

United States Department of the Interior
National Park Service

For NPS use only

National Register of Historic Places
Inventory—Nomination Form

received

date entered

See instructions in *How to Complete National Register Forms*
Type all entries—complete applicable sections

1. Name

historic Etters Bridge

and/or common Green Lane Bridge

2. Location

street & number Green Lane Drive and Yellow Breeches Creek N/A not for publication
Lower Allen Township

city, town X vicinity of Fairview Township

state Pennsylvania, 19th Congressional Dist. code 42 Cumberland County code 41
York County code 133

3. Classification

Category	Ownership	Status	Present Use
<input type="checkbox"/> district	<input checked="" type="checkbox"/> public	<input type="checkbox"/> occupied	<input type="checkbox"/> agriculture
<input type="checkbox"/> building(s)	<input type="checkbox"/> private	<input type="checkbox"/> unoccupied	<input checked="" type="checkbox"/> commercial
<input checked="" type="checkbox"/> structure	<input type="checkbox"/> both	<input type="checkbox"/> work in progress	<input checked="" type="checkbox"/> educational
<input type="checkbox"/> site	Public Acquisition	Accessible	<input type="checkbox"/> entertainment
<input type="checkbox"/> object	n/a in process	<input type="checkbox"/> yes: restricted	<input type="checkbox"/> government
	n/a being considered	<input checked="" type="checkbox"/> yes: unrestricted	<input type="checkbox"/> industrial
		<input type="checkbox"/> no	<input type="checkbox"/> military
			<input type="checkbox"/> museum
			<input type="checkbox"/> park
			<input type="checkbox"/> private residence
			<input type="checkbox"/> religious
			<input type="checkbox"/> scientific
			<input checked="" type="checkbox"/> transportation
			<input type="checkbox"/> other:

4. Owner of Property

name Cumberland County
York County

street & number 3 South Hanover Street
28 East Market Street

city, town Carlisle York N/A vicinity of state Pennsylvania, 17013
Pennsylvania, 17401

5. Location of Legal Description

courthouse, registry of deeds, etc. Office of Clerk of Courts, Cumberland County Courthouse
Office of Recorder of Deeds, York County Courthouse

street & number 3 South Hanover Street
28 East Market Street

city, town Carlisle York state Pennsylvania, 17013
Pennsylvania, 17401

6. Representation in Existing Surveys

title Pa. Historical & Museum Commission has this property been determined eligible? X yes no

date March 22, 1984 federal state county local

depository for survey records Bureau for Historic Preservation

city, town Harrisburg state Pennsylvania

7. Description

Condition

excellent
 good
 fair

deteriorated
 ruins
 unexposed

Check one

unaltered
 altered

Check one

original site
 moved date _____

Describe the present and original (if known) physical appearance

A. Site and Environment

The Eppers Bridge sets perpendicular to the Yellow Breeches Creek in a moderately deep ravine. The stream, which has a 223 square mile drainage area,¹ is roughly 115 feet wide at the bridge site under normal flow. Rocky cliffs and a bend in the creek are immediately downstream from the bridge. Presently, a dam, which has a plate bearing the name "S. W. Shoemaker and Son, Harrisburg", exists approximately 70 yards upstream from the bridge.

A road from the north comes down into the ravine immediately upstream from the dam in an alignment similar to an "S" curve. From there the road alignment turns and parallels the creek over to the bridge. A 90-degree turn on a short radius exists at the north end of the bridge. The bridge is on straight alignment and the south approach alignment is nearly tangent to it.

The bridge serves a residential area of approximately 350 houses on the York County side of the creek.

B. Type, Size, Shape and Details

The structure is a simple span, single lane highway, through Pratt truss bridge crossing a moderate size creek, resting on abutment substructures. The trusses are early pin connected, wrought iron, determinate construction. The abutments are gravity type, masonry construction.

In size the bridge is 131 feet long from end pins to end pins and approximately 18 feet wide overall. The clearance from the underside of the floor beams to the creek bed is approximately 15 feet.²

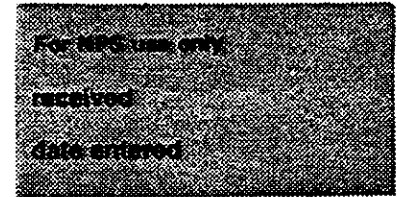
Laterally, the trusses are on 17-foot centers and are braced at the top and bottom chords with a trussed system of rods. Vertically, the top and bottom truss chords are on 17'9" centers. Each truss consists of 8 panels 16'4½" in length.³

A 16-foot wide deck is supported on a system of stringers and floor beams. Seven floor beams are supported at the lower interior panel points. At the portals the roadway stringers rest on the abutment backwalls.

Except for the deck and the roadway stringers, the metal material in the superstructure is the original wrought iron. The roadway deck is a modern, open, steel grid. The replaced stringers are probably steel.

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7. Description (continued)

The truss members are as follows:⁴

Top chords and end diagonals	6 3/4" Dia. Phoenix sections
Bottom chords	1" x 4 3/4", 7/8" x 4 1/2" and 3/4" x 3 1/4" eye-bars
Vertical Posts	5 1/4" and 4" Dia. Phoenix sections
Hangers in end panels	1" square eye-bars
Diagonals	7/8" x 3" and 3/4" x 3 1/2" eye-bars
Counters	1" and 3/4" Dia. Rods

All of the patented Phoenix sections (end diagonals, top chords and vertical posts) in the bridge consist of four rolled, flanged segments of a circle, joined together by rivets to form tubular truss members.

The floor system consists of W10 x 25 metal stringers and 24" deep, built-up, wrought iron floor beams. The connection material between the tension, compression and bending members are pins, U-shaped hangers, threaded up-set rods with nuts and casted or forged eyes, and bolts.

Each abutment has two wing walls which retain the traffic and approach fills. Three of the wing walls are parallel with the longitudinal direction of the bridge while the northwest wing wall is flared with the bridge and curved to accomodate the bend in the north approach roadway. The south wing walls are 18' in length; the northeast wing wall, 34.5'; and the northwest, 48'.

The original material in the substructure is native stone laid into broken ashlar masonry. The south abutment has its original stone bridge seat. The height of the stonework in the wing walls is to the grade of the approach roadways.

Sometime after the original construction all of the wing walls were heightened 3' to 4' with poured in place concrete. This modification was probably made so that the wing walls would serve as barricades for traffic safety. Also, the bridge seat at the north abutment has been modified with concrete. The backwalls in both abutments are poured in place concrete. Much of the stonework in the south substructures and the northeast wing wall is visible while the stone surfaces of the north abutment and the northwest wing wall are covered with a concrete mortar plaster.

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7. Description (continued)

In about a century of use, the bridge has had only minor alterations. In 1976 the 16-foot wide roadway deck was reduced to a 13'3" traffic lane by adding a steel guard rail on each side of the roadway deck. The guard rail is to prevent motor vehicle collisions with the web members of the trusses. Probably around 1960, the roadway deck was altered by replacing the original deck (presumably timber on wrought iron stringers) with an open steel grid deck supported on five lines of new stringers (probably steel). These alterations were probably made at the time when the area immediately around the bridge was changing from primarily agricultural to residential. The wing walls were probably heightened around 1920 when motor vehicles were becoming the common mode of transportation. The abutments have been repaired from time to time with concrete as the need required.

Presently, the bridge is posted for a 15 ton load limit. It is carrying an average daily traffic (ADT) of 2000 or more passenger, commercial and school vehicles, some weighing as much as 15 tons.

For end notes see Continuation Sheet Item 9.

8. Significance

Period	Areas of Significance—Check and justify below			
<input type="checkbox"/> prehistoric	<input type="checkbox"/> archeology-prehistoric	<input type="checkbox"/> community planning	<input type="checkbox"/> landscape architecture	<input type="checkbox"/> religion
<input type="checkbox"/> 1400-1499	<input type="checkbox"/> archeology-historic	<input type="checkbox"/> conservation	<input type="checkbox"/> law	<input type="checkbox"/> science
<input type="checkbox"/> 1500-1599	<input type="checkbox"/> agriculture	<input type="checkbox"/> economics	<input type="checkbox"/> literature	<input type="checkbox"/> sculpture
<input type="checkbox"/> 1600-1699	<input type="checkbox"/> architecture	<input type="checkbox"/> education	<input type="checkbox"/> military	<input type="checkbox"/> social/
<input type="checkbox"/> 1700-1799	<input type="checkbox"/> art	<input checked="" type="checkbox"/> engineering	<input type="checkbox"/> music	<input type="checkbox"/> humanitarian
<input checked="" type="checkbox"/> 1800-1899	<input type="checkbox"/> commerce	<input type="checkbox"/> exploration/settlement	<input type="checkbox"/> philosophy	<input type="checkbox"/> theater
<input type="checkbox"/> 1900-	<input type="checkbox"/> communications	<input type="checkbox"/> industry	<input type="checkbox"/> politics/government	<input checked="" type="checkbox"/> transportation
		<input type="checkbox"/> invention		<input type="checkbox"/> other (specify)

Specific dates 1889 **Builder/Architect** Dean and Westbrook of New York

Statement of Significance (in one paragraph)

Built in 1889 the Etters Bridge has been an important link in the local transportation system for almost a century. Replacing an earlier wooden span that had been destroyed by a flood, the new bridge immediately became essential to nearby residents and businesses. The last wrought iron bridge of its type in the area, the Etters Bridge today remains a much used bridge.

The concept of an Etters Bridge was conceived in 1875 at a time when the commerce in the area was milling and agriculture. The August Sessions Court of Cumberland County appointed three fit persons to view the site for a bridge over the Yellow Breeches Creek known as the Studabaker ford "where the public road leading from Lewisberry to Harrisburg crosses said creek."⁵ A sketch in the court records shows the ford and road crossing immediately below the Etter and Shanklin mill and dam at Milltown. The viewers' report confirming the need for a bridge at the site was approved by the court April 13, 1876. After years of delay a wooden bridge was built on the site in 1883.⁶

The bridge and its site fit into the road network and the commercial activities of the area. On the Cumberland County side, the area was known as Milltown (also called Eberly's Mills) and the road system connected with the west end of the Harrisburg Bridge over the Susquehanna River. Eberly's merchant and grist mill was located on Cedar Run one-quarter mile west of the Etter and Shanklin Mill at the bridge site. Both of these mills run four sets⁷ of stones. The Etter and Shanklin stones were run by a Johnson wheel of forty-five horsepower. In the 1882 to 1884 county tax records the Etter and Shanklin Mill property had an assessed valuation of eight thousand dollars and Eberly's Mill property, six thousand dollars. Some of the other mill properties in Fairview and Lower Allen Townships had assessments of two thousand and four thousand dollars. Milltown had eighty inhabitants, fifteen houses built of stone, brick or timber, one church, a store, a blacksmith shop, a machine shop, a shoe shop and a post office. This thriving, commercial center with its mills was on the north side of Yellow Breeches Creek which was a barrier to the inhabitants of the area south of the creek. Thus there was a definite need for the Etters Bridge at the Studabaker ford.

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8. Significance (continued)

On the York County side of the creek commerce was also thriving. An 1876 map of Fairview Township⁸ shows the bridge site and road as part of a network of roads linking together farms, grist and saw mills, lime kilns and a distillery and warehouse. The road running south from the bridge intersected the present Limekiln Road which in 1876 was an east-west link between New Market and Shiremanstown and which was a thoroughfare of commercial activities. The inhabitants were farmers but many had side businesses. A. A. Bowman and Amos Zimmerman, who had post office addresses of Eberly's Mills, were farmers on land adjacent to the bridge. Elias Hake, a farmer, whose post office address was New Cumberland, had a distillery and warehouse in the vicinity of 828 Limekiln Road (residence still stands) and a grist and saw mill on the Cumberland County side where the present Spangler's Mill Road intersects the Yellow Breeches Creek. On the tax records Hake's distillery contributed seven hundred and fifty dollars (\$750) to his assessments. There was a blacksmith shop and a lime kiln in the vicinity of the Hempt Bros. farmstead on Limekiln Road. Farther east on the road J. F. Hursh, who is described as a farmer and dealer in lime and coal with a New Cumberland post office address, farmed in the vicinity of 204 (residence still stands). Samuel and Alexander Thorley farmed in the same vicinity and had a lime kiln with an eight hundred dollar (\$800) tax assessment. J. G. Malehorn, who is described as a dealer in horses with an Eberly's Mills post office address, farmed in the vicinity of Limekiln and Spangler's Mill Roads. Other farmers along the road were C. Hess, Jacob and H. G. Moser, all with Shiremanstown post office addresses, and C. Oyster, J. Beckley, G. W. Atticks and Jacob Garver, all with New Cumberland addresses.

Disaster struck the two thriving communities divided by the creek. In 1889 their direct link with each other, the Etters Bridge, a wooden structure, "was swept away and destroyed"⁹ during the floods of May and June. On September 12, 1889, the Cumberland County Commissioners selected Dean and Westbrook, Bridge Engineers and Contractors, 32 Liberty Street, New York City, to build the present Etters Bridge as a replacement to the washed-out bridge.

Dean and Westbrook were design/construct bridge builders. The firm came into prominence in the 1880s by building highway bridges, many of them small single span structures and some large structures, in the states around New York City, namely,

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8. Significance (continued)

Connecticut, Rhode Island, New Jersey, Pennsylvania and New York State. On many bridges the contractor used standard Phoenix Bridge Company designs and fabricated materials in its bridge superstructures. D & W orders for highway bridges are numerous in the Phoenix order books.¹⁰ At the time of the 1889 flood in south central Pennsylvania, Dean and Westbrook was building the Walnut Street Bridge, a fifteen span Phoenix structure, over the Susquehanna River at Harrisburg. Also the Phoenix order books show D & W placing orders in 1889 for bridges at Duncannon, Hummelstown, Middletown and other localities in Pennsylvania.

The superstructure for the Etters Bridge was procured from the two famous Pennsylvania firms, namely, the Phoenix Bridge Company and its parent firm the Phoenix Iron Company. By 1871, from a humble beginning in 1790, the Iron Works at Phoenixville, Pennsylvania, had grown to a plant occupying 70 acres of land.¹¹ A new mill building, which was completely outfitted with furnaces and machine tools for rolling operations and manufacturing, covered six and one-quarter acres under one roof. The Phoenix Company supplied and built bridges throughout the United States and undertook some construction in South America and India. At this time in history it was one of the largest bridge builders in the world, well respected by its competitors, and very innovative in their fields of engineering, manufacture and erection. A. Gustave Eiffel, a French engineer who visited the Philadelphia Centennial in 1876, years later gave credit to a Phoenix engineer for concepts for the Eiffel Tower which was built in 1889.¹² The company had a monopoly on Phoenix columns and specially formed eye-bars and links which were manufactured by patented processes.

Outstanding engineering qualities are manifested in the Etters Bridge. Combining Phoenix column sections for compression members and eye-bar sections for tension members in Pratt trusses was a wise choice for economical use of the wrought iron metal. Pratt trusses have the advantage of having short web compression posts in relation to the longer web tension diagonals which makes for efficient use of the material. Also, as the photographs of the bridge details show, the members and their connecting parts are neatly shaped and formed by excellent workmanship which indicates good quality control in the manufacturing processes.

Increasing population over the years in the area around the bridge presently makes the area suburban residential in density. A survey of the population¹³ and comments made at town meetings indicates that the constituency around the Etters Bridge is desirous that this valuable historic resource be continued in service. It is the last wrought iron, Phoenix bridge in extensive use today in the local area.

For end notes see Continuation Sheet Item 9.

9. Major Bibliographical References

See end notes on Continuation Sheet Item 9.

10. Geographical Data

Acreege of nominated property Less than one acre

Quadrangle name Lemoine, Pa.

Quadrangle scale 1:24000

UTM References

A

1	2	3	3	6	5	4	0	4	4	5	4	1	4	0
Zone				Easting				Northing						

B

Zone				Easting				Northing						

C

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D

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E

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G

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H

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Verbal boundary description and justification

See Continuation Sheet

List all states and counties for properties overlapping state or county boundaries

state Pennsylvania code 42 county Cumberland code 41

state Pennsylvania code 42 county York code 133

11. Form Prepared By

name/title Herbert D. Versaw, Member

organization Green Lane Farms Town Meeting Association, Inc.

date June 6, 1985

street & number 123 Oak Drive

telephone 717-737-2524

city or town Jamp Hill

state Pennsylvania

12. State Historic Preservation Officer Certification

The evaluated significance of this property within the state is:

national state local

As the designated State Historic Preservation Officer for the National Historic Preservation Act of 1966 (Public Law 89-665), I hereby nominate this property for inclusion in the National Register and certify that it has been evaluated according to the criteria and procedures set forth by the National Park Service.

State Historic Preservation Officer signature

title Dr. Larry E. Tise, State Historic Preservation Officer

date 1/17/86

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I hereby certify that this property is included in the National Register

date

Keeper of the National Register

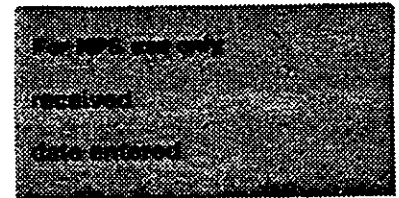
Attest:

date

Chief of Registration

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End notes

1. York County (PA), Board of Commissioners, "Inspection of York County Bridge No. 260 on T-957 across Yellow Breeches Creek, Fairview Township," by William E. Sacra & Associates, 465 South Pine Street, York, Pennsylvania, February 10, 1978, page D488A.
2. Ibid., page 1.
3. Ibid., pages 2 and 1A.
4. Ibid., page 1.
5. Cumberland County (PA), Office of Clerk of Courts, Road Docket 4, 238.
6. John D. Hemminger, "Bridges of Cumberland County, Pennsylvania" unpublished 1905 manuscript at Cumberland County Historical Society, 126.
7. Rev. Conway P. Wing, D.D., History of Cumberland County, Pennsylvania (Philadelphia: James D. Scott, 1879), 201.
8. Beach Nichols, Atlas of York County, Pennsylvania (Philadelphia: Pomeroy, Whitman & Co., 1876), 25.
9. Cumberland County (PA), Office of Clerk of Courts, Road Docket 4, 579.
10. Phoenix Bridge Company, "Order Books" unpublished books at the Eleutherian Mills Historical Library, Accession 916.
11. Phoenix Iron Company, "Centennial Year 1890" unpublished pamphlet at the Eleutherian Mills Historical Library.
12. Reprint at Eleutherian Mills Historical Library, Accession 916, Number 384.
13. Douglas J. Stauffer, "Bridge Replacement Survey" unpublished data at the Green Lane Farms Town Meeting Association, Inc., 1984.

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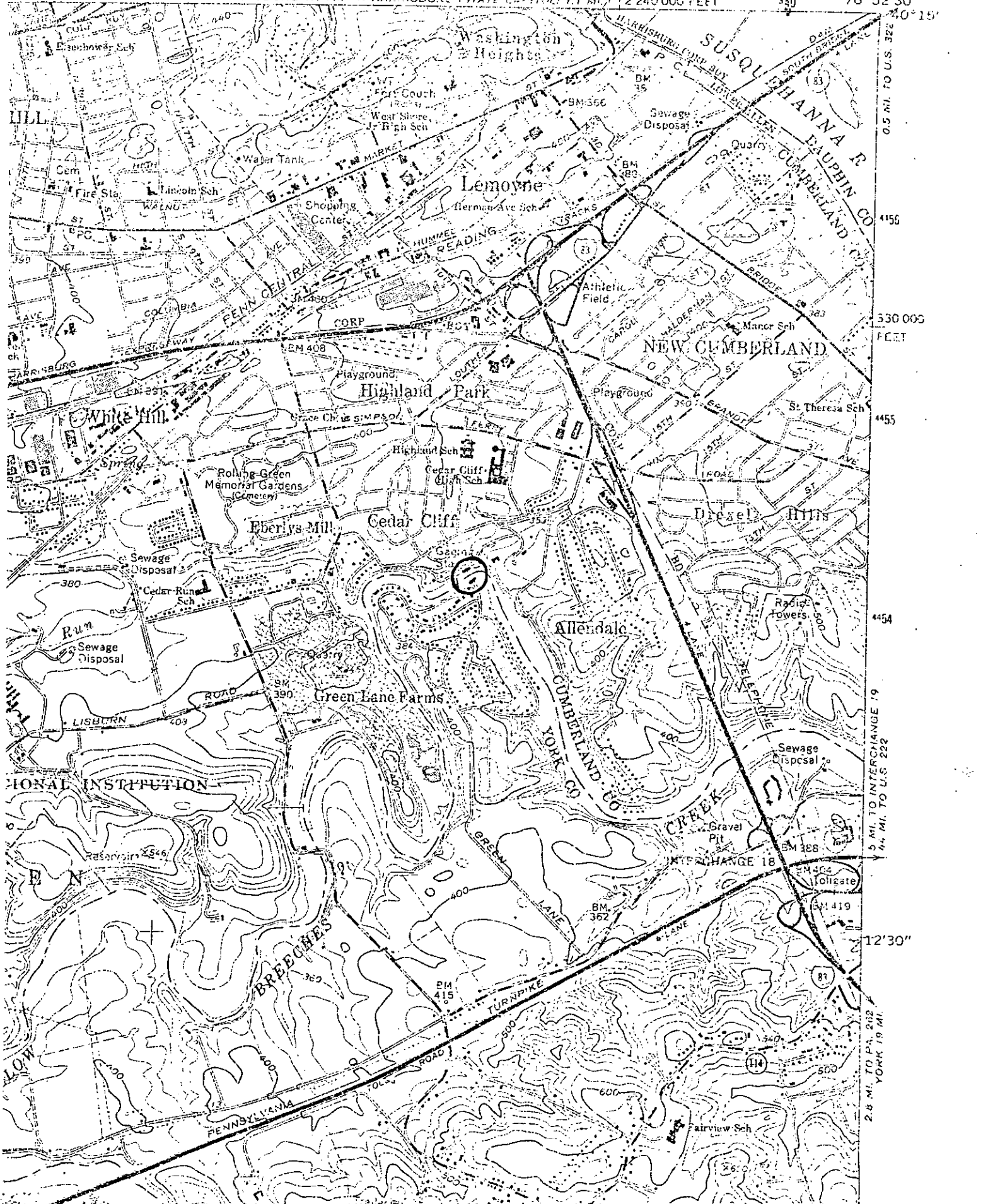
Beginning at a point at the north end of the northeast wing wall; then west 50 feet to the north end of the northwest wing wall; then south 193 feet to the south end of the southwest wing wall; then east 33 feet to the south end of the southwest wing wall; then north 193 feet to the point of beginning. The abutments and wing walls are included in the nomination as integral parts of the construction and use of the bridge.

Green Lane Farms Bridge
York & Cumberland Co. J T-751

LEMOYNE QUADRANGLE
7.5 MINUTE SERIES (TOPOGRAPHIC)
NW/4 NEW CUMBERLAND 15' QUADRANGLE

76° 52' 30"
1917
HARRISBURG

MARYSVILLE 8 MI. 551
WORMLEYSBURG 1.1 MI. 338
HARRISBURG (STATE CAPITOL) 1.1 MI. 12 240 000 FEET 340 76° 52' 30" 40° 15'



0.5 MI. TO U.S. 322
530 000 FEET
455
4454
5 MI. TO INTERCHANGE 19
1/4 MI. TO U.S. 222
12' 30"
2.8 MI. TO PA. 202
YORK 19 MI.