Maryland Historical Trust

Maryland Inventory of Historic Properties number: M:16-29

Name: M186/ WHITES FERRY RD. OVER BROAD RUN

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
HISTORIC BRIDGE INVENTORY
MARYLAND STATE HIGHWAY ADMINISTRATION/
MARYLAND HISTORICAL TRUST

MHT No. M:16-29

SHA Bridge No. M 186 Bridge name Whites Ferry Road over Broad Run

LOCATION:
Street/Road name and number [facility carried] Whites Ferry Road

City/town Poolesville Vicinity X

County Montgomery

This bridge projects over: Road____ Railway_____ Water X Land ____

Ownership: State _____ County X 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_____ Concrete Slab X Concrete Beam ___ Rigid Frame _____
Other _____ Type Name _____

DESCRIPTION:

Setting: Urban _____ **Small town** _____ **Rural** ___X_____

Describe Setting: Bridge M186 carries Whites Ferry Road over Broad Run. The road runs in an east-west direction, connecting the town of Poolesville with the village of Martinsburg (Maryland), and with Whites Ferry on the Potomac River. Broad Run flows north to south and drains directly into the Potomac River between Seneca Creek and the Monocacy River. The area is still undeveloped.

Describe Superstructure and Substructure:

Bridge M186 is a skewed two span concrete slab bridge built in 1931. The span lengths are 20' for a total of 40' and the clear roadway width is 27' between the curbing. The abutments are approximately 1'-4" in width and the pier is a 2' wide solid shaft. The superstructure, consisting of the slab, the roadway and the parapets, is in good condition. Between April 1993 and February 1995 all of the bridge surfaces were parged. The bituminous roadway surface is in good condition with fine longitudinal cracks at the approaches. The open concrete parapet has elevated end blocks, an articulated coping and a pierced railing with a 16 open space to one expansion joint ratio. The parapets on both sides of the bridge are not load-carrying members.

The substructure consists of the abutments, the wingwalls and the pier. The abutments are 1'-3" wide and are in good condition. The northeast wingwall is perpendicular with the roadway centerline, while the northwest, southwest, and southeast wingwalls are flared. The pier nose is pointed on its north side. The abutments, wingwalls and piers are decorated with molded chamfering.

Discuss Major Alterations:

A standard w-beam guardrail was attached to the bridge end blocks at an unknown date. Between April 1993 and February 1995 all of the bridge surfaces were parged.

HISTORY:

WHEN was the bridge built: 1931

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?

By 1930, Maryland's primary and secondary roads and bridges had become inadequate to the huge freight trucks and volume of passenger cars in use.

WHO was the designer?

State Roads Commission

WHO was the builder?

State Roads Commission

WHY was the bridge altered?

The bridge was altered in an effort to extend the life of the bridge.

Was this bridge built as part of an organized bridge-building campaign?

Yes, post World War I improvements to primary and secondary roads.

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 1903-1904 with the formation of the Joint Committee on Concrete and Reinforced Concrete of the American Society of Civil Engineers.

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 Commissions 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 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 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 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 way 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.

The creation of standard plans and a description of their use was first announced in the 1912-15 Reports of the State Roads Commission whereby bridges spanning up to 36 feet were to use standardized designs.

Published on a single sheet, the 1912 Standard Plans included those structures that were amenable to such an approach: slab spans, (deck) girder spans, box culverts, box bridges, abutments, and piers (State Roads Commission 1912). Slab spans, with lengths of 6 to 16 feet in two foot increments, featured a solid parapet that was integrated into the slab, with a roadway of 22 feet.

In the Report for the years 1916-1919, a revision of the standard plans was noted:

> During the four years covered by this report, it has been found necessary to revise our standard plans for culverts and bridges, to take care of the increased tonnage which they have been forced to carry. Army cantonments...increased their operations several hundred per cent, and the brunt of the enormous truck traffic resulting therefrom, was borne by the State Roads of Maryland. In addition to these war activities, freight motor lines from Baltimore to Washington, Philadelphia, New York, and various points throughout Maryland, and the weight of many of these trucks when loaded, was in excess of the loads for which our early bridges were designed (State Roads Commission 1920:56).

Published on separate sheets, the new standard plans (State Roads Commission 1919) for slab bridges reveal that the major changes was an increase in roadway width from 22 feet to 24 feet and a redesign of the reinforcement. The slab spans continued to feature solid parapets integrated into the span. The range of span lengths remained 6 to 16 feet, but the next year (1920) witnessed the issue of a supplemental plan for a 20 foot long slab span (State Roads Commission 1920).

In 1930, the roadway width for all standard plan bridges was increased to 27 feet in order to accommodate the increasing demands of automobile and truck traffic (State Roads Commission 1930). The range of span lengths remained the same, but there were some changes designed to increase the load bearing capacities. The reinforcing bars increased in thickness. Visually, the 1930 design can be distinguished from its predecessors by the pierced concrete railing that was introduced at this time.

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?
Although built during the post World War I construction phase, this bridge did not greatly effect the area surrounding it. The structure did not increase settlement or industry.

Is the bridge located in an area which may be eligible for historic designation and would the bridge add to or detract from the 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?
No, this bridge was built to State standardized bridge plans.

Does the bridge retain integrity of important elements described in Context Addendum?
Yes, this structure retains the integrity of its original design.

Is the bridge a significant example of the work of a manufacturer, designer, and/or engineer?
No, this bridge is not a significant example of the work of the State Roads Commission. This is an undistinguished bridge built according to standardized 1930 State bridge plans.

Should the bridge be given further study before an evaluation of its significance is made?
No further evaluation is necessary to determine National Register significance. Although it reflects the State's post-war construction needs of an expanded secondary roads system, this bridge does not demonstrate any additional distinction or significance.

M. 16-29

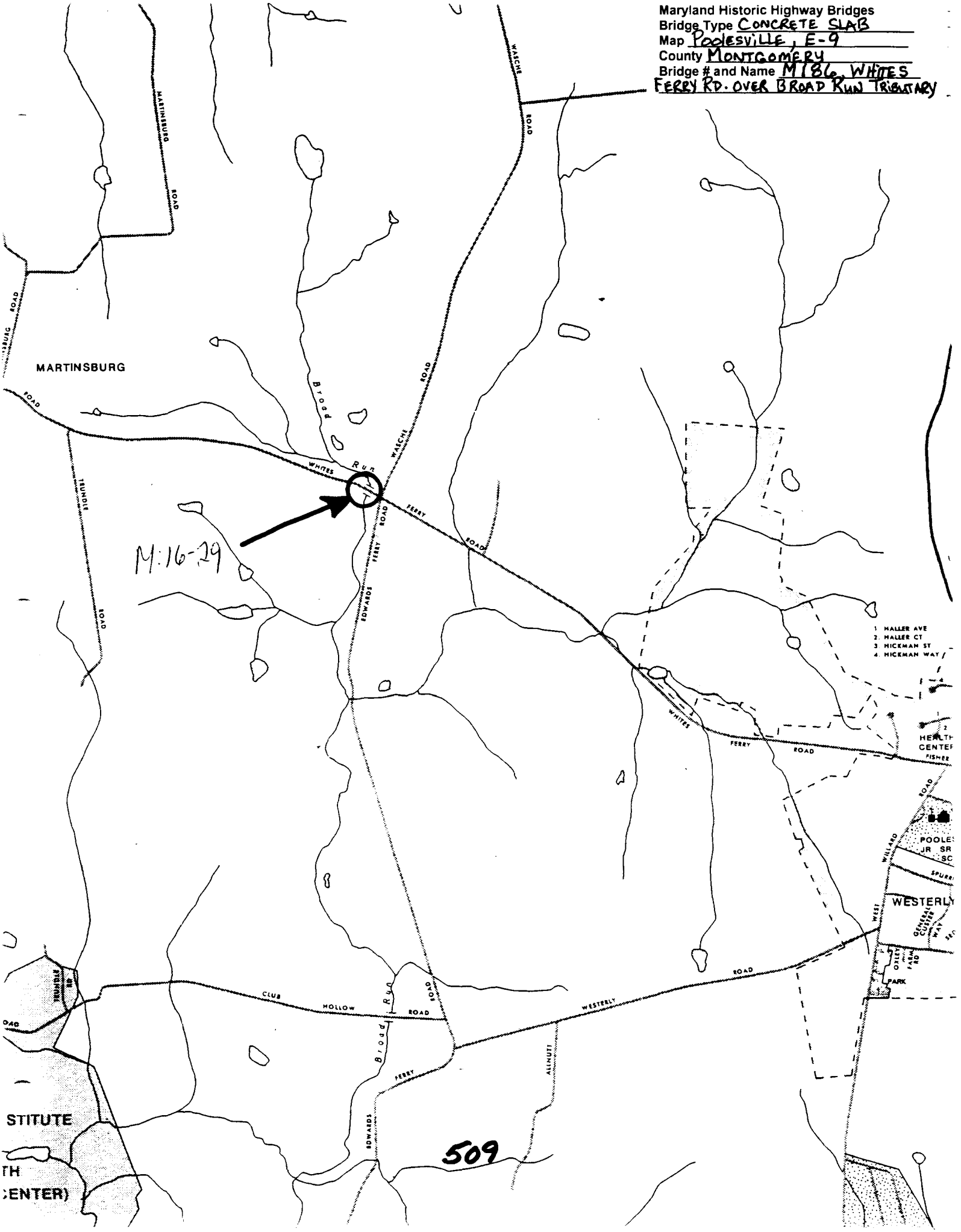
BIBLIOGRAPHY:

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

SURVEYOR:

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

Maryland Historic Highway Bridges
Bridge Type CONCRETE SLAB
Map POOLESVILLE, E-9
County MONTGOMERY
Bridge # and Name M186, WHITES FERRY RD. OVER BROAD RUN TRIBUTARY



WEIGHT
LIMIT
11
TONS

Inventory # M-16-29

Name M16 - WHITES FERRY RD OVER BROAD RUN
County/State MONTGOMERY / MD
Name of Photographer FRANK JULIANO
Date 2/95

Location of Negative SHA

Description APPROACH WEST

Number 1 ~~29~~ of ~~36~~ 4

Inventory # M:16-29

Name M186 - WHITES FERRY RD OVER BROAD RUN
County/State MONTGOMERY / MD
Name of Photographer FRANK JULIANO
Date 2/95

Location of Negative SHA

Description APPROACH EAST

Number 2 ~~25~~ of ~~36~~ 4

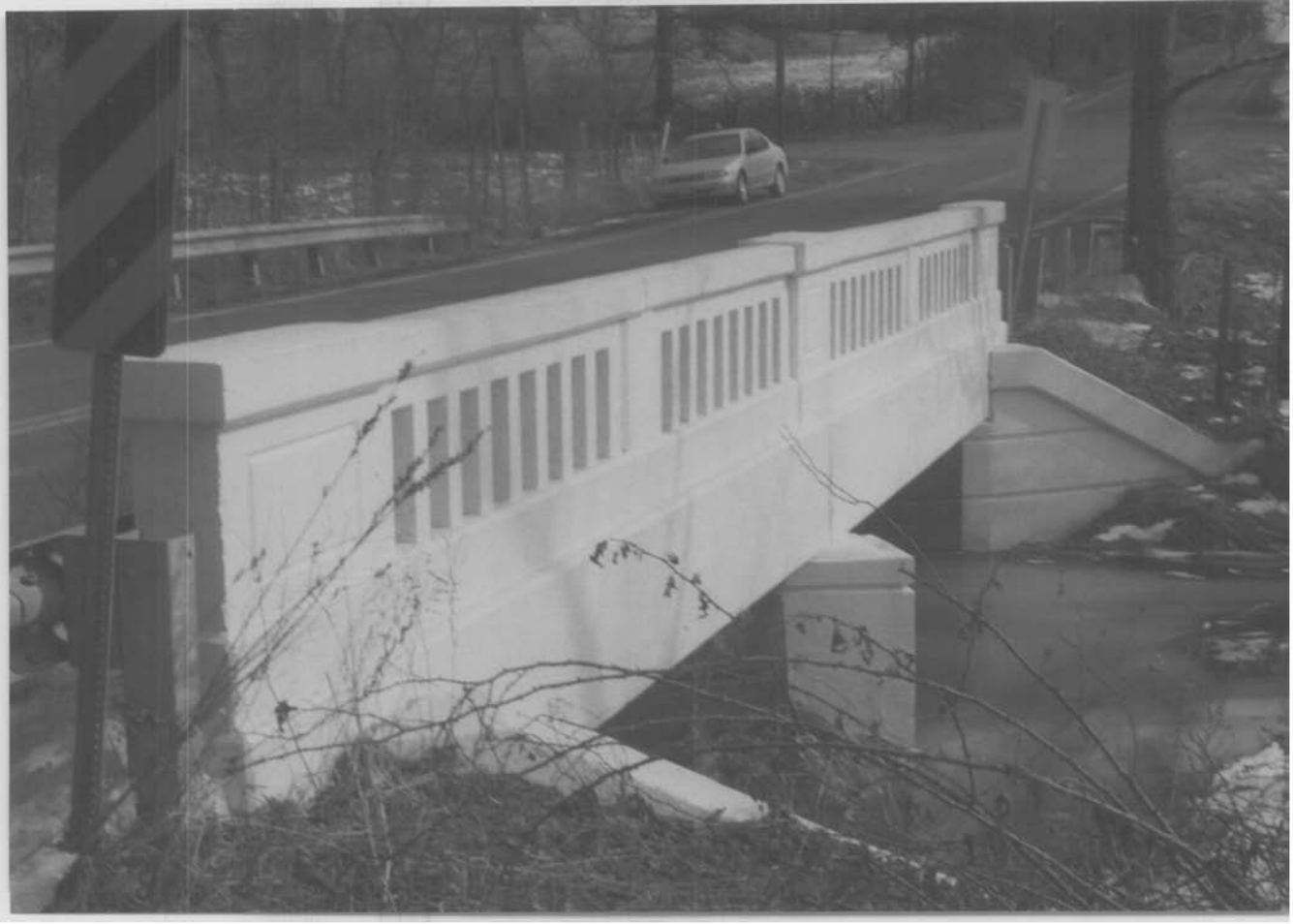
Inventory # M:16-29

Name MD 186 - WHITES FERRY RD OVER BROAD RUN
County/State MONTGOMERY / MD
Name of Photographer FRANK JULIANO
Date 2/95

Location of Negative SHA

Description ELEVATION SOUTH

Number 3 of 4



Inventory # M:16-29

Name MD186 - WHITES FERRY RD OVER BROAD RUN
County/State MONTGOMERY / MD
Name of Photographer FRANK JULIANO
Date 2/95

Location of Negative SHA

Description ELEVATION NORTH

Number ~~27~~ 4 of ~~29~~ 4