Maryland Historical Trust

Maryland Inventory of Historic Properties number: BA-2778

Name: B0224/ Mount Vista Rd. over Broad 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 _____ Eligibility Not Recommended __X____

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-2778

SHA Bridge No. B 0224 **Bridge name** Mount Vista Road over Broad Run

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

City/town Germantown **Vicinity** X

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

Metal Suspension ____

Metal Arch ____

Metal Cantilever ____

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

BA-2778

DESCRIPTION:

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

Describe Setting:

Bridge No. B 0224 carries Mount Vista Road over Broad Run in Baltimore County. Mount Vista Road runs east-west and Broad Run flows north-south. The bridge is located in the vicinity of Germantown and is surrounded by a wooded area.

Describe Superstructure and Substructure:

Bridge No. B 0224 is a 2-span, 2-lane, concrete slab bridge. According to the bridge files, the bridge was built in 1920. The structure is 23 feet long and has a clear roadway width of 20 feet. The out-to-out width is 22 feet, 3 inches. The concrete slab is 3 feet, 6 inches thick, and it has a bituminous wearing surface. The structure has solid unornamented concrete parapets. The roadway approaches are level and contain w-section guard rails. The substructure consists of two (2) concrete abutments and a concrete intermediate pier at mid-length. There are three (3) flared wing walls. The bridge is posted for 7, 11, and 20 tons for the H, the MD Type 3, and the MD Type 3S2 vehicles respectively, and has a Baltimore County sufficiency rating of 8.4.

According to the 1995 inspection report, this structure was in serious condition with the slab exhibiting wide longitudinal cracks and large spalls with exposed reinforcement. The bituminous wearing surface has gouges. The wing walls have longitudinal cracks, vertical cracks and large spalls. The abutments have vertical cracking and minor spalls. The pier has severe scaling at the water line and a large spall.

Discuss Major Alterations:

The inspection report from 1995 detail no major alterations to the bridge.

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 a more efficient transportation network and increased load capacity.

WHO was the designer?

Unknown

WHO was the builder?

Unknown

WHY was the bridge altered?

N/A

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

Unknown

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?

Reinforced concrete slab bridges are a twentieth century structure type, easily adapted to the need for expedient engineering solutions. Reinforced concrete technology developed rapidly in the early twentieth century with early recognition of the potential for standardized design. The first U.S. attempt to standardize concrete design specifications came in 1903-1904 with the formation of the Joint Committee on Concrete and Reinforced Concrete of the American Society of Civil Engineers.

Maryland's roads and bridge improvement programs mirrored economic cycles. The first road improvement of the State Roads Commission was a 7 year program, starting with the Commission's establishment in 1908 and ending in 1915. Due to World War I, the period from 1916-1920 was one of relative inactivity; only roads of first priority were built. Truck traffic resulting from war related factories and military installations generated new, heavy traffic unanticipated by the builders of the early road system. From 1920-1929, numerous highway improvements occurred in response to the increase in Maryland motor vehicles from 103,000 in 1920 to 320,000 in 1929, with emphasis on the secondary system of feeder roads which moved traffic from the primary roads built before World War I. After World War I, Maryland's bridge system also was appraised as too narrow and structurally inadequate for the increasing traffic , with plans for an expanded bridge program to be handled by the Bridge Division, set up in 1920. In 1920 under Chapter 508 of the Acts of 1920 the State issued a bond of $3,000,000.00 for road construction; the primary purpose of these monies was to meet the state obligations involving the construction of rural post roads. The secondary purpose of these monies was to fund (with an equal sum from the counties) the building of lateral roads. The number of hard surfaced roads on the state system grew from 2000 in 1920 to 3200 in 1930. By 1930, Maryland's primary system had been inadequate to the huge freight trucks and volume of passenger cars in use, with major improvements occurring in the late 1930's. Most improvements to local roads waited until the years after World War I.

In the early years, there was a need to replace the numerous single lane timber bridges. Walter Wilson Crosby, Chief Engineer, stated in 1906, "the general plan has been to replace these [wood bridges] with pipe culverts or concrete bridges and thus forever do away with the further expense of the maintenance of expensive and dangerous wooden structures." Within a few years, readily constructed standardized bridges of concrete were being built throughout the state.

In 1930, the roadway width for all standard plan bridges was increased to 27 feet in order to accommodate the increasing demands of automobile and truck traffic (State Roads Commission

1930). The range of span lengths remained the same, but there were some changes designed to increase the load bearing capacities. The reinforcing bars increased in thickness. Visually, the 1930 design can be distinguished from its predecessors by the pierced concrete railing that was introduced at this time.

In 1933, a new set of standard plans were introduced by the State Roads Commission. This time their preparation was not announced in the Report; new standard plans were by this time nothing special - they had indeed become standard. Once again accommodating the ever-increasing demands of traffic, the roadway was increased, this time to 30 feet. The slab span's reinforcing bars remained the same diameter but were placed closer together to achieve still more load capacity.

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 concrete slab 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. Although this bridge retains its distinctive features visible from the roadway, it has considerable deterioration in the slab, abutments, wing walls, and pier. Additionally, the structure is an undistinguished example of its type.

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 slab, parapets, abutments, wing walls, and pier. 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?

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.

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BIBLIOGRAPHY:

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

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Lay, Maxwell Gordon
1992 *Ways of the World: A History of the World's Roads and of the Vehicles That Used Them.* Rutgers University Press, New Brunswick, New Jersey.

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Taylor, Frederick W., Sanford E. Thompson, and Edward Smulski
1939 *Reinforced-Concrete Bridges with Formulas Applicable to Structural Steel and Concrete.* John Wiley & Sons, Inc., New York.

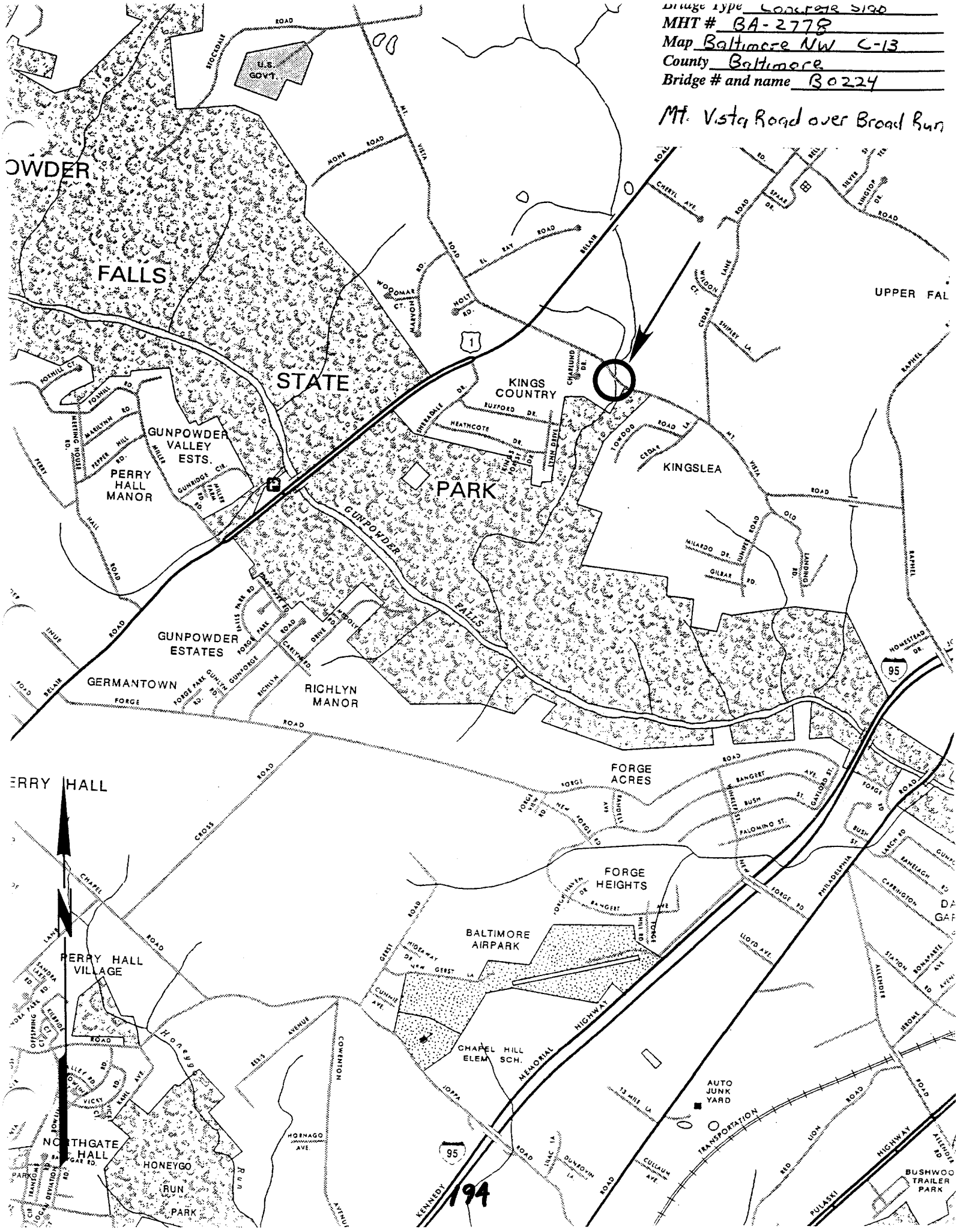
Tyrrell, H. Grattan
1909 *Concrete Bridges and Culverts for Both Railroads and Highways.* The Myron C. Clark Publishing Company, Chicago and New York.

SURVEYOR:

Date bridge recorded 3/1/97
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

Bridge Type Concrete Slab
MHT # BA-2778
Map Baltimore NW C-13
County Baltimore
Bridge # and name B0224

Mt. Vista Road over Broad Run



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4. Eric Griffiths
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6. MD SHPO
7. detail of slab under deck
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