

10. NAME(S) OF STRUCTURE

State Bridge Number 152

11. PHOTOS (W/ FILM ROLL & FRAME NO.) AND SKETCH MAP OF LOCATION

4A:24-36A

5A:5-25



5A:25

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Carter, Dick. The History of Sussex County. Georgetown, Delaware: Community Newspaper Corp., 1976.

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Hancock, Harold Bell. The History of Sussex County, Delaware. [s.l. : s.n.] 1976.

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Delaware DOT records: Annual Reports, 1922; contract files.

Plans on file at Delaware DOT: Contract #41A, 965, 73-06-012, 69-12-001, 802

13. INVENTORIED BY:

AFFILIATION

DATE

P.A.C. Spero & Company with Kidde Consultants for Delaware DOT

April-November 1988

HABS/HAER INVENTORY

See "HABS/HAER Inventory Guidelines" before filling out this card.

1. NAME(S) OF STRUCTURE

State Bridge 152

2. LOCATION

Central Avenue (Route 13) over Broad Creek
Laurel, Sussex County, Delaware

3. DATE(S) OF CONSTRUCTION

1923

4. USE (ORIGINAL/CURRENT)

Vehicular

5. RATING

Basc

6. CONDITION

Good

The Laurel Bridge is a single leaf Scherzer rolling lift bascule bridge, designed by the Scherzer Rolling Lift Bridge Company of Chicago. The total structure length is 92'-9", with a skewed movable span varying in length from 56'-7" on the west side to 72'-3" on the east side; the fixed span measures 20'-6". The deck width is 25'-0" curb-curb with a 6'-6" sidewalk on one side. The Scherzer design is characterized by an overhead counterweight, supported by segmental girders which roll along track girders when the moving span is lifted and lowered. The Laurel Bridge consists of combination steel girder and steel truss construction. The steel girder which supports the deck is a plate girder on both the moving and stationary spans, while the lifting and counterweight trusses consist of riveted members. The substructure consists of concrete piers and abutments on timber piling. The south end of the movable span has a 20° skew, while the north end has a 0° skew. All machinery, including gears and a 20 HP motor, are mounted above the road. U-shaped, concrete wingwalls with incised rectangles are completed by endposts supporting simple globe lamps.

State Bridge 152 is the earliest bascule bridge surveyed in Delaware, constructed in 1922 under Delaware State Highway Department contract number 41A. The movable span was designed by the Scherzer Rolling Lift Bridge Company of Chicago. It was erected by Al. S. Fox, contractor and builder, who later constructed the bascule bridge at Seaford (Bridge 151, built 1924). The DelDOT contract files note that Charles L. Keller was the consulting engineer on the project. A.G. Livingston and C. Douglas Buck, Bridge Engineer and Chief Engineer, respectively, for the State Highway Department, approved the plans. The substructure was designed by State Highway Department engineers and built by Field, Barker & Underwood, Contractors of Philadelphia. Charles Keller received his degree in engineering from Lehigh University in 1893. He was involved in the design of numerous movable bridges throughout his career. From 1916 to 1922 Keller was president and chief engineer of the Scherzer Rolling Lift Bridge Company, located at 1616 Monadnock Block, Chicago. He later joined H.P. Harrington to form the Chicago-based engineering firm, Keller and Harrington, which specialized in movable bridges. This firm was responsible for other movable bridges in Delaware, including State Bridge #159 in Newport. Bridge #152 was highlighted in the 1922 Annual Report of the State Highway Department as "the most notable bridge construction of the year". This account reported that the substructure design was prepared in-house, and bids with plans were received for the steel superstructure. Original drawings, dated July - November 1922, illustrate the bridge's configuration and construction. Improvements were made in 1947 under contract numbers 802 and 965 (Federal Aid Project No. S 85(1)); these included the addition of a walkway and the replacement of the original wood deck with a steel floor. 1947 improvements were designed for H-20 loading by 1944 AASHO specifications.

State Bridge Number 152 is the earliest of the seven remaining bascule bridges carrying vehicular traffic surveyed in Delaware, and appears to be the first structure of its type built under the auspices of the State Highway Department. The Laurel Bridge is the only patented Scherzer rolling lift bascule surveyed. In general, patented bascule designs were either of a pivoting, or trunnion, variety or a rolling type. In the rolling-lift category were the Scherzer and Rall patented types. Between 1893 and 1921 the Scherzer Rolling Lift Company was granted twelve patents for variations in their rolling lift bascule bridge design. This type of movable bridge was developed in 1893 by William Scherzer for the Metropolitan West Side Elevated Railroad Company of Chicago. Scherzer designed a four-track bridge across the Chicago River near Van Buren Street, which engineer and bridge historian J.A.L. Waddell claimed ushered in the "modern era of bascule building." In 1916 Waddell called the Scherzer bascule "the most popular of all types to the present." The rolling-lift bascule bridge continually changes its center of rotation and shifts its load application point as its center of gravity moves in a horizontal line. The Laurel Bridge is also a contributing element in the Laurel Historic District.