

Maryland Historical Trust

Maryland Inventory of Historic Properties number: WA-V-416

Name: US40 Over Licking 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> </u> A <u> </u> B <u> X </u> C <u> </u> D	Considerations: <u> </u> A <u> </u> B <u> </u> C <u> </u> D <u> </u> E <u> </u> F <u> </u> G <u> </u> 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>

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

MHT No. WA-V-416

SHA Bridge No. 21010

Bridge name US 40 over Licking Creek

LOCATION:

Street/Road name and number [facility carried] US 40 (National Pike)

City/town Big Pool Vicinity

County Washington

This bridge projects over: Road Railway Water X Land

Ownership: State X County Municipal Other

HISTORIC STATUS:

Is 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

X Metal Truss Bridge deck truss

 Movable Bridge :

 Swing Bascule Single Leaf Bascule Multiple Leaf

 Vertical Lift Retractable Pontoon

X Metal Girder :

 Rolled Girder Rolled Girder Concrete Encased

X 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 [briefly]:**

Bridge 21010 carries U.S. 40 (National Pike) over Licking Creek in the vicinity of Big Pool, Washington County. U.S. 40 runs generally in an east-west direction in the area while Licking Creek flows north-south. The bridge is situated in a rural area, with farmland and woods around the bridge.

Describe Superstructure and Substructure :

Bridge 21010, constructed in 1938, is a 3-span truss and plate girder bridge measuring 91 meters (300 feet) in total length. The two (2) end spans are each 27.4 meters (90) feet while the center span is 36.6 meters (120 feet.). The floor system has steel stringers and floorbeams. At the connections over the piers, the girders are supported by Wichert trusses which carry the loads to the piers. The top chord of the deck truss is a built-up section of steel channels connected by rivets. The bottom chord is a built-up section of steel channels with lattice bars connected with rivets. All verticals and diagonals are steel channels. The bridge connections are riveted, with pinned hinge connections at the abutments and pier bearings. The width of the roadway is 7.9 meters (26 feet), and the out-to-out width is 9.1 meters (30 feet). There is a 0.6 meter (2 foot) sidewalk on each side of the bridge, and decorative metal railings with concrete posts. The bridge, which is aligned 90 degrees to the streambed, is not posted and has a sufficiency rating of 61.5. The bridge has concrete abutments and wing walls, metal railings, and two (2) concrete piers with pointed arches.

Discuss Major Alterations :

There have been no major repairs to the bridge. Inspection reports from 1995 and 1997 detail the need for a complete deck replacement. Overall, the structure is in fair condition, with numerous areas of corrosion and cracking of truss members, some deteriorated pinned connections and spalled concrete.

HISTORY:**WHEN was bridge built (actual date or date range)** 1938**This date is:** Actual X Estimated**Source of date:** Plaque Design plans X County bridge files/inspection form **Other (specify)** SHA Files**WHY was bridge built?**

U.S. 40 between Hagerstown and Hancock 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 known 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 and the National Road 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 U.S 40 in the mid-

1920s. This bridge was built in 1938 when the road was realigned, replacing an earlier bridge.

WHO was the designer?

State Roads Commission

WHO was the builder?

State Roads Commission

WHY was bridge altered? [check N/A if not applicable]

N/A

Was bridge built as part of organized bridge-building campaign? Yes No

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

Bridge 21010 is eligible for the National Register of Historic Places under Criterion C, as a significant example of a metal truss and girder bridge. The structure has a high degree of integrity and retains such character-defining elements of the type as metal girders, abutments, metal railings, and wing walls.

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

Bridge 21010 is a metal girder bridge with Wichert truss members which connect it to the pier. The Wichert truss is a significant type of continuous truss. Continuous trusses have a chord and web configuration that continues uninterrupted over one or more intermediate supports, compared with simply supported trusses which are supported only at each end. Due to concerns over potential stresses caused by intermediate pier settlement, continuous trusses were not generally employed until the early twentieth century. In 1930, E.M. Wichert of Pittsburgh addressed the problem with his Wichert truss, a continuous truss in which hinged quadrilateral sections were included over the intermediate piers. Wichert's first major truss bridge constructed to this design was the 1937 Homestead High Level Bridge over the Monongahela River at Pittsburgh.

Metal girder bridges were most likely introduced and first popularized in Maryland by the state's major railroads of the nineteenth century including the Baltimore and Susquehanna, its successor the Northern Central, and the Baltimore and Ohio Railroad. Bridge engineering historians have documented the fact that James Milholland (or Mulholland) erected the earliest plate girder span in the United States on the Baltimore and Susquehanna Railroad in 1846 at Bolton Station, near present-day Mount Royal Station. The sides (web) and bottom flange of

Miholland's 54-foot long span were wholly of wrought iron and included a top flange reinforced with 12 x 12-inch timber. Plates employed in the bridge were 6 feet deep and 38 inches wide, giving the entire bridge a total weight of some 14 tons. Milholland's pioneering plate girder cost \$2,200 (Tyrrell 1911:195). By December 31, 1861, the Northern Central Railroad, which succeeded the Baltimore and Susquehanna, maintained an operating inventory in Maryland of 50 or more bridges described simply as "girder" spans, in addition to a number of Howe trusses. Most of these were probably iron girder bridges; the longest were the 117-foot double-span bridge over the Jones Falls and the 106-foot double-span girder bridge at Pierce's Mill (Gunnarson 1990:179-180).

When the bridge was built and/or given a major alteration, did it have a significant impact on the growth & development of the area? No Yes If yes, what impact?

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 historic/visual character of the possible district?

The bridge is located on the National Pike/National Road network. The road has been in continuous use since the late eighteenth century, and is a potentially significant transportation corridor. The structure, which is a good example of a metal truss/girder bridge, would contribute to the character of a potential historic transportation corridor, representing the continuation of transportation on the National Pike during the last period of the road's use as the main transportation route through the Maryland mountains.

Is the bridge a significant example of its type?

The bridge is a potentially significant example of a metal truss/girder bridge, possessing a high degree of integrity.

Does bridge retain integrity [in terms of National Register] of important elements described in Context Addendum? No Yes If no, why?

The bridge retains the character defining elements as defined by the Statewide Historic Bridge Context.

Is bridge a significant example of work of manufacturer, designer and/or engineer? No Yes If yes, why? _____

This bridge is a significant example of the work of the State Roads Commission in the 1930s.

Should bridge be given further study before significance analysis 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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1990 *The Story of the Northern Central Railway, From Baltimore to Lake Ontario.*
Greenberg Publishing Co., Sykesville, Maryland.

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.

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1939 *Modernizing Maryland Highways.* State of Maryland, State Roads
Commission, Baltimore.

P.A.C. Spero & Company and Louis Berger & Associates, *Historic Highway Bridges*
1995 *Maryland: Historic Context Report.* Prepared for the Maryland State
Highway Administration.

Tyrrell, Henry G.
1911 *History of Bridge Engineering.* Published by author, Chicago

SURVEYOR/SURVEY INFORMATION:

Date bridge recorded July 1997

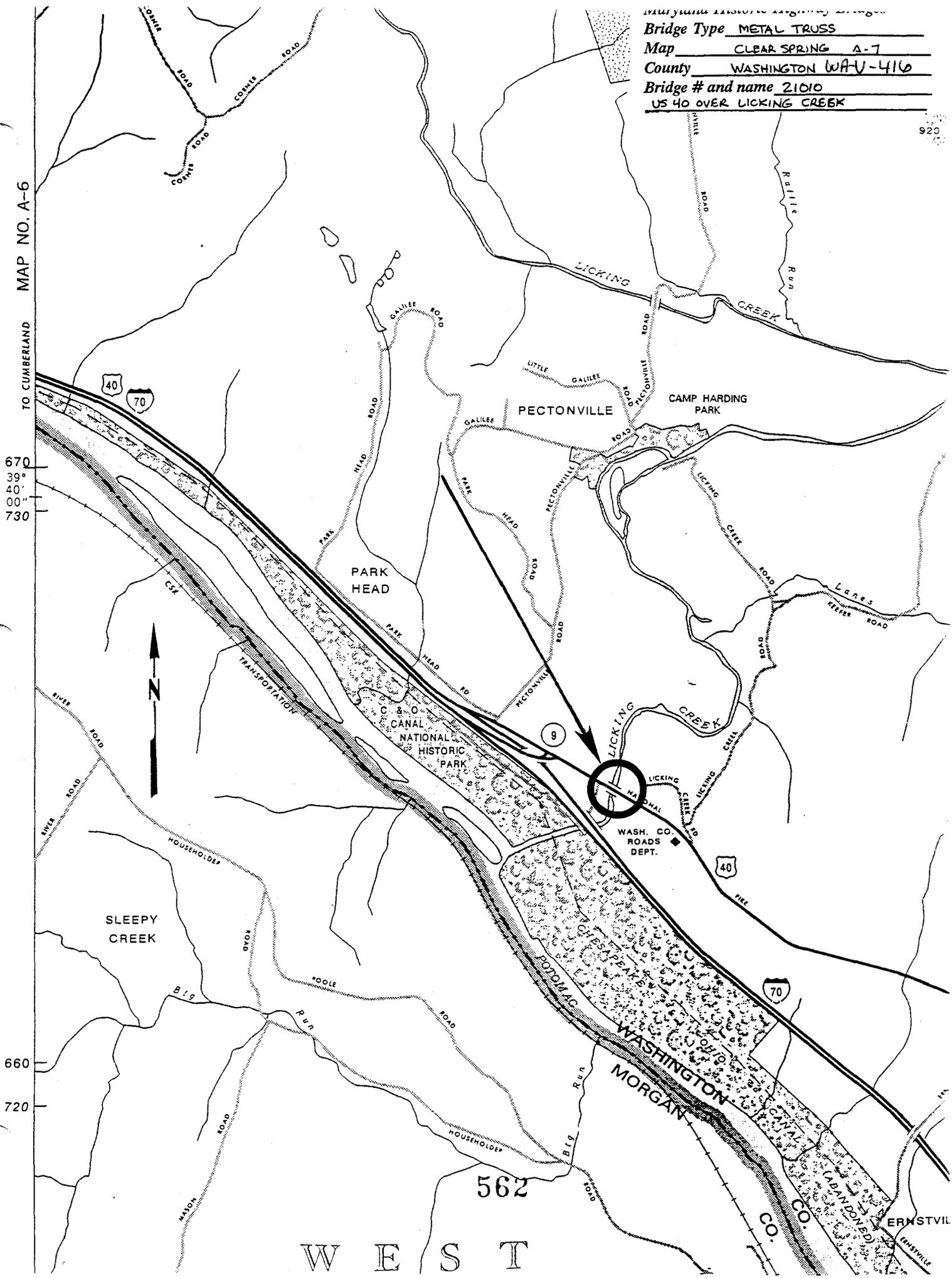
Name of surveyor Caroline Hall/Ryan McKay
Organization/Address P.A.C.Spero & Co., 40 W. Chesapeake Avenue, Suite 412, Baltimore,
Maryland 21204
Phone number 410-2961-1635 FAX number 410-296-1670

Bridge Type METAL TRUSS
 Map CLEAR SPRING A-7
 County WASHINGTON WA-V-416
 Bridge # and name 21010
US 40 OVER LICKING CREEK

920

TO CUMBERLAND
MAP NO. A-6

5 670
 39"
 40"
 00"
 730



562

WEST

ERNESTVILLE



WA-V-416

BR#2101010

OVER LICKING CREEK

WASHINGTON CO., MD

CHARLES ZIEGLER

2/22/95

S. H. A

NORTHWEST APPROACH

1 OF 5



FORT MILLS



ONE OF THE FOUR STOCKADE
FORTS ERECTED IN 1756 ALONG THE
NORTH MOUNTAIN ROAD AS SUPPORTS
FOR FORT FREDERICK IN PREVENTING
THE INDIANS FROM DESCENDING UPON
THE INHABITANTS LIVING IN THE
CUMBERLAND VALLEY.

STATE ROAD COMMISSION

WA-V-416

BR# 2101010

OVER LICKING CREEK

WASHINGTON CO., MD.

CHARLES ZIEGLER

2/22/95

S. H. A.

HISTORIC MARKING SIGN N.W.

SIDE OF BRIDGE

2 OF 5



LICKING
CREEK

WA-V-416

BR# 2101010

OVER LICKING CREEK

WASHINGTON CO., MD.

CHARLES ZIEGLER.

2/22/95

S. H. A.

SOUTHEAST APPROACH

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WA-V-416

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OVER LICKING CREEK

WASHINGTON CO., MD.

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2/22/95

S. H. A.

NORTHEAST ELEVATION (UPSTREAM)

4 OF 5



WA-V-416

BR #2101010

OVER LICKING CREEK

WASHINGTON CO., MD.

CHARLES ZIEGLER

2/22/95

S. H. A.

SOUTHWEST ELEVATION (DOWNSTREAM)

5 OF 5