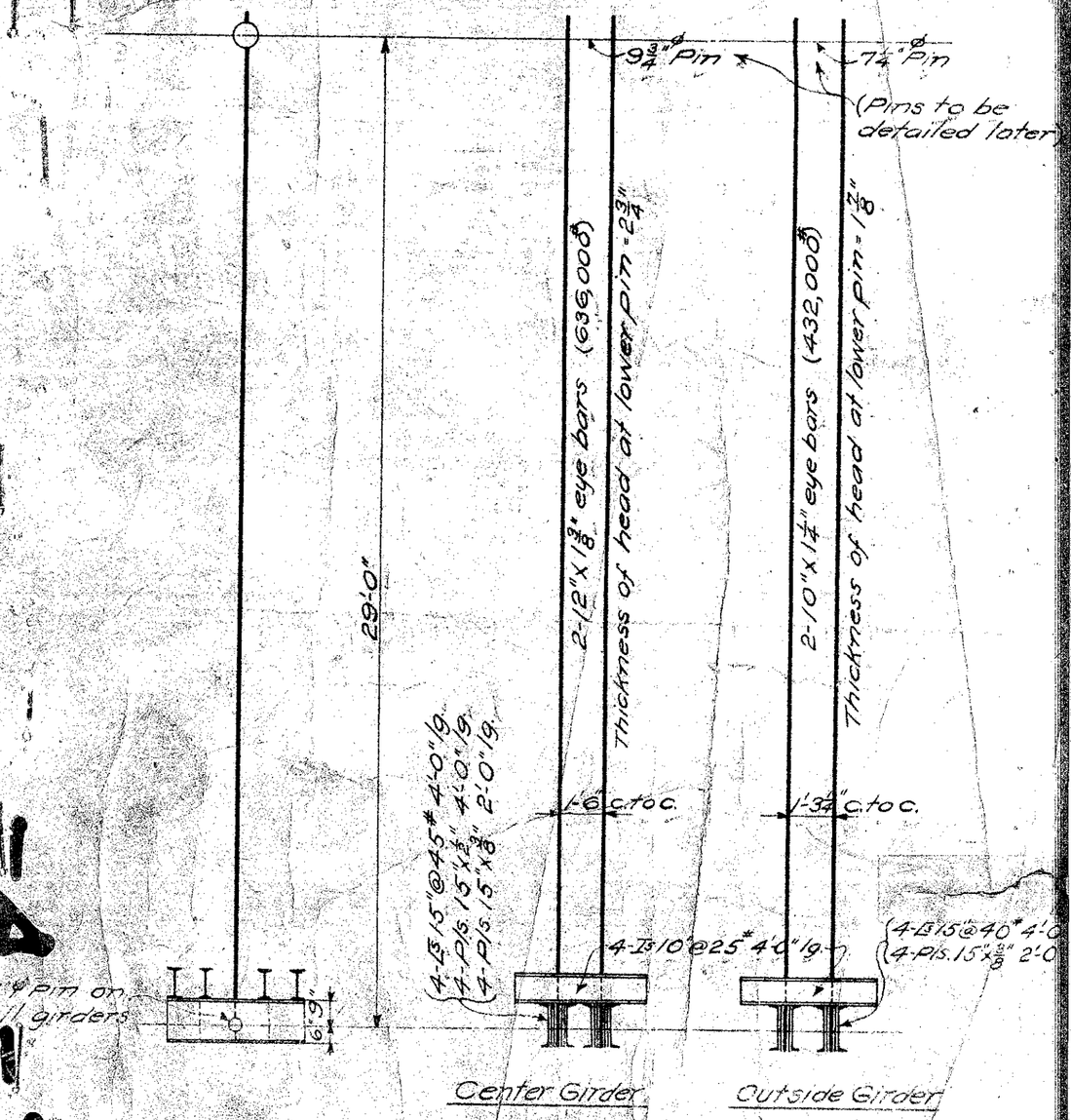
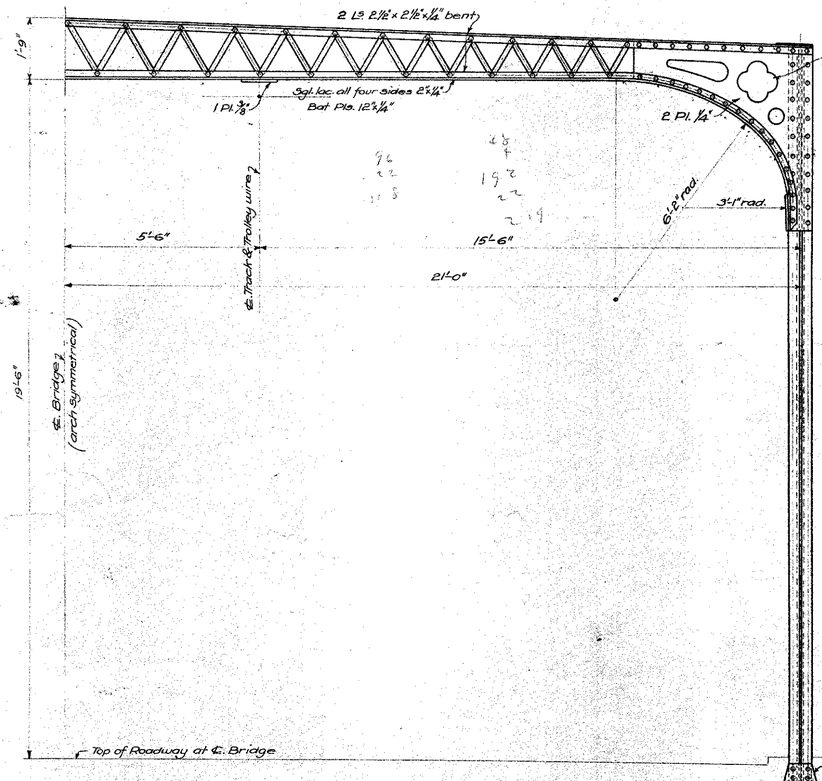
Live Load Anchorage
For
Military Street Bridge
PORT HURON, MICH

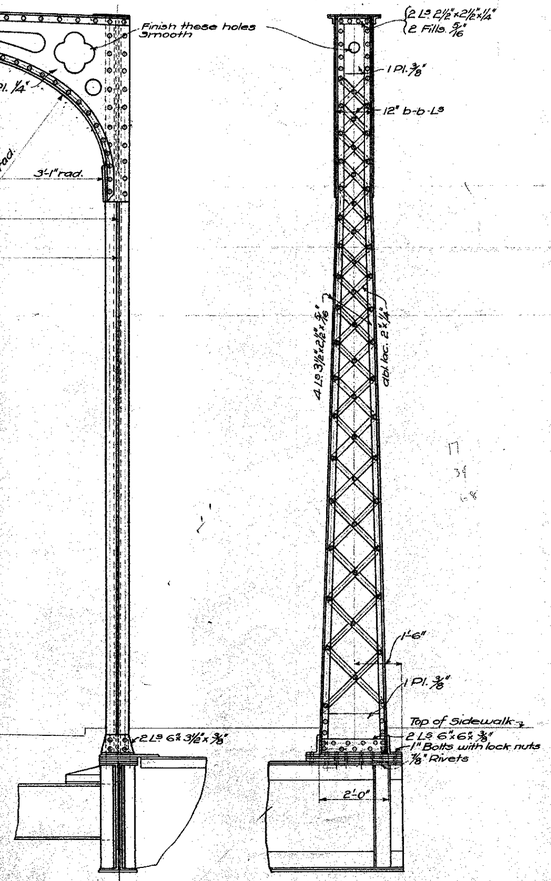


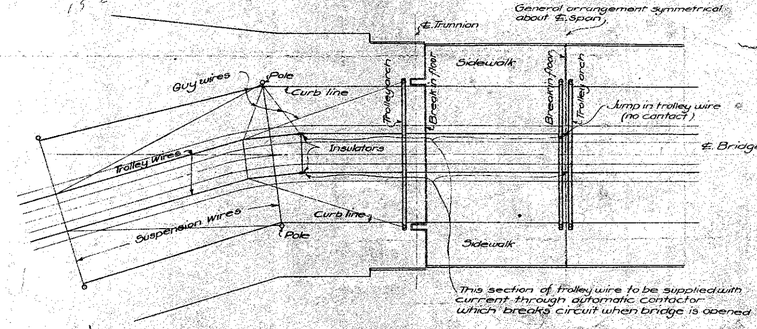
11

a.a.n. 10/29/12

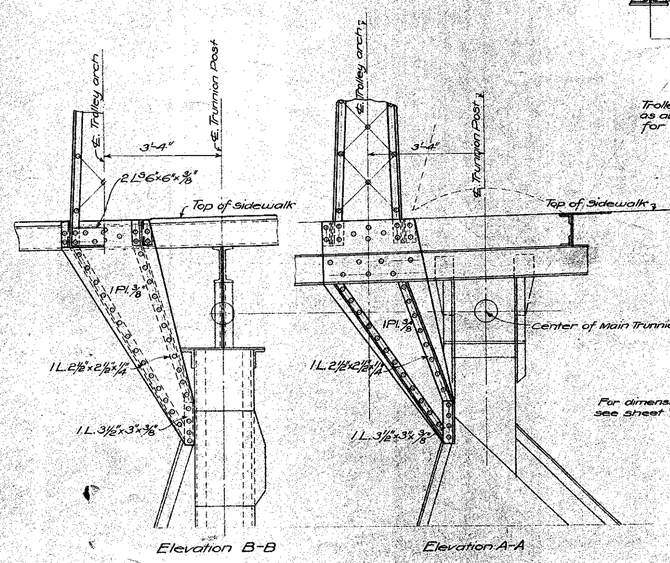


TROLLEY ARCH FOR CENTER OF SPAN

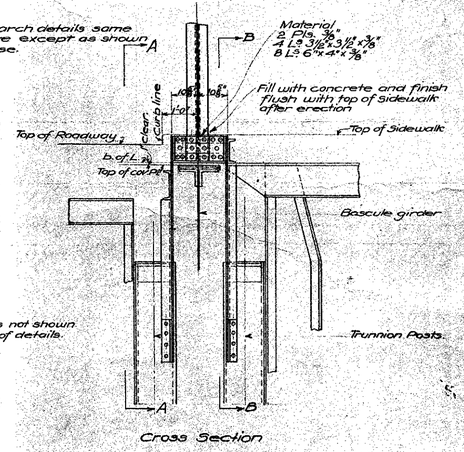




GENERAL PLAN



TROLLEY ARCH FOR TRUNNION ENDS OF BRIDGE



Gen'l. Note:
Material and workmanship as per specifications:
Rivets 3/4" unless noted.
Specifications: See Sheet #2.

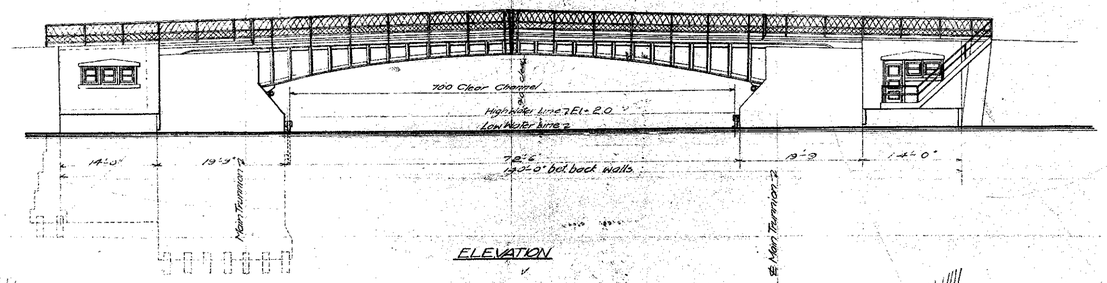
STRAUSS TRUNNION BASCULE BRIDGE
PATENTED
OVER
BLACK RIVER AT MILITARY STREET
FOR
CITY OF PORT HURON, MIC

DRAWN BY J.C.L.	THE STRAUSS	SC
TRACED BY C.C.	BASCULE BRIDGE CO.	D
CHECKED BY A.H. 12/14/12.	CHICAGO	C
REVISED		

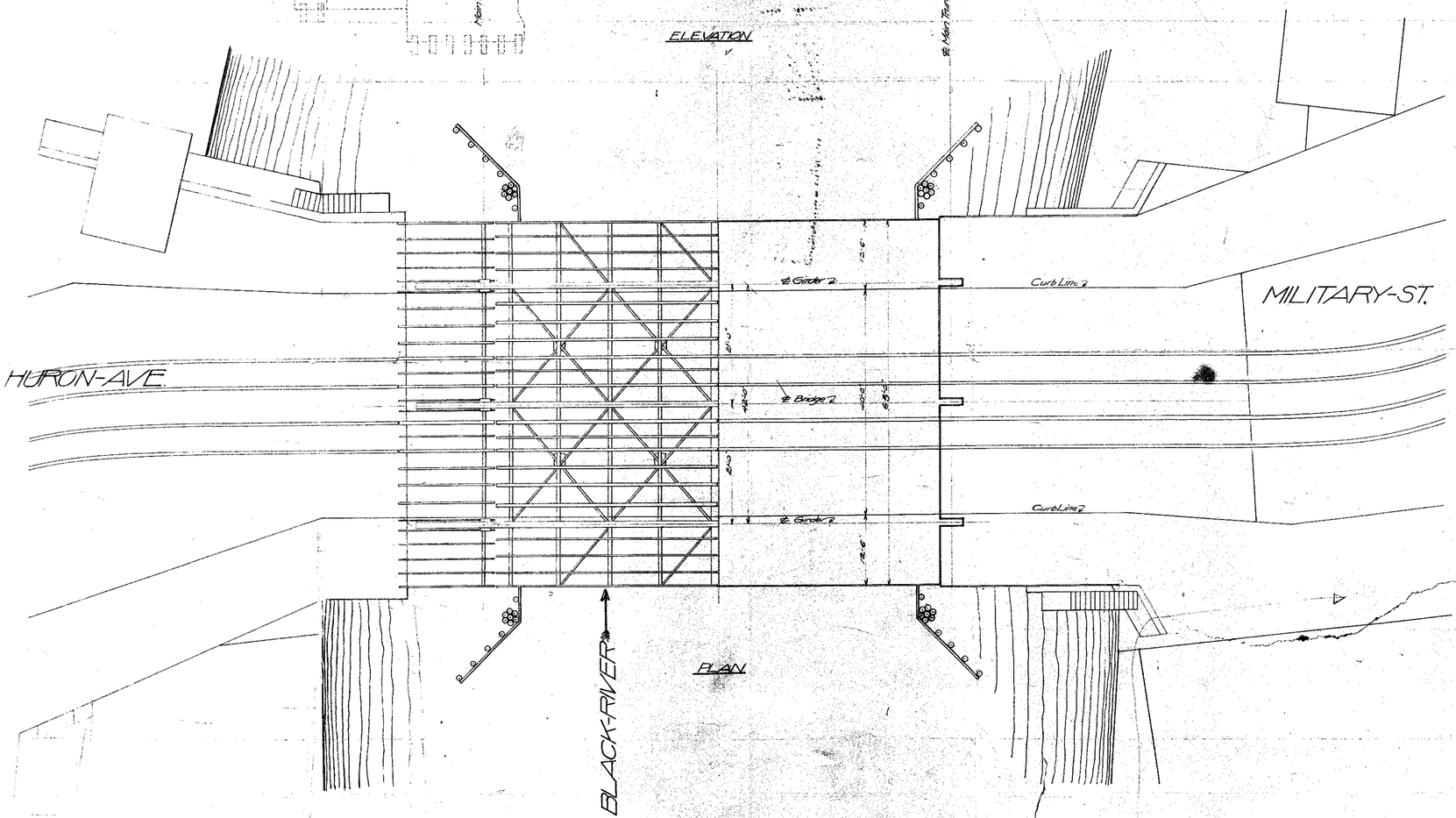
TROLLEY ARCHES SHE

801 OF 77032

Dotted lines indicate bridge in fully open position Angle of opening 75°



ELEVATION



PLAN

LIST OF DRAWINGS

1	GENERAL DRAWING
2	STRESS SHEET
3	PILING PLAN
4	ABUTMENT
5	PIERS
6	TRUNNION POSTS
7	MOVING LEAF
8	FLOOR SYSTEM
9	CROSS FR. CTWT. FR. LINK & CTWT.
10	GENERAL MACHINERY
11	TRUNNIONS PINS & BEARINGS

STRAUSS TRUNNION BASCULE BRIDGE

PATENTED

OVER

BLACK RIVER AT MILITARY STREET

FOR

CITY OF PORT HURON, MICH.

DRAWN BY C.G.C.
TRACED BY C.G.C.
CHECKED BY F.T.H. 11/22/12
REVISED

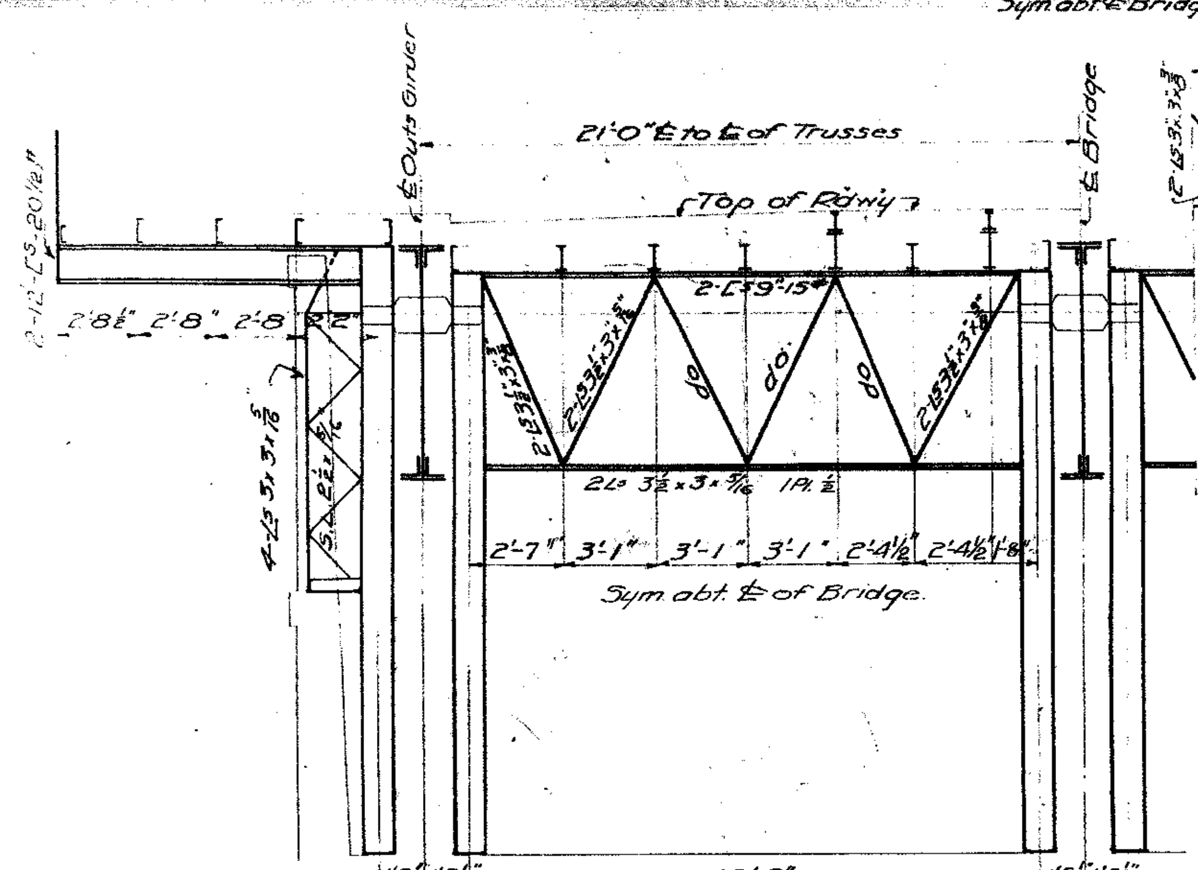
THE STRAUSS BASCULE BRIDGE CO.
CHICAGO

SCALE 1/8" = 1'-0"
DATE 11-7-12
GEN. FILE 11

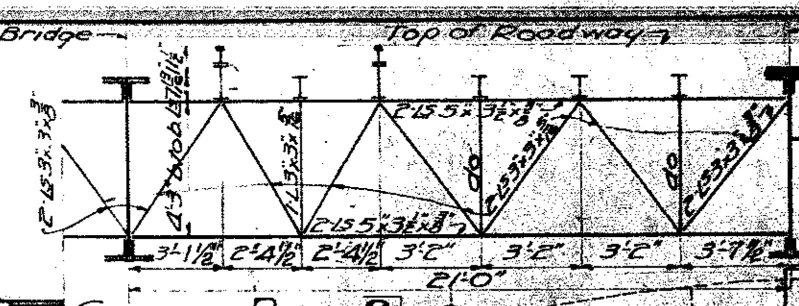
GENERAL DRAWING

SHEET NO. 1

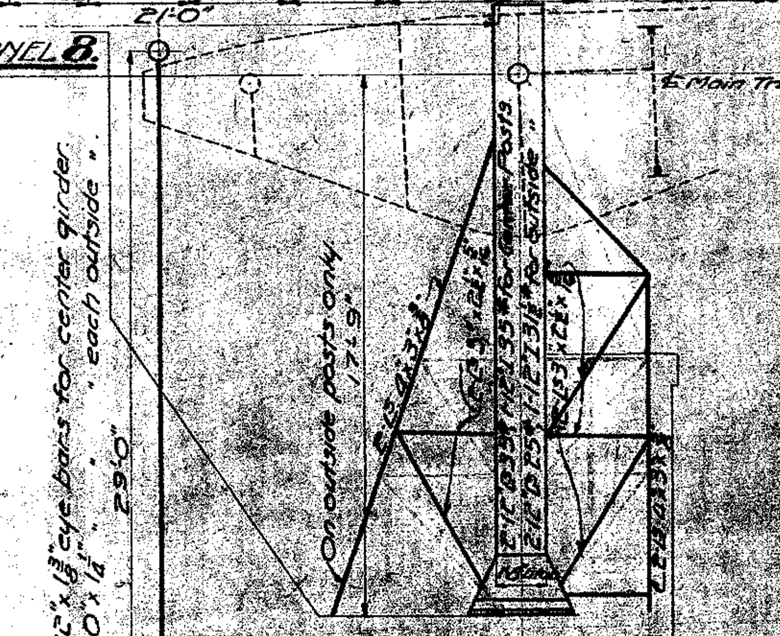
801 OF 77032



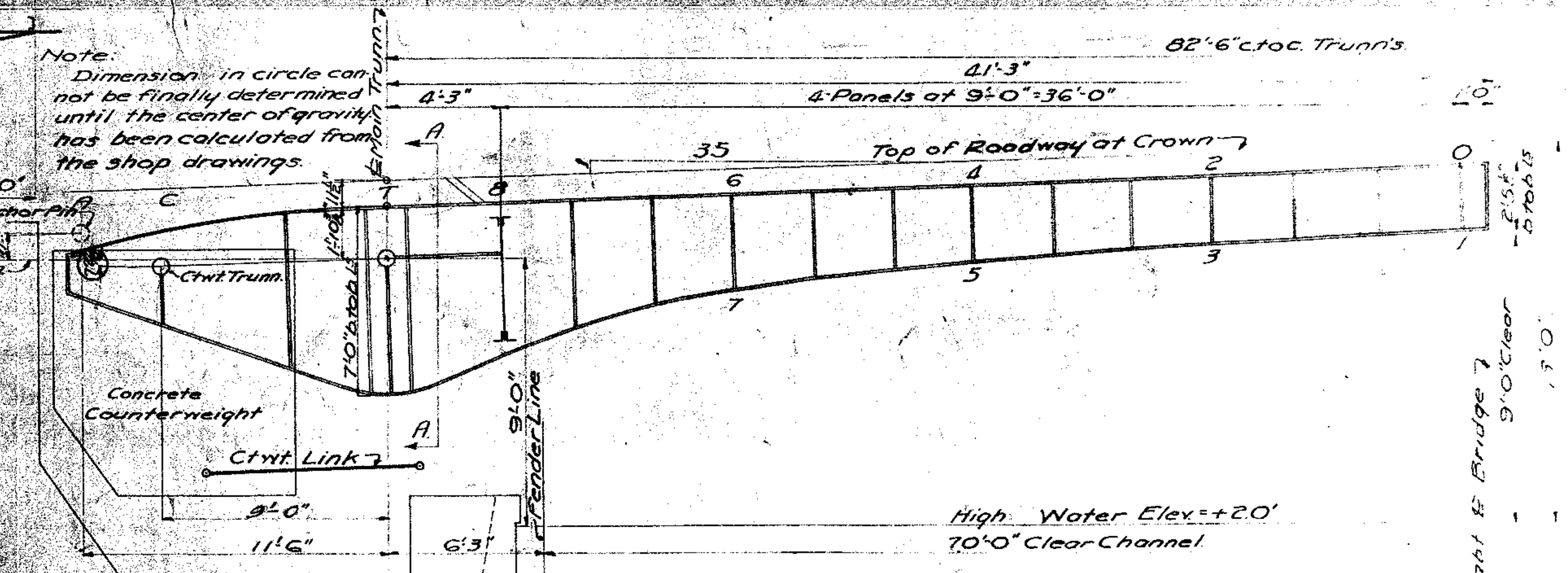
FRONT ELEV. TRUNN. POST.
SECTION "A-A".



GIRDER AT PANEL 8.

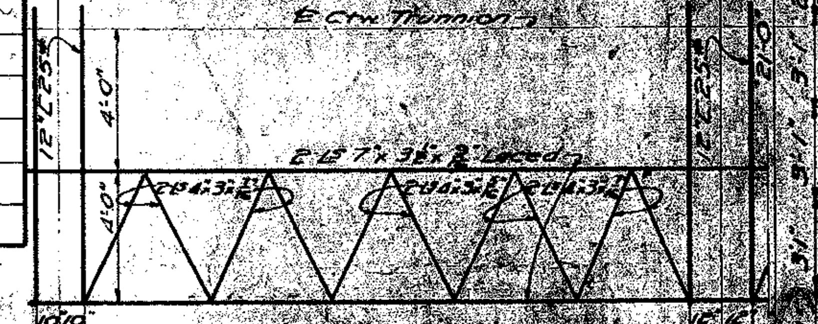


ELEVATION OF TRUNN. POSTS

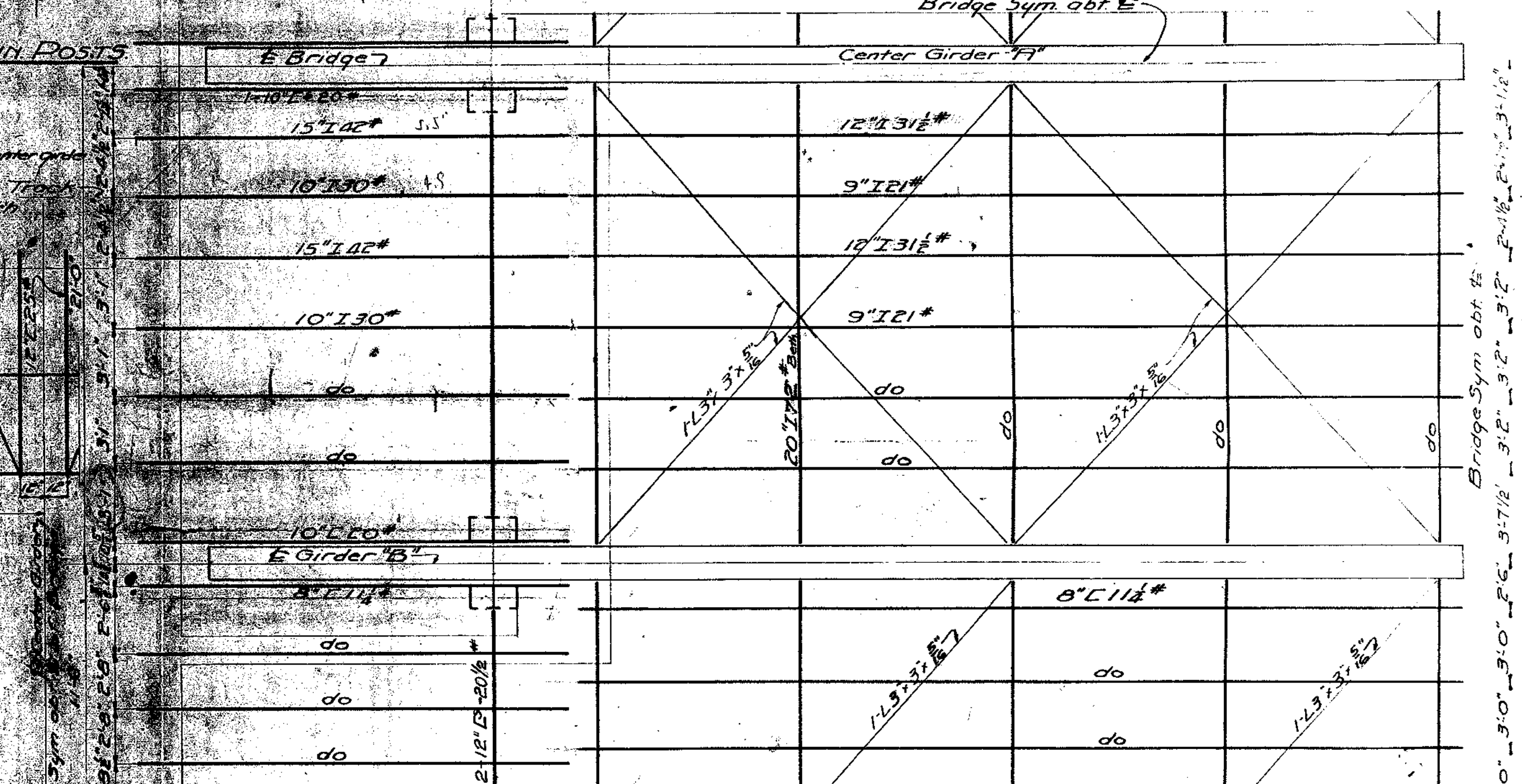


ELEVATION OF GIRDER

Note: Dimension in circle cannot be finally determined until the center of gravity has been calculated from the shop drawings.



CTWT. FRAME.



FLOOR OVER PIT.

PLAN.

MOVING LEAF.

STRESSES AND SECTIONS IN WEB OF GIRDER "A" (Center)

Section	Bridge Closed. Shear in 1,000 lbs. D.L.	L.L.	Imp.	Total	All. Unit Stress lbs per sq. in.	Web Area sq. in. Reqd.	Actual	SECTION.
O-2	7.90	48.80	42.2	98.90	11.	9.	14.5	29"×½" Pl.
2-4	19.25	66.60	51.6	137.45	11.	12.5	15.5	31"×½" Pl.
4-6	31.10	90.80	67.7	189.60	11.	17.2	18.75	37½"×½" Pl.
6-8	43.50	134.80	102.0	280.30	11.	25.5	25.0	50"×½" Pl.
8-T	52.40	137.60	99.5	289.50	11.	26.4	36.	72"×½" Pl.
T-C	124.0	318.	229.	671.0	11.	61.2		See Detail.
C-A	O.	318.	318.	636.	11.	57.9		See Detail,

STRESSES AND SECTIONS IN FLANGES OF GIRDER "A"

Panel Pt.	Bridge Closed Moments in 1,000 ft. lbs. D.L.	L.L.	Imp.	Total	All. Unit Stress lbs per sq. in.	Net Flange Reqd. sq. in.	Actual Area sq. in. Gross	Net + ⅛ Web	SECTION.
2	70.9	439.2	378.5	888.6	19.	20.8	36.38	32.32	2-Ls 8"×8"×¾", 18"×¾" Pl.
4	244.1	1038.6	840.0	2122.7	19.	36.5	49.88	44.73	do 2-18"×¾" Cov. Pl.
6	524.2	1855.8	1446.0	3826.0	19.	48.4	61.13	55.51	do do, 18"×⅝" Pl.
8	915.6	3069.0	2360.0	6344.6	19.	55.8	61.13	56.88	do do, do
T	990.	3654.	2870.	7514	19.	56.9	61.13	56.88	do do, do
C	O.	955.	955.	1910	19.	26.6	22.86	24.51	do

STRESSES AND SECTIONS IN WEB OF GIRDER "B" (outside)

Section	Bridge Closed. Shear in 1,000 lbs. D.L.	L.L.	Imp.	Total	All. Unit Stress lbs per sq. in.	Web Area sq. in. Reqd.	Actual	SECTION.
O-2	8.30	20.1	14.2	42.6	8.5	5.0	10.9	29"×⅜" Pl.
2-4	18.80	42.0	29.0	89.8	8.5	10.6	11.65	31"×⅜" Pl.
4-6	29.90	65.1	44.6	139.6	10.0	14.0	16.4	37½"×7/16" Pl.
6-8	41.40	91.7	63.2	196.3	10.0	19.6	21.9	50"×7/16" Pl.
8-T	49.70	103.7	70.2	223.6	8.5	26.4	27.0	72"×⅜" Pl.
T-C	118.0	210.	134.	462	8.5	54.3		See Detail
C-A	O	210.	210.	420.	8.5	49.4		See Detail.

STRESSES AND SECTIONS IN FLANGES OF GIRDER "B" (outside)

Panel Pt.	Bridge Closed. Moments in 1,000 ft. lbs. D.L.	L.L.	Imp.	Total	All. Unit Stress lbs per sq. in.	Net Flange Reqd. sq. in.	Actual Area sq. in. Gross	Net + ⅛ Web	SECTION.
2	75.1.	180.9	127.8	383.8	19.	8.7	26.88	22.84	2-Ls 8"×6"×¾", 1-Pl. 14"×½"
4	247.7	558.9	387.4	119.4	19.	22.0	26.88	23.14	do do
6	513.4	1144.8	790.	2448.2	19.	31.7	41.75	37.97	do 3-Pls. 14"×½"
8	885.6	1970.1	1360.	4215.7	19.	37.6	41.75	39.0	do do
T	1000	2410.	1700	5110.	19.	39.2	41.75	39.57	do do
C	O	630.	630	1260.	19.	18.8	26.88	24.24	do 1-Pl. 14"×½"

Girder rivets to be ⅞" dia.

STRESSES AND SECTIONS IN FLOOR SYSTEM.

	Item	Shear in 1000 Lbs. D.L.	L.L.	Imp.	Total	Moments in 1000 Ft. lbs. D.L.	L.L.	Imp.	Total	Section.
Moving Leaf	Roadway Stringers	0.4	6.0	5.6	12.0	0.9	13.5	12.8	27.2	9"I 21#
	Track	0.6	13.4	12.8	26.8	1.4	22.5	21.2	45.1	12"I 31½#
	S.W.	0.2	1.4	1.2	2.8	0.4	3.1	2.7	6.2	8"[11¼# (Interm), 6"[8# (Outside)
	Floorbeams	3.7	21.7	18.6	44.0	20.6	108.7	91.1	220.4	20"I 72# (Beth.)
[illegible]	Roadway Stringers	0.7	7.0	6.3	14.0	2.7	21.0	18.6	42.3	10"I 30#
	Track	1.0	15.7	14.8	31.5	3.4	43.2	40.0	86.6	15"I 42#
	S.W.	0.3	1.8	1.5	3.6	1.0	6.1	5.2	12.3	8"[11¼# (Interm), 6"[8# (Outside)
	Trunn. Fl. beam	6.0	28.5	23.5	58.0	16.7	100.5	86.2	203.4	2-9"[15# top, 2-Ls 3½×3×⅜ bott. 2-Ls 3½×3×⅜ web members.

Stresses Figured By: A.S.W.
" Checked By: W.M.W.

General Notes:
Dead Load: Actual weight.
Live Load: One 40 ton motor car on each track, one 15 ton Road Roller or 100 lbs per sq. ft. on Roadway. 100 lbs. per sq. ft. on Side Walk.
Specifications: Osborn Engineering Co's. "General Specifications for Electric Railway Bridge Superstructures" as supplemented by The Strauss Bascule Bridge Co's. Specifications for this bridge.
Angle of Opening 75°

STRAUSS TRUNNION BASCULE BRIDGE
PATENTED
OVER
BLACK RIVER AT MILITARY STREET
FOR
CITY OF PORT HURON, MICH.

DRAWN BY F.T.G.
TRACED BY F.T.G.
CHECKED BY W.M.W. 10-18-12, 11/18/12.
REVISED 10-25-12, 11/18/12.

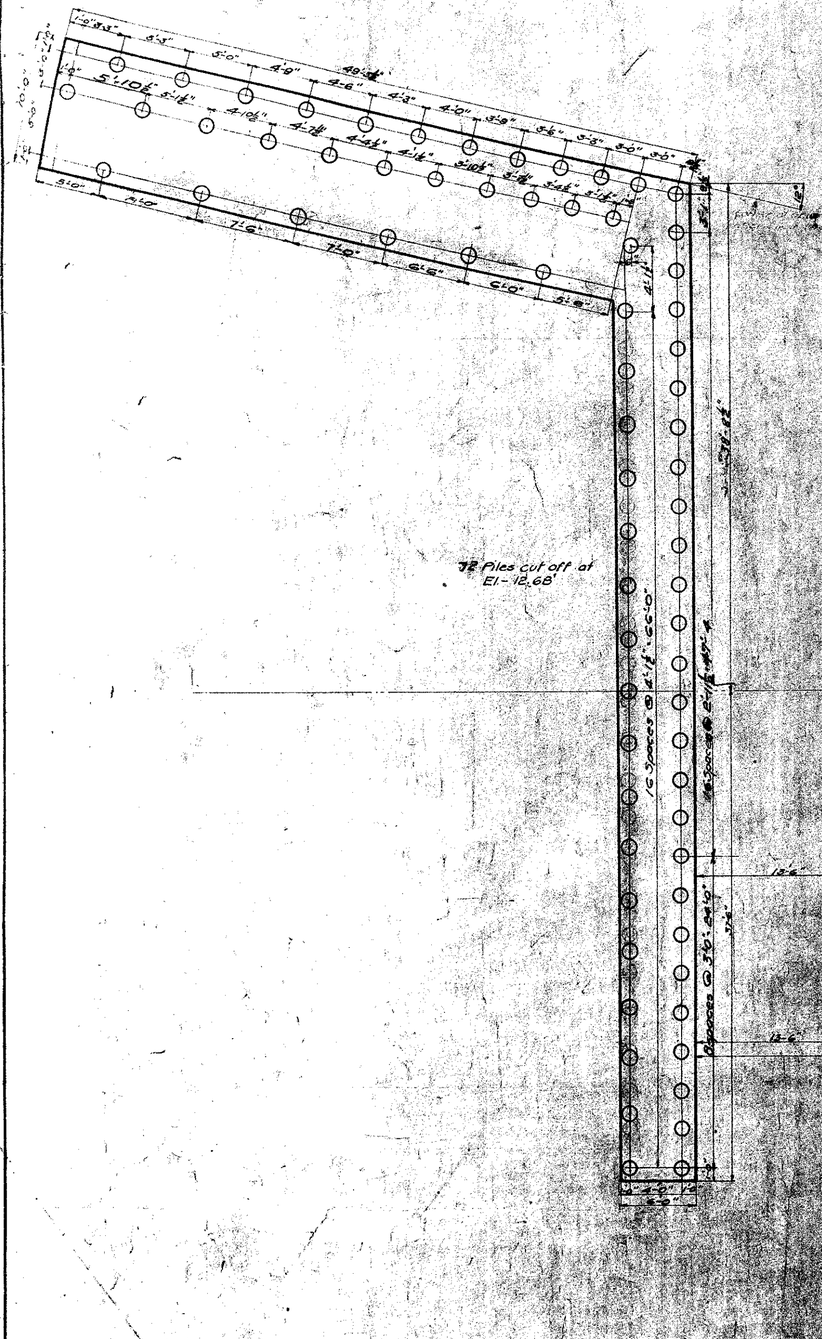
THE STRAUSS BASCULE BRIDGE CO. CHICAGO.

SCALE [illegible]
DATE 10-12-12
GEN. FILE 11

STRESS SHEET.

SHEET NO 2

B01 OF 77032



Note:- Piling and Concrete foundations to be located so as not to disturb, any water or gas pipes. End of wing walls of south Abutment to conform to lines established by City Engineer.

General Note:- Material and workmanship as per Specifications.
Specifications:- Osborn Engineering Co's specification for this bridge.

STRAUSS TRUNNION BASCULE BRIDGE
PATENTED
OVER
BLACK RIVER AT MILITARY STREET
FOR
CITY OF PORT HURON, MICH.

DRAWN BY H.R.M.
TRACED BY H.R.M.
CHECKED BY A.O.W.-10-11-12
REVISED 10-21-12, 10-25-12, 11-6-12, 11/19/12.

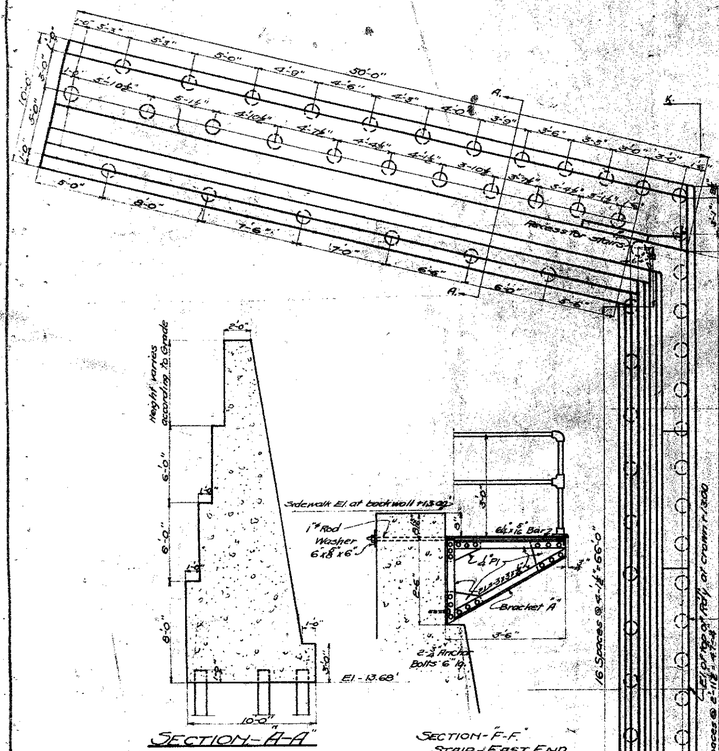
THE STRAUSS BASCULE BRIDGE CO.
CHICAGO

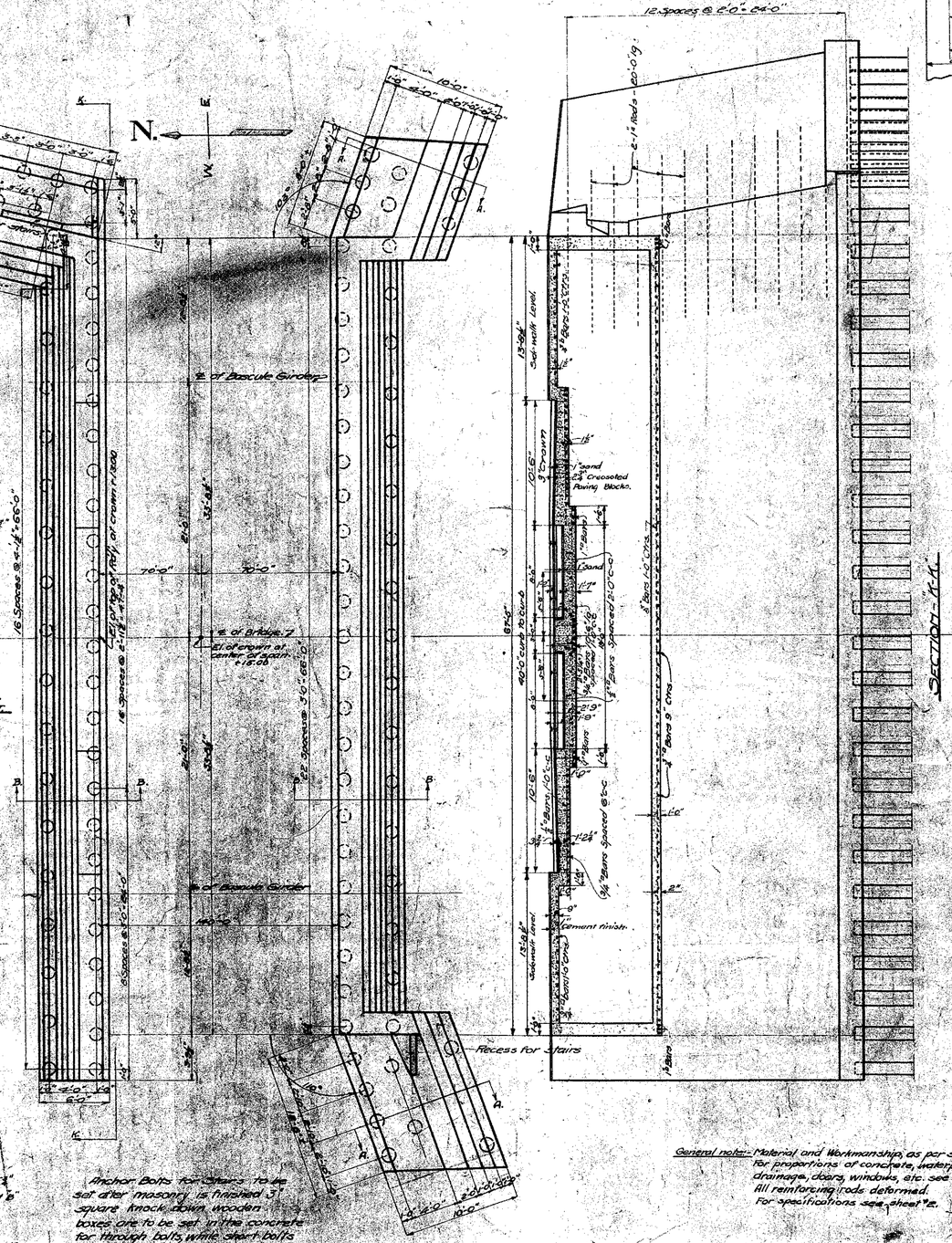
SCALE 1/8"-1'-0"
DATE 10-3-12.
GEN.-FILE 11

PILING PLAN.

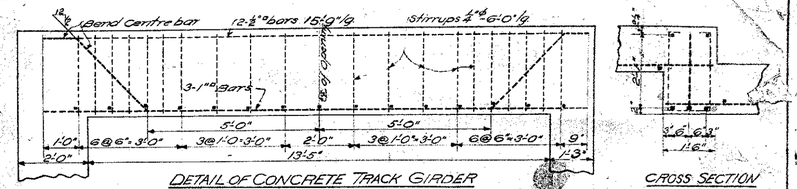
SHEET NO. 3

801 OF 77032

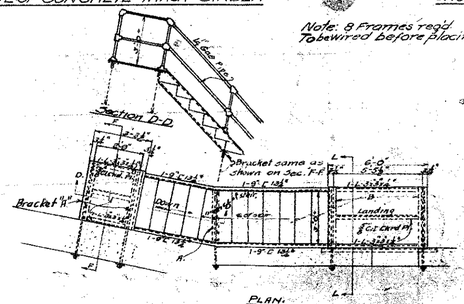


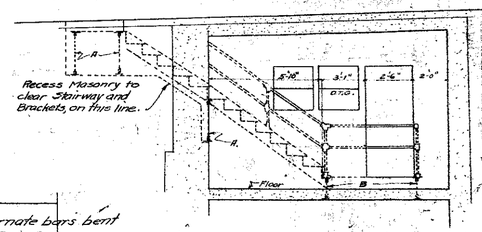


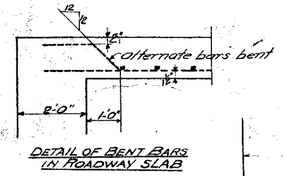
Anchor Bolts for Stairs to be set after masonry is finished 3" square knock down wooden boxes are to be set in the concrete for through bolts, while short bolts will be set in drilled holes.

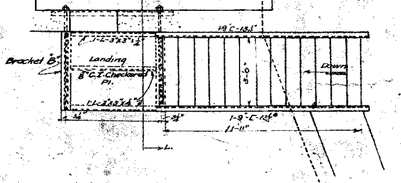


Note: 8 Frames req'd. To be wired before placing.









General notes:- Material and Workmanship as per specifications. For proportions of concrete, waterproofing of Pit, drainage, doors, windows, etc. see specifications. All reinforcing rods deformed. For specifications see sheet #2.

STRAUSS TRUNNION BASCULE BRIDGE

PATENTED

OVER

BLACK RIVER AT MILITARY STREET

FOR

CITY OF PORT HURON, MICH.

DRAWN BY H.R.M.
TRACED BY H.R.M.
CHECKED BY H.H. 11/21/12
REVISED 12/6/12

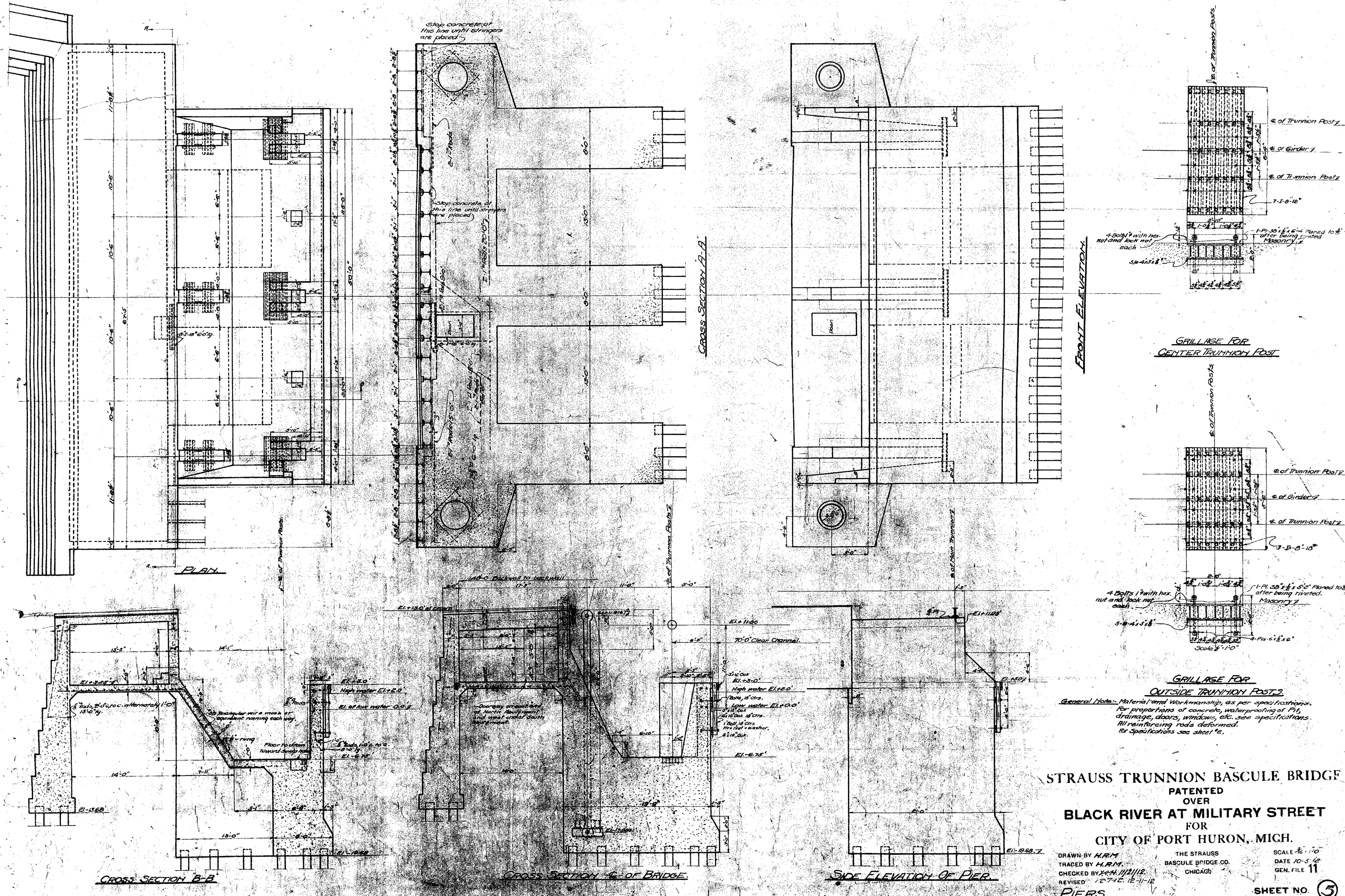
THE STRAUSS BASCULE BRIDGE CO. CHICAGO

SCALE 1/2"=1'-0" or as noted.
DATE 10-12-12.
GEN. FILE 11

ABUTMENT.

SHEET NO. 4

801 OF 77032



General Note:- Material and Workmanship, as per specifications. For proportions of concrete, waterproofing of Pit, drainage, doors, windows, etc. see specifications. All reinforcing rods deformed. For Specifications see sheet #2.

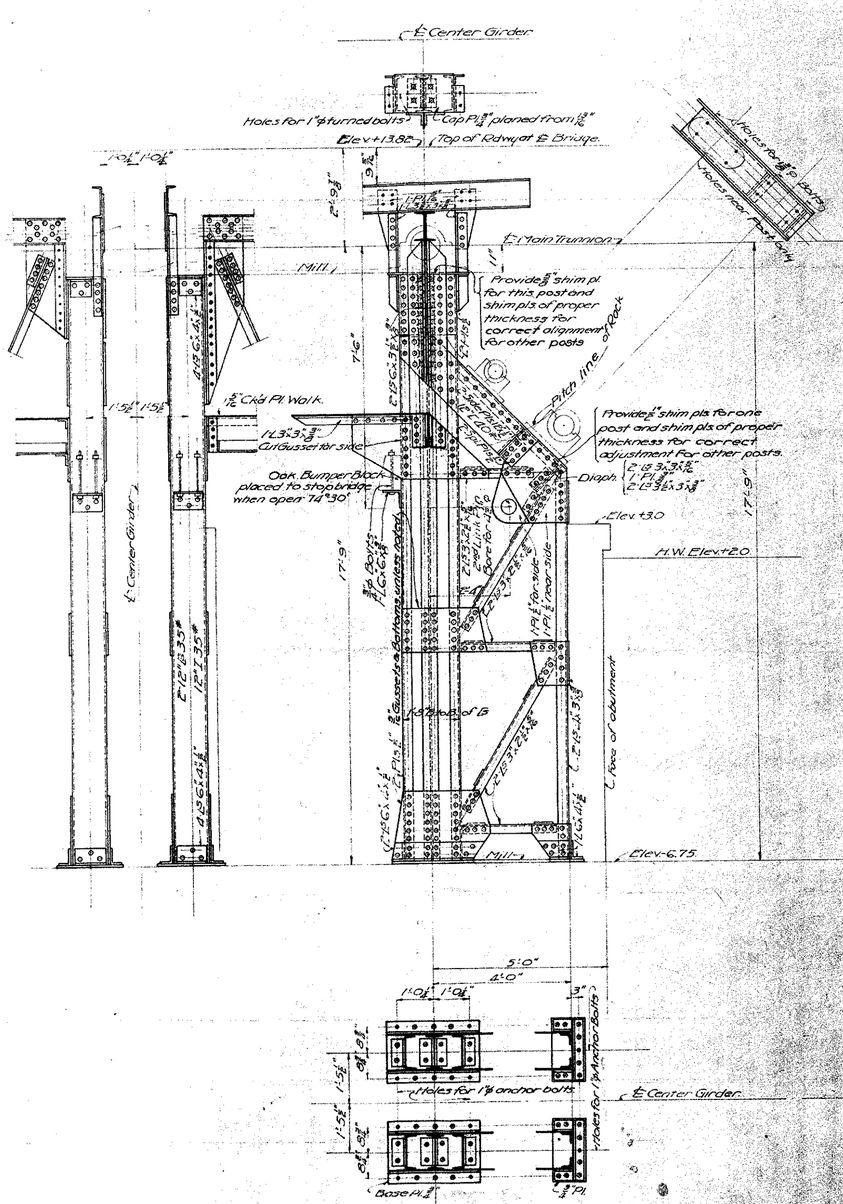
STRAUSS TRUNNION BASCULE BRIDGE
PATENTED
OVER
BLACK RIVER AT MILITARY STREET
FOR
CITY OF PORT HURON, MICH.

DRAWN BY H.R.M.	THE STRAUSS	SCALE 3/16"-1'-0"
TRACED BY H.R.M.	BASCULE BRIDGE CO.	DATE 10-5-12
CHECKED BY Y.H.M. 11/21/12.	CHICAGO	GEN. FILE 11
REVISED 12-7-12. 12-11-12		

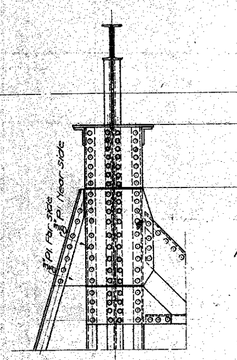
PIERS.

SHEET NO. 5

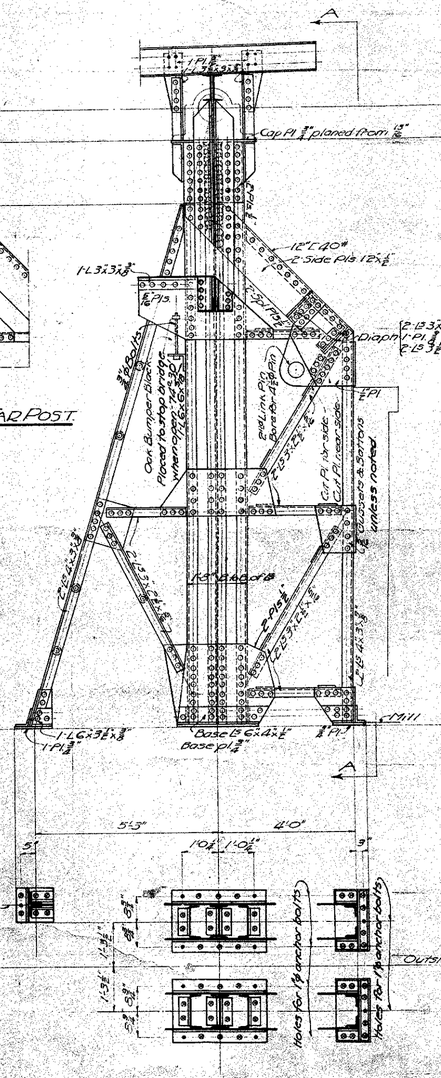
B01 OF 77032



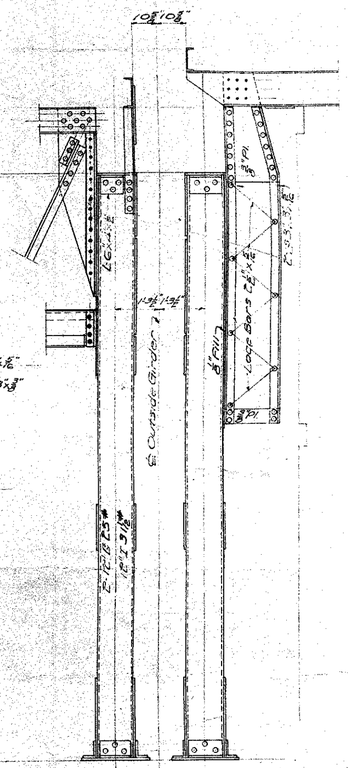
TRUNNION POSTS
CENTER GIRDER



INSIDE ELEV OF FAR POST



TRUNNION POSTS
OUTSIDE GIRDER



VIEW "A-A"
WITH BRACING REMOVED

GENERAL NOTES:-
Material and Workmanship: As per specifications.
Rivets: 3/4" diam.
Open Holes 13/16" diam. unless noted.
Specifications: See Sheet 119E.

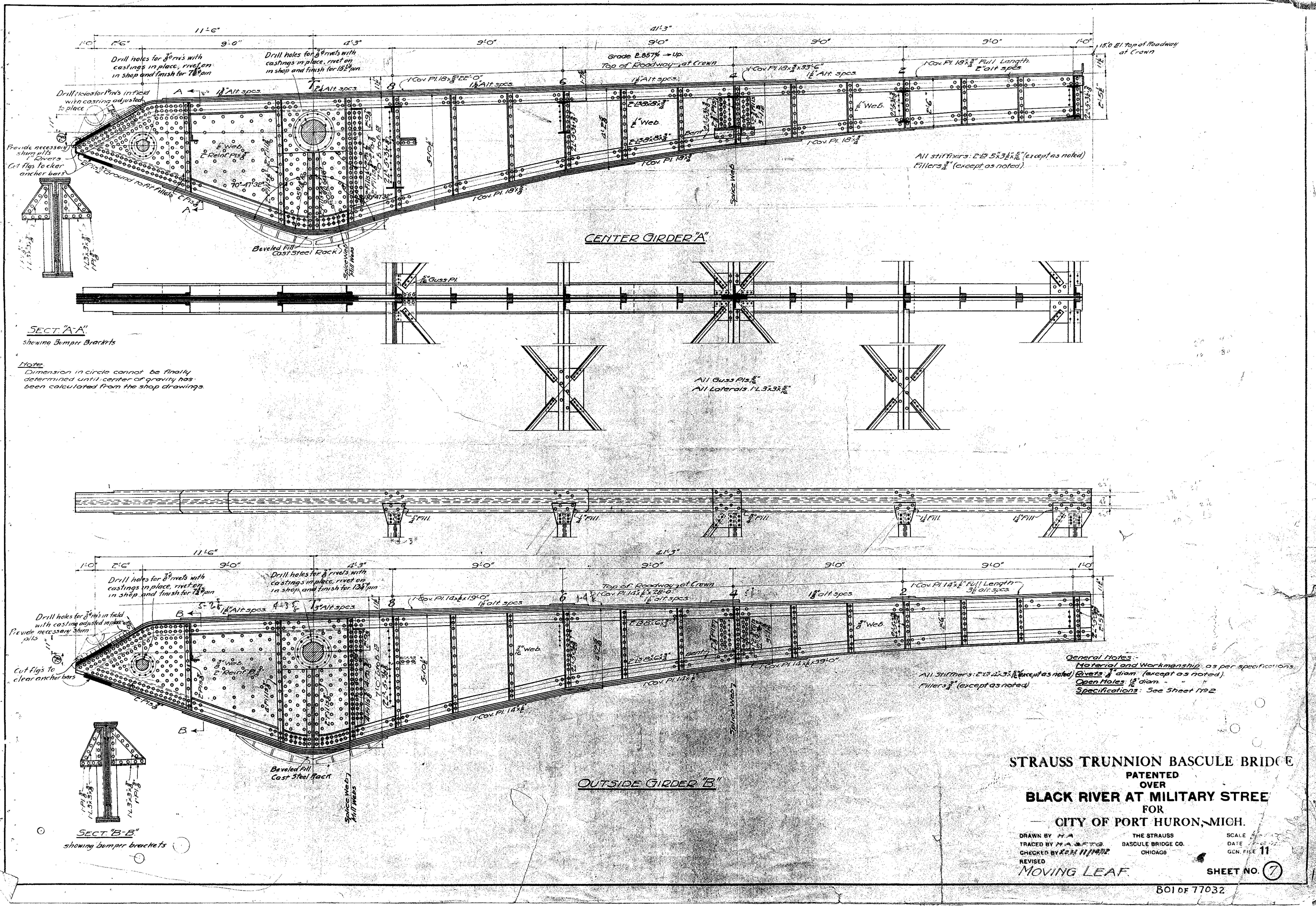
STRAUSS TRUNNION BASCULE BRIDGE
PATENTED
OVER
BLACK RIVER AT MILITARY STREET
FOR
CITY OF PORT HURON, MICH.

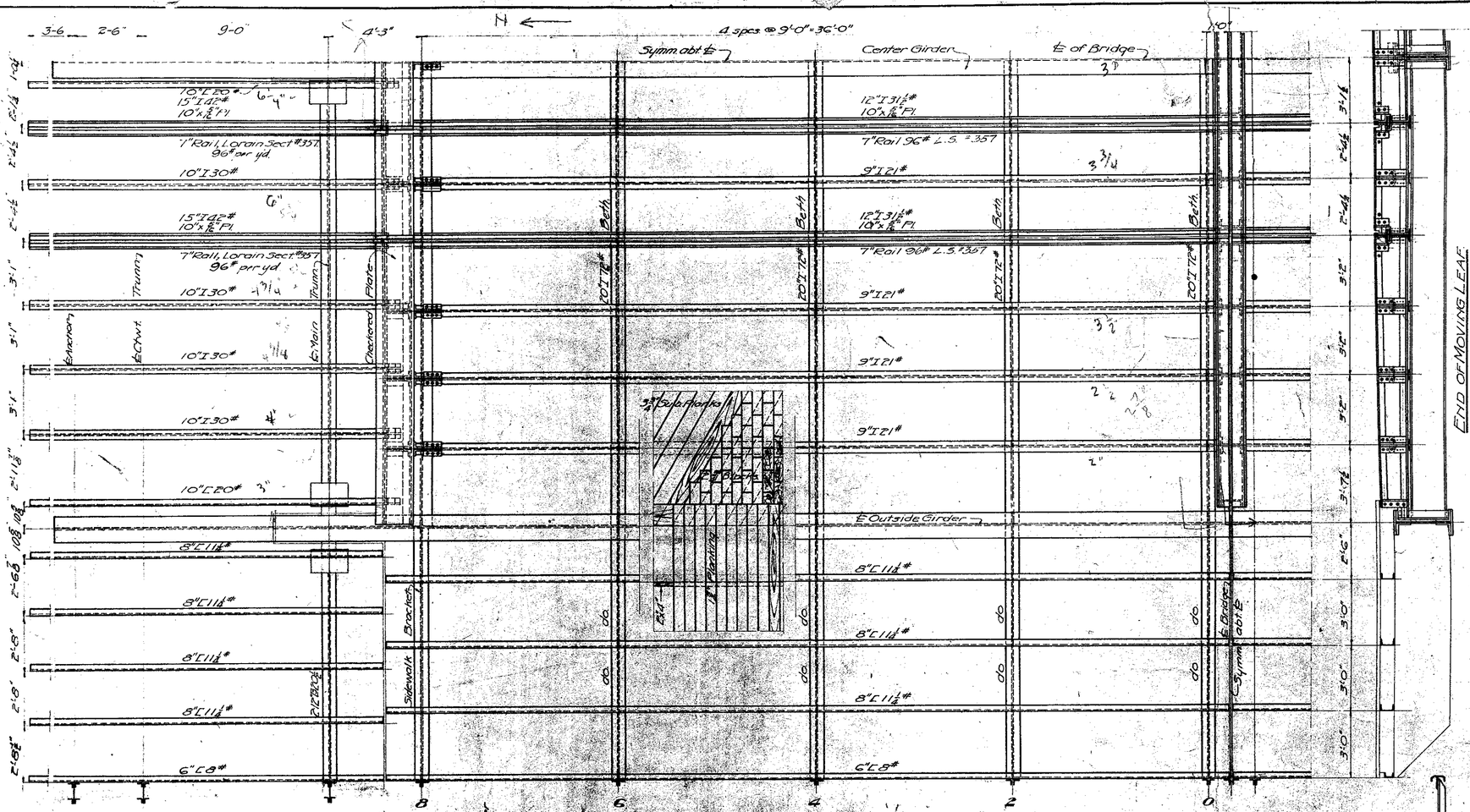
DRAWN BY G.W.E.
TRACED BY F.T.G.
CHECKED BY J.O.H. 11/15/12
REVISED
TRUNNION POSTS

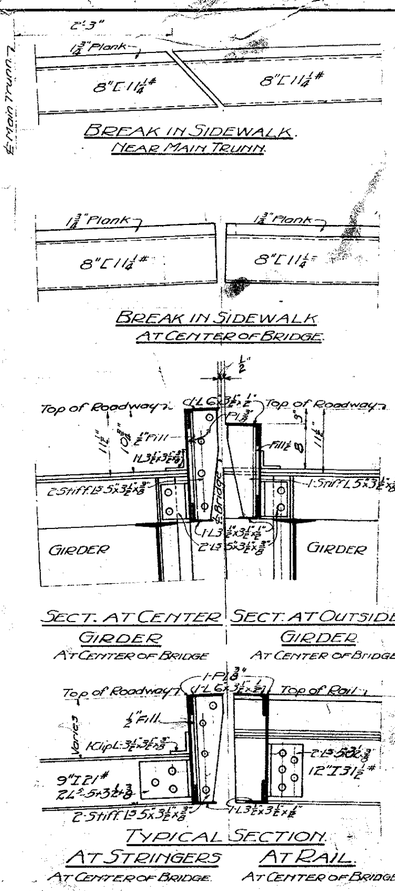
THE STRAUSS BASCULE BRIDGE CO. CHICAGO

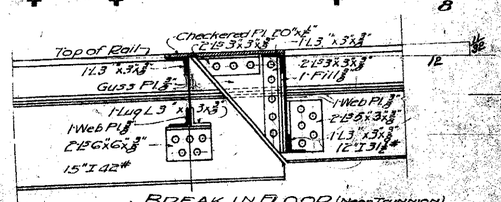
SCALE 1"=1'-0"
DATE 11/30/12
GEN. FILE 11
SHEET NO. 6

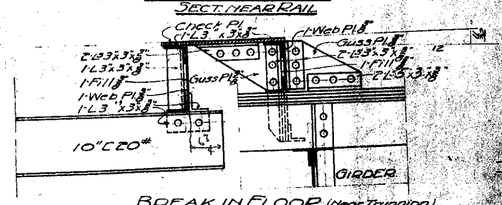
B01 OF 77032

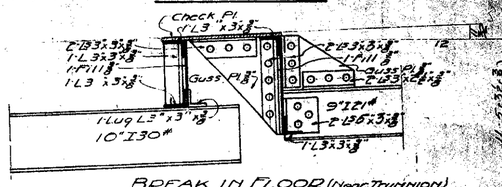

CENTER GIRDER "A"
Drill holes for 7/8" rivets with castings in place, rivet on in shop and finish for 7 3/8" pin
Drill holes for 7/8" rivets with castings in place, rivet on in shop and finish for 15 1/2" pin
Drill holes for rivets in field with casting adjusted to place
Provide necessary shim plts
Cut flgs to clear anchor bars
Grade 2.857% → Up.
Top of Roadway at Crown
15.0 El. Top of Roadway at Crown
1-Cov. Pl. 18x3/4" Full Length
1/2" Web
Beveled Fill
Cast Steel Rack
Splice Web
All stiffnrs: 2-Ls 5x3 1/2x1/2" (except as noted)
Fillers 3/4" (except as noted)
SECT. "A-A" showing Bumper Brackets
Note
Dimension in circle cannot be finally determined until center of gravity has been calculated from the shop drawings.
All Guss Pls. 5/16"
All Laterals 1-L 3x3x5/16"
OUTSIDE GIRDER "B"
Drill holes for 7/8" rivets with castings in place, rivet on in shop and finish for 7 3/8" pin
Drill holes for 7/8" rivets with castings in place, rivet on in shop and finish for 13 3/4" pin
Drill holes for 7/8" rivets in field with casting adjusted in place
Provide necessary shim plts
Cut flgs to clear anchor bars
Top of Roadway at Crown
1-Cov. Pl. 14x1/2" Full Length
Beveled Fill
Cast Steel Rack
Splice Web
All Stiffners: 2-Ls 4x3 1/2x3/8" (except as noted)
Fillers 3/8" (except as noted)
SECT. "B-B" showing bumper brackets
General Notes:-
Material and Workmanship: as per specifications.
Rivets: 7/8" diam. (except as noted).
Open Holes: 15/16" diam.
Specifications: See Sheet No. 2
STRAUSS TRUNNION BASCULE BRIDGE
PATENTED
OVER
BLACK RIVER AT MILITARY STREE
FOR
CITY OF PORT HURON, MICH.
DRAWN BY H.A.
TRACED BY H.A. & F.T.G.
CHECKED BY
REVISED
THE STRAUSS BASCULE BRIDGE CO.
CHICAGO
SCALE
DATE
GEN. FILE 11
MOVING LEAF
SHEET NO. 7
801 OF 77032

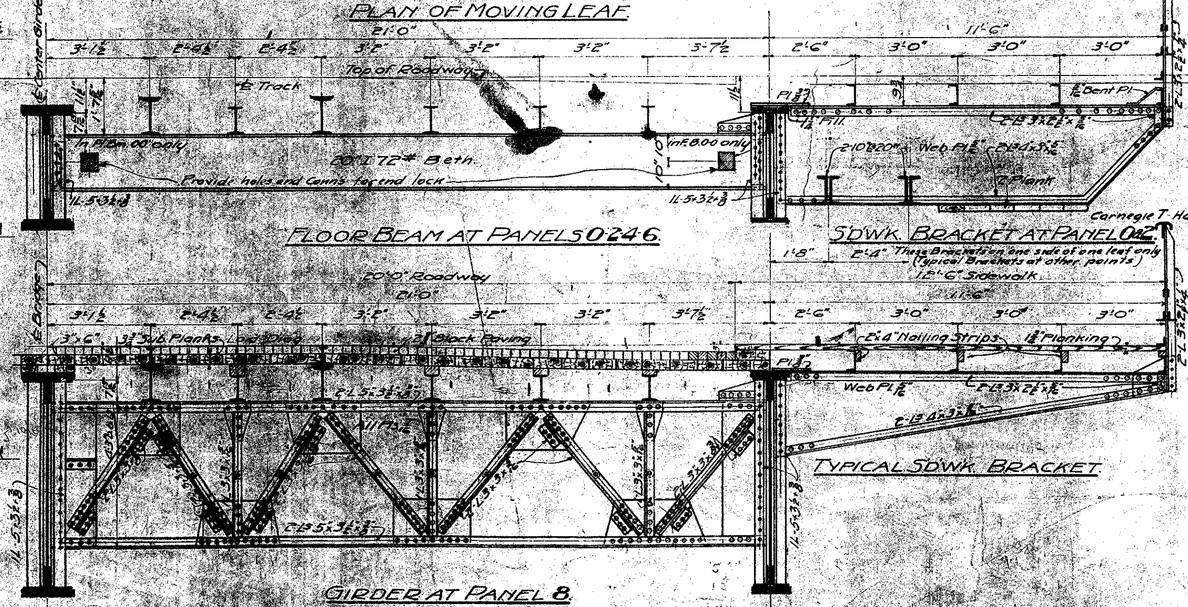












GENERAL NOTES:-
Material and Workmanship: As per specifications.
Rivets: ⅞" diam.
Open Holes: 1⅛" diam.
Specifications: See Sheet 11-E.
For Flooring on Sidewalk and Roadway see specifications

STRAUSS TRUNNION BASCULE BRIDGE
PATENTED
OVER
BLACK RIVER AT MILITARY STREET
FOR
CITY OF PORT HURON, MICH.

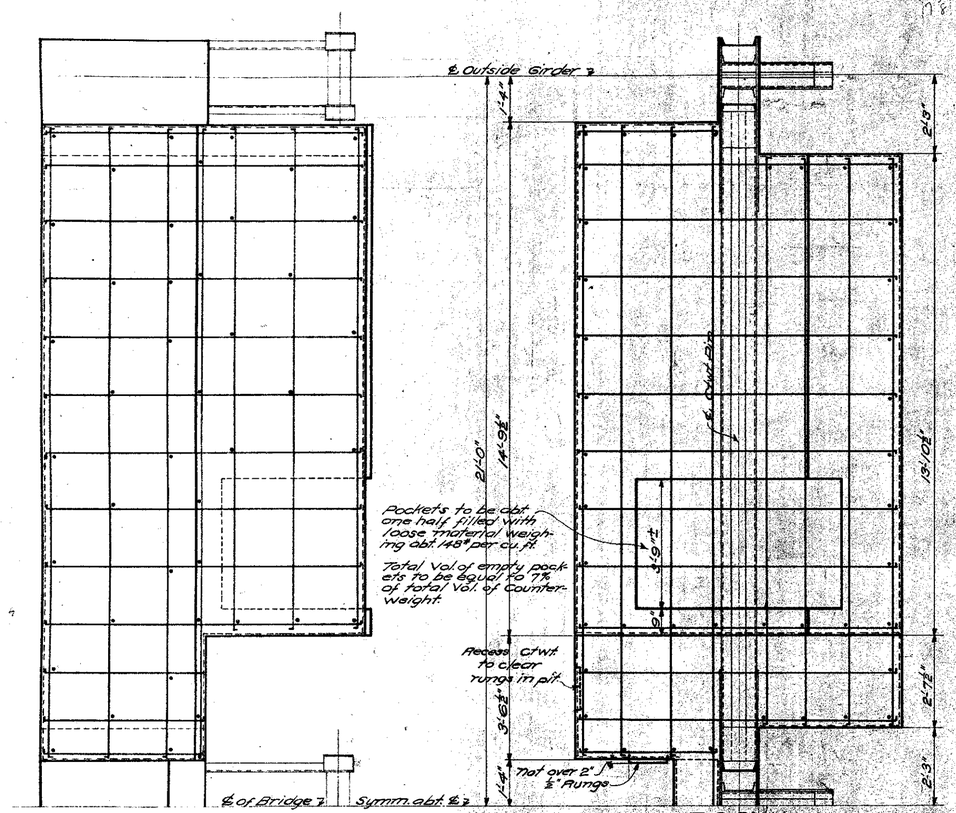
DRAWN BY H A
TRACED BY F T G
CHECKED BY T.O.H. 11/15/12
REVISED 11/22/12.

THE STRAUSS BASCULE BRIDGE CO. CHICAGO

SCALE ⅜" = 1'-0" & 1½" = 1'-0"
DATE 11-27-12
GEN. FILE 11

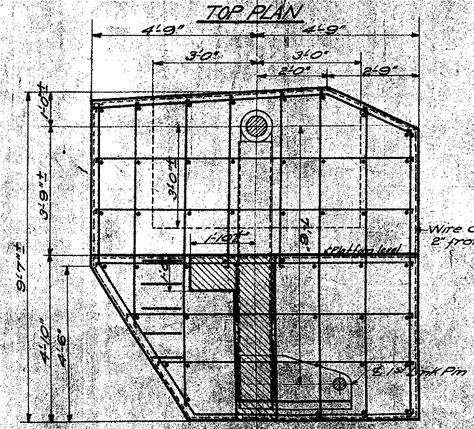
FLOOR SYSTEM.

SHEET NO. B

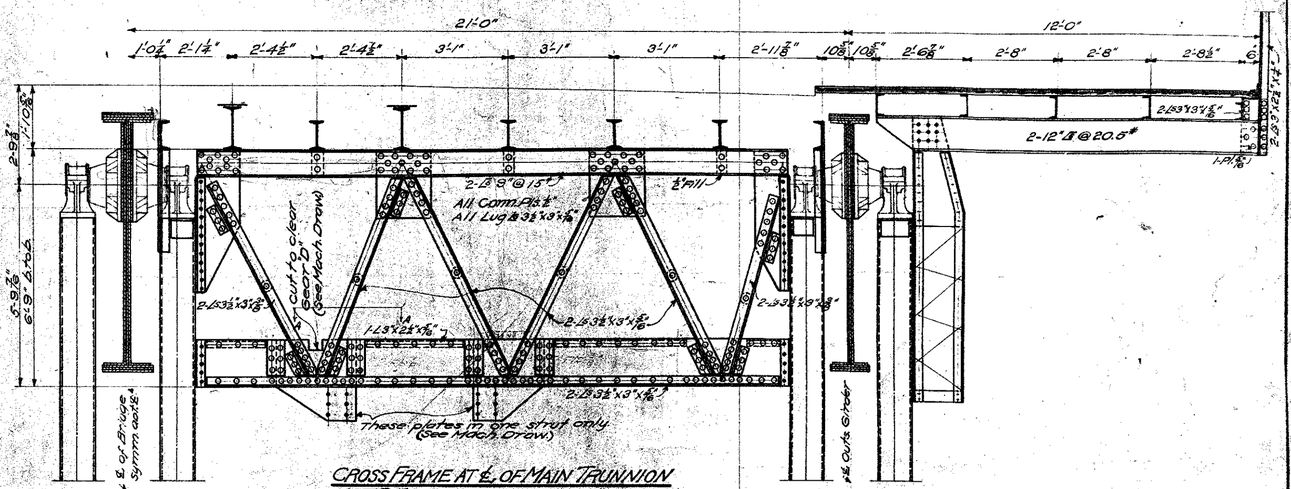


SIDE ELEVATION

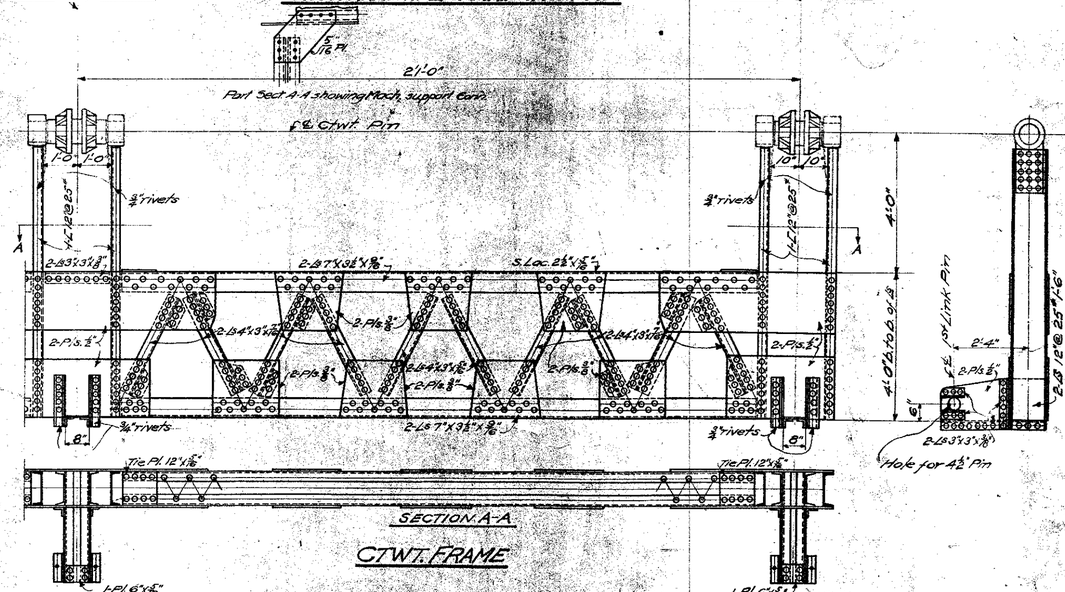
TOP PLAN



SECTION AT ℄ OF BRIDGE



CROSS FRAME AT ℄ OF MAIN TRUNNION



CT.W.T. FRAME

CT.W.T. LINK

Concrete: to be a mixture of one part of cement, three parts of sand and five parts of crushed stone (1-3-5), and the weight to be approximately 148# per cu. ft. when dry.

Tests: Sufficient tests to determine the exact weight of the concrete to be made before any is placed.

Final weight and outline of concrete required: to be determined from tabulated center of gravity calculations giving the moment of each item about its axis of rotation as calculated from the shop drawings.

All Bars: to be ¾" ℄ plain round medium steel. Bars to have a 6" inch bent end anchored about a transverse bar; and to be wired at intersections.

Sample C. of G. calculations will be furnished by The Strauss Bascule Bridge Co.

General Notes:-
Material & Workmanship as per specifications.
Rivets: ¾" diameter, unless noted.
Open holes: 13/16" diameter, unless noted.
Specifications: See Sheet #2.

STRAUSS TRUNNION BASCULE BRIDGE
PATENTED
OVER
BLACK RIVER AT MILITARY STREET
FOR
CITY OF PORT HURON, MICH.

DRAWN BY H.A.Y.A.A.N.
TRACED BY A.A.N.
CHECKED BY E.A.H. 11/8/12.
REVISED 11/21/12

THE STRAUSS BASCULE BRIDGE CO. CHICAGO

SCALE ¾" = 1'-0"
DATE 11-5-12
GEN. FILE 11

CROSS FR. CT.W.T. FR. LINK & CT.W.T. SHEET NO. 9

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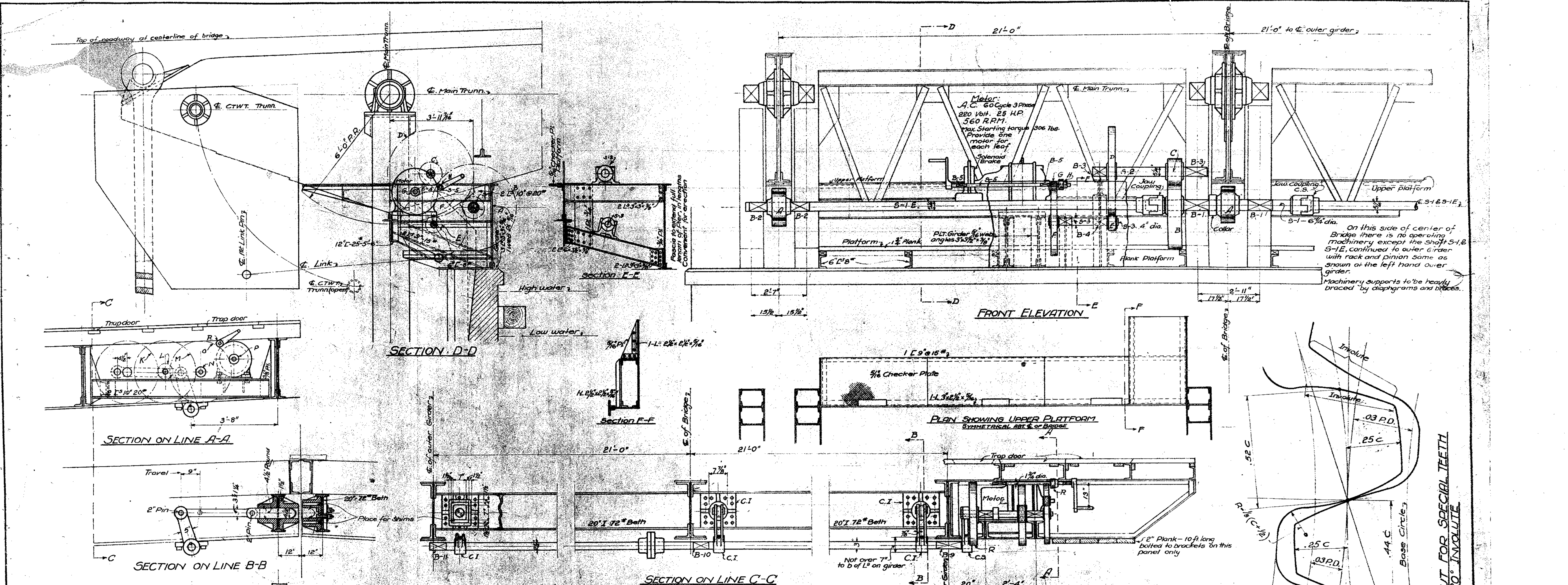
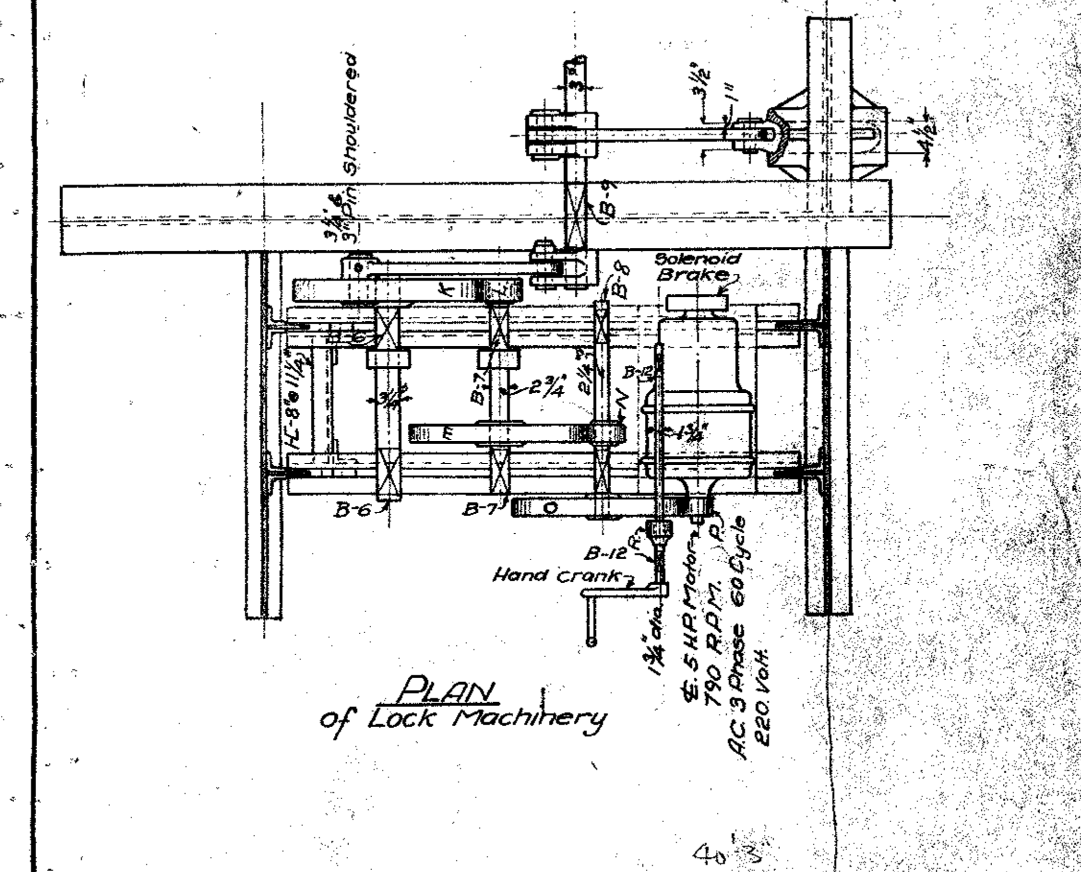




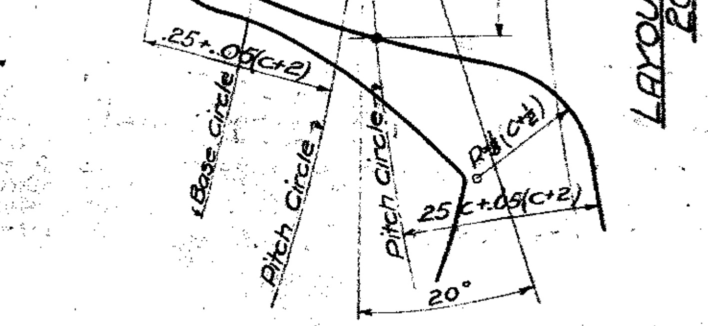
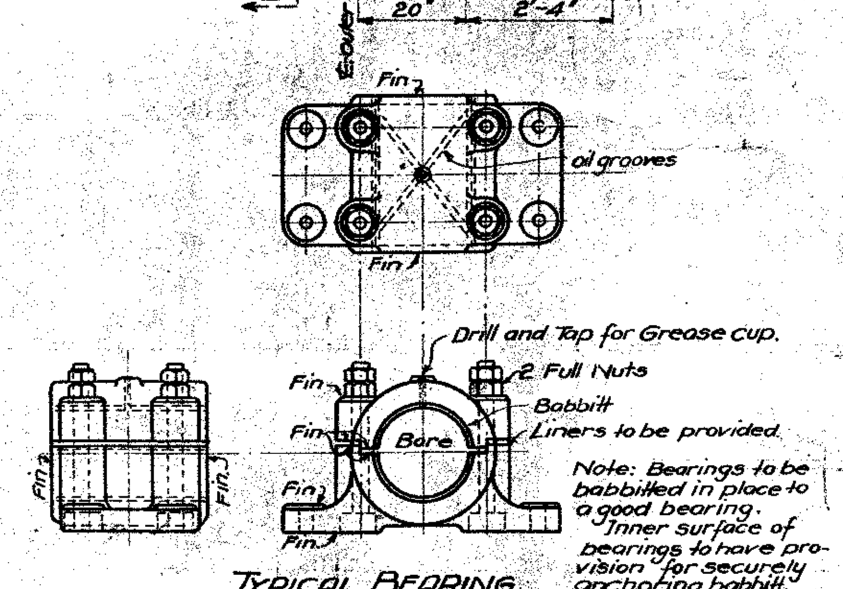


TABLE OF GEARS

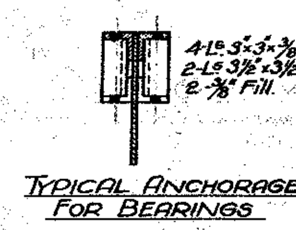
No. Req'd	Mark	No. of Teeth	Pitch	Face	Pitch Dia.	Bore	Mat'l	a	b	c	d	e	g	h		Teeth	Keys
																Spec'l cast	
12	Rack	21.	2.5	7.25	144"											20° inv.	
8	A	15.	2.5	7.25	11.94"	6.25	C.S.	13"								" " "	1⅝" × 1½"
4	A	"	"			5.25	C.S.	13"								" " "	" " " "
2	B	60.	2.5	5.5	47.75	6.25	"	9.0	10"	1.25	1."	1.25	4.75	.75		" " "	1⅝" × 1½"
2	C	15.	2.5	5.5	11.94	5.25	"	9.0								" " "	1⅜" × 1¼"
2	D	84.	1¾" DP	4.	48"	5.25	"	5.0	8.5	7/8	3/4	7/8	3.5	9/16		Cut 15° inv.	1⅜" × 1¼"
2	E	15.	" "	4.	8 4/7	4.	"	5.0								" " "	1" × 7/8"
2	F	150.	4. DP	3.	37.50	4.	"	4.	5.75	1/2	1/2	1/2	1¾	7/16		" " "	1" × 7/8"
3	G	20.	4. " "	3.	5.00	Motor	"									" " "	
2	H.	15.	4. " "	3.	3.75	1.75	"	4¼	Sliding fit & set screwed							" " "	7/16" × 3/8" feather
																Spec'l.	
1	K	72.	1½"	3.75	34.38	3.25	C.S.	4¼	4.25	3/4	5/8	3/4	3.	1/2		Cast 20° inv.	7/8" × 3/4"
1	L	15.	1½"	3.75	7.16	2.75	C.S.	"								" " "	3/4" × 11/16"
1	M	110.	1"	3.50	35.01	2.75	" "	4.	3.75	1/2	1/2	1/2	2.	7/16		" " "	" × "
1	N	15.	1"	3.50	4.775	2.25	" "	4.								Cut 15° inv.	9/16" × 1/2"
1	O	175.	5 DP	3.	35.	2.25	" "	3.75	4.25	7/16	7/16	7/16	2.	3/8		" " "	" × "
1	P	18.	" "	3.	3.60	Motor	" "									" " "	
1	R	17.	5. "	3.	3.40	1.75	" "		Sliding fit & set screwed							" " "	7/16" × 3/8" Feather

TABLE OF BEARINGS

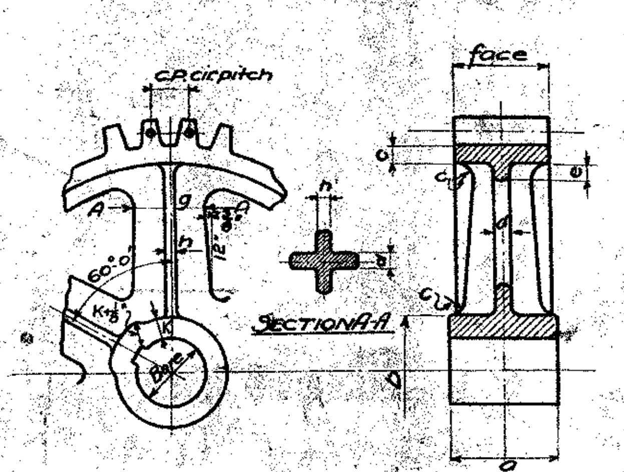
No. Req'd.	Mark	Bore	Length ins.	Mat'l.	Remarks	Base bolts
4	B-1	6.25	12"	C.S.	Typical Bronze bushed	6B. - 1⅜" diam.
8	B-2	5.25	9."	" "	" "	4B. - 1⅜" "
4	B-3	5.25	9.	"	Typical Babbitted	4B - 1⅜" "
4	B-4	4.00	6½"	C.I.	" " "	4B - 3/4" "
4	B-5	1¾	3.5	C.I.	" " " "	2B 3/4" "
2	B-6	3.25	7.	C.S.	" " " "	2B - 7/8 & Dowels
2	B-7	2.75	7.	C.I.	" " " "	2B - " " "
2	B-8	2.25	7.	" "	" " " "	2B - " " "
1	B-9	3.	12.	C.S.	Special (Solid) " "	4B - 7/8.
1	B-10	3.	8.	C.I.	" " " "	4B - "
1	B-11	2½	8.	" "	" " " "	4B - "
2	B-12	1¾	3.5	" "	" " " "	



TYPICAL BEARING



TYPICAL ANCHORAGE FOR BEARINGS



STANDARD DIMENSIONS FOR OUTLINE OF CAST STEEL GEARS

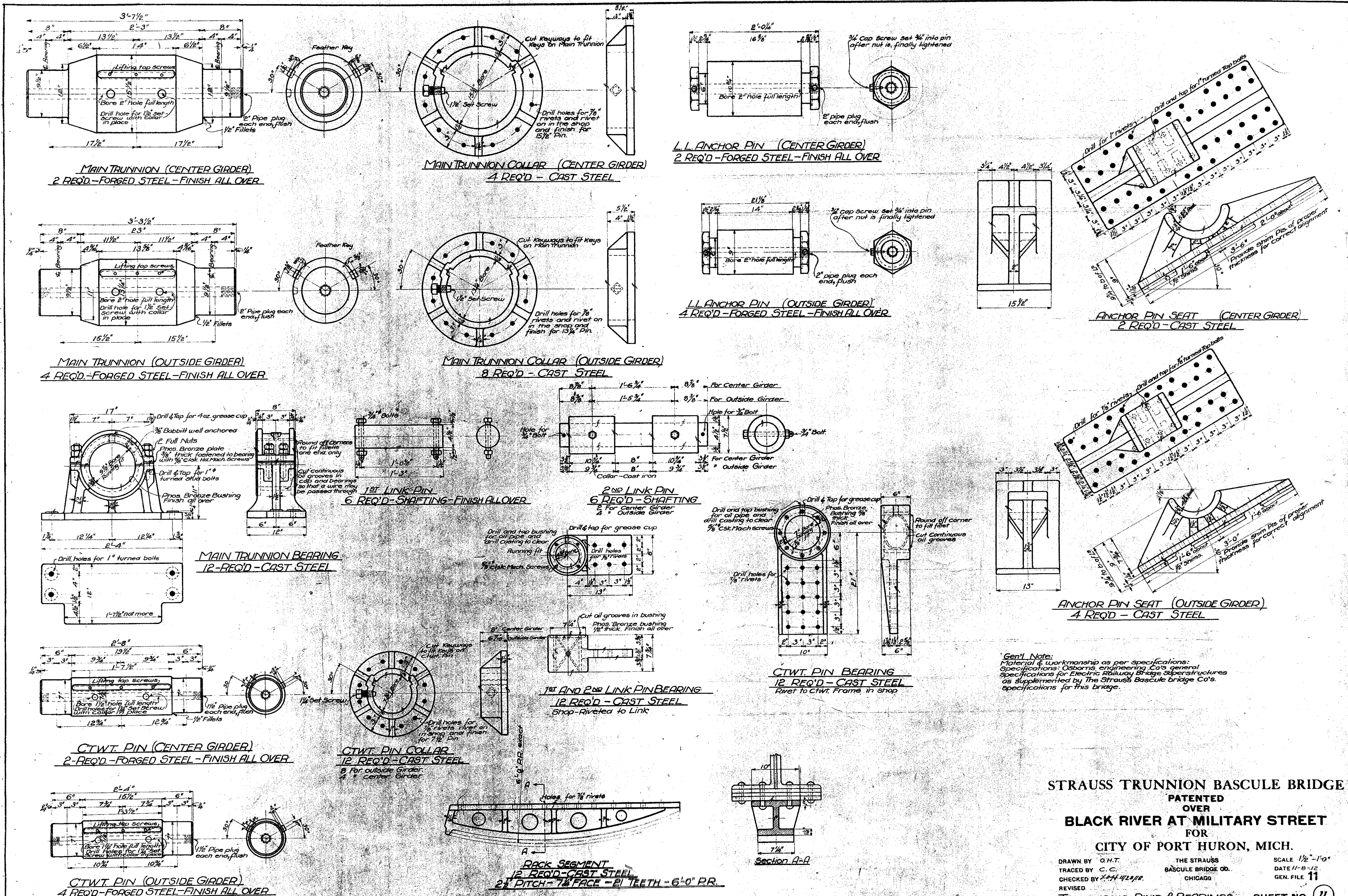
Gen'l Note:
Material & workmanship as per specifications: Specifications: Osborn engineering Co's general Specifications for Electric Railway Bridge Superstructures as supplemented by The Strauss Bascule Bridge Co's. Specifications for this bridge.
Machinery supports to be assembled in shop with machinery in place.

STRAUSS TRUNNION BASCULE BRIDGE
PATENTED
OVER
BLACK RIVER AT MILITARY STREET
FOR
CITY OF PORT HURON, MICH.

DRAWN BY W.F.H.	THE STRAUSS	SCALE 1/2" = 1'0"
TRACED BY C.C.	BASCULE BRIDGE CO.	DATE 11-5-12.
CHECKED BY F.H.H. 11/22/12.	CHICAGO	GEN. FILE 11
REVISED		

GENERAL MACHINERY — SHEET NO. 10

B01 OF 77032



Gen'l Note:
Material & workmanship as per specifications:
Specifications: Osborns engineering Co's general specifications for Electric Railway Bridge Superstructures as supplemented by The Strauss Bascule bridge Co's. specifications for this bridge.

STRAUSS TRUNNION BASCULE BRIDGE

PATENTED

OVER

BLACK RIVER AT MILITARY STREET

FOR

CITY OF PORT HURON, MICH.

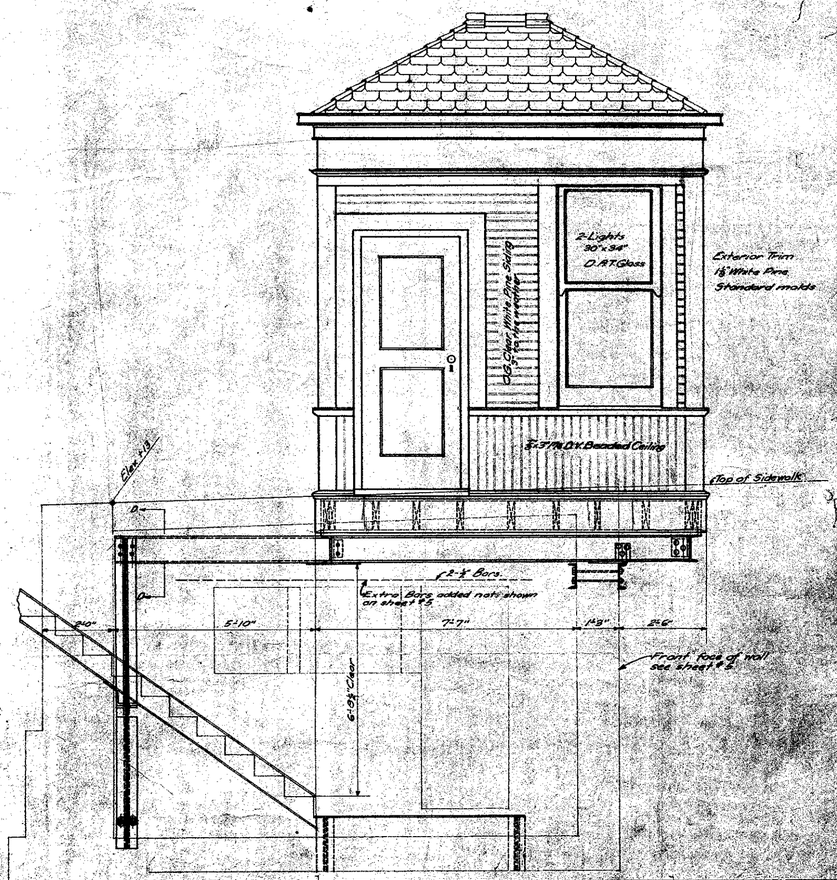
DRAWN BY O.H.T.
TRACED BY C.C.
CHECKED BY L.H.H. 11/22/12.
REVISED

THE STRAUSS
BASCULE BRIDGE CO.
CHICAGO

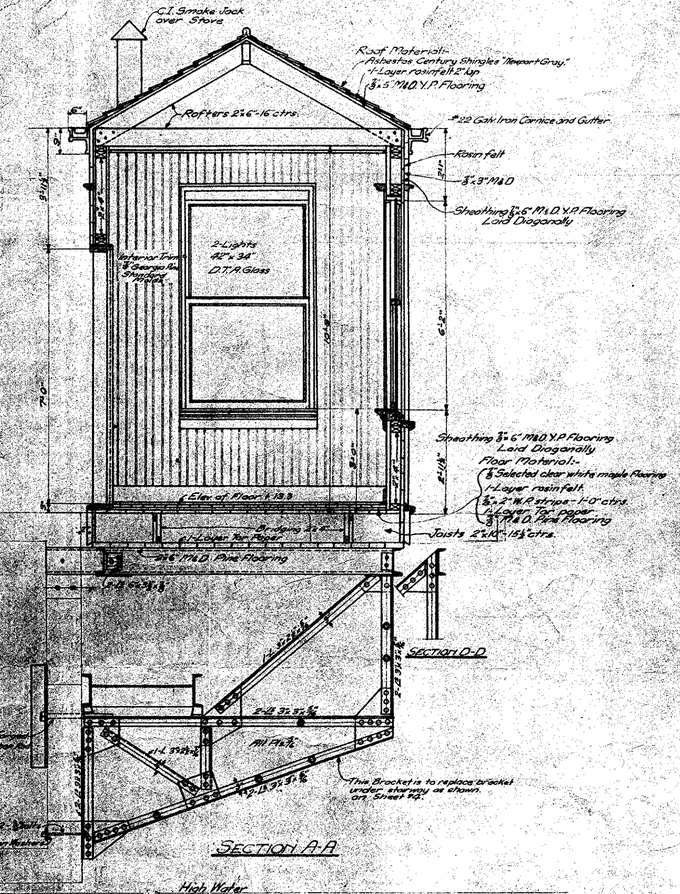
SCALE 1½"-1'-0"
DATE 11-8-12.
GEN. FILE 11

TRUNNIONS PINS & BEARINGS SHEET NO. 11

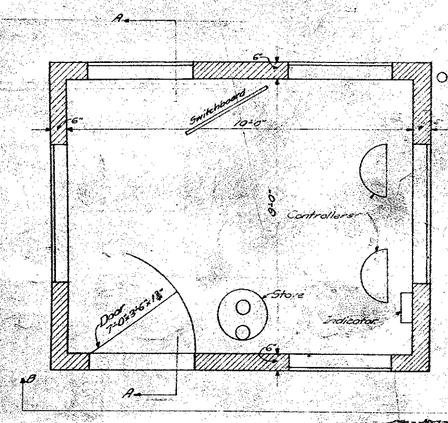
B01 OF 77032



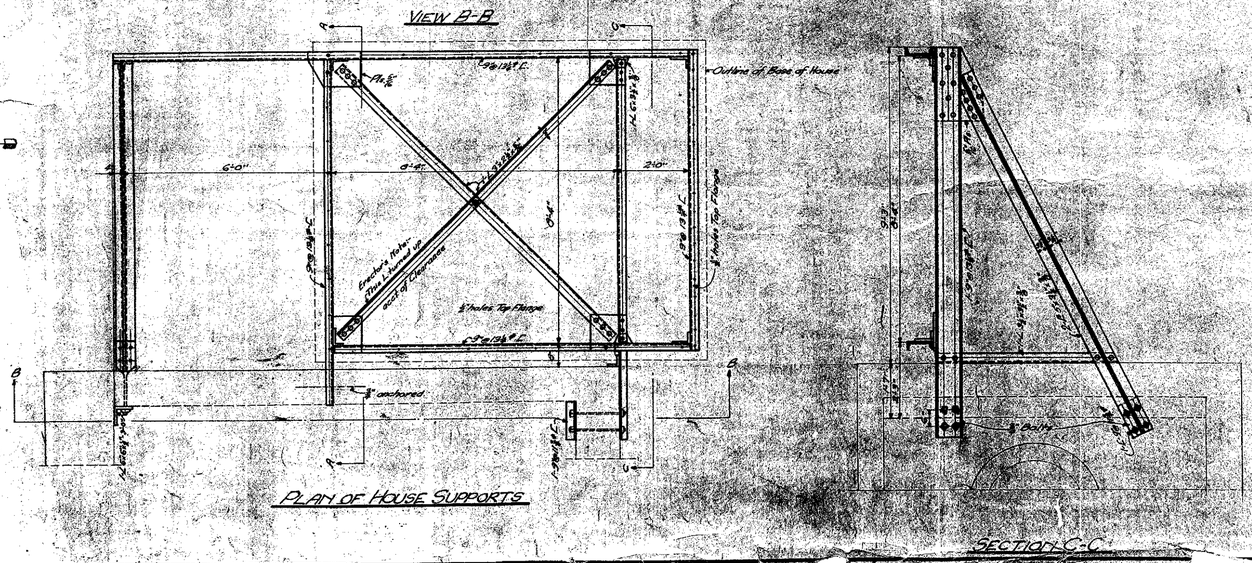
SECTION A-A



SECTION C-D



PLAN



General Notes:
Material and Workmanship as per Specifications
Rivets ⅞"ø
Open Holes ⅞"ø except as noted
Specifications see Sheet #2

STRAUSS TRUNNION BASCULE BRIDGE
PATENTED
OVER
BLACK RIVER AT MILITARY STREET
FOR
CITY OF PORT HURON, MICH.

DRAWN BY J.H.R.
TRACED BY L.E.M.
CHECKED BY L.E.M. 1/30/13
REVISED

THE STRAUSS BASCULE BRIDGE CO. CHICAGO

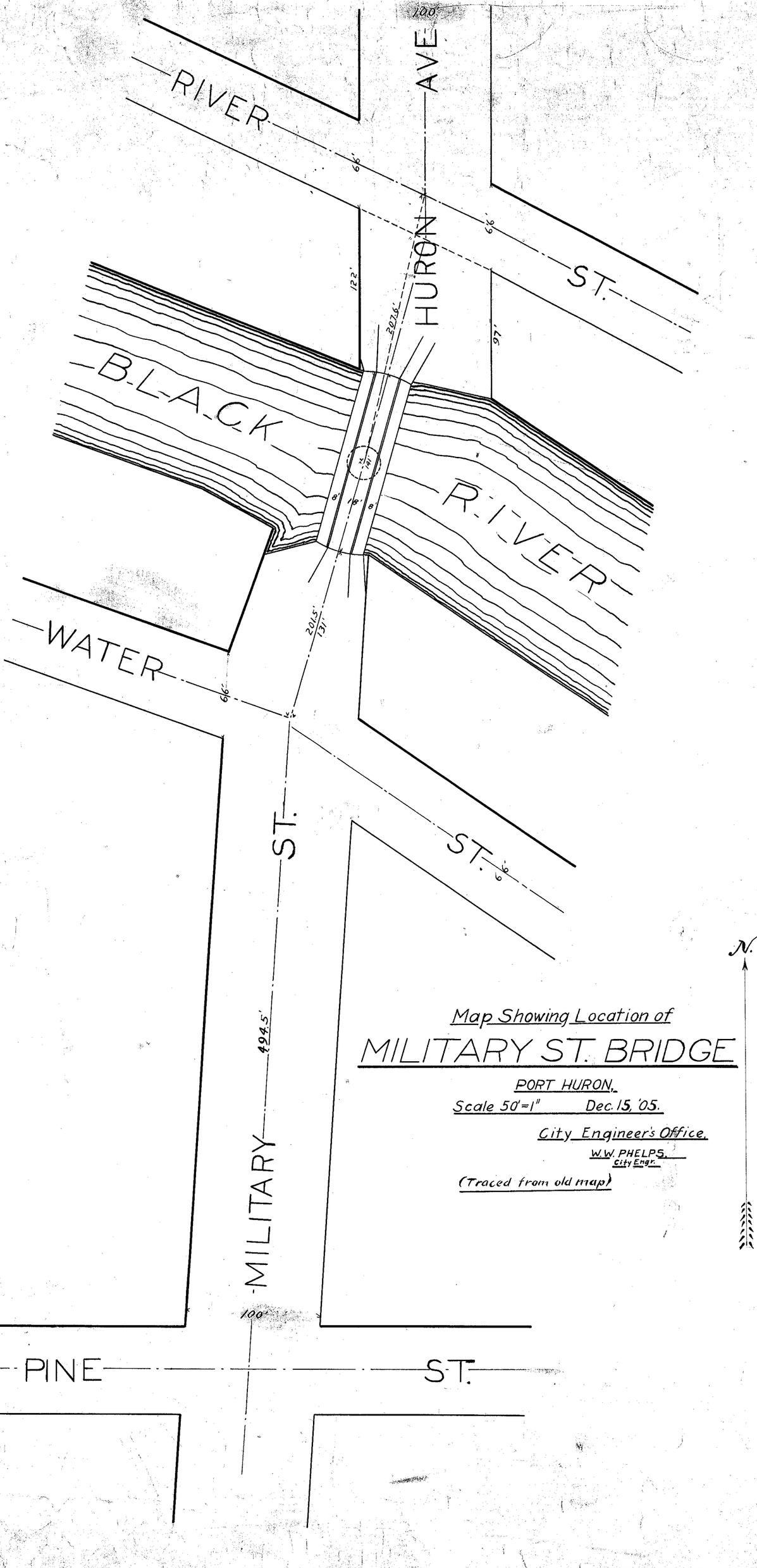
SCALE 1"=1'-0"
DATE 1-30-13
GEN. FILE 11

OPERATOR'S HOUSE

SHEET NO. 13

801 OF 77032

Map Showing
Location
of
Military St. Bridge,
and
PROPOSED NEW BRIDGE,
WITH CHANGES IN PAVEMENT &c FOR NEW BRIDGE.
Scale, 20 ft. = 1 inch.
Feb., 1906.
W. W. Phelps, City Engr.
HURON
AVE.
STREET
QUAY
BLACK
RIVER
MILITARY
STREET
WATER
STREET
Incline to Ferry Landing
11.5'
Customs office
Dock
Line
New Cement Walk
New Curb Line
Brick Paving
Brick
Cement Filling Walk
Railing
Old Catch Bason to be moved
Curb Line
Paving Filling
Brick Pavement
Planked Approach to be replaced with Brick Pavement Filling
Face of old abutment
Catch Basin
Old Curb Line
New Curb Line
61.5'
Cement Walk
Plank Walk
Railing
10'
8'
18'
40'
6'
10'
140'
140'
Dock line
Railing
Plank Walk
Stone Walk
Curb line
Planked Approach
Brick Pavement Filling
Brick Pavement
Face of old Abutment
Plank Walk
Railing
Old Curb Line
Brick Pavement
New Cement Walk
Curb Line
Dock line
VAULT
A-8-9
B-9*



Map Showing Location of

MILITARY ST. BRIDGE

PORT HURON.

Scale 50'=1" Dec. 15, '05.

City Engineer's Office.

W.W. PHELPS.
City Engr.

(Traced from old map)

Map Showing Location of Military St. Bridge

AS PROPOSED.

Scale, 20 ft = 1 inch.

Feb., 1906. W.W. Phelps, City Engr.

HURON STREET

AVE.

QUAY

Curb line

Brick Paving

Brick Pavement

Filling

Dock Line

81.5'

43'

61.5'

18.9'

13'

12'

10'

40'

148'

33'

20'

Center of bridge at intersection of dock line and street line

Bridging

RIVER

Black

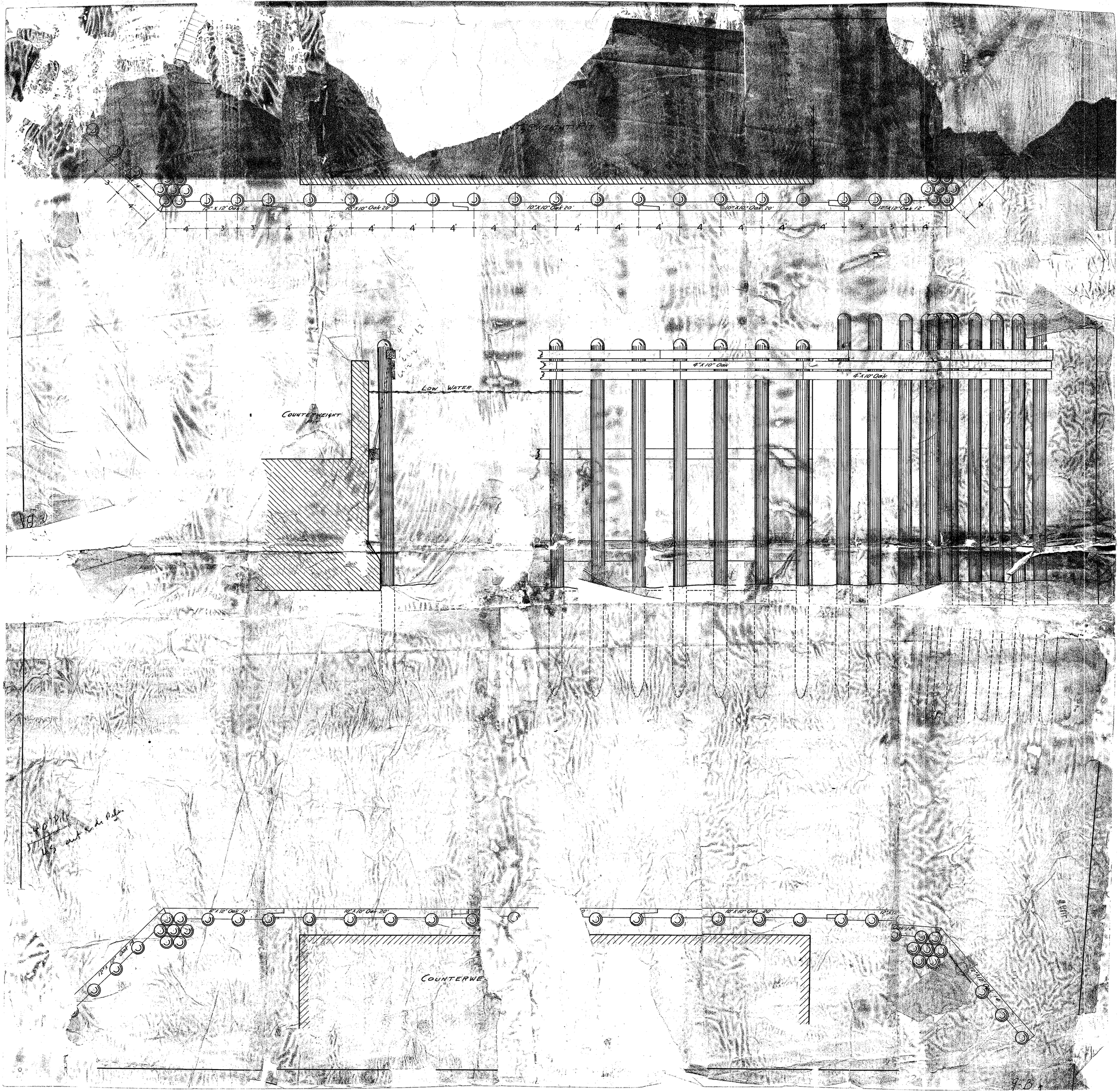
Corner of bridge in street line

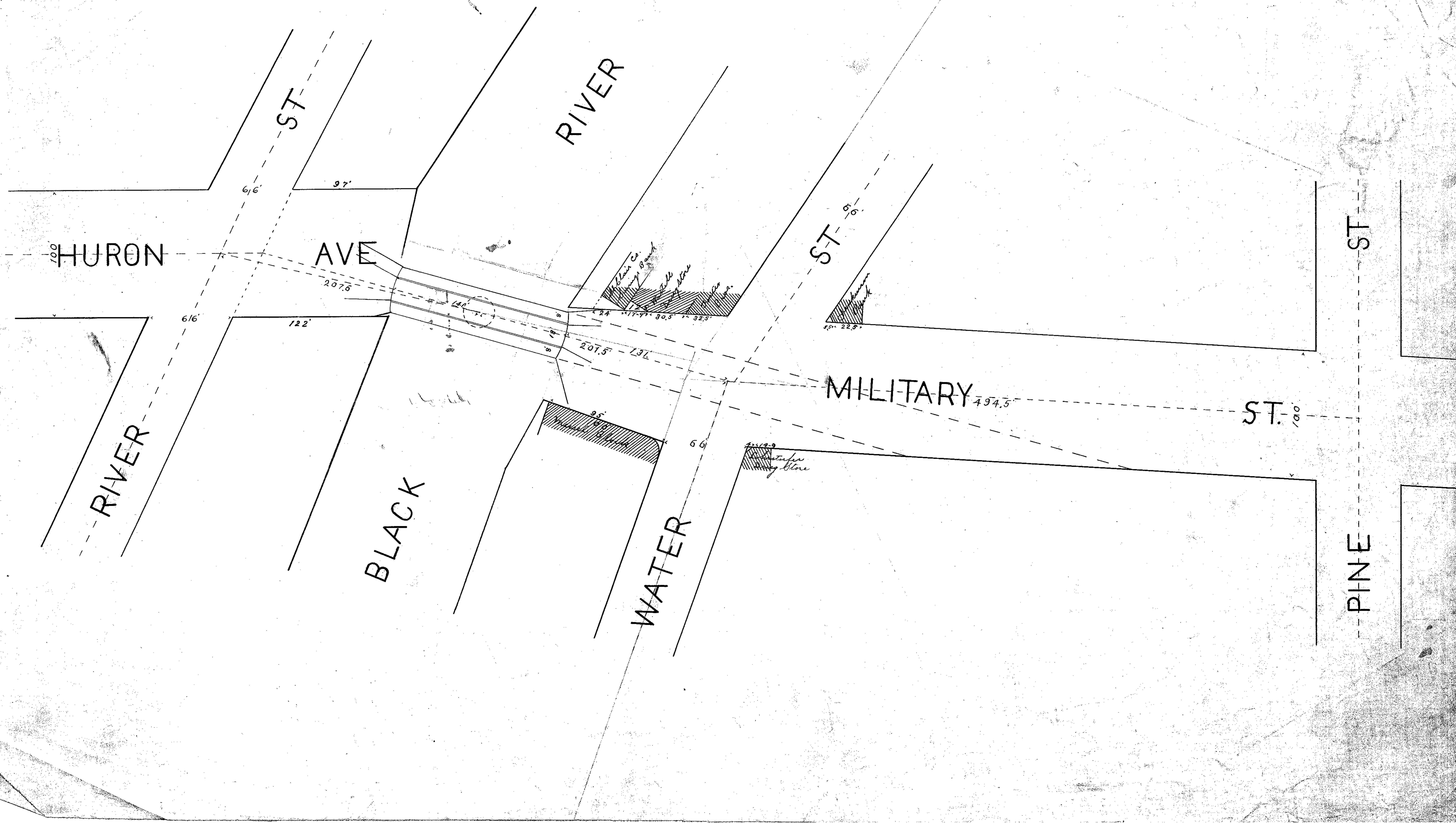
MILITARY STREET

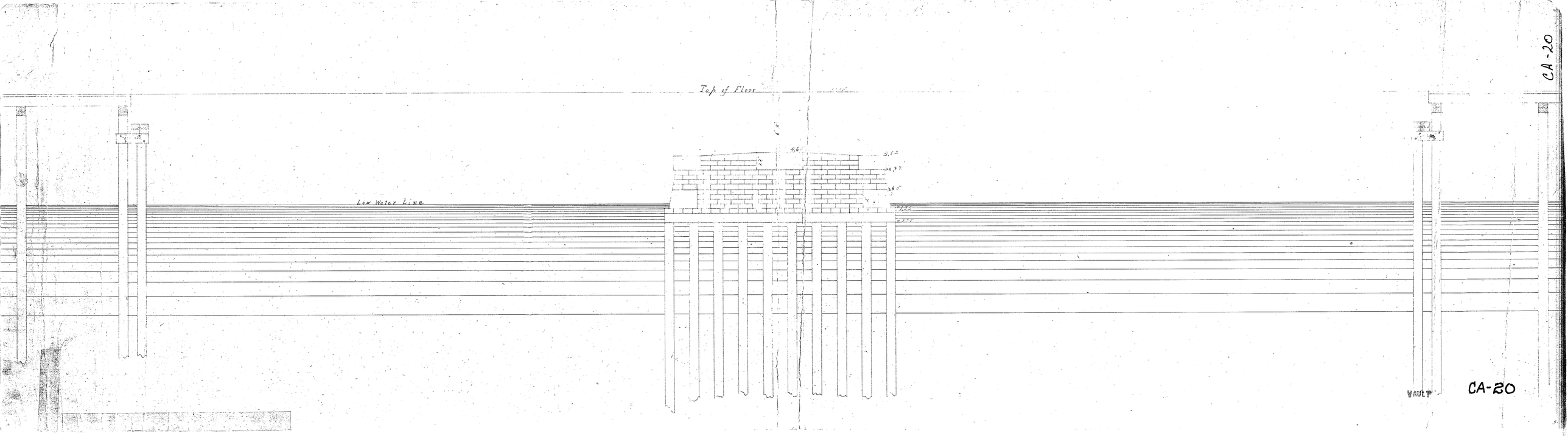
WATER STREET

B-9


Map Showing
Location
of
Military St. Bridge
and
Adjacent Streets.
Scale, 20ft. = 1 inch.
Feb., 1906.
W.W. Phelps, City Eng'r.
HURON
AVE.
STREET
QUAY
BLACK
RIVER
MILITARY
STREET
STREET
WATER
Cement Walk
Curb Line
Incline
Leading to Ferry Dock
Customs Office
Plank Walk
Brick Pavement
Planked Approach
Face of old stone abutment
Railing
Face of Abutment
Brick Pavement
Planked Approach
10'
120'
21.6'
18.9'

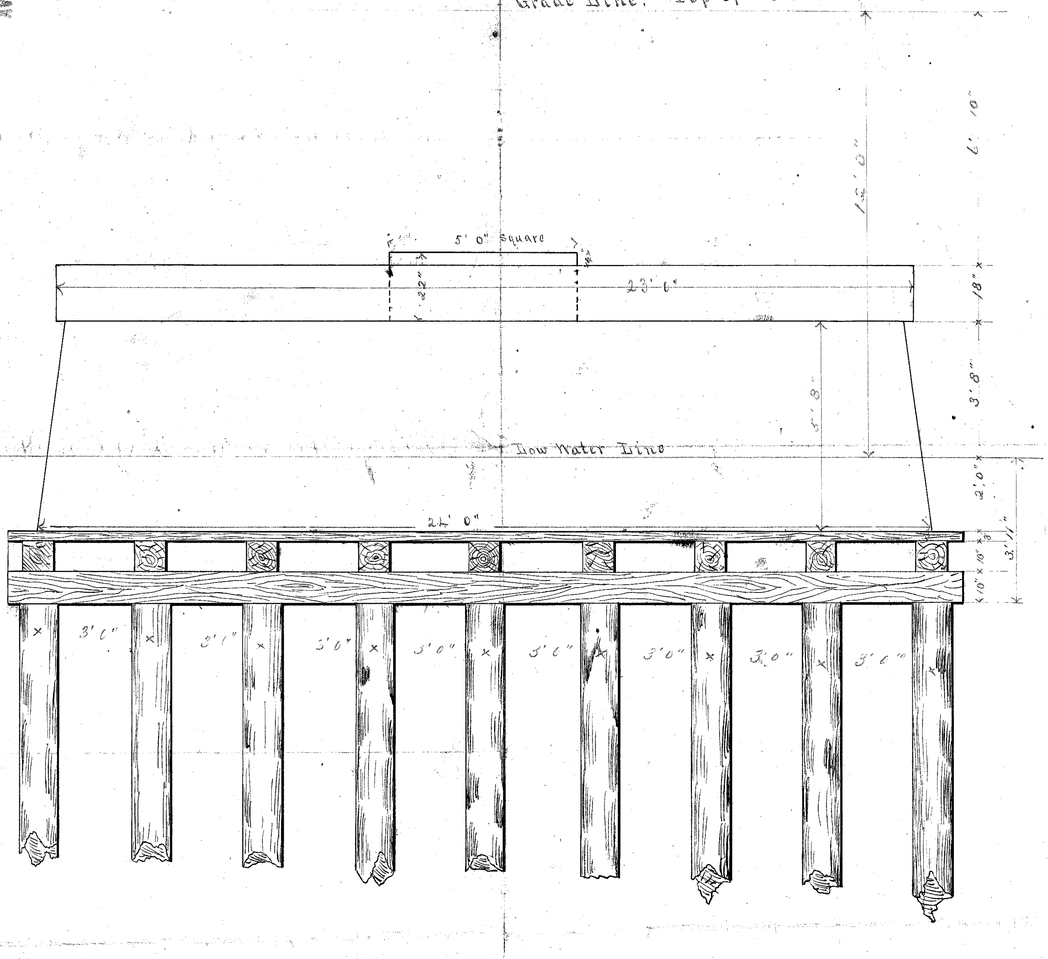

12" X 12" Oak 12'
10"X10" Oak 20'
10"X10" Oak 20'
10"X10" Oak 20'
12"X12" Oak 12'
4"X10" Oak
4"X10" Oak
LOW WATER
COUNTERWEIGHT
12"X12" Oak 12'
10"X10" Oak 20'
COUNTERWE
10"X10" Oak 20'
12"X12"


HURON AVE
RIVER ST
RIVER ST
BLACK RIVER
WATER ST
MILITARY ST.
PINE ST
100
66'
97'
122'
207.5
207.5
66
66'
494.5
100

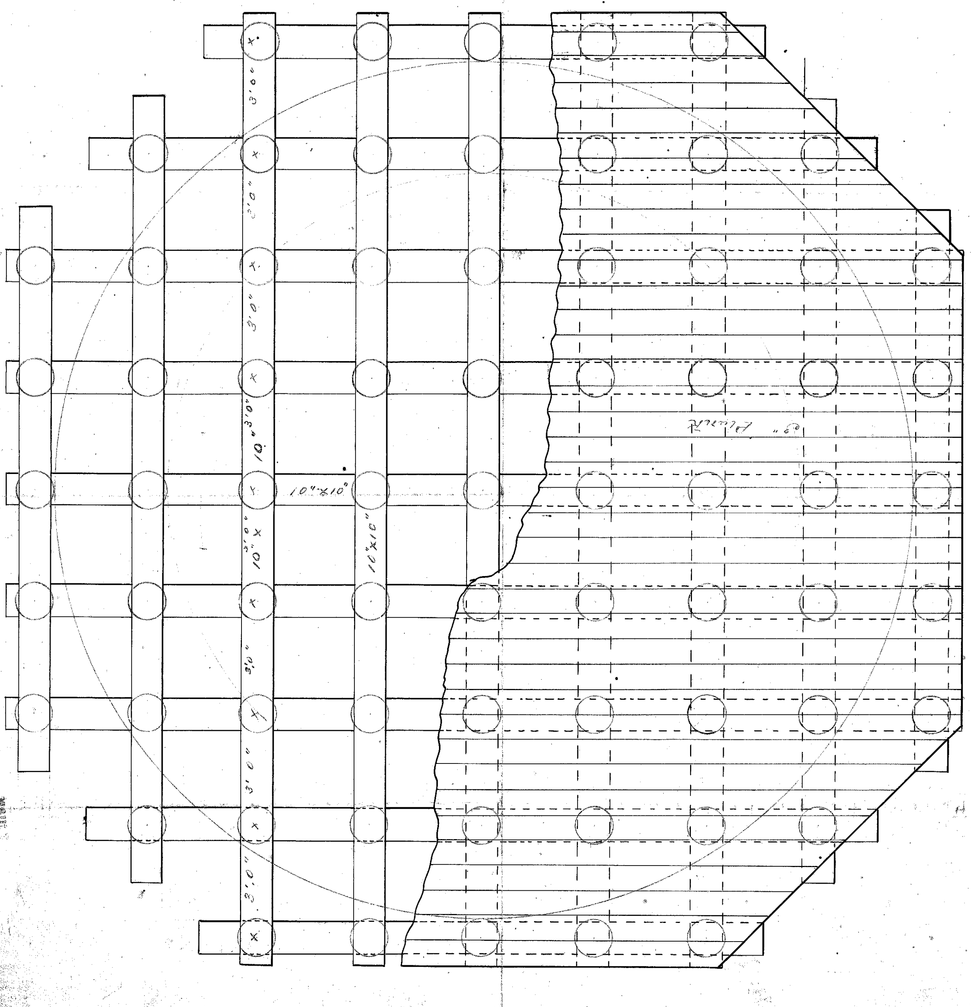


CA-20

CA-20



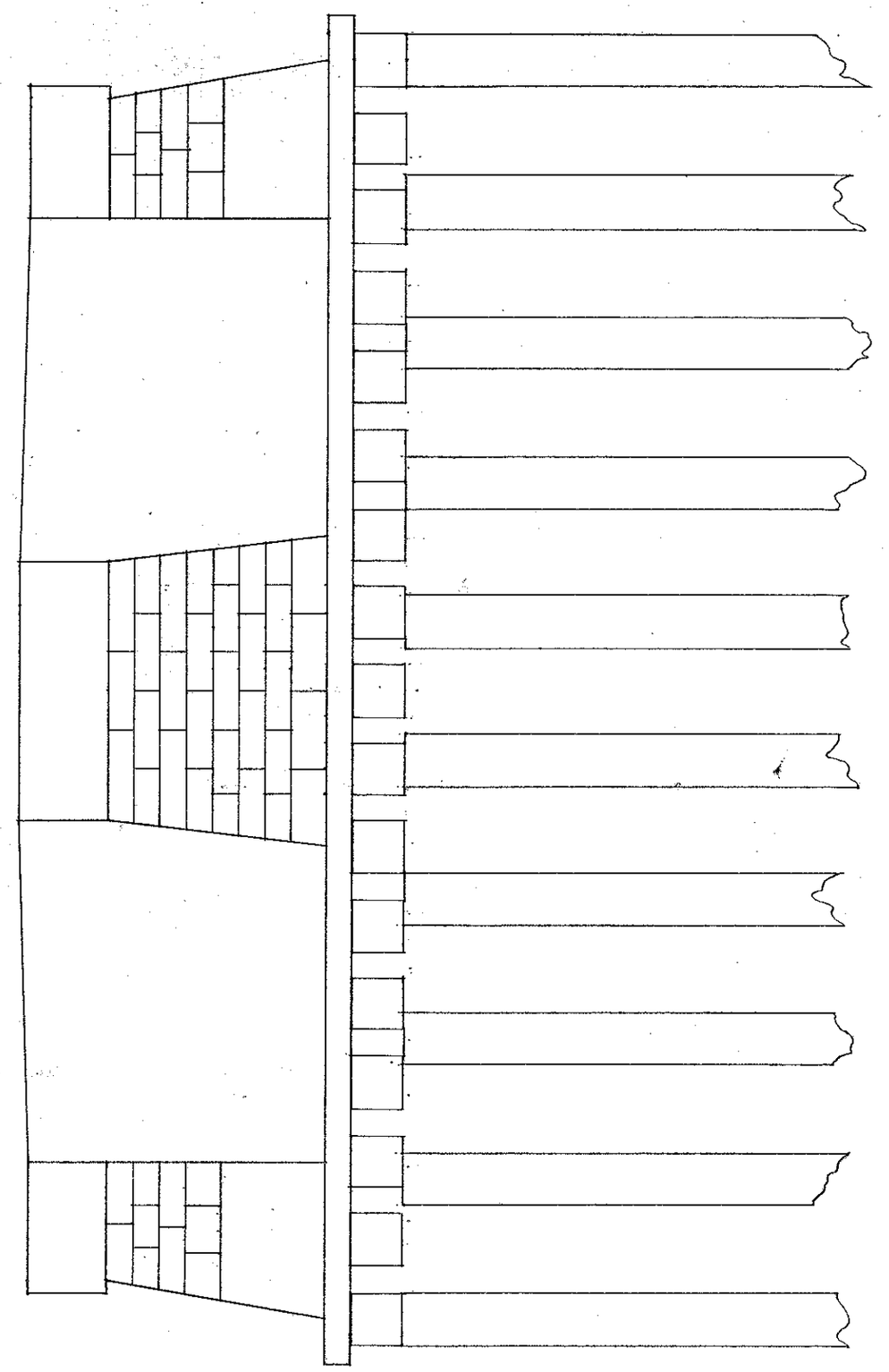
Plan for Center Pier
for
Bridge over Black River in the
City of Port Huron, Mich.
Scale $\frac{1}{2}$" = 1'

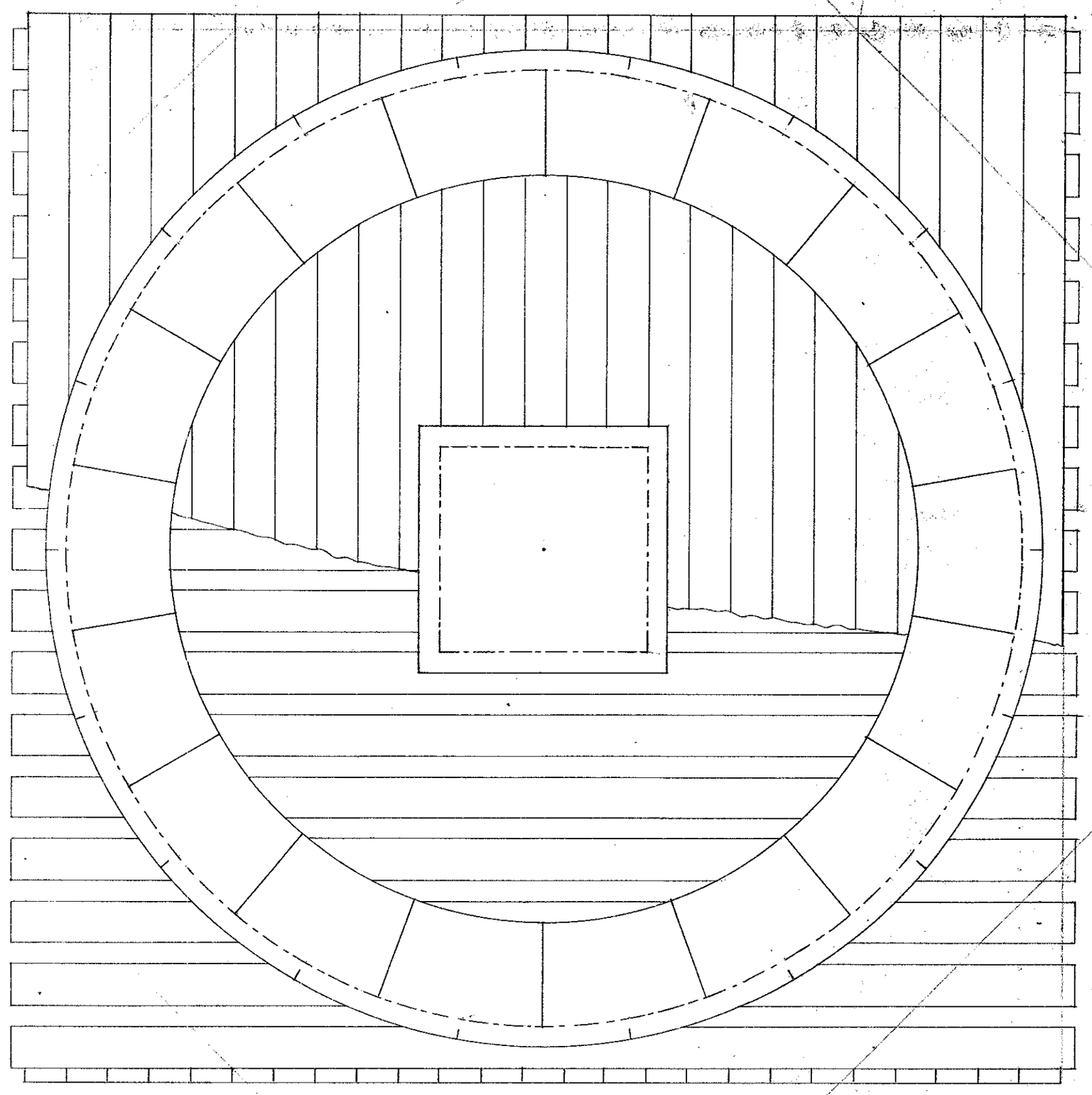


CA-21

CA-21

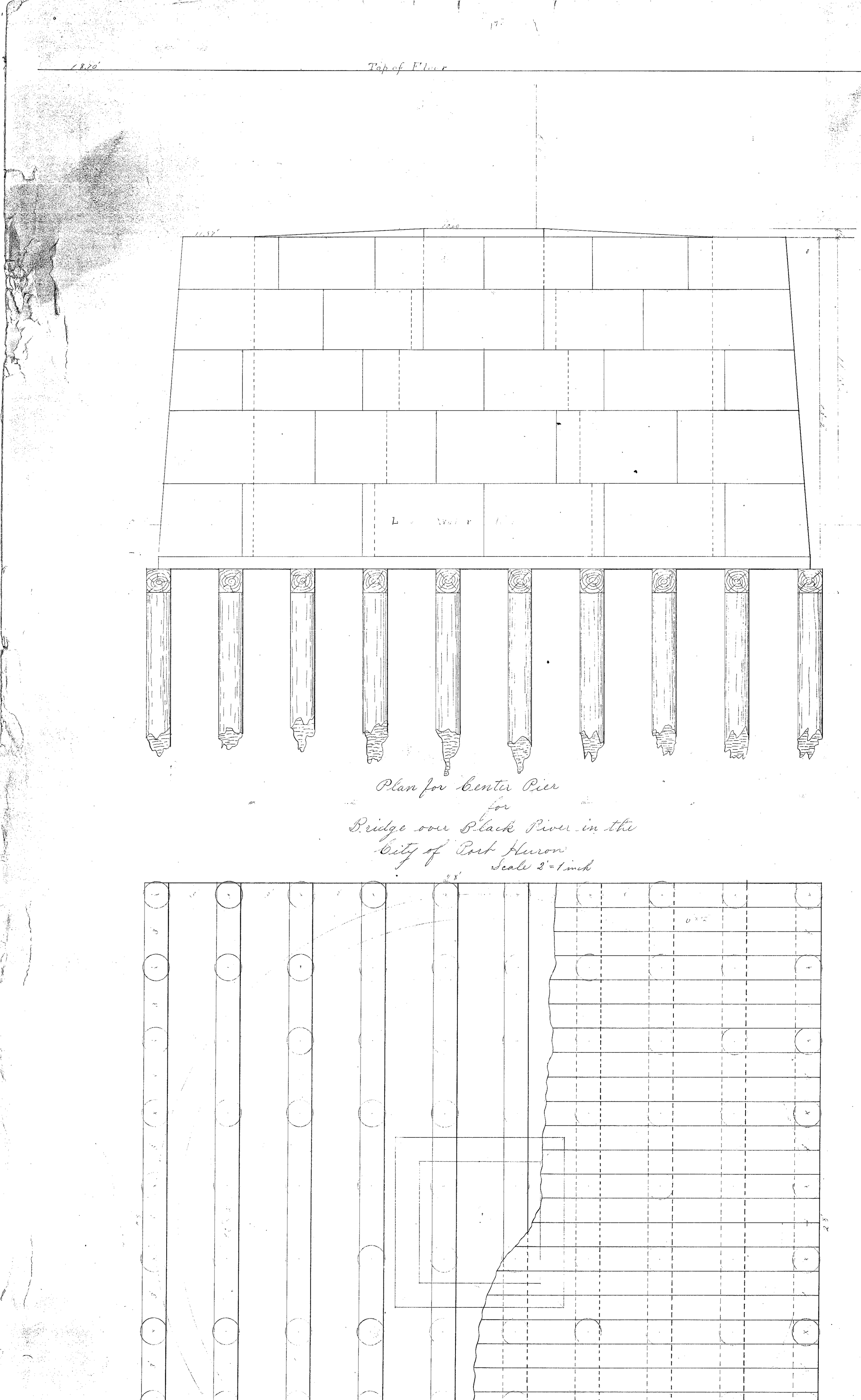
CA-22

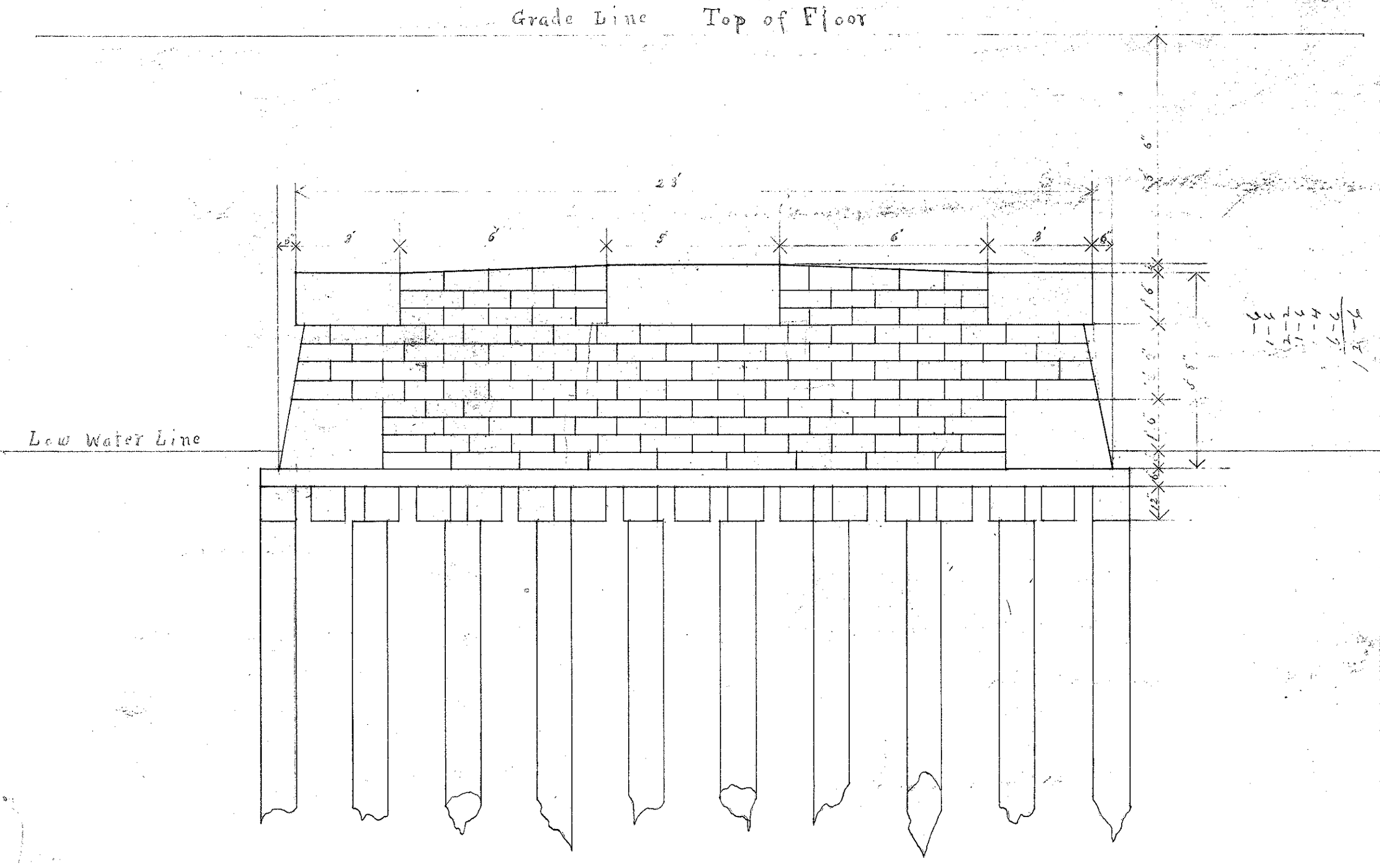




VAULT

CA-22


18.20'
Top of Floor
11.52'
Plan for Center Pier
for
Bridge over Black River in the
City of Port Huron
Scale 2' = 1 inch
8'
3'
CA-23



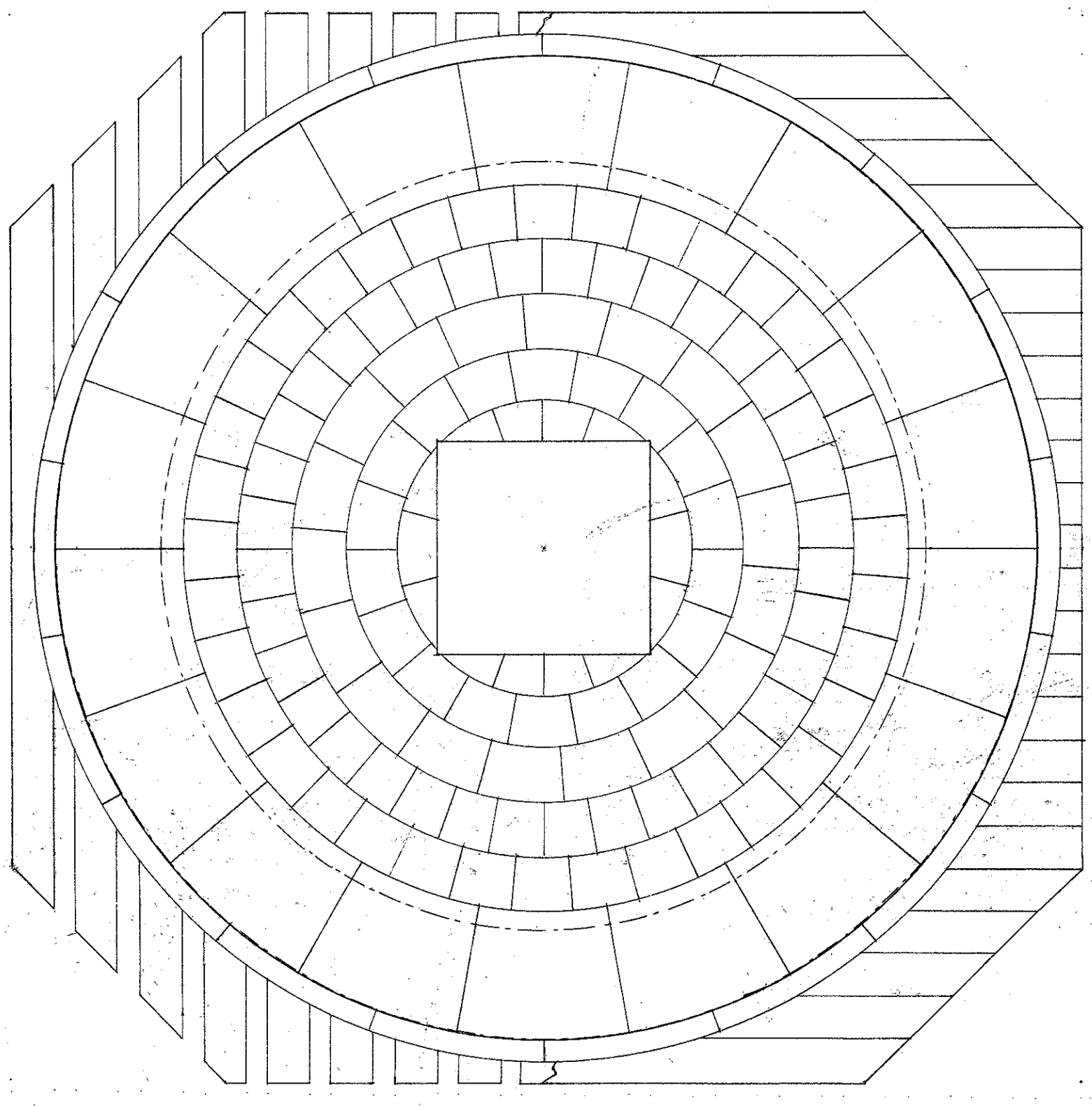
Plan for Center Pier

for

Bridge over Black River, in the

City of Port Huron, Mich

Scale 3' = 1"



CA-24

19 Pile Cluster
Outside Ring of Pile to be driven on circle. 7'-6" in Dia. & Pulled in at Top

6 Turns of Chain

℄ of 10' Main N. Side

℄ of 10' Main S. side

Bell Joint

SOUTH
COUNTERWEIGHT PIT

Existing Piles

Sym about ℄ of River

PLAN
Scale 1/4" = 12"

19 Pile Cluster
Outside Ring of Pile To be Driven on Circle- 7'-6" Dia. & Pulled in at Top.

6 Turns of Chain

DETAIL OF SCARF JOINT
Scale 1"=12"

NOTE
- All Pile Clusters to be Wrapped With 1" Proof Coil Chain - Each Turn Spiked To Outside Pile. With Wire Staple
- All Piles & Timbers To be Creosoted.
- All Hardware To be Galvonized.
- All Wales Fastened To Pile by 1" or 3/4" Bolts Countersink Heads on River Side of Wales.

A

10" x 12"
6" X 12"
6" X 12"
6" X 12"
6" X 12"

Counter Sink All Bolt Heads on Outside of Wales

Bumper Block

24'-0"

A

FRONT ELEV.
Scale- 1/4" - 12"

Counterweight Pit.

Elev. of Water 2/11/32

Water Main S Side.

SEC. A A

PLAN

ELEV.
10"X12" WALE

PLAN

SIDE ELEV
6"X 12" WALE

Nut Washer

Nut Washer

DETAIL OF BUMPER BLOCK & ROD

Note Top of Rod Thru Wale is The Same Construction as Thru Block
Scale 1"-12"

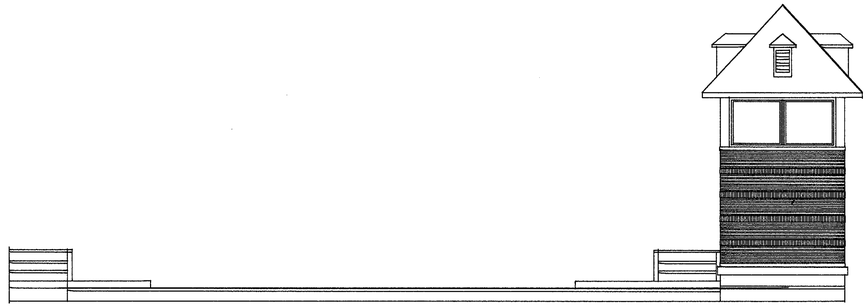
PORT HURON - MICHIGAN

PLAN FOR PILE & TIMBER PROTECTION MILITARY ST. BRIDGE 1932

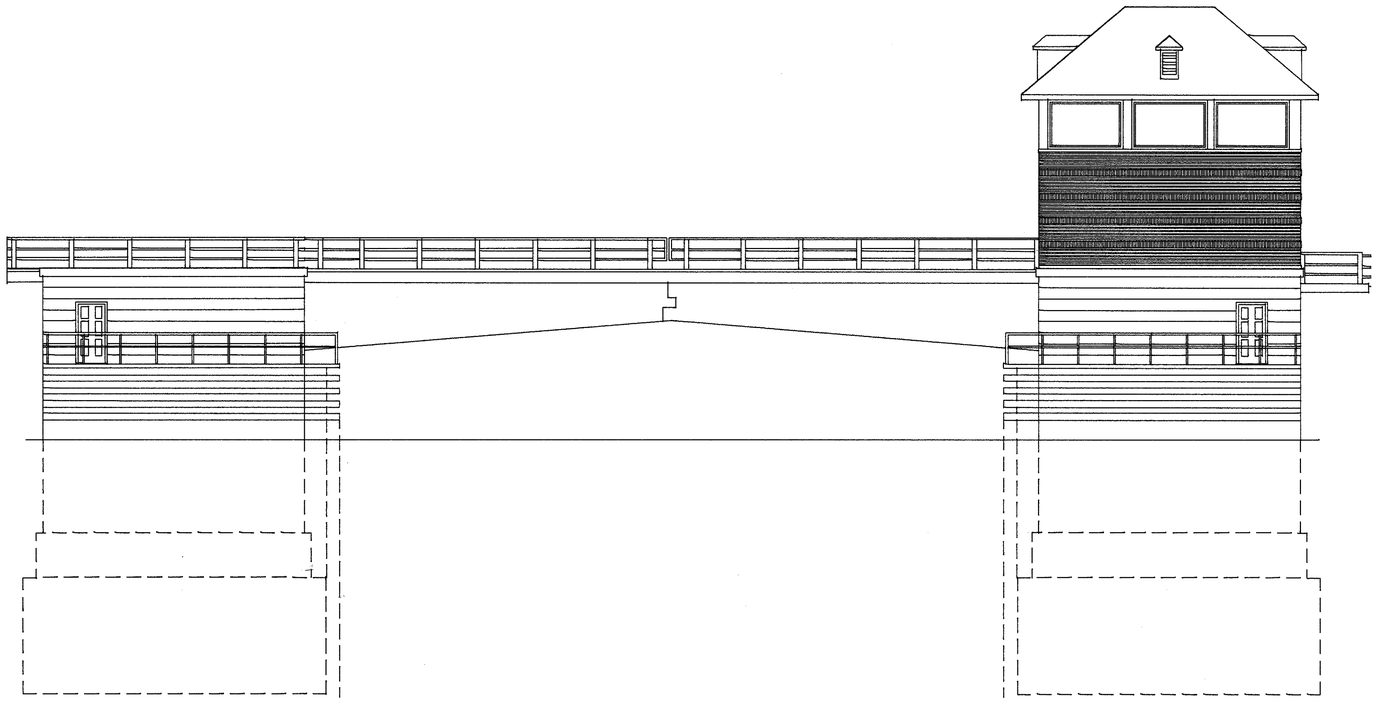
Revised- 9/11/33

E.R. Whitmore-City Eng.

Y-111



SOUTH ELEVATION AT ROAD LEVEL



EAST ELEVATION AT RIVER LEVEL

Military Street Bridge

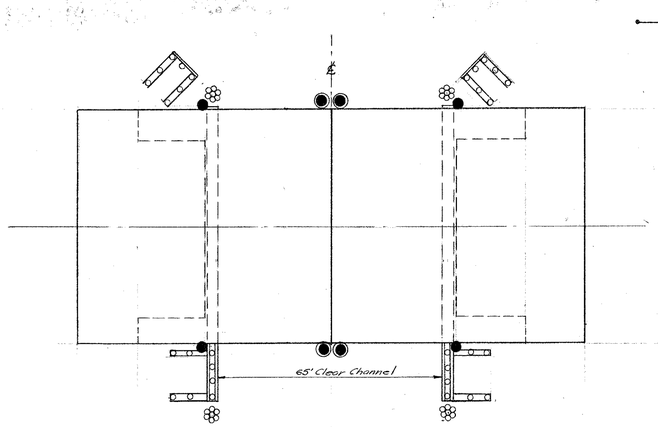
William Vogan
Architects

Architects / Planners

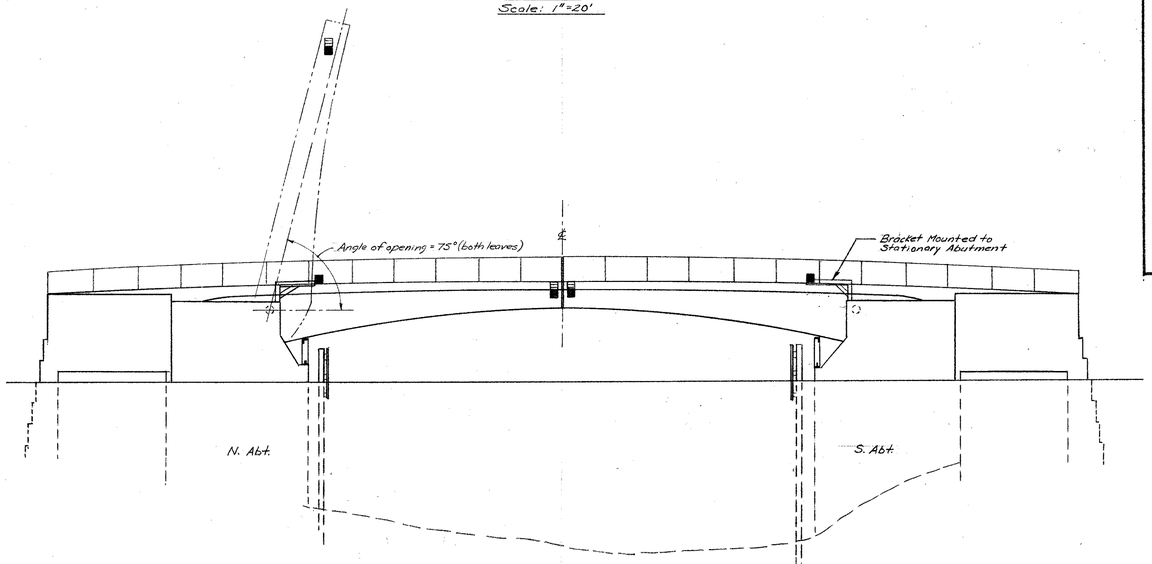
P.O. Box 610823
520 Bard Street
Port Huron,Michigan
48061-0823

(313) 985-3511

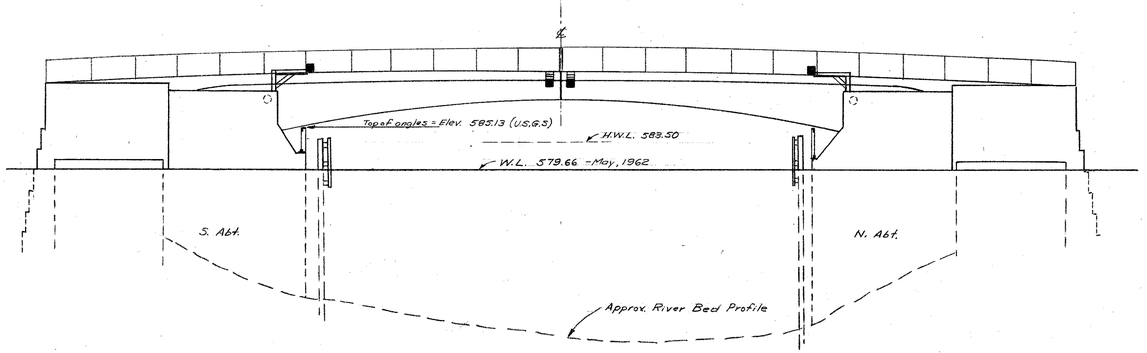
D-3616



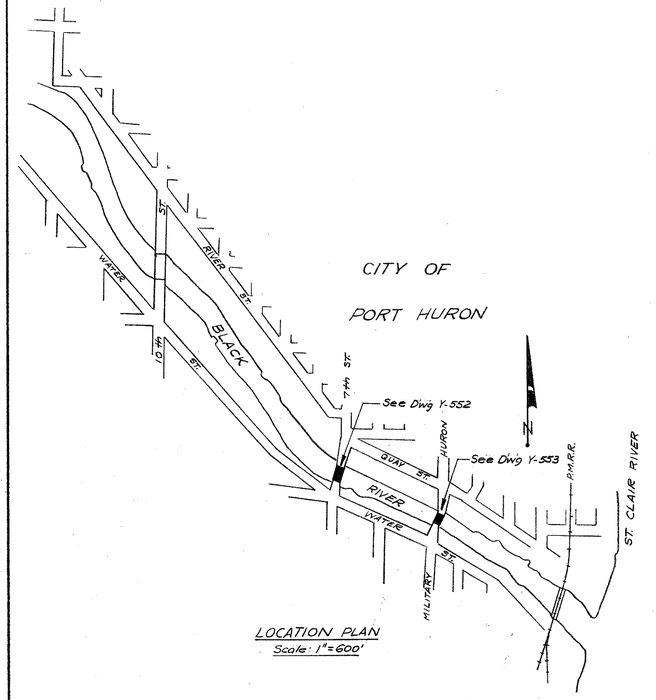
PLAN
Scale: 1"=20'



WEST ELEVATION
Scale: 1"=10'



EAST ELEVATION
Scale: 1"=10'



LOCATION PLAN
Scale: 1"=600'

● ■ Red Bridge Light - 180° Fresnel Lens - Bkt Mtd.

◉ ▮ Lift Span Light - 180° Fresnel Lens Swing Type Mtg - Red with span down. Green with span up.

CITY OF PORT HURON
MICHIGAN

CALVIN M. LAKIN - CITY MANAGER
ALLAN T. CARLISLE - CITY ENGINEER

MILITARY ST. BRIDGE LIGHTING

SCALE: AS NOTED	DRAWN BY: G.T. HUMMEL 6/6/62	SHEET 1 OF 1

APPROVED: Allan T. Carlisle P.E.
ALLAN T. CARLISLE - CITY ENGINEER

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