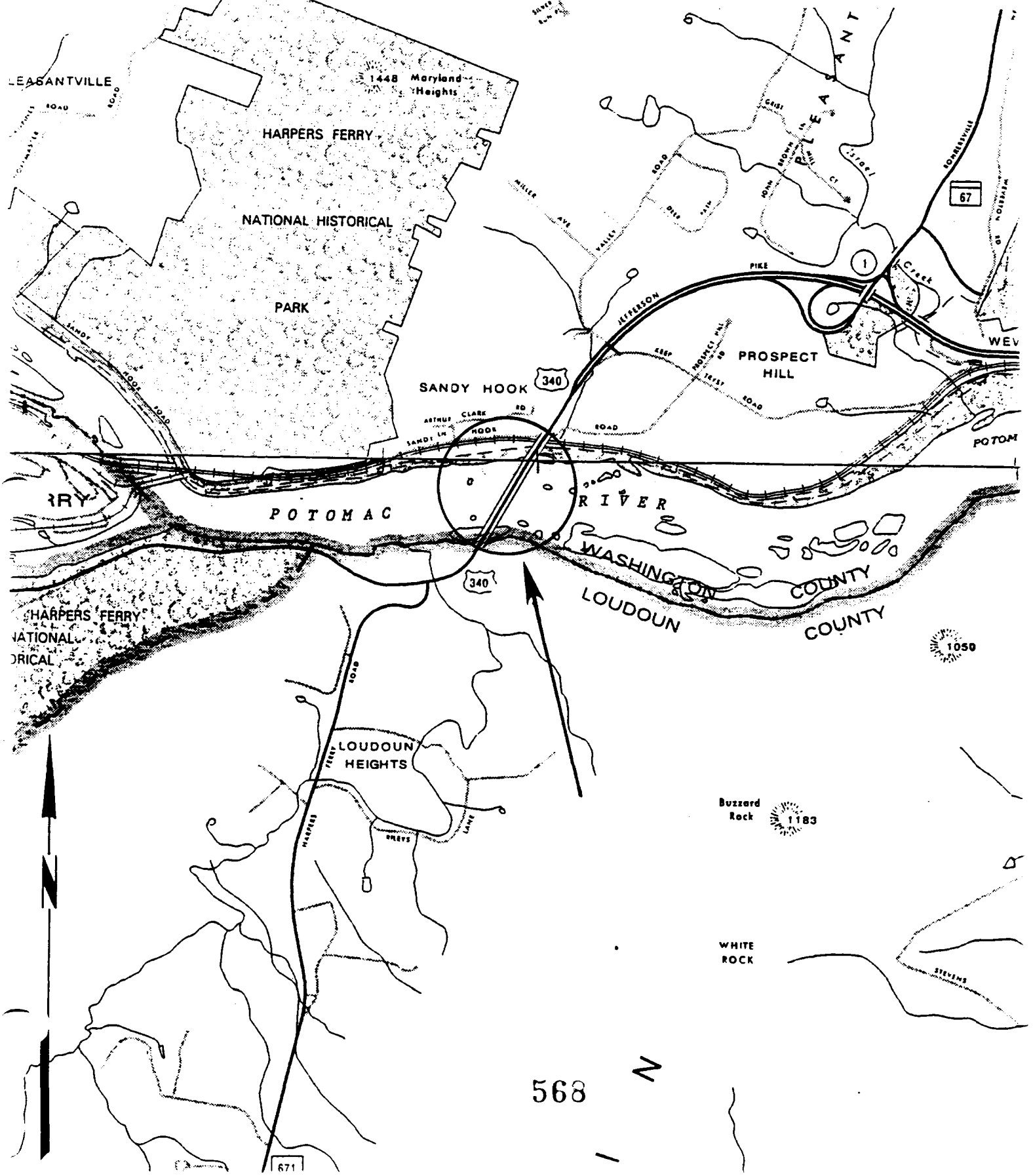
1939-1940 Report of the State Roads Commission of Maryland.

1941-1942 Report of the State Roads Commission of Maryland.

SURVEYOR:

Date bridge recorded July 16, 1996/revised August 30, 1996
Name of surveyor James T. Aguirre
Organization/Address Environmental Section, Office of Project Planning, SHA, Baltimore, Maryland
Phone number 410-545-8559 **FAX number** 410-333-1105
Edited by: P.A.C. Spero & Company, March 1998

Maryland Historic Highway Bridges
Bridge Type Metal Truss
MHT# WA-III-168
Map C-8, Sharpsburg / D-8, Brunswick
County Washington
Bridge # and name 21041 / Sandy Hook Bridge (U.S. Route 340 over Potomac River, CSX Railroad, C & O Canal and Sandy Hook Road)



1. WA-III-163
2. 21041, Sandy Hook Bridge
3. Washington County, MD
4. Dave Dick, WMA Assoc.
5. March 1998
6. MD SHPO
7. South approach, view north
8. 1 of 6

1. WA-III-168
2. 21041, Sandy Hook Bridge
3. Washington County, Maryland
4. Dave Dick, WM & Assoc.
5. March 1998
6. MD SHPO
7. North approach, view south
8. 2 of 6

1. WA-III-168
2. 21041, Sandy Hook Bridge
3. Washington County, MD
4. Dave Dick, WMA Assoc.
5. March 1998
6. MD SHPO
7. West elevation, view east
8. 3 of 6

1. WA-III-168
2. 21041, Sandy Hook Bridge
3. Washington County, MD
4. Dave Dick, WM & Assoc
5. March 1998
6. MD SHPO
7. East elevation, view west
8. 4 of 6

1. WA-III-168
2. 21041, Sandy Hook Bridge
3. Washington County, MD
4. Dave Dick, WM & Assoc.
5. March 1998
6. MD SHPO
7. Detail of railing
8. 5 of 6

1. WA-III-168
2. 21041, Sandy Hook Bridge
3. Washington County, MD
4. Dave Dick, WMA Assoc.
5. March 1998
6. MD SHPO
7. West elevation, view east
8. 6 of 6