

PHILADELPHIA & READING RAILROAD, MANATAWNY CREEK BRIDGE
Pennsylvania Historic Railroad Bridges Recording Project
Spanning Manatawny Creek, south of Ben Franklin Hwy.
Pottstown
Montgomery County
Pennsylvania

HAER No. PA-537

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PHOTOGRAPHS

XEROGRAPHIC COPIES OF COLOR TRANSPARENCIES

WRITTEN HISTORICAL AND DESCRIPTIVE DATA

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

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Joseph Elliott, photographer, winter 1999.

- PA-537-1 FROM SW, PIERS AND APPROACH TO COAL TRESTLE IN FOREGROUND.
- PA-537-2 FROM SW, SHOWING WIDENED ABUTMENT FOR COAL TRESTLE.
- PA-537-3 FROM SW, 3/4 VIEW.
- PA-537-4 FROM SW, DETAIL OF WESTERNMOST ARCH.
- PA-537-5 3/4 VIEW, FROM SW.
- PA-537-6 3/4 VIEW, FROM SW.
- PA-537-7 SE END OF BRIDGE, FROM SW.
- PA-537-8 ELEVATION OF CENTER ARCH, FROM WEST.
- PA-537-9 INTERIOR OF ARCH, NOTE ORIGINAL STONE BEYOND CONCRETE.

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All color xerographic copies were made from a duplicate color transparency.

Joseph Elliott, photographer, winter 1999.

- PA-537-10 (CT) 3/4 VIEW, FROM SW.
- PA-537-11 (CT) 3/4 VIEW, FROM SW.

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Location: Spanning Manatawny Creek, south of Ben Franklin Hwy., Pottstown, Montgomery County, Pennsylvania.

USGS Quadrangle: Pottstown, Pennsylvania (7.5-minute series).

UTM Coordinates: 18/444100/4455050

Date of Construction: 1847.

Basis for Dating: Philadelphia & Reading Railroad annual report.

Dates of Alteration: 1894, 1917.

Designer: Gustavus A. Nicolls (Superintendent and Chief Engineer, Philadelphia & Reading Railroad).

Builder: Philadelphia & Reading Railroad.

Present Owner: Norfolk Southern Railroad.

Present Use: Railroad bridge.

Structure Type: Stone arch.

Significance: The Manatawny Creek bridge is typical of dozens of stone arch bridges built along the Philadelphia & Reading Railroad during the mid-nineteenth century. This particular example demonstrates how the railroad used reinforced concrete to widen existing structures.

Historian: Justin M. Spivey, April 2001.

Project Information: The Historic American Engineering Record (HAER) conducted the Pennsylvania Historic Railroad Bridges Recording Project during 1999 and 2000, under the direction of Eric N. DeLony, Chief. The project was supported by the Consolidated Rail Corporation (Conrail) and a grant from the Pennsylvania Historical and Museum Commission (PHMC). Justin M. Spivey, HAER engineer, researched and wrote the final reports. Preston M.

Thayer, historian, Fredericksburg, Virginia, conducted preliminary research under contract. Jet Lowe, HAER photographer, and Joseph E. B. Elliott, contract photographer, Sellersville, Pennsylvania, produced large-format photographs.

Description and History

As the Philadelphia & Reading Railroad (P&R) built its main line up the Schuylkill from Port Richmond to Mount Carbon, it encountered dozens of small tributaries to the river. Wooden structures sufficed during the initial construction campaign of 1834 to 1841, but Superintendent Gustavus A. Nicolls and Chief Engineer Richard B. Osborne soon adopted an emphasis on more permanent structures.¹ Their annual reports mention dozens of shorter wooden bridges replaced with stone arches throughout the 1840s. These structures were too numerous to list individually, however. The first bridges mentioned by name are those designed by Nicolls for major Schuylkill River crossings in the 1850s. It is therefore difficult to date small stone arches such as the railroad's bridge over Manatawny Creek. This structure may have been one of several constructed around Pottstown, referred to in Nicolls' annual report of 1847, when he served as both Superintendent and Chief Engineer.²

The Manatawny Creek bridge originally carried two tracks of P&R's main line. It has five segmental stone arch spans of 30'-0" each, rising 12'-6" from springing to crown and separated by piers roughly 12'-0" wide. The railroad added lateral tie rods to brace the spandrel walls in 1894.³ In 1917, reinforced concrete extensions built by Brown-King Construction Co. accommodated a third track on the upstream (north) side, and a fourth track plus a coal trestle spur on the downstream side. The extensions hide the stone spandrel walls, although the original stone arch barrel is still visible. A drawing of the downstream extension shows that it replaced a single-track trestle carrying Fink deck truss spans.⁴

The extensions have a simple, if not austere, design that is typical of P&R's later use of concrete construction. A single rectangular panel is the only ornamentation on the piers. The arch rings are scored with only four radial lines marking the joints between concrete pours (as opposed to mimicking stone voussoirs). Large vertical surfaces on the wing and retaining walls are relieved by horizontal lines echoing coursed stone, but lack the pilasters and other ornamental features found on P&R's earlier reinforced concrete structures. A simple rectangular coping runs the entire length on both sides of the bridge, supporting a steel pipe railing.

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Notes

1. Philadelphia & Reading Rail Road Co., *Annual Report of the President and Managers of the Philadelphia and Reading Rail Road Company to the Stockholders* (Philadelphia, 1844), 23.
2. Philadelphia & Reading Rail Road Co., *Annual Report of the President and Managers of the Philadelphia and Reading Rail Road Company to the Stockholders, January 12, 1847* (Philadelphia, 1847), 19.
3. Milepost 40.79, region/division/branch 100322, correspondence files, Consolidated Rail Corp., Philadelphia, Pa.
4. Philadelphia & Reading Railway Co., "Extension of Arches over Manatawny Creek North of Pottstown, Reading Div. P. & R. Ry." (26 Apr. 1917), milepost 40.79, region/division/branch 100322, aperture card files, Consolidated Rail Corp., Philadelphia, Pa. [transferred to Norfolk Southern Railway Co., Atlanta, Ga.].

Acknowledgment

The author is grateful to Edward T. Addison, Jr., President of the Historical Society of Montgomery County, for responding to a preliminary survey form.

Additional Source

1. Jay V. Hare, *History of the Reading* (Philadelphia: ABC Duplicator Co., 1966).