

Memo to file

March 16, 2016

From: Casey Pecoraro
Inventory Registrar

Re: CARR-1560
SHA Bridge No. 0603900

The following Historic Bridge Inventory form, prepared in 1997 to document the concrete slab bridge carrying MD 496 over Branch of Big Pipe Creek, was completed using SHA Bridge No. 6039 (or 06039). The SHA Office of Structures, Remedial Section, later changed the formatting of bridge numbers from five-digits to seven or nine-digits (Anne Bruder, personal communication, June 26, 2015).

SHA Bridge No. 6039 corresponds with SHA Bridge No. 0603900.

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

MHT No. CARR-1560

SHA Bridge No. 6039 Bridge name MD 496 over Branch of Big Pipe Creek

LOCATION:

Street/Road name and number [facility carried] MD 496 (Bachmans Road)

City/town Westminster Vicinity X

County Carroll

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 Retractable 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

DESCRIPTION:

Setting: Urban _____ Small town _____ Rural X

Describe Setting:

Bridge No. 6039 carries MD 496 (Bachmans Road) over a Branch of Big Pipe Creek in Carroll County. MD 496 runs east-west and Branch of Big Pipe Creek flows north-south. The bridge is located in the vicinity of Westminster and is surrounded by single family dwellings and open space.

Describe Superstructure and Substructure:

Bridge No. 6039 is a 1-span, 2-lane, concrete slab bridge. The bridge was built in 1931. The structure is 20 feet long and has a clear roadway width of 27 feet. The out-to-out width is 29 feet, 4 inches. The concrete slab measures 2 feet, 5 inches thick, and it has a bituminous wearing surface. The structure has pierced concrete parapets and the roadway approaches have w-section guard rails. The substructure consists of two (2) concrete abutments. There are four (4) flared wing walls, and the bridge has a sufficiency rating of 67.1.

According to the 1996 inspection report, this structure is in fair condition with minor section loss, scaling, spalling, and cracking. The slab has many deep spalls and exposed reinforcing bars. The abutments have vertical and irregular cracking in the concrete and some water erosion. The wing walls have cracking and surface spalls. Also, the concrete parapets have small spalls and exposed rusted reinforcing bars.

Discuss Major Alterations:

The inspection report from 1996 details no major alterations to the bridge.

HISTORY:

WHEN was the bridge built: 1931

This date is: Actual X Estimated _____

Source of date: Plaque _____ 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 a more efficient transportation network and increased load capacity.

WHO was the designer?

State Roads Commission

WHO was the builder?

Unknown

WHY was the bridge altered?

N/A

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 X

The bridge is eligible for the National Register of Historic Places under Criterion C, as a significant example of concrete slab construction. The structure has a high degree of integrity and retains such character-defining elements of the type as the original slab, parapets, abutments, and wing walls.

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?

The bridge is a potentially significant example of a concrete slab bridge, possessing a high degree of integrity.

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 slab, parapets, abutments, and wing walls.

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 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):

Ketchum, Milo S.
 1908 *The Design of Highway Bridges and the Calculation of Stresses in Bridge Trusses.* The Engineering News Publishing Co., New York.
 1920 *The Design of Highway Bridges of Steel, Timber and Concrete.* Second edition. McGraw-Hill Book Company, New York.

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.

Maryland State Roads Commission

1930a *Report of the State Roads Commission for the Years 1927, 1928, 1929 and 1930.* State of Maryland, State Roads Commission, Baltimore.

1930b *Standard Plans.* State of Maryland, State Roads Commission, Baltimore.

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 3/5/97

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

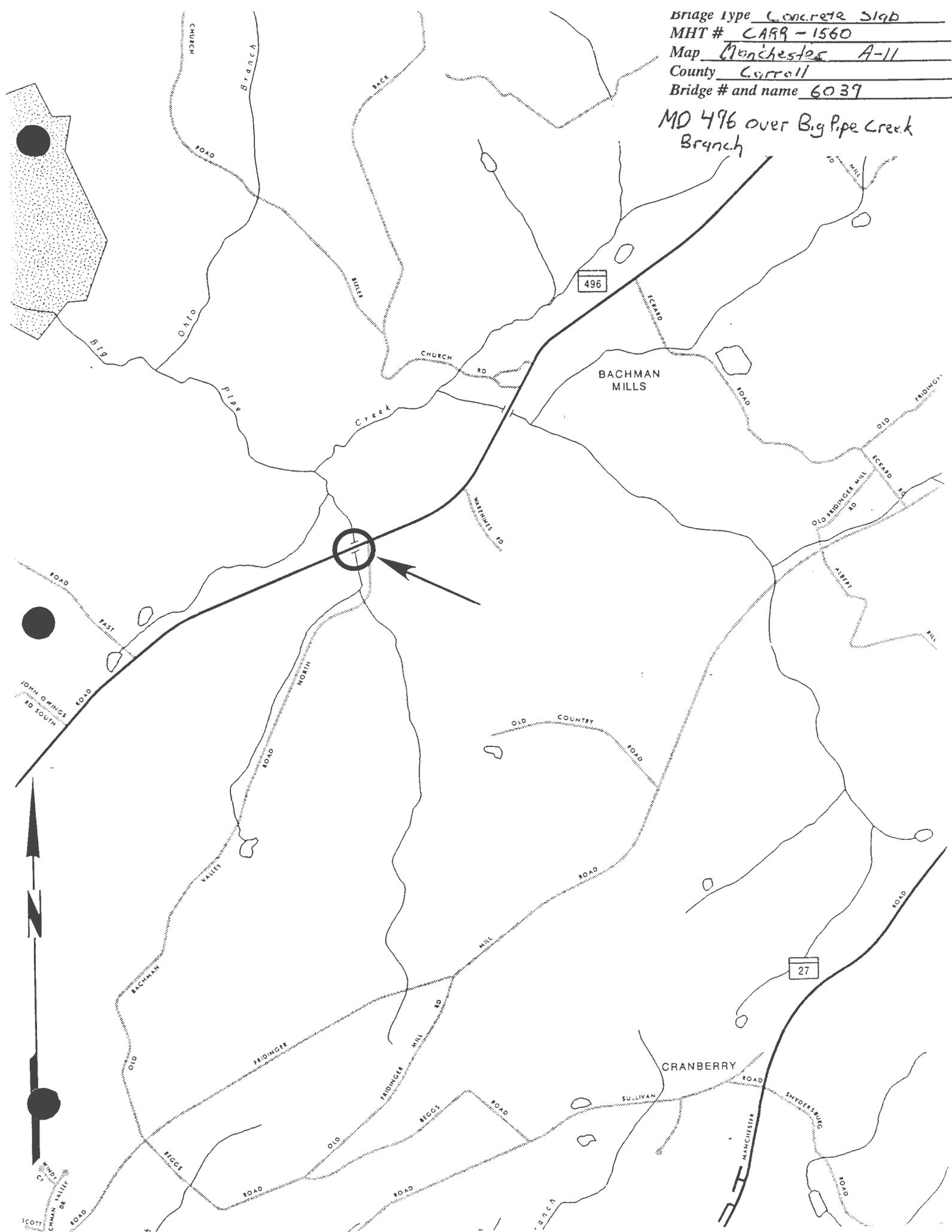
MHT # CA99-1560

Map Manchester A-11

County Carroll

Bridge # and name 6039

MD 496 over Big Pipe Creek
Branch





1. CARR- 1560
2. MD 496 over Big Pipe Creek
3. Carroll BRANCH
(6039)
4. Eric Griffiths
5. 3-97
6. MD SH PD
7. South Elevation
8. 1 of 6



1. CARR - 1520
2. MD 496 over Big Pipe Creek
3. Carroll. Branch
(6039)
4. Eric Griffiths
5. 3-97
6. MD SHPO
7. West Approach
8. 2 of 6



1. CARR-1500
2. MD 496 over Big Pipe Creek
3. Carroll BRANCH
(6039)
4. Eric Griffiths
5. 3-97
6. MD SHAD
7. East Approach
8. 30fb



1. CARR-1560
2. MD 496 over Big Pipe Creek Bend
(6039)
3. Carroll
4. Eric Griffiths
5. 3.97
6. MD-SHPO
7. North Elevation
8. 4 of 6



1. CARR-15200
 2. MD 496 over Big Pipe Creek bank
 3. Carroll (6039)
 4. Eric Griffiths
 5. 3-97
 6. MD-SHPO
 7. Detail of slab under Deck
- 5 of 6



1. CARR - 1560
2. MD 496 on Big Pipe Creek Brand
3. Carroll (6039)
4. Eric Hyffitts
5. 3-97
6. MD SHPO
7. Detail of NE Wingwall & Parapet
8. 6076

9200665

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

Property/District Name: Bridge #6039 Survey Number: CARR-1560

Project: MD 496 over Branch of Big Pipe Creek, Carroll Co. Agency: F SHA

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 #6039 is a standard, 20 foot long, concrete, single span, slab structure constructed in 1931. According to information provided by SHA, concrete slab structures were a highly redundant bridge form by the 1930s and Bridge #6039 has no particular historical or engineering significance. Numerous examples of similar bridges remain in the state. Bridge #6039 is not located in any known historic district.

Documentation on the property/district is presented in: Project Files

Prepared by: Rita Suffness

Elizabeth Hannold 02/10/92
Reviewer, Office of Preservation Services Date

NR program concurrence: yes no not applicable

R. Pemberton 11 Feb 92
Reviewer, NR program Date

DT

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: Unknown

