

Maryland Historical Trust

Maryland Inventory of Historic Properties number: WO-481

Name: WO-801 / BIG MILL Rd. OVER BIG MILL POND

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>

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MARYLAND INVENTORY OF HISTORIC BRIDGES  
HISTORIC BRIDGE INVENTORY  
MARYLAND STATE HIGHWAY ADMINISTRATION/  
MARYLAND HISTORICAL TRUST

MHT No. WO-481

SHA Bridge No. WO-801 Bridge name Big Mill Road over Big Mill Pond

**LOCATION:**

Street/Road name and number [facility carried] Big Mill Road

City/town Welbourne Vicinity X

County Worcester

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 \_\_\_\_\_ 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 \_\_\_\_\_ Concrete Beam \_\_\_\_\_ Rigid Frame X

Other \_\_\_\_\_ Type Name \_\_\_\_\_

**DESCRIPTION:**

**Describe Setting:**

Bridge WO-801 carries Big Mill Road over Big Mill Pond near Welbourne, Maryland. Big Mill Road runs in a generally east-west direction at this location; Big Mill Pond flows generally north-south. The area surrounding the bridge is relatively rural and undeveloped, with trees and farmland all around the bridge.

**Describe Superstructure and Substructure:**

Bridge WO-801 is a single span concrete rigid frame measuring 20 feet in total length. The abutments and wingwalls are reinforced concrete with flared wingwalls. A concrete stream bed integral with the bridge completes the structure creating a box-culvert-like structure. The wingwalls on the downstream side of the bridge are lined with rock scour protection and the wingwalls on both the upstream and downstream sides are lined by sandbags to reduce erosion and scour. The downstream side of the bridge has a concrete parapet and a guiderail, while the upstream side has only a guiderail. The roadway supports two lanes of traffic.

**Discuss Major Alterations:**

The concrete parapet on the downstream side is part of the original construction, although it has been repaired over the years. A concrete parapet on the upstream side was removed at an unknown date. The safety guiderail was attached to both sides of the bridge in 1981 as part of a Federal Aid Safety Project. Also in 1981, an asphalt overlay was added to the bridge.

**HISTORY:**

**WHEN was bridge built (actual date or date range)** probably c.1930

**This date is:** Actual \_\_\_\_\_ Estimated X \_\_\_\_\_

**Source of date:** Plaque \_\_\_\_\_ Design plans \_\_\_\_\_ County bridge files/inspection form X \_\_\_\_\_

**Other (specify)** \_\_\_\_\_

County files suggest a construction date for this bridge of 1919. This is exceedingly unlikely, for Condit (1968:259) notes that the first rigid frame bridges, designed by Brazilian Emilio Baumgart, were not erected until about 1920. He further notes that the design was introduced into the United States by Arthur G. Hayden, designing engineering of the Westchester County, New York, Parks Commission, at bridges he designed for the Bronx River and Cross County parkways between 1922 and 1930. Spero (1994:161) states that the bridge was actually either reconstructed or rebuilt around 1930. This is a much more plausible date of construction, although even it seems a little early compared to the construction dates of Maryland's other rigid frame bridges.

**WHY was bridge built?** To provide a reliable crossing of Big Mill Road over Big Mill Pond to meet local transportation needs.

**WHO was the designer** \_\_\_\_\_

**WHO was the builder** \_\_\_\_\_

**WHY was bridge altered?** [check N/A \_\_\_\_\_ if not applicable] structural needs/safety \_\_\_\_\_

Was bridge built as part of organized bridge-building campaign? Yes X No \_\_\_\_\_

This bridge was built by Worcester County as part of the Good Roads Movement.

**SURVEYOR/HISTORIAN ANALYSIS:**

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

- A - Events \_\_\_\_\_
- B- Person \_\_\_\_\_
- C- Engineering/architectural character \_\_\_\_\_

Was bridge constructed in response to significant events in Maryland or local history? No\_ Yes X

If yes, what event?

This bridge was built during the 1930s as part of the Good Roads Movement during the period.

When the bridge was built and/or given a major alteration, did it have a significant impact on the growth & development of the area? No \_\_\_\_\_ Yes X

By providing a reliable crossing, as all concrete bridges did, this bridge promoted small-scale residential, commercial, agricultural, and industrial development along Big Mill Road and other thoroughfares that fed into it.

Is the bridge located in an area which may be eligible for historic designation? No X Yes \_\_\_\_\_

Would the bridge add to \_\_\_\_\_ or detract from \_\_\_\_\_ historic & visual character of the possible district?

Is the bridge a significant example of its type? No X Yes \_\_\_\_\_

Concrete bridges are the largest component of Maryland's historic bridges. Their numbers reflect how quickly they became popular after their introduction to the state and the country at the opening of the twentieth century. Many in Maryland are purely functional structures, but their plastic nature made them amenable to graceful curves and ornamental parapets that reflected the influence of the City Beautiful movement during the first part of the twentieth century. The versatility and strength of reinforced concrete bridges, along with their plasticity, made them the preferred choice for bridges by state and county highway departments in Maryland and throughout the country in the 1910s. The standard plans of the State Roads Commission of the teens, twenties, and thirties made their use almost universal during that period.

While concrete bridges as a whole are very common in Maryland, reinforced concrete rigid frame bridges make up one of the smallest groups of historic bridge types in the state. There are probably only about a dozen such structures standing in the state under county or state control that were erected prior to 1945. The rigid frame bridge, unlike other reinforced concrete spans, is monolithic. It is characterized by a superstructure and substructure, including abutments, designed as a continuous unit. (Concrete balustrades, cast afterwards, are not part of the monolithic design.) The rigid frame was an important engineering advance for reinforced concrete bridges. It was developed by German engineers and Brazilian Emilio Baumgart around 1920, and introduced to the United States primarily through the efforts of New York engineer Arthur G. Hayden in 1922-1923.

Concrete rigid frame bridges became increasingly popular in the 1930s and 1940s. It was during this period that Maryland's few examples of the type were erected. These include bridges 1030 (1937, 1992) in Allegany County; BC-1406 (1938) and BC-3402 (1940) in Baltimore City; 5013 (1936) in Caroline County (1936); 6031 (1934) in Carroll County ; 10058 (1941) in Frederick County; 11018 (1937) in Garrett County; 13032 (1939) in Howard County; 21013 (1941), 21015 (1936), and 21016 (1936) in Washington County; and WO-801 (c.1930) in Worcester County. These bridges generally have one or two spans of between 30 and 60 feet; the

longest, BC-1406, measures 68 feet. With the exception of WO-801, the history of which remains clouded, they were built by the state or the city of Baltimore.

This bridge falls within the 1910-1940 period of significance for concrete bridges, during which reinforced concrete bridge construction was increasingly standardized in the state and particular subtypes, including the rigid frame, were introduced to the state road network.

**Does bridge retain integrity [in terms of National Register] of important elements described in Context Addendum? No X Yes \_\_\_\_\_**

The bridge is in greatly deteriorated condition. Its upstream parapet has been removed and replaced by a modern metal guiderail. A prominent metal guiderail is also affixed to both the inside and outside of the crumbling concrete parapet at the downstream side of the structure.

**Is bridge a significant example of work of manufacturer, designer and/or engineer? No X Yes \_\_\_\_\_**

**Should bridge be given further study before significance analysis is made? No X Yes \_\_\_\_\_**

This bridge has lost its integrity and is therefore not eligible for Register listing. Its exact date of construction is unclear, although it almost certainly was not built until the 1930s, when Maryland's small number of other concrete rigid frame bridges were erected. Further research might uncover its actual date of construction, although research in county and state bridge files to date has not been able to do so.

**BIBLIOGRAPHY:**

Bridge inspection reports and files of the Worcester County engineer's office.

Condit, Carl. *American Building*. Chicago: University of Chicago Press, 1968.

County survey files of the Maryland Historical Trust.

P.A.C. Spero & Company and Louis Berger & Associates, Inc. *Historic Bridges in Maryland: Historic Context Report*. Prepared for the Maryland State Highway Administration, September, 1994.

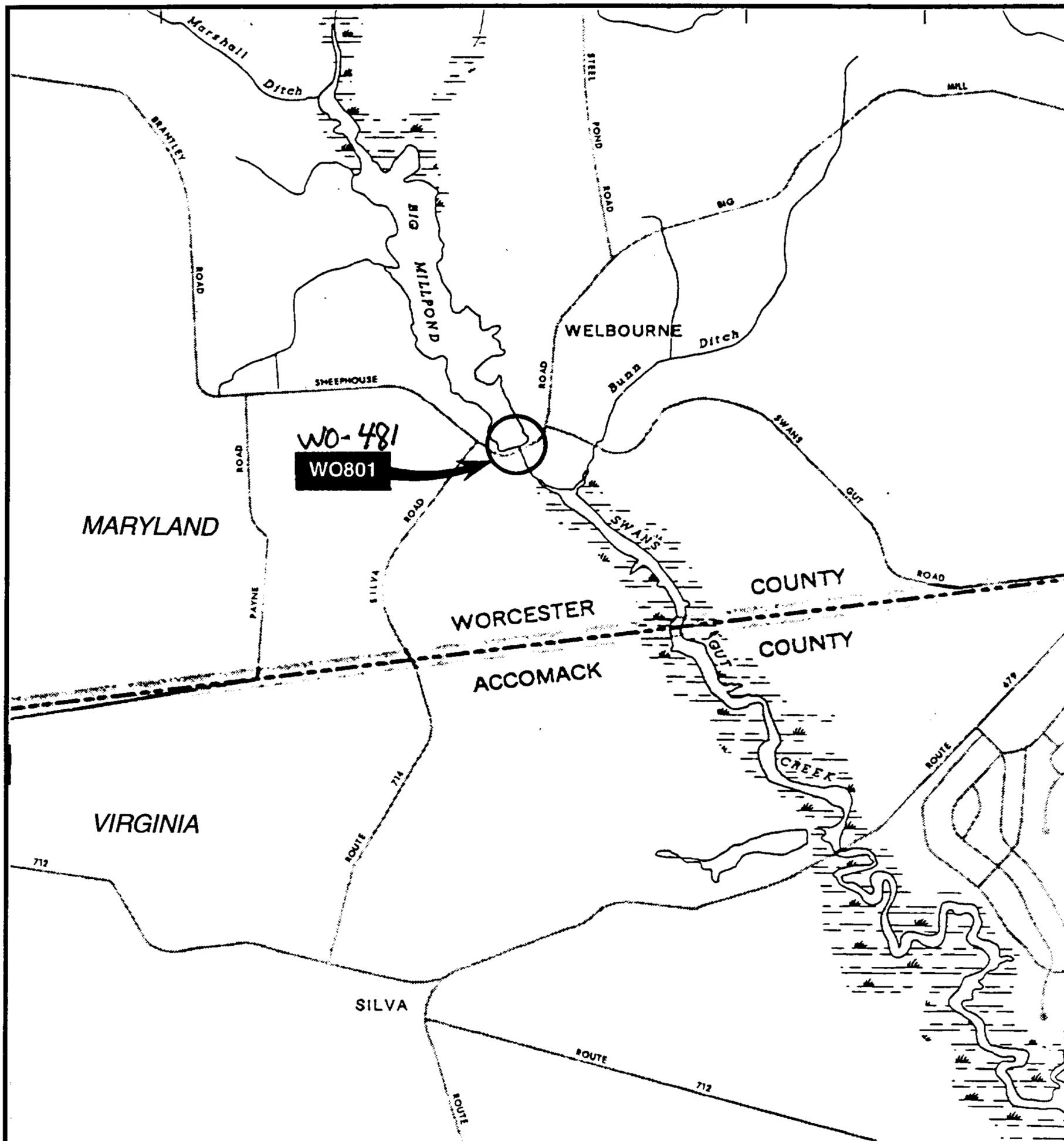
**SURVEYOR/SURVEY INFORMATION:**

Date bridge recorded 2/3/95

Name of surveyor Matt Hickson/Marvin Brown

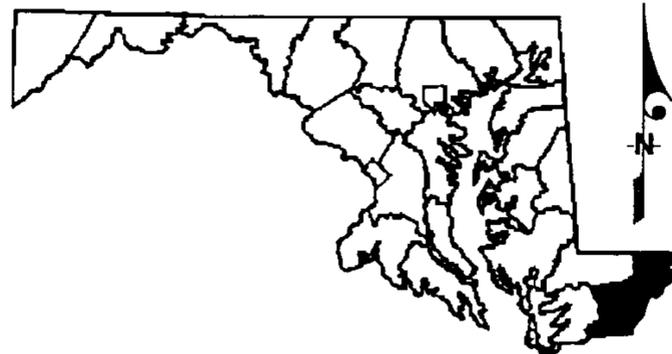
Organization/Address GREINER, INC., 2219 York Road, Suite 200, Timonium, Maryland 21093-3111

Phone number 410-561-0100 FAX number 410-561-1150



**Worcester County - Bridge Number WO801**  
 Big Mill Road over Big Mill Pond, ca.1930

Scale 0 1000 2000 feet  
 0 0.5 kilometer





WO-481

WORCESTER COUNTY

MATT HICKSON

2-3-95

~~MARLAND SNPO~~ - SHH

BRIDGE, WO-801, LOOKING EAST ON BIG MILL RD.

7 OF 4



WO-481

WORCESTER COUNTY

MATT HICKSON

2-3-95

~~MARYLAND SHPO~~ SHA

BRIDGE WO-801, LOOKING WEST ON BIG MILL  
ROAD

2 OF 4



WO-481

WORCESTER COUNTY

MATT HICKSON

2-3-95

~~MARYLAND SHPD~~ S H A

BRIDGE WO-801, LOOKING UPSTREAM (NW)

3 OF 4



WO-481

WORCESTER COUNTY

MATT HICKSON

2-3-95

~~MARYLAND SHPO~~

S MAT

BRIDGE WO-801, LOOKING DOWNSTREAM (SE)

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