

WEEMS CREEK BRIDGE
MD Route 436, spanning Weems Creek
Annapolis vicinity
Anne Arundel County
Maryland

HAER No. MD-112

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PHOTOGRAPHS

WRITTEN HISTORICAL AND DESCRIPTIVE DATA

HISTORIC AMERICAN ENGINEERING RECORD
National Park Service
Northeast Region
Philadelphia Support Office
U.S. Custom House
200 Chestnut Street
Philadelphia, P.A. 19106

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HISTORIC AMERICAN ENGINEERING RECORD

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HAER NO. MD-112

Location: MD Route 436, spanning Weems Creek
Annapolis vicinity, Anne Arundel County, Maryland.
UTM: 18.369360.4316860
Quad: South River, MD, 1:24,000

Date of Construction: 1929

Engineer: J. A. Bromley, Anne Arundel County Engineer

Builder: Mullan Contracting Company, Baltimore, Maryland

Present Owner: Maryland Department of Transportation, State Highway Administration

Present Use: Movable Vehicular bridge

Significance: This bridge is one of only three remaining swing span bridges in Maryland and is the oldest of the three. It is important in the history of transportation in Maryland as a relatively rare example of the way in which residents combined navigation on Maryland's waterways with the requirement for vehicular roads to move goods and people.

Project Information: An evaluation advised replacement of the structure. To mitigate the adverse effect, a Memorandum of Agreement among the Federal Highway Administration, the Maryland State Historic Preservation Office, the Advisory Council on Historic Preservation, and the State Highway Administration stipulated HABS/HAER recordation of the bridge. This documentation was undertaken to fulfill that stipulation.

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Location:

The Weems Creek Bridge carries Ridgely Avenue (MD Route 436) in a northwest-southeast direction across Weems Creek in Anne Arundel County, Maryland. The area surrounding the bridge is residential. South of the bridge is the community of West Annapolis, once a separate township, laid out in a grid pattern. West Annapolis was annexed to the city of Annapolis in January 1951. North of the bridge is a suburban, almost exurban, area with winding roads and including many large, affluent residences. At the time the bridge was constructed, this area was devoted to garden farms.

The current bridge is the second known to have crossed Weems Creek at MD Route 436. It replaced an earlier wooden structure that was reported to be "some two-score years and badly worn" (*Annapolis Evening Capital*, July 3, 1929). The exact date of construction of the original bridge is unknown, but, based on historic maps of the area, it is believed to have been built in the 1890s or early 1900s. The bridge appears to have been constructed for local use only. Ridgely Avenue is currently an important avenue for local traffic to and from Annapolis, approximately one-half mile away.

Description:

The Weems Creek Bridge is a 13-span swing structure supported on timber pile bents, concrete abutments, and a central reinforced concrete pivot pier. The swing span is a camelback Warren pony truss with verticals. In a Warren truss, the diagonals carry both compressive and tensile loads; the verticals serve to brace the triangular design between the top and bottom chords. A Warren truss is simple, economical, and durable. It may be recognized by its triangular design. Together with the Pratt truss, it was one of the most common types of truss to be used in the early twentieth century (Spero 1994:72). The Weems Creek Bridge is probably one of the last Maryland bridges to be built on timber pile bents. In 1930, the Maryland State Roads Commission stopped using timber bents and began to use steel or concrete piles (*Baltimore Evening Sun*, September 7, 1981).

The total length of Weems Creek Bridge is approximately 360 feet. The swing span consists of two equal 48 foot long pony truss spans. The truss members are riveted. The maximum height of the truss is 12 feet. The north end of the bridge is made up of 8 steel girder spans, each 20 feet long; the south end comprises 5 steel girder spans, also each 20 feet long. The roadway is 23 feet wide, with no sidewalks. The top of the deck is 10 feet 4 inches above the water line. The distance from the top of the fender to the water line is 4 feet. The original deck was plank covered with macadam. A metal pipe railing provides the parapet on the swing span. The parapet on the approach spans is concrete, inside of which is a modern metal railing. Although the county originally paid \$43.50 to Levering Brothers for a bronze plaque, no plaque remains on the bridge.

Unlike all of the other movable bridges in Maryland, which elevate the bridge tender's house above the bridge deck, the Weems Creek bridge tender's house is located under the bridge on the south bank of the creek. It is a 10 foot square building with a 10 foot square wooden deck built out over the creek. A historic photograph of the bridge taken in 1930 shows no tender's house. Local residents report that the tender's house was added in the early 1980s when Annette Bellinger, the current bridge tender, took the job (Tayman, personal communication).

Original facing material of the house is unknown; it is currently covered with vinyl siding. One small, single-paned window is located in the east, north, and west elevations. Controls for the movable span are located on the bridge, requiring the tender to climb an adjacent stairway and the creek bank onto the bridge to operate it.

In 1963, Anne Arundel County wanted to close the bridge permanently, citing its age and deteriorated condition. The State Roads Commission denied this request, and took over ownership of the bridge. Since that time, numerous repairs and replacements of parts have been made. In 1963, the mechanism for opening the span was automated; prior to automation, two men were required to open it manually. In 1969, the John D. Sheetz Construction Company replaced four bad piles and added six other piles to stabilize the swing span. In 1975, a two-inch bituminous concrete overlay was added to the deck. Allied Contractors, Inc. replaced the cross bracing, repaired the bents, and jacketed the piles in 1976 and 1977. Still the bridge continued to deteriorate. A 1981 study again considered closing the bridge permanently. Although a few of the local residents favored the idea, the majority of the community wanted the bridge repaired. Extensive emergency repairs were effected in 1981, when the Dissen and Juhn Corporation of Webster, New York, removed the old rest piers and constructed two new piers and removed and replaced in kind the existing timber deck and its wearing surface on the swing span. In 1990, the J. E. Greiner Company replaced the main pivot bearing and repaired the pivot pier concrete. In 1992, the same company removed and replaced the pedestal of the swing span.

Historical Background:

MD Route 436, known locally as Ridgely Avenue, appears to date from the 1890s when West Annapolis was laid out by Annapolis businessman and civic leader, George T. Melvin. Promotional literature at the time stressed the crowded conditions, high taxes, and high prices for property in Annapolis City. West Annapolis would afford the "man of small means" an opportunity to build a substantial house on a large and beautiful site in a healthy climate not far from the center of town. Transportation was convenient as the Annapolis and Baltimore Short Line Railroad ran from Annapolis to its first station in West Annapolis, a ride of about one minute (Melvin 1890).

According to the plat of West Annapolis that George T. Melvin commissioned John Laing to produce in 1890, Ridgely Avenue stopped at Feldmyer Road, some distance short of the West

Annapolis River, as Weems Creek was then known. There was no bridge across the creek at that time (Laing 1890).

Melvin and his partner, a man named Mancha, auctioned off lots, 50 feet by 150 feet, on December 31, 1889. They were sold for \$50.00 and up, cash, or on an installment plan with \$5.00 to \$10.00 down and \$5.00 to \$10.00 a month. The lots fronted on streets and avenues that were 60 feet wide. Lots were purported to be large enough to provide space for flower and vegetable gardens, the excess produce of which could be sold at market in Annapolis. West Annapolis was incorporated by Act of the State Legislature in early 1890. Sometime after the incorporation of West Annapolis, a wooden swing bridge was constructed across Weems Creek (Burwell 1928). It was this wooden structure that the current Weems Creek Bridge replaced in 1929.

Swing spans date from a very early period in world history. Swing bridges function by rotating around a central pier to provide navigational clearance for boats to move up and down stream (Jackson 1988:31). They are simple, reliable, and relatively economical to build and maintain. In Maryland, more swing spans were built from the middle to the end of the nineteenth century than any other kind of movable bridge. In 1925, the U.S. Army Corps of Engineers, who are responsible for regulating the nation's movable bridges, listed 41 movable bridges in Maryland, of which 24, or 60 percent, were swing spans (Spero 1994:98). Today, there are four swing spans remaining in Maryland (Suffness 1995:7).

The topography of Maryland's Tidewater area, of which Anne Arundel County is a part, is an important factor in explaining the need for movable bridges. The area is characterized by flat or gently rolling terrain intersected by numerous rivers, creeks, and inlets. Throughout its history, transportation in Tidewater Maryland has depended on these waterways. Bridging navigable waterways requires spans either high enough to allow ships passage beneath the bridge or spans that can be moved to allow navigation. High, fixed spans require considerable approach work or very high grades; thus, movable bridges became the most common form of crossing in this area.

The Weems Creek Bridge was authorized by the Anne Arundel County Board of Commissioners, meeting in regular session on April 23, 1929. Plans for the bridge were to be prepared by County Roads Engineer, J. A. Bromley, who would then advertise for bids to construct the bridge. The Mullan Contracting Company of Baltimore won the contract by turning in the lowest bid of \$40,000.00. At about the same time, the County Commissioners authorized a \$100,000 bond issue to pay the cost of replacing several Anne Arundel County bridges (*Minutes* 1929:225).

The Mullan Contracting Company, under its president and founder, Thomas F. Mullan, worked on other projects for the county in the late 1920s, being responsible for building a county garage in Bestgate and another replacement bridge in Rock Hall. The company later

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went on to gain fame and prestige as the builder of numerous high-rise apartment houses in Baltimore (*Baltimore Sun*, April 9, 1961).

While work was proceeding on replacing the Weems Creek Bridge, the County Commissioners ordered the bridge tender to operate a ferry to transport foot passengers across the creek. Work on the bridge began in July 1929 and proceeded slowly. In addition to replacing the bridge, the county also regraded and widened the road leading to the bridge. On September 17, and again on October 22, large delegations of residents from Weems Creek and West Annapolis appeared before the Commissioners, complaining of delays, and asking the Board to take some action to rush completion of the bridge (*Minutes* 1929:236). Although the Mullan Contracting Company agreed to hire an additional pile driver in an attempt to hurry the work along, citizens in the area were so unhappy over delays that the County Commissioners agreed in November to meet at the bridge personally to look into the problem (*Minutes* 1929:241). The new bridge was finally opened to traffic on December 20, 1929, after many months of delay and great inconvenience to local residents (*Annapolis Capital*, December 21, 1929).

Completion of the new bridge was expected to provide greatly improved traffic conditions in the area. At the same time, county authorities were improving the main arteries of highways through and beyond West Annapolis, connecting the community with the Defense Highway and shortening the route north and south from the Defense Highway and Annapolis-Baltimore Boulevard. So convenient does the bridge make travel to and from downtown Annapolis that plans to close the bridge permanently, as was suggested in 1963 and again in 1981, have met with fierce resistance from local residents.

The Weems Creek Bridge was determined to be eligible for listing in the National Register of Historic Places as part of a joint survey conducted by the Maryland Historical Trust and the Maryland Department of Transportation in 1980-1981. However, today the structure is badly deteriorated and incapable of handling the increased loads and speeds of modern traffic. The worst deterioration is in the timber piles that support the bridge. Although these piles have been protected with pile jackets at the water line, the jackets are breaking open and exposing the piles to alternating wet/dry conditions, causing them to split and accelerating their deterioration. The bridge has been posted for loads of 12 tons and speeds of 25 miles per hour.

Further study of West Annapolis and Weems Creek may reveal the importance of the creek for navigation that would require the presence of a movable bridge. Although the first bridge may have been built to provide the garden farmers north of the bridge a faster, more convenient means of transporting their produce to market in Annapolis, further research may provide an answer to the question of why the bridge was built. It may also tell us of any particular problems the Mullan Contracting Company may have encountered that led to the delays in reopening the bridge in 1929.

SOURCES OF INFORMATION

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B. Historic views

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