Maryland Historical Trust

Maryland Inventory of Historic Properties number: BA-2788

Name: MD 146 over Little Gunpowder Falls

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

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

MHT No. BA-2788

SHA Bridge No. 3089 **Bridge name** MD 146 over Little Gunpowder Falls

LOCATION:
Street/Road name and number [facility carried] MD 146 (Jarrettsville Pike)

City/town Jacksonville Sweet **Vicinity** X

County Baltimore

This bridge projects over: Road ____ **Railway** ____ **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 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-2788

DESCRIPTION:

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

Describe Setting:

Bridge No. 3089 carries MD 146 (Jarrettsville Pike) over Little Gunpowder Falls in Baltimore County. MD 146 runs north-south and Little Gunpowder Falls flows east-west. The bridge is located in the vicinity of Jacksonville Sweet and is surrounded by farmland.

Describe Superstructure and Substructure:

Bridge No. 3089 is a 1-span, 2-lane, metal girder bridge. The bridge was originally built in 1931, and a new deck and parapets were added in 1988. The structure is 60 feet, 8 inches long and has a clear roadway width of 27 feet. The out-to-out width is 30 feet, 9 inches. The superstructure consists of seven (7) rolled girders which support a concrete deck and jersey-barrier parapets. The girders are 8 inches x 36 inches and are spaced 4 feet, 9 inches apart. The roadway is carried on the girders. The concrete deck is 9 inches thick, and it has a bituminous wearing surface. The structure has jersey-barrier parapets and the roadway approaches are tangent with a slight upgrade on the north approach. A date impression on the west parapet indicates that the bridge was constructed in 1931 and altered in 1988. The substructure consists of two (2) concrete abutments. There are four (4) flared concrete wing walls, and the bridge has a sufficiency rating of 76.8.

According to the 1995 inspection report, this structure was in satisfactory condition with minor spots of rust on the girders and cracking and erosion in the abutments. The concrete surface is in good condition. The concrete abutments have erosion near the bottom and vertical random cracking. The back wall of the south abutment has spalled along the construction joint. The wing walls also have surface spall and random cracks. The concrete parapet on the east side of the bridge has random cracks and a spall in the end block joint.

Discuss Major Alterations:

In 1988, the original deck and pierced parapet were replaced with jersey-barrier parapets. Inspection reports from 1995 indicate repairs to the wing walls.

HISTORY:

WHEN was the bridge built: 1931

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

BA-2788

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?

The bridge was constructed by the State as part of a campaign to increase load capacity on secondary roads during the 1930s.

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 originally had pierced parapets which were replaced with jersey-barrier parapets during the 1988 deck replacement. This has resulted in the loss of integrity of distinctive features visible from the roadway and makes the structure 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 longitudinal beams and concrete abutments. However, the original parapets and deck were replaced in 1988.

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 of the State Roads Commission during the 1930s.

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):

BA-2788

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

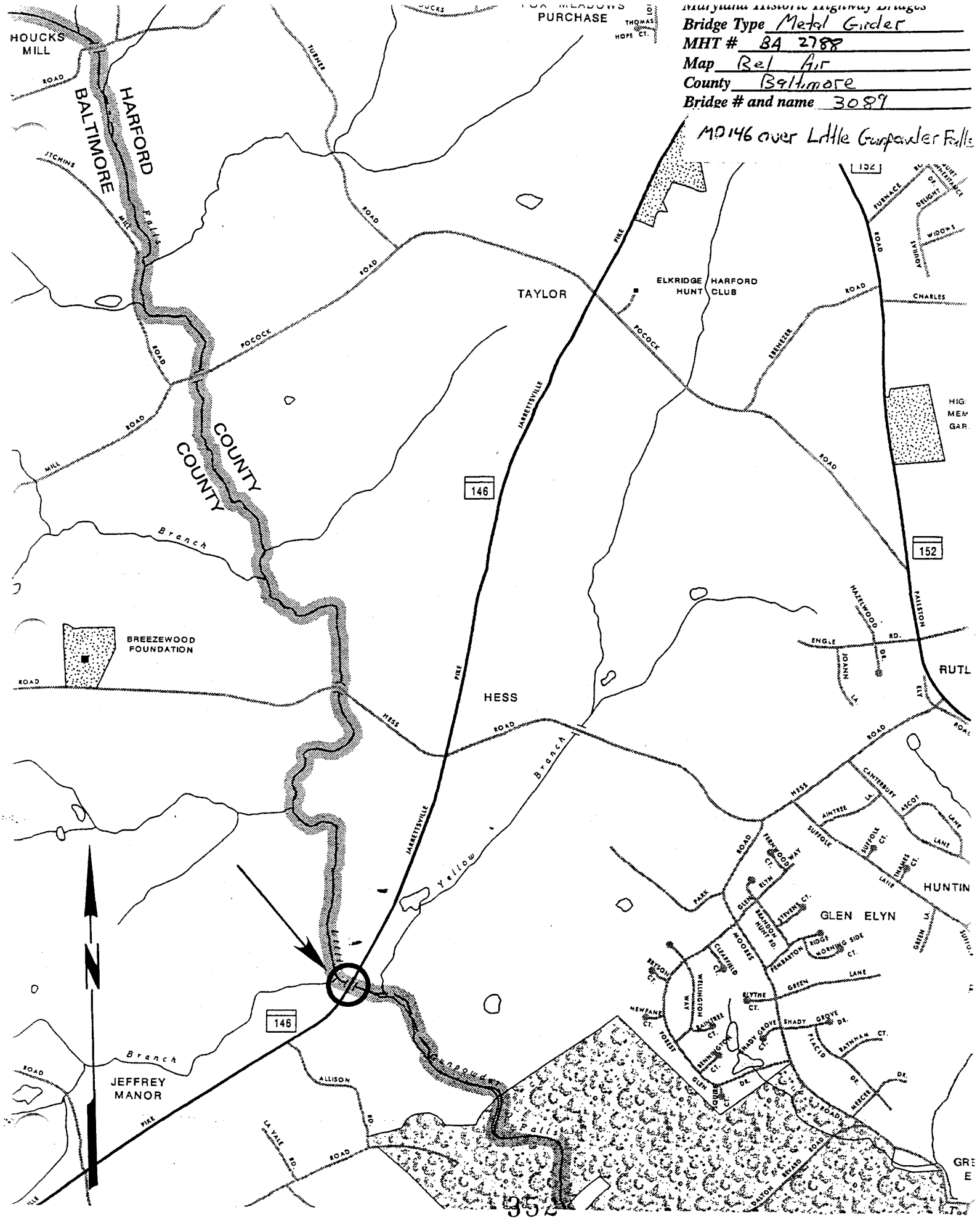
Johnson, Arthur Newhall
1899 The Present Condition of Maryland Highways. In *Report on the Highways of Maryland.* Maryland Geological Survey, The Johns Hopkins University Press, Baltimore.

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 2788
Map Bel Air
County Baltimore
Bridge # and name 3089
MD 146 over Little Gunpowder Falls



1. BA-2788

2. MD 146 over Little Gunpowder Falls

3. Balto. Co. MD

4. Eric Griffitts

5. 3/97

6. MD SHPO

7. W elevation of bridge

8. 1 of 5

BALTIMORE
COUNTY

1. BA-2788

2. MD 146 over Little Gunpowder Falls

3. Balto. Co. MD

4. Eric Griffitts

5. 3/97

6. MDSHPO

7. detail of girders + S abutment

8. 2 of 5

1. BA-2788
2. MD 146 over Little Gunpowder Falls
3. Balto. Co. MD
4. Eric Griffitts
5. 3/97
6. MD SHPO
7. S approach
8. 3 of 5

1. BA-2788
2. MD 146 over Lt. Gunpowder Falls
3. Ba Ho. Co, MD
4. Eric Griffitts
5. 3/97
6. MD SHPO
7. North approach
8. 4 of 5

1. BA-2788
2. MD 146 over Little Gunpowder Falls
3. Balto Co MD
4. Eric Griffitts
5. 3/97
6. MD SHPO
7. E elevation
8. 5 of 5