Maryland Historical Trust

Maryland Inventory of Historic Properties number: CH-385

Name: CH 10/Aquasco Road over Lieanor Crk

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. CH-385
HISTORIC BRIDGE INVENTORY
MARYLAND STATE HIGHWAY ADMINISTRATION/
MARYLAND HISTORICAL TRUST

SHA Bridge No. CH 10 **Bridge name** Aquasco Road over Swanson Creek

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

City/town Aquasco **Vicinity** X

County Charles

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

Ownership: State ___ **County** X **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 ___ **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** ___

CH-325

DESCRIPTION:

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

Describe Setting:

Bridge No. CH 10 carries Aquasco Road over Swanson Creek in Charles County. Aquasco Road runs east-west, while Swanson Creek flows north to south. The area surrounding the bridge is sparsely developed approximately one half mile to the east with an enclave of nineteenth century houses and outbuildings and forested land to the west.

Describe superstructure and substructure:

Bridge No. CH 10 over Swanson Creek in Charles County is a skewed two span standard concrete slab bridge built in 1934. The span lengths are 17' with an overall length of 40'-6" and a clear roadway width 27' curb to curb, 30'-6" out to out. The superstructure, consisting of the slab, parapets and roadway, is in a fair condition. The underside of slab No. 1 has transverse and longitudinal cracking at the pier, while slab No. 2 has random hairline longitudinal cracks and efflorescence. Both 18" concrete spans are solid. The 5" bituminous riding surface has many patches and spalled areas, occurring in greater frequency at the curbs and the roadway approaches. The open railing parapets with a ratio of 18 open space to 1 expansion joint have an articulated coping and elevated end blocks. The parapets have several cracks. The bridge is posted at 22,000 lbs for single units and 40,000 lbs for combination units.

The substructure consists of the abutments, wingwalls and pier. The concrete abutments have molded chamfering and are cracked. The stream runs along the west abutment with some signs of scour. The wingwalls are also decorated with molded chamfering. The northeast and southwest wingwalls are flared at a 80 degree angle to the roadway centerline, while the northwest and southeast wingwalls are flared at a 45 degree angle to the roadway centerline. The pier is hollow, transverse cracked, scoured and seriously spalled. A 1989 inspection suggests that it be replaced, however no repairs have been made.

Discuss Major Alterations:

No major alterations have been made to this structure.

HISTORY:

When was the bridge built: 1934

This date is: Actual X **Estimated** _____

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

WHY was the bridge built?

By 1930, Maryland's primary road system had become inadequate to the huge freight trucks and volume of passenger cars in use. Many major improvement projects occurred in the 1930's.

WHO was the designer?

State Roads Commission

WHO was the builder?

State Roads Commission

WHY was the bridge altered?

This bridge has not had a major alteration.

WAS this bridge built as part of an organized bridge-building campaign?
Yes, as part of a 1930's plan to improve 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?
No, 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 is a typical example of a standardized concrete slab bridge.

Does the bridge retain integrity of important elements described in the Context Addendum?
No, this structure does not retain the integrity of its original design because its character defining elements are in a deteriorated state.

Is the bridge a significant example of work of a manufacturer, designer and/or engineer?
No, this is an undistinguished bridge built from standardized state plans.

Should the bridge be given further study before an evaluation of significance is made?
No, This structure should not be given further study. 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.

CH-385

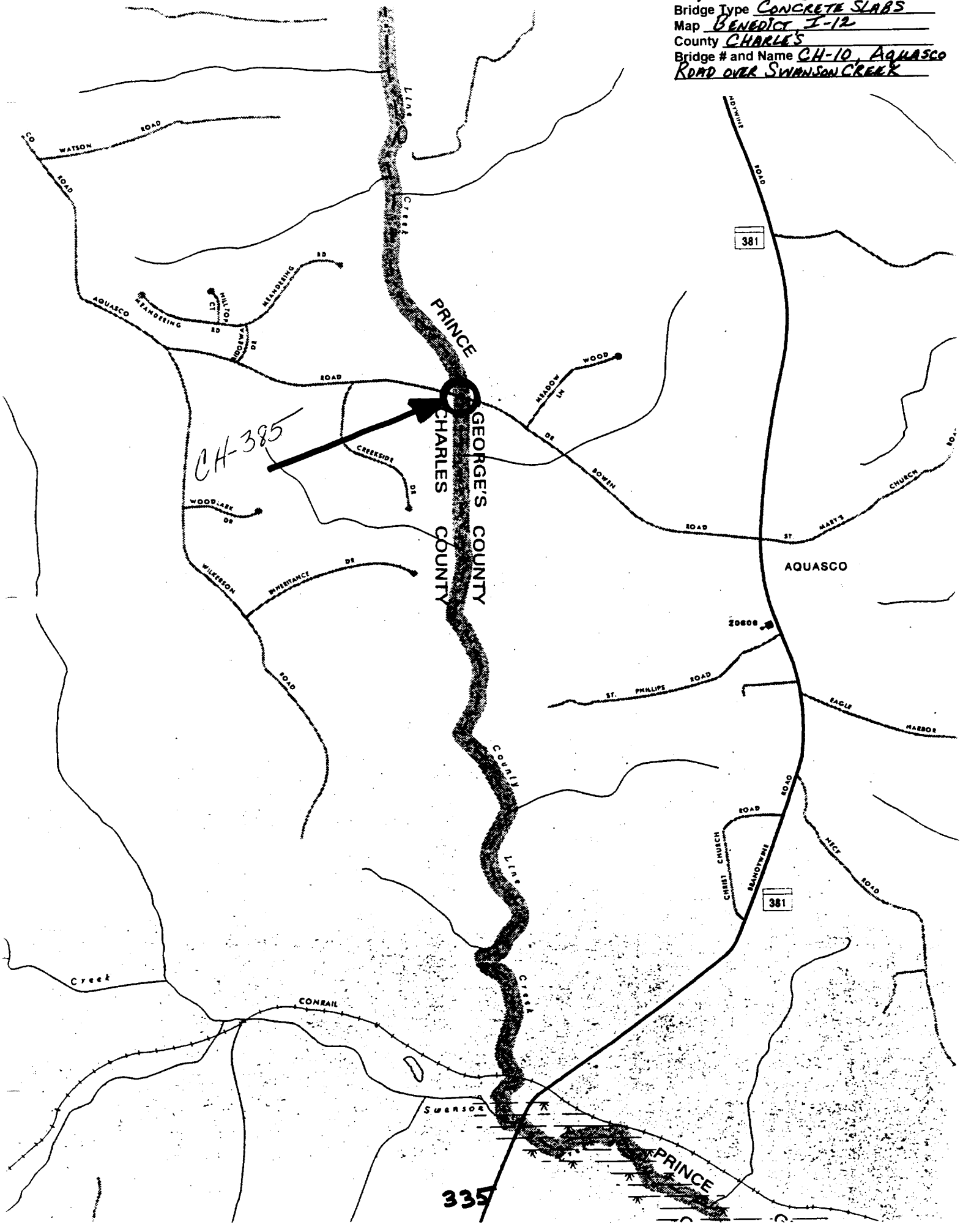
BIBLIOGRAPHY:

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

SURVEYOR/SURVEY INFORMATION:

Date bridge recorded 8/11/95
Name of surveyor Timothy J. Tamburrino
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 SLABS
Map BENEDICT I-12
County CHARLES
Bridge # and Name CH-10, AQUASCO ROAD OVER SWANSON CREEK




RESTRICTED
BRIDGE
SPEED
LIMIT
25

CH 385

1 OF 5

BRIDGE # CH 10
CHARLES COUNTY
D. BHAUMIK
2-3-95

~~MARYLAND SHPO~~ SHA

AQUIASCO ROAD OVER SWANSON CREEK

LOOKING EAST ON AQUIASCO ROAD


CHARLES
COUNTY
RESTRICTED
BRIDGE
WEIGHT
LIMIT
SPEED
LIMIT
25

CH385

BRIDGE # CH 10
~~CHARLES~~ COUNTY
D. BHAUMIK
2-3-95

~~MARYLAND SHPO~~ SHA

AQUIASCO ROAD OVER SWANSON CREEK

LOOKING WEST ON AQUIASCO ROAD

3 OF 5

CH 385

BRIDGE # CH 10
CHARLES COUNTY
D. BHAUMIK
2-3-95

~~MARYLAND SHPO~~ SHA

AQUIASCO ROAD OVER SWANSON CREEK

LOOKING SOUTH (~~UPSTREAM FACE~~ DOWNSTREAM)

CH 385
BRIDGE # CH 10
CHARLES COUNTY

D. BHAUMIK
2-3-95

~~MARYLAND SHPO~~ SHA

AQUIASCO ROAD OVER SWANSON CREEK
LOOKING NORTH (~~DOWNSTREAM FACE~~ UPSTREAM FACE)


CHARLES
COUNTY

5 OF 5

C# 385
BRIDGE # CH 10
CHARLES COUNTY

D. BHAUMIK
2-3-95

MARYLAND ~~SHPO~~ SHA

AQUASCO ROAD OVER SWANSON CREEK

LOOKING NORTH (DOWNSTREAM FACE)