PHILADELPHIA & READING RAILROAD, PEACOCK'S LOCK VIADUCT
Pennsylvania Historic Railroad Bridges Recording Project
Spanning Schuylkill River at Reading Railroad
Reading vic.
Berks County
Pennsylvania

HAER No. PA-118

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HISTORIC AMERICAN ENGINEERING RECORD
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HAER No. PA-118

Location:	Spanning Schuylkill River at Reading Railroad, Reading vicinity, Berks County, Pennsylvania.
USGS Quadrangle:	Temple, Pennsylvania (7.5-minute series).
UTM Coordinates:	18/419590/4473450
Dates of Construction:	1853-56.
Basis for Dating:	Secondary sources.
Designer:	Gustavus A. Nicolls (General Superintendent, Philadelphia & Reading Railroad).
Builder:	Philadelphia & Reading Railroad.
Present Owner:	Reading, Blue Mountain & Northern Railroad.
Present Use:	Railroad bridge.
Structure Type:	Stone arch.
Significance:	The Peacock's Lock Viaduct, named after a nearby lock on the Schuylkill Division Canal, may be the only masonry arch bridge in the U.S. with pierced spandrels. The circular openings between arches lighten the structure in both weight and appearance.
Historian:	Justin M. Spivey, April 2000.
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

The Peacock's Lock Viaduct over the Schuylkill River is typical of stone arch structures constructed by the Philadelphia & Reading Railroad (P&R) during the mid-nineteenth century, except for one distinguishing feature: its pierced spandrels. Because of the circular openings between the arches, the Peacock's Lock Viaduct is unique among the railroad's structures, and quite possibly the only one of its type in the country.

The openings not only make the bridge seem ligbter in appearance, but serve a structural purpose as well. Because the volume of stone omitted reduces the weight bearing on piers and foundations, less material is required throughout the structure. The idea did not originate with the bridge's designer, although it is uncertain from which, if any, of several foreign antecedents he might have drawn his inspiration. Eighteenth-century English structures, such as John Smeaton's Coldstream Bridge over the River Tweed, are closer in appearance, but far earlier examples can be found with arched or other non-circular spandrel openings.[1]

The Peacock's Lock Viaduct is the work of P&R Superintendent Gustavus A. Nicolls, who in 1845 began systematically replacing the P&R's many wooden bridges in stone. Sagging spans on the previous bridge at Peacock's Lock, and a fire that destroyed the first Falls Bridge in Philadelphia after only three years of service, had clearly shown the limitations of wooden construction. According to annual reports, the P&R built at least five small stone arcb bridges each year for the remainder of the decade.[2] Longer spans, however, had to wait. In 1847, the P&R added arcbes and intermediate piers to shore up the Peacock's Lock Viaduct, but continued to operate trains over the structure, a single-track wooden Town lattice truss constructed in 1839. Nicolls initially proposed a stone replacement for the Peacock's Lock and Falls bridges in 1848, but did not gain approval from the railroad's directors until 1853.[3]

Nicolls' design for the Peacock's Lock Viaduct included nine semi-circular arch spans of rough-cut ashlar, eacb 64'-0" long, on rock-faced ashlar piers. In 1853, the Syracuse, New York, firm of Denison, Scoville, Candee, and Company signed a contract with the P&R for the Peacock's Lock and Falls bridges, but was evidently not qualified for the complex project. The railroad canceled the contract and used its own crews to build the bridges, which were completed in 1856.[4] The Peacock's Lock Viaduct still carries traffic today on the Reading, Blue Mountain & Northern Railroad, a regional line headquartered in Port Clinton, Pennsylvania.

Notes

1. On Smeaton's bridge, see Martin Hayden, *The Book of Bridges: The History, Technalogy ond Romonce of Bridges ond Their Builders* (New York: Galahad Books, 1976), 62. Starting with the end-papers, this book alone contains several more examples.

2. Philadelphia and Reading Rail Road Company, *Annual Report of the President ond Monogers of the Philodelphia ond Reoding Roil Road Company to the Stockholders, Jonuary 13, 1845,* Temple Univ. Library, Philadelphia, Pa.; and ibid. for succeeding years.

3. Jay V. Hare, *History of the Reading* (Philadelphia: ABC Duplicator Co., 1966), 56.

4. Hare, *History of the Reoding,* 56-7.

Acknowledgment

The author is grateful to the Historical Society of Berks County for responding to a preliminary survey form.

Additional Source

1. Richard Cook, *The Beauty of Roilroad Bridges in North Americo, Then and Now* (San Marino, Calif.: Golden West Books, 1987): 27-9.