

Maryland Historical Trust

Maryland Inventory of Historic Properties number: HO-672 He-641

Name: MD 97 over Patuxent River

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>

Handwritten mark

✓

~~Ho-677~~
Ho-641

Metal Arch

Metal Cantilever

Concrete

Concrete Arch Concrete Slab Concrete Beam

Rigid Frame

Other Type Name _____

Description:

Describe Setting: Bridge 13038 carries Maryland 97 over the Patuxent River in Howard County, Maryland. MD 97 runs in a north-south direction; the Patuxent River runs generally east-west at this crossing. The bridge is situated in a rural wooded area with no structures visible from the bridge. The Patuxent River has a wooded channel bank in this area. Bridge 13038 is located on the grounds of the Patuxent River State Park, established in the early 1930's.

Describe Superstructure and Substructure: The superstructure of 13038 is a double span welded steel plate girder with a corrugated metal deck and bituminous overlay on the wearing surface. There is an ornamental concrete parapet wall on either side of the bridge deck which serves as a protective barrier. The substructure consists of concrete abutments and wing walls and one concrete pier. Each span is 43' long, with a total bridge length of 86'. There are standard W beam guard rails on either side of both approaches.

Discuss Major Alterations: All of the documentary evidence available indicates that no major alterations have been made to Bridge 13038.

History:

When Built: 1931

Why Built: state wide road improvement programs, to meet local transportation needs within the park

Who Built: State Roads Commission

Why Altered: n/a

Was this bridge built as part of an organized bridge building campaign: yes

Surveyor Analysis:

This bridge may have NR significance for association with:

A Events B Person

C Engineering/Architectural

Was this bridge constructed in response to significant events in Maryland or local history: No, it is not likely that it was constructed in response to specific events in state or local history. The bridge is located within the Patuxent River State Park, which was

established in the late 1920's. It is possible that this bridge was a more stable replacement of an earlier bridge, or a new structure constructed in direct relationship to the establishment of the Patuxent River State Park.

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:No, construction of this bridge did not have a significant impact on the growth or development of the area, other than its relationship to the state park.

Is the bridge located in an area which may be eligible for historic designation and would the bridge add to or detract from historic and visual character of the possible district:No, this bridge is not located in an area which may be eligible for historic designation.

Is the bridge a significant example of its type:It is possible that 13038 is a significant example of its type.

Does the bridge retain integrity of the important elements described in the Context Addendum:Plate girders are considered primary character defining elements. There is no indication in the available documentation that they have been replaced or significantly altered since the original construction in 1931. The floor system is considered a secondary character defining element. There is no indication that the floor system has ever been replaced or severely altered either. It is likely that cleaning, painting and minor repairs have been made to the floor system. The ornamental concrete parapet barrier wall is considered a tertiary character defining element under additional functional features. Again, there have been no major alterations made to this feature either, but it is likely that minor cracks and spalling have been repaired.

The concrete abutments, wing walls and piers are considered primary character defining elements. There is no documentation to indicate that any substantial repairs have been made to the substructure, other than routine maintenance.

Bridge 13038 appears to retain integrity of the important elements described in the Context Addendum. The fact that it retains all of the structural elements from the original construction period, and that these elements remain in fair condition indicates that this bridge does retain its original integrity.

Should this bridge be given further study before significance analysis is made and why:Yes, this bridge should be given further study. It is possible that Bridge 13038 may be a significant example of its type because of its length, its present fair condition, the fact that it retains original structural elements, and the fact that it may be associated with the establishment of the Patuxent River State Park. This bridge should be compared to other local examples of its type.

~~HO-673~~
HO-641

Bibliography:

Greiner, Inc.

1995 Historic Bridge Inventory Form.

Spero, P.A.C. & Company, and Louis Berger & Associates

1994 Historic Bridges in Maryland: Historic Bridge Context.

State Highway Administration

v.d. Bridge Inspection Files.

United States Geological Survey

1945 7.5' Sandy Spring Quadrangle, photorevised 1979.

Surveyor:

Name: Stephanie L. Bandy **Date:** August 1995

Organization: State Highway Admin. **Telephone:** (410) 321-2213

Address: 2323 West Joppa Road Brooklandville, MD 21022

PATUXENT

Maryland historic highway bridges

Bridge Type Metal Girder

Map D-11 Columbia

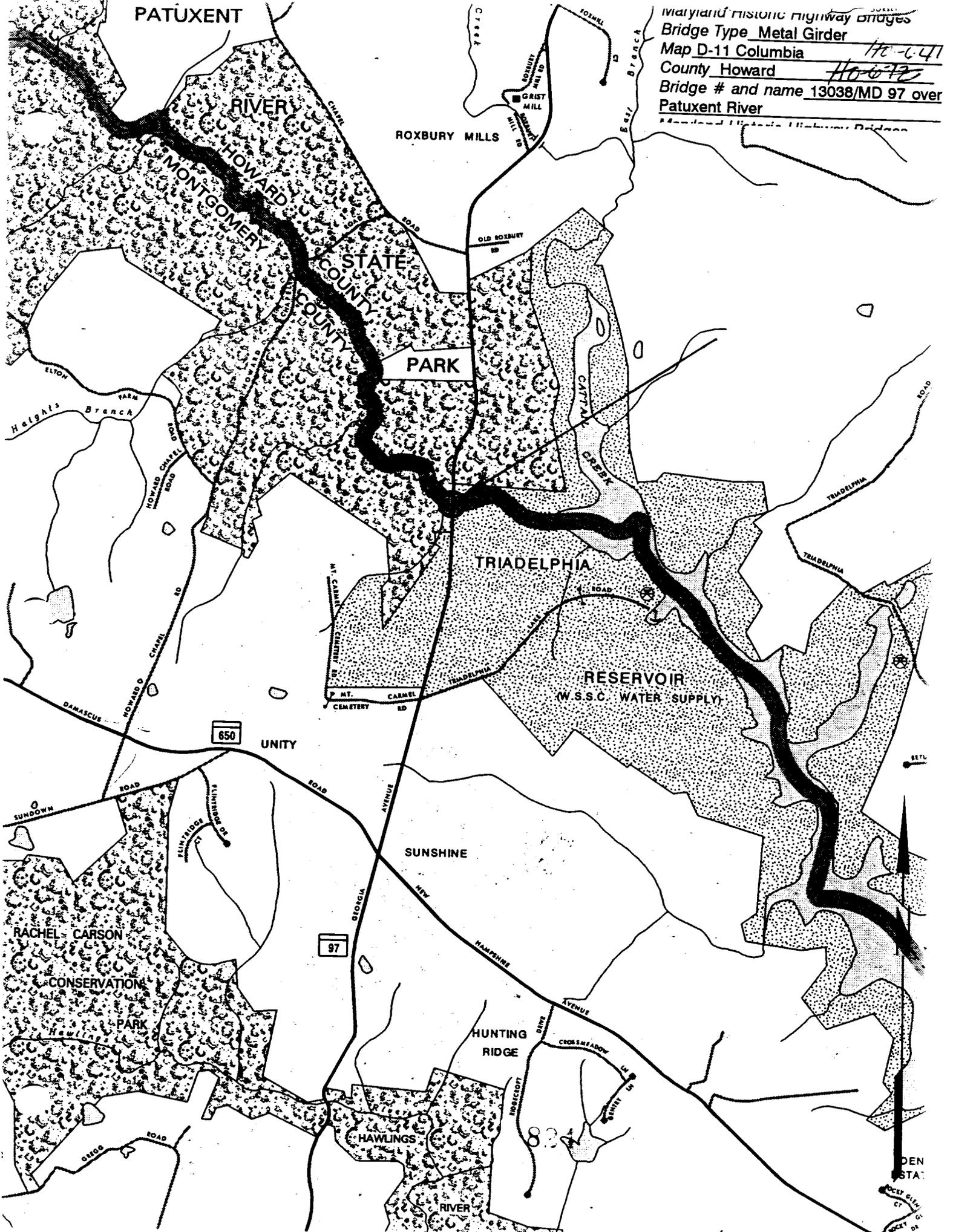
Ho-647

County Howard

Ho-672

Bridge # and name 13038/MD 97 over Patuxent River

Maryland Historic Highway Bridges



DEN STA

ROCKY CREEK



Inventory # H0-641

Name 13038 - MD 97 OVER PATUXENT RIVER

County/State HOWARD / MD

Name of Photographer DAVID DIEHL

Date 2/95

Location of Negative SHA

Description SOUTH APPROACH LOOKING

NORTH

Number 1 of 4

... 1995 04/18 210 02 *01



Inventory # HO-641

Name 13038-MD97 OVER PATUXENT RIVER

County/State HOWARD / MD

Name of Photographer DAVID PIEHL

Date 2/95

Location of Negative SHA

Description NORTH APPROACH LOOKING SOUTH

Number 2 of 4

10.24 X124785 0000



Inventory # HO-641

Name 13038 - MD 97 OVER PATUXENT RIVER

County/State HOWARD / MD

Name of Photographer DAVID DIEHL

Date 2/95

Location of Negative SHA

Description EAST ELEVATION LOOKING

WEST

Number 3 of 4

10-25 11-11-95 15Z *01



Inventory # HO-641

Name 13038 - MD 97 OVER PATUXENT RIVER

County/State HOWARD / MD

Name of Photographer DAVID DIEHL

Date 2/95

Location of Negative SHA

Description WEST ELEVATION LOOKING

NORTHEAST

Number 4 of 4

10-26-1995

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-vehicular

Known Design Source: Maryland State Roads Commission

Bridge No. 13038 (HO-641)
Roxbury Mills
Howard County, Maryland

HISTORIC CONTEXT:

MARYLAND COMPREHENSIVE HISTORIC PRESERVATION PLAN DATA

Geographic Organization: Piedmont (Howard County)

Chronological/Developmental Period: Modern (1930-Present)

Prehistoric/Historic Period Theme: Transportation

Resource Type:

Category: Structure

Historic Environment: Rural

Historic Function (s) and Use(s): Transportation

Known Design Source: Bridge Division, Maryland
State Highway Administration

Maryland Historical Trust State Historic Sites Inventory Form

MARYLAND INVENTORY OF
HISTORIC PROPERTIES

Survey No. HO 641

Magi No.

DOE yes no

1. Name (indicate preferred name)

historic

and/or common Bridge No. 13038

2. Location

street & number MD 97 over Patuxent River not for publication

city, town Roxbury Mills vicinity of congressional district

state Maryland county Howard

3. Classification

Category	Ownership	Status	N/A	Present Use	
<input type="checkbox"/> district	<input checked="" type="checkbox"/> public	<input type="checkbox"/> occupied		<input type="checkbox"/> agriculture	<input type="checkbox"/> museum
<input type="checkbox"/> building(s)	<input type="checkbox"/> private	<input type="checkbox"/> unoccupied		<input type="checkbox"/> commercial	<input type="checkbox"/> park
<input checked="" type="checkbox"/> structure	<input type="checkbox"/> both	<input type="checkbox"/> work in progress		<input type="checkbox"/> educational	<input type="checkbox"/> private residence
<input type="checkbox"/> site	Public Acquisition	Accessible		<input type="checkbox"/> entertainment	<input type="checkbox"/> religious
<input type="checkbox"/> object	<input type="checkbox"/> in process	<input checked="" type="checkbox"/> yes: restricted		<input type="checkbox"/> government	<input type="checkbox"/> scientific
	<input type="checkbox"/> being considered	<input type="checkbox"/> yes: unrestricted		<input type="checkbox"/> industrial	<input checked="" type="checkbox"/> transportation
	<input checked="" type="checkbox"/> not applicable	<input type="checkbox"/> no		<input type="checkbox"/> military	<input type="checkbox"/> other:

4. Owner of Property (give names and mailing addresses of all owners)

name Maryland State Highway Administration

street & number 707 N. Calvert Street telephone no.: 410 333 1183

city, town Baltimore state and zip code Maryland 21202

5. Location of Legal Description

courthouse, registry of deeds, etc. Baltimore County Courthouse liber

street & number folio

city, town Towson state Maryland

6. Representation in Existing Historical Surveys

title N/A

date federal state county local

depository for survey records

city, town state

7. Description

Survey No. HO 641

Condition		Check one	Check one		
<input type="checkbox"/> excellent	<input checked="" type="checkbox"/> deteriorated	<input checked="" type="checkbox"/> unaltered	<input checked="" type="checkbox"/> original site		
<input type="checkbox"/> good	<input type="checkbox"/> ruins	<input type="checkbox"/> altered	<input type="checkbox"/> moved	date of move	<u>N/A</u>
<input type="checkbox"/> fair	<input type="checkbox"/> unexposed				

Prepare both a summary paragraph and a general description of the resource and its various elements as it exists today.

SEE CONTINUATION SHEET 7.1

8. Significance

Survey No.

HO 641

Period	Areas of Significance—Check and justify below			
<input type="checkbox"/> prehistoric	<input type="checkbox"/> archeology-prehistoric	<input type="checkbox"/> community planning	<input type="checkbox"/> landscape architecture	<input type="checkbox"/> religion
<input type="checkbox"/> 1400-1499	<input type="checkbox"/> archeology-historic	<input type="checkbox"/> conservation	<input type="checkbox"/> law	<input type="checkbox"/> science
<input type="checkbox"/> 1500-1599	<input type="checkbox"/> agriculture	<input type="checkbox"/> economics	<input type="checkbox"/> literature	<input type="checkbox"/> sculpture
<input type="checkbox"/> 1600-1699	<input type="checkbox"/> architecture	<input type="checkbox"/> education	<input type="checkbox"/> military	<input type="checkbox"/> social/
<input type="checkbox"/> 1700-1799	<input type="checkbox"/> art	<input type="checkbox"/> engineering	<input type="checkbox"/> music	<input type="checkbox"/> humanitarian
<input type="checkbox"/> 1800-1899	<input type="checkbox"/> commerce	<input type="checkbox"/> exploration/settlement	<input type="checkbox"/> philosophy	<input type="checkbox"/> theater
<input checked="" type="checkbox"/> 1900-	<input type="checkbox"/> communications	<input type="checkbox"/> industry	<input type="checkbox"/> politics/government	<input checked="" type="checkbox"/> transportation
		<input type="checkbox"/> invention		<input type="checkbox"/> other (specify)

Specific dates 1931 **Builder/Architect** MD State Hwy. Administration

check: Applicable Criteria: A B C D
and/or

Applicable Exception: A B C D E F G

Level of Significance: national state local

Prepare both a summary paragraph of significance and a general statement of history and support.

SEE CONTINUATION SHEET 8.2

9. Major Bibliographical References

Survey No. HQ 641

Files of Bridge Division, MD State Hwy. Administration
Draft Historic Bridges in Maryland: Historic Context Report

10. Geographical Data

Acreeage of nominated property less than 1 acre

Quadrangle name Sandy Spring

Quadrangle scale 1:24,000

UTM References do NOT complete UTM references

A	<input type="text"/>	<input type="text"/>	<input type="text"/>
	Zone	Easting	Northing

B	<input type="text"/>	<input type="text"/>	<input type="text"/>
	Zone	Easting	Northing

C	<input type="text"/>	<input type="text"/>	<input type="text"/>
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D	<input type="text"/>	<input type="text"/>	<input type="text"/>
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E	<input type="text"/>	<input type="text"/>	<input type="text"/>
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F	<input type="text"/>	<input type="text"/>	<input type="text"/>
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G	<input type="text"/>	<input type="text"/>	<input type="text"/>
---	----------------------	----------------------	----------------------

H	<input type="text"/>	<input type="text"/>	<input type="text"/>
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Verbal boundary description and justification

List all states and counties for properties overlapping state or county boundaries

state	code	county	code
-------	------	--------	------

state	code	county	code
-------	------	--------	------

11. Form Prepared By

name/title Rita M. Suffness, Leader, Cultural Resources Group

organization MD State Hwy. Administration date 3/3/94

street & number 707 N. Calvert Street telephone 410 333 1183

city or town Baltimore state Maryland

The Maryland Historic Sites Inventory was officially created by an Act of the Maryland Legislature to be found in the Annotated Code of Maryland, Article 41, Section 181 KA, 1974 supplement.

The survey and inventory are being prepared for information and record purposes only and do not constitute any infringement of individual property rights.

return to: Maryland Historical Trust
Shaw House
21 State Circle
Annapolis, Maryland 21401
(301) 269-2438

MARYLAND HISTORICAL TRUST
DHOP/DHOL
100 COMMUNITY PLAZA
CROWNSVILLE, MD 21032-2026
514-7600

Bridge No. 13038
Howard County, Maryland

Continuation Sheet 7.2
Description

Bridge 13038 (HO-641) is a 1931 steel girder with two 43 foot spans for a total span length of 86 feet and a 27 foot wide roadway. Specifically this structure is a concrete encased I-beam structure. This bridge currently carries MD 97 over the Patuxent River, which forms the border between Montgomery and Howard Counties in the central part of Maryland.

The Historic Bridge Context states that the rolled concrete encased longitudinal I-beams is of primary importance and contributes to the essential characteristics of a concreted encased rolled I-beam. An April 1994 inspection report detailed the condition of the I-beam. The I-beams are approximately 43'+/- in length with a 20" x 3/8" web plate. The top flange of the I-beam is integrated into the deck of the bridge. Several beams have deep pitting with some sectional loss on the bottom flanges. There is additional sectional loss near the bearing area (The area where the girders meet with the substructure). Beam # 6 (All numbers are from north and west. See Attachment 3, Photo 3) has the bottom flange bent upwards 1" . Beams # 1 & # 8 are the exterior I-beams. The exterior I-beams are fully encased in concrete (see Attachment 3 Photo 4). The exterior beams have spalling cracking and erosion throughout.

The area where the I-beams meet with the substructure is known as the bearing area. This area must transmit the loads to the abutments and piers without exceeding the allowable stress. The bearings of a bridge provide three functions: a) longitudinal movement for expansion and contraction; b) rotating movement due to deflection of the girders; and c) vertical movements due to the deflection or settlement of the substructure supporting the girders. Bridge 13038's bearing areas are in very poor condition. The bearing areas of I-beams # 5 & 6 at the south abutment are missing. The anchor bolts of I-beam #3 on the south abutment is also missing. All bolts and nuts have a great deal of scale and sectional loss.

The parapets on both side of the bridge are integrated into the deck of the structure. The parapet joins the concrete by a lock and key method for those parapets which are not supporting members. In 1928, Maryland used a pierced railing with a 13 open space to 1 expansion joint ratio which replaced the closed paneled design of the first quarter of the 20th century. This new design allowed for greater flexibility in terms of expansion as opposed to the Luten inspired closed panel design. The problem with Bridge 13038 is the present condition of the parapets. Each slab has three section of parapets on either side of the bridge.

Bridge No. 13038
Howard County, Maryland

Continuation Sheet 7.3
Description

The balustrade is 3'-2" from the construction joint of the deck. (see Attachment 3, Photo 1) Each rail opening is 6" wide and approximately 1'-0" high. The cap is 1'-2" wide, 5 1/2 " high, and extends over each 13 space segment of the parapet. The enclosed photographs illustrate the deteriorated condition of the parapets. The expansion joints have slipped, the majority of the balustrades are spalling, the coping on both side have spalling, the cap on the first segment of the eastern parapet is missing, and the missing concrete at the expansion joints are causing minor shifts in the bridge. The parapets need patching and in some cases replacement.

The southern abutment is approximately 7'-1/4" with a eastern wing wall of 16'-0" and a western wall of 8'-4". The northern abutment is approximately 44'-1/4" with an eastern wing wall of 8'-4" and a western wing wall of 10'-0". Currently the abutment cap in Bay 1, north abutment has a deep concrete dising and is hollow sounding to the bearing area. The cap section under beam #8 (numbering from north to west) on the northern abutment is hollow and spalled from beneath the beam to the wing wall. The cap sections between beams #2 and #7 on the northern abutment have wide areas of horizontal cracking and map cracking. The southern abutment has a vertical cracking, with spot areas of hollow soundings. Both wing walls have concrete erosion & diagonal cracking.

Bridge No. 13038 (HO-641)
Howard County, Maryland

Continuation Sheet 8.2
Statement of Significance

Bridge 13038 (HO-641) is a 1931 steel girder structure with two 43 foot spans for a total span length of 86 feet and a 27 foot wide roadway. As seen in the attached photographs, the bridge is greatly deteriorated, with considerable loss of section in most members. Sections of the parapet walls are extremely deteriorated, with the loss of some of the railing in one section. In addition, the grade of the structure is thirteen feet lower than it should be, resulting in frequent flooding which adds to the deterioration. The bridge also has substandard road and shoulder widths.

Although this bridge was considered under Criterion C, this agency feels that the condition of the structure has called its integrity into question. Years of patching, replacement, guniting, and removal have created a structure which is no longer an example of the 1930's use of I-beams but is an example of late twentieth century remediation technology. This agency does not feel that this bridge is eligible under criterion C.

The construction of this bridge was also considered under Criterion A and thus, evaluated as part of a pattern of events or historic trends that resulted in significant contributions to the development of the state. Highway development following World War I, according to Spero, was characterized by increased growth of state-owned and state-aided systems, and highlighted by construction of notable through roads, parkways, and expressways by state or federal authorities. Funding for highway projects was then as is now an important issue. In 1922 Governor Ritchie's administration instituted a gasoline tax. In theory this tax would burden those citizens who benefitted the greatest from highway instead of financing roadwork through bond issues. The first tax was one cent per gallon and was doubled in 1924. By 1927 the tax was doubled again with 1 cent earmarked for the grade-crossing elimination program. Bridges were constructed to eliminate the need for crossing gates, 24 hour-watchman, and better safety.

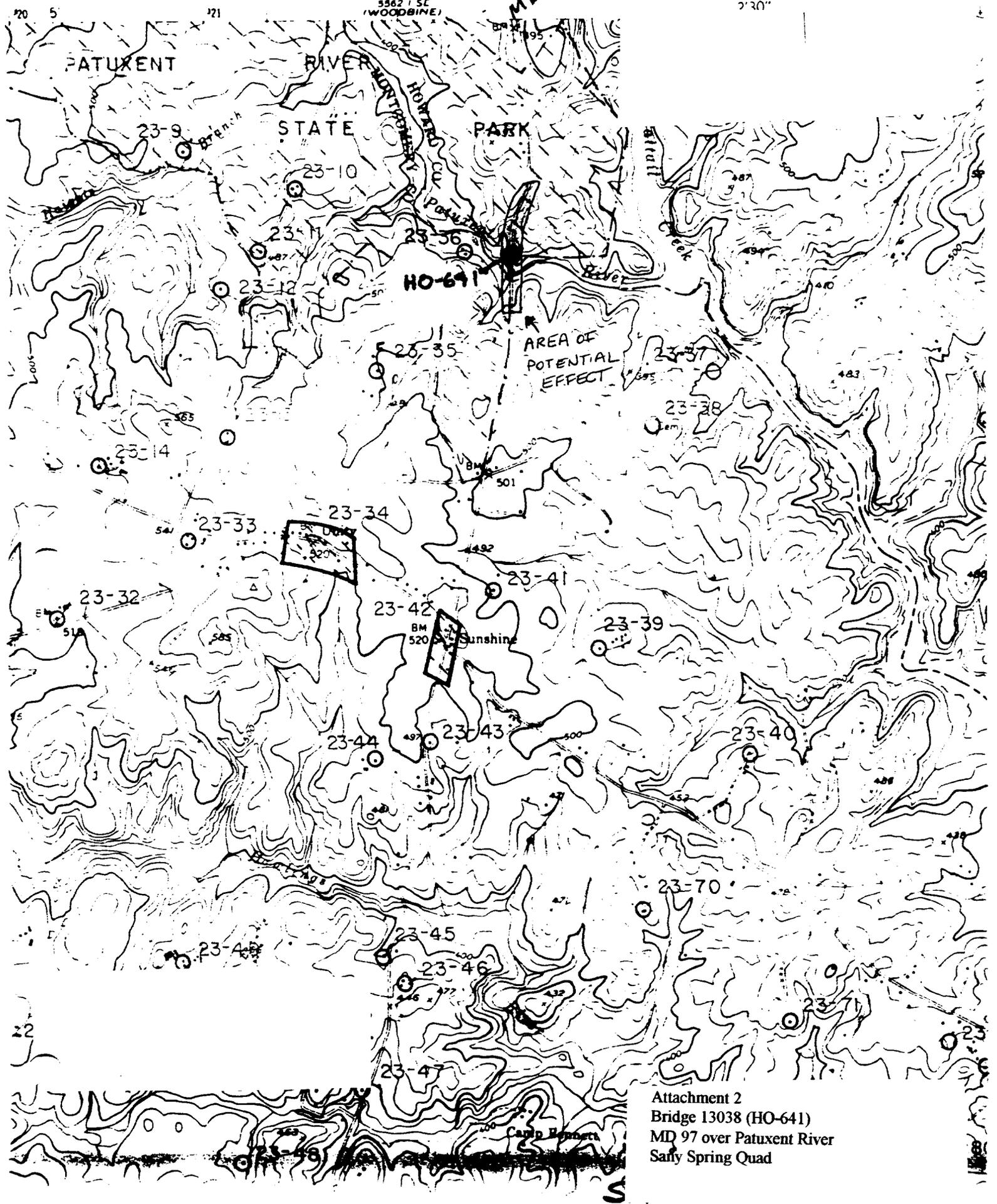
Although this structure was built to eliminate an at-grade crossing we do not feel that it is the best example of type nor was it significant to the process as a whole. The condition of this structure would necessitate a large percentage of in-kind replacement and removal of critical CDEs for this type of bridge. In addition this structure was not the first bridge built as part of the process nor was the original crossing exceptionally dangerous which might have fueled public concern for an early elimination. This bridge was built in 1931 some nine years after the project began. By 1930 the Roads Commission had eliminated 21 grade crossings with plans for eliminating 13 more. Therefore this agency does not feel that this bridge is eligible under criteria A as an example of the state's transportation history.

NUMBER
TOWARD

UNITED STATES
DEPARTMENT OF THE ARMY
CORPS OF ENGINEERS

COUNTIES

170-641



Attachment 2
Bridge 13038 (HO-641)
MD 97 over Patuxent River
Sally Spring Quad



H O - 641

Bridge 136 38

Howard County Md

R. Sufferns 2/94

Regs at MD state Highway
Administration

West Elevation

1/6



HO 641

Bridges 13038

Howard County, Md

R. Suffness 2/94

Weg at MD State Hwy

Administration

Close-up of west elevation

2/6.



H0641

Bridge 13038

Howard Cty, Md

R. Suffern 2/94

near at md State Highway
Administration

Close-up of west elevation
looking N.E.

3/6 -



H0 641

Bridge 13038

Howard County, Md

R. Sjöfören 2/94

Negative at MD State Highway
Administrator

Last Parapet wall

4/6



406d1

Bridge 15038

Howard County, MD

R. Suffern 2/90

req. at MD State Hwy Admin

Detail of West Parapet Wall

5/6



40-34

Draw 13028

Howard County, Md

R. Suffern 2/20

near Md State Highway
Administration

South approach of
Bridge, Leokery North

6/6





HO-641

5/31/89

Br. No. 13038

md Rte 97 / Patuxent River

Span 1, Beam 5 over Pier

Typical Rust, scale



MS 97 over Patux
S. W. Quad

HO-641

Kodak

JAN 1994

FILED MS 247

Kodak

JAN 1994



HO-641

Bn No. 13038

5/31/89

Md Rte 97 / Patuxent River

Span 1, Abutment 1

Beam 1 along deck

scupper hole

Welcome
to
Howard County

13030

MO 97 over Patuxent

SE Quad

Ho-641

Bridge # 13038

S.E. Elevation

Missing Parapet



Ho-641

N. W. Quad

Bridge # 13038

Nathan Elevation

JAN 1994

HO-641-13038

Kodak
Processing Service

JAN 1994



Bridge No. 13038 Date 4/6/95

MO 97 over PATUXENT RIVER.

Other (Describe) _____

EAST BANKSIDE, DEGRADATION.

HO-641



Bridge No. 13038 Date 4/1/70

MD 97 over PAWNEE RIVER

Other (Describe) _____

SPALLING ALONG EDGE @ DRAIN
BAY # 2 SPAN # 1.

HO-641