Maryland Historical Trust

Maryland Inventory of Historic Properties number: BA 2790

Name: MD 700 over US 40

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 _____ Eligibility Not Recommended __X____

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. BA-2790

SHA Bridge No. 3106 Bridge name MD 700 over US 40

LOCATION:

Street/Road name and number [facility carried] MD 700 (Martin Boulevard)

City/town Rossville Vicinity X

County Baltimore

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

BA-2790

DESCRIPTION:

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

Describe Setting:

Bridge No. 3106 carries MD 700 (Martin Boulevard) over US 40 (Pulaski Highway) in Baltimore County. MD 700 runs north-south and US 40 runs east-west. The bridge is located in the vicinity of Rossville, and is surrounded by multi-family housing and commercial development.

Describe Superstructure and Substructure:

Bridge No. 3106 is a 4-span, 2-lane, metal girder bridge. The bridge was originally built in 1941, and a new deck was added in 1984. The structure is 222 feet long and has a clear roadway width of 31.5 feet. The out-to-out width is 33.5 feet. The superstructure consists of nine (9) rolled girders which support a concrete deck and jersey-barrier parapets with metal, pedestrian barriers. The girders are 12 inches x 41 inches and are spaced approximately 8 feet apart. The concrete deck is 9 inches thick and it has a bituminous wearing surface. The structure has modern jersey-barrier parapets with metal, pedestrian barriers. The east roadway approach is tangent with the bridge and the west approach curves southbound and joins US 40. A date impression on the north abutment indicates the bridge was constructed in 1941 and rehabilitated in 1984. The substructure consists of two (2) concrete abutments and three (3) concrete piers. The bridge has a sufficiency rating of 82.2.

According to the 1995 inspection report, this structure is in fair condition with the girder ends containing rust and scale. The concrete surface is in good condition. The concrete abutments and piers all have some random cracking. Also, the jersey-barrier parapets have only minor cracking.

Discuss Major Alterations:

The current deck with jersey-barrier parapets and pedestrian barriers were constructed in 1984 replacing the original concrete deck and parapets. Inspection reports from 1995 detail no other alterations.

HISTORY:

WHEN was the bridge built: 1941
This date is: Actual ___X___ **Estimated** _____
Source of date: Plaque ___X___ **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?

State Roads Commission

WHO was the builder?

Unknown

BA-2790

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 _____

The bridge does not have National Register significance

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?

A significant example of a metal girder bridge should possess character-defining elements of its type, and be readily recognizable as an historic structure from the perspective of the traveler. The integrity of distinctive features visible from the roadway approach, including parapet walls or railings, is important in structures which are common examples of their type. In addition, the structure must be in excellent condition. This bridge does not retain its integrity of distinctive features visible from the roadway, as the original parapets were removed and jersey-barrier parapets with pedestrian barriers were installed during the 1981 deck replacement. Due to the alterations of these elements, the structure is an undistinguished example of a metal girder 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 rolled, longitudinal, beams and concrete abutments.

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

The bridge is not a significant example of the work or 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.

BA-2790

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 2/26/97
Name of surveyor Caroline Hall/Eric 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

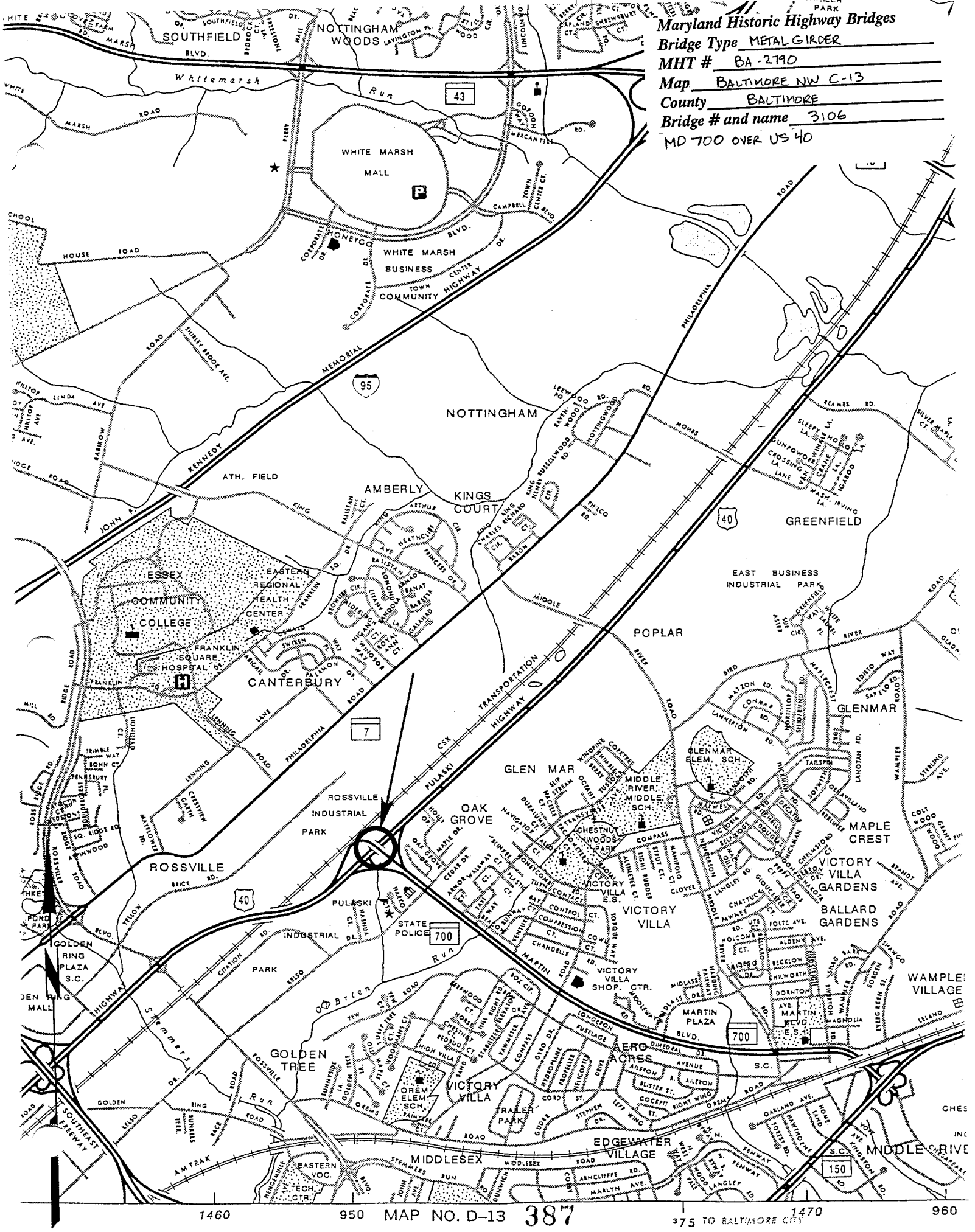
MHT # BA-2790

Map BALTIMORE NW C-13

County BALTIMORE

Bridge # and name 3106

MD 700 OVER US 40



INDEX TO

1. BA2790
2. MD 700 over US40
3. Baltimore Co, MD
4. Eric Griffitts
5. 3/97
6. MD SHPO
7. last approach
8. 1 of 6

1. BA-2790
2. MD 700 over US 40
3. Ba Co, MD
4. Eric Griffitts
5. 3/97
6. MD SHPO
7. north elevation
8. 2 of 6

1. BA-2790
2. MD 700 over US40
3. Balto Co, MD
4. Eric Griffitts
5. 3/97
6. MD SHPD
7. Girder detail
8. 3 of 6

1. BA-279
2. MD 700 over US40
3. Balto Co, MD
4. Eric Griffitts
5. 3/97
6. MD SHPO
7. South elevation
8. 4 of 6

1. BA-2790
2. MD 700 over US 40
3. Balto Co, MD
4. Eric Griffitts
5. 3/97
6. MD SHPO
7. west abutment
8. 5 of 6

1. BA-2790
2. MD 700 over US 40
3. Balto Co, MD
4. Eric Griffitts
5. 3/97
6. MD SHPO
7. West approach
8. 6 of 6