Maryland Historical Trust

Maryland Inventory of Historic Properties number: BA-2717

Name: Dairy Rd. over Owl Branch

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-2717

SHA Bridge No. B0427 **Bridge name** Dairy Road over Owl Branch

LOCATION:
Street/Road name and number [facility carried] Dairy Road

City/town Parkton **Vicinity** _____

County Baltimore

This bridge projects over: Road____ **Railway**_____ **Water** X **Land** ____

Ownership: State _____ **County** X **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** X
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-2717

DESCRIPTION:

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

Describe Setting:

Bridge No. B 0427 carries Dairy Road over Owl Branch in Baltimore County. Dairy Road runs north-south and Owl Branch flows east-west. The bridge is located in the town of Parkton, and is surrounded by a wooded area.

Describe Superstructure and Substructure:

Bridge No. B 0427 is a 1-span, 1-lane, metal girder bridge. The bridge was originally built in 1920. The structure has a total length of 26 feet. The total length includes a clear span of 15 feet between the abutments. The clear roadway width is 20 feet. The out-to-out width is 22 feet. The superstructure consists of eight (8) concrete encased girders which support a concrete deck and a metal railing. The girders are 9 inches x 22 inches and are spaced 3 feet apart. The girders are concrete encased with 1 inch x 12 inch timber planking placed between the bottom flanges of the girders, acting as a form for the concrete encasement. The concrete deck is 1 foot, 8 inches thick and it has a bituminous wearing surface. The structure has metal, pipe railings and the roadway approaches are tangent and level with the bridge. The substructure consists of two (2) concrete abutments. The bridge is posted for 11 tons, 15 tons, and 28 tons for the H-15, the MD Type 3, and the MD Type 3S2 vehicles, respectively. It has a Baltimore County sufficiency rating of 67.7. According to the 1995 inspection report, this structure was in fair condition with no significant deterioration. The asphalt wearing surface has been recently repaired and is in good condition. The concrete abutments are in good condition but have minor cracks. Overall, the substructure is in good condition, but there is severe deterioration to the superstructure. The bottom flanges of the girders are exposed and are heavily rusted with approximately 20 percent section loss. Also, there is a large crack half the length of the bridge in the concrete deck.

Discuss Major Alterations:

Inspection reports from 1995 detail the resurfacing of the deck since the previous bridge inspection in 1993.

HISTORY:

WHEN was the bridge built: 1920

This date is: Actual _____ **Estimated** ___X___

Source of date: Plaque ____ **Design plans** ___ **County bridge files/inspection form** _X_

Other (specify)

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?

Unknown

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. The bridge does retain the integrity of distinctive features visible from the roadway. However, this bridge has considerable deterioration of the superstructure, including the corrosion of the girders and severe cracking in the concrete deck. The current condition of the bridge compromises its integrity 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 much of the character-defining elements of its type, including the concrete encased girders and concrete abutments. However, the integrity of these elements has been compromised by severe deterioration.

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 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 _X_ **SHA inspection/bridge files** ____
Other (list):

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

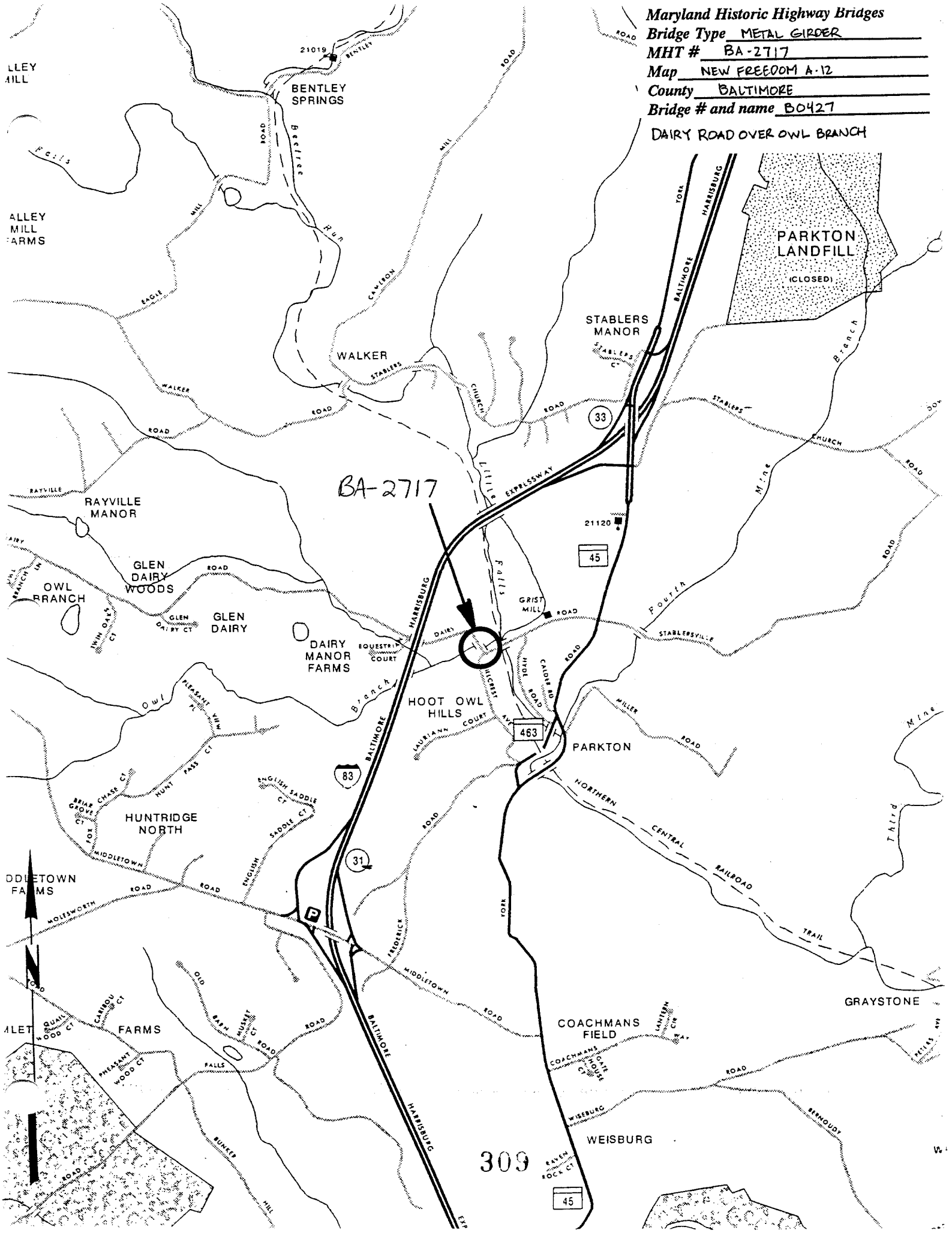
Johnson, Arthur Newhall
1899 The Present Condition of Maryland Highways. In *Report on the Highways of Maryland.* Maryland Geological Survey, The Johns Hopkins University Press, Baltimore.

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 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-2717
Map NEW FREEDOM A-12
County BALTIMORE
Bridge # and name B0427
DAIRY ROAD OVER OWL BRANCH



Inventory # BA-2717

Name B0427-DAIRY RD OVER OWL BRANCH
County/State BALTIMORE COUNTY / MD
Name of Photographer DAVE DIEHL
Date 1/95

Location of Negative SHA

Description SOUTH APPROACH LOOKING NORTH

Number ~~19~~ 1 of ~~22~~ 4

Inventory # BA-2717

Name B0427 - DAIRY RD OVER OWL BRANCH

County/State BALTIMORE COUNTY / MD

Name of Photographer DAVE DIEHL

Date 1/95

Location of Negative SHA

Description EAST ELEVATION LOOKING NORTHWEST

Number 2 ~~20~~ of ~~22~~ 4

Inventory # BA-2717

Name B0427-DAIRY RD OVER OWL BRANCH

County/State BALTIMORE COUNTY/MD

Name of Photographer DAVE DIEHL

Date 1/95

Location of Negative SHA

Description WEST ELEVATION LOOKING SOUTHEAST

Number ~~21~~ 3 of ~~22~~ 4

Inventory # BA-2717

Name B0427 - DAIRY RD OVER OWL BRANCH

County/State BALTIMORE COUNTY | MD

Name of Photographer DAVE DIENL

Date 1/95

Location of Negative SHA

Description NORTH APPROACH LOOKING SOUTH

Number ~~22~~ 4 of ~~22~~ 4