

Maryland Historical Trust

Maryland Inventory of Historic Properties number: ~~CARR-1474~~ CARR-20

Name: Kaysville-Fredrick County Rd. over
Roady Crk Monocacy River

The bridge referenced herein was inventoried by the Maryland State Highway Administration as part of the Historic Bridge Inventory, and SHA provided the Trust with eligibility determinations in February 2001. The Trust accepted the Historic Bridge Inventory on April 3, 2001. The bridge received the following determination of eligibility.

MARYLAND HISTORICAL TRUST	
Eligibility Recommended _____	Eligibility Not Recommended <u>X</u>
Criteria: <u> </u> A <u> </u> B <u> </u> C <u> </u> D	Considerations: <u> </u> A <u> </u> B <u> </u> C <u> </u> D <u> </u> E <u> </u> F <u> </u> G <u> </u> None
Comments: _____ _____ _____	
Reviewer, OPS: <u>Anne E. Bruder</u>	Date: <u>3 April 2001</u>
Reviewer, NR Program: <u>Peter E. Kurtze</u>	Date: <u>3 April 2001</u>

Ans



- Metal Suspension
- Metal Arch
- Metal Cantilever
- Concrete
 - Concrete Arch Concrete Slab Concrete Beam
 - Rigid Frame
 - Other Type Name _____

Description:

Monocacy River

Describe Setting: CL201 carries Keysville-Frederick County Road over ~~Piney Creek~~ in Carroll County, Maryland. Keysville-Frederick County Road runs generally north-south at this location; Piney Creek runs east-west. The bridge is located in a rural area with open pastures on all sides. Piney Creek has wooded channel banks at this location.

Describe Superstructure and Substructure: CL201 is a double span with four continuous steel stringers, with a concrete deck and bituminous overlay on the road surface. There are stand W beam guard rails on both sides of the deck. The superstructure is supported by high cantilever abutments and one solid shaft pier. The abutments, wing walls and the pier are all stone masonry, with concrete caps and footings. There is a stone masonry parapet on top of the wing walls on both sides of both approaches. There is some rip rap placed around the base of one abutment and the pier. The structure is 18' wide and carries to lanes of traffic over a total bridge length of 193'.

Discuss Major Alterations: In 1978 the entire super structure of CL201 was replaced, and a concrete collar was built around the base of the pier. In 1989 the substructure was repaired and repointed.

History:

When Built: 1900

Why Built: local transportation needs

Who Built:

Why Altered: structural and safety needs

Was this bridge built as part of an organized bridge building campaign: yes

Surveyor Analysis:

This bridge may have NR significance for association with:

- A Events B Person
- C Engineering/Architectural

Was this bridge constructed in response to significant events in Maryland or local history:It is not likely that CL201 was constructed in response to any significant events in state or local history.

When the bridge was built and/or given a major alteration, did it have a significant impact on the growth and development of the area:No, construction and alteration has not had a significant impact on the development of the area.

Is the bridge located in an area which may be eligible for historic designation and would the bridge add to or detract from historic and visual character of the possible district:No, it is not located in an area which may be eligible for historic designation.

Is the bridge a significant example of its type:CL201 is a typical example of its type, and would not be considered particularly significant.

Does the bridge retain integrity of the important elements described in the Context Addendum:No, replacement of the entire superstructure in 1978, and the extensive repairs made to the substructure in 1989 raise considerable question about the integrity of CL 201.

Is the bridge a significant example of the work of the manufacturer, designer, and/or engineer and why:No, it is not a significant example of a manufacturer, designer or engineer.

Should this bridge be given further study before significance analysis is made and why:No, there is no need for further study on this structure because it only retains one original structural feature (the abutments and pier), and this has been extensively modified.

Bibliography:

Carroll County

v.d. Bridge Inspection Files.

Greiner, Inc.

1995 Historic Bridge Inventory Form.

Spero, P.A.C. & Company, and Louis Berger & Associates

1994 Historic Bridges in Maryland: Historic Bridge Context.

United States Geological Survey

1953 7.5' Emmitsburg Quadrangle, photorevised 1985.

Surveyor:

Name: Stephanie L. Bandy **Date:** September 1995

Organization: State Highway Admin. **Telephone:** (410) 321-2213

Address: 2323 West Joppa Road Brooklandville, MD 21022

CARR-20

maryland historic highway bridges
Bridge Type Metal Girder
Map A-10 Taneytown
County Carroll
Bridge # and name CL 201/Keysville-
Frederick Co. Rd. over Piney Creek
Standard Historic Highway Bridges

Monocacy River
CARR 1474





CARR = 120

CL 201 KEYSVILLE - FREDERICK COUNTY ROAD OVER Monocacy River

CARROLL CO., MD

C. HALL

8/98

MD SHPO

EAST APPROACH

1 OF 6



CARR-20

CL 201 KEYSVILLE-FREDERICK COUNTY ROAD OVER Monocacy River

CARROLL Co., MD

C. HALL

8/98

MD SHPO

SOUTH ELEVATION

2 OF 6



CARR-2011
CL 201 KEYSVILLE - FREDERICK COUNTY ROAD OVER Monocacy River
CARROLL Co., MD

C. HALL

8/98

MD SHPO

WEST APPROACH

3 of 6



1978

CARR-20⁴¹
CL201 KEYSVILLE-FREDERICK COUNTY ROAD OVER Monocacy River

CARROLL CO., MD

C. HALL

8/98

MD SHPO

NORTH RAILING

4 of 6



CARR-20

CLZ01 KEYSVILLE - FREDERICK COUNTY ROAD OVER Monocacy River

CARROLL Co., MD

C. HALL

8/98

MB SHPO

SOUTH RAILING

5 OF 6



CARR-20
CL 201 KEYSVILLE - FREDERICK COUNTY ROAD OVER Monocacy River
CARROLL CO., MD
C. HALL
8/98
MD SHPO
NORTH ELEVATION
6 OF 6

UNITED STATES DEPARTMENT OF THE INTERIOR
NATIONAL PARK SERVICE

PROJECT # 0700206517

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NATIONAL REGISTER OF HISTORIC PLACES INVENTORY -- NOMINATION FORM

SEE INSTRUCTIONS IN *HOW TO COMPLETE NATIONAL REGISTER FORMS*
TYPE ALL ENTRIES -- COMPLETE APPLICABLE SECTIONS

1 NAME

HISTORIC

AND/OR COMMON

Keysville Road Bridge (Site)

2 LOCATION

STREET & NUMBER

Keysville Road over the Monocacy River

NOT FOR PUBLICATION

CITY, TOWN

Keysville

CONGRESSIONAL DISTRICT

Sixth

STATE

Maryland

VICINITY OF

24

COUNTY

Carroll/Frederick

CODE

013/021

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"/> MUSEUM
<input type="checkbox"/> BUILDING(S)	<input type="checkbox"/> PRIVATE	<input type="checkbox"/> UNOCCUPIED	<input type="checkbox"/> COMMERCIAL	<input type="checkbox"/> PARK
<input checked="" type="checkbox"/> STRUCTURE	<input type="checkbox"/> BOTH	<input type="checkbox"/> WORK IN PROGRESS	<input type="checkbox"/> EDUCATIONAL	<input type="checkbox"/> PRIVATE RESIDENCE
<input type="checkbox"/> SITE	<input checked="" type="checkbox"/> PUBLIC ACQUISITION	<input checked="" type="checkbox"/> ACCESSIBLE	<input type="checkbox"/> ENTERTAINMENT	<input type="checkbox"/> RELIGIOUS
<input type="checkbox"/> OBJECT	<input type="checkbox"/> IN PROCESS	<input type="checkbox"/> YES: RESTRICTED	<input type="checkbox"/> GOVERNMENT	<input type="checkbox"/> SCIENTIFIC
	<input type="checkbox"/> BEING CONSIDERED	<input checked="" type="checkbox"/> YES: UNRESTRICTED	<input checked="" type="checkbox"/> INDUSTRIAL	<input type="checkbox"/> TRANSPORTATION
		<input type="checkbox"/> NO	<input type="checkbox"/> MILITARY	<input type="checkbox"/> OTHER:

4 OWNER OF PROPERTY

NAME Frederick County-c/o William S. Fout, Roads Engineer

Carroll County-c/o George S. Conover, Engineering Assistant

STREET & NUMBER

County Office Bldg., 225 N.Center Street/Winchester Hall

CITY, TOWN

Westminster/Frederick

STATE

Maryland 21157/21701

5 LOCATION OF LEGAL DESCRIPTION

COURTHOUSE,
REGISTRY OF DEEDS, ETC

Carroll and Frederick County Courthouses

STREET & NUMBER

CITY, TOWN

Westminster/Frederick

STATE

Maryland

6 REPRESENTATION IN EXISTING SURVEYS

TITLE Keysville - Frederick County Road Bridge - Description of Bridge and Drawings by Montgomery C. Meigs original chapter of the Society for

DATE Industrial Archeology.

November 8, 1975

FEDERAL STATE COUNTY LOCAL

DEPOSITORY FOR
SURVEY RECORDS

Historic American Engineering Record

CITY, TOWN

Washington,

STATE

D.C. 20240

7 DESCRIPTION

CARR-20

CONDITION		CHECK ONE	CHECK ONE
<input type="checkbox"/> EXCELLENT	<input type="checkbox"/> DETERIORATED	<input type="checkbox"/> UNALTERED	<input checked="" type="checkbox"/> ORIGINAL SITE
<input type="checkbox"/> GOOD	<input type="checkbox"/> RUINS	<input checked="" type="checkbox"/> ALTERED	<input type="checkbox"/> MOVED DATE _____
<input type="checkbox"/> FAIR	<input type="checkbox"/> UNEXPOSED		

DESCRIBE THE PRESENT AND ORIGINAL (IF KNOWN) PHYSICAL APPEARANCE

The Keysville Road Bridge spans the Monocacy River and is located 1.5 minutes north-northwest of Keysville, Carroll County, Maryland. Two points of the bridge are also located in Frederick County, Maryland.

The structure is an iron bowstring pony truss bridge in two spans of 93'8" in length, built circa 1873 by the Wrought Iron Bridge Company of Canton, Ohio. The bridge is placed on a rectangular pier and abutments of massive uncoursed rubble masonry, the bases of which have been repaired with concrete due to damage by floods. The original floor was most probably wood joists resting on the lower chord with diagonal planks. The floor was replaced after 1930 using wide flanged steel floor beams and stringers. With the exception of the bridge seats and one detail made of cast iron, the bridge is constructed totally of wrought iron.¹

The bridge crosses the Monocacy River at a 3° skew for no apparent reason. Professor Charles Looney, who prepared a report on the bridge in 1975 using data & photography obtained by members of the Montgomery C. Meigs Original Chapter of the Society for Industrial Archeology, speculated that a ford existed prior to the bridge that determined the position of both the road and property boundaries, and thus the alignment of the bridge.

As can be seen in the attached measured drawings of the bridge, the deck is several feet above the surface of the ground at each approach, a design feature which has probably saved it from being carried away during floods.

The Wrought Iron Bridge Company called this bridge type a "Column Iron Arch Bridge", which is illustrated on Sheet No. 1 of the 1873 catalog, also appended to this report. The upper chord is a Keystone Octagon Column section with two channel sections. The chord is spliced at even number panel points, about every twenty feet, with hand-driven ½" rivets, to span the distance from stone abutment to abutment.

Vertical members are fabricated as rigid beams with 1½x1½x ¼ angles for each flange and a web of 1½x¼ double lacing. The member provides lateral support for the upper chord which is in compression and would tend to buckle sideways.

The lower chord is constructed using two 7 x ¾" bars, spliced at the even panel points into a continuous member equal to the span length (93'8") each. It is fastened to the upper chord through the arch, or bridge, seats by a 2½" diameter pin. A one inch space separates the two lower chord bars to permit verticals and diagonals to be secured.

Round iron tie rods act as diagonal web members (in tension) connecting the upper and lower chords of the bridge. Threaded ends of the rods pass through chord and are secured by nuts, which may also be adjusted to increase or decrease tension in the rod.

See Continuation Sheet #1.

CARR-20

UNITED STATES DEPARTMENT OF THE INTERIOR
NATIONAL PARK SERVICE

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**NATIONAL REGISTER OF HISTORIC PLACES
INVENTORY -- NOMINATION FORM**

Keysville Road Bridge
Keysville,

CONTINUATION SHEET Maryland ITEM NUMBER 7 PAGE 1

The original handrail has been replaced in the 20th century. Sheet No. in the Wrought Iron Bridge Company catalog shows a handsome lattice handrail which was similar, if not identical, to the one originally on the bridge.

The bridge today is in very good condition, and is maintained by the Carroll County Roads Department.

⊗ Demolished Fall 1977.

1. All information used in this description is based on a report entitled "Description of Column Iron Arch Bridge, Wrought Iron Bridge Company, Canton, Ohio", prepared by Professor Charles Looney, member of the Montgomery C. Meigs Original Chapter, Society for Industrial Archeology, who recorded the bridge on November 8, 1975. The entire report and measured drawings are now housed in the offices of the Historic American Engineering Record, Office of Archeology and Historic Preservation, National Park Service, Washington, D. C.

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/HUMANITARIAN	
<input type="checkbox"/> 1700-1799	<input type="checkbox"/> ART	<input type="checkbox"/> ENGINEERING	<input type="checkbox"/> MUSIC	<input type="checkbox"/> THEATER	
<input checked="" type="checkbox"/> 1800-1899	<input type="checkbox"/> COMMERCE	<input type="checkbox"/> EXPLORATION/SETTLEMENT	<input type="checkbox"/> PHILOSOPHY	<input checked="" type="checkbox"/> TRANSPORTATION	
<input type="checkbox"/> 1900-	<input type="checkbox"/> COMMUNICATIONS	<input type="checkbox"/> INDUSTRY	<input type="checkbox"/> POLITICS/GOVERNMENT	<input checked="" type="checkbox"/> OTHER (SPECIFY) Industrial Archeology	
		<input type="checkbox"/> INVENTION			

SPECIFIC DATES C.1873

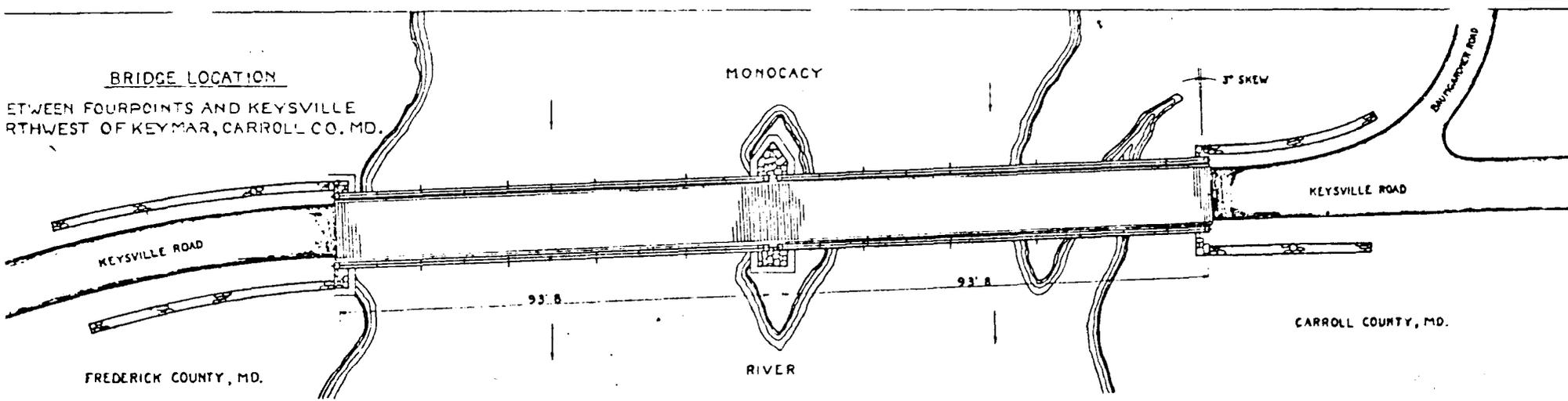
BUILDER/ARCHITECT Wrought Iron Bridge Company
Canton, Ohio

STATEMENT OF SIGNIFICANCE

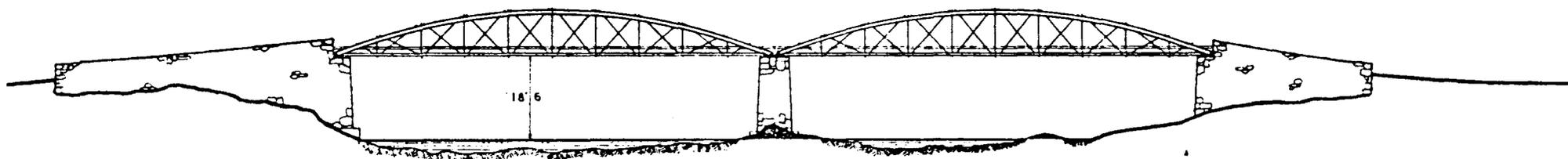
The Keysville Road Bridge is significant as an example of part of the nation's industrial heritage which is disappearing with increasing speed -- a part of our past which Mr. Eric De Lony, Principal Architect of the Historic American Engineering Record, calls an "endangered species". The "endangered species" specifically is the iron truss bridge, a bridge type which increasingly became part of the American landscape in the period 1870-1910. The Keysville Road Bridge, as well as others like it, are in a tenuous position because of their extremely low load limits (which do not support modern traffic volumes), and because of a federally funded replacement program designed to destroy approximately 700 bridges on federally-aided highways and 25,000 more that are said to be structurally unsound because they are "functionally obsolete". The entire program is designed to use \$10.4 billion to replace bridges like the Keysville in the near future.²

The Keysville Road Bridge is one of two structures in Maryland built by the Wrought Iron Bridge Company of Canton, Ohio which became by the 1880' one of the leading building firms in the United States employing 270 men (1881) and having erected bridges in 25 states.³ The Keysville Bridge is specifically noted in their 1874 catalog, and is of extreme importance not only to Maryland but the nation as a surviving example of a two-span column and channel arch bridge. Staff members of HAER believe the bridge is "unique and uncommon" because of its compression member, a bowstring type of arch construction. As a rare, surviving example of this type of bridge, every consideration should be given to its preservation.⁴

1. "Documenting for History the Keysville Bridge Over the Monocacy", Frederick News - Post, December 6, 1975, pp,C-1.
2. New York Times, July 19, 1975.
3. Dan Diebler, Metal Truss Bridges in Virginia: 1865-1932, Volume I (Virginia Highway and Transportation Research Council, 1975),pp.47-8.
4. Frederick News Post, pp. C-1; Letter from Eric DeLony to George S. Conover, Engineering Assistant, Carroll County Roads Department, November 17, 1975.

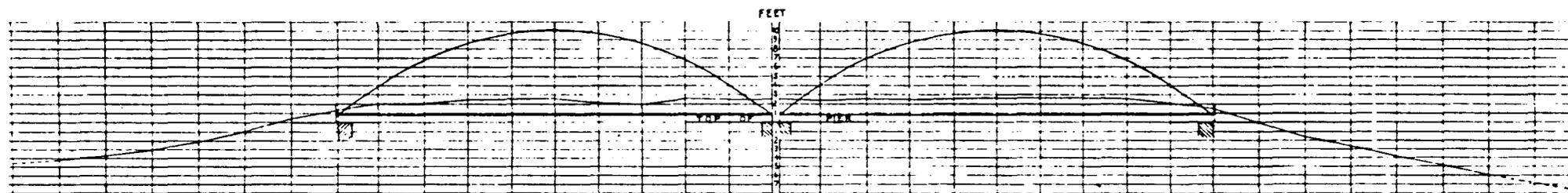


COLUMN IRON ARCH BRIDGE
 WROUGHT IRON BRIDGE COMPANY - CANTON, OHIO
 BUILT c. 1873



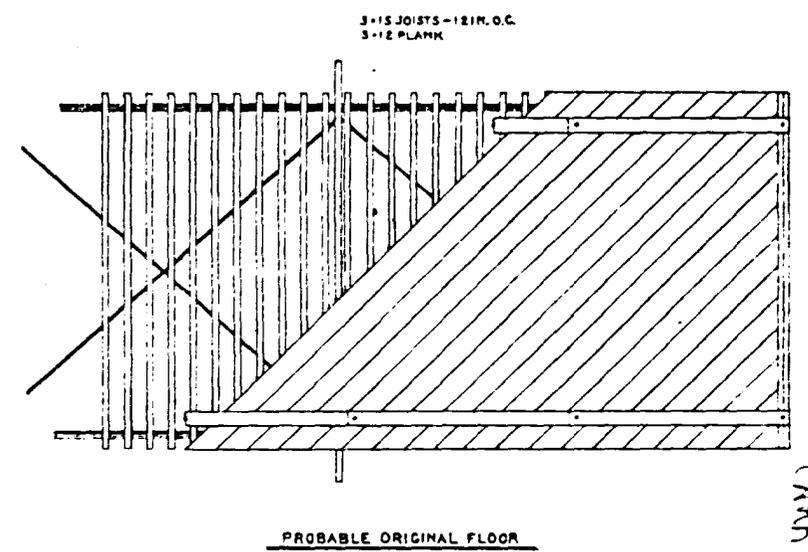
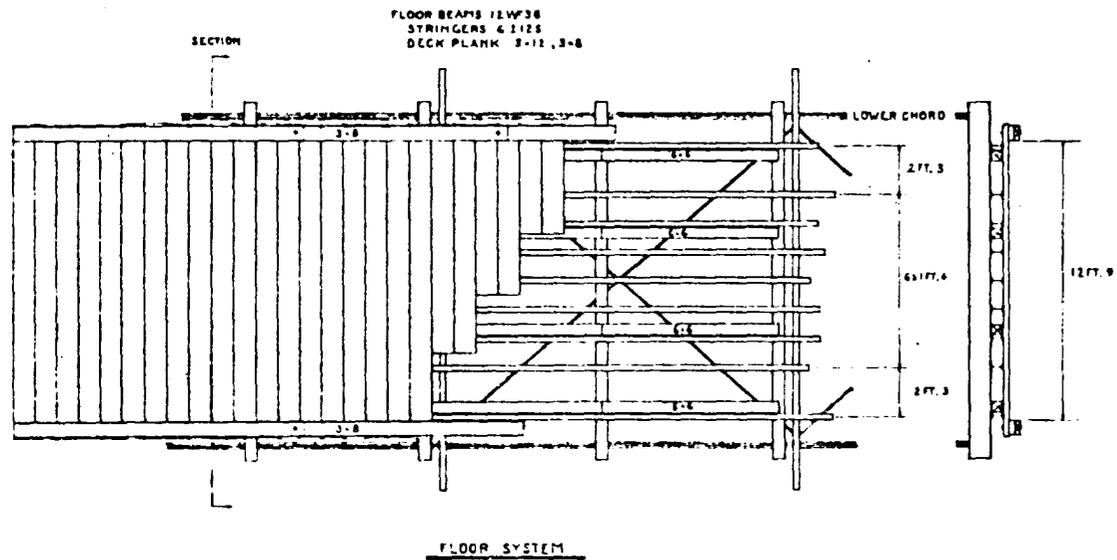
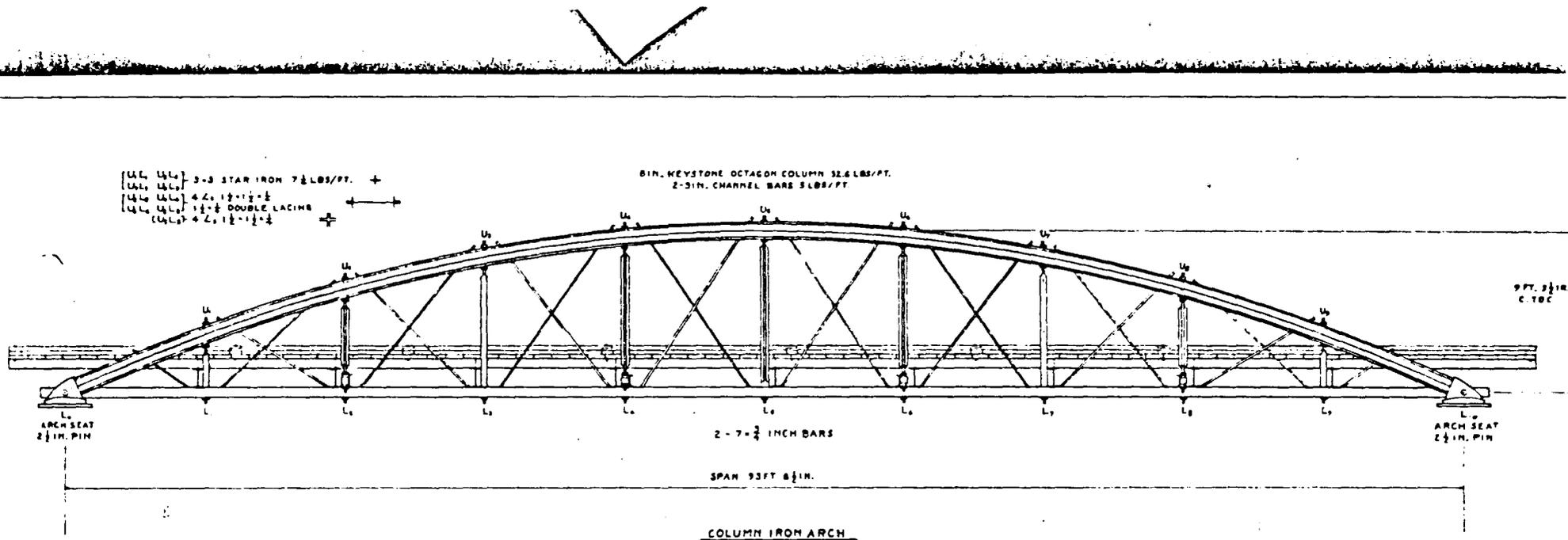
MEASURED BY TEAM OF MCMOC - SIA, NOVEMBER 8, 1975

PROFILE OF BRIDGE DECK AND APPROACH ROADWAY

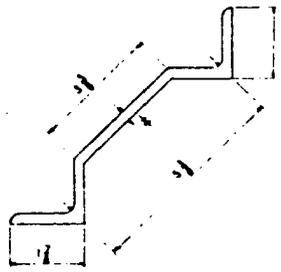
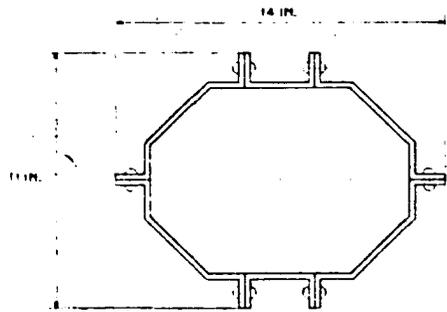


CT.G.L. DRWG. 1.3

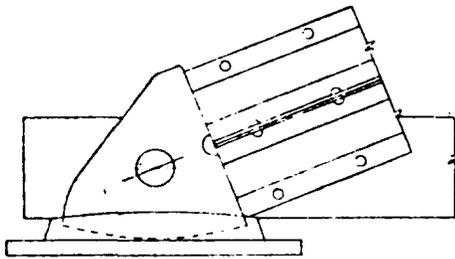
(ARR-20)



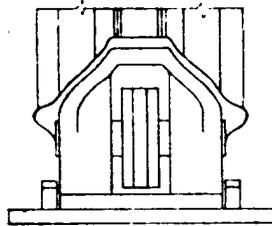
(ARR. 20)



KEYSTONE OCTAGON COLUMN

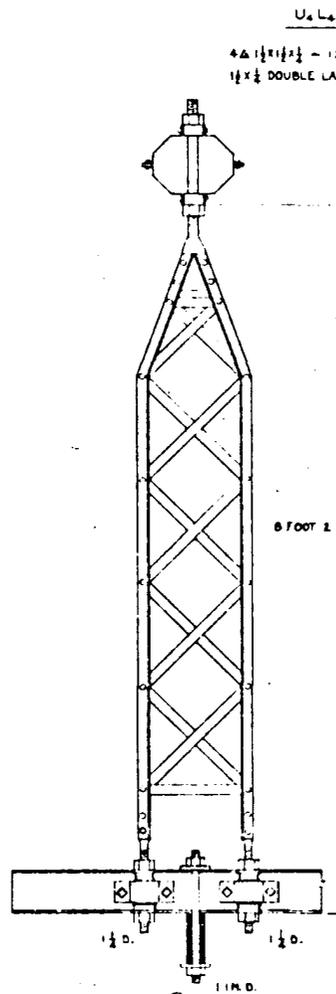
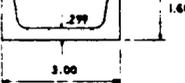


ARCH SEAT
3 IN. - 1 FT



UPPER CHORD

CHANNEL

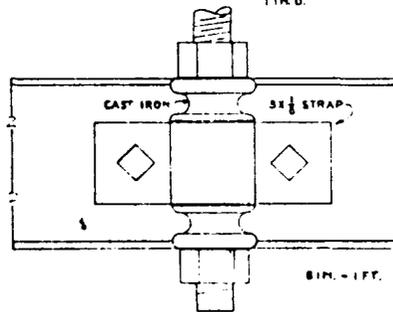


U₆ L₆
4x1 1/2x2 1/2 - 12x12 S. P. S.
1 1/2x1 1/2 DOUBLE LACING

6 FOOT 2

1 1/2 D.

1 IN. D.

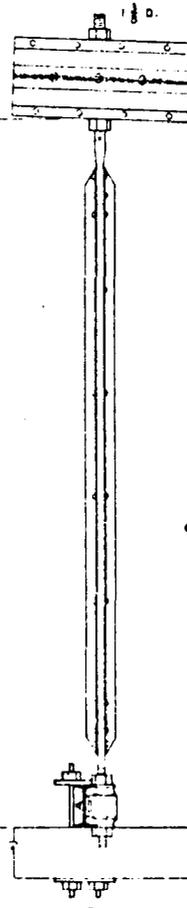


CAST IRON

3x1 1/2 STRAP

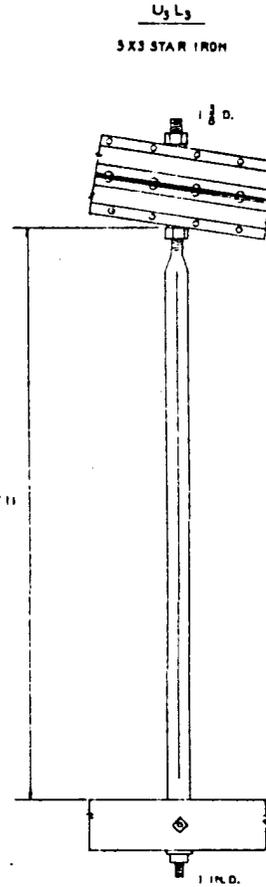
6x3 1/2 EYE BEAM

8 IN. - 1 FT.



6 FOOT 11

1 1/2 D.

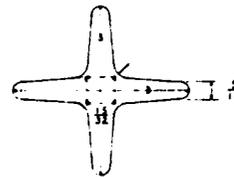


U₃ L₃

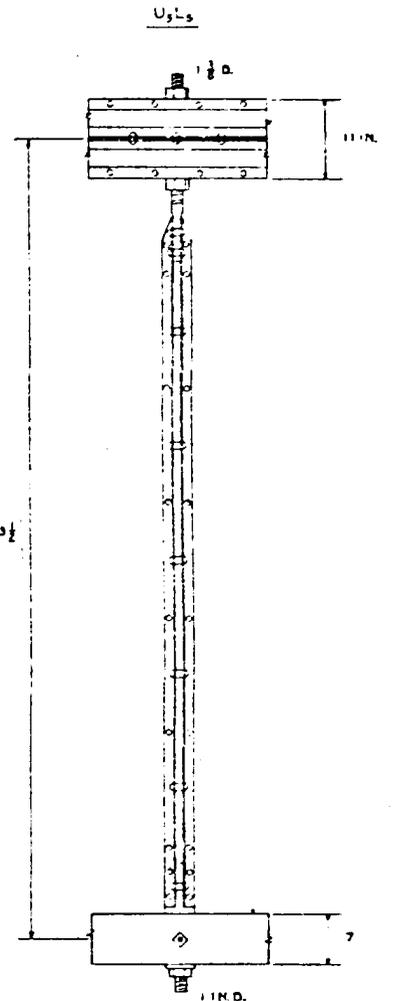
5x3 STAR IRON

1 1/2 D.

1 IN. D.



9 FOOT 3 1/2

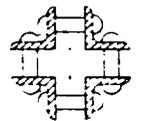


U₉ L₉

1 1/2 D.

1 1/2 IN.

1 IN. D.



4x1 1/2x1 1/2
1 IN. SPACERS

CARR-30



CAR-20
Keyville
Bridge

Emmitsburg Md. Pa
7.5 minute

CARROLL
FREDERICK

1:10,000 FEET
(F.P.)



46% B

CARR-20

- KEYSVILLE ROAD BRIDGE -



1/1

SPYGLASS
OPTICAL
CO. INC.
111 E. 11th St.
Cleveland, Ohio

CARR-20
Keyville Rd
Bridge



CARR-20

Keysville Road Bridge
Dismantling

Mark R. Edwards

4/27/1978

Neg-MHT

CARR-20

①



CARR-20

CARR-20

Keysville Road Bridge

Dismantling

Mark R. Edwards

4/27/1978

Neg. -MHT

4



21

40% (11-0)

AP 10.

CARR-20

Keysville Road Bridge

Dismantling at site

Mark R. Edwards

4/27/1978

Neg-MHT

CARR-20

(2)

Mark Edwards

134
B30
28



CARR-20

Keysville Road Bridge

Dismantling: Move to Silver Hill Museum

Part of Smithsonian Institution

Mark R. Edwards

4/27/1978

Neg-MHT

(5)