Maryland Historical Trust

Maryland Inventory of Historic Properties number: B-4621

Name: WINDSOR MILL RD OVER GWYNNS FALLS

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 ___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 **MHT No.** B-4621
HISTORIC BRIDGE INVENTORY
MARYLAND STATE HIGHWAY ADMINISTRATION/
MARYLAND HISTORICAL TRUST

SHA Bridge No. BC 2211 **Bridge name** Windsor Mill Road over Gywnns Falls

LOCATION:
Street/Road name and number Windsor Mill Road

City/town Baltimore City **Vicinity** _____

County Baltimore

This bridge projects over: Road_____ **Railway**____ **Water** X **Land** _____

Ownership: State _____ **County** _____ **Municipal** X **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** _____

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

Describe Setting:

Bridge BC 2211 carries Windsor Mill Road over Gwynns Falls in Baltimore City. Windsor Mill Road runs east-west and Gwynns Falls flows south. The bridge is located in the eastern section of the city in Gwynns Falls Park, and is surrounded by a wooded area.

Describe Superstructure and Substructure:

Bridge BC 2211 is a single-span, 2-lane filled spandrel concrete arch bridge. The bridge was originally built in 1920, and approach guardrails were added in 1989. The structure is 101 feet long and has a clear roadway width of 36 feet; there are 2 sidewalks each measuring 6 feet wide. The out-to-out width is 53 feet 2 inches. The superstructure consists of 1 concrete arch that supports a concrete deck and pierced concrete parapets or rails. The arch spans 80 feet and is a filled spandrel concrete arch. The concrete deck has a bituminous wearing surface. The structure has pierced concrete parapets with 4 streetlights on each side and the roadway approaches have metal guardrails. The substructure consists of 2 concrete abutments. There are 4 u-shaped concrete wingwalls. The bridge is not posted, and has a sufficiency rating of 88.3.

According to the 1995 inspection report, this structure was in satisfactory condition with minor deterioration. The asphalt wearing surface has a few small potholes and cracks throughout. The concrete is spalling and has heavy scaling and efflorescence in places. Previous gunite repairs to the arch have deteriorated, and the arch has heavy scaling and spalling. The north spandrel wall has 3 small spalls with exposed and rusted reinforcement bars. The east abutment is heavily deteriorated with heavy scaling and spalling. There is a heavily scoured area on the west abutment. There is heavy erosion adjacent to the southeast and northwest wingwalls. Also, the concrete parapet is shifting horizontally near midspan of the structure.

A date plaque from a previous bridge at the site is located on a detached pedestal. It states that the earlier bridge was designed by W. Bollman and built by W.H. Rimmey for Baltimore County in 1877.

Discuss Major Alterations:

Though the bridge has minor patches and repairs, it has undergone no major alterations.

HISTORY:

WHEN was the bridge built: 1920
This date is: Actual X **Estimated** _____
Source of date: Plaque __ **Design plans** _____ **County bridge files/inspection form** X **Other (specify):** __

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? Baltimore City
WHO was the builder? Baltimore City
WHY was the bridge altered? N/A
Was this bridge built as part of an organized bridge-building campaign?
There is no evidence that the bridge was built as part of an organized bridge building campaign.

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SURVEYOR/HISTORIAN ANALYSIS:

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

A - Events _____ **B- Person** _____

C- Engineering/architectural character _X_____

The bridge is eligible for the National Register of Historic Places under Criterion 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, incised spandrel walls, parapets, 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 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 that 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. 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.

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

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 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 the arch ring, barrel, spandrel walls, parapets, abutments, and wingwalls, however some deterioration is evident.

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 Baltimore City.

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** _____
Other (list):

Baltimore City Bridge Inspection Report

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.

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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
Revised by P.A.C. Spero & Company, April 1998

Maryland Historic Highway Bridges

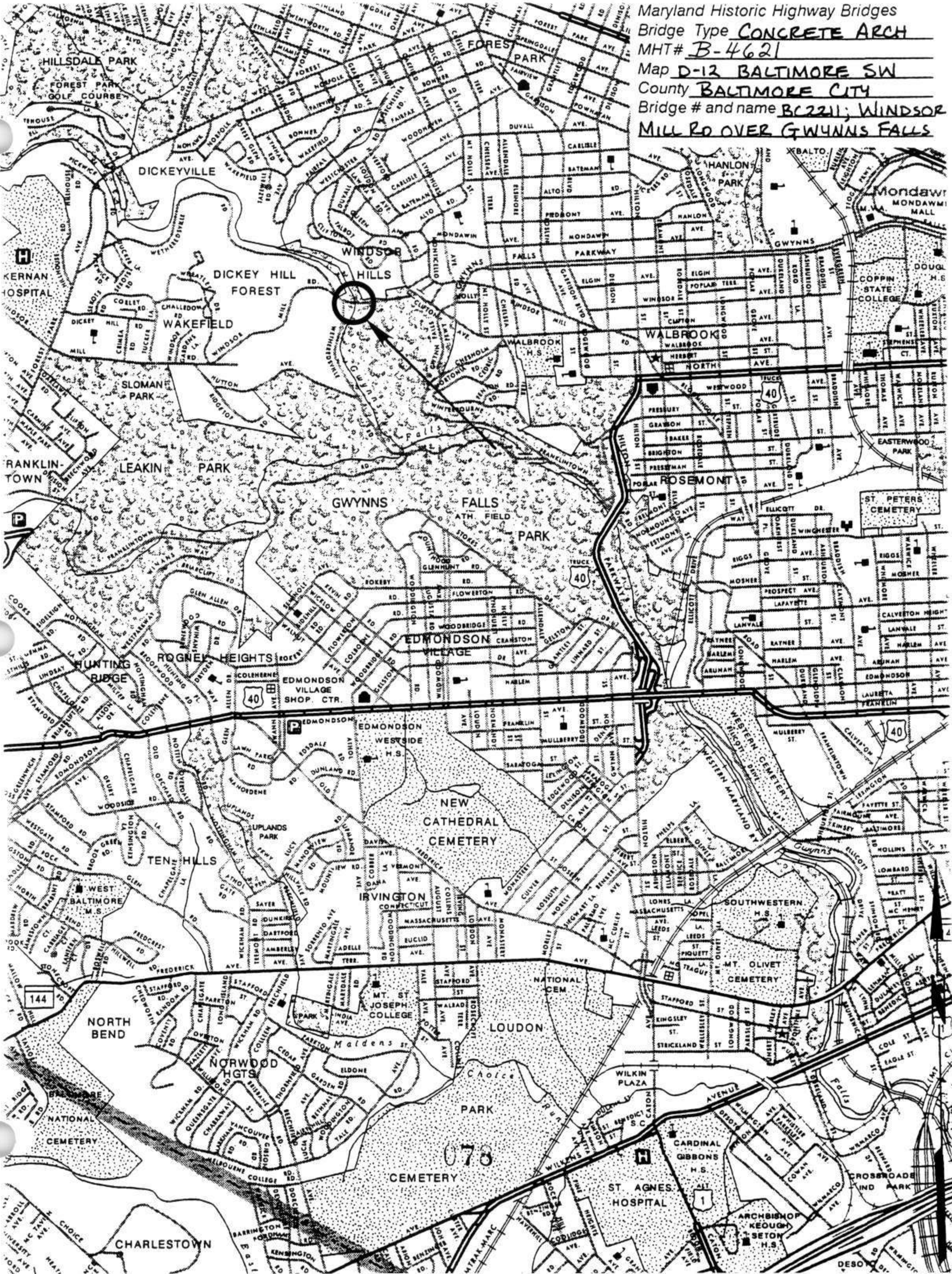
Bridge Type CONCRETE ARCH

MHT# B-4621

Map D-12 BALTIMORE SW

County BALTIMORE CITY

Bridge # and name BC2211; WINDSOR MILL RD OVER GWYNNS FALLS


HILLSDALE PARK
FOREST PARK GOLF COURSE
FOREST PARK
DICKEYVILLE
HANLON PARK
Mondawmin
MONDAWMIN MALL
WINDSOR HILLS
DICKEY HILL FOREST
WAKEFIELD
KERNAN HOSPITAL
COPPIN STATE COLLEGE
WALBROOK
WALBROOK H.S.
SLOMAN PARK
FRANKLINTOWN
LEAKIN PARK
ROSEMONT
EASTERWOOD PARK
GWYNNS FALLS ATH. FIELD PARK
ST. PETERS CEMETERY
EDMONDSON VILLAGE
ROGNEL HEIGHTS
HUNTING RIDGE
EDMONDSON VILLAGE SHOP. CTR.
EDMONDSON WESTSIDE H.S.
WESTERN CEMETERY
NEW CATHEDRAL CEMETERY
UPLANDS PARK
TEN HILLS
WEST BALTIMORE M.S.
IRVINGTON
SOUTHWESTERN H.S.
MT. OLIVET CEMETERY
NATIONAL CEM.
MT. ST JOSEPH COLLEGE
NORTH BEND
LOUDON PARK CEMETERY
NORWOOD HGTS
WILKIN PLAZA
BALTIMORE NATIONAL CEMETERY
CARDINAL GIBBONS H.S.
ST. AGNES HOSPITAL
CROSSROADS IND PARK
ARCHBISHOP KEOUGH SETON H.S.
CHARLESTOWN
078

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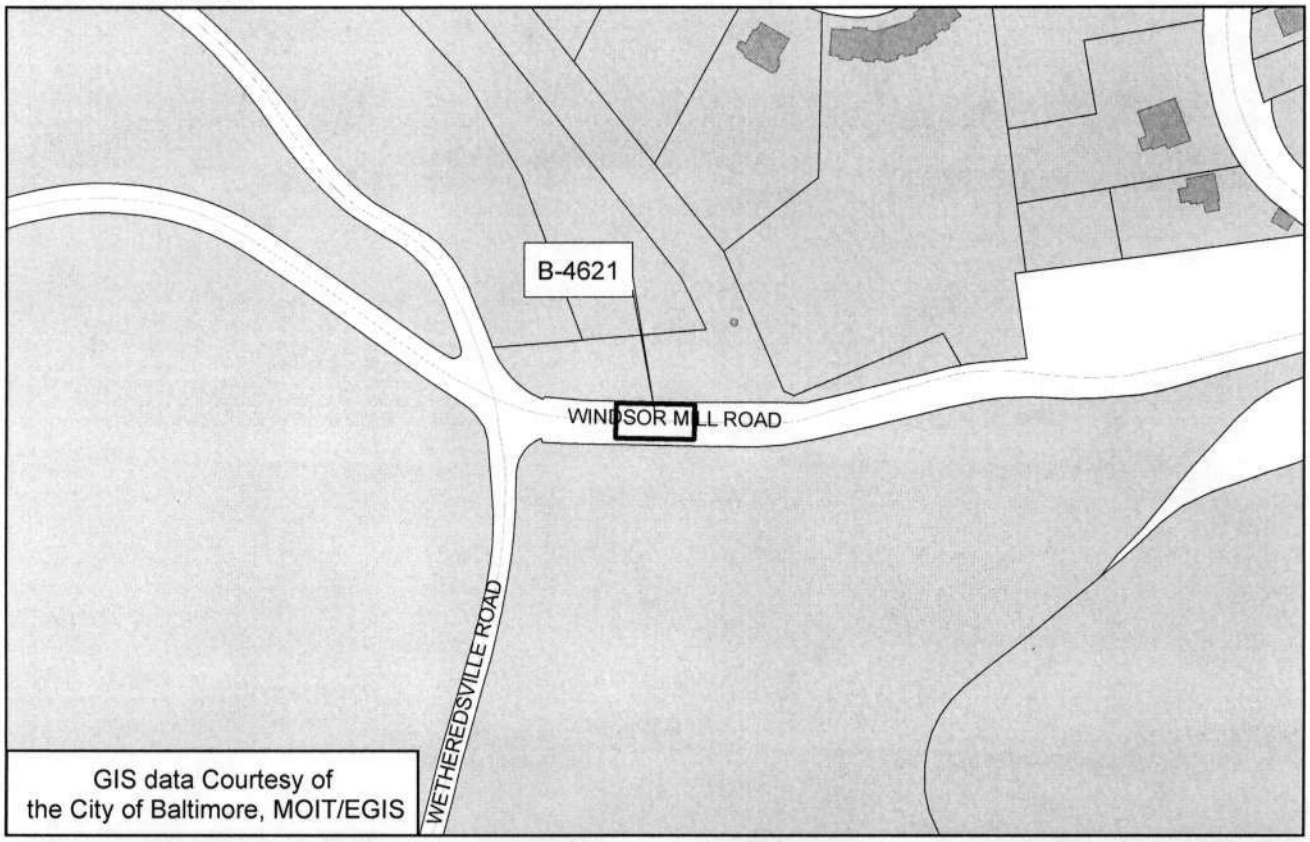
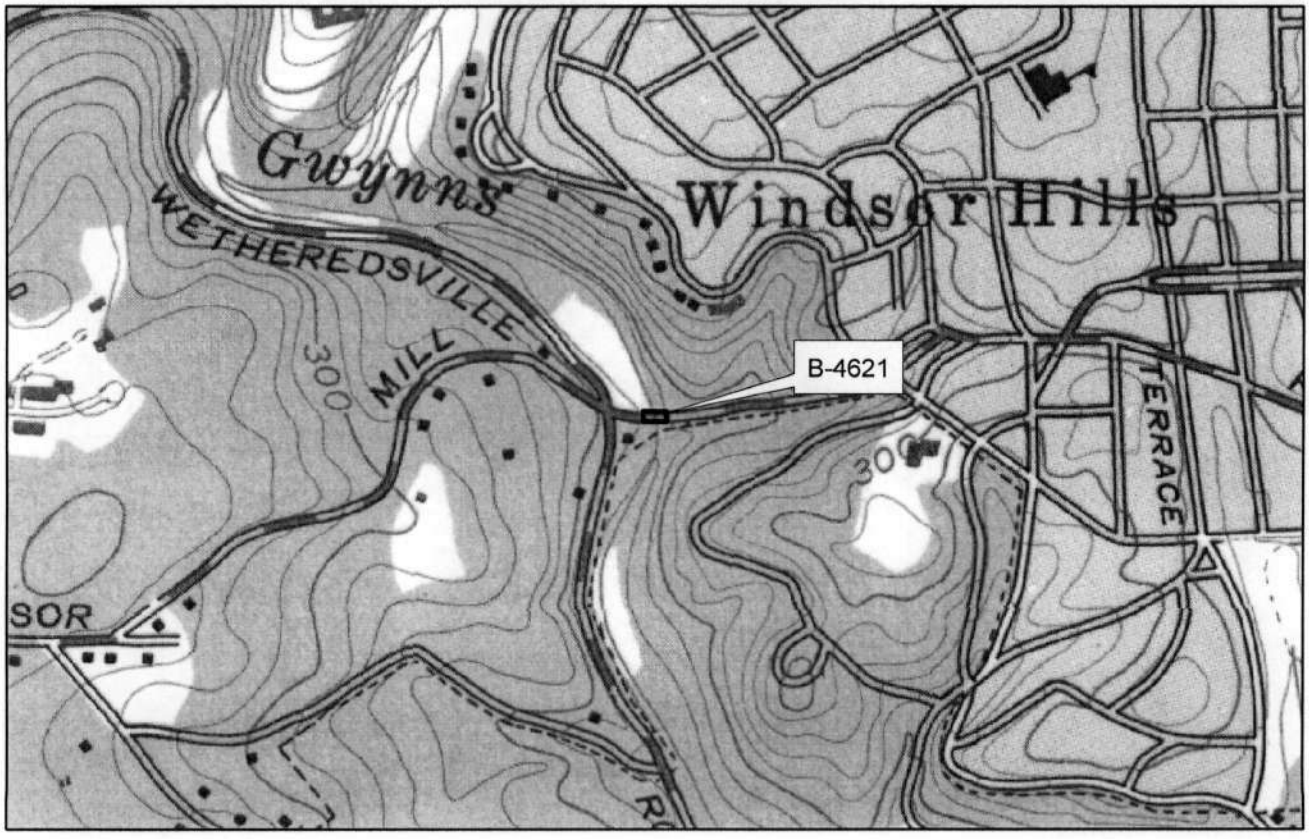
Bridge BC 2211
Windsor Mill Road over Gwynns Falls
Baltimore City
Baltimore West Quad






BUILT UNDER THE
SUPERVISION OF DELTA COUNTY
COMMISSIONERS.
PLEASANT HUNTER.
ROBERT S. CORSE.
ISAAC CROWTHER SR.
DESIGNED BY W.BOLLMAN.
W.H.MILLMEY. BUILDER.
1877.

Inventory # B-4621

Name 2211 - WINDSOR MILL ROAD OVER GWYNNS FALLS
County/State BALTIMORE CITY / MARYLAND
Name of Photographer TIM SCHOEN
Date 1/95

Location of Negative SHA

Description ID PLATE ON PEDESTAL NEAR EAST END OF SOUTH PARAPET

Number 1 ~~19~~ of ~~25~~ 6

Inventory # B-4621

Name 2211 - WINDSOR MILL ROAD OVER GWYNNS FALLS
County/State BALTIMORE CITY / MARYLAND
Name of Photographer TIM SCHOEN
Date 1/95

Location of Negative SHA

Description VOID

Number ~~15~~ 2 of ~~25~~ 6

Inventory # B-4621

Name 2211-WINDSOR MILL ROADOVER GWYNNS FALLS
County/State BALTIMORE CITY/MARYLAND
Name of Photographer TIM SCHOEN
Date 1/95

Location of Negative SHA

Description EAST APPROACH

Number 16 of 256


SPEED LIMIT
25

Inventory # B-4621

Name 2211- WINDSOR MILL ROAD OVER GWYNNS FALLS
County/State BALTIMORE CITY/MARYLAND
Name of Photographer TIM SCHOEN
Date 1/95

Location of Negative SHA

Description WEST APPROACH

Number 4 ~~17~~ of ~~25~~ 6

Inventory # B-4621

Name 2211- WINDSOR MILL ROAD OVER GWYNNS FALLS
County/State BALTIMORE CITY / MARYLAND
Name of Photographer TIM SCHOEN
Date 1/95

Location of Negative SHA

Description SOUTH ELEVATION

Number 5 ~~10~~ of ~~25~~ 6

Inventory # B-4624

Name 2211-WINDSOR MILL ROAD OVER GWYNNS FALLS
County/State BALTIMORE CITY/MARYLAND
Name of Photographer JIM SCHOEN
Date 1/95

Location of Negative SHA NO NEG

Description NORTH ELEVATION

Number 6 of 25 6