

NORTHAMPTON STREET BRIDGE  
(Easton-Phillipsburg Bridge)  
Pennsylvania Historic Bridges Recording Project - II  
Spanning Delaware River at Northampton St. (U.S. Rt. 22 Alt.)  
Easton  
Northampton County  
Pennsylvania

HAER No. PA-502

HAER  
PA  
48-EAT9  
15-

PHOTOGRAPHS

WRITTEN HISTORICAL AND DESCRIPTIVE DATA

HISTORIC AMERICAN ENGINEERING RECORD  
National Park Service  
1849 C Street, NW  
Washington, DC 20240

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(Easton-Phillipsburg Bridge)

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**Location:** Spanning Delaware River at Northampton St. (U.S. Rt. 22 Alt.), between Easton, Northampton County, Pennsylvania, and Phillipsburg, Warren County, New Jersey.

**USGS Quadrangle:** Easton, Pennsylvania-New Jersey (7.5-minute series, 1973).

**UTM Coordinates:** 18/482735/4504310

**Dates of Construction:** 1895-96. Altered 1957.

**Designer:** James Madison Porter III.

**Fabricators:** Union Bridge Co. (Athens, Pa.) and Belmont Iron Works (Philadelphia).

**Builder:** Union Bridge Co., 1895-96; Bethlehem Steel Corp., 1957.

**Present Owner:** Delaware River Joint Toll Bridge Commission.

**Present Use:** Vehicular bridge.

**Significance:** The Northampton Street Bridge is one of a few extant eye-bar cantilever bridges in the United States. Its 50'-0"-long central span, supported between two 250'-0" cantilever arms, is carefully disguised by superfluous members so as to appear as a smooth catenary. Its appearance is tastefully balanced between Gothic flamboyance and a spartan machine aesthetic — a piece of urban “structural art.” Designed by James Madison Porter III, professor of engineering at nearby Lafayette College and an early advocate of materials testing, this bridge is his most important work. Bethlehem Steel Company repaired the structure to its original design in 1957, after it was heavily damaged by a flood two years previous. The Northampton Street Bridge has been designated a National Historic Civil Engineering Landmark by the American Society of Civil Engineers.

**Historian:** Justin M. Spivey, August 1998.

**Project Description:** The Pennsylvania Historic Bridges Recording Project II was co-sponsored during the summer of 1998 by HABS/HAER under the general direction of E. Blaine Cliver, Chief; the Pennsylvania Department of Transportation, Bureau of Environmental Quality, Wayne W. Kober, Director; and the Pennsylvania Historical and Museum Commission, Brent D. Glass, Executive Director and State Historic Preservation Officer. The fieldwork, measured drawings, historical reports and photographs were prepared under the direction of Eric DeLony, Chief of HAER.

### BIBLIOGRAPHIC ESSAY

As Easton's most notable bridge, and engineer James Madison Porter III's greatest work, the Northampton Street Bridge is a popular topic for student papers at his alma mater, Lafayette College. One such paper, by Carol P. Henry, et al., has become the definitive published history of the bridge. Henry and her colleagues report from an engineering viewpoint on the bridge's construction in 1895-96, repairs in 1924 and 1939, and reconstruction following flood damage in 1955. At least three versions of this paper exist, similar in content, all of which include a comprehensive bibliography of primary and secondary sources.<sup>1,2,3</sup> Henry, et al., provide a brief biography of Porter, although interested readers might consult two other sources not cited therein.<sup>4,5</sup> Their paper also lacks information about the Union Bridge Company, which is difficult to find, although a brief paragraph appears in Victor C. Darnell's *Directory of American Bridge-Building Companies*.<sup>6</sup>

The Delaware River Joint Toll Bridge Commission, the bridge's owner since 1921, produced a brief history for its *General Information on the Non-Toll Bridges*, which is updated periodically.<sup>7</sup> Although this source repeats historical information in Henry, et al., it contains details of operation and maintenance, including a comprehensive list of work completed since 1957, which are not found elsewhere. The Commission's papers at the Pennsylvania State Archives provide additional insight into events following the 1955 flood, including several unrealized replacement schemes.<sup>8</sup>

Primary source material consists of plans, construction photographs, and Porter's personal papers. The Delaware River Joint Toll Bridge Commission maintains paper and microfilm copies of drawings in its archives; these include Porter's original construction drawings as well as plans for subsequent repairs.<sup>9</sup> Construction photographs are found in the collections of the Northampton County Historical Society, as are some of Porter's personal papers.<sup>10</sup> Of note among the latter are receipts for engineering texts and equipment used in Porter's experiments with materials testing. Skillman Library at Lafayette College holds another portion of Porter's papers.<sup>11</sup>

As a side note, in his *History of Bridge Engineering*, Henry G. Tyrrell noted the similarity between Porter's bridge and the Franz-Joseph Bridge over the Danube at Budapest.<sup>12</sup>

Contemporary engineering trade literature described the 1894 design competition for the Budapest span and the winning entry, completed the following year.<sup>13, 14, 15, 16</sup> Yet, according to Henry, et al., Porter traveled in Europe during 1888-89, preceding the Budapest design competition by several years. If the Northampton Street Bridge had a European antecedent, it may have been a cantilever span constructed prior to the Franz-Joseph Bridge.

### SOURCES CONSULTED

1. Henry, Carol P. "History of the Northampton Street Bridge," typescript, 1981. Northampton County Historical Society, Easton, Pa.
2. "Northampton Street Bridge," Northampton County, Pennsylvania. National Historic Civil Engineering Landmark Nomination Form, 1981. American Society of Civil Engineers, Reston, Va.
3. Henry, Carol P., Charles L. Best, Jackson L. Durkee, and Ivan M. Viest. "Northampton Street Bridge." *Journal of Structural Engineering* 110, No. 7 (Jul. 1984): 1644-64.
4. Hamersly, Lewis R., ed. *Who's Who in Pennsylvania*. 1st ed. New York: L. R. Hamersly Co., 1904. Page 590.
5. Moore, James W. *Rev. John Moore of Newtown, Long Island, and Some of His Descendants*. Easton, Pa.: Chemical Publishing Company, 1903. Page 373.
6. Darnell, Victor C. *Directory of American Bridge-Building Companies 1840-1900*, Occasional Publication No. 4. Washington: Society for Industrial Archaeology, 1984. Page 44.
7. Delaware River Joint Toll Bridge Commission. "Easton-Phillipsburg Non-Toll Bridge." In *General Information on the Non-Toll Bridges*. Morrisville, Pa.: Delaware River Joint Toll Bridge Commission, 1990.
8. Pennsylvania State Archives, Harrisburg, Pa. RG 12.3, Department of Highways, Executive Office, Correspondence and Miscellaneous Records Relating Primarily to Toll Bridges, 1925-1959; and RG 12.4, Department of Highways, Executive Office, Minutes and Agenda of the Delaware Joint Toll Bridge Commission, 1951-1968.
9. Delaware River Joint Toll Bridge Commission, Morrisville, Pa. Drawing and microfilm archives.
10. Northampton County Historical Society, Easton, Pa. Northampton Street Bridge Photographs; James Madison Porter III Papers.

11. Skillman Library, Lafayette College, Easton, Pa. James Madison Porter 111 Papers.
12. Tyrrell, Henry G. *History of Bridge Engineering*. Chicago: Self-published, 1911. Page 285.
13. Foerster, M. "Drei Bemerkenswerthe Brueckenbauten des Auslandes." *Stahl und Eisen* (1 Feb. 1898): 127-33.
14. "Die Franz-Josefs-Bruecke in Budapest." *Zeitschrift des Oesterreichischen Ingenieur und Architekten Vereines* (26 Feb. 1897).
15. "The New Francis-Joseph Bridge." *Engineering* (London, 14 May 1897).
16. "Results of the Budapest Bridge Competition." *Engineering News* (28 Jun. 1894): 546-7.