Maryland Historical Trust

Maryland Inventory of Historic Properties Number: F-4-115

Name: US 40 over Catoctin 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 bridged received the following determination of eligibly.

MARYLAND HISTORICAL TRUST

Eligibility Recommended ___X___ Eligibility Not Recommended _____

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. F-4-115

SHA Bridge No. 10030 **Bridge name** US 40 over Catoctin Creek

LOCATION:
Street/Road name and number US 40 (National Pike)

City/town Myersville **Vicinity** X

County Frederick

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 ____ **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 X **Concrete Slab** ____ **Concrete Beam** ____ **Rigid Frame** ____

Other ____ **Type Name** ____

DESCRIPTION:
Setting: Urban _____ **Small town** _____ **Rural** ____X____

Describe Setting:

Bridge 10030 carries US 40 over Catoctin Creek in Frederick County. US 40 runs east-west and Catoctin Creek flows south. The bridge is located in the vicinity of Myersville, and is surrounded by farmland and agricultural buildings.

Describe Superstructure and Substructure:

Bridge 10030 is a single-span, 2-lane, stone-faced concrete arch bridge. The bridge was originally built in 1936. The structure is 72 feet long and has a clear roadway width of 40 feet; carrying 2 lanes of westbound traffic. The out-to-out width is 44 feet 8 inches. The superstructure consists of 1 arch that supports a concrete deck and stone-faced parapets. The arch spans 50 feet and is a filled spandrel arch. The concrete deck has a bituminous wearing surface. The structure has stone veneer parapets and the roadway approaches have guardrails. The substructure consists of 2 stone-faced concrete abutments. There are 4 heavy stone-faced buttresses with blind arch ornamentation. The bridge is not posted, and has a sufficiency rating of 84.5.

According to the 1996 inspection report, this structure was in satisfactory condition with minor deterioration. The asphalt wearing surface has longitudinal cracks. The concrete is cracked and has areas of scale and efflorescence. The arch has cracks with heavy efflorescence and stalactites. The abutments are heavily scaled at the water line. The wingwalls have fine vertical and horizontal cracks in the mortar joints. Also, the concrete parapets are missing small areas of mortar.

Discuss Major Alterations:

The bridge has had no major alterations.

HISTORY:
WHEN was the bridge built: ____1936____
This date is: Actual _____X_____ **Estimated** _____
Source of date: Plaque __ **Design plans** _X_ **County bridge files/inspection form** ___**Other (specify):**

WHY was the bridge built? Relocation and widening of US 40 between Frederick and Hagerstown.
WHO was the designer? State Roads Commission
WHO was the builder? State Roads Commission
WHY was the bridge altered? N/A
Was this bridge built as part of an organized bridge-building campaign?

Yes, this bridge was built as part of the relocation and widening of US 40 between Frederick and Hagerstown. Scenic US 40 was originally chartered in 1792 by Maryland as a turnpike from Frederick to Cumberland; it was a segment of the Baltimore-Cumberland Turnpike. The road, eventually know as the National Pike (as distinct from the National Road), was financed by various Maryland banks, and construction began in 1816. The road was completed to Cumberland by 1823. 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 US 40 in the mid-1920s.

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 Criteria A and C, as a significant example of concrete arch construction. The bridge is associated with the relocation and widening of US 40 between Frederick and

Hagerstown in the 1930s. The structure has a high degree of integrity and retains such character-defining elements of the type as stone-veneer parapets and spandrel walls, decorative blind arches, voussoirs, buttresses, stone-veneer abutments and 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 1, 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 that moved traffic from the primary roads built before World War 1. 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.

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. 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 aesthetics 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.

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 construction of the bridge had a significant impact on the growth and development of the area.

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Is the bridge located in an area that 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 that 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 arch bridge, possessing distinctive ornamentation and design.

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 stone-veneer parapets, spandrel walls, abutments, and wingwalls, buttresses, decorative blind arches and voussoirs.

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):

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.

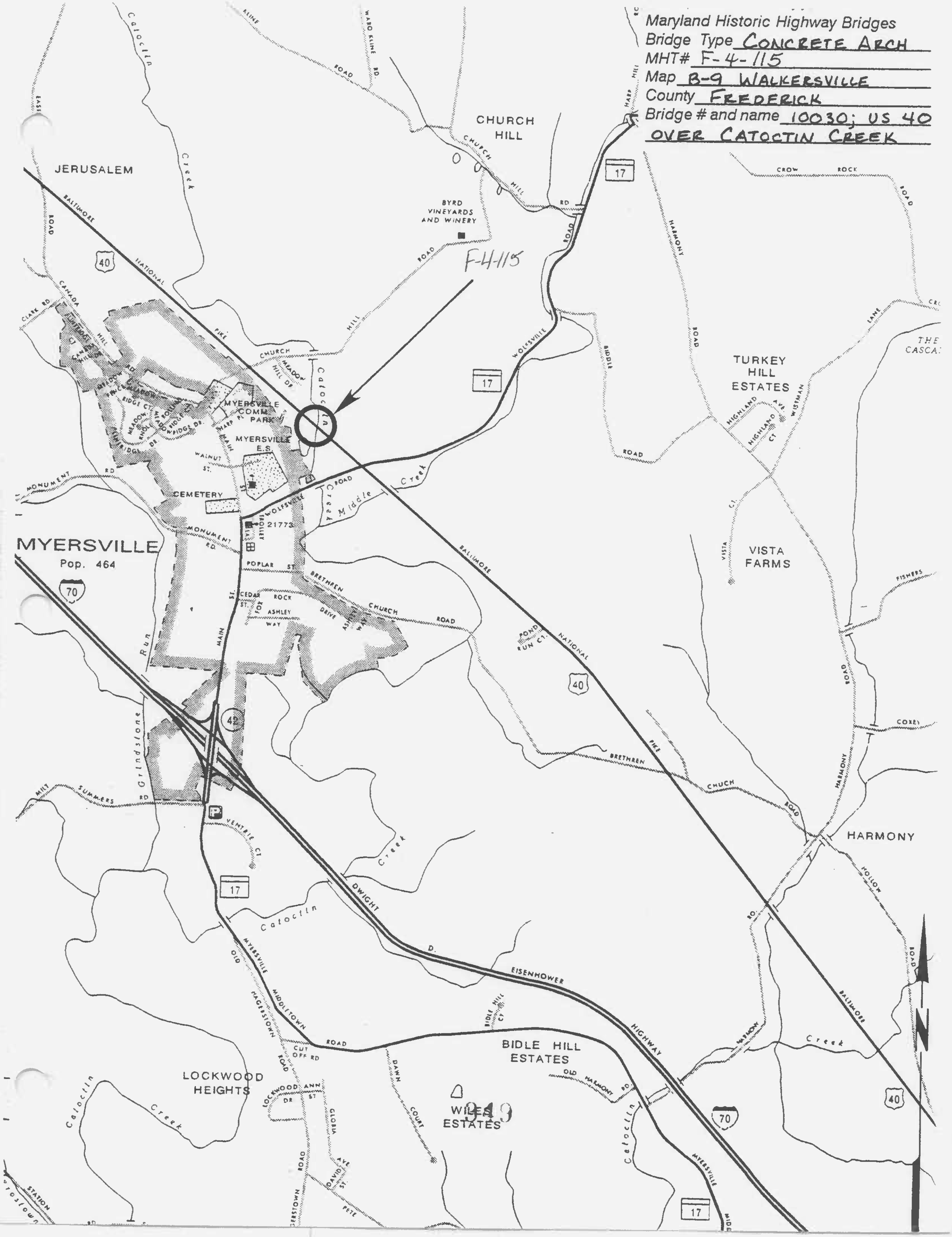
P.A.C. Spero & Company and Louis Berger & Associates
1995 Historic Highway Bridges in Maryland: 1631-1960: Historic Context Report. Maryland State Highway Administration, Maryland State Department of Transportation, Baltimore, Maryland.

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

Maryland Historic Highway Bridges
Bridge Type Concrete Arch
MHT# F-4-115
Map B-9 Walkersville
County Frederick
Bridge # and name 10030; US 40 over Catoctin Creek



F-4-115
CHURCH HILL
JERUSALEM
BYRD VINEYARDS AND WINERY
TURKEY HILL ESTATES
THE CASCA
MYERSVILLE COMM. PARK
MYERSVILLE E.S.
CEMETERY
MYERSVILLE
Pop. 464
21773
VISTA FARMS
HARMONY
BIDLE HILL ESTATES
LOCKWOOD HEIGHTS
WILES ESTATES
BALTIMORE NATIONAL PIKE
DWIGHT D. EISENHOWER HIGHWAY
Catoctin Creek
Middle Creek
Grindstone Run
WOLFSVILLE ROAD
BRETHREN CHURCH ROAD
MONUMENT RD
SUMMERS RD
OLD MYERSVILLE HAGERSTOWN MIDDLETOWN ROAD
CUT OFF RD
OLD HARMONY RD
HARMONY ROAD
HOLLOW ROAD
CROW ROCK ROAD
CHURCH HILL RD
MAIN ST.
POPLAR ST.
40
70
17
42
349

Inventory # F-4-115

Name 10030-US40 OVER CATOCTIN CREEK
County/State FREDERICK COUNTY/MD
Name of Photographer FRANK JULIANO
Date 2/95

Location of Negative SHA

Description APPROACH WEST

Number 14 of 36 4

Inventory # F-4-115

Name MD30 - US40 OVER CATOCTIN CREEK

County/State FREDERICK COUNTY/MD

Name of Photographer FRANK JULIANO

Date 2/95

Location of Negative SHA

Description APPROACH EAST

Number 2 of 4

Inventory # F-4-115

Name 0030-4540 OVER CATOCTIN CREEK
County/State FREDERICK COUNTY | MD
Name of Photographer FRANK JULIANO
Date 2|95

Location of Negative SHA

Description ELEVATION LOOKING NORTH

Number 3 ~~16~~ of ~~38~~ 4

Inventory # F-4-115

Name 10030-US 40 OVER CATOCTIN CREEK

County/State FREDERICK COUNTY/MD

Name of Photographer FRANK SULLIVAN

Date 2/95

Location of Negative SHA

Description ELEVATION LOOKING SOUTH

Number 4 of 34