

MARYLAND HISTORICAL TRUST
DETERMINATION OF ELIGIBILITY FORM

NR Eligible: yes ___
no ___

Property Name: SHA Bridge No. 1303400, US 40/ Forest Rd Underpass Inventory Number: HO-656

Address: National Pike (US 40) Historic district: ___ yes no

City: Ellicott City Zip Code: 21042 County: Howard

USGS Quadrangle(s): Ellicott City

Property Owner: State Highway Administration Tax Account ID Number: _____

Tax Map Parcel Number(s): _____ Tax Map Number: _____

Project: Reevaluation of Highway Bridges Statewide Agency: FHWA/MD SHA

Agency Prepared By: KCI Technologies, Inc.

Preparer's Name: Kim Sebestyen Date Prepared: 10/16/2009

Documentation is presented in: Project Review and Compliance Files

Preparer's Eligibility Recommendation: Eligibility recommended ___ Eligibility not recommended

Criteria: A ___ B C ___ D Considerations: ___ A ___ B ___ C ___ D ___ E ___ F ___ G

Complete if the property is a contributing or non-contributing resource to a NR district/property

Name of the District/Property: _____

Inventory Number: _____ Eligible: ___ yes Listed: ___ yes

Site visit by MHT Staff ___ yes no Name: _____ Date: _____

Description of Property and Justification: *(Please attach map and photo)*

SHA Bridge No. 1303400 (MIHP No. HO-656) is located near Ellicott City in Howard County and carries US 40 over Forest Road. This bridge is located in Patapsco Valley State Park, which is an important resource in central Maryland that provides recreational opportunities, as well as protecting both natural and historic resources.

This 1936 single-span concrete slab bridge carries two lanes of US 40 over Patapsco Forest Road. US 40 runs east-west in this area and is classified as an Urban Other Principal Arterial roadway. The ADT as of 2006 was 39,581 and the future ADT is expected to be 45,637 by 2026. The current BSR rating for the bridge is 69 (SI&A Report 2007).

Background

The Interagency Historic Highway Bridge Inventory Committee (HHBIC) considered the 1995 MIHP form and subsequently determined Bridge No. 1304100 to be eligible for the National Register of Historic Places (NRHP). The Maryland Historical Trust (MHT) concurred with the determination in 2001 as eligible under NRHP Criterion C.

MARYLAND HISTORICAL TRUST REVIEW

Eligibility recommended ___ Eligibility not recommended ___

Criteria: ___ A ___ B ___ C ___ D Considerations: ___ A ___ B ___ C ___ D ___ E ___ F ___ G

MHT Comments: *Information purposes only - Bridge remains NR-eligible*

Jim VanLune
Reviewer, Office of Preservation Services

5/14/2010
Date

Reviewer, National Register Program

Date

SHA Bridge No. 1303400 was re-evaluated for NRHP eligibility as part of the 2009 statewide re-evaluation of the eligible bridges in SHA's Historic Highway Bridge Inventory. SHA requested that KCI conduct research to gather information and provide additional analysis of each of the bridge's integrity and significance to supplement the original NRHP evaluation. KCI conducted additional research at SHA's Office of Structures (OOS) to gather information on alterations and repairs that have been made to the structure. The following files at OOS were reviewed by the architectural historians and engineers: Bridge Inspection Reports (BIR), repair history files, SHA Bridge Plans, the Bridge Inspection and Remedial Engineering (BIRE) Worklist, and Structure Inventory and Appraisal (SI&A) reports. A KCI architectural historian visited the bridge to examine and document current conditions with field notes, digital photography, and black and white photography. For evaluation of the bridge's historic significance and NRHP eligibility, KCI consulted the original MIHP form, Historic Highway Bridges in Maryland: 1631-1960: Historic Context Report, A Context for Common Historic Bridge Types, NCHRP Project 25-25, Task 15, and "NR Bulletin 15: How to Apply the National Register Criteria for Evaluation."

Evaluation and Justification

The 1995 MIHP form stated that SHA Bridge No. 1303400 "is a significant example of an elaborate concrete slab bridge which features masonry embellishment including an arched profile with voussoirs, and wingwalls with stone facing" and that it retains integrity of location, design, setting, materials, workmanship, feeling and association. This reevaluation agrees with the previous recommendation that the bridge is eligible for listing in the NRHP under Criterion C. The MIHP form also recommended that additional research about the history of the bridge and its relationship to the area would provide a more complete picture of the bridge's background. As part of the reevaluation, additional research about the bridge and its surroundings was conducted and the bridge is also recommended eligible under Criterion A for its association with the nearby Patapsco State Park and US 40.

The 2009 field survey noted that the abutment walls have minor cracks and spalls, with some exposed rebar. The abutments have minor cracks and scrapes and paint marks from automobile accidents. The wingwalls have a stone masonry facing and are in generally good condition. The BIR notes that a section of the cap stone on the southwest wingwall is loose.

The bituminous riding surface is generally in good condition with minor cracking. There are no curbs or parapets at the road surface. The underside of the slab has open cracks along the construction joints. There is some water leakage through one of the joints that formed icicles on the day of the field survey. There are small spalls along the surface of the slab with rust stains from the underlying rebar. The headwalls have a stone masonry facing that is in generally good condition except for minor cracking and efflorescence of the mortar. There is some leaching of water and efflorescence along the top of the arch on the south elevation, which is causing staining. There is a 9-foot wide bulge in the headwall and misalignment of the cap on the south elevation. Past concrete repairs are visible along the entire headwall in this area. SHA coordinated these repairs, including repointing the stone and fixing the headwalls, with MHT in 2008 and a qualified stone mason completed the work.

The bridge, which is owned by SHA, lies within the Patapsco Valley State Park and is located in the Hollofield Area of the park. First developed in 1907, the park encompasses 14,000 acres and follows 32 miles of the Patapsco River (Patapsco Valley State Park website). Forest Road serves as the main entrance to the Hollofield Area of the park. The Hollofield Area of the park straddles US 40 but remains wooded and this area contains hiking trails, camping and picnic spots, and the park headquarters.

The park structures were designed and built by the Civilian Conservation Corps (CCC) in the mid-1930s at the same time the SRC (now SHA) was designing the bridge. Several of the park outbuildings in the region of the bridge have stone facing, which although it does not exactly match the stone in the bridge, shows an attempt to mirror the stone façade in other park structures. It appears that the use of stone facades was an attempt to increase the aesthetic appeal and create cohesiveness within the park, as

MARYLAND HISTORICAL TRUST REVIEW

Eligibility recommended _____ Eligibility not recommended _____

Criteria: ___A ___B ___C ___D Considerations: ___A ___B ___C ___D ___E ___F ___G

MHT Comments:

Reviewer, Office of Preservation Services

Date

Reviewer, National Register Program

Date

well as to recall the original stone arch bridges that were built along the National Pike. Along US 40 between Baltimore and Frederick, there are seven (7) concrete bridges with stone veneer, many of which include architectural treatments such as those featured on SHA Bridge No. 1303400.

US 40 is a 4-lane divided highway through the park. The underpass provides access to the park on both sides of US 40 and to both the east and westbound lanes of the roadway. It is currently used by park visitors, local traffic, and by school buses.

A close examination reveals that this bridge has had some deterioration of materials, design, and workmanship, but not enough to alter the integrity of the bridge. There have been no major alterations or repairs to the bridge and it retains all of its CDEs. Bridge retains its integrity of location, as well as its setting and association within the Patapsco Valley State Park. The overall feeling of the bridge is excellent. The structure is a potentially important example of a stone masonry faced concrete slab bridge for its time period. Based on this evaluation, Bridge No. 1303400 is recommended to remain eligible for inclusion in the NRHP under Criterion C. This bridge is part of the Patapsco Valley State Park, which is an important recreational and historical park developed in the early twentieth century. The underpass provides an access between the two sides of the park that are bisected by US 40, as well as providing access to the east and westbound lanes of US 40. Thus, this bridge is recommended eligible for listing in the NRHP under Criterion A. The bridge is not associated with any known person of local, regional, or national significance (Criterion B). Criterion D was not evaluated as part of the historic standing structures studies for this project.

MARYLAND HISTORICAL TRUST REVIEW

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Date

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MIHP No. HO-656
SHA Bridge No. 1303400
US 40 over Forest Road Underpass
Howard County, Maryland

Photograph Log

Image File Name	Description of View
HO-656_2009-01-30_01.tif	South elevation, facing north
HO-656_2009-01-30_02.tif	North elevation, facing south
HO-656_2009-01-30_03.tif	Under deck, facing north
HO-656_2009-01-30_04.tif	Leak at joint, facing north
HO-656_2009-01-30_05.tif	Substructure, facing north
HO-656_2009-01-30_06.tif	Northeast corner of arch, north elevation, facing east
HO-646_2009-01-30_07.tif	US 40 EB facing west

Printed on Epson Premium Photo Paper Glossy with Epson UltraChrome Black Ink

Saved on Verbatim UltraLife Archival Grade DVD-R, AZO recording dye



MHP: HO-656

SHA Bridge 1303400 over Forest Road

Howard County

James Skouik

4/30/09

MD SHPO

South elevation, facing north

1/7



MHP: HO-656

SHA Bridge 1303400 over Forest Road

Howard County

James Steuk

4/30/09

MD SHPO

North elevation, facing south

2/7



MHP Ho-656

SHA Bridge 1303400 over Forest Road

Howard County

James Skouik

1/30/09

MD SHPO

Under deck, facing north

3/7



MIHP: HO -656

SHA Bridge 1303400 over Forest Road

Howard County

James Skozik

4/30/09

MD SHPO

Leak at joint, facing north

4/7



MIHP: HO-656

SHA Bridge 1303400 over Forest Road

Howard County

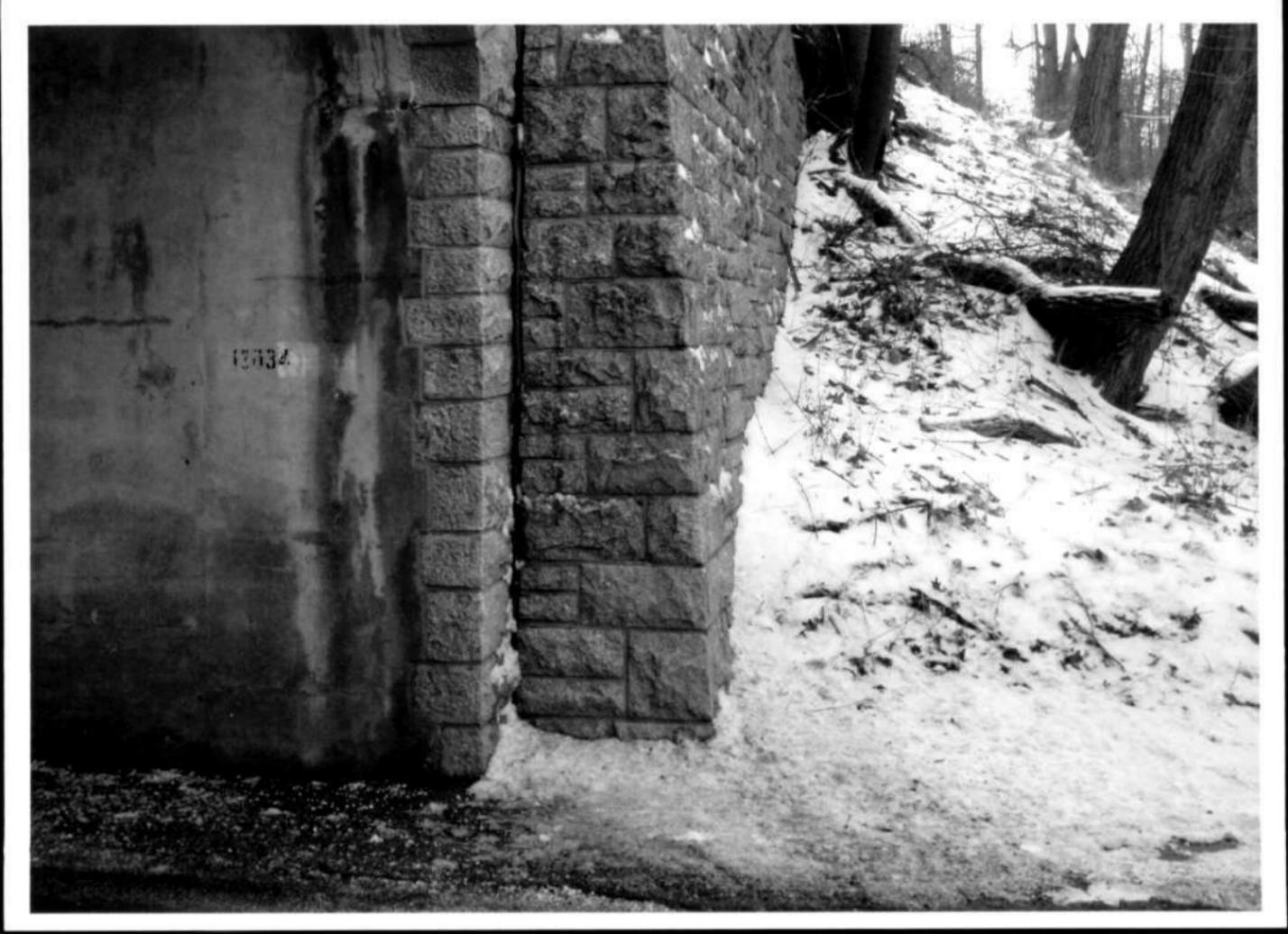
James Skouk

1/30/09

MD SHPO

Substructure, facing north

7/5

A black and white photograph showing a close-up of a stone wall on the right and a concrete wall on the left. The stone wall is constructed from large, roughly-hewn rectangular blocks. The concrete wall is smoother and has the number '13034' printed on it. To the right of the stone wall, there is a narrow path leading into a wooded area with trees and fallen branches. The ground is covered in snow or light-colored soil.

13034

MHP HO-656

SHA Bridge 1303400 over Forest Road

Howard County

James Skouik

1/30/09

MD SHPO

North east corner of bridge, north elevation

6/7



MIHP: HO-656

SHA Bridge 130340D over Forest Road

Howard County

James Skocik

1/30/09

MD SHPO

US 40 EB lanes, facing west

7/2

Maryland Historical Trust

Maryland Inventory of Historic Properties number: NO-656

Name: 13034/US 40 over Forest Rd. Underpass

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 _____	Eligibility Not Recommended <u>X</u>
Criteria: <u> </u> A <u> </u> B <u> </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>

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

MHT No. HO-656

SHA Bridge No. 13034 Bridge name US 40 over Forest Road Underpass

LOCATION:

Street/Road name and number [facility carried] US 40

City/town Ellicott City Vicinity X

County Howard

This bridge projects over: Road X Railway ___ Water ___ 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 ___

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

Describe Setting: Bridge No. 13034 carries US 40 over Forest Road in Patapsco State Park in eastern Howard County. The setting is completely wooded.

Describe Superstructure and Substructure:

Bridge No. 13034 is a single span concrete slab bridge constructed in 1936. US 40, which carries the bridge over Forest Road, is a four lane highway with a Jersey type barrier dividing eastbound and westbound traffic. The span length is 21'. The abutments are concrete. The wingwalls are stone and are parallel with US 40. The underpass forms an arch which features voussoirs of cut stone.

Discuss Major Alterations:

No major alterations have been made to this bridge.

HISTORY:WHEN was the bridge built 1936This date is: Actual Estimated _____

Source of date: Plaque _____ Design plans _____ County bridge files/inspection form _____

Other (specify): SHA files**Why was the bridge built?**

Unknown

Who was the designer?

Unknown

Who was the builder?

Unknown

Was the bridge altered?

The bridge has not been altered.

Was the 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 _____ B- Person _____

C- Engineering/architectural character

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 1903-04 with the formation of the Joint Committee on Concrete and Reinforced Concrete of the American Society of Civil Engineers.

Maryland's road and bridge improvement programs mirrored economic cycles. The first road improvement program 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 to 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 become inadequate to the huge freight trucks and volume of passenger cars in use, with major improvements occurring in the late 1930s. Most improvements to local roads waited until the years after World War II.

With a diverse topographical domain encompassing numerous small and large crossings, Maryland engineers quickly recognized the need for expedient design and construction.

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.

Standard plans were developed for use in Maryland in 1912 and continued in use throughout the following decades.

Concrete embellishments varied from simple molded treatment to the application of surface masonry, as exhibited with bridge 13034.

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?

Unknown.

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 potential district?

No, this bridge is not located in an area which is eligible for historic designation.

Is the bridge a significant example of its type?

Yes, this structure is a significant example of an elaborate concrete slab bridge which features masonry embellishment including an arched profile with voussoirs, and wingwalls with stone facing.

Does the bridge retain integrity of important elements described in the Context Addendum?

The bridge is an unusual example of a concrete slab with atypical elements. This structure retains the integrity of its location, design, setting, materials, workmanship, feeling and association.

Is bridge a significant example of work of a manufacturer, designer and/or engineer?
Designer, manufacturer, and/or engineer of this bridge is unknown.

Should the bridge be given further study before an evaluation of significance is made?

No further evaluation is necessary to determine National Register significance. However, additional research concerning the history of the bridge and its relationship to the surrounding landscape may be useful in providing a more complete picture of the bridge's background.

BIBLIOGRAPHY:

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

SURVEYOR/SURVEY INFORMATION:

Date bridge recorded 8/95

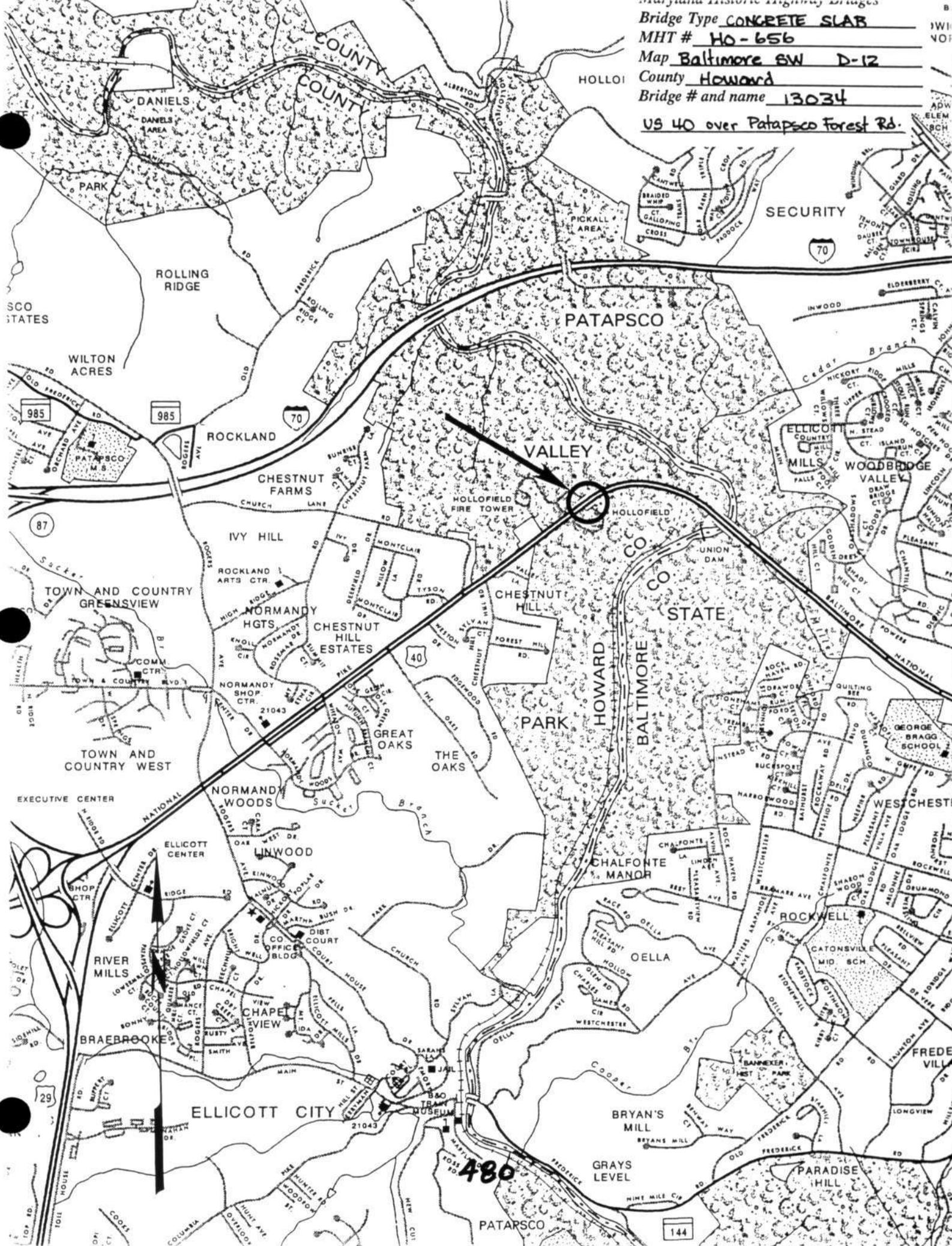
Name of surveyor Leo Hirrell

Organization/Address P.A.C. Spero & Company, 40 W. Chesapeake Avenue, Suite 412, Baltimore, MD 21204

Phone number (410) 296-1635

FAX number (410)296-1670

Bridge Type CONCRETE SLAB
 MHT # HO-656
 Map Baltimore SW D-12
 County Howard
 Bridge # and name 13034
US 40 over Patapsco Forest Rd.



480

144



Inventory # H0-656

Name 13034-US RT 40 OVER PATAPSCO FOREST RD.

County/State HOWARD / MD

Name of Photographer DAVID DIEHL

Date 2/95

Location of Negative SHA

Description EAST APPROACH

Number 1 of 4
8 of 16



Inventory # 110-656

Name 13034-US Rt 40 OVER PATRASC0 FOREST RD

County/State HOWARD / MD

Name of Photographer DAVID DIEHL

Date 2/95

Location of Negative SHA

Description WEST APPROACH

Number 2 of 4

PHOTO. 980067557 4611 N



SINGLE
LANE

Inventory # H0-656

Name 13034 - US RT 40 OVER PATASUO FOREST RD

County/State HOWARD / MD

Name of Photographer DAVID DIEHL

Date 2/95

Location of Negative SHA

Description SOUTH ELEVATION

Number 3 of 4

00000000000000000000000000000000



Inventory # HO-656

Name 13034-NS RT 400VER PATAPSCO FOREST RD.

County/State HOWARD / MD

Name of Photographer DAVID DIEHL

Date 2/95

Location of Negative SHA

Description NORTH ELEVATION

Number 4 of 4

NO COPYRIGHT CLAIM