

United States Department of the Interior
National Park Service

NATIONAL REGISTER OF HISTORIC PLACES
REGISTRATION FORM

This form is for use in nominating or requesting determinations for individual properties and districts. See instructions in How to Complete the National Register of Historic Places Registration Form (National Register Bulletin 16A). Complete each item by marking "x" in the appropriate box or by entering the information requested. If any item does not apply to the property being documented, enter "N/A" for "not applicable." For functions, architectural classification, materials, and areas of significance, enter only categories and subcategories from the instructions. Place additional entries and narrative items on continuation sheets (NPS Form 10-900a). Use a typewriter, word processor, or computer, to complete all items.

1. Name of Property

historic name Bridgeport Lamp Chimney Co. Bowstring Concrete Arch Bridge

other names/site number N/A

2. Location

street & number between Mechanic St. & B.O.R.R. tracks not for publication N/A
city or town Bridgeport vicinity N/A
state West Virginia code WV county Harrison code 033
zip code 26330

3. State/Federal Agency Certification

As the designated authority under the National Historic Preservation Act of 1986, as amended, I hereby certify that this X nomination ___ request for determination of eligibility meets the documentation standards for registering properties in the National Register of Historic Places and meets the procedural and professional requirements set forth in 36 CFR Part 60. In my opinion, the property X meets ___ does not meet the National Register Criteria. I recommend that this property be considered significant ___ nationally ___ statewide X locally. (___ See continuation sheet for additional comments.)

William G. Parker
Signature of certifying official

11/15/96
Date

State or Federal agency and bureau

In my opinion, the property _____ meets _____ does not meet the National Register
criteria. (_____ See continuation sheet for additional comments.)

Signature of commenting or other official Date

State or Federal agency and bureau

=====
4. National Park Service Certification
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I, hereby certify that this property is:

- entered in the National Register
_____ See continuation sheet.
- determined eligible for the
National Register
_____ See continuation sheet.
- determined not eligible for the
National Register
- removed from the National Register
- other (explain): _____

Bob L. Savage 1-27-97

Signature of Keeper Date
of Action

=====
5. Classification
=====

Ownership of Property (Check as many boxes as apply)

- private
- public-local
- public-State
- public-Federal

Category of Property (Check only one box)

- building(s)
- district
- site
- structure (bridge)
- object

Number of Resources within Property

Contributing	Noncontributing
<u>0</u>	<u>0</u> buildings
<u>0</u>	<u>0</u> sites
<u>1</u>	<u>0</u> structures
<u>0</u>	<u>0</u> objects
<u>1</u>	<u>0</u> Total

USDI/NPS NRHP Registration Form
Bridgeport Lamp Chimney Co. Bowstring Concrete Arch Bridge
Harrison County, WV

3

Number of contributing resources previously listed in the National Register 0

Name of related multiple property listing (Enter "N/A" if property is not part of a multiple property listing.) N/A

=====

6. Function or Use

=====

Historic Functions (Enter categories from instructions)

Cat: transportation Sub: pedestrian related

_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____

Current Functions (Enter categories from instructions)

Cat: not in use Sub: _____

_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____

=====

7. Description

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Architectural Classification (Enter categories from instructions)

other

Materials (Enter categories from instructions)

foundation

roof

walls

other reinforced concrete

Narrative Description (Describe the historic and current condition of the property on one or more continuation sheets.)

=====
8. Statement of Significance
=====

Applicable National Register Criteria (Mark "x" in one or more boxes for the criteria qualifying the property for National Register listing)

- A Property is associated with events that have made a significant contribution to the broad patterns of our history.
- B Property is associated with the lives of persons significant in our past.
- C Property embodies the distinctive characteristics of a type, period, or method of construction or represents the work of a master, or possesses high artistic values, or represents a significant and distinguishable entity whose components lack individual distinction.
- D Property has yielded, or is likely to yield information important in prehistory or history.

Criteria Considerations (Mark "X" in all the boxes that apply.)

- A owned by a religious institution or used for religious purposes.
- B removed from its original location.
- C a birthplace or a grave.
- D a cemetery.
- E a reconstructed building, object, or structure.
- F a commemorative property.
- G less than 50 years of age or achieved significance within the past 50 years.

Areas of Significance (Enter categories from instructions)

engineering

Period of Significance 1924

Significant Dates 1924

Significant Person (Complete if Criterion B is marked above)
N/A

Cultural Affiliation N/A

Architect/Builder engineer: Frank Duff McEnteer

Narrative Statement of Significance (Explain the significance of the property on one or more continuation sheets.)

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9. Major Bibliographical References

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(Cite the books, articles, and other sources used in preparing this form on one or more continuation sheets.)

- Previous documentation on file (NPS)
- preliminary determination of individual listing (36 CFR 67) has been requested.
 - previously listed in the National Register
 - previously determined eligible by the National Register
 - designated a National Historic Landmark
 - recorded by Historic American Buildings Survey # _____
 - recorded by Historic American Engineering Record # WV 23

- Primary Location of Additional Data
- State Historic Preservation Office
 - Other State agency
 - Federal agency
 - Local government
 - University
 - Other

Name of repository: Institute for the History of Technology & Industrial Archaeology, West Virginia University, Morgantown, WV, and Personal Collection on History of Concrete Structures

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10. Geographical Data

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Acreage of Property less than one acre

UTM References (Place additional UTM references on a continuation sheet)

	Zone	Easting	Northing	Zone	Easting	Northing
1	<u>17</u>	<u>564170</u>	<u>4348360</u>	3	_____	_____
2	_____	_____	_____	4	_____	_____
	<u>See continuation sheet.</u>					

Verbal Boundary Description (Describe the boundaries of the property on a continuation sheet.)

Boundary Justification (Explain why the boundaries were selected on a continuation sheet.)

=====
11. Form Prepared By
=====

name/title Emory L. Kemp, President

organization Past & Present date 23 AUG. 1996

street & number 429 Riley Street telephone 304-599-4838

city or town Morgantown state WV zip code 26505
=====

Additional Documentation
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Submit the following items with the completed form:

Continuation Sheets

Maps

A USGS map (7.5 or 15 minute series) indicating the property's location.
A sketch map for historic districts and properties having large acreage
or numerous resources.

Photographs

Representative black and white photographs of the property.

Additional items (Check with the SHPO or FPO for any additional items)

=====
Property Owner
=====

(Complete this item at the request of the SHPO or FPO.)

name City of Bridgeport, Benedum Civic Center; Don Burton

street & number 164 West Main Street telephone 304-842-8240

city or town Bridgeport state WV zip code 26330
=====

Paperwork Reduction Act Statement: This information is being collected for applications to the National Register of Historic Places to nominate properties for listing or determine eligibility for listing, to list properties, and to amend existing listings. Response to this request is required to obtain a benefit in accordance with the National Historic Preservation Act, as amended (16 U.S.C. 470 et seq.).

Estimated Burden Statement: Public reporting burden for this form is estimated to average 18.1 hours per response including the time for reviewing instructions, gathering and maintaining data, and completing and reviewing the form. Direct comments regarding this burden estimate or any aspect of this form to the Chief, Administrative Services Division, National Park Service, P.O. Box 37127, Washington, DC 20013-7127; and the Office of Management and Budget, Paperwork Reductions Project (1024-0018), Washington, DC 20503.

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NATIONAL REGISTER OF HISTORIC PLACES
CONTINUATION SHEET

Section 7 Page 1

Bridgeport Lamp Chimney Co. Bowstring Concrete Arch Bridge
Harrison County, WV

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Description

This elegant bowstring reinforced concrete arch bridge represents a traditional bridge type which was readily adapted to what was essentially a new construction material: reinforced concrete. Unlike a rail or road bridge, this bridge can be considered an unusual pedestrian bridge in that it was built by the Bridgeport Lamp Chimney Company in 1924 to provide access from the glass plant to a warehouse on the other side of Simpson Creek. See attached HAER cover sheet with site map. Thus, the bridge was designed to carry hand carts with glass products across the river to the warehouse. The bridge remains the only evidence of the original works, and its successor, Master Glass Company. Thus the bridge stands in splendid isolation from any other structure.

In order to provide the maximum clearance over Simpson Creek and to avoid heavy abutments, a bowstring reinforced concrete arch bridge was selected. The arch form was widely used for concrete bridge structures. The traditional arch however, produced horizontal thrust which had to be sustained by the abutments. By using the deck as a tension tie the arch thrusts are carried by the deck structure so that the piers at each end of the bridge are required to support vertical loads only. The two piers were cast separately from the bridge superstructure. They were cast of concrete in a tapered shape and extend the full width of the bridge. It is not known if steel reinforcing was used in the piers, whereas reinforcing was essential to all of the elements of the bowstring superstructure.

From the arch ring, six reinforced concrete vertical tension members extend downward to the deck beams. These tie beams were cast monolithically to the deck without joints, in fact the entire bridge is a monolithic construction. In this arrangement the deck is required to span a short distance between the tie beams on either side by using the arch which is inherently strong and stiff. All of the other members were designed with slender proportions. The result is an elegant bridge which at the same time serves a utilitarian purpose in an economical manner.

The bridge is 70 feet 4 inches long by 8 feet 11.8 inches in width. The height of the center line transom is 10 feet above the deck. Although hidden from view, a notable feature is the proprietary reinforcement used throughout the structure. The principal reinforcing bars are either of the patented Havemeyer reinforcement, produced by the Concrete Steel Company of New York, or a similar bar produced by the Cambria Iron Works of Johnston, PA. It was an era of intense competition among reinforcing bar manufacturers with each individual deformed bar pattern carefully protected by patents. Smooth bars of approximately $\frac{1}{4}$ inch diameter were employed for stirrups throughout the bridge structure. The following are the

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Section 7,8 Page 2

Bridgeport Lamp Chimney Co. Bowstring Concrete Arch Bridge
Harrison County, WV

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overall cross sectional dimensions of the main members:

Arch	12" x 19"
Tension ties	9" x 15"
Deck	3"
Verticals	8" x 8"

The clear span, that is the distance between the abutments is 67 feet. The rise to the extrados of the arch is 9 feet 6 inches making the ratio of rise to span approximately 1:7. To provide lateral stability the two arches are joined at the top by a transom member with a vertical clearance of 8 feet 5 inches. The clearance between the longitudinal tension members is 8 feet 3 inches.

The bridge was completed in 1924 by Frank Duff McEnteer and his Concrete Steel Bridge Company of Clarksburg, West Virginia.

The property was acquired by the Master Glass Company in 1940 and they remained in business until 1973 at which time the bridge was abandoned. As a result many of the members are badly deteriorated with exposed reinforcement in all the elements. Despite its forlorn appearance it is in original condition with no alterations except for the ramp which extended from the bridge to the warehouse which has been removed.

Plans are underway to restore the bridge to its original condition so that it can provide access to recreational areas on both sides of Simpson Creek. Planning calls for a set of steps on the west end rather than using a ramp. All other elements of the bridge will be restored to their original condition.

Statement of Significance

The reinforced concrete bowstring arch erected in 1924 by Frank Duff McEnteer and his Concrete Steel Bridge Company is an elegant expression of the bridge builders' art executed by one of the pioneers in the use of reinforced concrete for both bridges and buildings. The bridge is a poignant reminder of the early glass industry that flourished in the Clarksburg area and indeed in the state as a whole. The glass industry found a favorable business climate based on cheap natural gas and abundant quartzite for producing products ranging from utilitarian bottles to the finest cut glass. Little remains of the this once flourishing industry.

During this period my company (the Concrete Steel Bridge Company) built approximately 1000 highway bridges, or at the rate of about 50 a year. If by major highway work you mean nationally outstanding bridges or sections of

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Bridgeport Lamp Chimney Co. Bowstring Concrete Arch Bridge
Harrison County, WV

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road, it was the purpose of our company to avoid such contracts. My realized ambition was to perfect an organization handling from 500 to 1000 men operating in small crews over a half dozen states, through a central engineering purchasing and executive office. The backbone of our business was concrete bridges of 50-100 foot spans.

Frank Duff McEnteer

In this way Frank Duff McEnteer described the company of which he was president and general manager from 1912 to 1931. The Concrete Steel Bridge Company specialized in reinforced concrete structures at a time when reinforced concrete was a fairly new structural material. The main emphasis of the company was in bridge work, ranging from modest spans of 20 feet to major multi-span bridges characterized by bold design, superior workmanship, and construction economy.

Frank D. McEnteer was born on May 23, 1882, in Reynoldsville, Pennsylvania, the son of Michael J. and Carrie Andrews McEnteer. He received his early schooling in Reynoldsville and then attended Cheltenham Military Academy for two years and Kiskiminetas Springs School for one year. From there he went to Harvard, where he graduated with an AB in 1905. While at Harvard, McEnteer attended the Lawrence Engineering School, and his ambition was to pursue a career in mining. Unable to find a job in this field, he worked for two years as resident engineer in charge of constructing a blast furnace in Hamilton, Ontario, Canada. Several other positions as a construction engineer served to give him experience and an abiding interest in construction engineering.

In 1911 McEnteer went to Clarksburg, West Virginia, to superintend the construction of the Palace Furniture Company's new building and embarked upon a career in building reinforced concrete structures.

Although concrete has a long history of use in construction, it was transformed into a new and versatile structural material with the addition of steel reinforcing to provide tensile strength and resilience to a brittle material weak in tension. This new material, called reinforced concrete, was developed in the latter half of the 19th century but was not employed extensively until the turn of the century.

Unlike steel, timber, brick, or stone, reinforced concrete could be molded into any shape, which provided a versatility unknown to any other building material. It was first used in imitation of stone masonry in the form of solid arches and other shapes, depending on compression to resist any loads.

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Bridgeport Lamp Chimney Co. Bowstring Concrete Arch Bridge
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This new material broke the shackles of traditional masonry forms when the flat slab floor system was developed about 1905, together with new monolithic structural forms for bridges and buildings, including the reinforced concrete bowstring arch.

Thus, McEnteer was in the forefront of a development in structural forms made possible by the introduction of reinforced concrete. He continued to use the monolithic reinforced concrete frame and mushroom floor system in numerous buildings in northern West Virginia. These buildings, although impressive engineering accomplishments, lacked the architectural refinements in form and detail that so clearly mark his principal area of activity - bridge work.

After the completion of the Palace Furniture Company building, he remained in Clarksburg, forming a partnership with P.M. Harrison, the representative in Clarksburg of the York Bridge Company. In 1914, McEnteer was appointed to superintend the construction of the Fourth Street bridge in Clarksburg, designed by the Luten Bridge Company, and thus began his interest in reinforced concrete bridges. Also in 1914, his partnership with P.M. Harrison developed into the incorporation of the Concrete Steel Bridge Company. Specializing in reinforced concrete structures, the company built from its own plans more than 1000 bridges, scores of industrial and commercial buildings, and many other structures such as dams, waterworks, and coal facilities.

The bridge company expanded each year and in 1924, the year of the construction of the Bridgeport Bridge, had 52 separate construction crews in the field. By 1925 several branch offices had been established in Pittsburgh and Harrisburg, Pennsylvania; Huntington, West Virginia; Knoxville, Tennessee; and a subsidiary company in Jacksonville, Florida. The company policy in the early years had been to avoid large contracts, but in later years several large bridges were built.

The bridge company had diversified its interest from the beginning, and in 1916 McEnteer had incorporated the Clarksburg Supply and Equipment Company and the Clarksburg Fuel Coal Company. The building construction business, which had boomed in Clarksburg during the late teens, had sadly declined by 1926. In an effort to save the Clarksburg Supply and Equipment Company, a consolidation took place with two other companies (suppliers of concrete and concrete blocks) backed by the assets of the Concrete Steel Bridge Company. Assured that the problems of the Supply and Equipment Company were now solved, the bridge company embarked, in 1928-1929, upon a large bridge program. The chief project was the large multi-span bridge at Hyner,

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Pennsylvania. The resources of the bridge company were already hard pressed in supporting the Consolidated Supply Company, when unexpected difficulties were encountered in the foundations of the Hyner bridge, which required more working capital. Additional bank loans could not be secured and, as the Depression hit, the Concrete Steel Bridge Company was finally liquidated in September 1931.

McEnteer showed his disillusionment in the article he wrote for the Harvard class book on the 25th anniversary of his graduation:

I once thought that the design and construction of about 600 bridges (some fairly important) might be considered an achievement, but in retrospect, it looks like just another method of earning a living.

Following the collapse of his company, Frank McEnteer joined the State Road Commission, first as a district engineer, and later as construction engineer for the northern district of West Virginia. He played an important role during World War II in the Middle East and rose to be named chief engineer of the construction division for the U.S. Armed Forces in Africa and the Middle East.

Returning to Clarksburg after the war at an age when most men would think of retiring, McEnteer opened an office as a consulting engineer and served in this capacity until his death in 1957.

Many of McEnteer's bridges and buildings remain in service after half-a-century. Although there are larger bridges bearing the stamp of McEnteer, the Bridgeport Bridge is a most fitting memorial to a pioneer of reinforced concrete.

The Bridgeport Bridge is the sole surviving structure of the Bridgeport Lamp Company and its successor, the Master Glass Company. Founded in 1904, the Bridgeport Lamp Chimney Company was one of many glass factories located from Weston to Morgantown in the Monongahela Valley.

The Bridgeport Lamp Chimney Company flourished following World War I, requiring an expansion of facilities in 1923, when a total of 24,000 lamp chimneys were produced each day. The level of production required extra storage, which led to the construction of a warehouse across Simpson Creek and the need for a bridge.

The company was sold to the Master Glass Company in 1940, which embarked

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Bridgeport Lamp Chimney Co. Bowstring Concrete Arch Bridge
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upon the manufacture of glass marbles, not only for recreational purposes, but also for roll-on deodorant products and sign reflectors. This firm remained in production until 1973. Later in 1973 the plant was acquired by the city of Bridgeport. In 1975 the buildings were razed to make way for a swimming pool, tennis courts, and parking as part of the city's park and recreation department. Recreational facilities extend on both sides of Simpson Creek.

Bibliography

Condit, Carl W., American Building Art: The Twentieth Century.
New York: Oxford University Press, 1961.

Hool, George A. and Johnson, Nathan C., Concrete Engineer's Handbook.
New York: McGraw-Hill, 1918.

Kemp, Janet K. and Kemp, Emory, "People in Public Works: Frank Duff McEnteer", American Public Works Association Reporter (February 1985):
4-5.

Letter from Quentin P. Bennett, District Conservationist, Soil Conservation Service, U.S. Department of Agriculture, Clarksburg, WV to Rexford K. Stone, Civil Engineer, River Basin-Watershed Planning Staff, Morgantown, WV. May 23, 1972.

Verbal boundary description

UTM coordinates are for the center of the bridge which is shown on the site map on HAER cover sheet (attached).

Verbal boundary justification

The nominated property is the bridge only.

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Bridgeport Lamp Chimney Co. Bowstring Concrete Arch Bridge
Harrison County, WV

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List of Photographs

- 3. Emory L. Kemp
- 4. August 13, 1996
- 5. Emory L. Kemp
(The above information applies to all photographs.)
- 6. Downstream side elevation, facing south east.
- 7. #1

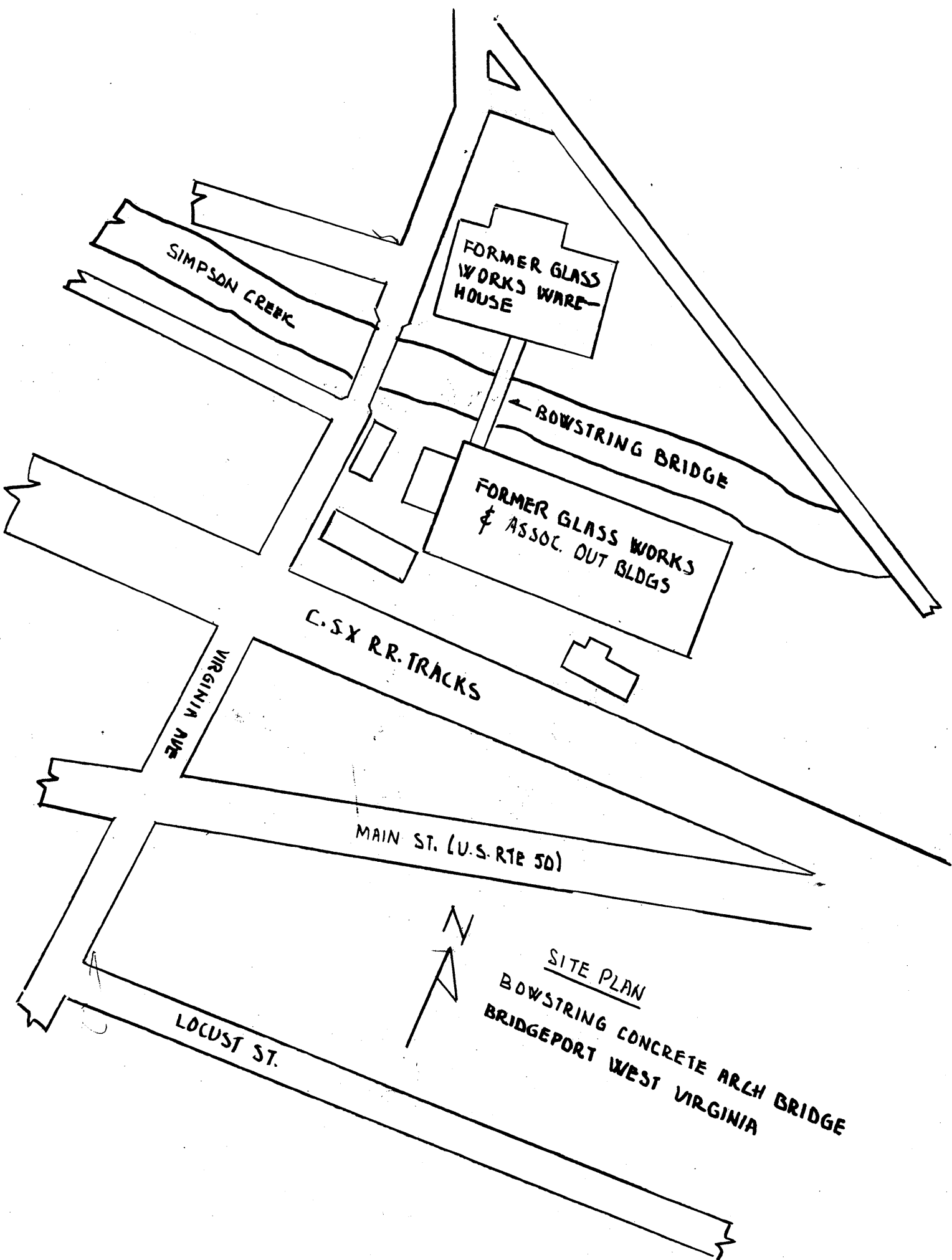
- 6. End elevation, facing north.
- 7. #2

- 6. Detail of vertical member, facing north east.
- 7. #3

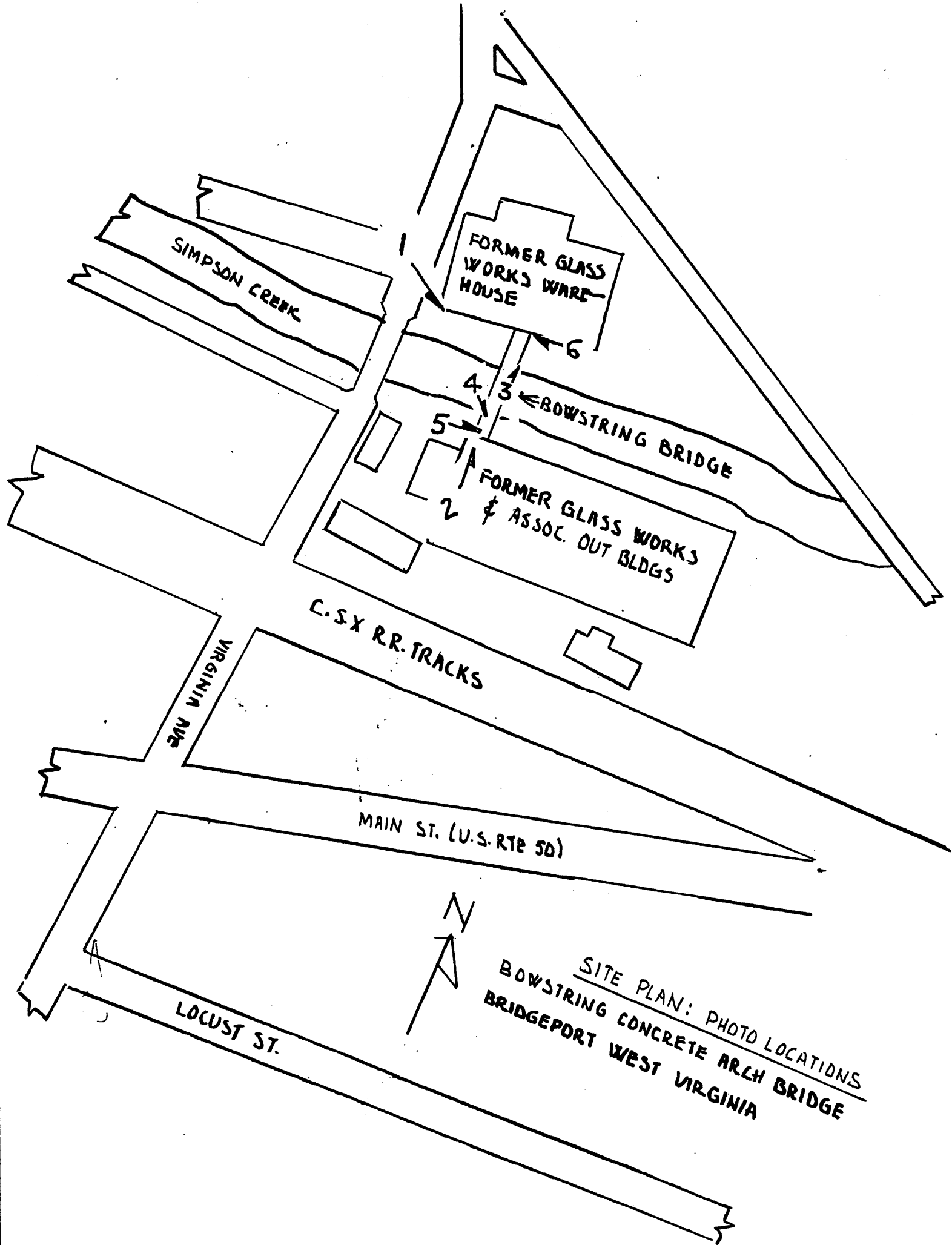
- 6. Detail of vertical, facing south east.
- 7. #4

- 6. End panel, upstream truss, facing south east.
- 7. #5

- 6. End detail of bridge and pier, facing west.
- 7. #6



SITE PLAN
BOWSTRING CONCRETE ARCH BRIDGE
BRIDGEPORT WEST VIRGINIA



SIMPSON CREEK

FORMER GLASS
WORKS WARE-
HOUSE

6

4

3

BOWSTRING BRIDGE

5

FORMER GLASS WORKS
& ASSOC. OUT BLDGS

C.S.X R.R. TRACKS

VIRGINIA AVE

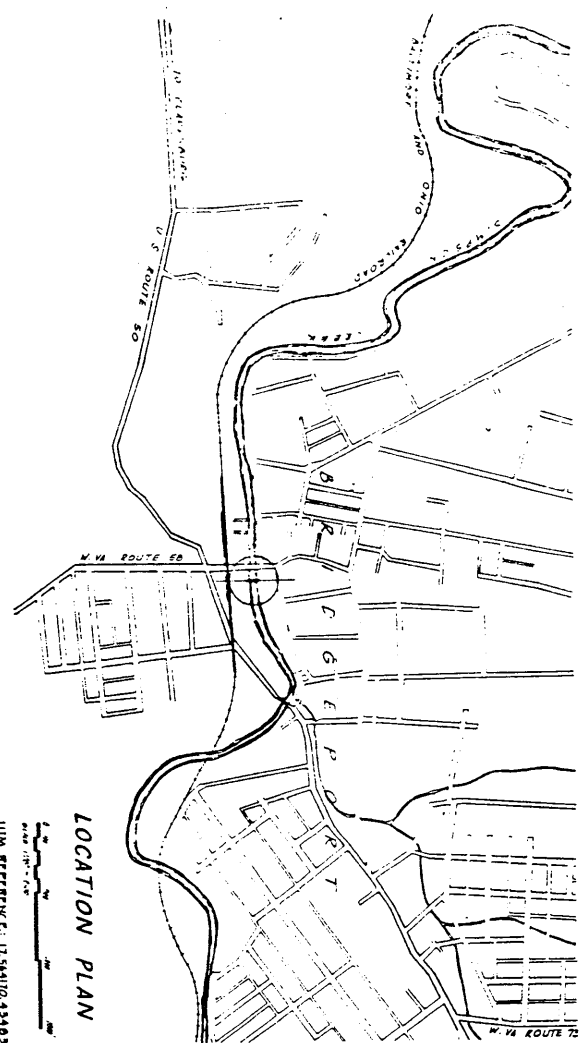
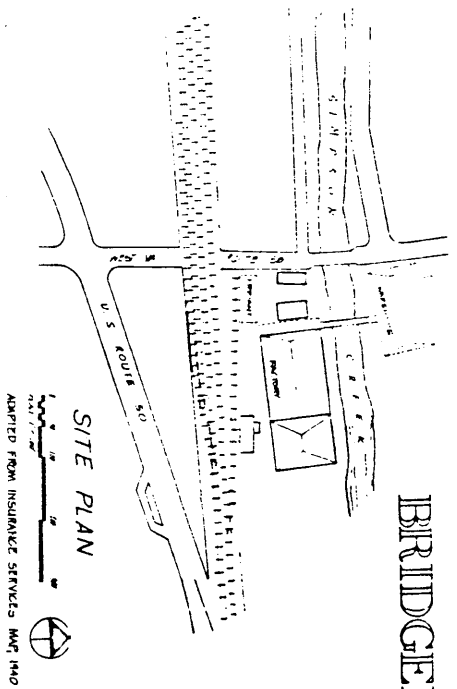
MAIN ST. (U.S. RTE 50)



LOCUST ST.

SITE PLAN: PHOTO LOCATIONS
BOWSTRING CONCRETE ARCH BRIDGE
BRIDGEPORT WEST VIRGINIA

BRIDGEPORT LAMP CHIMNEY COMPANY BRIDGE BRIDGEPORT, WEST VIRGINIA

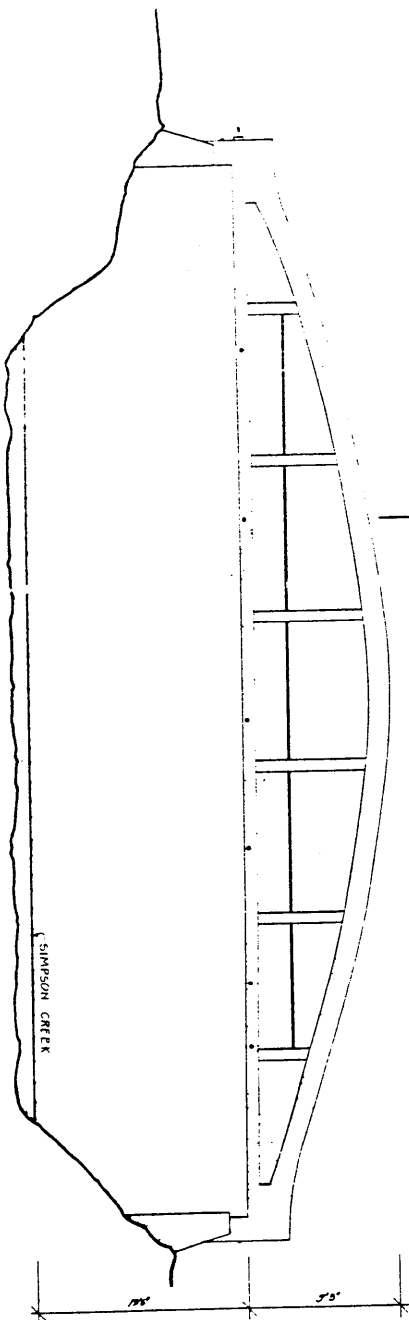


THIS STRUCTURE PROVIDES INSTANT INTO THE EARLY INDUSTRIAL DEVELOPMENT OF THE BRIDGEPORT AREA AND OF THE STATE AS A WHOLE. FOUNDED IN 1904, THE BRIDGEPORT LAMP CHIMNEY COMPANY WAS ONE OF MANY COMPANIES WHICH CHOSE TO LOCATE IN WEST VIRGINIA TO TAKE ADVANTAGE OF RECENT DEVELOPMENTS FAVORABLE TO INDUSTRY. MOST IMPORTANT IN TERMS OF THE GLASS INDUSTRY WAS THE PROSPECT OF A PLentiful AND INSURABLE SUPPLY OF NATURAL GAS AS FUEL. THIS HAD BEEN A TRADITIONAL PROBLEM IN THE GLASS TRADE AND WAS PERMANENTLY RESPONSIBLE FOR ITS TRANSIENT CHARACTER. THE FIRST WORLD WAR PROVED TO BE A GREAT STIMULUS TO THE COMPANY'S BUSINESS. IN 1923, THE PLANT WAS EXPANDED TO 48 SHOPS PRODUCING A TOTAL OF 24,000 CHIMNEYS PER DAY, AND A WAREHOUSE WAS BUILT ON THE OTHER SIDE OF SIMPSON CREEK TO PROVIDE ADEQUATE STORAGE FACILITIES. IN 1924, THE REINFORCED CONCRETE ARCH BRIDGE WAS BUILT TO PROVIDE A CONNECTION FROM THE PLANT TO THIS WAREHOUSE. THE REAL SIGNIFICANCE OF THIS BRIDGE LIES IN ITS EXISTENCE AS AN EXAMPLE OF THE WORK OF FRANK D. MENTZER, A NATIVE OF PENNSYLVANIA, WHO PLAYED A MAJOR ROLE IN THE INDUSTRIAL EXPANSION WHICH WAS A RESULT OF THE INCREASED UTILIZATION OF WEST VIRGINIA'S COAL, GAS, AND OIL RESOURCES. DURING THE BUILDING BOOM WHICH ACCOMPANIED THIS EXPANSION, HE WAS PRIMARILY RESPONSIBLE FOR MAKING THE TECHNOLOGY OF REINFORCED CONCRETE AN INDISPENSIBLE PART OF THE SKILLSET OF BRIDGE AND BUILDING CONSTRUCTION. AFTER RECEIVING HIS DEGREE FROM HARVARD UNIVERSITY IN 1908, MENTZER WORKED FOR VARIOUS COMPANIES IN HAMILTON, ONTARIO, DETROIT, AND PITTSBURGH BEFORE SETTLING IN CHARLESTON IN 1912. IN THAT YEAR, HE BUILT THE PALMER FIVE-SPAN ARCH COMPANY (STILL STANDING), THE FIRST REINFORCED CONCRETE BRIDGE IN WEST VIRGINIA. ON JANUARY 13, 1914, MENTZER FORMED THE CONCRETE STEEL BRIDGE COMPANY OF WHICH HE SERVED AS PRESIDENT AND GENERAL MANAGER UNTIL THAT DATE UNTIL 1932 WHEN THE COMPANY WAS DISSOLVED IN THE TRANSFER OF THE BRIDGEPORT LAMP CHIMNEY COMPANY TO THE BRIDGEPORT LAMP CHIMNEY COMPANY AND BRIDGES. ASIDE FROM SUPERVISING A MAJOR PART OF CONCRETE BRIDGES, HIGHWAY BRIDGES, THE COMPANY BUILT BRIDGES IN NEW YORK, PENNSYLVANIA, NORTH CAROLINA, TENNESSEE, AND ALSO IN THE EFFECT OF THE BRIDGEPORT LAMP CHIMNEY COMPANY BRIDGE AS AN EXAMPLE OF THE WORK OF WEST VIRGINIA'S MOST IMPORTANT EARLY BRIDGE OF REINFORCED CONCRETE STRUCTURES AND ONE OF THE MOST IMPORTANT IN THE COUNTRY.

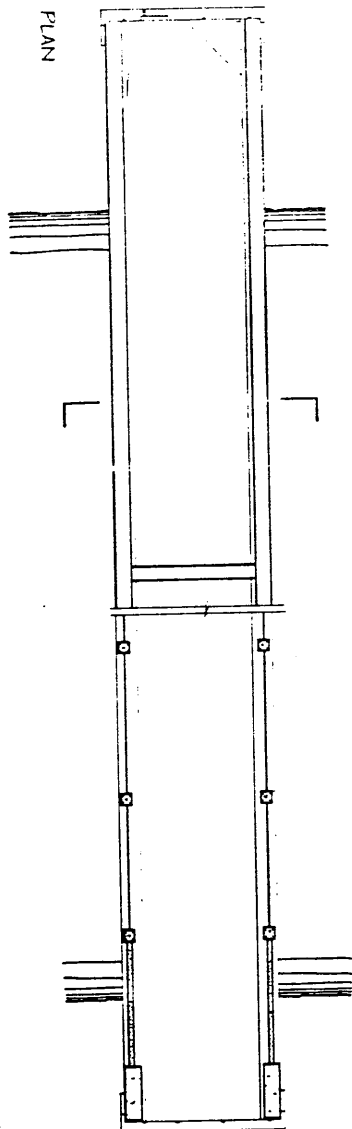
THIS SURVEY, CONDUCTED BY THE HISTORIC AMERICAN ENGINEERING RECORD (HAER), IS PART OF A LONG-RUNNING PROGRAM TO COMPLETE INVENTORIES OF THE MOST SIGNIFICANT STRUCTURES AND INCLUDES A GROUP OF HISTORICALLY SIGNIFICANT ENGINEERING STRUCTURES IN THE STATE OF WEST VIRGINIA. THE SURVEY WAS SPONSORED BY THE NATIONAL PARK SERVICE (HAER). THE WEST VIRGINIA DEPARTMENT OF MINERAL RESOURCES, AND THE DEPARTMENT OF CIVIL ENGINEERING, WEST VIRGINIA UNIVERSITY.

THE FIELD WORK, WRITTEN DATA, MEASURED DRAWINGS, HISTORICAL INVENTORIES, AND PHOTOGRAPHS, PRODUCED DURING THE SUMMER OF 1975 WERE PREPARED UNDER THE DIRECTION OF ENIGLAS L. GERFEN, CHIEF, HAER, AND CHARLES DARROTT, II, ARCHITECT, HAER, WITH DR. DUANE S. ELLIOTT AS PROJECT SUPERVISOR (OKLAHOMA STATE UNIVERSITY) AND DR. EMORY L. KEMP AS PROJECT ADVISOR (WEST VIRGINIA UNIVERSITY). THE SURVEY TEAM CONSISTED OF DENNIS H. EMMODIA, HISTORICIAN (GEORGIA INSTITUTE OF TECHNOLOGY); PATRICK A. FLOREY, ARCHITECT (COLUMBIA UNIVERSITY); FREDERICK R. LOV, ARCHITECT (UNIVERSITY OF FLORIDA); AND WAYNE S. GARRICK, STUDENT ARCHITECT (FRATT INSTITUTE).

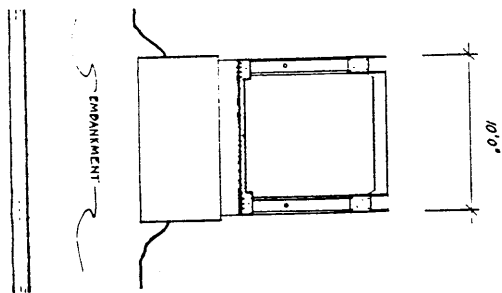
WEST ELEVATION



PLAN



SECTION



SCALE 1/4" = 1'



DESIGNED BY: BRUCE S. GARRICK AND THOMAS AUSTIN 1924

OFFICE OF ARCHITECTURE AND HISTORIC PRESERVATION
STATE OF WEST VIRGINIA SURVEY
BRIDGE DIVISION OF THE NATIONAL PARK SERVICE
UNITED STATES DEPARTMENT OF THE INTERIOR

BRIDGEPORT LAMP CHIMNEY COMPANY (MASTER GLASS COMPANY) BRIDGE 1924
CROSSING SIMPSON CREEK
HARRISON COUNTY
BRIDGEPORT

RECORD NO.
HAER
WV-23

HISTORIC AMERICAN
ENGINEERING RECORD
SHEET 2 OF 2 SHEETS

WEST VIRGINIA