

Maryland Historical Trust

Maryland Inventory of Historic Properties number: MD45 OVER GUNPOWDER

Name: BA-2860 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 <input checked="" type="checkbox"/> X	Eligibility Not Recommended <input type="checkbox"/>
Criteria: <input type="checkbox"/> A <input type="checkbox"/> B <input checked="" type="checkbox"/> C <input type="checkbox"/> D	Considerations: <input type="checkbox"/> A <input type="checkbox"/> B <input type="checkbox"/> C <input type="checkbox"/> D <input type="checkbox"/> E <input type="checkbox"/> F <input type="checkbox"/> G <input type="checkbox"/> None
Comments: _____	
_____	
Reviewer, OPS: <u>Anne E. Bruder</u>	Date: <u>3 April 2001</u>
Reviewer, NR Program: <u>Peter E. Kurtze</u>	Date: <u>3 April 2001</u>

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

MHT No. BA-2860

SHA Bridge No. 3048 Bridge name MD 45 over Gunpowder Falls (Gunpowder Falls Bridge)

**LOCATION:**

Street/Road name and number [facility carried] MD 45 (York Road)

City/town Hereford Vicinity X

County Baltimore

This bridge projects over: Road  Railway  Water  Land

Ownership: State  County  Municipal  Other

**HISTORIC STATUS:**

Is the bridge located within a designated historic district? Yes  No

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  Retractable  Pontoon

Metal Girder :  
Rolled Girder  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 \_\_\_\_\_

**DESCRIPTION:**

Setting: Urban \_\_\_\_\_ Small town \_\_\_\_\_ Rural X \_\_\_\_\_

**Describe Setting:**

Bridge 3048 carries MD 45 (York Road) over Gunpowder Falls in Baltimore County. MD 45 runs north-south and Gunpowder Falls flows west to east. The bridge is located within the boundaries of the Gunpowder Falls State Park with a picnic/recreation area to the south of the bridge.

**Describe Superstructure and Substructure:**

Bridge 3048 is a 1-span, 2-lane, filled concrete arch bridge. The bridge, built in 1924, is 24.3 meters (80 feet) long and has a clear roadway width of 7.7 meters (25.2 feet); there are no sidewalks. The out-to-out width is 8.1 meters (26.7 feet). The superstructure consists of one arch which spans 19.5 meters (64 feet) and supports a cast-in-place concrete deck and solid concrete parapets. The substructure consists of two concrete abutments and four rubble stone wingwalls. A portion of the southwest wingwall is made of concrete, and the other stone wingwalls have been extensively patched with concrete. The bridge has a sufficiency rating of 77.2.

According to the 1997 inspection report, this structure was in satisfactory condition. The bituminous surface over the deck and the roadway approaches have cracks and light rutting. The north approach has light surface erosion, while the south approach has a recent bituminous overlay. The vertical faces of both spandrel walls have light to medium surface cracks with efflorescence, surface erosion and scattered spalls with exposed reinforcement bars. A spalled area over 6.1 meters (20 feet) long is located at the bottom edge of the spandrel wall on the east side of the bridge. The east parapet wall has surface pitting, scaling and surface erosion with areas of map cracking. The west parapet has been replaced in-kind. The pieces of the original wall are in the stream and on the stream bank. The west parapet also has vertical cracks and collision damage. The underside of the arch has spalling with exposed reinforcement bars and heavy efflorescence. The south abutment has heavy scaling and erosion with exposed aggregate, while the north abutment is below the waterline. The wingwalls have cracks with voids and loose stones.

**Discuss Major Alterations:**

According to the 1997 bridge inspection report, the west parapet of the bridge has been replaced. There is no record of any reconstruction of Bridge 3048.

**HISTORY:**

WHEN was the bridge built: 1924  
This date is: Actual X Estimated \_\_\_\_\_  
Source of date: Plaque X Design plans \_\_\_\_\_ County bridge files/inspection form \_\_\_\_\_  
Other (specify): State Highway Administration Inspection Reports/Bridge Files

**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?**

State Roads Commission

**WHY was the bridge altered?**

Unknown

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

This bridge was built as part of the improvement to York Road in the 1920s.

**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 concrete arch construction. The structure has a high degree of integrity and retains such character-defining elements of the type as arch barrel and ring, one original concrete parapet, spandrel walls, concrete abutments, and stone wingwalls.

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

The advent of modern concrete technology fostered a renaissance of arch bridge construction in the United States. Reinforced concrete allowed the arch bridge to be constructed with much more ease than ever before and maintained the load-bearing capabilities of the form. As the structural advantages of reinforced concrete became apparent, the heavy, filled barrel of the arch was lightened into ribs. Spandrel walls were opened, to give a lighter appearance and to decrease dead load. This enabled the concrete arch to become flatter and multi-centered, with longer spans possible. Designers were no longer limited to the semicircular or segmental arch form of the stone arch bridge. The versatility of reinforced concrete permitted development of a variety of economical bridges for use on roads crossing small streams and rivers.

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.

As the nation's automotive traffic increased in the early twentieth century, local road networks were consolidated, and state highway departments were formed to supervise the construction and improvement of state roads. With a diverse topographical domain encompassing numerous small and large crossings, Maryland engineers quickly recognized the need for expedient design and construction through the standardization of bridge designs.

The concept and practice of standardization was one of the most important developments in engineering of the twentieth century. In Maryland, as in the rest of the nation, the standardized concrete types became the predominant bridge types built. In the period 1911 to 1920 (the decade in which standardized plans were introduced), beams and slabs constituted 65 percent and arches 35 percent of the extant 29 bridges built in Maryland during this period. In the following decade, 1921-1930, the beam (now the T-beam) and slab increased to 73 percent and the arch had declined to 27 percent of the 129 extant bridges; in the next decade (1931-1940), the beam and slab achieved 82 percent and arches had further declined, constituting only 18 percent of the total of extant bridges built on state-owned roads between 1931 and 1946.

Although beam and slab bridges became the utilitarian choice, it appears that the arch was selected when aesthetic as well as other site conditions were considered. The architectural treatment of extant arch bridges supports this assessment. Many of these bridges were multiple span structures with open spandrels or masonry facing. Another decorative feature of the concrete arch bridge was an open, balustrade-style parapet. Despite the popularity of ornamental arches and the increase in use of beam and slab bridges, examples of simpler, single and multiple span closed concrete arch bridges with solid parapets continued to be constructed throughout the early twentieth century.

York Road (Maryland Route 45) was built in the early 1740s in order to connect the farms of York County with Baltimore's port on the Patapsco River. The road was heavily travelled throughout the eighteenth and nineteenth centuries. In 1908, the State Roads Commission, established under Governor Crothers, began a seven-year project that created a statewide road network through improvement of existing roads. As a part of this project, York Road was improved from Baltimore north to Parkton. The route is now paralleled by Interstate 83, the Baltimore-Harrisburg Expressway, constructed in the mid-1950s.

**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 good example of the State Roads Commission standard 1920s bridge plan.

**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 spandrel walls, arch barrel and ring, concrete abutments and stone wingwalls, however some deterioration is evident.

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

This bridge is a significant example of the work of the State Roads Commission in the 1920s.

**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): \_\_\_\_\_

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.

P.A.C. Spero & Company and Louis Berger & Associates

1995 Historic Highway Bridges in Maryland: 1631-1960: Historic Context Report. Maryland State Highway Administration, Maryland State Department of Transportation, Baltimore, Maryland.

State Roads Commission

1958 A History of Road Building in Maryland. Published by author, Baltimore.

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  December 1997   
 Name of surveyor  Wallace, Montgomery & Associates / P.A.C. Spero & Company   
 Organization/Address  P.A.C. Spero & Co., 40 W. Chesapeake Avenue, Baltimore, MD 21204   
 Phone number  (410) 296-1635  FAX number  (410) 296-1670



9100486

INDIVIDUAL PROPERTY/DISTRICT  
MARYLAND HISTORICAL TRUST  
INTERNAL NR-ELIGIBILITY REVIEW FORM

Property/District Name: Bridge 3048, MD45 over Gunpowder Survey Number: NA BA-2860

Project: Repairs to Bridge 3048 Agency: FHWA

Site visit by MHT Staff:  no  yes Name \_\_\_\_\_ Date \_\_\_\_\_

Eligibility recommended \_\_\_\_\_ Eligibility **not** recommended

Criteria:  A  B  C  D Considerations:  A  B  C  D  E  F  G  None

Justification for decision: (Use continuation sheet if necessary and attach map)

Bridge 3048, MD 45 over Gunpowder Falls in Baltimore County does not meet the National Register Criteria for individual listing. According to the information presented in SHA's 12/10/91 letter concerning this project and in SHA's draft context statement for concrete arch bridges, Bridge 3048 is not significant. Simple concrete arch bridges such as this one were constructed in Maryland in great numbers throughout the first three decades of the 20th century. A single span, constructed in 1924, Bridge #3048 is not notable in technical terms or unusual in age. In addition, it has been altered somewhat so is probably not the best representative of this common type.

Documentation on the property/district is presented in: project file

Prepared by: Ms. Rita Suffness, SHA

Elizabeth Hannold 1/15/91  
Reviewer, Office of Preservation Services Date

NR program concurrence:  yes  no  not applicable  
[Signature] 10 Jan 92  
Reviewer, NR program Date

[Signature]

BA-2860

Survey No. NA

MARYLAND COMPREHENSIVE HISTORIC PRESERVATION PLAN DATA - HISTORIC CONTEXT

I. Geographic Region:

- Eastern Shore (all Eastern Shore counties, and Cecil)
- Western Shore (Anne Arundel, Calvert, Charles, Prince George's and St. Mary's)
- Piedmont (Baltimore City, Baltimore, Carroll, Frederick, Harford, Howard, Montgomery)
- Western Maryland (Allegany, Garrett and Washington)

II. Chronological/Developmental Periods:

- Paleo-Indian 10000-7500 B.C.
- Early Archaic 7500-6000 B.C.
- Middle Archaic 6000-4000 B.C.
- Late Archaic 4000-2000 B.C.
- Early Woodland 2000-500 B.C.
- Middle Woodland 500 B.C. - A.D. 900
- Late Woodland/Archaic A.D. 900-1600
- Contact and Settlement A.D. 1570-1750
- Rural Agrarian Intensification A.D. 1680-1815
- Agricultural-Industrial Transition A.D. 1815-1870
- Industrial/Urban Dominance A.D. 1870-1930
- Modern Period A.D. 1930-Present
- Unknown Period (  prehistoric  historic)

III. Prehistoric Period Themes:

- Subsistence
- Settlement
- Political
- Demographic
- Religion
- Technology
- Environmental Adaption

IV. Historic Period Themes:

- Agriculture
- Architecture, Landscape Architecture, and Community Planning
- Economic (Commercial and Industrial)
- Government/Law
- Military
- Religion
- Social/Educational/Cultural
- Transportation

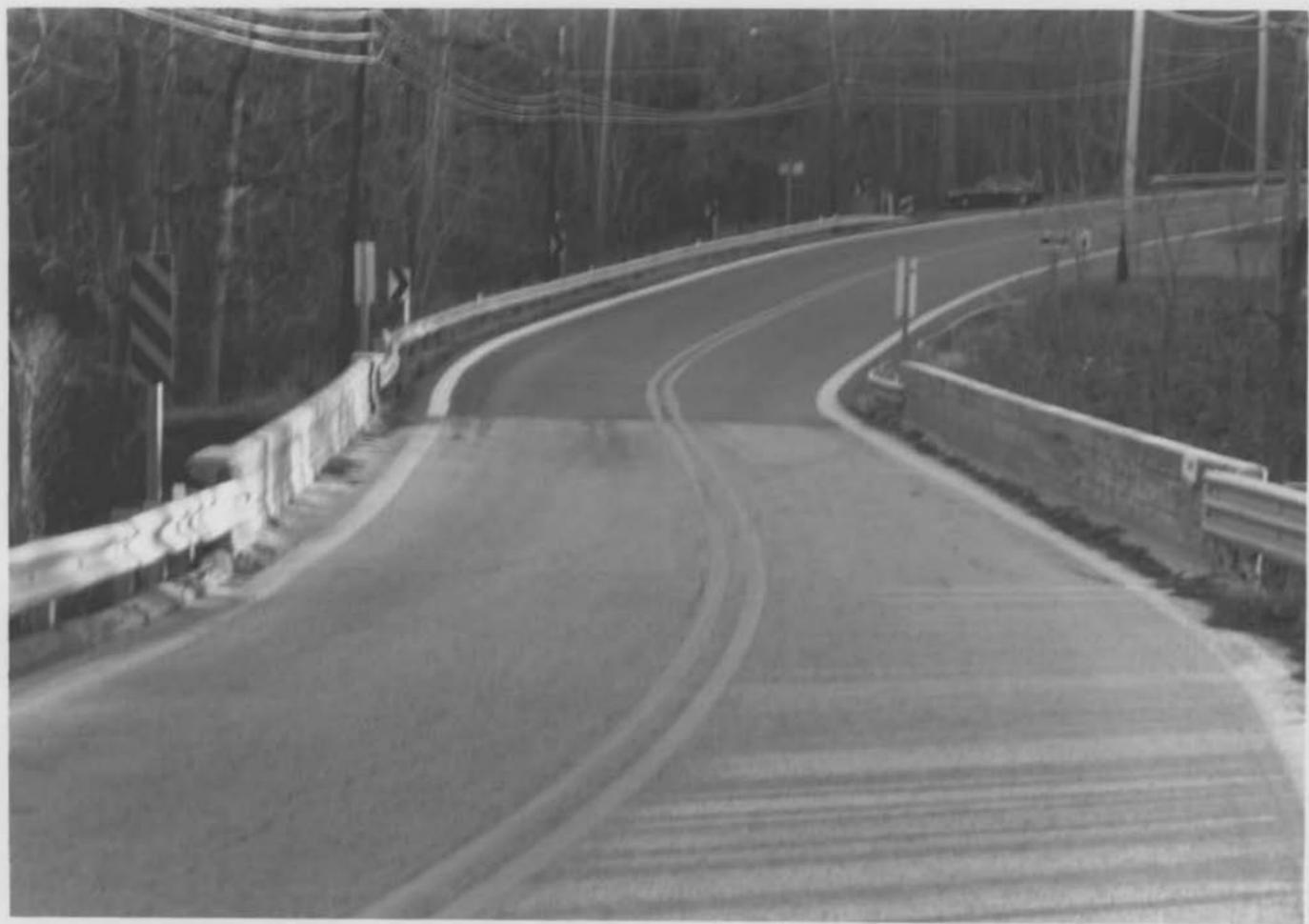
V. Resource Type:

Category: Structure

Historic Environment: Rural

Historic Function(s) and Use(s): Transportation

Known Design Source: NA



1. BA-2860
2. MD 45 over Gunpowder Falls
3. Baltimore Co., MD
4. Wallace, Montgomery & Assoc.
5. 12/97
6. MD SHPO
7. Looking South
8. 1 of 5



1. BA-2860
2. 3048, MD 45 OVER GUNPOWDER FALLS
3. BALTIMORE COUNTY
4. WALLACE-MONTGOMERY
5. 12/97
6. MD SHPO
7. ROADWAY LOOKING NORTH
8. 2 OF 5



1. BA-2860
2. MD 45 over Gunpowder Falls
3. Baltimore Co., MD
4. Wallace, Montgomery & Assoc.
5. 12/97
6. MD SHPO
7. Elevation looking downstream
8. 3 of 5



1. BA-2860
2. MD 45 over Gunpowder Falls
3. Baltimore Co., MD
4. Wallace, Montgomery & Assoc.
5. 12/97
6. MD SHPO
7. Elevation looking upstream
8. 4 of 5

CUNPOWDER FALLS BRIDGE

BUILT - 1922

STATE ROADS COMMISSION

JOHN W. MACGILL - CHAIRMAN & CHIEF ENGINEER

OWEN D. CROTHERS

W. W. BROWN

L. H. STEWART - SECRETARY

1. BA-2860
2. MD 45 over Gunpowder Falls
3. Baltimore County, MD
4. Wallace, Montgomery & Assoc.
5. 12/97
6. MD SHPO
7. Bronze Plaque
8. 5 of 5