Maryland Historical Trust

Maryland Inventory of Historic Properties number: BA-2782

Name: Alt. US 1 over US 1 NB, Amtrak & Herbert's Run.

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 ___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. BA-2782

SHA Bridge No. 3011 **Bridge name** Alt. US1 over US 1 northbound, AMTRAK, and Herberts Run

LOCATION:

Street/Road name and number [facility carried] Alt. US 1 (Washington Boulevard)

City/town Halethorpe **Vicinity** X

County Baltimore

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 ___ **No** X
National Register-listed district ___ **National Register-determined-eligible district** ___
Locally-designated district ___ **Other** ___

Name of district ___

BRIDGE TYPE:

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

Stone Arch Bridge ___

Metal Truss Bridge ___

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

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

Metal Suspension ___

Metal Arch ___

Metal Cantilever ___

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

BA-2772

DESCRIPTION:
Setting: Urban ____X____ **Small town** _____ **Rural** _____

Describe Setting:

Bridge No. 3011 carries Alt. US 1 (Washington Boulevard) over US 1 northbound, AMTRAK, and Herberts Run in Baltimore County. Alt. US 1 runs northeast-southwest and US 1 northbound, AMTRAK, and Herberts Run all run north-south. The bridge is located in the vicinity of Halethorpe, and is surrounded by commercial development and open space.

Describe Superstructure and Substructure:

Bridge No. 3011 is a 5-span, 2-lane, metal girder bridge. The bridge was originally built in 1936, and a new deck was added in 1979. The structure is 534 feet long and has a clear roadway width of 50 feet; there are two (2) sidewalks measuring 4 feet, 5 inches wide. The out-to-out width is 59 feet. The superstructure consists of two (2), riveted, plate girder beams which support a concrete deck. The girders are 12 feet x 8 inches and are spaced 59 feet apart. There are 13 stringers and 5 floor beams between the girders, spaced 4 feet apart. The floorbeams and stringers are encased in concrete at the spans over AMTRAK. The roadway is carried through the plate girders. The concrete deck is 8 inches thick, and it has a bituminous wearing surface. The roadway approaches are tangent and level with the bridge. The substructure consists of two (2) concrete, cantilevered abutments and there are four (4), paired, concrete column piers. There are two (2) flared, concrete wing walls. The bridge has a sufficiency rating of 79.8.

According to the 1996 inspection report, this structure is in satisfactory condition with structural elements showing only minor deterioration. The asphalt wearing surface has some surface erosion, but is in satisfactory condition. The concrete has light vertical cracking in the wing walls and abutments. The piers also have fine to medium vertical cracking. The girders have traces of rust, peeling paint, and light scale and pitting.

Discuss Major Alterations:

The current bridge deck was constructed in 1979. Inspection reports from 1996 detail no other major alterations.

HISTORY:

WHEN was the bridge built: 1936
This date is: Actual ____X____ **Estimated** _____
Source of date: Plaque ____ **Design plans** ___ **County bridge files/inspection form** ___
Other (specify): State Highway Administration bridge files/inspection form

WHY was the bridge built?

The bridge was constructed in response to the need for more efficient transportation network and increased load capacity.

WHO was the designer?

Unknown

WHO was the builder?

Unknown

WHY was the bridge altered?

The bridge was altered to correct functional or structural deficiencies.

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 _____ B- Person _____
C- Engineering/architectural character __X__

The bridge is eligible for the National Register of Historic Places under Criterion C, as a significant example of plate girder construction. The structure has a high degree of integrity and retains such character-defining elements of type as the original plate girders with the original stiffeners, the original concrete column piers, and concrete abutments.

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

Metal girder bridges were most likely introduced and first popularized in Maryland by the state's major railroads of the nineteenth century including the Baltimore and Susquehanna, its successor the Northern Central, and the Baltimore and Ohio Railroad. Bridge engineering historians have documented the fact that James Milholland (or Mulholland) erected the earliest plate girder span in the United States on the Baltimore and Susquehanna Railroad in 1846 at Bolton Station, near present-day Mount Royal Station. The sides (web) and bottom flange of Milholland's 54-foot-long span were wholly of wrought iron and included a top flange reinforced with a 12x12-inch timber. Plates employed in the bridge were 6 feet deep and 38 inches wide, giving the entire bridge a total weight of some 14 tons. Milholland's pioneering plate girder cost $2,200 (Tyrrell 1911:195). By December 31, 1861, the Northern Central Railroad, which succeeded the Baltimore and Susquehanna, maintained an operating inventory in Maryland of 50 or more bridges described simply as "girder" spans, in addition to a number of Howe trusses. Most of these were probably iron girder bridges; the longest were the 117-foot double-span bridge over Jones Falls and the 106-foot double-span girder bridge at Pierce's Mill (Gunnarson 1990:179-180).

As in the nation, girder bridge technology in Maryland was quickly adapted to cope with the increasingly heavy traffic demands of the twentieth century caused by automobile and truck traffic. The 1899 Maryland Geological Survey report on highways noted that "there are comparatively few I-beam bridges, one of the cheapest and best forms for spans less than 25 or 30 feet" (Johnson 1899:206). Interestingly, the report also urged construction of a composite metal, brick, and concrete bridge, noting that "no method of construction is more durable than the combination of masonry and I-beams, between which are transverse arches of brick, the whole covered with concrete, over which is laid the roadway" (Johnson 1899:206). Whether any such bridges (transitional structures between I-beams and reinforced concrete spans) were built is unknown.

Official state and county highway reports—issued between 1900 and the early 1920s through the Highway Division of the Maryland Geological Survey and its successor, the State Roads

Commission—generally do not reference or describe girder construction. An analysis of the current statewide listing of county and municipal bridges (a listing maintained by the State Highway Administration) reveals that 48 county bridges, out of the total of 141 approximately dated to "1900" by county engineers, were listed as steel girder, steel stringer, or variants of such terms. (It should be noted that the "1900" date is often given when no exact date is pinpointed for a bridge that is clearly old). A grand total of 200 bridges (including "steel culverts"), out of 550 bridges dated on the county list between 1901 and 1930, were described as steel beam, steel girder, or steel stringer and girder varieties. The total suggests that among the various highway bridge types built in the early twentieth century metal girder bridges in Maryland between 1900 and 1930 were second in popularity only to reinforced concrete bridges. However, these numbers must be interpreted with caution, as they do not necessarily include all county and municipal bridges.

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?

The bridge is located in an area which does not appear to be eligible for historic designation.

Is the bridge a significant example of its type?

The bridge is a potentially significant example of a metal girder bridge, possessing a high degree of integrity.

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 original plate girders, abutments of concrete, and piers of concrete.

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

This bridge is not a significant example of the work of a manufacturer, designer, and/or engineer.

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):

Gunnarson, Robert
1990 *The Story of the Northern Central Railway, From Baltimore to Lake Ontario.* Greenberg Publishing Co., Sykesville, Maryland.

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Johnson, Arthur Newhall
1899 The Present Condition of Maryland Highways. In *Report on the Highways of Maryland.* Maryland Geological Survey, The Johns Hopkins University Press, Baltimore.

Tyrrell, Henry G.
1911 *History of Bridge Engineering.* Published by author, Chicago.

SURVEYOR:

Date bridge recorded 2/28/97
Name of surveyor Caroline Hall/Eric F. Griffitts
Organization/Address P.A.C. Spero & Co., 40 W. Chesapeake Avenue, Baltimore, MD 21204
Phone number (410) 296-1685 **FAX number** (410) 296-1670

Maryland Historic Highway Bridges

Bridge Type METAL GIRDER

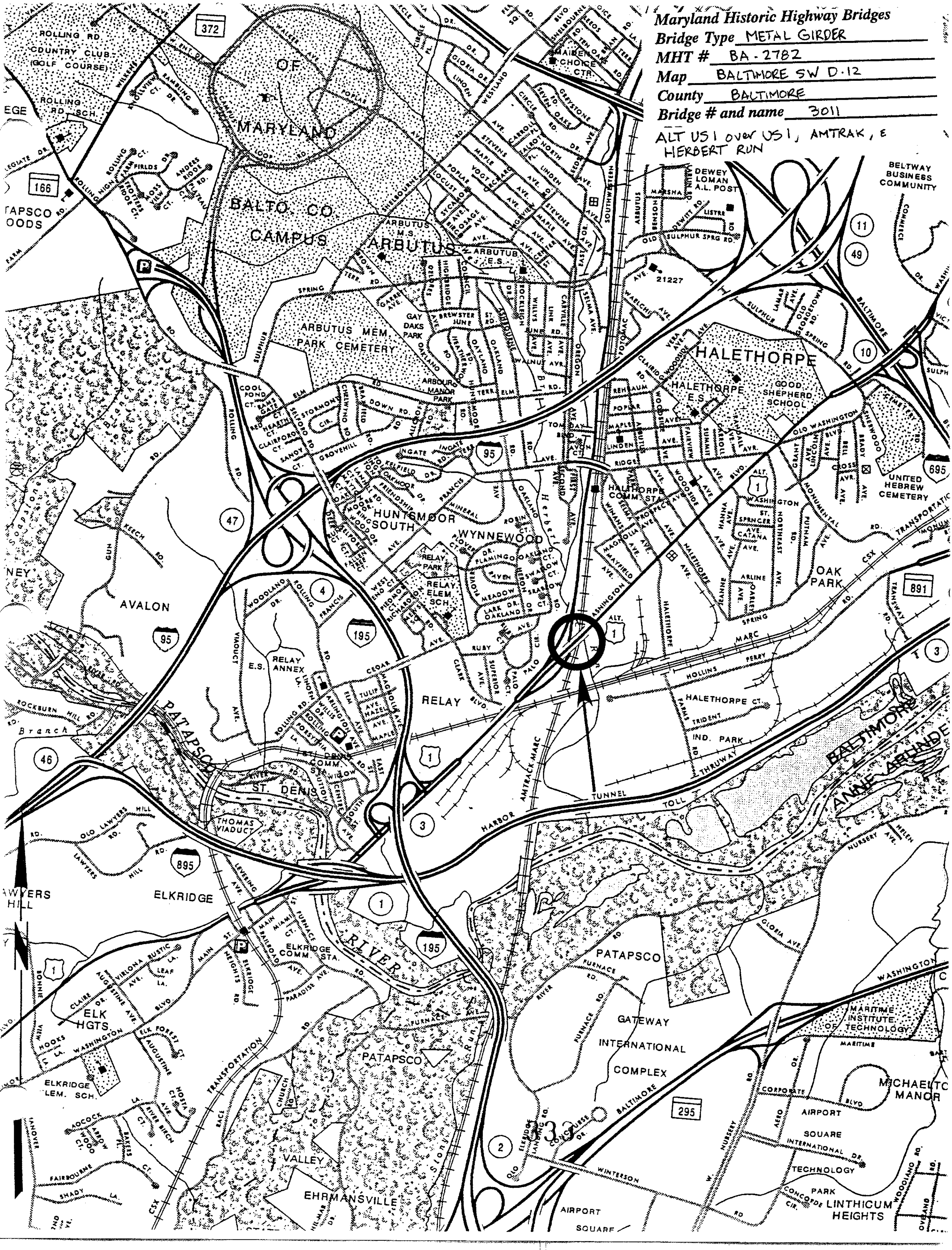
MHT # BA - 2782

Map BALTIMORE SW D·12

County BALTIMORE

Bridge # and name 3011

ALT US 1 over US 1, AMTRAK, & HERBERT RUN



UNIVERSITY OF MARYLAND
BALTO. CO. CAMPUS
ARBUTUS
ARBUTUS MEM. PARK CEMETERY
HALETHORPE
HUNTSMOOR SOUTH
WYNNEWOOD
RELAY
AVALON
OAK PARK
ELKRIDGE
ST. DENIS
THOMAS VIADUCT
PATAPSCO
ELK HGTS.
GATEWAY INTERNATIONAL COMPLEX
LINTHICUM HEIGHTS
MICHAEL TOR MANOR
EHRMANSVILLE
VALLEY
BALTIMORE
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AMTRACK MARC
HALETHORPE IND. PARK
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GOOD SHEPHERD SCHOOL
MARITIME INSTITUTE OF TECHNOLOGY
BELTWAY BUSINESS COMMUNITY
ROLLING RD. COUNTRY CLUB (GOLF COURSE)
AIRPORT SQUARE
INTERNATIONAL TECHNOLOGY PARK

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1. BA - 2482
2. US 1 at Deer Creek & Herbert Run
3. Baltimore County
4. Eric Griffiths
5. 3/97
6. MD SHPO
7. north elevation
8. 1 of 6

1. BA-2782
2. US 1 Alt. over US 1, PATRAP & Herbert Run
3. Baltimore County
4. Eric Griffitts
5. 3/97
6. MD SHPO
7. south elevation
8. 2 of 6

1. BA-2782

2. US 1 Alt. over US 1, Amtrak & Herbert Run

3. Baltimore County

4. Eric Griffitts

5. 3/97

6. MD SHPO

7. girders + new deck under bridge

8. 3 of 6

1. BA-2782

2. US 1 Alt over US 1, AMTRAK & Herbert Run

3 Baltimore County

4. Erie Griffiths

5. 3/97

6. MD SHPO

7. griders & west abutment

8. 4 of 6

1. BA - 2752
2. US 1 Alt. over US 1, AMTRAK & Herbert Run
3. Baltimore County
4. Eric Griffitts
5. 3/97
6. MDSHPO
7. west approach
8. 5 of 6

1. BA-3782

2. US 1 Alt. over US 1, AMTRAK & Herbert Run

3. Baltimore County

4. Eric Griffiths

5. 3/97

6. MD SHPO

7. East approach

8. 1 of 1