

Maryland Historical Trust

Maryland Inventory of Historic Properties number: PA-480

Name: 17020/MD 213 OVER GRAVEL 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 <input checked="" type="checkbox"/> X <input type="checkbox"/> | Eligibility Not Recommended <input type="checkbox"/> |
| Criteria: <input type="checkbox"/> A <input type="checkbox"/> B <input type="checkbox"/> C <input type="checkbox"/> D | Considerations: <input type="checkbox"/> A <input type="checkbox"/> B <input type="checkbox"/> C <input type="checkbox"/> D <input type="checkbox"/> E <input type="checkbox"/> F <input type="checkbox"/> G <input type="checkbox"/> 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. QA-480

SHA Bridge No. 17020 Bridge name Gravel Run

LOCATION:

Street/Road name and number [facility carried] MD 213

City/town Centerville

Vicinity _____

County Queen Anne's

This bridge projects over: Road _____ Railway _____ Water X Land _____

Ownership: State X County _____ 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 _____ 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** X **Rural** _____

Describe Setting: Bridge No. 17020 carries MD 213 over Gravel Run at the north end of the town of Centerville. It is now surrounded by new development including a pizza shop, a Hardee's restaurant, and an abandoned gas station. It was once the site of a mill. The remnants of a mill pond lie just east of the bridge. The channel connecting the millpond to the bridge is made of stone and is apparently much older than the current bridge. The stream flows from east to west.

Describe Superstructure and Substructure:

The existing structure, built in 1934, is a one span concrete slab bridge supported by concrete abutments on piles. The span measures 20', and the total bridge length is 23'. The concrete slab is 1'-9 3/4" thick at the curb to a maximum of 2'- 0 1/4" thick at the center of the roadway. There is a 1" minimum monolithic wearing surface with 5" clear to the reinforcement. The bridge features linear decoration on the abutments and wingwalls and curving pierced concrete parapets designed to reflect the components of the bridge. The central portion corresponds to the superstructure, while the curved end sections encompass the wingwalls. They are integral with the bridge. New sidewalks have recently been built on the insides of the deck. The concrete abutments and flared wingwalls are part of the original structure.

Discuss Major Alterations:

SHA files indicate that the sidewalks were rebuilt in 1991; the existing parapets are replacements built in 1993.

HISTORY:

WHEN was the bridge built 1934

This date is: Actual X Estimated _____

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

Other (specify) date is engraved into the bridge

WHY was the bridge built?

The need for a more efficient transportation network and increased load capacity in the decades following World War I.

WHO was the designer?

State Highway Administration

WHO was the builder?

State Highway Administration

WHY was the bridge altered?

This bridge has not been altered.

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

As part of an effort by the State to increase load capacity on secondary roads during the 1930's.

SURVEYOR/HISTORIAN ANALYSIS:

A - Events _____ B- Person _____
C- Engineering/architectural character _____ X

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.

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).

The 1924 standard plans remained in effect until 1930, when 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 load bearing capacities. The reinforcing bars were increased in thickness. Visually, the 1930 design can be distinguished from its predecessors by the pierced concrete railing that was introduced at this time.

Three years later, in 1933, a new set of standard plans was introduced (State Roads Commission 1933). This time, their preparation was not announced in the Report; new standard plans were by this time nothing special - they had indeed become standard. Once again accommodating the ever-increasing demands of traffic, the roadway width was increased, this time to 30 feet. The slab span's reinforcing bars remained the same diameter but were placed closer together to achieve still more load bearing capacity.

A system of standard nomenclature for plans was introduced at this time: span type was indicated by a two-letter designator followed by span length and the year of the plan. Thus, CS-18-33 indicates an 18 foot concrete slab of the 1933 standard plan design; CG-36-33 was a 36 foot concrete girder (T-beam) of the same year. The inclusion of the year designator gave ready access to design details for each bridge and indicates that the State Roads Commission anticipated revisions to standard plans.

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?

The replacement of this bridge, part of a highway improvement program which enabled MD 213, to handle more traffic, brought increased numbers of travellers to the Centerville area which helped to stimulate the growth of businesses such as gas stations and restaurants in the vicinity of the bridge.

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?

Yes, the bridge is located on the north end of Centerville, which has definite potential for historic designation.

Is the bridge a significant example of its type?

Yes, the unusual design of the parapets, makes this bridge a significant example of its type.

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

Integrity of the character defining element appears good.

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

Should the bridge be given further study before an evaluation of its significance is made?
Further study is necessary to determine if Centreville is eligible for the National Register as a historic district, if the bridge contributes to that district, or if the bridge is individually eligible for the National Register.

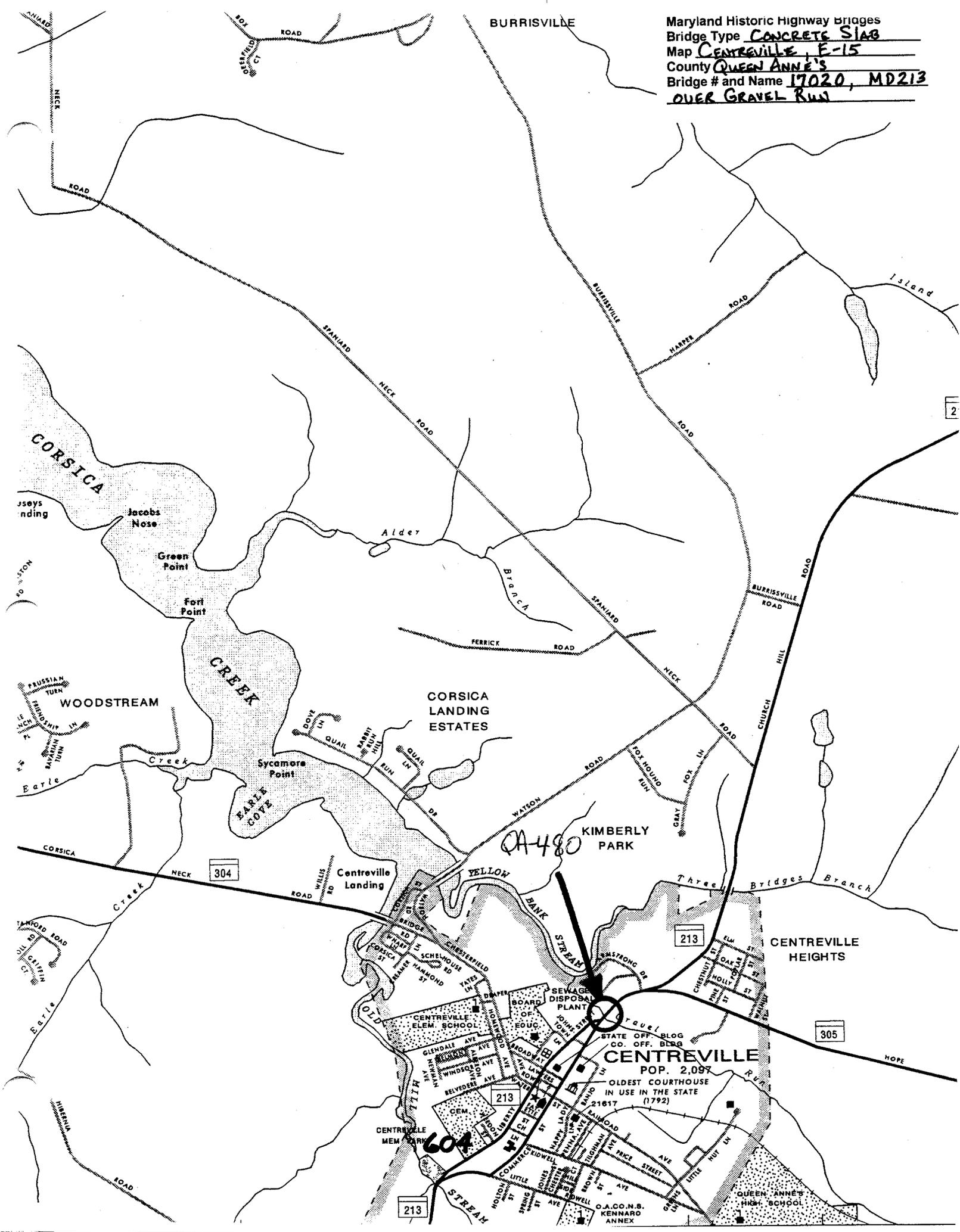
BIBLIOGRAPHY:

County inspection/bridge files SHA inspection/bridge files X
Other (list):
Lake, Griffin, and Stevenson, 1877 Atlases and other Early Maps of the Eastern Shore of Maryland, Philadelphia, 1877.

SURVEYOR:

Date bridge recorded 8/11/95
Name of surveyor Daniel Moriarty
Organization/Address P.A.C. Spero & Company, 40 W. Chesapeake Avenue, Suite 412, Baltimore, Maryland 21204
Phone number 410-296-1635 FAX number 410-296-1670

Maryland Historic Highway Bridges
 Bridge Type CONCRETE SLAB
 Map CENTREVILLE, F-15
 County QUEEN ANNE'S
 Bridge # and Name 17020, MD213
OVER GRAVEL RUN





GA-480

QUEEN ANNES County

MATT HICKSON

3-16-95

~~MARYLAND SHPO~~ SHA

BRIDGE 17020, LOOKING SW

1 OF 5

A black and white photograph of a concrete pillar, likely a marker or monument. The pillar is rectangular and has the year "1934" engraved on its front face. The engraving is in a simple, sans-serif font. The pillar is set against a light-colored background, possibly a wall or a fence. There are some dark spots and shadows on the pillar, suggesting it is outdoors. The overall image has a high-contrast, grainy quality.

1934

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QUEEN ANNES COUNTY

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BRIDGE 17020, IMPRINT ON UPSIDEAM PARAPET

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QUEEN ANNES COUNTY

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3-10-95

MARYLAND SHPO SH/A

BRIDGE 17020, LOOKING NE

3 OF 5



GA-480

QUEEN ANNES COUNTY

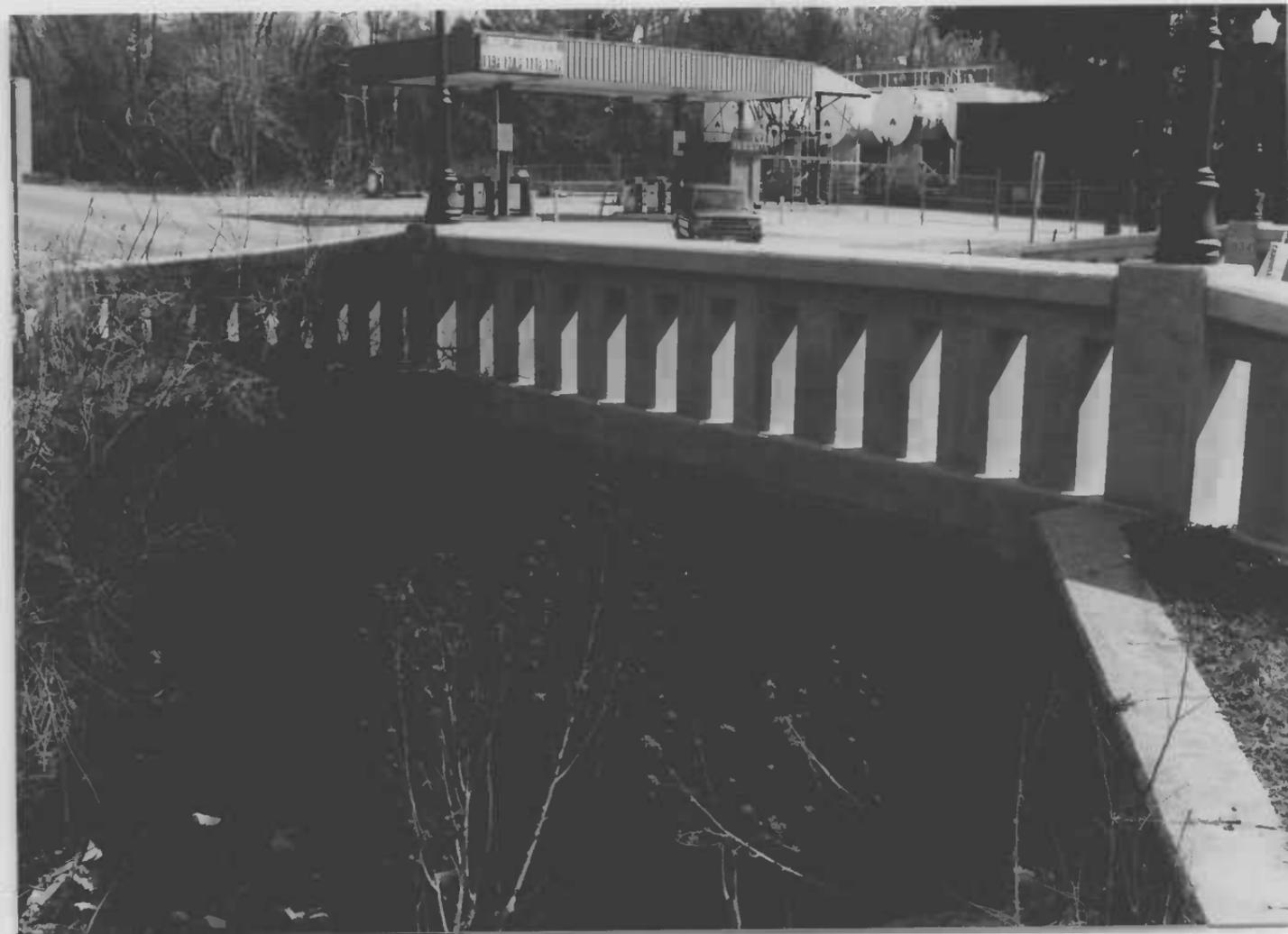
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MARYLAND SH20 S HA

BRIDGE 17020, LOOKING DOWNSTREAM (NW)

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~~MARLAND~~ SHPO = HIA

BRIDGE 17020, LOOKING UPSTREAM (SE)

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