

Maryland Historical Trust

Maryland Inventory of Historic Properties number: AL-I-B 084

Name: MS. 40 BRIDGE OVER SIDELING HILL CREEK

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 <u>  X  </u>	Eligibility Not Recommended <u>      </u>
Criteria: <u>  A  </u> <u>  B  </u> <u>  X  </u> <u>  C  </u> <u>  D  </u>	Considerations: <u>  A  </u> <u>  B  </u> <u>  C  </u> <u>  D  </u> <u>  E  </u> <u>  F  </u> <u>  G  </u> <u>None</u>
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>

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

MHT No. AL-I-B-084

SHA Bridge No. 1064 Bridge name US 40 scenic over Sideling Hill Creek

**LOCATION:**

Street/Road name and number [facility carried] US 40 scenic (McFarland Road)

City/town Bellegrove Vicinity X

County Allegany

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 1064 carries US 40 Scenic (McFarland Road) over Sideling Hill Creek in Allegany County. US 40 Scenic runs east-west and Sideling Hill Creek flows north-south. The bridge is located in the vicinity of Bellegrove.

**Describe Superstructure and Substructure:**

Bridge 1064 is a 1-span, 2-lane, filled concrete arch bridge. The bridge was constructed in 1925. The structure is 26.8 meters (88 feet) long and has a clear roadway width of 7.3 meters (24 feet); there are no sidewalks. The out-to-out width is 8.3 meters (27.2 feet). The arch spans 26 meters (85 feet). The superstructure consists of one concrete barrel arch which supports a cast-in-place concrete deck and pierced concrete parapets. The substructure consists of two concrete abutments and four concrete wingwalls. The bridge is posted for 27.2 tonnes (30 tons), and has a sufficiency rating of 71.4.

According to the 1997 inspection report, this structure was in fair condition with spalling, cracking and efflorescence. The concrete arch has spalling, heavy efflorescence and cracking. The abutments have scaling and spalls with exposed aggregate. The spandrel walls also have cracks and spalls.

**Discuss Major Alterations:**

The 1997 inspection report mentions the repair of the abutments, wingwalls, spandrel walls and bridge railing at an unknown date. The abutments were repaired with gunite. A retaining wall adjacent to the northwest wingwall was extended just prior to the 1997 inspection.

**HISTORY:**

**WHEN was the bridge built:** 1925 \_\_\_\_\_

**This date is:** Actual X \_\_\_\_\_ Estimated \_\_\_\_\_

**Source of date:** Plaque \_\_\_\_\_ Design plans \_\_\_\_\_ County bridge files/inspection form \_\_\_\_\_

**Other (specify):** State Highway Administration Inspection Report/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?**

Unknown

**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?**

Unknown

**SURVEYOR/HISTORIAN ANALYSIS:**

**This bridge may have National Register significance for its association with:**

A - Events   X        B- Person                       
 C- Engineering/architectural character   X  

The bridge is eligible for the National Register of Historic Places under Criterion A and 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 the arch ring, barrel, spandrel walls, parapets, abutments and wingwalls. The bridge is also significant as a engineering component of U.S. 40.

**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.

The National Pike (U.S. 40) between Hancock and Cumberland was originally chartered in 1792 by Maryland as a turnpike from Frederick to Cumberland. The road was financed by various Maryland banks, and construction began in 1816, reaching Cumberland and the National Road in 1821. The turnpike ceased operations in 1889 when a storm wrecked bridges on the road, and the bridges were not rebuilt. The road had fallen into disrepair by the early twentieth century, when the "Good Roads" Act of 1916 provided federal funding for road improvements. The National Pike was designated U.S. 40 in the mid-1920s.

**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?**

Unknown

**Is the bridge a significant example of its type?**

The bridge is a potentially significant example of a concrete arch 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 arch ring, barrel, spandrel walls, parapets, abutments and wingwalls.

**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.

**BIBLIOGRAPHY:**

County inspection/bridge files \_\_\_\_\_ SHA inspection/bridge files   X    
Other (list): \_\_\_\_\_

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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.

Raitz, Karl. ed.

1996 *The National Road.* The Johns Hopkins University Press, Baltimore and London.

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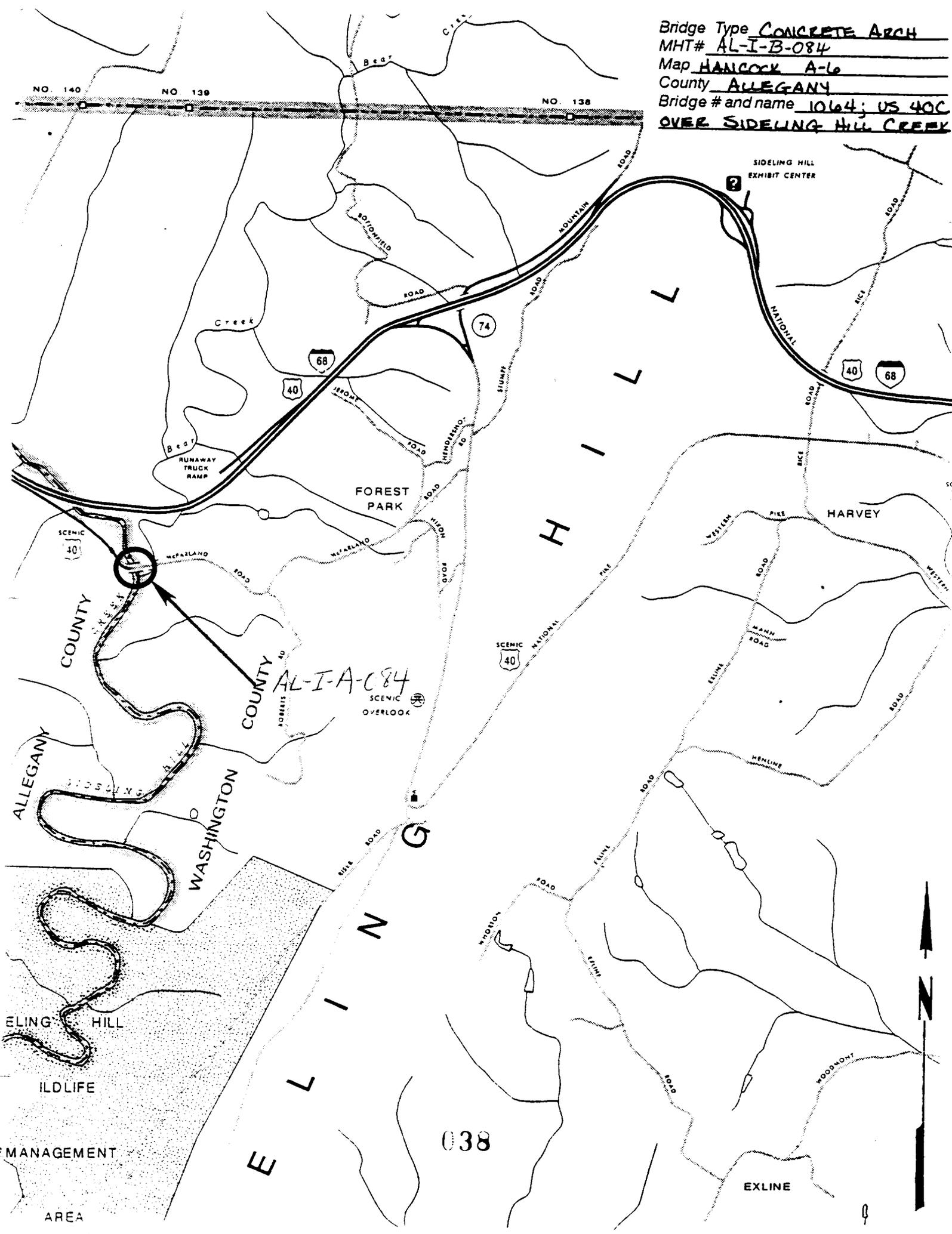
Tyrrell, H. Grattan

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

Bridge Type CONCRETE ARCH  
MHT# AL-I-B-084  
Map HANCOCK A-6  
County ALEGANY  
Bridge # and name 1064; US 40C  
OVER SIDELING HILL CREEK



NO. 140 NO. 139 NO. 138

SCENIC 40

40 68

74

40 68

SCENIC 40

038

Q



1. AL-1-B-084
2. 1064, U.S. 40 SCENIC OVER SIDELING HILL CREEK
3. ALLEGANY COUNTY
4. WALLACE, MONTGOMERY & ASSOC.
5. 12/97
6. MD SHPO
7. NEW RETAINING WALL NORTHWEST CORNER
8. 1 OF 5



1. AL-1-B-084

2. 1064, U.S. 40 SCENIC OVER SIDELING HILL CREEK

3. ALLEGANY COUNTY

4. WALLACE, MONTGOMERY & ASSOC.

5. 12/97

6. MD SHPO

7. ELEVATION LOOKING DOWNSTREAM

8. 2 OF 5



1. AL-1-B-084
2. 1064, U.S. 40 SCENIC OVER SIDELING HILL CREEK
3. ALLEGANY COUNTY
4. WALLACE, MONTGOMERY & ASSOC.
5. 12/97
6. MD SHPO
7. ELEVATION LOOKING DOWNSTREAM
8. 3 OF 5



RESTRICTED BRIDGE  
SINGLE UNIT  
20000 LBS GVW  
COMBINATION UNIT  
20000 LBS GVW

1. AL-1-B-084
2. 1064, U.S. 40 SCENIC OVER SIDELING, HILL CREEK
3. ALLEGANY COUNTY
4. WALLACE, MONTGOMERY & ASSOC.
5. 14/97
6. MD SHPO
7. LOOKING WEST
8. 4 OF 5



1. AL-1-B-084
2. 1064, U.S. 40 SCENIC OVER SIDELING HILL CREEK
3. ALLEGANY COUNTY
4. WALLACE, MONTGOMERY & ASSOC.
5. 12/97
6. MD SHPO
7. LOOKING EAST
8. 5 OF 5