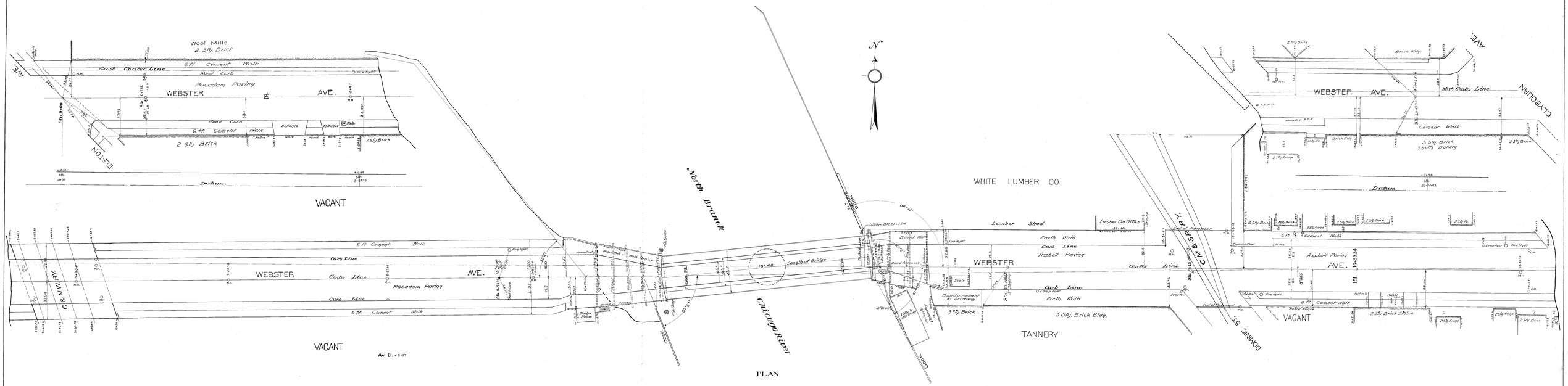


CITY OF CHICAGO
DEPARTMENT OF PUBLIC WORKS
BUREAU OF ENGINEERING
DIVISION OF BRIDGES AND HARBOR

SURVEY OF WEBSTER AVE. BRIDGE
Over the
NORTH BRANCH CHICAGO RIVER

Scale 20 ft. to 1 inch. July 1913.
Survey made by Johnson, 1908.
Revised by Heinrich, 1912.
Checked by Maley 9-1-1913

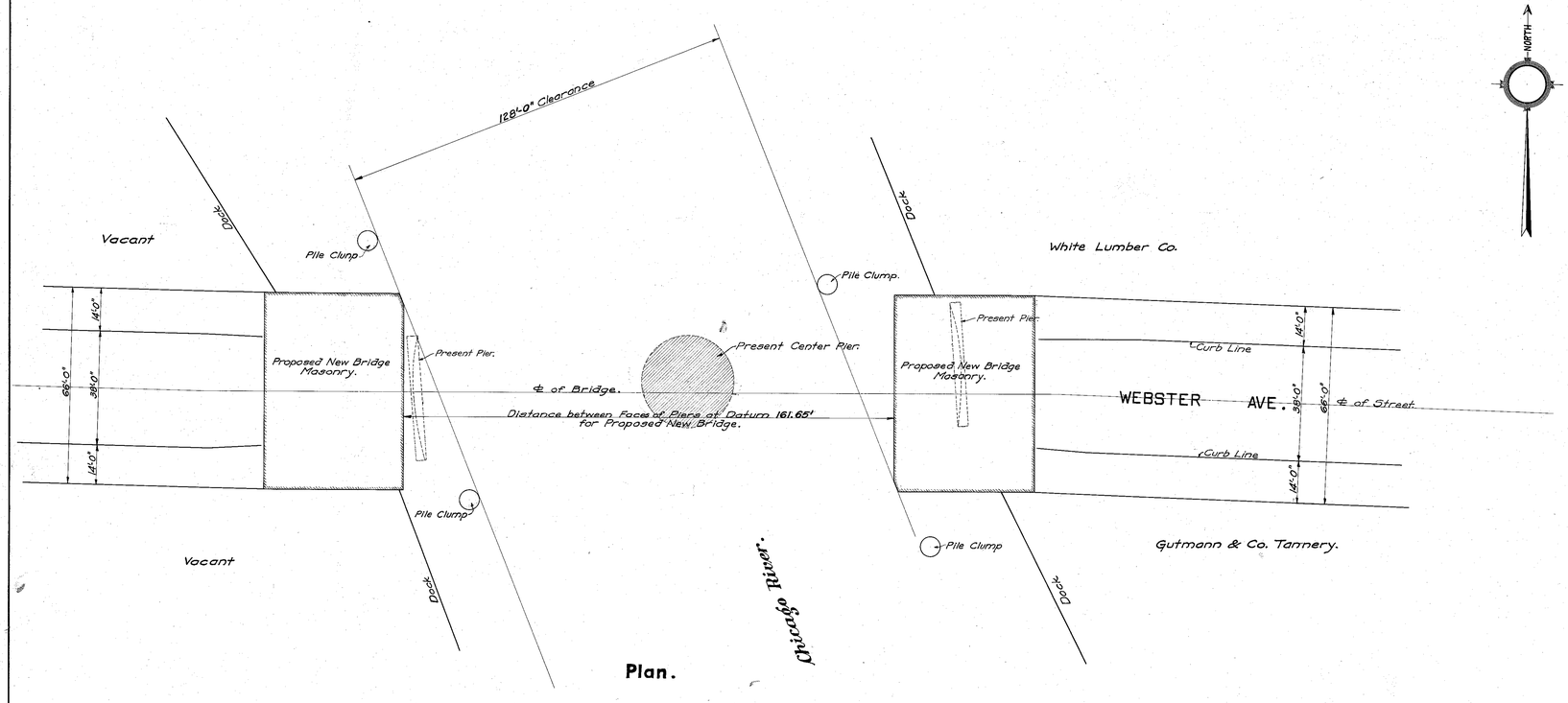
Drawing No 429
FILE No 15-64-1

1660570002

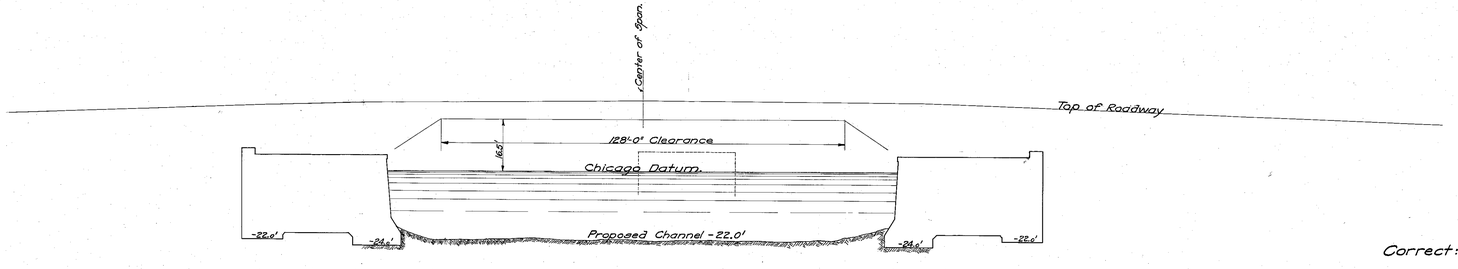
MAP OF
NORTH BRANCH OF CHICAGO RIVER
in vicinity of Webster Avenue.

Scale 1"=100'

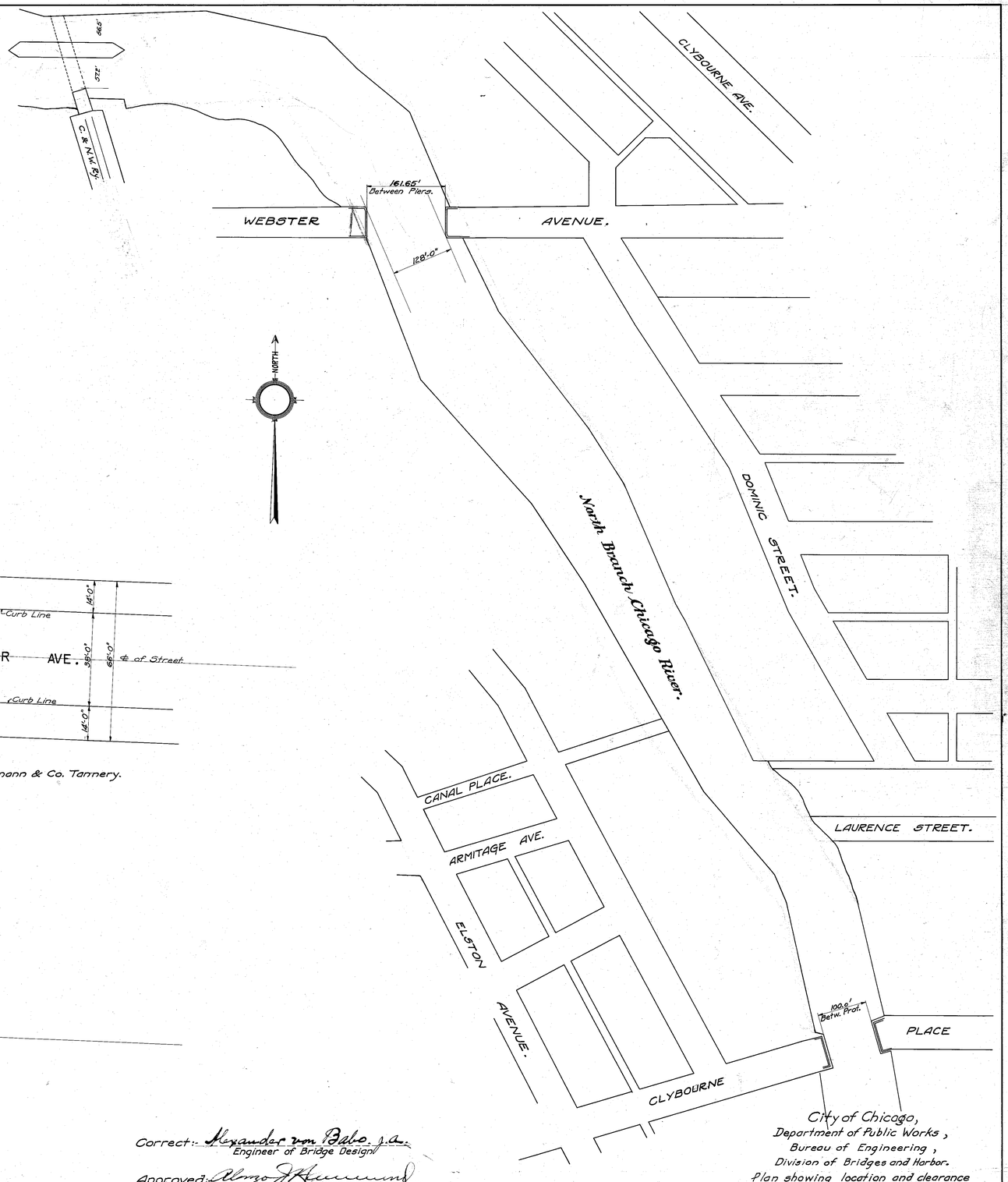
Map drawn from information obtained
from Government Atlas etc.



Plan.



Profile.



Correct:- Alexander von Babo. j.a.
Engineer of Bridge Design.

Approved:- Almon J. Hammond
Engineer in Charge of Bridges & Harbor.

Approved:- John Ries
City Engineer.

Approved:- L. E. McGann
Commissioner of Public Works.

City of Chicago,
Department of Public Works,
Bureau of Engineering,
Division of Bridges and Harbor.
Plan showing location and clearance
of proposed Bascule Bridge
over the North Branch of Chicago River at

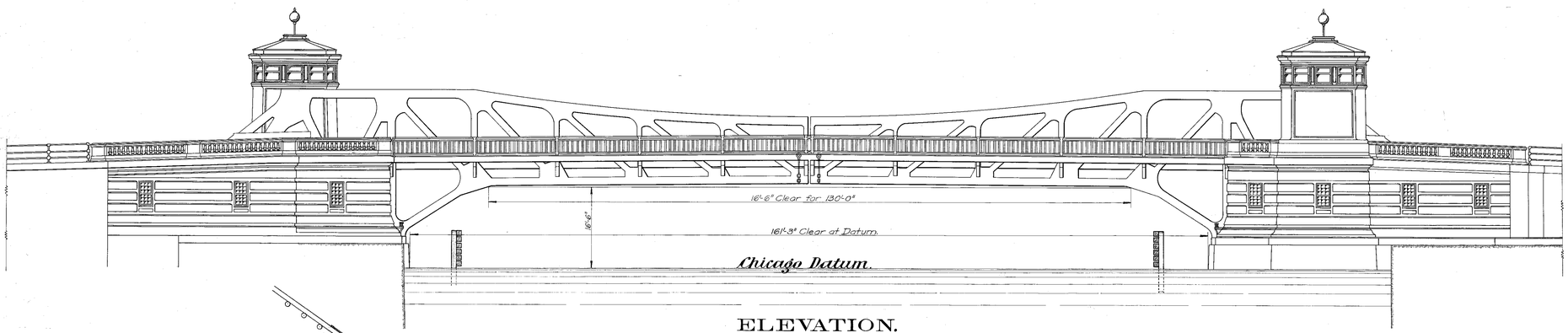
—WEBSTER AVE.—

Scale: 20' & 100' = 1" August 1913.

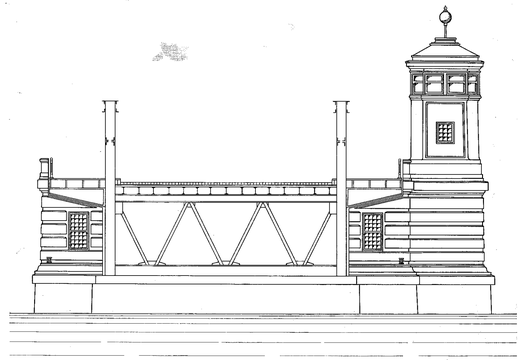
1660570003 J. A. DRAWING NO. 433.

FILE No. 11-6A-2

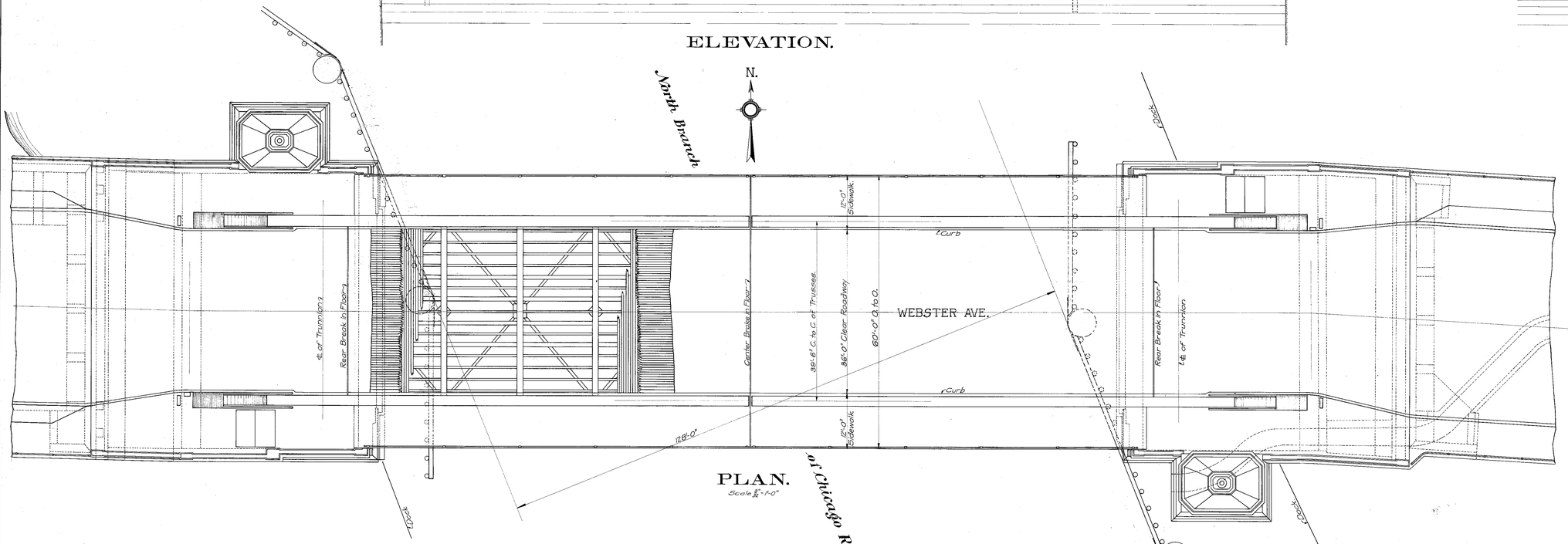
SIZE 27"x41"



ELEVATION.

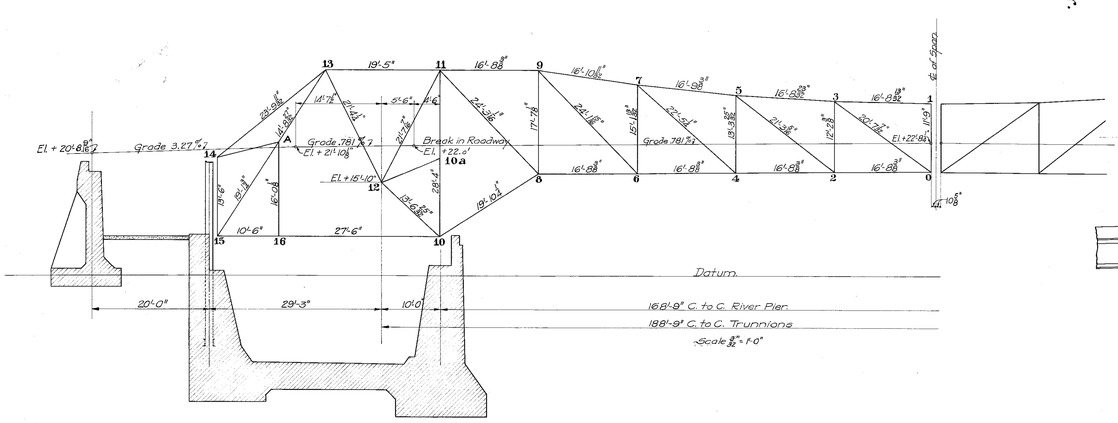


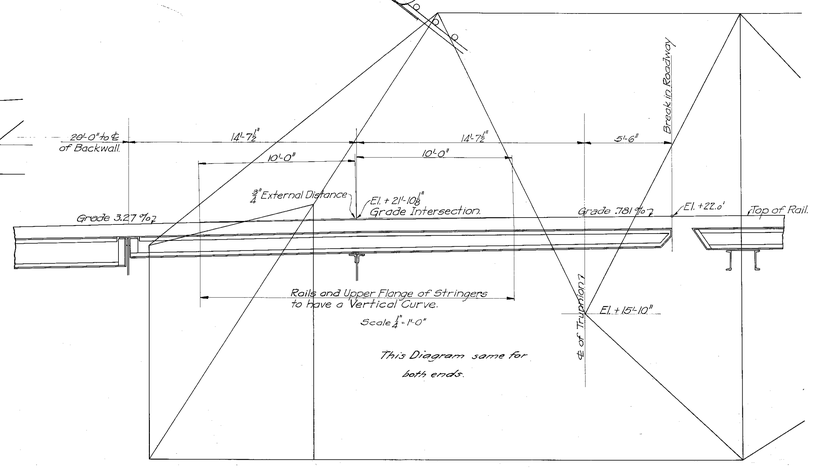
Sectional Elevation.



PLAN.

Scale $\frac{1}{8}$"-1'-0"





Correct... Hugh E. Young
Bridge Designing Engineer.

Approved... Alexander von Babo
Engineer of Bridge Design.

Approved... Thos. G. Pihlfeldt
Engineer of Bridges and Harbor.

Approved... John Ericson
City Engineer.

Approved... [illegible]
Commissioner of Public Works.

CITY OF CHICAGO
DEPARTMENT OF PUBLIC WORKS
BUREAU OF ENGINEERING
DIVISION OF BRIDGES AND HARBOR

DOUBLE LEAF TRUNNION BASCULE BRIDGE AT WEBSTER AVENUE OVER NORTH BRANCH OF THE CHICAGO RIVER

SUB. & SUPERSTRUCTURE

General Plan

Scale: $\frac{1}{8}$" & $\frac{1}{2}$" = 1 ft. April, 1914.

Drawn by J.E.T.

Traced by K.J.F.

Revised (Per Protection) 9-8-15 Checked by E.C.H.

Drawing No. 783

1 OF 12

1 OF 38

1660570004

FILE No. 11-6A-3

38

NOTES:-
Material: Structural steel except as noted.
Rivets $\frac{7}{8}$"ø
Open holes $\frac{15}{16}$"ø except as noted.
For special work at trunnion holes, punching reaming and general requirements of Fabrication - See Specifications.

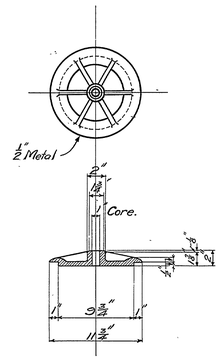
Correct. Hugh E. Young
Bridge Designing Engineer.

Approved Alexander von Babo
Engineer of Bridge Design.

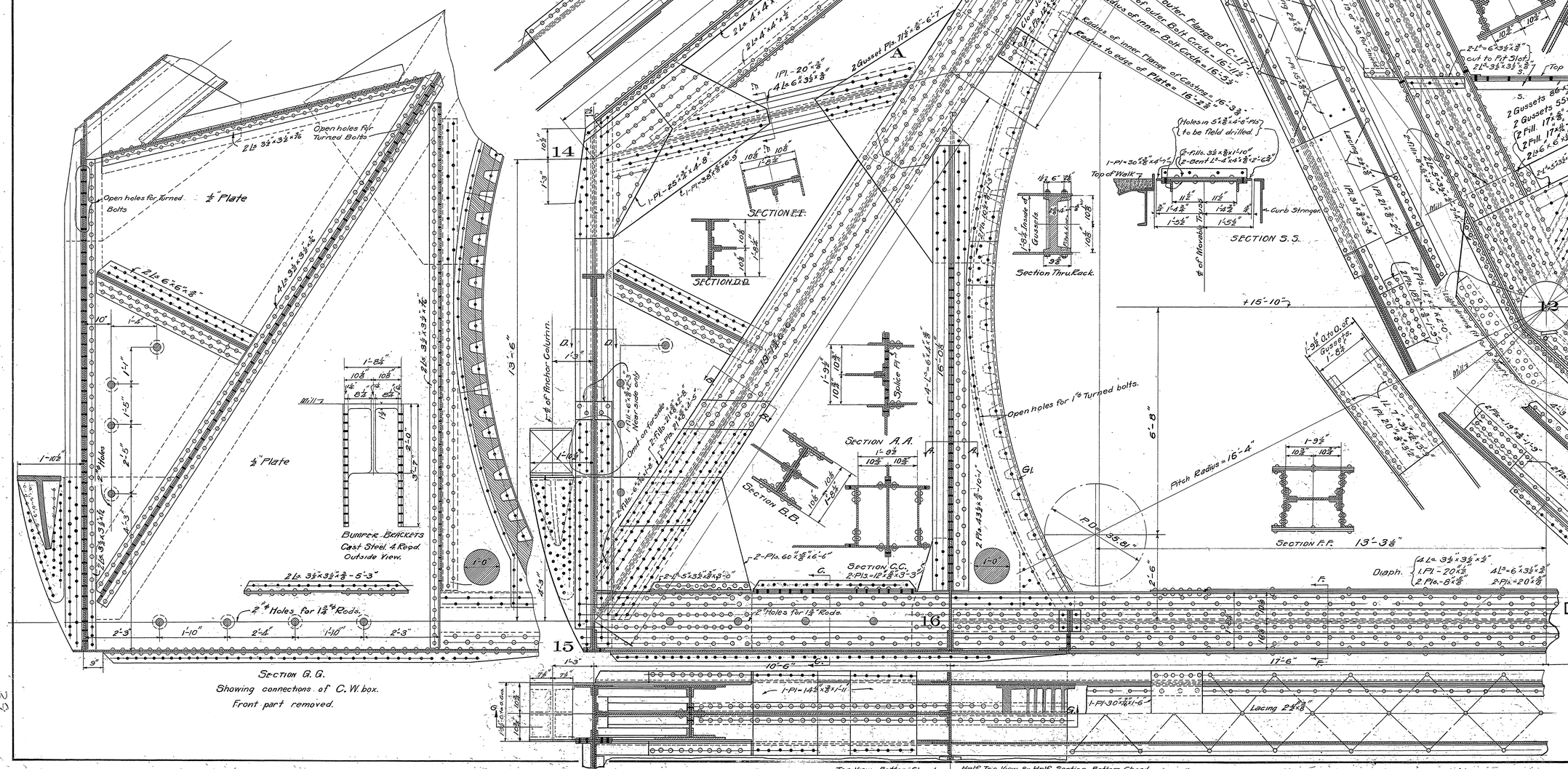
Approved Thos. G. Pihlfeldt
Engineer of Bridges and Harbor.

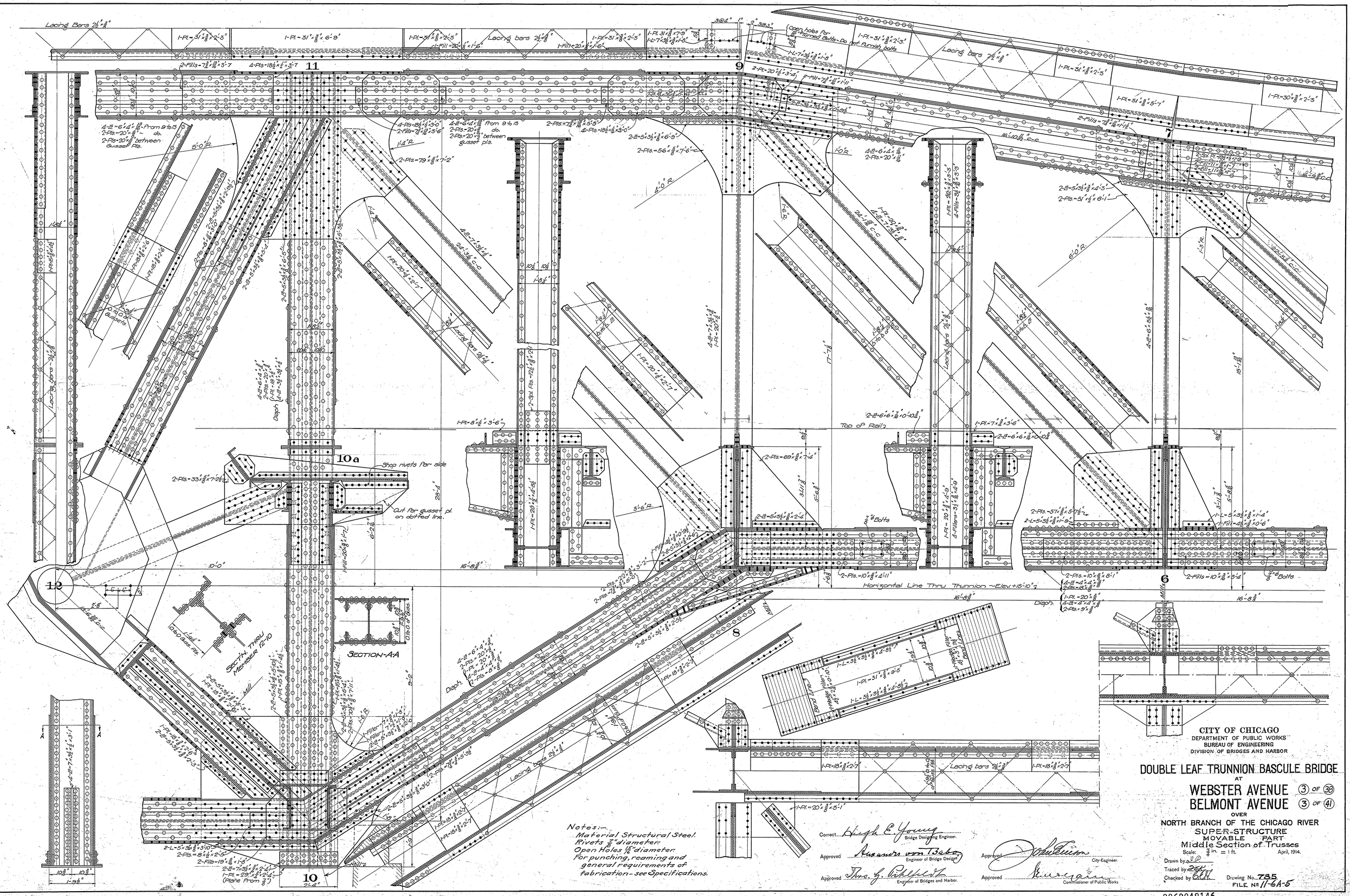
Approved John Evers
City Engineer.

Approved E. E. Gorman
Commissioner of Public Works



8. CAST IRON HAND HOLE COVERS.
Scale 1½" = 1'-0"


Open holes for Turned Bolts
½" Plate
2 Ls 3½"x3½"x⅞"
4 Ls 3½"x3½"x⅞"
2 Ls 6"x6"x⅞"
2 Ls 3½"x3½"x⅞"
2 Ls 3½"x3½"x⅞"
Open holes for Turned Bolts
½" Plate
1'-10½"
2"ø Holes
2'-1"
2'-1"
1'-3"
1'-3"
1'-10"
2 Ls 3½"x3½"x⅞" - 5'-3"
2"ø Holes for 1⅛"ø Rods.
2'-3"
1'-10"
2'-4"
1'-10"
2'-3"
9"
1'-8½"
10⅝"
10⅝"
1'-8½"
1'-3"
13'-6"
1'-8" of Anchor Columns.
1'-8"
1'-8"
1'-8½"
1'-8½"
1'-8"
1'-8"
1'-8½"
1'-8½"
1'-8"
1'-8"
1'-8½"
1'-8½"



CITY OF CHICAGO
DEPARTMENT OF PUBLIC WORKS
BUREAU OF ENGINEERING
DIVISION OF BRIDGES AND HARBOR

DOUBLE LEAF TRUNNION BASCULE BRIDGE
AT
WEBSTER AVENUE (3) OF (38)
BELMONT AVENUE (3) OF (41)
OVER
NORTH BRANCH OF THE CHICAGO RIVER
SUPER-STRUCTURE
MOVABLE PART
Middle Section of Trusses

Scale: 3/4 in. = 1 ft. April, 1914.

Drawn by ...
Traced by ...
Checked by ...

Drawing No. 785
FILE No. 11-6A-5

9960040146
1660570006

SIZE 27"x41"

Lacing bars 2½"×⅜" | Splice Pl.-29"×⅜"×3'-9" (Open holes for ⅞" turned bolts-(Do not furnish bolts.) | Lacing bars 2½"×⅜" | 1-Spl. Pl.-29"×⅜"×3'-0" | Lacing bars 2½"×⅜" | 1-Pl.-20"×⅜"×2'-6"

1-9½" / 2-L 6"×4"×⅜" Guss. Pls. / 10⅜"

Open holes for ⅞" turned bolts. Do not furnish bolts. 1-L-7"×3½"×⅜"×1'-9" 1-L-7"×3½"×⅜"×1'-7"

Chipt rivets on this face

Lacing bars 2½"×⅜" | 1-Pl.-29"×⅜"×2'-3" | 2-L's-4"×4"×⅜"×4'-2"-Bent | 1-Pl.-29"×⅜"×2'-0" | Lacing bars 2½"×⅜" | 1-Pl.-29"×⅜"×2'-0" | 2-L's-3½"×3½"×⅜"×5'-10"-Bent | 1-Pl.-29"×⅜"×2'-0" | Lacing bars 2½"×⅜" | 1-Pl.-28"×⅜"×1'-6"

Dimensions parallel to ℄ Chord

1-Fill-13"×⅜"×0'-11" | 5 | 2-Spl. Pls.-11"×⅜"×1'-8" | 2-Fills-15"×⅜"×1'-2"

2-L's-3½"×3½"×⅜"×0'-8½" | 2-L's-3½"×3½"×⅜"×0'-8½"

2-Pls.-20"×⅜" | 4-L's-3½"×3½"×⅜" | 2-Guss. Pls.-45"×½"×5'-0"

1-Pl.-20"×⅜"×2'-9" | 4-Fills-3½"×⅜"×2'-9" | 1-Pl.-20"×⅜"×2'-6"

Lacing bars 2½"×⅜" | 1-Pl.-20"×⅜"×2'-6" | 4-Fills-3½"×⅜"×2'-6"

21"-3½" c-c | 1-Pl.-20"×⅜"×2'-6" | 4-L's-3½"×3½"×⅜"

Pl.-7½"×⅜"×3'-6" | 2-L's-6"×6"×⅝"×0'-10½"

2-Fills-11"×½"×1'-3½" | Top of Future rails | 4-L's-5"×3½"×½"

2-L's-5"×3½"×⅜"×1'-9" | 1-Fill-3½"×⅜"×0'-11" | 2-L's-5"×3½"×⅜"×0'-9" | 2-Guss. Pls.-12"×⅜"×4'-6"

Pl.-8½"×⅞"×5'-9" | 2-Pls.-18"×⅜" | 4-L's-4"×4"×⅜"

Diaph. { 1-Pl.-20"×⅜" | 4-L's-3½"×3½"×⅜" | 2-Pls.-7"×½" }

16'-8⅞" | 4 | 16'-8⅞" | 2 | 16'-8⅞"

Horizontal Line Thru Trunnions - Elev. +15'-10"

1-Pl.-20"×⅜"×2'-6" | 4-Fills-3½"×⅜"×2'-6"

Lacing bars 2½"×⅜"

2-Fills-15"×⅜"×0'-10" | 5 | 2-Spl. Pls.-20"×⅜"×0'-9" | 2-Fills-15"×⅜"×0'-9"

16'-8⅞" c-c | 2-Pls.-20"×⅜" | 4-L's-3½"×3½"×⅜"

2-Guss. Pls.-36"×½"×4'-6"

20"-7½" c-c | 4-L's-7"×3½"×½"

1-Pl.-20"×⅜"×2'-6" | Lacing bars 2½"×⅜"

2-Fills-9"×½"×1'-7" | 1-Fill-7"×⅜"×0'-10½" | 1-Fill-7"×⅜"×0'-10½" | 2-L's-6"×6"×⅝"×1'-1"

2-Guss. Pls.-38"×½"×4'-4" | 16'-8⅞" c-c | 2-Pls.-18"×⅜" | 2-L's-4"×4"×⅜"

1-Pl.-20"×⅜"×2'-0" | 4-Fills-3½"×⅜"×2'-0" | 2-L's-6"×6"×⅝"×0'-10½"

1 | 2-L's-3½"×3½"×⅜"×1'-0" | 16'-8⅞" c-c | 2-L's-7"×3½"×⅜"×0'-7" | Cut to 6"×3½"×⅜"

2-Pls.-20"×⅜" | 4-L's-3½"×3½"×⅜" | 2-Guss. Pls.-25"×1"×1'-3"

2-Guss. Pls.-38"×½"×4'-0" c-c | 16'-8⅞" c-c | 2-L's-5"×3½"

Holes for 1" turned bolts.

Holes for ⅞" turned bolts.

0 | 4" to edge of pl.

FOR NORTH TRUSS OF EACH LEAF ONLY

Rivet holes in gussets to be punched and reamed in shop. Corresponding holes in members 2-5 and 0-5 drilled in field, except holes marked ⊙ which are to be punched for ⅞" bolts.

Lacing bars 2½"×⅞" top & bottom | 1-Pl.-18"×⅞"×2'-5" | 1-Pl.-30"×⅞"×2'-5" | Lacing bars 2½"×⅞" top & bottom | 1-Pl.-30"×⅞"×2'-5"

Pl.-12"×⅞"×3'-11½"

Cast Iron O.G. Washers ⅞" Diam. bolts.

1-Pl.-9"×⅜"×0'-11" | 1-L-3"×3"×⅜" | 1-Pl.-9½"×⅜"×0'-10"

1-Lug L-3"×3"×⅜"×0'-6" | 1-Pl.-12½"×⅜"×1'-1½" | 1-Conn. L-4"×3½"×⅜"×1'-0"

SECTION A-A

Note:- Cut out shaded portion for Section B-B.

Platform for East Side

℄ of Sidewalk Bracket

Sidewalk Stringer 3"×16" Y.P. - above

3"×12" Y.P.-14'-0" long. | ⅝" Carriage bolts | Trap Door in Sidewalk | 3"×12" Y.P.-14'-0" long.

Note:- For Conn. to Sidewalk Bracket see Sheet No 7 of 38

6'-7" | 6'-7"

℄ of Truss

PLAN OF PLATFORM FOR CENTER LOCK MACHINERY

1-Pl.-28½"×⅜"×2'-0" | Lacing Bars 2½"×⅜" | 1-Pl.-28½"×⅜"×4'-1" Top only

1-Fill-7"×⅜"×2'-1½"

1-L-4"×3"×⅜" | 1-Pl.-18"×⅜"×1'-8" | 1-Pl.-28½"×⅜"×4'-6"

1-Pl.-24"×⅜"×3'-4" | 1-Pl.-16½"×⅜"×3'-5" | 1-Fill-7"×⅜"×3'-5" | 1-Pl.-28"×⅜"×3'-5"

Lacing Bars 2½"×⅜" | 1-Pl.-28½"×⅜"×2'-0"

1-Pl.-28½"×⅜"×2'-0"

Lacing Bars 2½"×⅜"

DETAIL SHOWING CHORD L0-L2 (Opposite Leaf)

Lacing Bars 2½"×⅜" | 1-Pl.-28½"×⅜"×4'-6"

1-Pl.-28½"×⅜"×2'-0" | 1-Pl.-28½"×⅜"×2'-0" | 1-Pl.-18"×⅜"×1'-8" | 1-L-4"×3"×⅜"

DETAIL SHOWING OPPOSITE CHORD L0-L2

Notes:-
Material:- Structural Steel.
Rivets ⅞" ℄ except in flanges of ℄ and in 3" leg of ℄ in posts which are ¾" ℄.
Open holes ⅞" ℄ except as noted.
For punching, reaming and general requirements of fabrication - See Specifications.

Correct: Hugh E. Young, Bridge Designing Engineer.

Approved: Maurice Von L. Sabo, Engineer of Bridge Design.

Approved: Thos. G. Pihlfeldt Jr., Engineer of Bridges and Harbor.

Approved: John Ericson, City Engineer.

Approved: Commissioner of Public Works

CITY OF CHICAGO
DEPARTMENT OF PUBLIC WORKS
BUREAU OF ENGINEERING
DIVISION OF BRIDGES AND HARBOR

DOUBLE LEAF TRUNNION BASCULE BRIDGE
AT
WEBSTER AVENUE ④ OF ⑧
BELMONT AVENUE ④ OF ④
OVER
NORTH BRANCH OF THE CHICAGO RIVER
SUPERSTRUCTURE
MOVABLE PART.
River End of Trusses

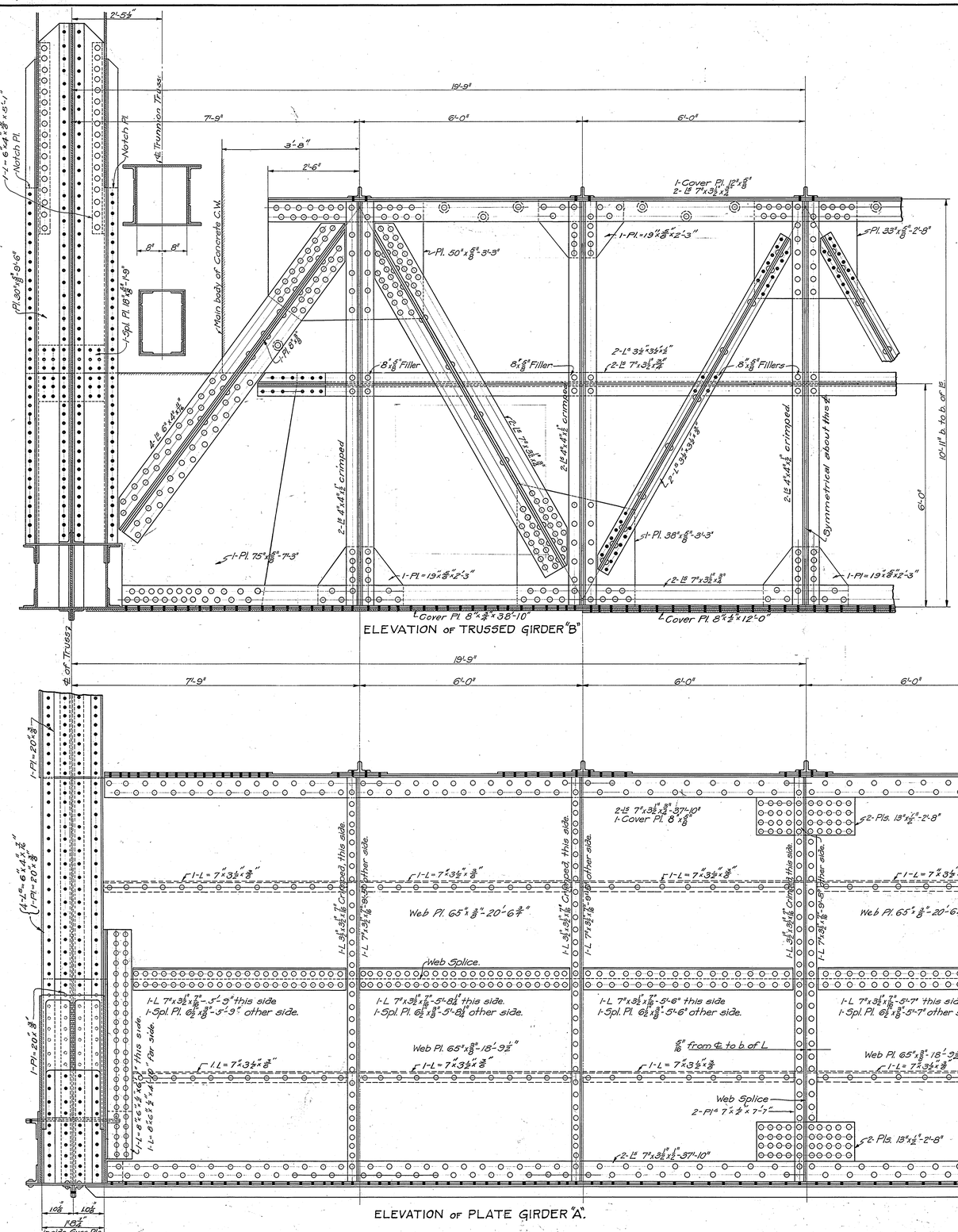
Scale: ¾"=1 ft. April, 1914.

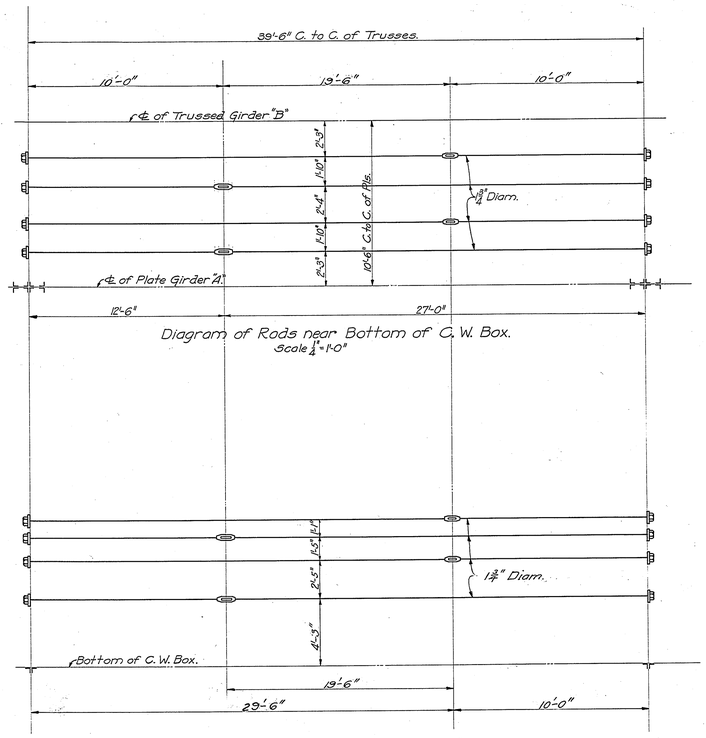
Drawn by: CP
Traced by: Staff
Checked by: EHH
Drawing No. 786

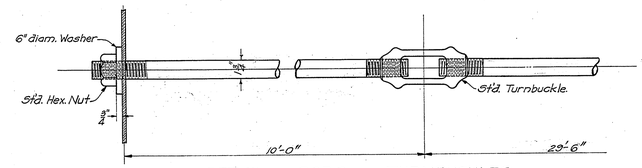
9960040147
1660570007

FILE No 11-6A-6

SIZE 22"×34"







DETAIL of RODS AND TURNBUCKLES.
Scale 1½"=1'-0"

Notes: ~
Material Structural Steel.
Rivets ⅞"ø
Open holes 15/16"ø
For punching reaming and general requirements of fabrication ~See Specifications.

CITY OF CHICAGO
DEPARTMENT OF PUBLIC WORKS
BUREAU OF ENGINEERING
DIVISION OF BRIDGES AND HARBOR

DOUBLE LEAF TRUNNION BASCULE BRIDGE
AT
WEBSTER AVENUE (5) OF (38)
BELMONT AVENUE (5) OF (41)
OVER
NORTH BRANCH OF THE CHICAGO RIVER
SUPERSTRUCTURE
MOVABLE PART
Counterweight Box Front & Rear View

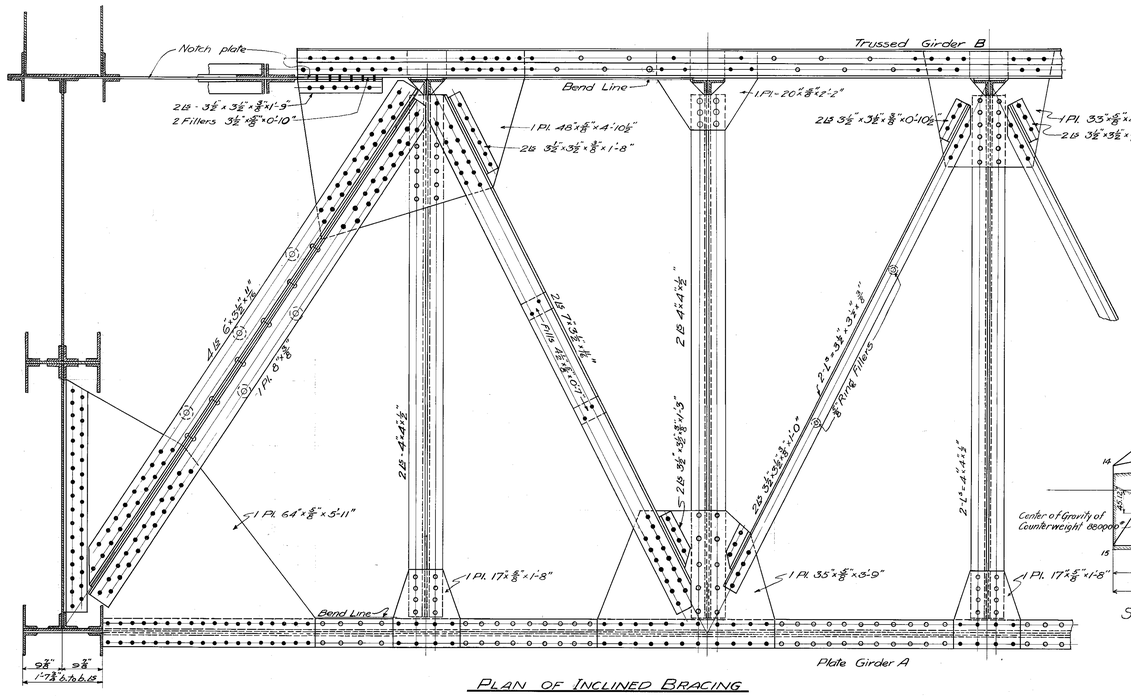
Scale: ¼", ⅜" & 1½" = 1 ft. April, 1914.

Correct ..... Hugh E. Young, Bridge Designing Engineer.
Approved ..... Alexander von Babo, Engineer of Bridge Design.
Approved ..... Thos. G. Pihlfeldt, Engineer of Bridges and Harbor.
Approved ..... John Ericson, City Engineer.
Approved ..... Commissioner of Public Works.

Drawn by AP
Traced by R.T.P.
Checked by C.E.H.
Drawing No. 787
FILE No. 11-6A-7

9960040148
1660570008

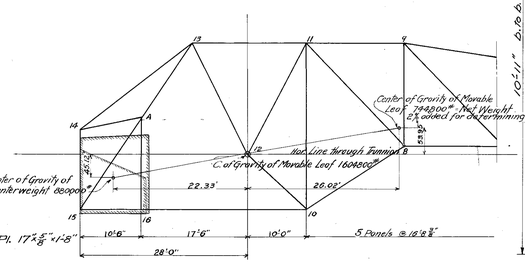
SIZE 27 x 41



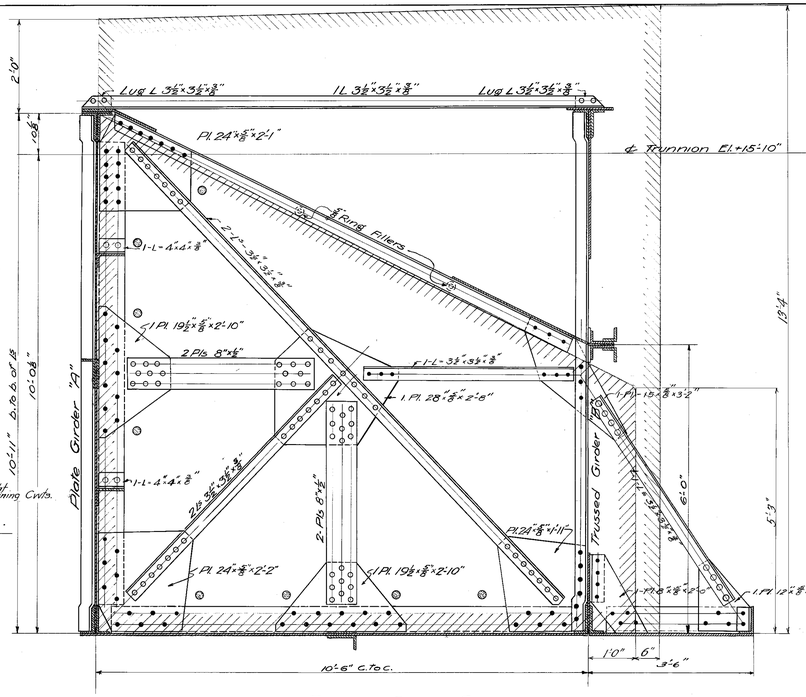
PLAN OF INCLINED BRACING

NOTE FOR COUNTERWEIGHT CONCRETE.

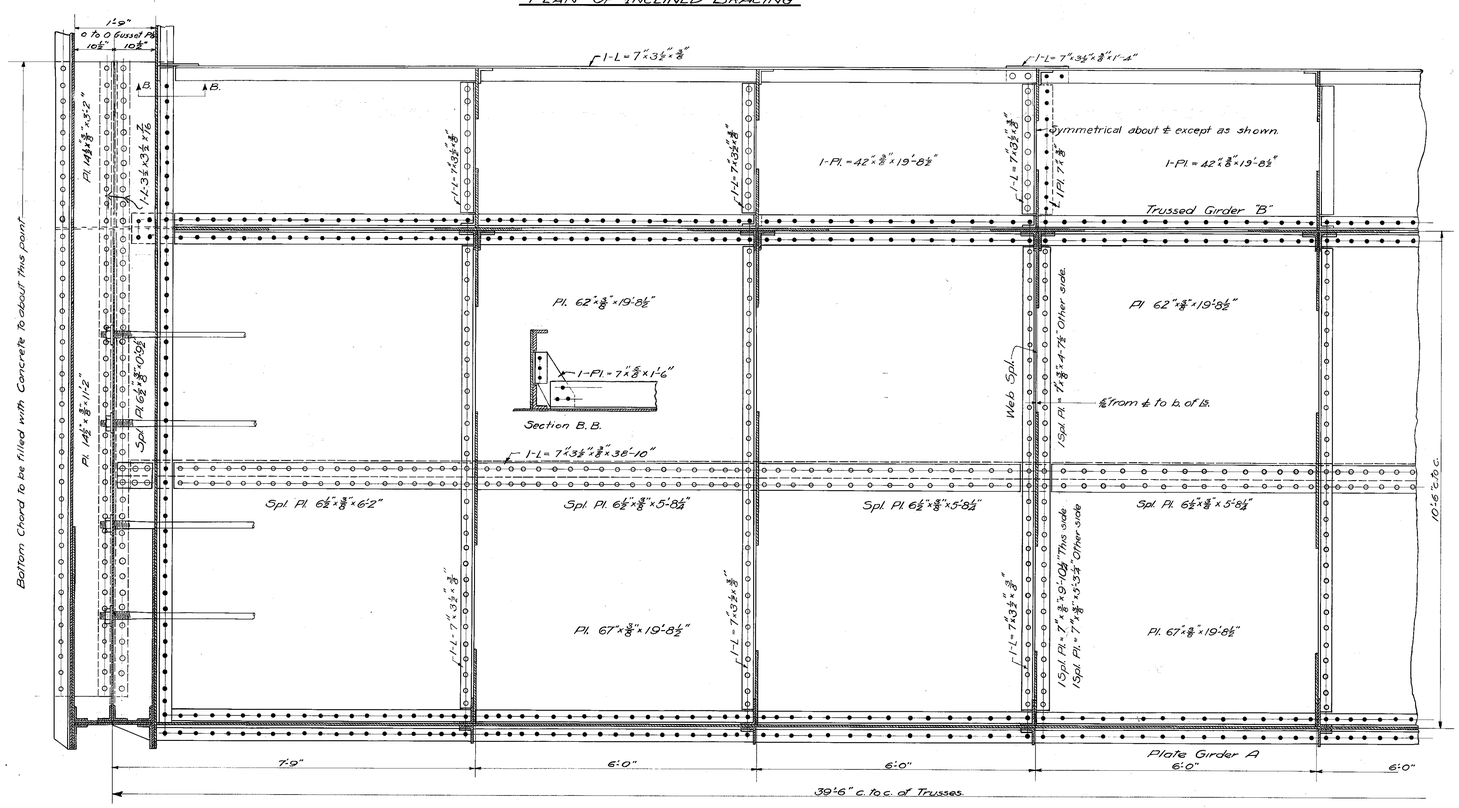
Wooden forms shall be used for construction of Pockets. All exposed surfaces of Concrete also inside walls of Pockets, shall have a smooth and finished appearance. If any voids or pockets are discovered, when the forms are removed, they shall immediately be filled and smoothed over with a one to two cement mortar.



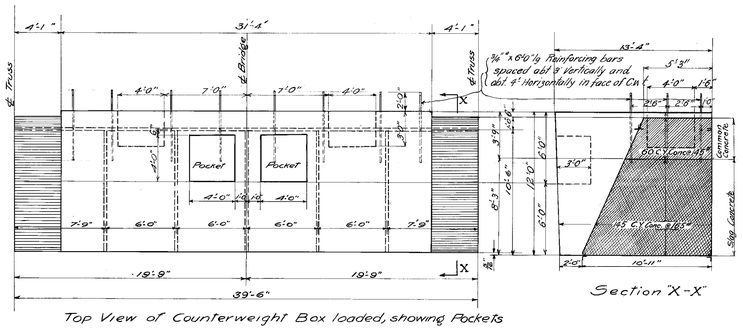
Sketch showing Weights & C. of Gravity of Movable Leaf.



TYPICAL CROSS FRAME



PLAN OF BOTTOM



Top View of Counterweight Box loaded, showing Pockets

Note on Counterweight Material

The amount of Counterweight reqd. for each bridge Leaf is 880000# consisting of 60 Cubic Yds. of common Concrete of 1:3:5 proportion, weighing 145# per Cu. Ft., and 145 Cu. Yds of Slag Concrete weighing 165# per Cu. Ft. making a total of 410 Cu. Yds. of Concrete for both Bridge Leaves, which shall be included in the lump sum bid.

The mixture of Slag Concrete shall be as follows:- 1 part of Portland Cement, 5 parts of Slag, and not more than 3 parts of Torpedo Sand. The Slag shall be broken into pieces ranging in size from ⅜" to 2" in diameter.

Note:- 1000 lbs of ¾" square reinforcing bars for each Counterweight box furnished by Contractor and to be included in Contract.

Notes:-
Material Structural Steel
Rivets ⅞"ϕ
Open holes ⅞"ϕ
For punching reaming and general requirements of Fabrication - See Specifications.

CITY OF CHICAGO
DEPARTMENT OF PUBLIC WORKS
BUREAU OF ENGINEERING
DIVISION OF BRIDGES AND HARBOR

Correct.... Hugh E. Young, Bridge Designing Engineer.
Approved .... Engineer of Bridge Design
Approved .... Engineer of Bridges and Harbor.
Approved .... City Engineer.
Approved .... Commissioner of Public Works

DOUBLE LEAF TRUNNION BASCULE BRIDGE AT WEBSTER AVENUE OVER NORTH BRANCH OF THE CHICAGO RIVER

SUPERSTRUCTURE
MOVABLE PART

Counterweight Box, Top & Bottom & Cwt. Distribution

Scale: = 1 ft. April, 1914.

Drawn by ....
Traced by ....
Checked by ....

Drawing No. 788. ⑥ OF ㊳
FILE № 11-6A-8

1660570009

27"x41"

For detail of casting see drawing No. 790

For detail of lamp connection see drawing for Signal Lights

Trap Door

Top of Rail

Web Pl.-55"×⅜"

℄ of Bottom Chord

℄ of Bridging

℄ of Truss

℄ of Trunnion

Counterweight

Sectional View.-AA.

View BB.

FLOORBEAM "0-0."

Top View.

Sectional Bottom View.

Section showing Center Strut Connection.

Section showing connection of Center Strut to Floorbeam "6-6."

Note: See note for Lateral field connection

DIAGRAM OF BOTTOM LATERALS.
Scale 3/32 to 1 Ft.

Typical Top View of Floorbeams 2-2, 4-4, 6-6, 8-8, showing connection holes for Subplanking.

Material same as for 0-0 except as shown.

NOTE:-
Material: Structural Steel except as noted.
Rivets ⅞" except in 3" legs of Sidewalk bracket flange Ls and in 2½ legs of laterals which are ¾"ø
Open Holes ⅞"ø except as noted.
For punching reaming and general requirements of Fabrication see specifications.
For Lateral connection at center of floorbeams 2-2 and 6-6 rivet holes in Ls to be punched and reamed in shop. Corresponding holes in gusset pls. to be drilled in field except holes marked ⊙ which are to be punched for ¾" ø bolts.

FLOORBEAMS 2-2, 4-4, 6-6.

Section showing connection of Center Strut to Floorbeam "4-4"

Sections showing connection of Center Strut to Floorbeam "2-2".

Note:- See note for Lateral field connection

Section showing connection of Center Strut to Floorbeam "2-2"

Sections showing top view of connections of Floorbeams 6-6 and "4-4" to Truss.

Sections showing connection of Floorbeam "2-2" to Truss.

Correct... Hugh E. Young, Bridge Designing Engineer.

Approved... Alexander von Babo, Engineer of Bridge Design.

Approved... Thos. G. Pihlfeldt, Engineer of Bridges and Harbor.

Approved... John Ericson, City Engineer.

Approved... [illegible], Commissioner of Public Works

CITY OF CHICAGO
DEPARTMENT OF PUBLIC WORKS
BUREAU OF ENGINEERING
DIVISION OF BRIDGES AND HARBOR

DOUBLE LEAF TRUNNION BASCULE BRIDGE AT WEBSTER AVENUE (7) OF (38)

OVER
NORTH BRANCH OF THE CHICAGO RIVER
SUPERSTRUCTURE.
MOVABLE PART.
Floorbeams 0-2-4-6-8

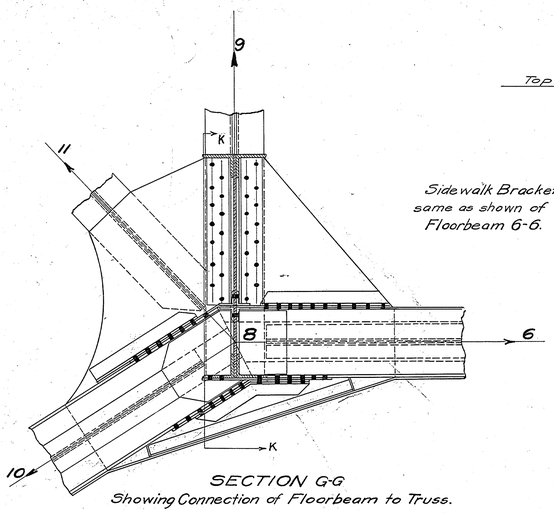
Scale: 3/32 & 3/4 = 1 ft. April, 1914.

Drawn by ...
Traced by ...
Checked by ...

Drawing No. 789
FILE No. 11-6A-9

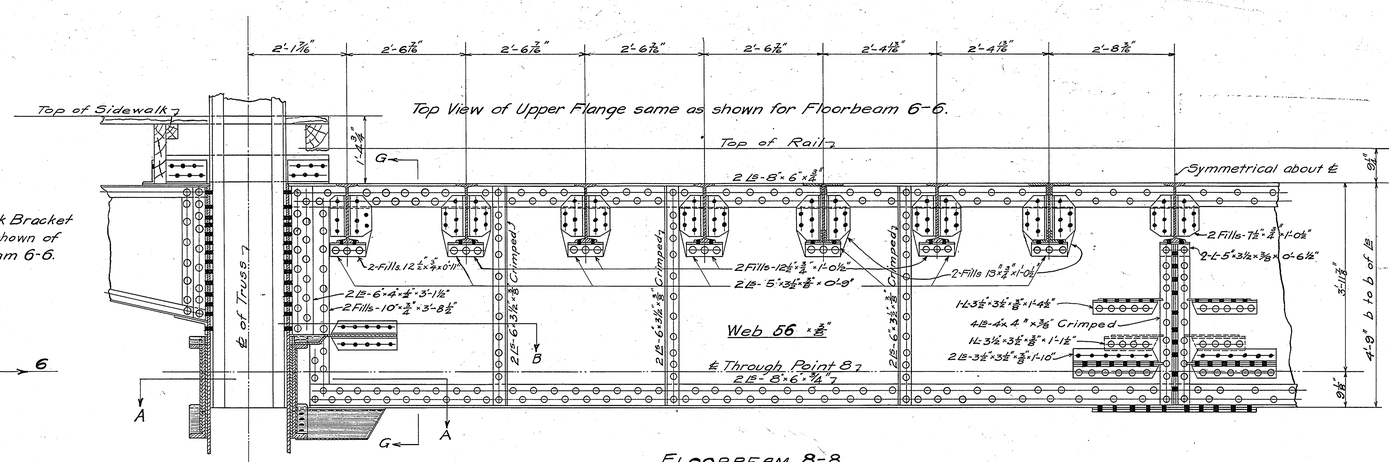
1660570010

SIZE 27"X41"

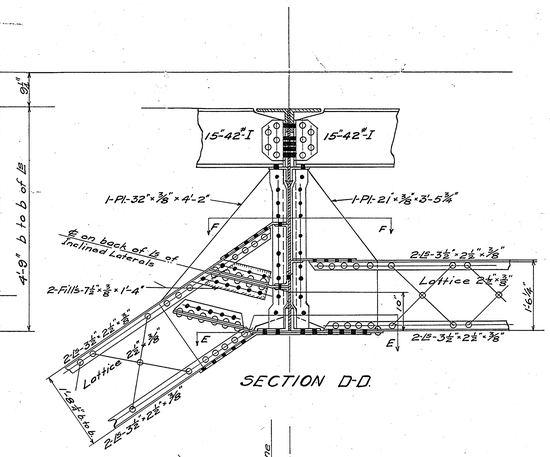


SECTION G-G
Showing Connection of Floorbeam to Truss.

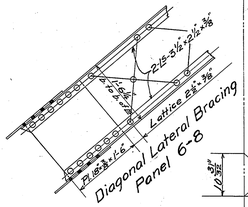
Sidewalk Bracket same as shown of Floorbeam 6-6.



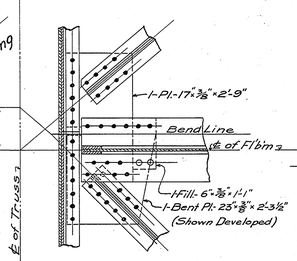
FLOORBEAM 8-8.
Section K-K.
Scale 3/4"=1'0"



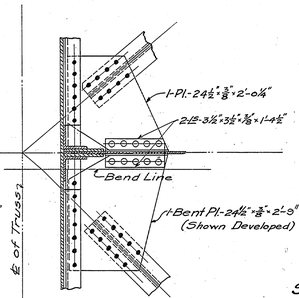
SECTION D-D.



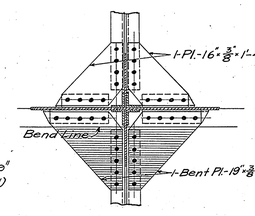
Diagonal Lateral Bracing Panel 6-8



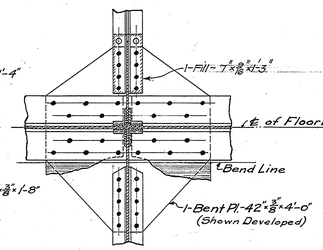
SECTION A-A.
Showing Connection of Lower Lateral Pl's. to Truss & Floorbeam.



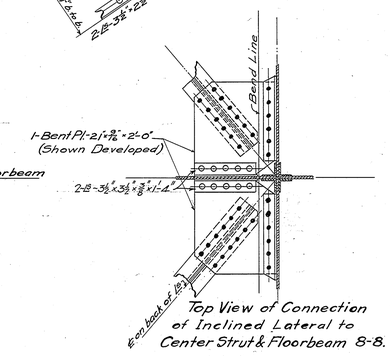
SECTION B-B.
Showing Connection of Lower Lateral Pl's. to Truss & Floorbeam.



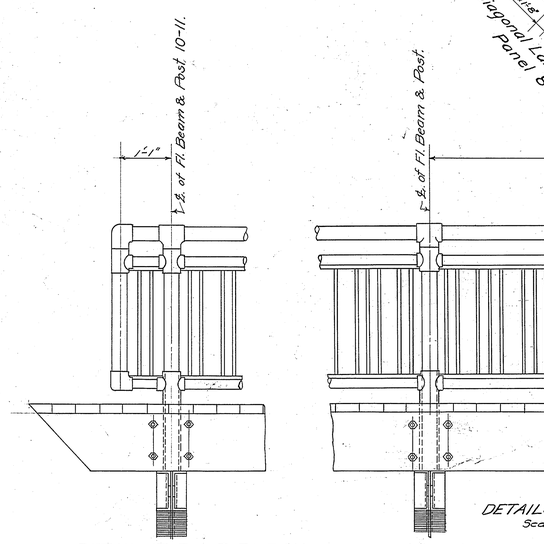
SECTION F-F
Showing Connection of Center Struts to Floorbeam-Top Plates. Diagonal Lateral not shown.

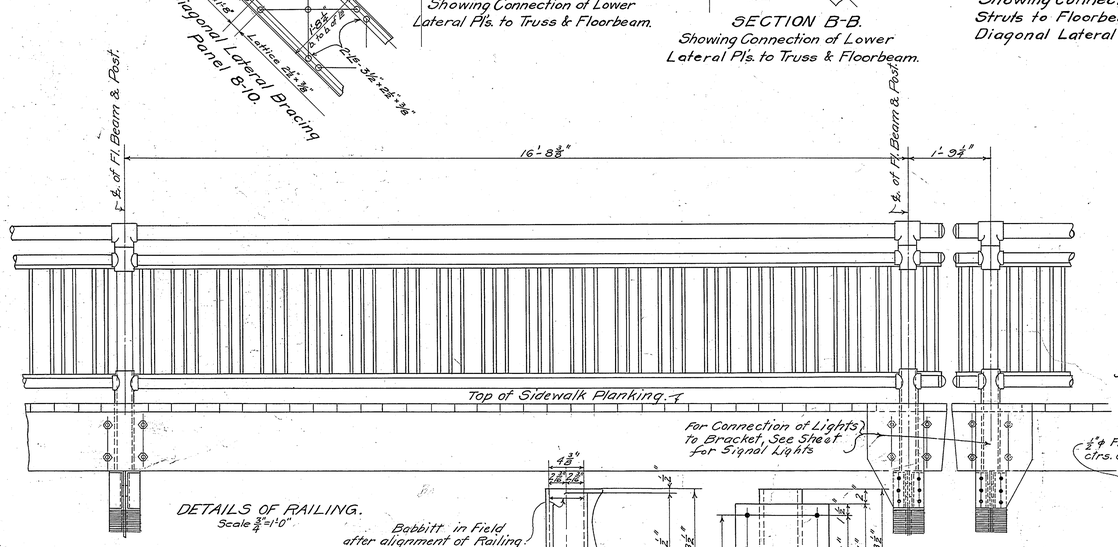


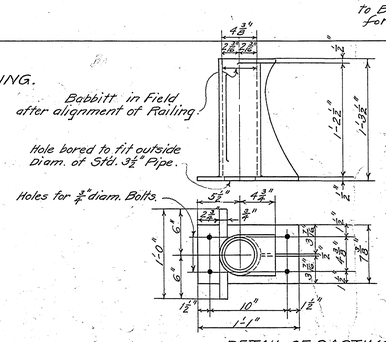
SECTION E E
Showing Connection of Center Struts to Bottom Flange of Floorbeam.

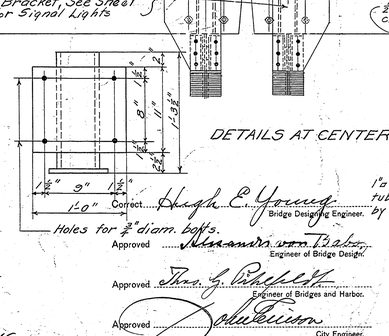


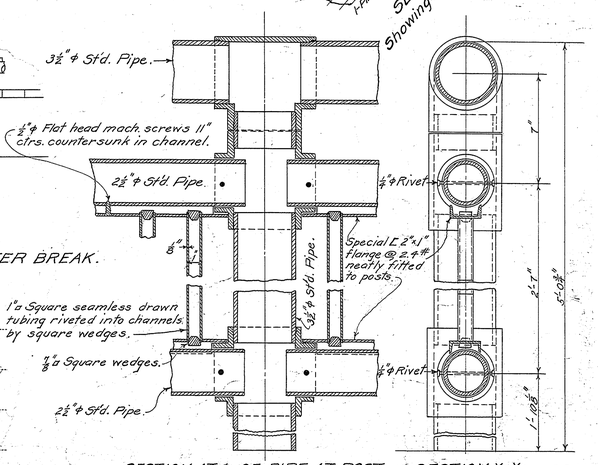
Top View of Connection of Inclined Lateral to Center Strut & Floorbeam 8-8.

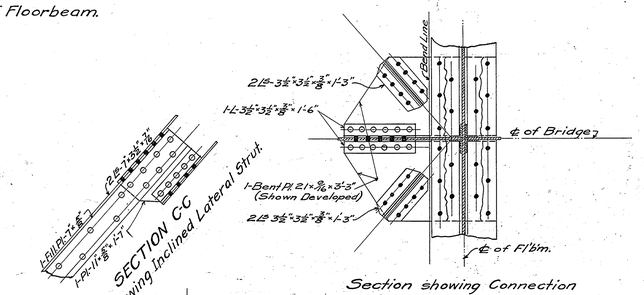












Section showing Connection of Inclined Lateral to Center Strut and Floorbeam 8-8.

NOTES:-
Material: Structural steel.
Rivets 3/4" ϕ except in 2 1/2" leg of lateral L2 which are 7/8" ϕ
Open holes 13/16" ϕ except as noted.
For punching, reaming and general requirements of Fabrication - See Specifications.
Pipe to be standard wrot iron gas pipe.
Fittings to be malleable iron, and have a smooth finish.
All slip joints to have a close fit, and to be riveted with 1/4" ϕ rivets.

CITY OF CHICAGO
DEPARTMENT OF PUBLIC WORKS
BUREAU OF ENGINEERING
DIVISION OF BRIDGES AND HARBOR

DOUBLE LEAF TRUNNION BASCULE BRIDGE
AT
WEBSTER AVENUE (8 of 38)
BELMONT AVENUE (8 of 41)
OVER
NORTH BRANCH OF THE CHICAGO RIVER
SUPERSTRUCTURE
MOVABLE PART
Floorbeam 8-8 & Railing

Scale: 3/4", 1 1/2 & 3" = 1 ft. April, 1914.
Drawn by A.V.P.
Traced by C.E.B.
Checked by C.E.W.
Drawing No. 790

9960040149
16605T0011
FILE No. 11-6A-10

STR

HALF PLAN - TOP CHORD.

HALF SECTION - TOP CHORD.

SECTION "A-A".
Showing Bracket Conn. to Post.

Sidewalk Bracket same as shown for Floorbeam 6-6 except as shown.

ELEVATION OF FLOORBEAM-10-10.

SECTION "B-B"

SECTION SHOWING CONNECTION OF TOP CHORD to TRUSS.

SECTION SHOWING CONN. OF CENTER STRUT to BOTT. CHORD.

SECTION "C-C" - Showing Conn. of Bottom Chord to Truss.

SECTION SHOWING CONN. OF BOTTOM CHORD to TRUSS.

SECTION "D-D" - Showing Conn. of Bottom Chord to Truss.

TOP VIEW OF BOTTOM CHORD.

SECTIONAL PLAN SHOWING CONN. OF LATERALS to BOTT. CHORD.

Notes:-
Material:- Structural Steel.
Rivets $\frac{7}{8}$" except in 2½" leg of lateral L2 which are $\frac{3}{4}$".
Open holes $\frac{13}{16}$" except as noted.
For punching, reaming and general requirements of Fabrication - See Specifications.

CITY OF CHICAGO
DEPARTMENT OF PUBLIC WORKS
BUREAU OF ENGINEERING
DIVISION OF BRIDGES AND HARBOR

Correct... Hugh E. Young
Bridge Designing Engineer.

Approved... Alexander von Babo
Engineer of Bridge Design.

Approved... Thos. G. Pihlfeldt
Engineer of Bridges and Harbor.

Approved... John Ericson
City Engineer.

Approved... [illegible]
Commissioner of Public Works

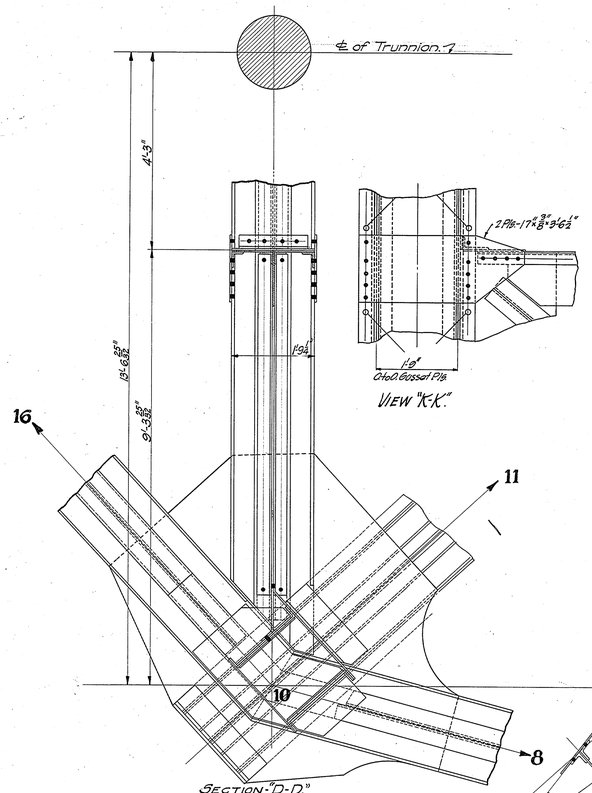
DOUBLE LEAF TRUNNION BASCULE BRIDGE
AT
WEBSTER AVENUE (9) OF (38)
BELMONT AVENUE (9) OF (41)
OVER
NORTH BRANCH OF THE CHICAGO RIVER
SUPERSTRUCTURE
MOVABLE PART.
Floorbeam 10-10

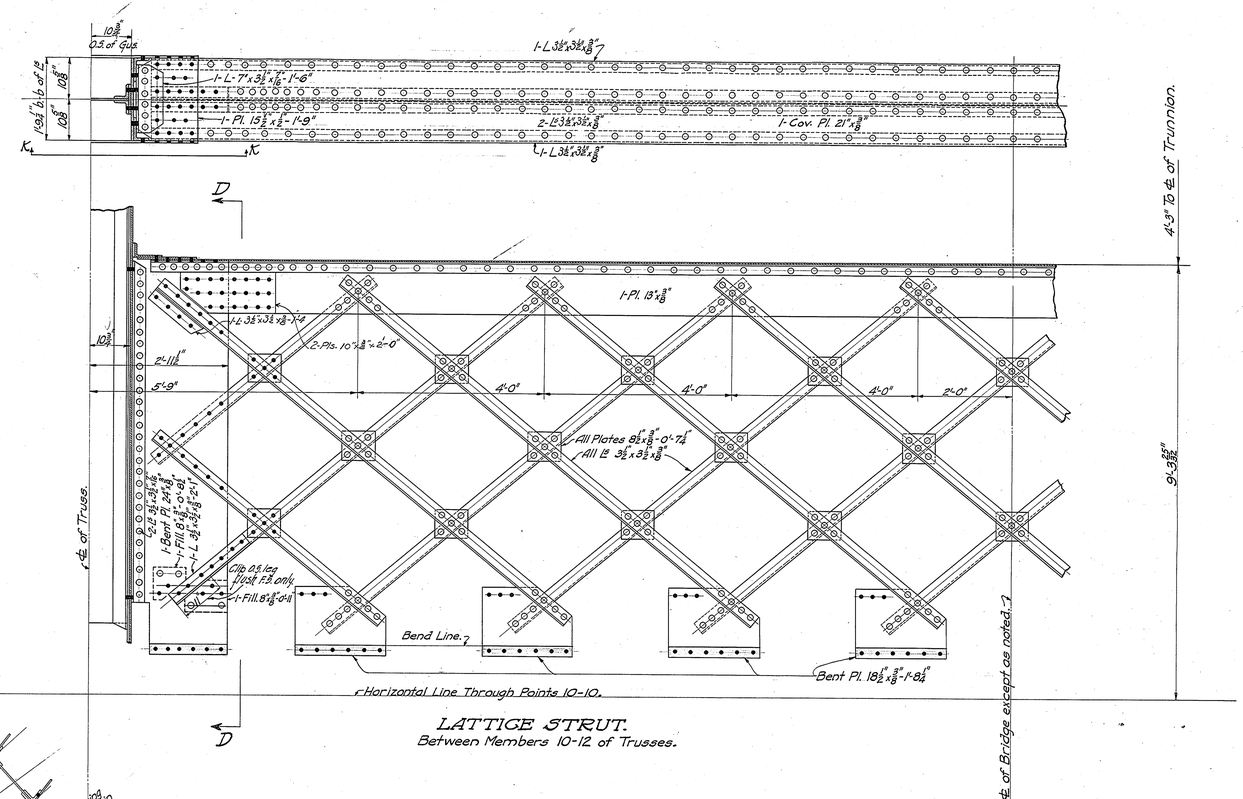
Scale: $\frac{3}{4}$" = 1 ft. April, 1914.

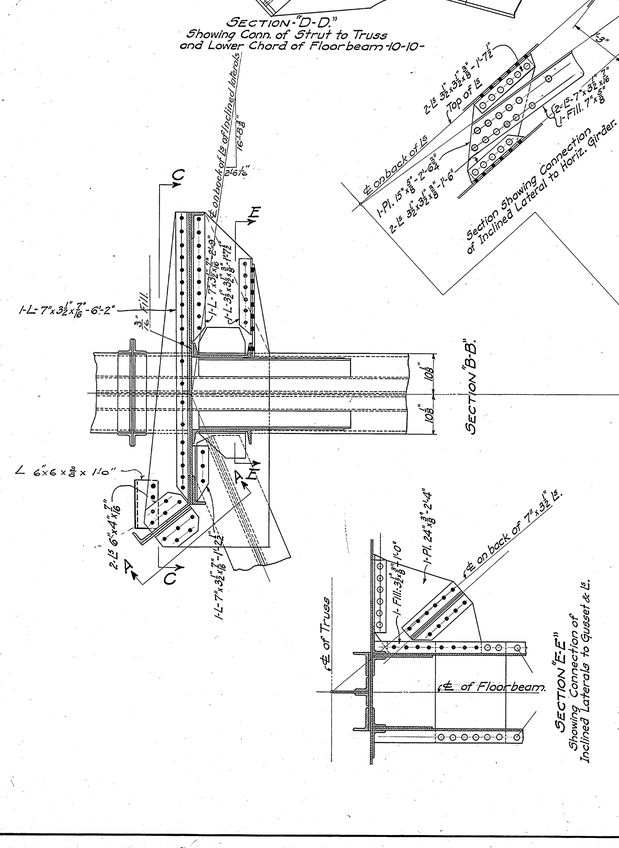
Drawn by SPP
Traced by SPP
Checked by GEH
Drawing No. 791

9960040150
16605100012

FILE No 11-6A-11







Notes :~
Material : Structural Steel.
Rivets 7/8" ϕ except in flanges of I beam and I beam stringers which are 3/4" ϕ
Open holes 15/16" ϕ except as noted.
For punching reaming and general requirements of Fabrication ~ See Specifications.

CITY OF CHICAGO
DEPARTMENT OF PUBLIC WORKS
BUREAU OF ENGINEERING
DIVISION OF BRIDGES AND HARBOR

DOUBLE LEAF TRUNNION BASCULE BRIDGE
AT
WEBSTER AVENUE (10 OF 38)
BELMONT AVENUE (10 OF 41)
OVER
NORTH BRANCH OF THE CHICAGO RIVER
SUPERSTRUCTURE
MOVABLE PART
Latticed Strut and Horizontal Girder

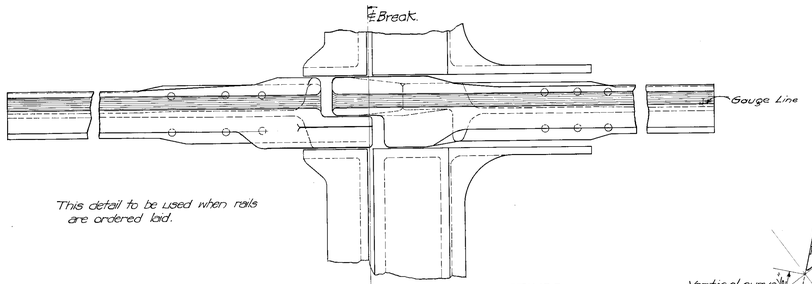
Scale: 3/4" = 1 ft. April, 1914.

Drawn by A.P.
Traced by J.E.M.
Checked by C.E.H.
Drawing No. 792
FILE No. 11-CA-12

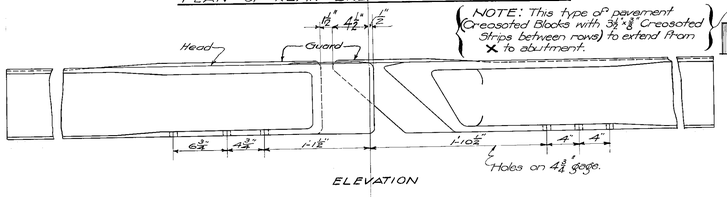
Correct... Hugh E. Young ... Bridge Designing Engineer.
Approved ... Alexander von Babo ... Engineer of Bridge Design.
Approved ... Jno. G. Pohlenz ... Engineer of Bridges and Harbor.
Approved ... John Ericson ... City Engineer.
Approved ... [illegible] ... Commissioner of Public Works

9960040151 16605700013

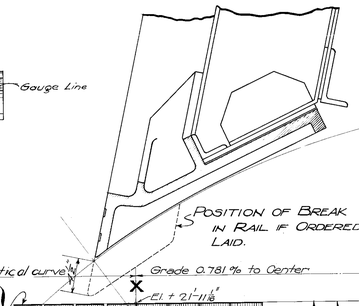
SIZE 27"x41"

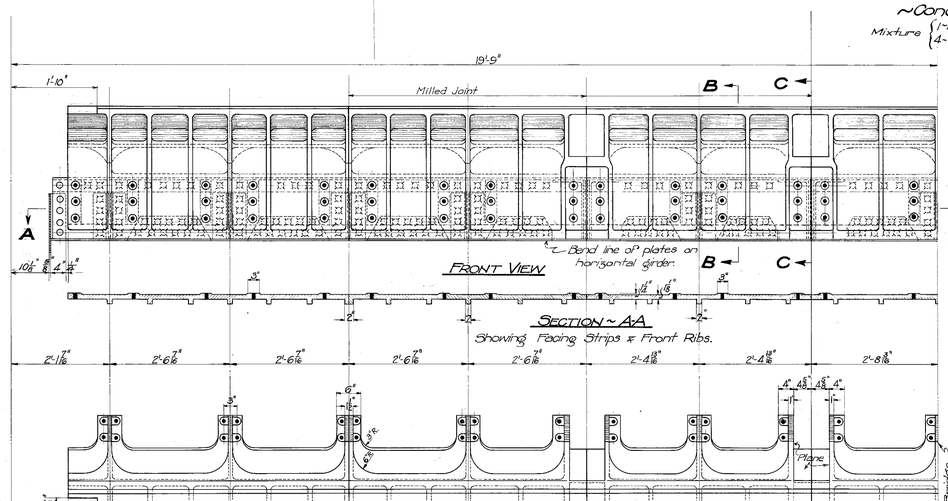


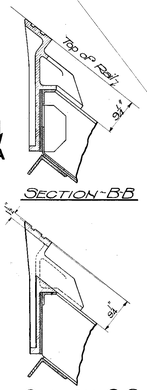
PLAN OF REAR BREAK IN RAIL CASTINGS.

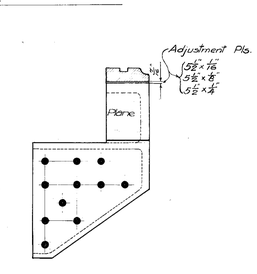


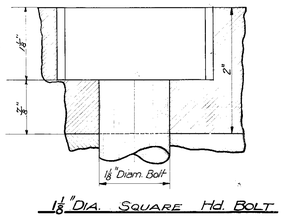
ELEVATION



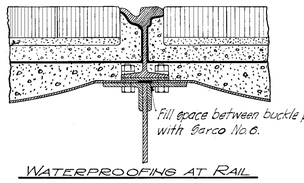




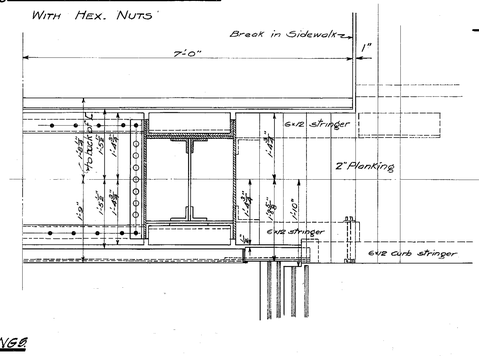


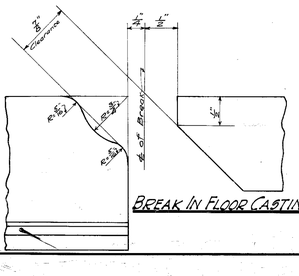


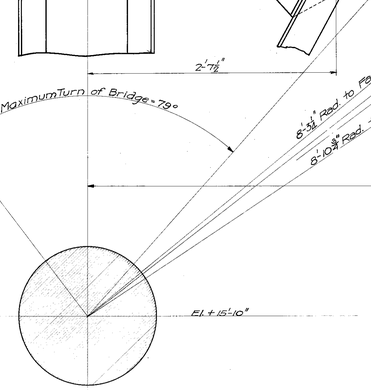
1⅛" DIA. SQUARE Hd. BOLT WITH HEX. NUTS



WATERPROOFING AT RAIL

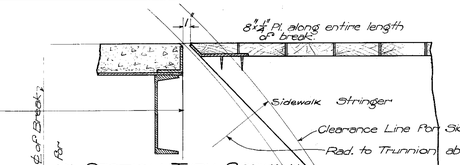




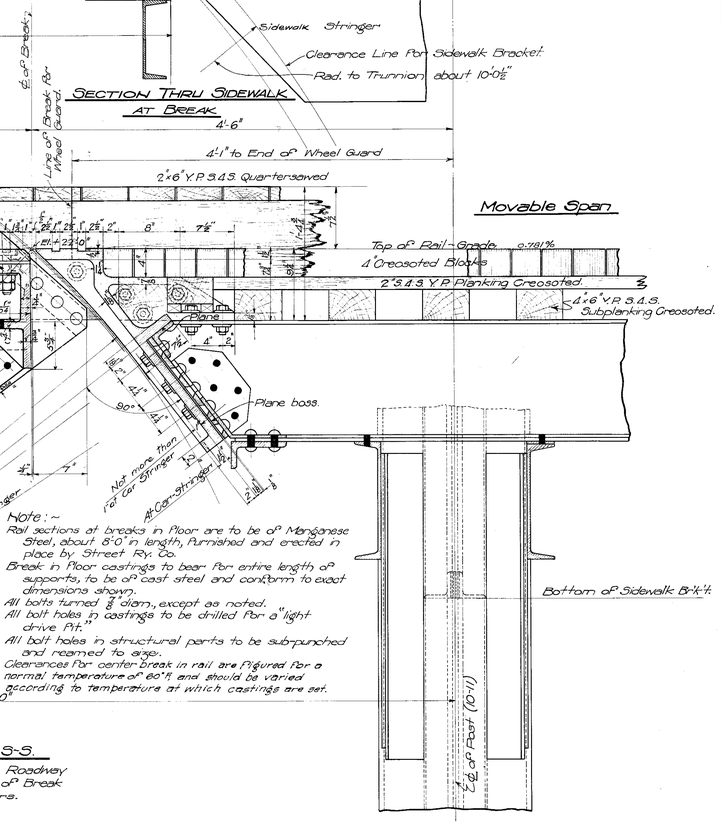


SECTIONAL VIEW S-S.

Showing Details of ℘ Break in Roadway Wheelguard, and Connection of ℘ Break Castings to Roadway Stringers.



SECTION THRU SIDEWALK AT BREAK



Note: ~

Rail sections at breaks in Floor are to be of ℘ Manganese Steel, about 8'-0" in length, furnished and erected in place by Street Ry. Co.

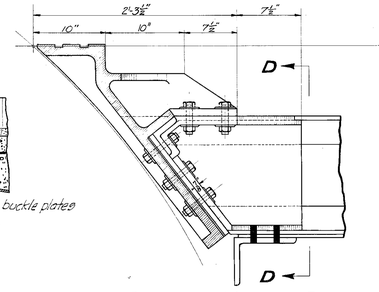
Break in Floor castings to bear for entire length of ℘ supports, to be of cast steel and conform to exact dimensions shown.

All bolts turned ⅞" diam., except as noted.

All bolt holes in castings to be drilled for a "light drive fit."

All bolt holes in structural parts to be sub-punched and reamed to size.

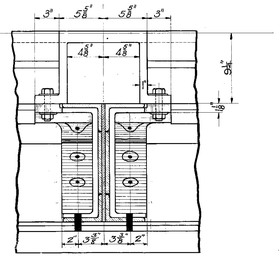
Clearances for center break in rail are figured for a normal temperature of 60°F. and should be varied according to temperature at which castings are set.



SECTION THRU BREAK ON MOVABLE PART

Showing Connection of ℘ Break Casting to Car Stringer.

Connection of ℘ Break Casting to Car Stringer on Fixed Part, Same as Shown in Sec. S-S.



SECTION ~ D-D

CITY OF CHICAGO
DEPARTMENT OF PUBLIC WORKS
BUREAU OF ENGINEERING
DIVISION OF BRIDGES AND HARBOR

DOUBLE LEAF TRUNNION BASCULE BRIDGE AT WEBSTER AVENUE OVER NORTH BRANCH OF THE CHICAGO RIVER

SUPERSTRUCTURE
MOVABLE PART
Break in Floor

Scale: ¾"&1½" = 1 ft. April, 1914.

Drawn by JJ
Traced by J.E.K.
Checked by G.E.H.

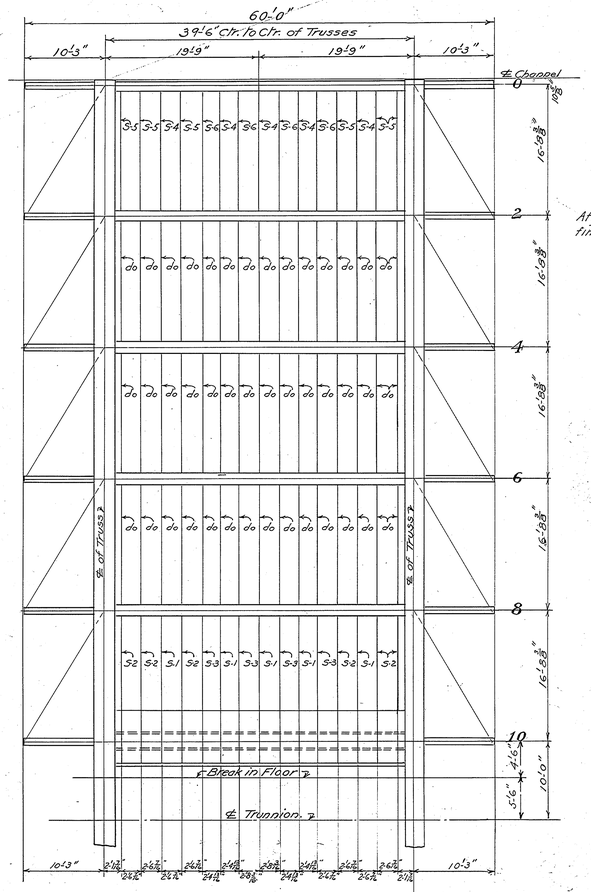
Drawing No. 793
FILE No. 11-6A-13

(11) OF (38)

Correct.... Hugh E. Young, Bridge Designing Engineer.
Approved.... Hermann von Holst, Engineer of Bridge Design.
Approved.... Thos. G. Pihlfeldt, Engineer of Bridges and Harbor.
Approved.... John Ericson, City Engineer.
Approved.... [illegible], Commissioner of Public Works

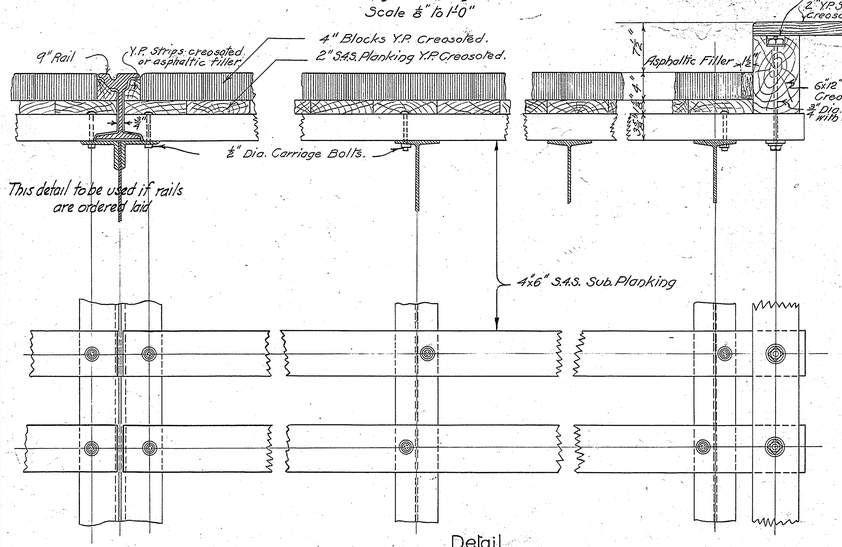
1660570014

SIZE 27"×41"



Stringer Diagram.

Scale 8" to 1'-0"

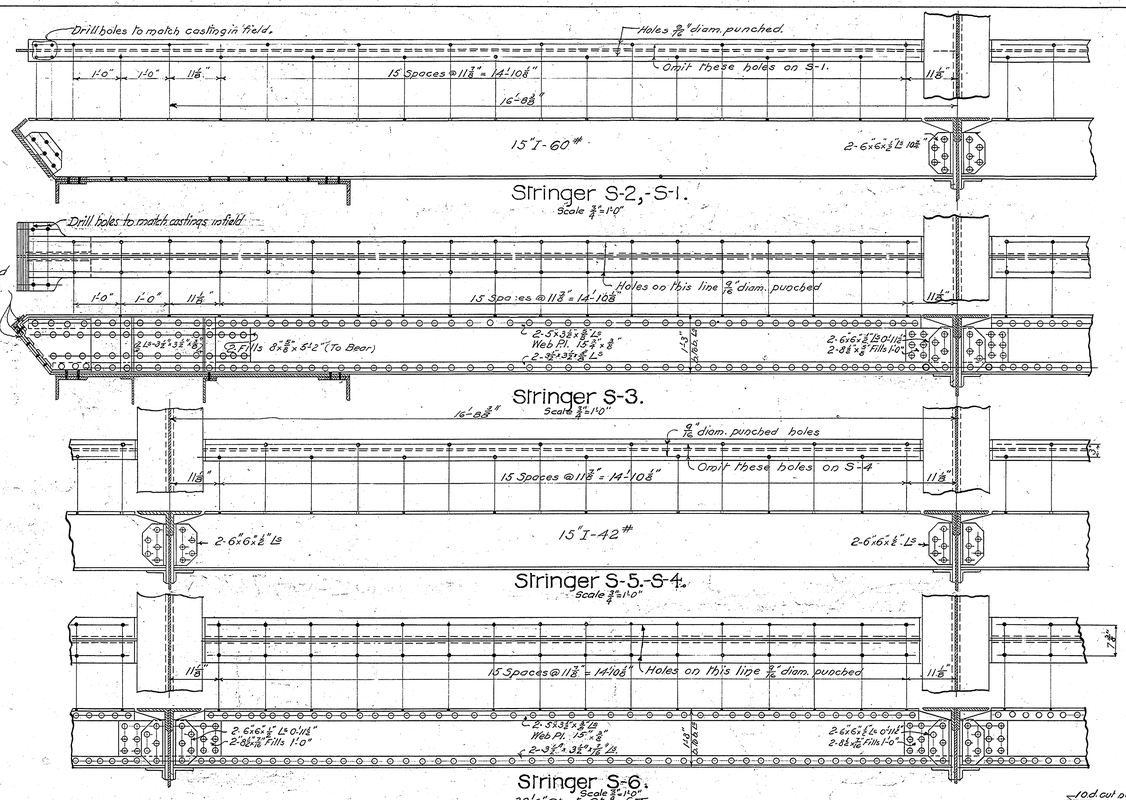


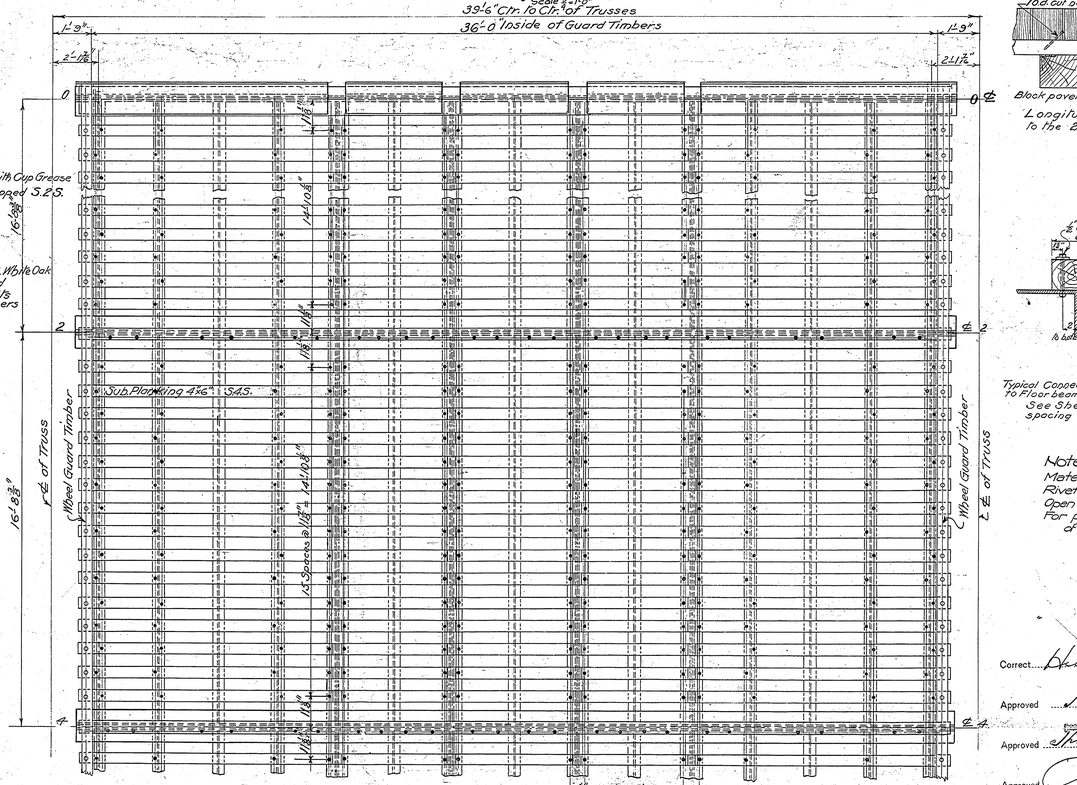
Detail

Showing method of fastening Sub-Planking and Wheel Guard Timber.

Scale 1½" to 1'-0"

All lumber for movable part must be S.4.S. except as noted.



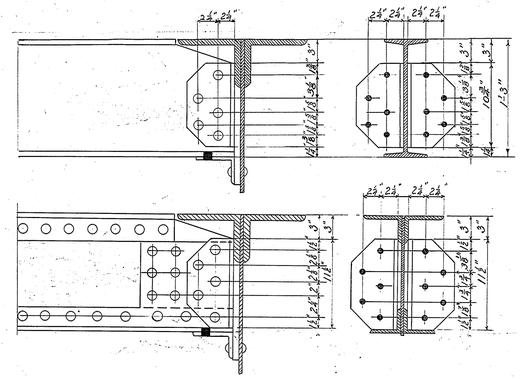


Plan

Scale ⅜"=1'-0"

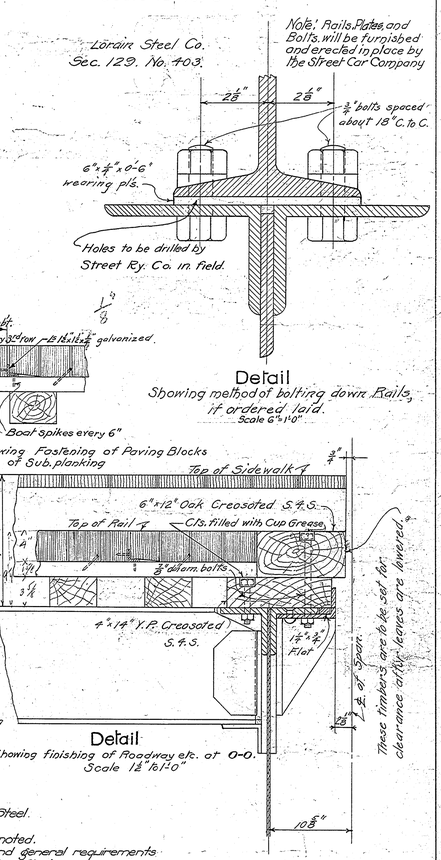
Showing method of laying and fastening Sub Planking

If no rails are laid subplanking shall be in long lengths.



Typical Connections of Stringers to Floor Beams

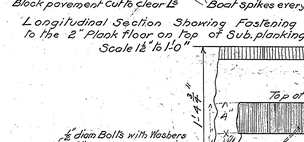
Scale 1½" to 1'-0"



Detail

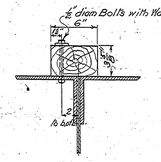
Showing method of bolting down Rails, if ordered laid.

Scale 6"=1'-0"



Longitudinal Section Showing Footsping of Paving Blocks to the 2" Plank Floor on Top of Sub planking

Scale 1½" to 1'-0"



Detail

Showing finishing of Roadway etc. at 0-0.

Scale 1½" to 1'-0"

Notes:~

Material: Structural Steel.

Rivets ¾" ⌀

Open holes ⅞" except as noted.

For punching, reaming and general requirements of Fabrication ~ See Specifications.

CITY OF CHICAGO
DEPARTMENT OF PUBLIC WORKS
BUREAU OF ENGINEERING
DIVISION OF BRIDGES AND HARBOR

DOUBLE LEAF TRUNNION BASCULE BRIDGE

AT

WEBSTER AVENUE (12 OF 38)
BELMONT AVENUE (12 OF 41)

OVER

NORTH BRANCH OF THE CHICAGO RIVER

SUPERSTRUCTURE

MOVABLE PART

Stringers & Sub-Planking

Scale: 1" = 1 ft. April, 1914.

Drawn by J.D.

Traced by R.P.H.

Checked by C.A.V.

Drawing No. 794

FILE No. 11-6A-14

Correct ... Hugh L. Young ... Bridge Designing Engineer.

Approved ... Alexander von Babo ... Engineer of Bridge Design.

Approved ... Thos. G. Pihlfeldt ... Engineer of Bridges and Harbor.

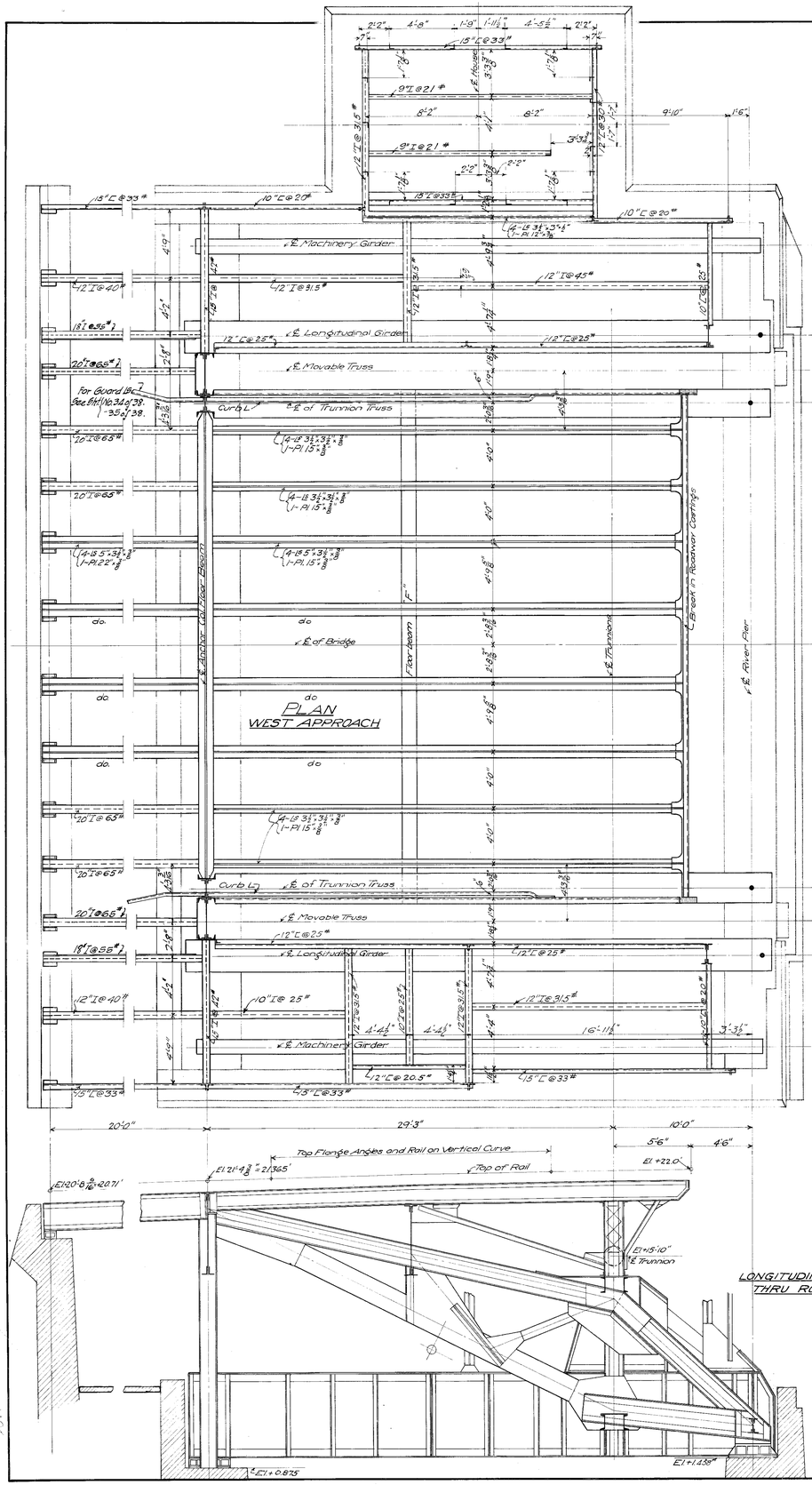
Approved ... John Ericson ... City Engineer.

Approved ... ... Commissioner of Public Works

9960040152

1660570015

SIZE 27"x41"



Correct Hugh E. Young, Bridge Designing Engineer

Approved Alexander von Babo, Engineer of Bridge Design.

Approved Thos. G. Pihlfeldt, Engineer of Bridges and Harbor

Approved ..... City Engineer.

Approved ..... Commissioner of Public Works

CITY OF CHICAGO
DEPARTMENT OF PUBLIC WORKS
BUREAU OF ENGINEERING
DIVISION OF BRIDGES AND HARBOR

DOUBLE LEAF TRUNNION BASCULE BRIDGE
AT
WEBSTER AVENUE
OVER
NORTH BRANCH OF THE CHICAGO RIVER
SUPERSTRUCTURE
FIXED PART
General Plan

Scale: ¼ Inch = 1 Ft. April, 1914.

Drawn by H.E.Y.

Traced by H.E.Y.

Checked by B.M.

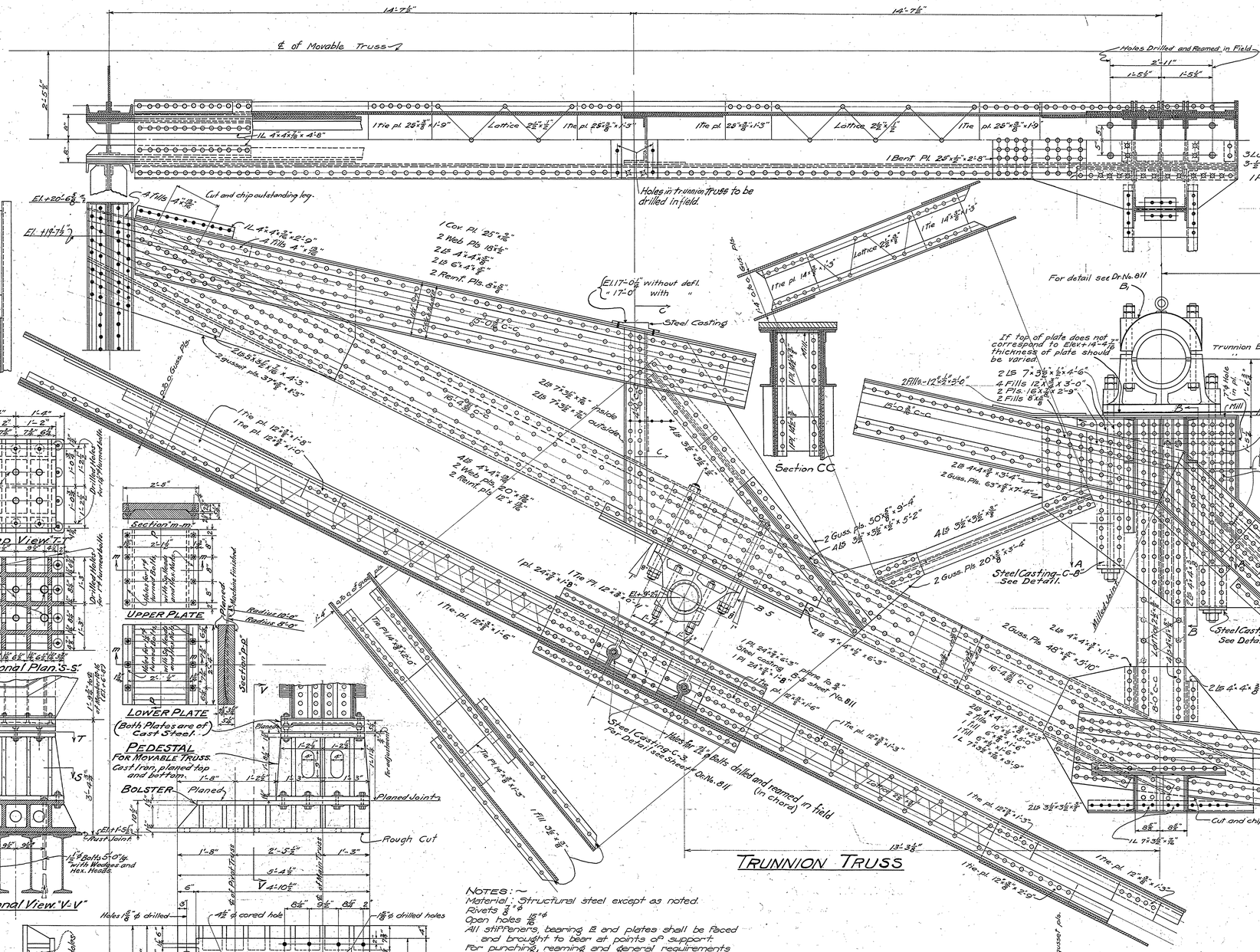
Drawing No. 795

FILE No. 11-6A-15

(13) OF (38)

1660570015

SIZE 27"x41"



NOTES:~
Material: Structural steel except as noted.
Rivets ⅞"ϕ
Open holes 15/16"ϕ
All stiffeners, bearing Le and plates shall be faced and brought to bear at points of support.
For punching, reaming and general requirements of Fabrication ~ See Specifications.

Correct ..... Hugh E. Young, Bridge Designing Engineer.
Approved ..... Leonard von Babo, Engineer of Bridge Design.
Approved ..... Thos. G. Pihlfeldt, Engineer of Bridges and Harbor.
Approved ..... John Bowman, City Engineer.
Approved ..... Commissioner of Public Works

CITY OF CHICAGO
DEPARTMENT OF PUBLIC WORKS
BUREAU OF ENGINEERING
DIVISION OF BRIDGES AND HARBOR

DOUBLE LEAF TRUNNION BASCULE BRIDGE
AT
WEBSTER AVENUE (14 OF 38)
BELMONT AVENUE (14 OF 41)
OVER
NORTH BRANCH OF THE CHICAGO RIVER
SUPERSTRUCTURE
FIXED PART
TRUNNION TRUSSES

Scale: ¾ in. = 1 ft. April, 1914.
Drawn by A.B.C.
Traced by L.S.B.
Checked by E.C.M. Drawing No. 796

16605700 17
9960040153

FILE. No. 11-6A-16

SIZE 28 x 40

Section D-D

Vertical Bracing Between Trunnion Trusses.

Plan of Horizontal Bracing Between Trunnion Trusses.

Section "AA"
Showing Stringer Connections to Top of Posts.

Section "CC" and "BB"

Section "DD"

Elevation of Front Strut of Horizontal Bracing Between Carrying Trusses.

Notes:~
Material Structural Steel except as noted.
Rivets ⅞" ϕ except in 3" leg of L and in flanges of [which are ¾" ϕ
Open holes 1⅛" ϕ except as noted.
For punching, reaming and general requirements of Fabrication ~ See Specifications.

CITY OF CHICAGO
DEPARTMENT OF PUBLIC WORKS
BUREAU OF ENGINEERING
DIVISION OF BRIDGES AND HARBOR

DOUBLE LEAF TRUNNION BASCULE BRIDGE
AT
WEBSTER AVENUE (15 OF 39)
BELMONT AVENUE (15 OF 41)
OVER
NORTH BRANCH OF THE CHICAGO RIVER
SUPERSTRUCTURE
FIXED PART
Trussed Bracing Between Trunnion Trusses

Scale: ¾" = 1 ft. April, 1914.

Correct. Hugh E. Young, Bridge Designing Engineer.
Approved Alexander von Babo, Engineer of Bridge Design.
Approved Thos. G. Pihlfeldt, Engineer of Bridges and Harbor.
Approved John Ericson, City Engineer.
Approved ..., Commissioner of Public Works.

Drawn by J.C.
Traced by C.D.M.
Checked by C.E.H.

Drawing No. 797
FILE No. 11-6A-17

9960040154 1660570018

Inside Elevation of Box Girder.

Top View

Bottom Section

Outside Elevation of Machinery Girder.

Section A-A.
6'-6" c. to c. of Girders

Section B-B

Section C-C
Sec. F-F similar except as noted

Section D-D.
Sec. E-E similar except as noted

For Detail) See Dr. No. 809

Grind fillet for bearing on Plate.

Casting "C-4"

Casting "C-5"

Casting "C-6"

2-Cov. Pls.-26"×¾"

2 Web Pls. 72"×⅞"

Web Pl. 73⅛" milled to 72"

Web Pl.-56"×7/16"

Web Pl.-34"×⅜"

Web Pl.-55½"×⅜"

Reinf. Web Pl. 36½"×⅜"

Slotted Hole 1½"×2" in Steel.

Drilled in Field

Fine Cut

Rough Cut

Hole 1⅛" ø Casting same as other end

C.I.E. 18"×3"×1'-6"

Grout

El. Masonry 2'-7"

THIS CASTING ON SHORE END OF SOUTH MACH. GIRDER EAST SIDE OF RIVER.

NOTE:~
Material; Structural steel except as noted.
Rivets ⅞" ø
Open holes 15/16" ø except as noted.
All stiffeners at end bearings under trunnion, and at machinery bearing points, shall be tight fit.
For punching, reaming and general requirements of fabrication ~ See Specifications.

Note:~
The contractor may reduce the number of field rivets in laterals and cross frames and use shop rivets instead.

Correct.... Hugh E. Young, Bridge Designing Engineer.

Approved.... Maurice von Sabot, Engineer of Bridge Design.

Approved.... Thos. G. Pihlfeldt, Engineer of Bridges and Harbor.

Approved.... John Ericson, City Engineer.

Approved.... Commissioner of Public Works.

CITY OF CHICAGO
DEPARTMENT OF PUBLIC WORKS
BUREAU OF ENGINEERING
DIVISION OF BRIDGES AND HARBOR

DOUBLE LEAF TRUNNION BASCULE BRIDGE
AT
WEBSTER AVENUE (16 OF 38)
BELMONT AVENUE (16 OF 41)
OVER
NORTH BRANCH OF THE CHICAGO RIVER
SUPERSTRUCTURE.
FIXED PART.
Longitudinal & Machinery Girders

Scale: ¾ in. = 1 ft. April, 1914.

Drawn by L.B.C.
Traced by L.G.S.
Checked by C.E.H.

Drawing No. 798
FILE No. 11-6A-18

9960040155

1660570019

SIZE 27"×41"

SECTION "F-F"

4-3"diam Rods, mark A
4-3"diam Rods, mark B.

Anchor Beams for 3" diam. Anchor Rods

SECTION "B-B"

VIEW "D-D"

SECTION "C-C"

SECTION "E-E"

View taken at "A-A" See Diagram.

Cast Iron Separators
¾" metal with ¾" dia bolts, sq. heads and nuts.

NOTES:-
Material: Structural Steel.
Rivets ⅞" ø
Open holes 15/16" ø except as noted.
For punching, reaming and general requirements of fabrication - See Specifications.

DIAGRAM OF GIRDERS AND ANCHOR COLS.
Scale ¼"=1'0"

Correct ... Hugh E. Young ... Bridge Designing Engineer.
Approved ... Alexander von Babo ... Engineer of Bridge Design.
Approved ... Jno. G. Sublette ... Engineer of Bridges and Harbor.
Approved ... John Buchen ... City Engineer.
Approved ... Commissioner of Public Works

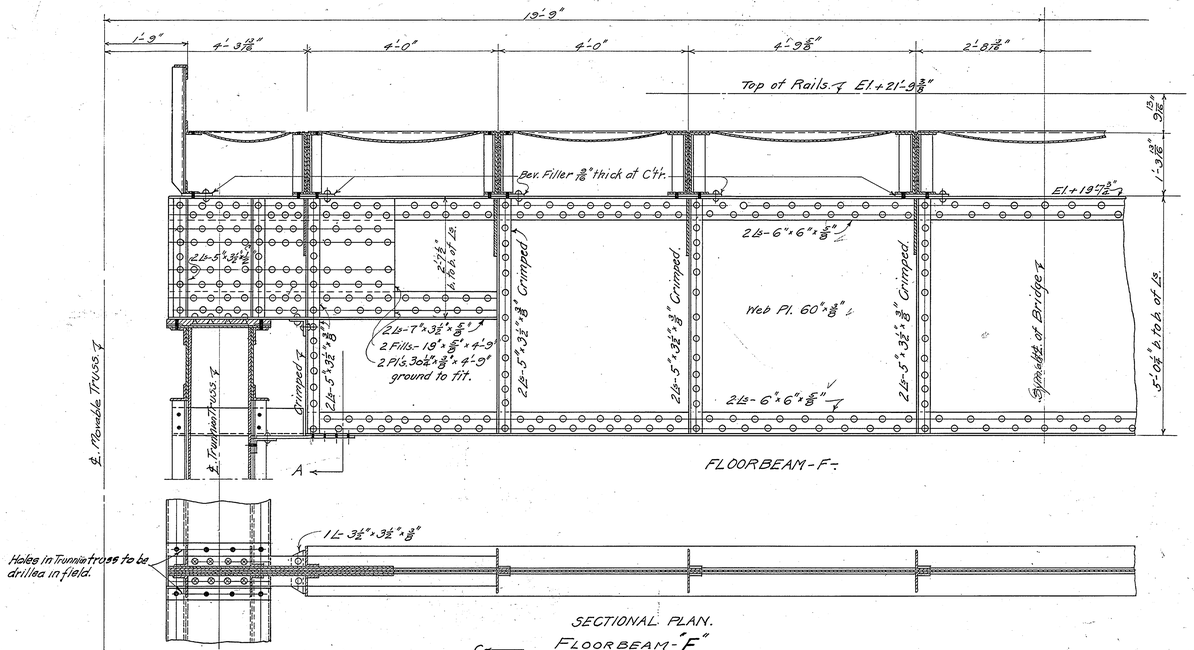
CITY OF CHICAGO
DEPARTMENT OF PUBLIC WORKS
BUREAU OF ENGINEERING
DIVISION OF BRIDGES AND HARBOR

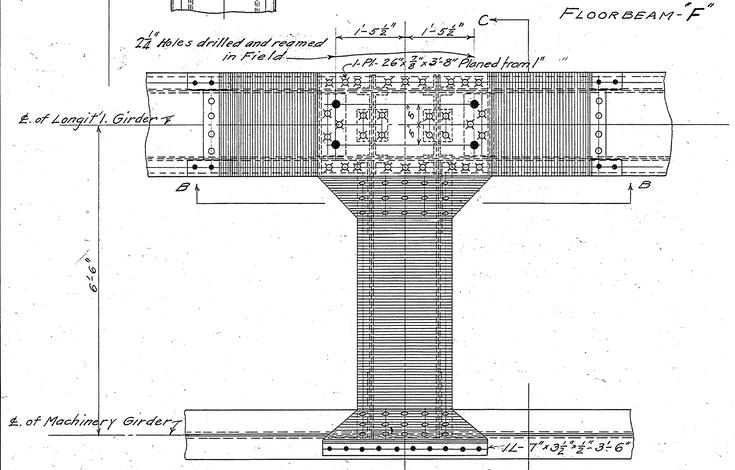
DOUBLE LEAF TRUNNION BASCULE BRIDGE AT WEBSTER AVENUE (12) OF (12), (17) OF (38)

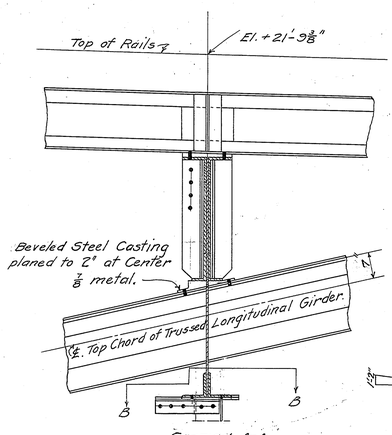
OVER
NORTH BRANCH OF THE CHICAGO RIVER
SUB. & SUPERSTRUCTURE.
FIXED PART
Anchor Columns etc.

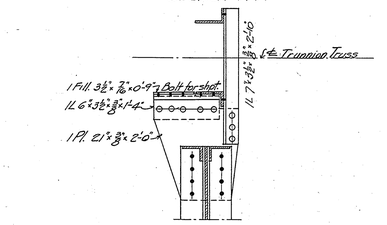
Scale: ¼" & ¾" = 1 ft. April, 1914.
Drawn by A.B.C.
Traced by E.D.M.
Checked by G.L.H.
Drawing No. 799
FILE № 11-6A-19

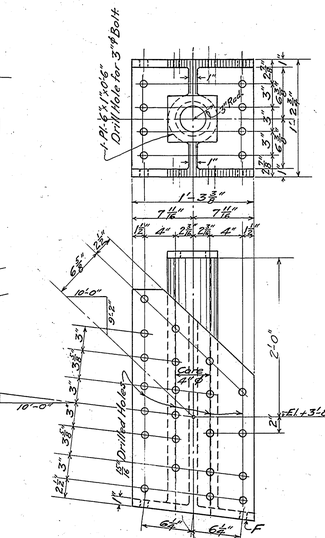
1660570020









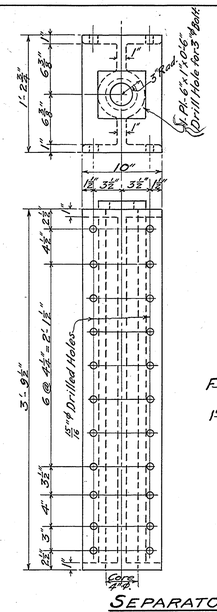


SEPARATOR

Cast Steel. 4 Req'd. Mark C-10.

For the River Pier Anchor Bolts of Carrying Truss.

Scale 1 1/2" = 1'-0"

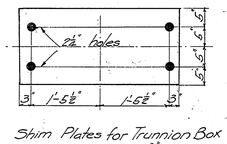


SEPARATOR

Cast Steel. 4 Required. Mark C-7.

For River Pier End of Carrying Girder.

Scale 1 1/2" = 1'-0"



Steel Casting for 2" diam. Machinery Rods at bottom of Long'l. Girders for fastening Trunnion Journal Blocks. 4 Required.

TRUNNION BOLT BLOCKS.

Scale 3/4" = 1'-0"

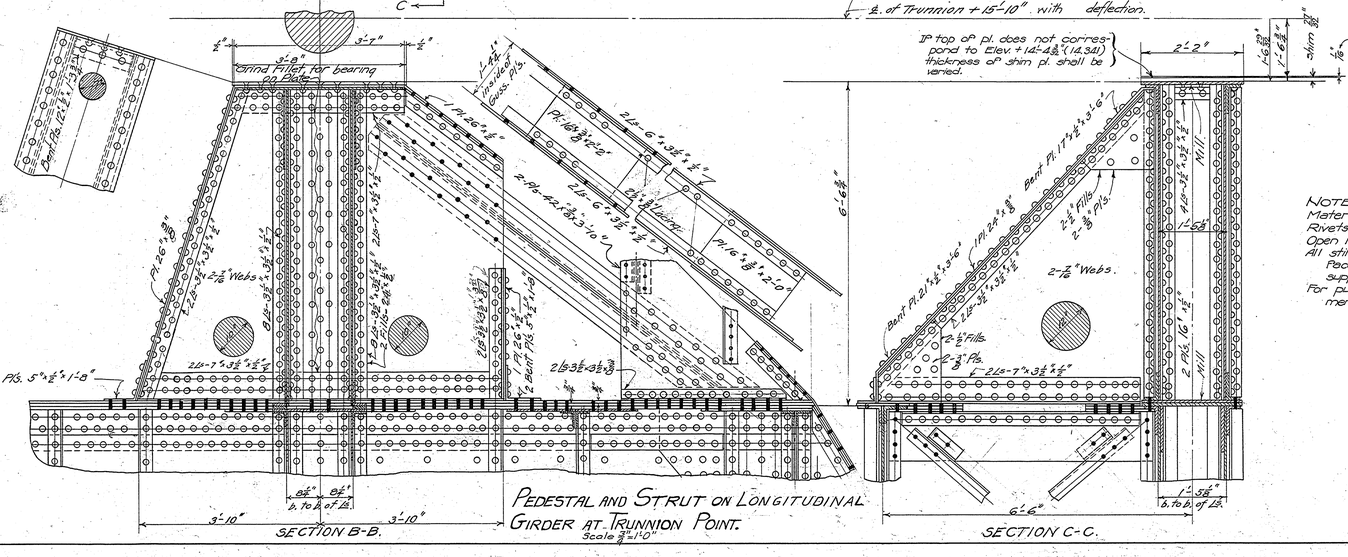
Shim Plates for Trunnion Box

4 Required 20"×1 1/16"×3'-5"

4 " 20"×9 9/16"×3'-5"

8 Rs. sheet lead Req. 20"×1/8"×3'-5"

Scale 3/4" = 1'-0"



PEDESTAL AND STRUT ON LONGITUDINAL GIRDER AT TRUNNION POINT.

Scale 3/4" = 1'-0"

NOTES:-

Material: Structural steel except as noted.

Rivets 7/8" ϕ

Open holes 15/16" ϕ except as noted.

All stiffeners, bearing ℄ and pls. shall be faced and brought to bear at points of support.

For punching, reaming and general requirements of fabrication - See Specifications.

Correct ..... Hugh E. Young
Bridge Designing Engineer.

Approved ..... Alexander von Babo
Engineer of Bridge Design.

Approved ..... Thos. G. Pihlfeldt
Engineer of Bridges and Harbor.

Approved ..... John Ericson
City Engineer.

Approved ..... [illegible]
Commissioner of Public Works.

CITY OF CHICAGO
DEPARTMENT OF PUBLIC WORKS
BUREAU OF ENGINEERING
DIVISION OF BRIDGES AND HARBOR

DOUBLE LEAF TRUNNION BASCULE BRIDGE AT WEBSTER AVENUE (18 of 36) BELMONT AVENUE (18 of 41) OVER NORTH BRANCH OF THE CHICAGO RIVER

SUPERSTRUCTURE
FIXED PART

Floorbeam "F" & Pedestals on Long Girder

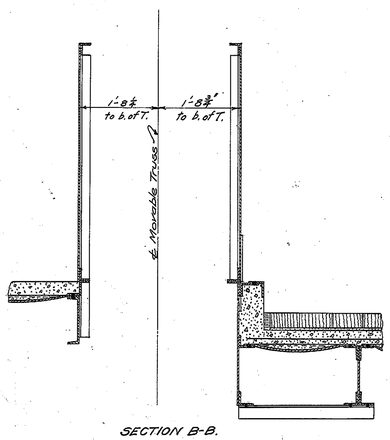
Scale: 3/4" & 1 1/2" = 1 ft. April, 1914.

Drawn by G.C.B.
Traced by G.C.B.
Checked by G.E.H.

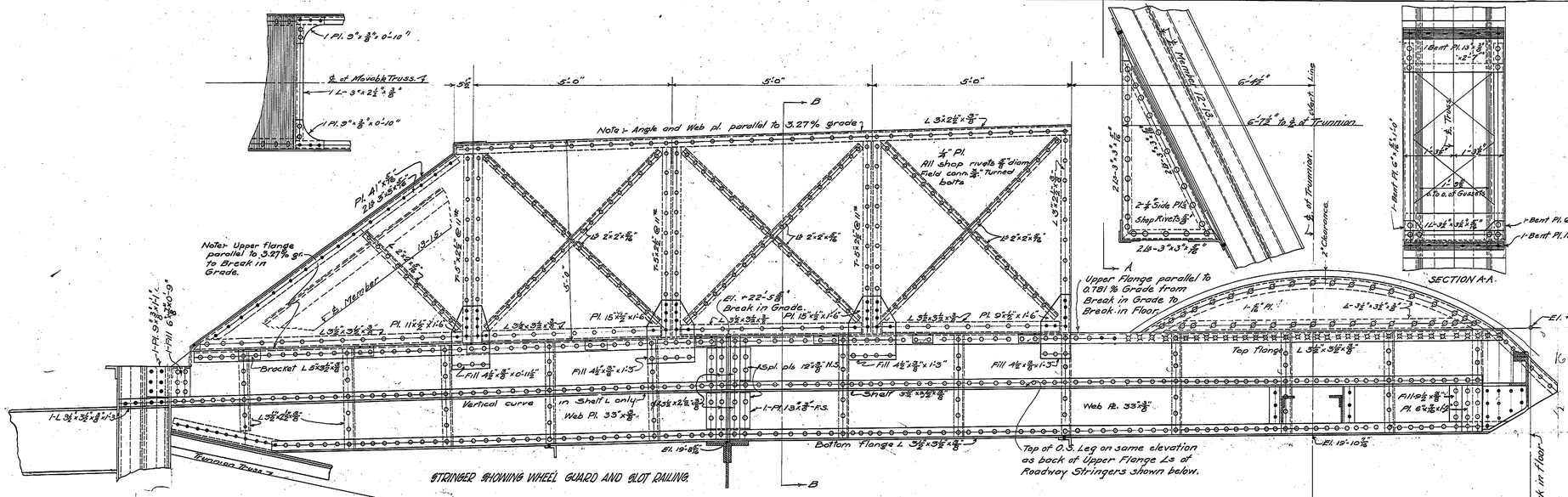
Drawing No. 800
FILE № 11-6A-20

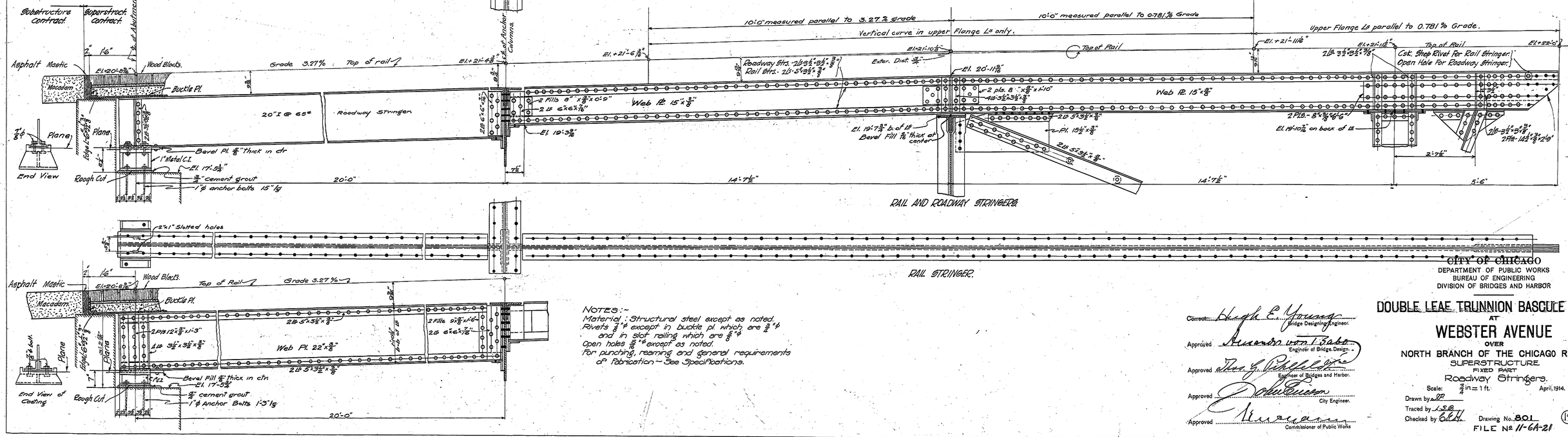
9960040156 1660570021

SIZE 27 x 41



SECTION B-B.





NOTES:-
Material; Structural steel except as noted.
Rivets ⅞" ϕ except in buckle pl which are ¾" ϕ and in slot railing which are ⅞" ϕ
Open holes ⅞" ϕ except as noted.
For punching, reaming and general requirements of Fabrication - See Specifications.

Correct: Hugh E. Young
Bridge Designing Engineer.

Approved: Alexander von Babo
Engineer of Bridge Design.

Approved: Thos. G. Pihlfeldt
Engineer of Bridges and Harbor.

Approved: John Ericson
City Engineer.

Approved: [illegible]
Commissioner of Public Works

CITY OF CHICAGO
DEPARTMENT OF PUBLIC WORKS
BUREAU OF ENGINEERING
DIVISION OF BRIDGES AND HARBOR

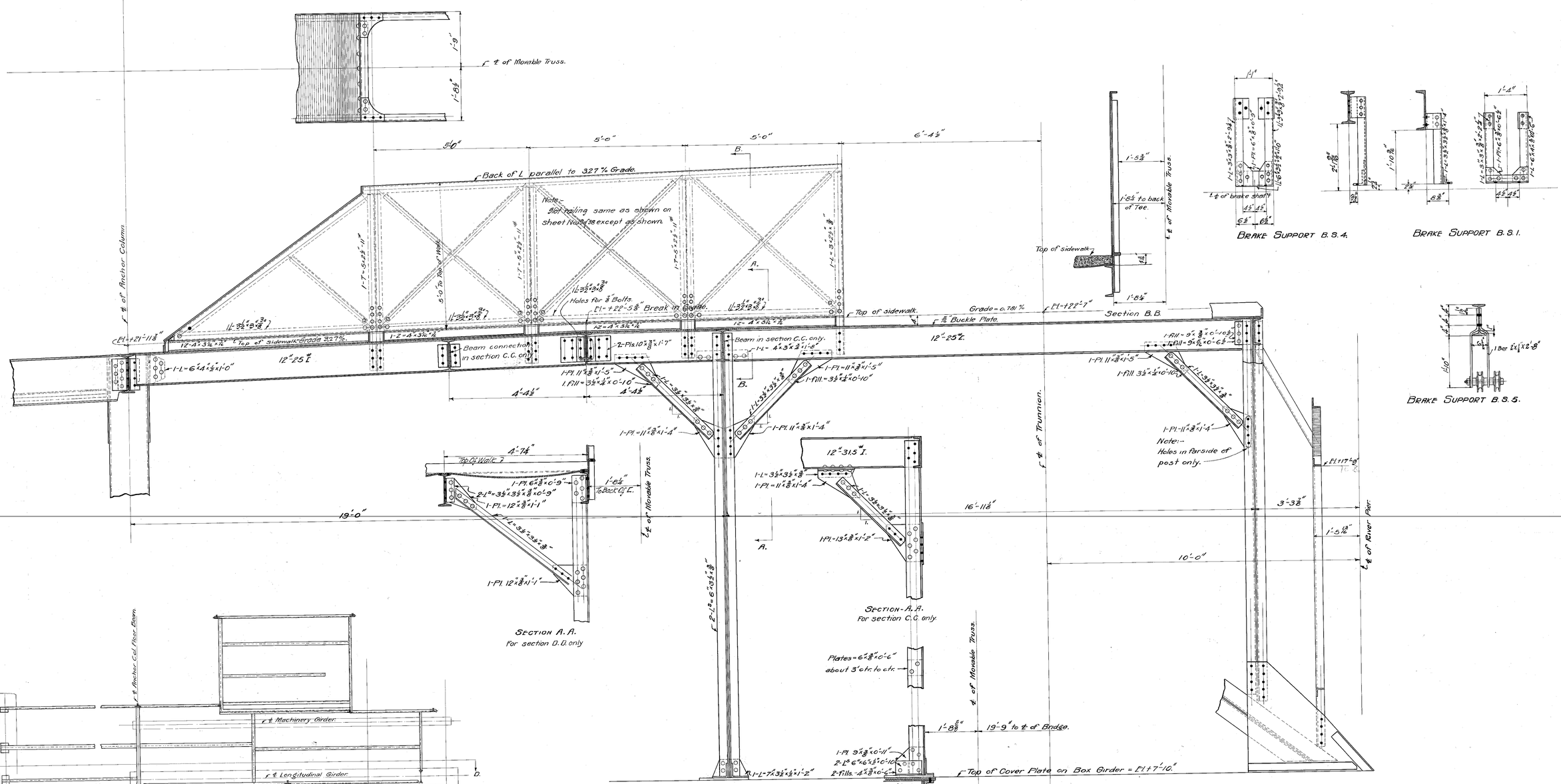
DOUBLE LEAF TRUNNION BASCULE BRIDGE AT WEBSTER AVENUE OVER NORTH BRANCH OF THE CHICAGO RIVER

SUPERSTRUCTURE.
FIXED PART
Roadway Stringers.

Scale: ¾ in = 1 ft. April, 1914.
Drawn by S.P.
Traced by I.S.B.
Checked by E.H.Y.
Drawing No. 801 (19) OF (38)
FILE № 11-6A-21

1660570022

SIZE 23"x 41"



CITY OF CHICAGO
DEPARTMENT OF PUBLIC WORKS
BUREAU OF ENGINEERING
DIVISION OF BRIDGES AND HARBOR

DOUBLE LEAF TRUNNION BASCULE BRIDGE AT WEBSTER AVENUE OVER NORTH BRANCH OF THE CHICAGO RIVER

SUPERSTRUCTURE
FIXED PART

Sidewalk Stringers & Supports.

Scale: ⅜" = 1 ft. April, 1914.

Drawn by JP
Traced by L.S.B.
Checked by E.E.V.

Drawing No. 802
FILE No. 11-6A-22

(20) OF (38)

Correct... Hugh E. Young ... Bridge Designing Engineer.
Approved ... Alexander von Babo ... Engineer of Bridge Design.
Approved ... Thos. G. Pihlfeldt ... Engineer of Bridges and Harbor.
Approved ... John Ericson ... City Engineer.
Approved ... [illegible] ... Commissioner of Public Works

1660570023

SIZE 27"×41"

Westr. Superstructure Contr. Contract.

Masonry

Grade 3.27%

Break in Sidewalk Grade

Grade = 0.781% to ℄ of Channel.

Grout

Section A.A.

Section B.B.

Section D.D.

Section E.E.

Section F.F.

Note:- All anchor bolts to be furnished.

ELEVATION "A-A"
SIDEWALK FRAMING
For Northside East Approach and for Southside West Approach

Section K-K

PLAN OF SIDEWALK FRAMING.
For North Side East Approach and for South Side West Approach.

Section W.W. Trap Door

Section R.R. Trap Door

Section L.L.

Section V.V.

NOTE:-
Material; Structural steel
Rivets ⅞" except as noted, and in flanges of L's & I's which are ⅞"
Open holes ⅞" except as noted.
For punching, reaming and general requirements of Fabrication - See Specifications.

Correct. Hugh E. Young — Bridge Designing Engineer.
Approved Norman von Tobel — Engineer of Bridge Design.
Approved Jos. J. Pihlfeldt — Engineer of Bridges and Harbor.
Approved John Ericson — City Engineer.
Approved [illegible] — Commissioner of Public Works

CITY OF CHICAGO
DEPARTMENT OF PUBLIC WORKS
BUREAU OF ENGINEERING
DIVISION OF BRIDGES AND HARBOR

DOUBLE LEAF TRUNNION BASCULE BRIDGE AT WEBSTER AVENUE OVER NORTH BRANCH OF THE CHICAGO RIVER

SUPERSTRUCTURE
FIXED PART
Sidewalk Stringers & Supports.
Scale: ¾ in. = 1 ft. April, 1914.
Drawn by L.L.
Traced by L.O.M.
Checked by C.L.A.
Drawing No. 803
FILE No. 1-6A-23

21 OF 38

1660570024

SIZE 27"X41"

SECTION-R-R

SECTION-S-S

SECTION-N-N

SECTION-M-M

SECTION-L-L

SECTION-K-K

SECTION-A-A

SECTION-B-B

SECTION-C-C

SECTION-E-E

SECTION-D-D

Sections P-P & O-O are opp. hand to Sections O-O & P-P shown on Sh. No 23 of 38

Sect'n. G-G & H-H are opp. hand to Sect'n. R-R & S-S shown on Sh. No 23 of 38.

All rivets above Elev. +33'-5" to be ⅞" diam. except as shown.

All rivets between Elev. 22'-9" and 33'-5" to be ⅞" diam. except as shown

SECTIONAL ELEVATION OF LOWER STAIR RUN SHOWING INNER SUPPORTS

SECTIONAL ELEVATION THRU SIDEWALK SHOWING OUTSIDE SUPPORTS AND HOUSE FRAMING

North Side, West Approach and South Side East Approach

FRONT ELEVATION

North Side ~ West Approach } As shown
South " ~ East "
North " ~ East " } Opp. hand
South " ~ West "

Notes:-
Material: Structural Steel.
Rivets ⅞" ø except as noted.
Open holes ⅞" ø except as noted.
For punching, reaming and general requirements of fabrication - See specifications.
House framing shall be trued up by suitable braces or ties until concrete walls are in place.
For details of enclosing walls see sheets (33) (34) & (35) of (38)

Correct... Hugh E. Young, Bridge Designing Engineer.
Approved ... Engineer of Bridge Design.
Approved ... Engineer of Bridges and Harbor.
Approved ... City Engineer.
Approved ... Commissioner of Public Works

CITY OF CHICAGO
DEPARTMENT OF PUBLIC WORKS
BUREAU OF ENGINEERING
DIVISION OF BRIDGES AND HARBOR

DOUBLE LEAF TRUNNION BASCULE BRIDGE AT WEBSTER AVENUE OVER NORTH BRANCH OF THE CHICAGO RIVER

SUPERSTRUCTURE
FIXED PART

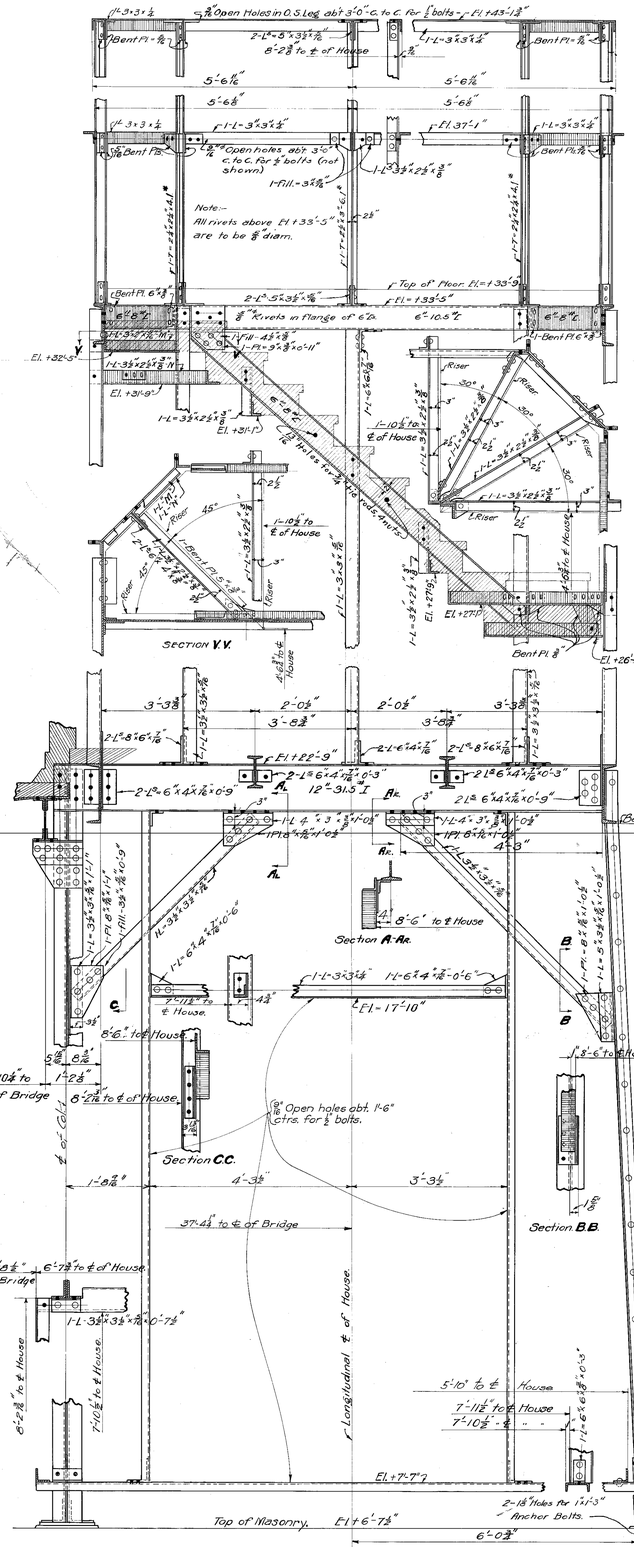
House Framing, Sidewalk Beams & Supports.

Scale: ¾" = 1 ft. April, 1914.
Drawn by ...
Traced by ...
Checked by D.N.B.

Drawing No. 804
FILE No. 11-6A-24

(22) of (38)

1660570025



CITY OF CHICAGO
DEPARTMENT OF PUBLIC WORKS
BUREAU OF ENGINEERING
DIVISION OF BRIDGES AND HARBOR

Correct. Hugh E. Young — Bridge Designing Engineer.
Approved Alexander von Babo — Engineer of Bridge Design.
Approved Thos. G. Pihlfeldt — Engineer of Bridges and Harbor.
Approved John Ericson — City Engineer.
Approved Edward Cunny — Commissioner of Public Works

DOUBLE LEAF TRUNNION BASCULE BRIDGE AT WEBSTER AVENUE OVER NORTH BRANCH OF THE CHICAGO RIVER

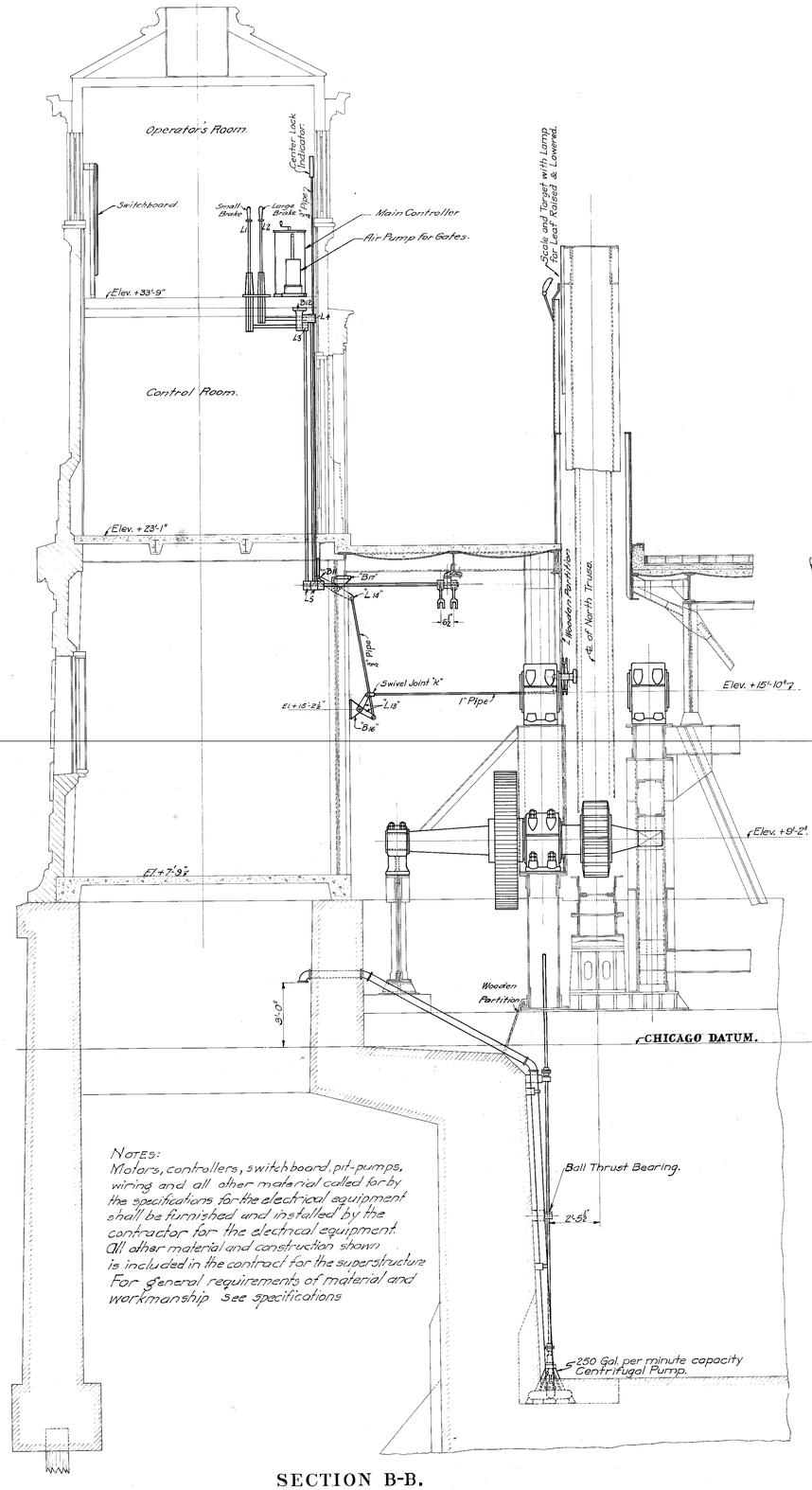
SUPERSTRUCTURE
FIXED PART
House Framing

Scale: 3/4 in. = 1 ft. April, 1914.
Drawn by V.P.
Traced by E.D.M.
Checked by D.N.B.
Drawing No. 805
FILE No. 11-6A-25

(23) OF (38)

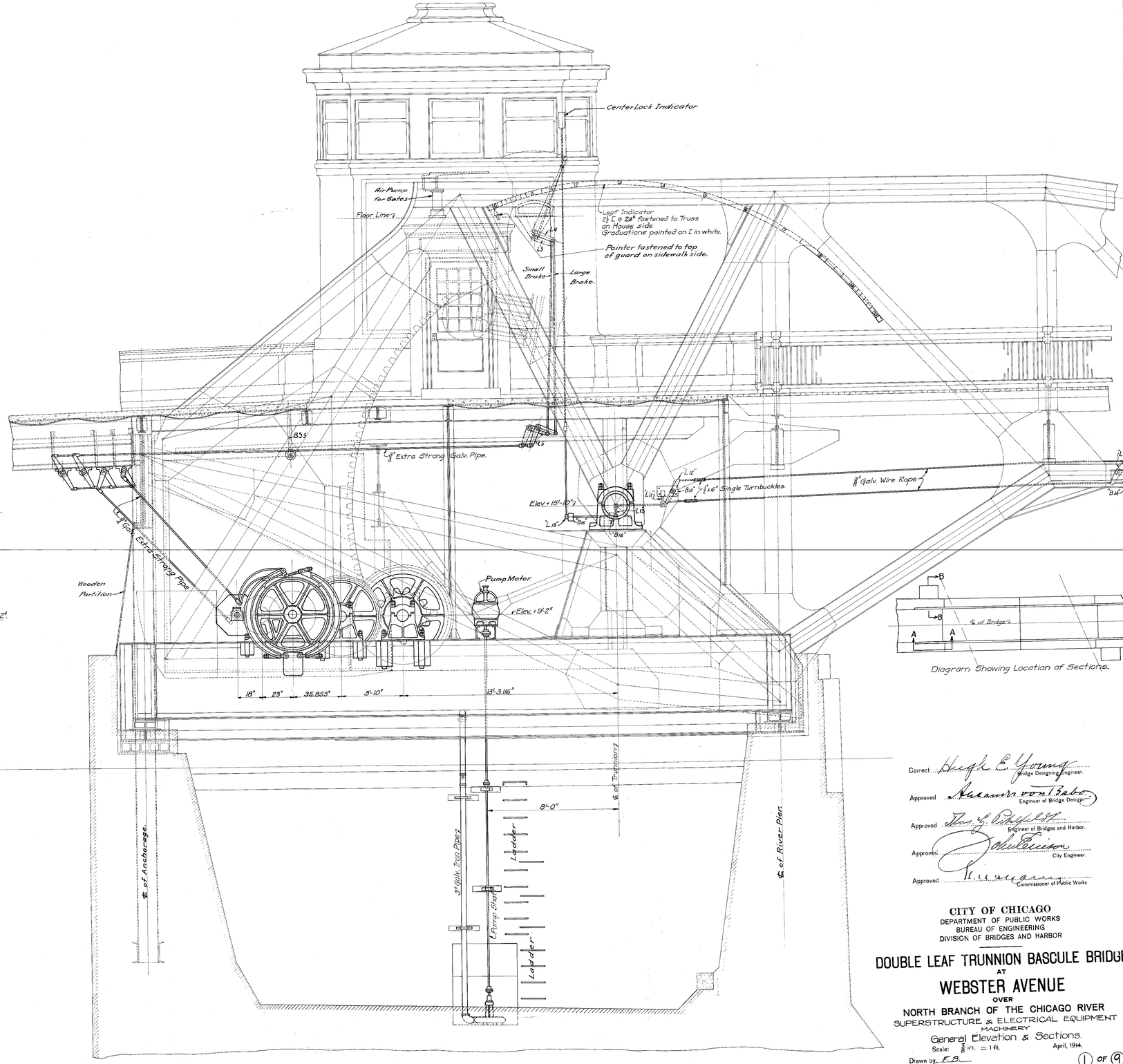
1660570026

SIZE 27"x41"



NOTES:
Motors, controllers, switchboard, pit-pumps, wiring and all other material called for by the specifications for the electrical equipment shall be furnished and installed by the contractor for the electrical equipment. All other material and construction shown is included in the contract for the superstructure. For general requirements of material and workmanship see specifications

SECTION B-B.



SIDE ELEVATION & SECTION A-A.

Diagram Showing Location of Sections.

Correct... Hugh E. Young, Bridge Designing Engineer.
Approved ... Engineer of Bridge Design
Approved ... Engineer of Bridges and Harbor.
Approved ... City Engineer.
Approved ... Commissioner of Public Works

CITY OF CHICAGO
DEPARTMENT OF PUBLIC WORKS
BUREAU OF ENGINEERING
DIVISION OF BRIDGES AND HARBOR

DOUBLE LEAF TRUNNION BASCULE BRIDGE AT WEBSTER AVENUE OVER NORTH BRANCH OF THE CHICAGO RIVER

SUPERSTRUCTURE & ELECTRICAL EQUIPMENT
MACHINERY

General Elevation & Sections.

Scale: ⅜ in. = 1 ft. April, 1914.

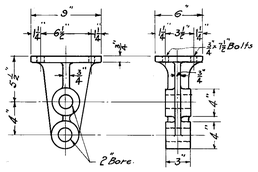
Drawn by E.B.
Traced by E.J.P.
Checked by [illegible]

(1) OF (9)
(14) OF (38)

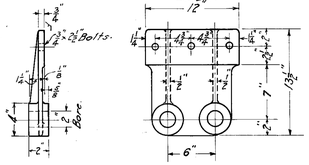
Drawing No. 806
FILE No. 11-6A-26

1660570027

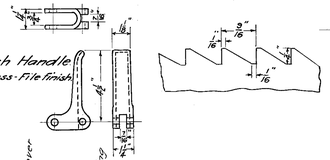
SIZE 22"x34"

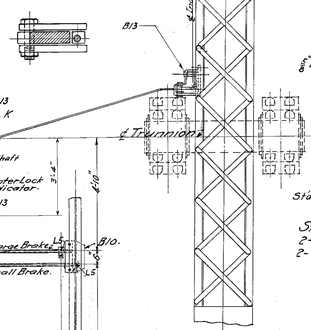


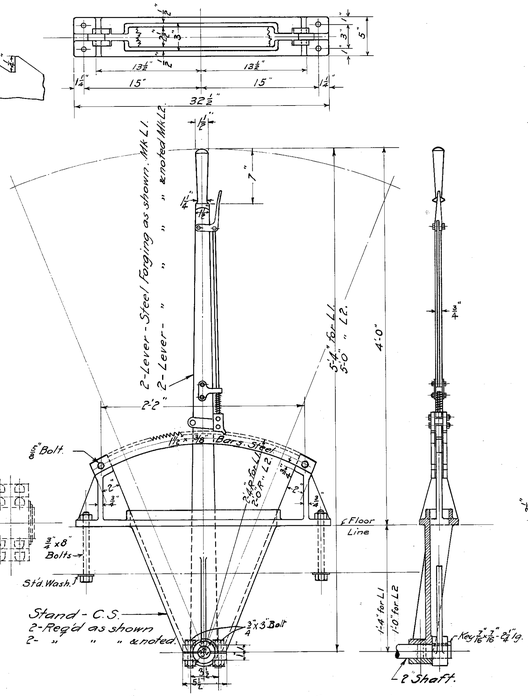
Brake Support
Steel Casting - 2 Req'd. Mk B12

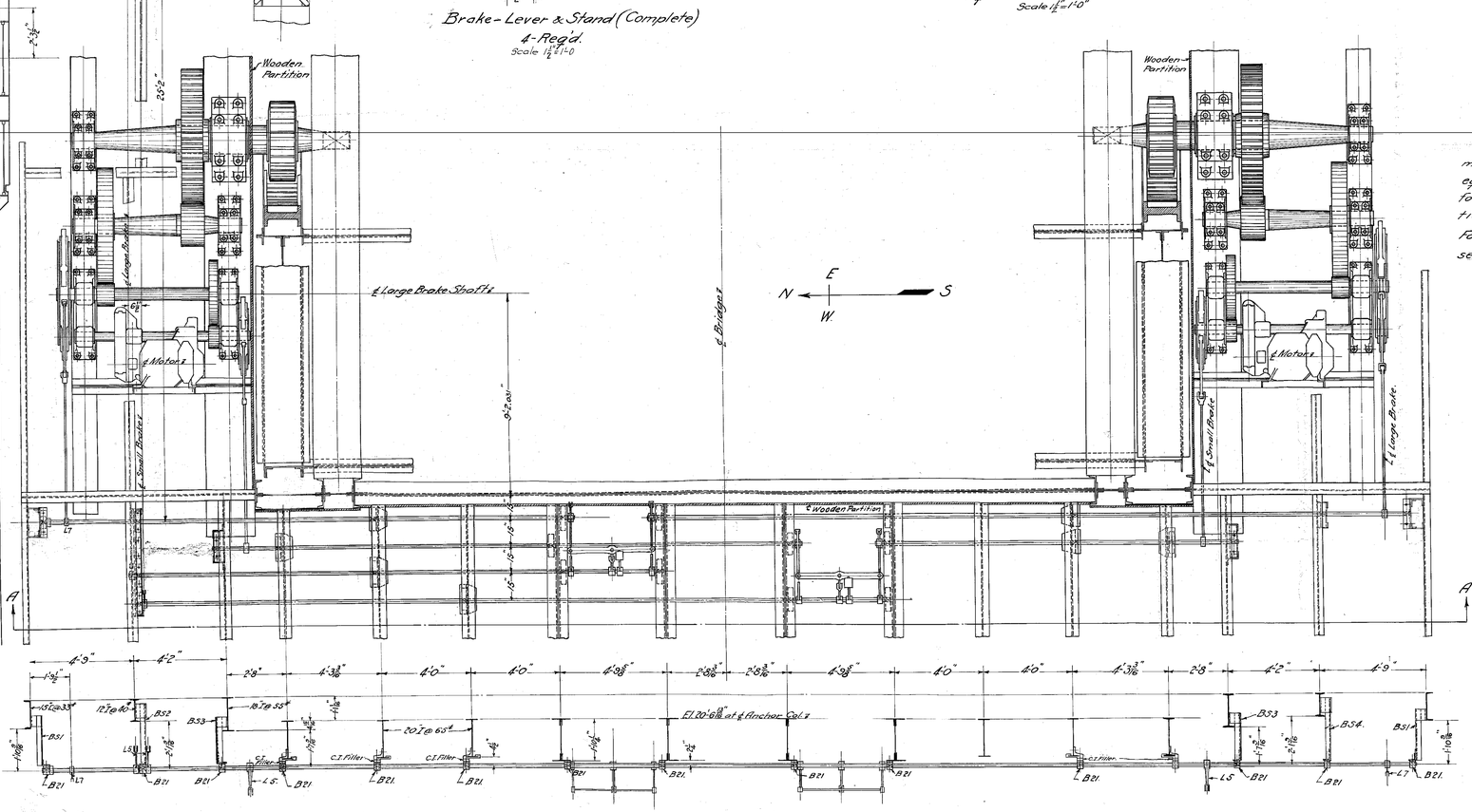


Bracket
Steel Casting - 2 Req'd.
Mk B11.
Scale 1½" = 1'-0"



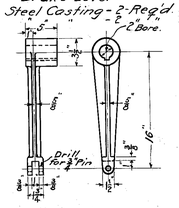






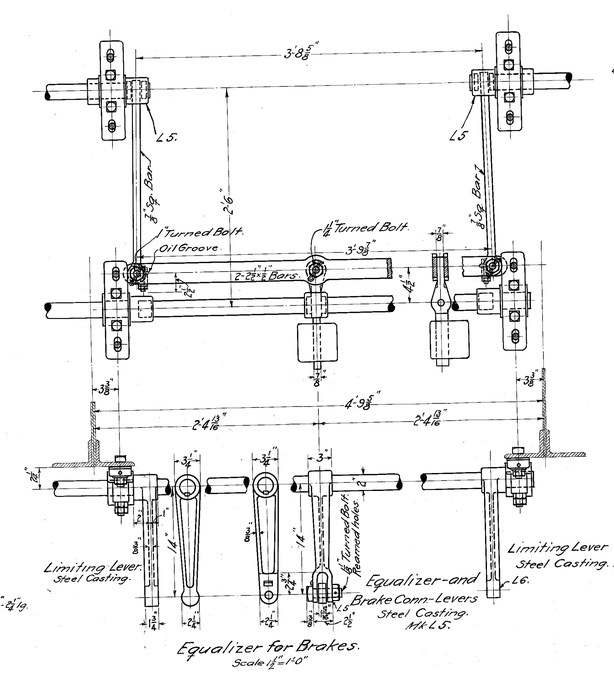
Section: A-A.
Scale ⅜" = 1'-0"

Brake Lever
Steel Casting - 2 Req'd. Mk L3.
" - 2 " " Mk L7

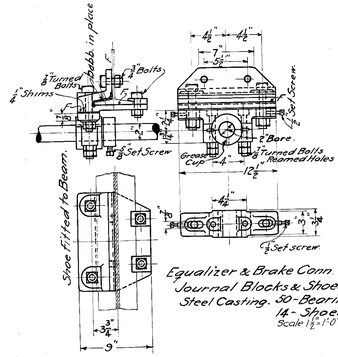


16" Brake Lever
Steel Casting - 2 Req'd. Mk L4.
Scale 1½" = 1'-0"

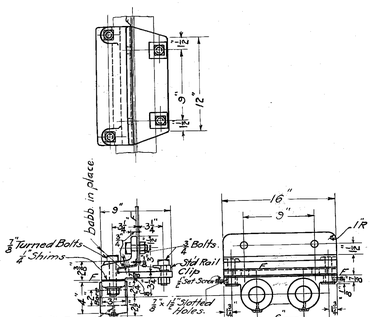
Brake-Lever & Stand (Complete)
4 Req'd.
Scale 1½" = 1'-0"



Equalizer for Brakes.
Scale 1½" = 1'-0"



Equalizer & Brake Conn.
Journal Blocks & Shoes.
Steel Casting. 50 Bearings Req'd. Mk B21.
14 Shoes "
Scale 1½" = 1'-0"



Brake Lever Bearing. B10.
Steel Casting - 2 Req'd.
Scale 1½" = 1'-0"

Note:
Motors, controllers, switchboards, wiring & all other material called for by the specifications for the electrical equipment, shall be furnished & installed by the contractor for the electrical equipment. All other material & construction shown, is included in the contract for the superstructure for general requirements of material & workmanship see specifications.

Correct. Hugh E. Young
Bridge Designing Engineer.
Approved Alexander von Babo
Engineer of Bridge Design.
Approved Thos. G. Pihlfeldt
Engineer of Bridges and Harbor.
Approved John Ericson
City Engineer.
Approved Murray Morgan
Commissioner of Public Works

CITY OF CHICAGO
DEPARTMENT OF PUBLIC WORKS
BUREAU OF ENGINEERING
DIVISION OF BRIDGES AND HARBOR

DOUBLE LEAF TRUNNION BASCULE BRIDGE AT WEBSTER AVENUE OVER NORTH BRANCH OF THE CHICAGO RIVER

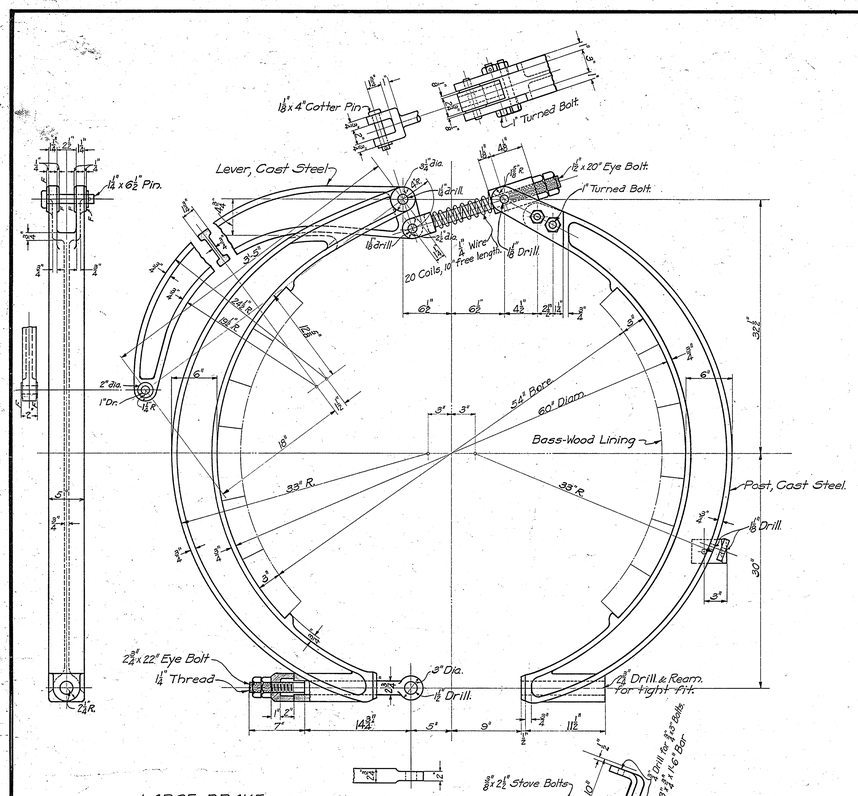
SUPERSTRUCTURE & ELECTRICAL EQUIPMENT
MACHINERY
General Plan

Scale: ¼" & 1½" = 1 ft. April, 1914.
Drawn by E.B. & A.T.
Traced by A.T.
Checked by [illegible]
Drawing No. 807
FILE No. 11-6A-27

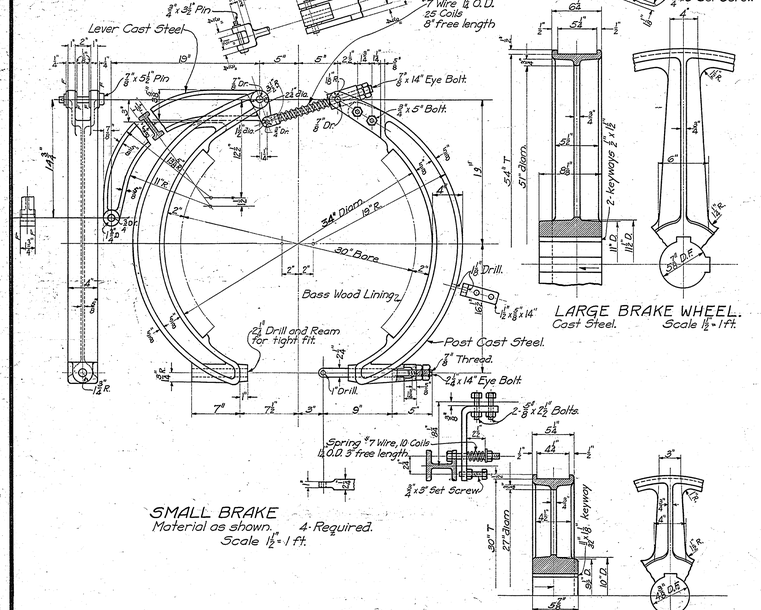
(2) OF (9)
(25) OF (38)

1660570029

SIZE 27"x41"



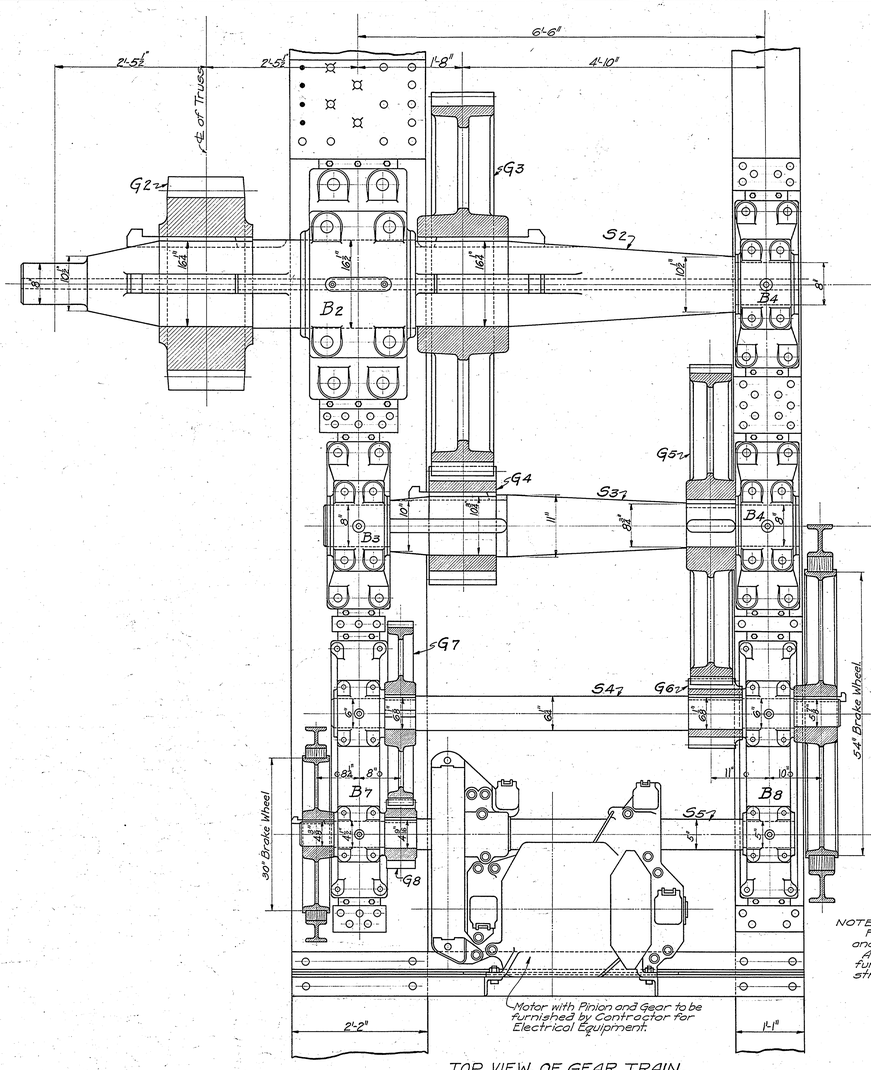
LARGE BRAKE
Material as shown. 4-Required.
Scale 1½" = 1 ft.



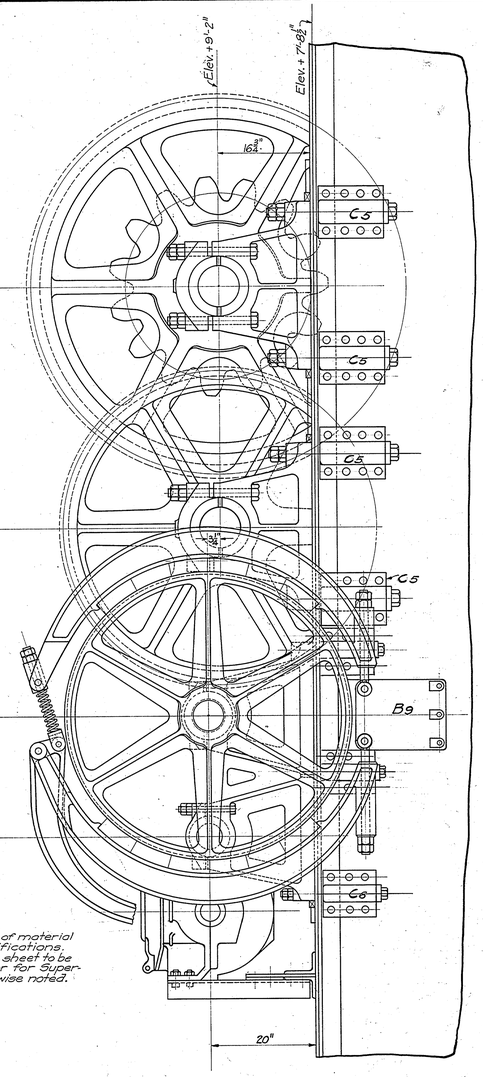
SMALL BRAKE
Material as shown. 4-Required.
Scale 1½" = 1 ft.

LARGE BRAKE WHEEL.
Cast Steel. Scale 1½" = 1 ft.

SMALL BRAKE WHEEL.
Cast Steel. Scale 1½" = 1 ft.



TOP VIEW OF GEAR TRAIN.
Right Hand.
Scale 1" = 1 ft.



SIDE VIEW.

NOTE:-
For general requirements of material and workmanship see specifications. All material shown on this sheet to be furnished by the Contractor for Superstructure except as otherwise noted.

CITY OF CHICAGO
DEPARTMENT OF PUBLIC WORKS
BUREAU OF ENGINEERING
DIVISION OF BRIDGES AND HARBOR

DOUBLE LEAF TRUNNION BASCULE BRIDGE
AT
WEBSTER AVENUE (26 or 38) & (3 or 9)
BELMONT AVENUE (3 or 9) & (28 or 41)
OVER
NORTH BRANCH OF THE CHICAGO RIVER
SUPERSTRUCTURE & ELECTRICAL EQUIPMENT
MACHINERY
Gear Train, Brake Details & Motor

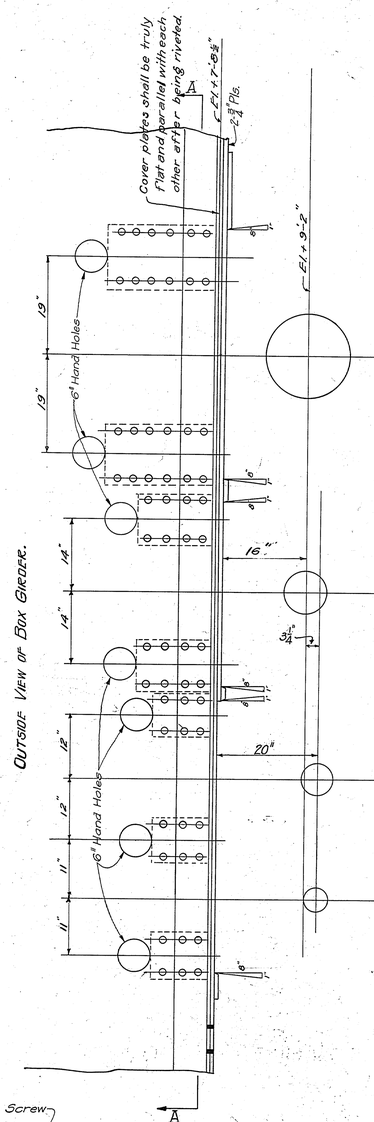
Scale: 1" & 1½" = 1 ft. April, 1914.

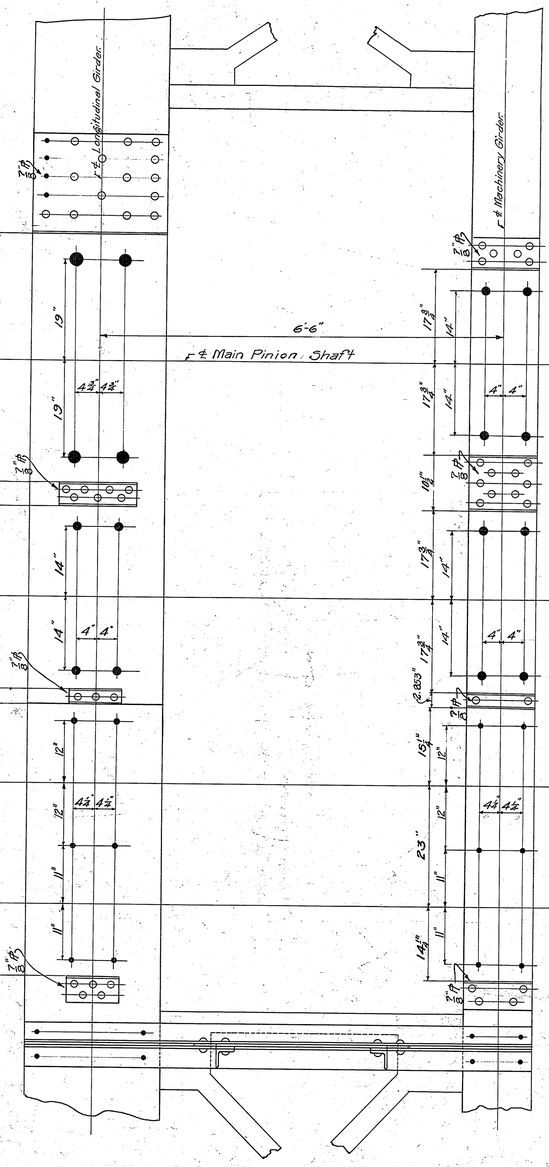
Correct.... Hugh E. Young, Bridge Designing Engineer.
Approved .... Alexander von Babo, Engineer of Bridge Design.
Approved .... Thos. G. Pullen Jr., Engineer of Bridges and Harbor.
Approved .... John Ericson, City Engineer.
Approved .... Commissioner of Public Works

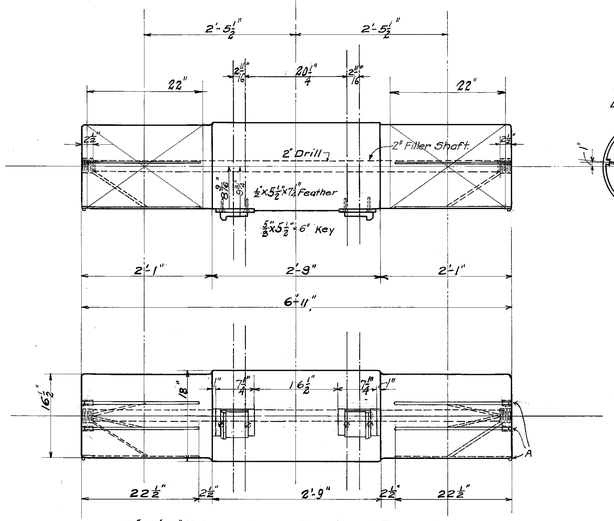
Drawn by E.B.
Traced by R.J.P.
Checked by [illegible]
Drawing No. 808
FILE No. 11-6A-28

9960040157 1660570029

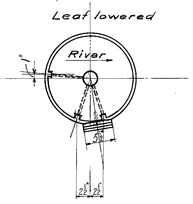
OUTSIDE VIEW OF BOX GIRDER.

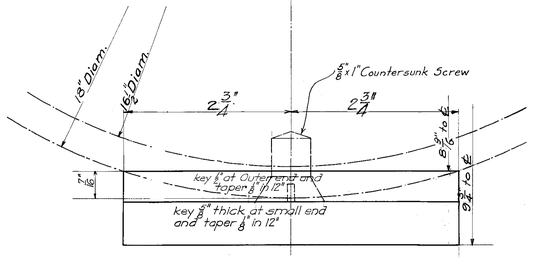



15'-3⅛" To ℄ of Trunnion
35.853"
46"
23"
23"
15½"
12"
℄ Longitudinal Girder
℄ Machinery Girder
6'-6"
℄ Main Pinion Shaft
23¾"
19"
17⅜"
14"
12"
11"
14⅝"
4½" 4½"
4" 4"
7/8"
7/8"
7/8

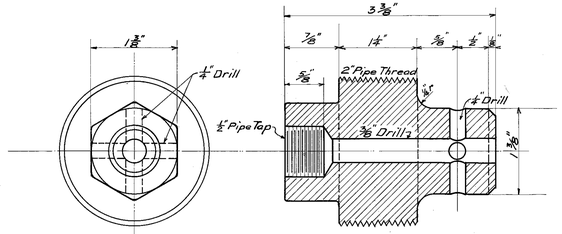


18"×6'-11" Trunnion, A.C.S. 4 Required.
MARK 51.
Scale 1"=1'0"

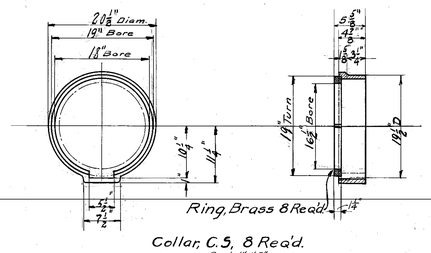




Full Size Detail of Key.

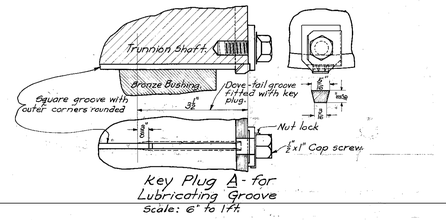


Brass Plug. 8 Required.
Scale 12"=1'0"

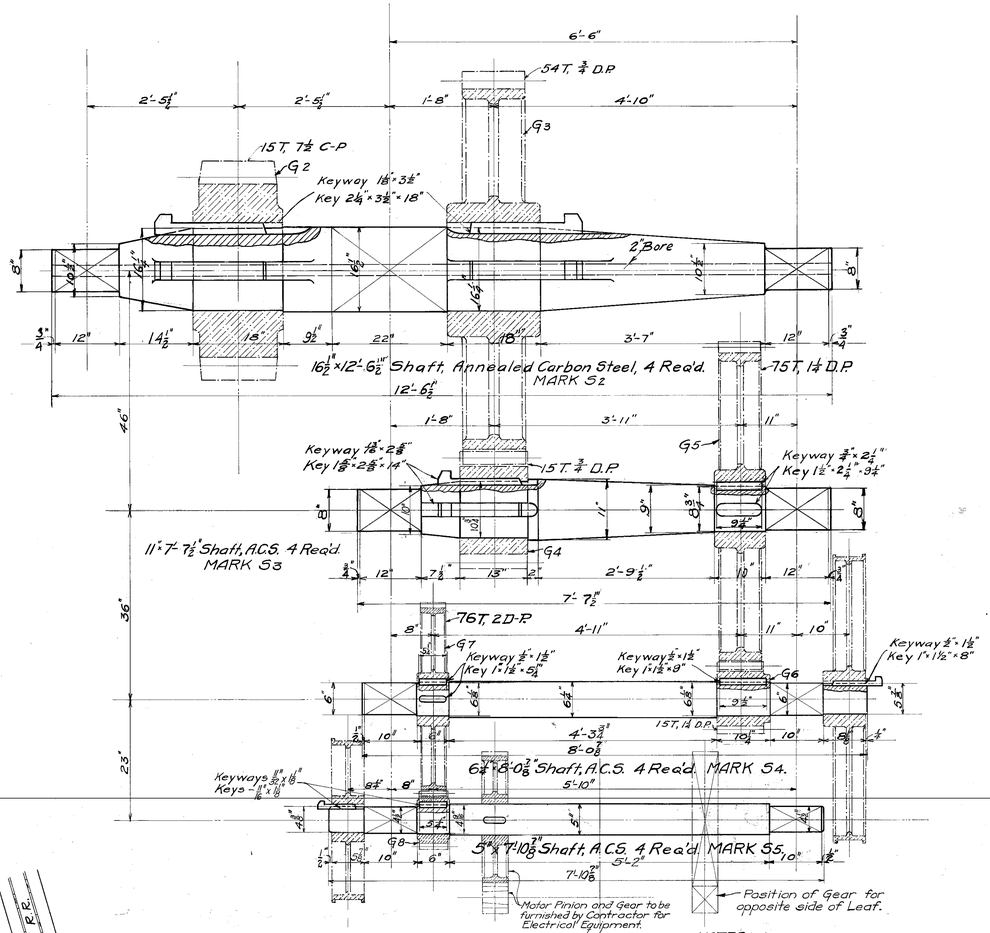


Ring, Brass 8 Req'd.

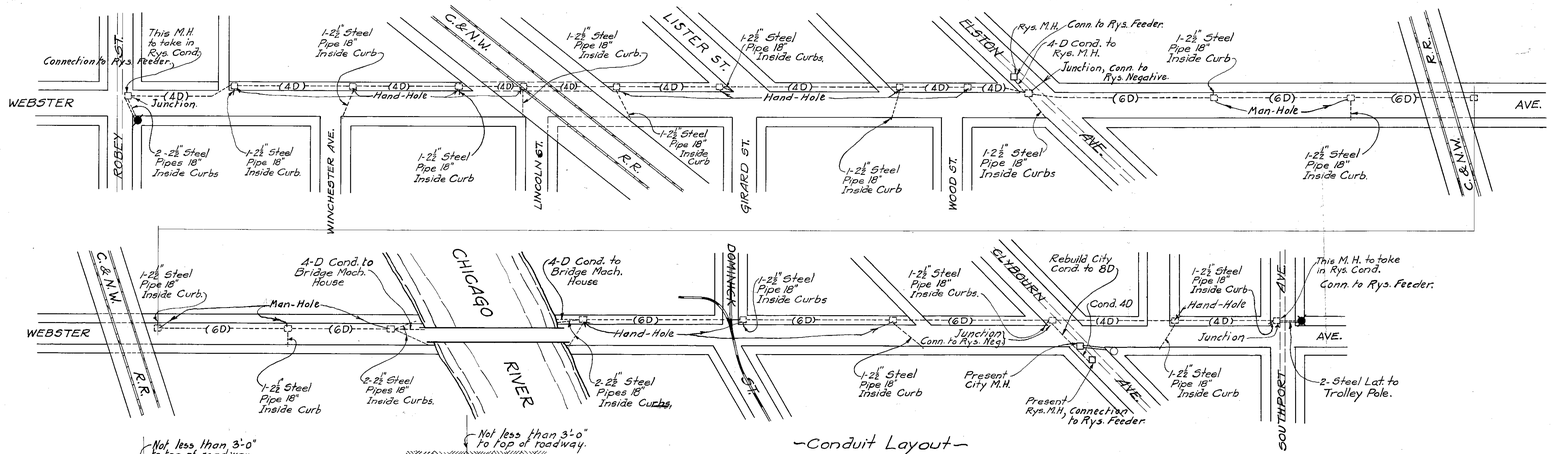
Collar, C.S. 8 Req'd.
Scale 1"=1'0"



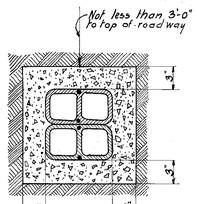
Key Plug A - for Lubricating Groove
Scale: 6" to 1'-0"



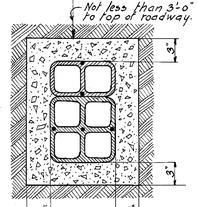
Scale 1"=1'0"



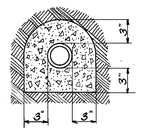
—Conduit Layout—



Section thru Four Duct Conduit



Section thru Six Duct Conduit.



Section thru Lateral.

NOTES ON UNDERGROUND CONDUITS & CABLES.

The Contractor shall furnish, draw into the conduits and connect, ready for operation the following runs of Cable.

One power supply cable from the point of connection with the Street Railway feeder at Robey Street, to a point inside of the west bridge abutment wall, approximately 2600 ft.

One power supply cable from the point of connection with the Street Railway feeder at Elston Ave. to a point inside of the west bridge abutment wall, approximately 1200 ft.

One return cable from a point inside of the west bridge abutment wall to the point of connection with the Street Railway negative cable at Elston Ave. approximately 1200 ft.

One power supply cable from the point of connection with the Street Railway feeder at Southport Ave. to a point inside of the east bridge abutment wall, approximately 1200 ft.

One power supply cable from the point of connection with the Street Railway feeder at Clybourn Ave. to a point inside the east bridge abutment wall, approximately 900 feet.

One return cable from a point inside of the east bridge abutment wall, to the point of connection with the Street Railway negative cable at Clybourn Ave. approximately 800 feet.

The above lengths are approximate and the Contractor shall make his own measurements to determine the actual lengths required.

For detail requirements of cables, conduits and manholes see specifications.

NOTES:

For general requirements of material and workmanship see specifications.

All material shown on this sheet to be furnished by the Contractor for Superstructure except the motor pinion and gear, underground conduits, manholes and all material required in connection with same and the electric power cables, which shall be furnished and installed by the Contractor for the Electrical Equipment.

Correct.... Hugh E. Young
Bridge Designing Engineer.

Approved .... Alexander von Babo
Engineer of Bridge Design.

Approved .... Thos. G. Pihlfeldt
Engineer of Bridges and Harbor.

Approved .... John Ericson
City Engineer.

Approved .... [illegible]
Commissioner of Public Works

CITY OF CHICAGO
DEPARTMENT OF PUBLIC WORKS
BUREAU OF ENGINEERING
DIVISION OF BRIDGES AND HARBOR

DOUBLE LEAF TRUNNION BASCULE BRIDGE
AT
WEBSTER AVENUE (28 OF 38), (5 OF 9)

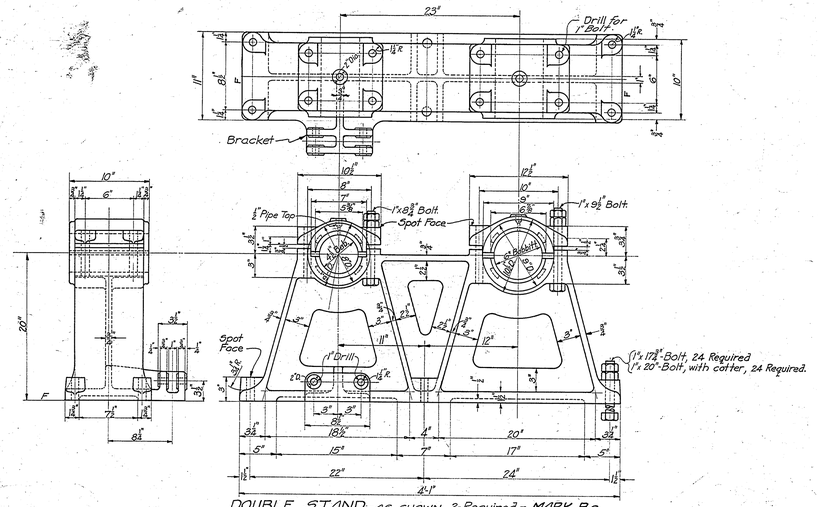
OVER
NORTH BRANCH OF THE CHICAGO RIVER
SUPERSTUCTURE AND ELECTRICAL EQUIPMENT
MACHINERY & CONDUITS
Trunnions & Shafts

Scale: 1/2"=1 ft. April, 1914.
Drawn by F.B.
Traced by C.S.
Checked by [illegible]
Drawing No. 810
FILE Nº 11-6A-30

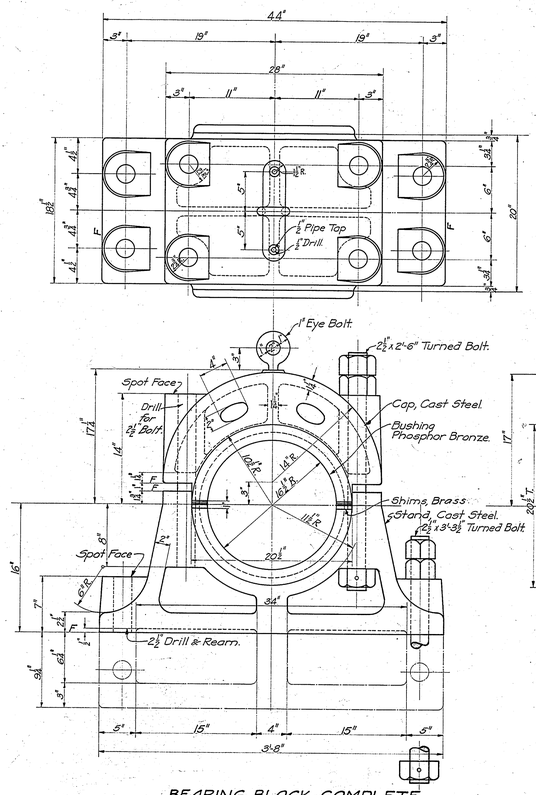
1660570031

SIZE 27"x41"

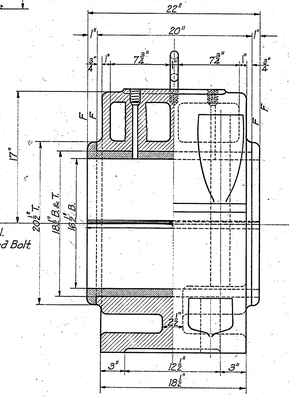
NOTE.
All Journal Blocks to be provided with 3 oz. Grease Cups unless otherwise noted.
For general requirements of material and workmanship see specifications.
The Holes for the base bolts in the journal blocks shall be drilled with allowance for reaming and after the entire machinery has been erected and carefully adjusted in the field they shall be reamed to the required size with the castings in their proper places.

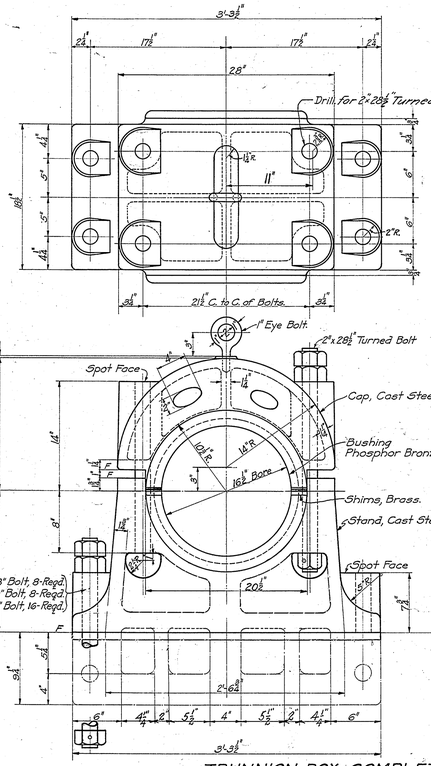


DOUBLE STAND-AS SHOWN, 2-Required.- MARK B6.
DOUBLE STAND-REVERSE, 2-Required. - MARK B7.
DOUBLE STAND-WITHOUT BRACKET, 4-Required.- MARK B8.
Material- Cast Steel.

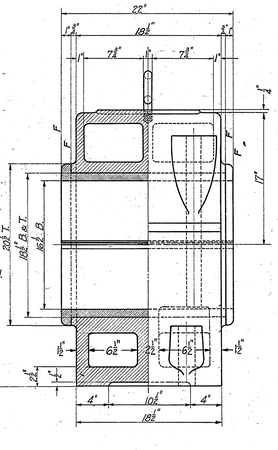


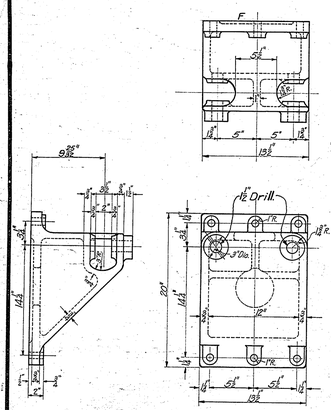
BEARING BLOCK COMPLETE
Cast Steel. 4-Required.
MARK B2.



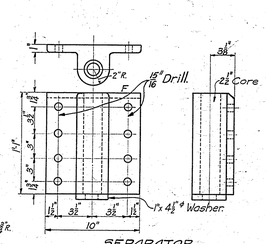


TRUNNION BOX COMPLETE.
Cast Steel 8-Required.
MARK B1.

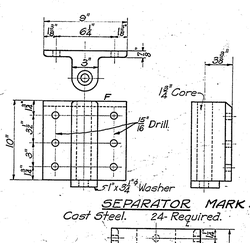




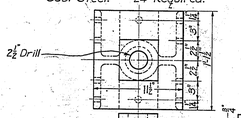
BRAKE BRACKET.
Cast Steel. 4-Required.
MARK B9.



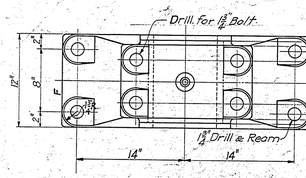
SEPARATOR.
Cast Steel. 32-Required.
MARK C5.

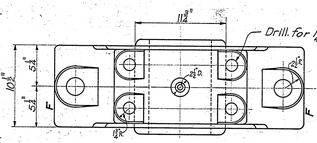


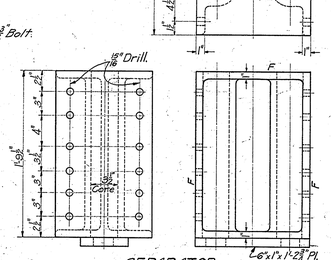
SEPARATOR MARK C6
Cast Steel. 24- Required.



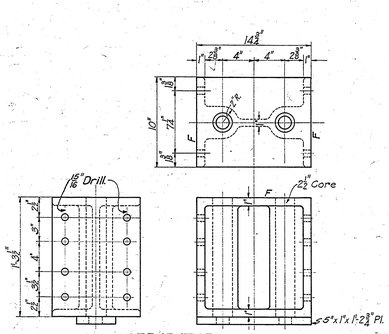
SEPARATOR C.5. 8-Req'd.
MARK C3.



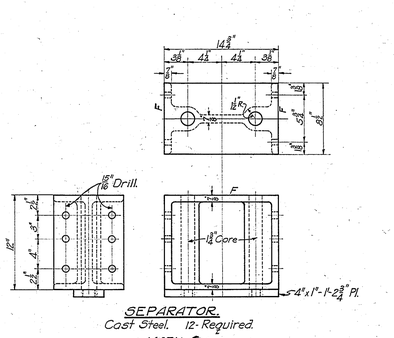




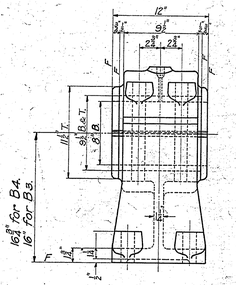
SEPARATOR.
Cast Steel. 8-Required.
MARK C1.

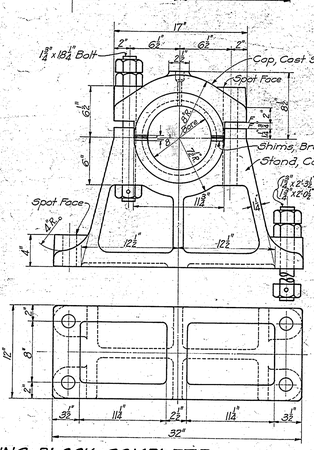


SEPARATOR.
Cast Steel. 8-Required.
MARK C2.

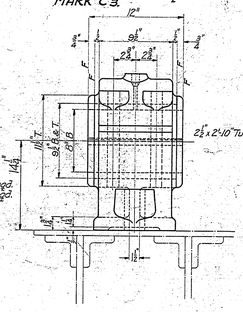


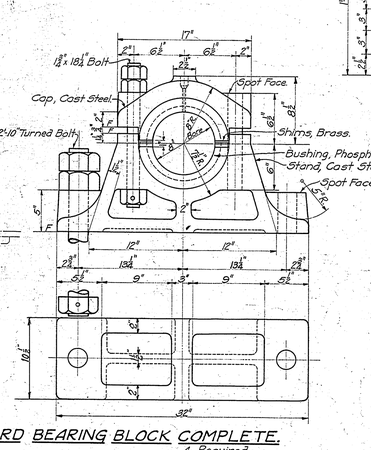
SEPARATOR.
Cast Steel. 12-Required.
MARK C4.





BEARING BLOCK COMPLETE.
Cast Steel.
4-Required, MARK B3.
8-Required, MARK B4.





OUT-BOARD BEARING BLOCK COMPLETE.
Cast Steel.
4- Required.
MARK B5.

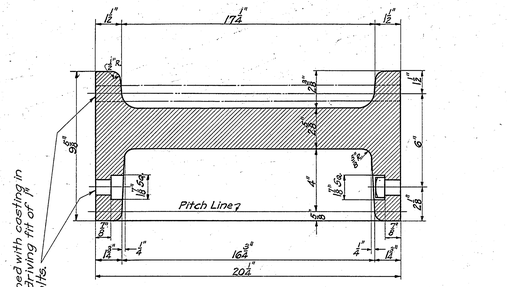
CITY OF CHICAGO
DEPARTMENT OF PUBLIC WORKS
BUREAU OF ENGINEERING
DIVISION OF BRIDGES AND HARBOR

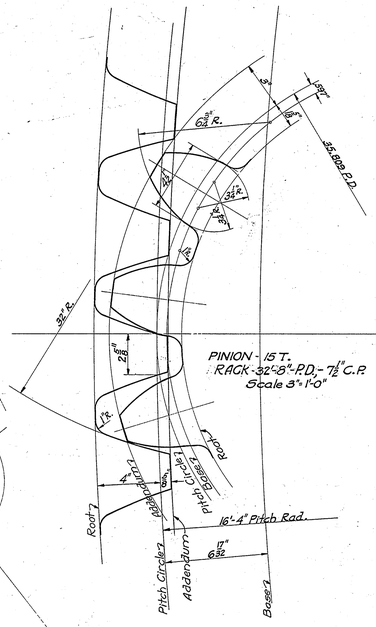
DOUBLE LEAF TRUNNION BASCULE BRIDGE
AT
WEBSTER AVENUE (24 OF 38)
BELMONT AVENUE (31 OF 41)
OVER
NORTH BRANCH OF THE CHICAGO RIVER
SUPERSTRUCTURE
MACHINERY
Bearing Blocks

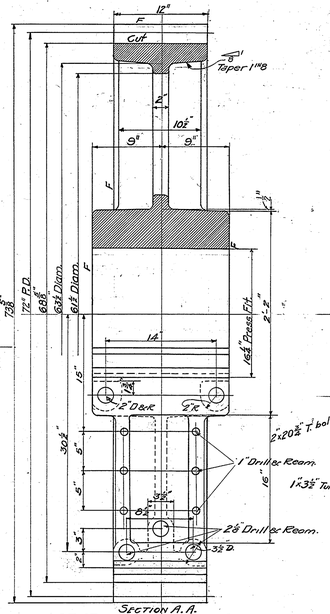
Correct... Hugh E. Young, Bridge Design Engineer.
Approved... Alexander von Babo, Engineer of Bridge Design.
Approved... Thos. G. Pihlfeldt, Engineer of Bridges and Harbor.
Approved... John Ericson, City Engineer.
Approved... [illegible], Commissioner of Public Works.

Scale: 1½ in. = 1 ft. April, 1914.
Drawn by E.B.
Traced by R.L.P.
Checked by [illegible]
Drawing No. 811
FILE No. 11-6A-311

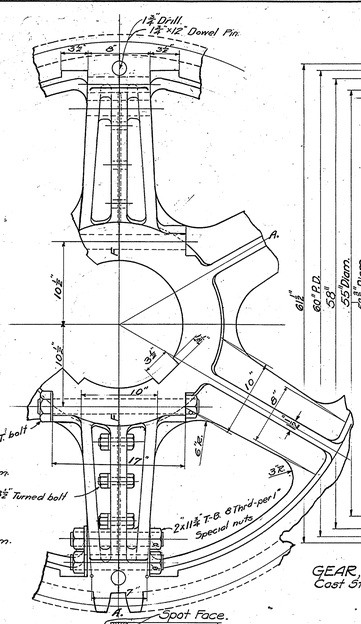
9960040159
1660570032



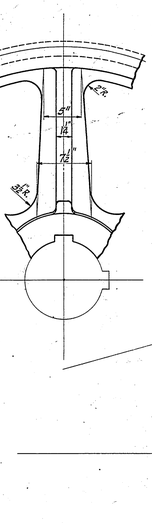


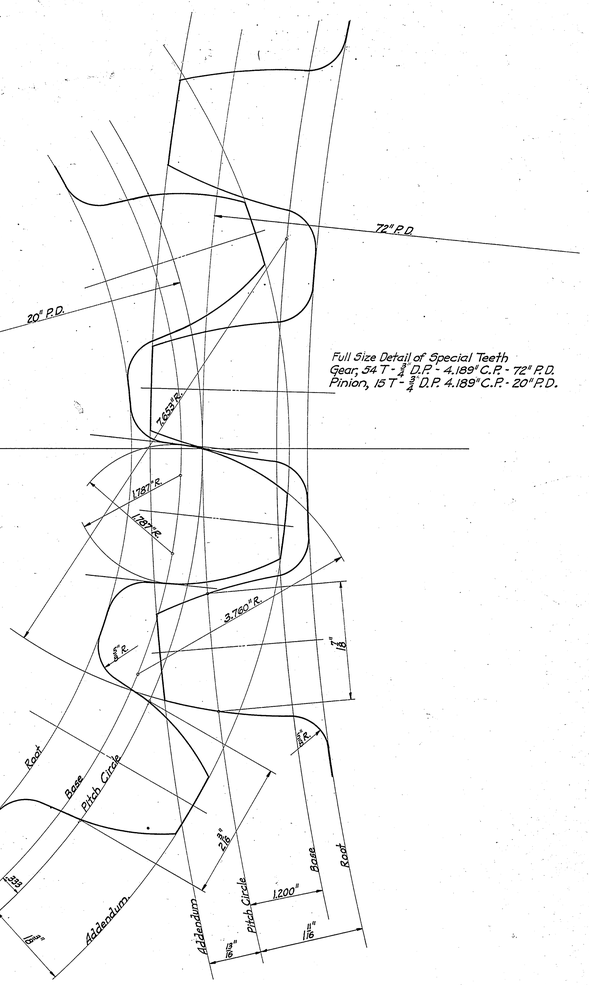


GEAR, 54-T- ¾ D.P.- 4.189" C.P.- 72" P.D. - 12" F.
Cast Steel. 4-Required.
Scale 1½"=1'-0"
MARK G 3.

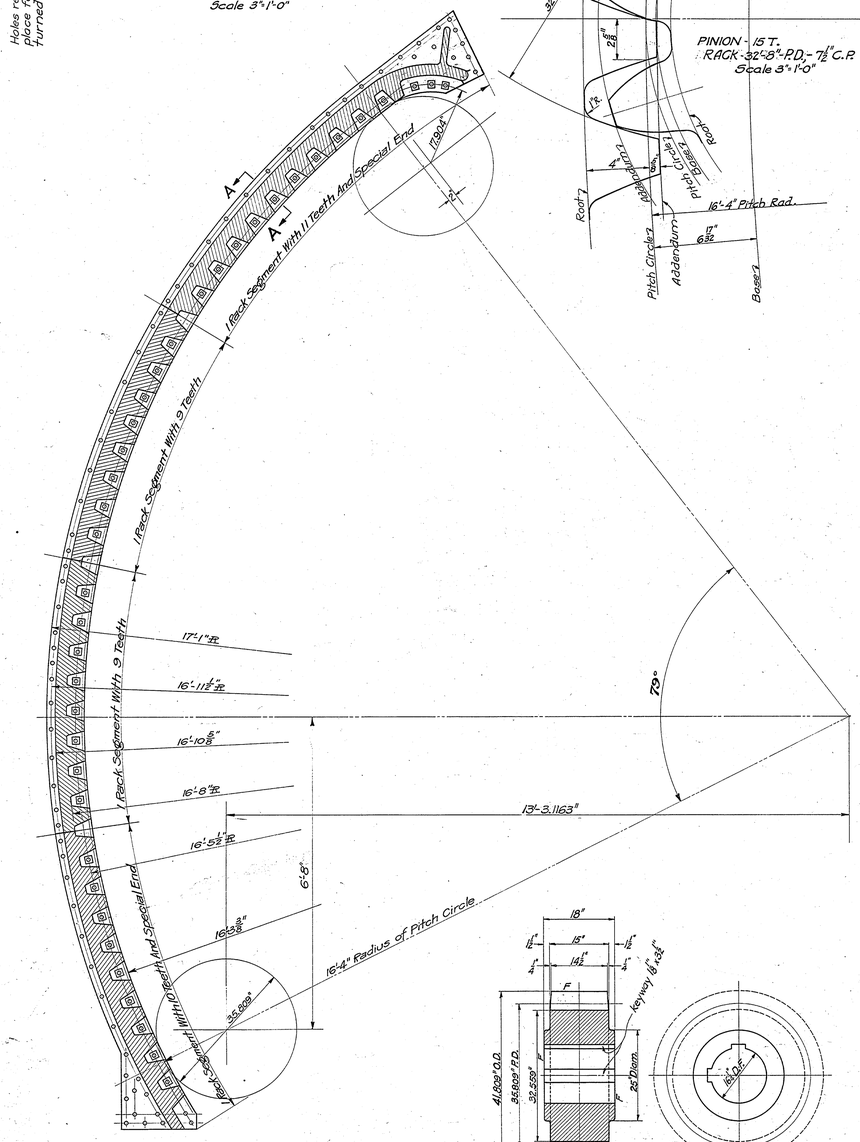


GEAR, 75 T- ¼ D.P. - 2.513" C.P. - 60" P.D. - 8" F.
Cast Steel 4-Required.
Scale 1½"=1'-0"
MARK G 5.

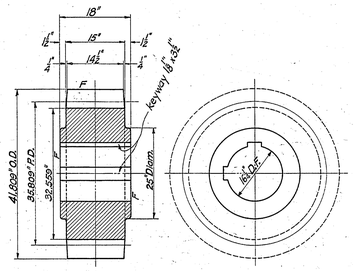




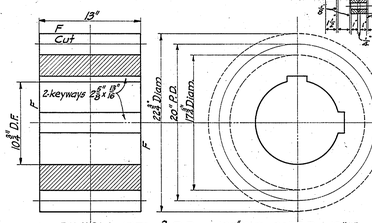
Full Size Detail of Special Teeth
Gear, 54 T- ¾ D.P. - 4.189° C.P. - 72" P.D.
Pinion, 15 T- ¾ D.P. 4.189° C.P. - 20" P.D.



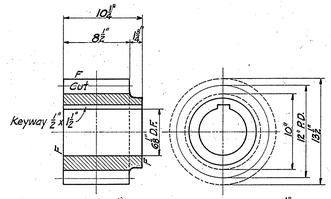
RACK 4 Sections as shown
7½" P. - 32'-8" P.D.
Cast Steel. 4-Required.
Scale ¾"=1'-0".
MARK G 1.



PINION, 15 T- 7½" P- 35.809" P.D. 15" F.
Cast Steel
Scale 1½"=1'-0" 4-Required.
MARK G 2.

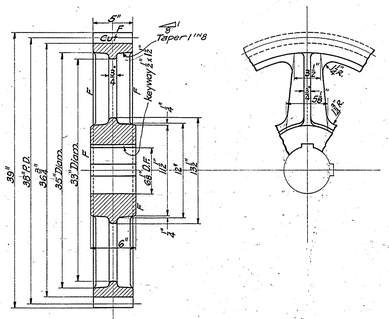


PINION, 15 T- ¾ D.P. - 4.189" C.P. - 20" P.D. - 13" F.
Cast Steel 4-Required.
Scale 1½"=1'-0"
MARK G 4.

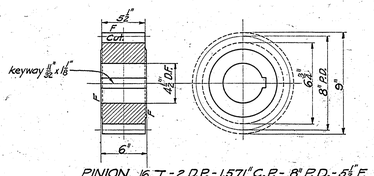


PINION, 15 T; 1¼ D.P. - 2.513" C.P. - 12" P.D. - 8½" F.
Steel Forging. 4-Required.
Scale 1½"=1'-0"
MARK G 6.

Note.
For general requirements of material and workmanship see specifications.



GEAR, 76 T- 2 D.P.- 1.571" C.P.- 38" P.D.- 5" F.
Cast Steel. 4-Required.
Scale 1½"=1'-0"
MARK G 7.



PINION, 16 T,- 2 D.P.- 1.571" C.P.- 8" P.D.- 5½" F.
Steel Forging 4-Required.
Scale 1½"=1'-0"
MARK G 8.

CITY OF CHICAGO
DEPARTMENT OF PUBLIC WORKS
BUREAU OF ENGINEERING
DIVISION OF BRIDGES AND HARBOR

DOUBLE LEAF TRUNNION BASCULE BRIDGE
AT
WEBSTER AVENUE (30) OF (35)
BELMONT AVENUE (32) OF (41)
OVER
NORTH BRANCH OF THE CHICAGO RIVER
SUPERSTRUCTURE
MACHINERY

Rack & Gears

Scale: ¾", 1½" & 12" = 1 ft. April, 1914.

Drawn by F.D.
Traced by R.J.P.
Checked by [illegible]
Drawing No. 812
FILE No 11-6A-32

Correct... Hugh E. Young ... Bridge Designing Engineer.
Approved ... Alexander von Babo ... Engineer of Bridge Design.
Approved ... Thos. J. Pulliam ... Engineer of Bridges and Harbor.
Approved ... John Ericson ... City Engineer.
Approved ... [illegible] ... Commissioner of Public Works

9960040160 1660570033

SIZE 27"x41"

Lever. Cast Steel. 1 Required.
Teeth 2¼ D.P.
Mark L11.

-Double Bracket-
Cast Steel. 1-Required.
Mark B13.

-Bracket-
Cast Steel. 3-Required.
Mark B16

Lever. Cast Steel. 1 Required Mark L12
For add. dimensions see. L11.

-Lever-
Cast Steel. 2 Required.
Mark L13.

Socket. Cast Steel. 2 Required Mark C.

Beveled Gear Forged Steel
17 T, 2½ D.P, 6.8 P.D.
1-Required with B = 2¾" Mk. G17
1- " " " B = 1¼" Mk. G18

Gear-120 T, 5 D.P, 24 P.D.
Cast Steel. 1 Required.
Mark G15

Gear-120 T, 4 D.P, 30 P.D.
Cast Steel. 1 Required
Mark G13

Gear-90 T, 2½ D.P, 36 P.D, 2 Required.
Cast Steel. Mark G11

Pinion 20 T, 4 P.D 1 Required, 5 D.P.
Forged Steel Mark G16

Pinion. 18 T, 4½ P.D, 1 Required, 4 D.P.
Forged Steel Mark G14

Pinion 15 T, 2½ D.P, 6 P.D, 2 Required.
Forged Steel. Mark G12

-Crank.-
Cast Steel. 1-Required.
Mark H.

Double Bearing Cast Steel. 1 Required Mark B15

Lever- 3 Required. Mark L9
Cast Steel.

-Lever-
Cast Steel 1-Reqd.
Mark L8.

-Bracket-
Cast Steel. 4 Required.
Mark B14.

2¼" Bearing Cast Steel 6 Required Mark B18.
2" - - - 2 - - - 6 Req'd.

Wedge Forged Steel.
4 Required Mark D.

-Bracket-
Cast Steel. 1-Required.
Mark B17.

-Lever-
Cast Steel. 1-Required.
Mark L14.

Crank Shaft Cast Steel 1 Required Mk. S6

Indicator 1 Required.

Rope Clip.
Malleable Iron. 8 Required

Connecting Rod 2 Required
Mark F.

Bolt Guides Cast Steel 2 Required
Mark A.

Socket Holder Cast Steel 2 Required
Mark B.

3 Bearings-C.S. 1 Required Mark. B.20.

-Swivel Joint:-
Material as noted. 1-Required.
Mark K.
Scale: Full Size.

Bolt Cast Steel 2 Required
Mark E.

Electric Motor and
Brake to be furnished
by the Contractor for the
Electrical Equipment

Notes:-
All gears to have Brown & Sharpe standard involute cut teeth.
Clearances for lock castings are figured for a normal temperature of 60°F and should be varied according to temperature at which castings are adjusted.
For general requirements of material and workmanship see specifications.
All material shown on this sheet to be furnished by the Contractor for the Superstructure except as otherwise noted.

CITY OF CHICAGO
DEPARTMENT OF PUBLIC WORKS
BUREAU OF ENGINEERING
DIVISION OF BRIDGES AND HARBOR

DOUBLE LEAF TRUNNION BASCULE BRIDGE
AT
WEBSTER AVENUE (6 or 9), (31 or 38)
BELMONT AVENUE (6 or 9), (33 or 41)
OVER
NORTH BRANCH OF THE CHICAGO RIVER
SUPERSTRUCTURE & ELECTRICAL EQUIPMENT
MACHINERY
Center Lock Machinery & Motors

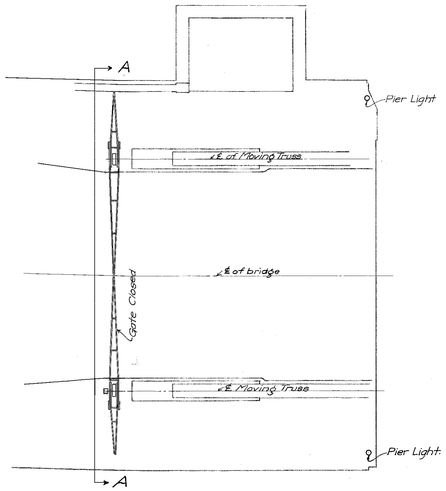
Scale: = 1 ft. April, 1914.
Drawn by F.B.
Traced by P.D.M.
Checked by C.G.J.
Drawing No. 813
FILE No 11-6A-33

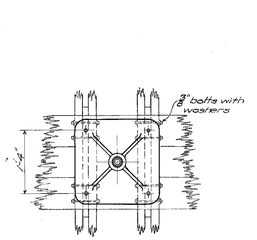
Correct.... Hugh E. Young, Bridge Designing Engineer.
Approved ... Engineer of Bridge Design
Approved ... Engineer of Bridges and Harbor.
Approved ... City Engineer.
Approved ... Commissioner of Public Works

(31)

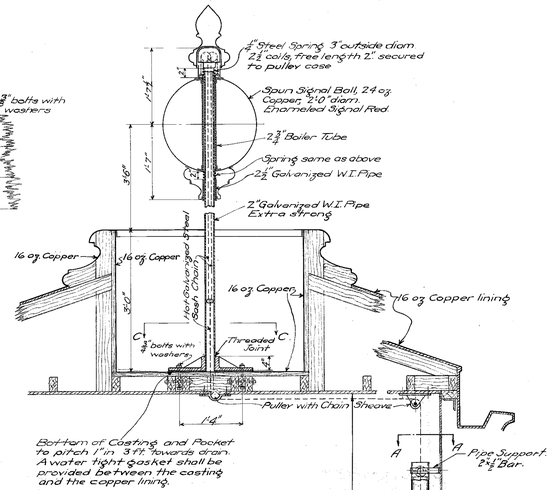
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27X41

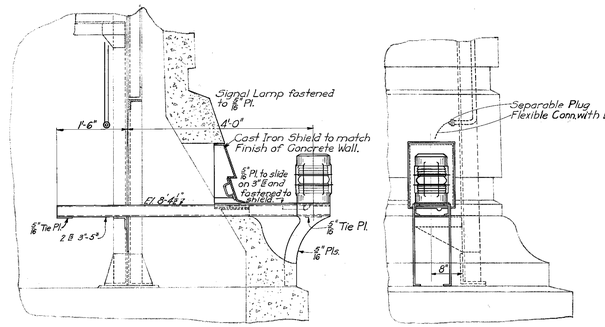


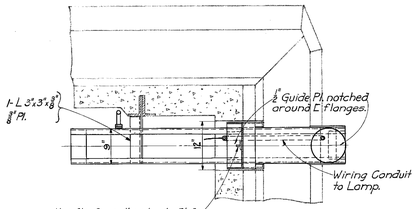


SECTION-C-C.



Note:- Location and method of operation of Signal Ball may be entirely changed.



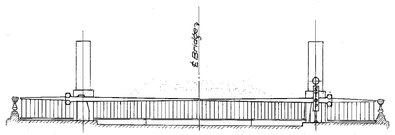


Handle for pulling back Slide. Provide Stop to limit outward movement of Slide, also Lock to secure Slide in normal operating position.

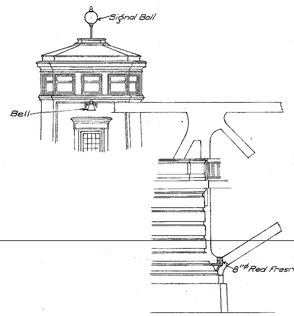
DETAIL OF PIER LAMPS.

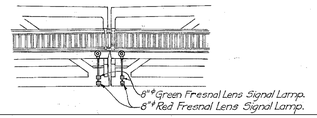
Scale ¾"=1'-0"

NOTE:- Position of Pier Lamp may be changed.



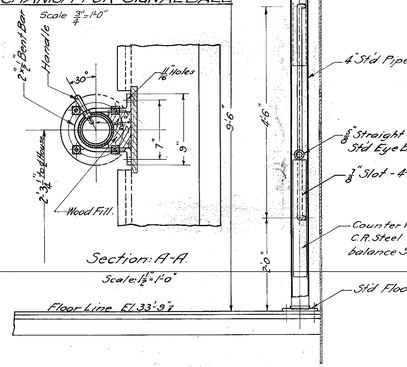
SECTION A-A

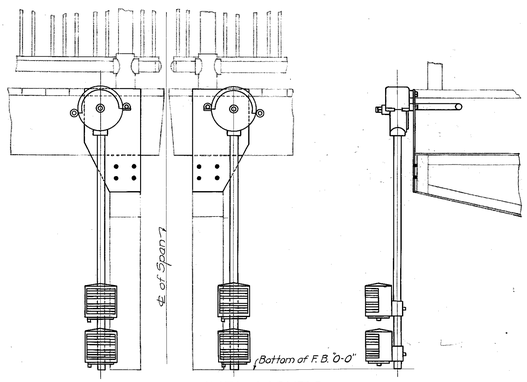




OPERATING MECHANISM FOR SIGNAL BALL.

Scale ¾"=1'-0"

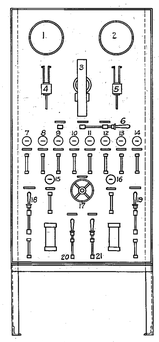




-CHANNEL LIGHTS.-

See City of Chicago Drawings Nº 595 & Nº 629.

Scale ¾"=1'-0"



-SWITCH-BOARD.-

Scale ¾"=1'-0"

1- Voltmeter.
2- Ammeter.
3- Circuit Breaker.
4- Overload Relay for North Motor.
5- " " " South Motor.
6- Double-throw Main Switch.
7- Light Switch Operators Room.
8- " " Stairways, etc.
9- " " Furnace Room, etc.
10- " " Main Operating Machinery North 1.
11- " " " " " " North 2.
12- " " " " " " South 1.
13- " " " " " " South 2.
14- " " Passage Under Approach.
15- Pier Light Switch.
16- Channel Light Switch.
17- Pump Motor Rheostat.
18- " " Switch.
19- Center Lock Motor Switch.
20- Main Operating Motor Switch North.
21- " " " " South.

NOTES:-
All signal lights, switchboards, wiring and all other material called for by the specifications for the electrical equipment shall be furnished and installed by the contractor for the electrical equipment.
All other material and construction shown is included in the contract for the superstructure.
For general requirements of material and workmanship see specifications

Correct.... Hugh L. Young
Bridge Designing Engineer.

Approved .... Alexander von Babo
Engineer of Bridge Design.

Approved .... Thos. G. Pulford
Engineer of Bridges and Harbor.

Approved .... John Ericson
City Engineer.

Approved .... [illegible]
Commissioner of Public Works

CITY OF CHICAGO
DEPARTMENT OF PUBLIC WORKS
BUREAU OF ENGINEERING
DIVISION OF BRIDGES AND HARBOR

DOUBLE LEAF TRUNNION BASCULE BRIDGE
AT
WEBSTER AVENUE
OVER
NORTH BRANCH OF THE CHICAGO RIVER
SUPERSTRUCTURE & ELECTRICAL EQUIPMENT.
Signals, Gates & Switch Boards

Scale: 3"=1 ft. April, 1914.

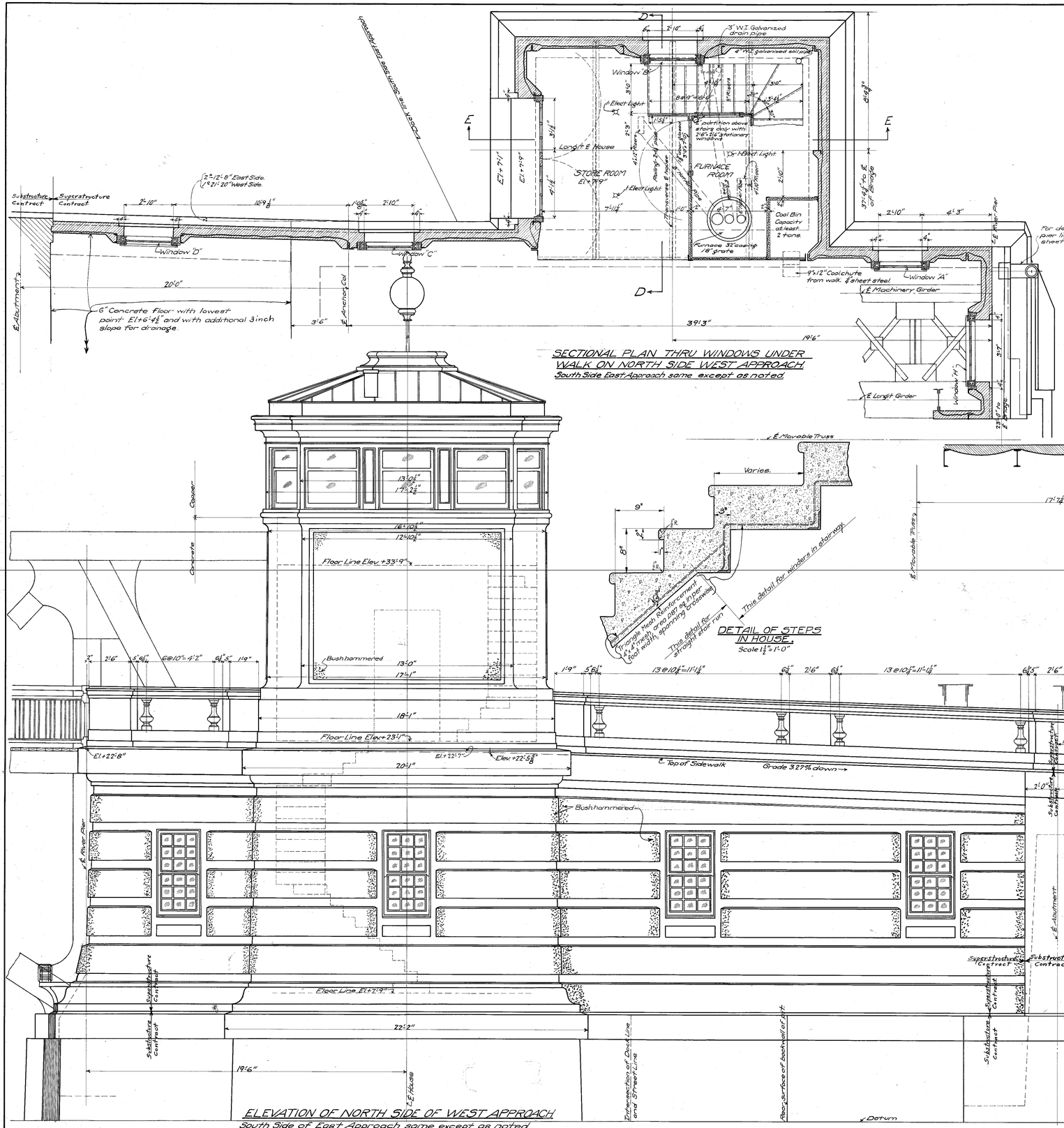
Drawn by W.E.M.
Traced by W.E.M.
Checked by F.B.

Drawing No. 814
FILE Nº 11-6A-34

(7) OF (9)
(32) OF (38)

1660570035

SIZE 22"x36"



NOTES:

All exterior walls, balustrades, etc., to be reinforced with expanded metal, 3" mesh with a cross sectional area of at least .025 sq. in. per ft. of width, securely fastened to the structural frame, or with a wire cloth of equivalent cross sectional area.

Exterior surfaces to be bush hammered where indicated, and remainder of all exterior surfaces to be rubbed.

For other details see sheets (34) & (35) of (38).

For structural details see sheets (20), (22) & (23) of (38).

For large sized details of ornamental features see sheets (36), (37) & (38) of (38).

Plumbing and electrical work not included in superstructure contract.

All electric lights in operators' houses, pier lights and wiring to be furnished by Contractor for Electrical Equipment.

Correct... Dwight E. Young, Bridge Designing Engineer.

Approved... Anamantra von Tobel, Engineer of Bridge Design.

Approved... Thos. J. Pihlgaard, Engineer of Bridges and Harbor.

Approved... John Ericson, City Engineer.

Approved... [illegible], Commissioner of Public Works

CITY OF CHICAGO
DEPARTMENT OF PUBLIC WORKS
BUREAU OF ENGINEERING
DIVISION OF BRIDGES AND HARBOR

DOUBLE LEAF TRUNNION BASCULE BRIDGE AT WEBSTER AVENUE OVER NORTH BRANCH OF THE CHICAGO RIVER

SUPERSTRUCTURE & ELECTRICAL EQUIPMENT
FIXED PART
Operators Houses & Enclosure Walls.

Scale: 3/8 in. + 1 1/2 in. = 1 ft. April, 1914.

Drawn by D.N.B.
Traced by [illegible]
Checked by E.E.V.

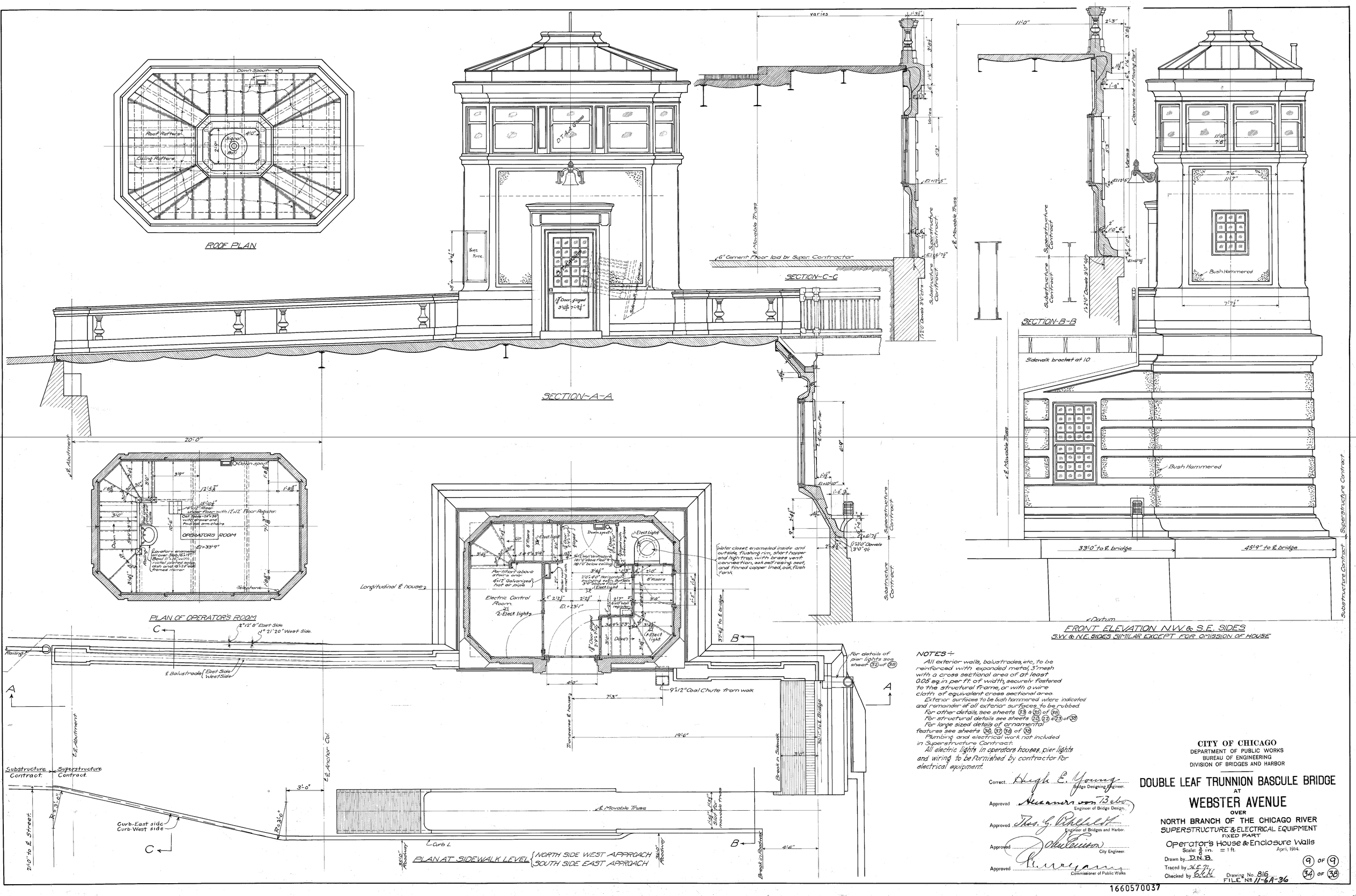
Drawing No. 815
FILE No. 11-6A-35

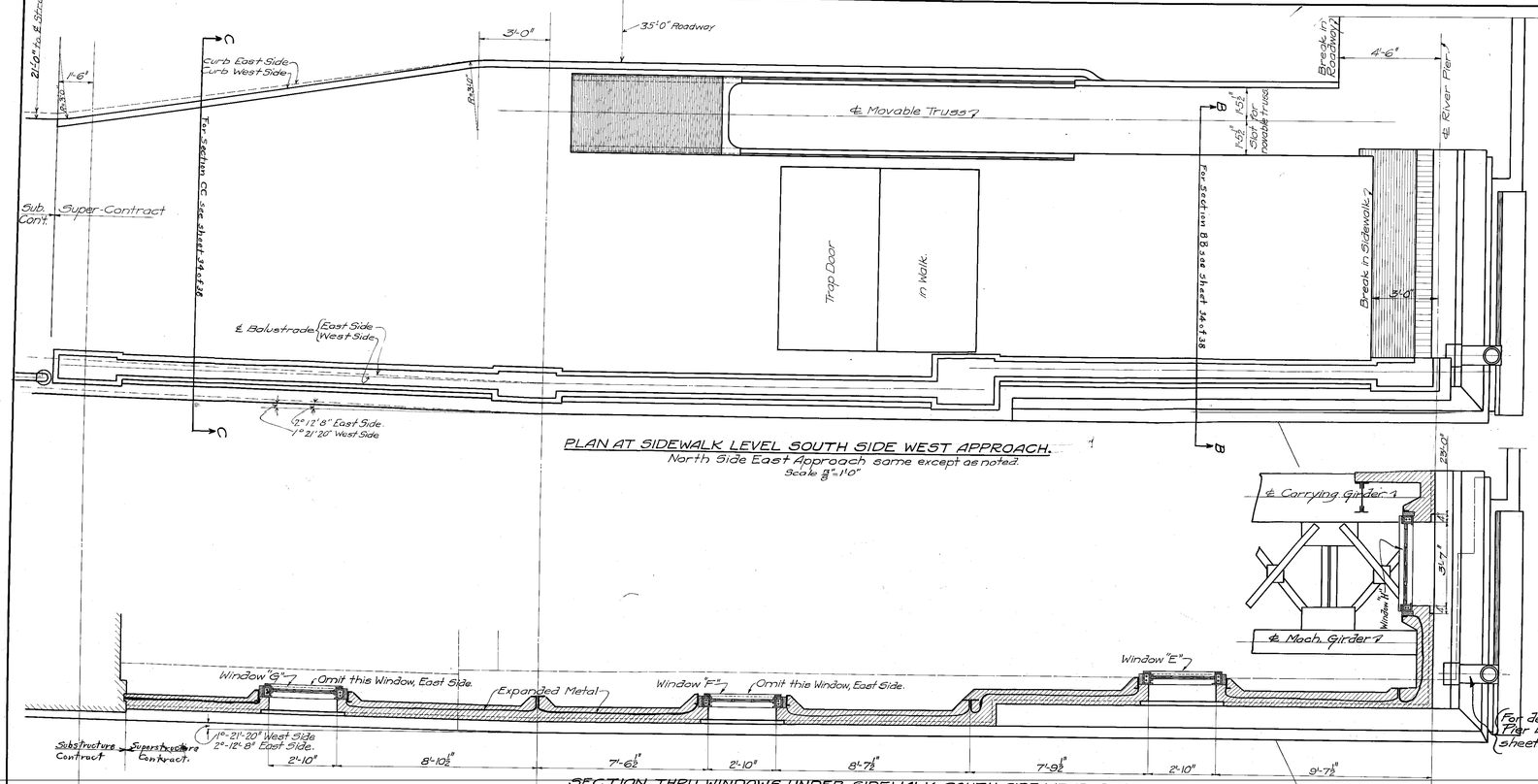
(8) OF (9)
(33) OF (38)

1660570036

SIZE 27"x41"

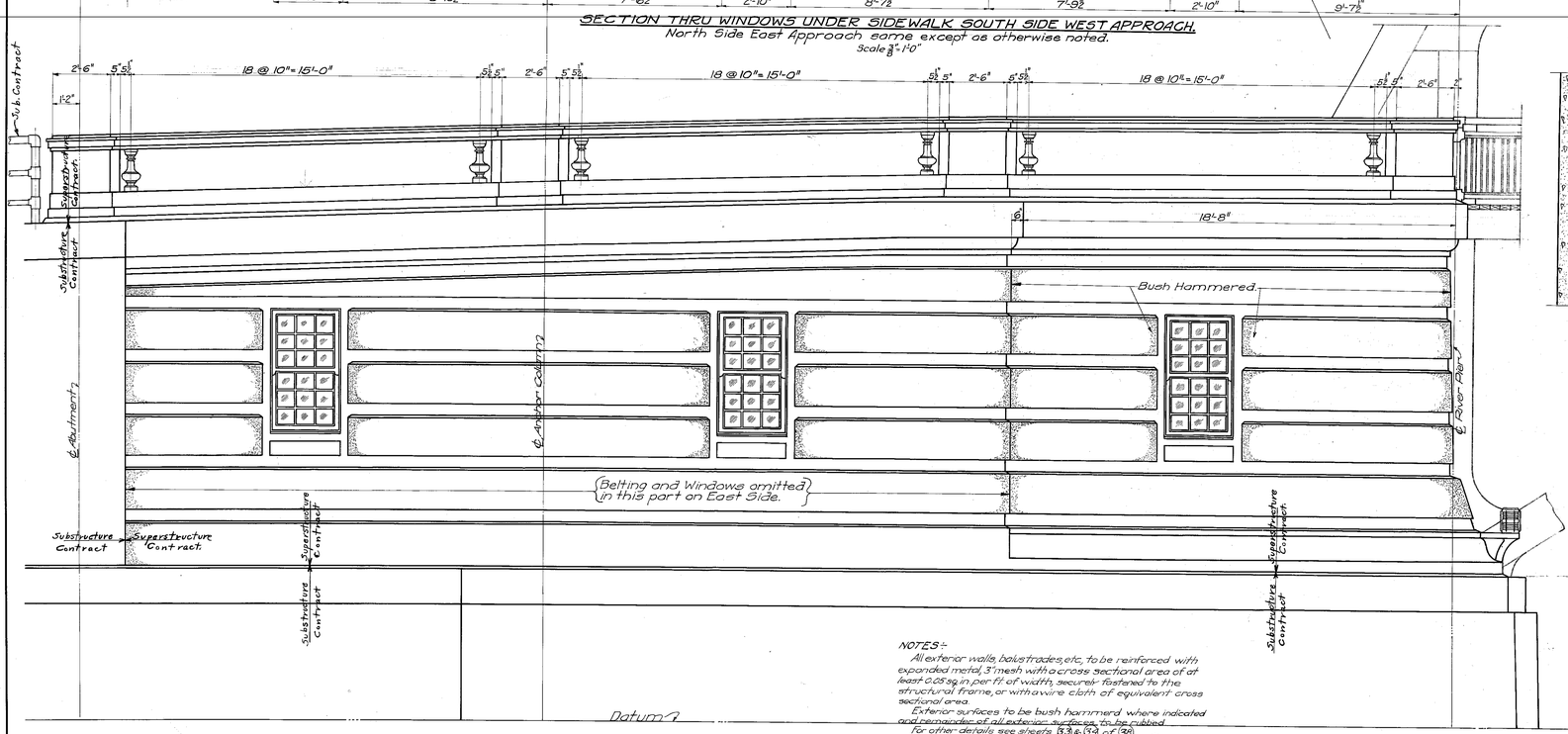
ROOF PLAN


varies
1'-3½"
3'-9½"
6"
1'-6"
varies
5'-3"
El 112'-5"
El 106'-7½"
Superstructure Contract
Substructure Contract
12'-0" Dowels 3'-0" c/c
E. Movable Truss
6" Cement Floor laid by Super. Contractor
Name Plate
1'-6"
4'-4½"
5'-0"
1'-6"
1'-0"
1'-6"
1'-0"
1'-6"
1



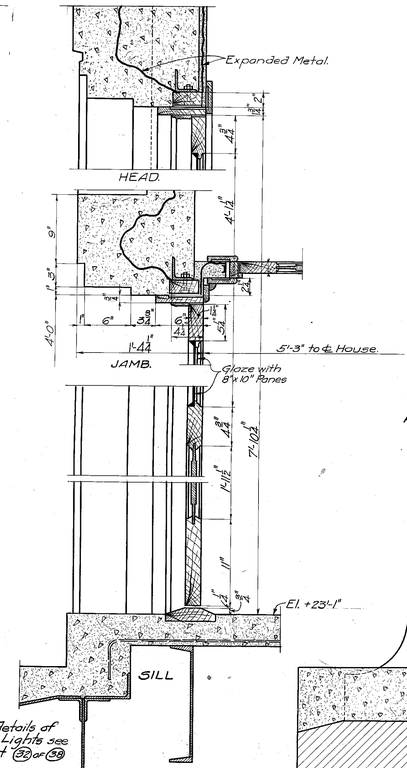
PLAN AT SIDEWALK LEVEL SOUTH SIDE WEST APPROACH.
North Side East Approach same except as noted.
Scale 3/8"=1'0"

SECTION THRU WINDOWS UNDER SIDEWALK SOUTH SIDE WEST APPROACH.
North Side East Approach same except as otherwise noted.
Scale 3/8"=1'0"

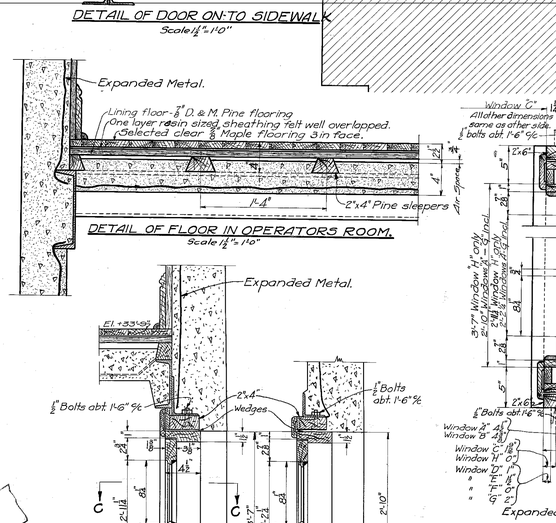


ELEVATION OF SOUTH SIDE OF WEST APPROACH.
North Side of East Approach same except as noted.
Scale 3/8"=1'0"

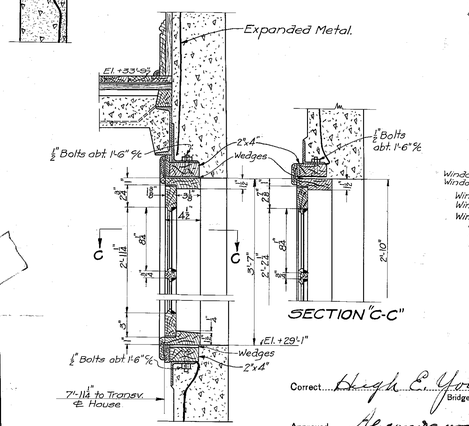
NOTES:-
All exterior walls, balustrades, etc, to be reinforced with expanded metal, 3" mesh with a cross sectional area of at least 0.05 sq. in. per ft. of width, securely fastened to the structural frame, or with a wire cloth of equivalent cross sectional area.
Exterior surfaces to be bush hammerd where indicated and remainder of all exterior surfaces to be rubbed.
For other details see sheets (33) & (34) of (38).
For structural details see sheets (27) (32) & (39) of (38).
For large sized details of ornamental features see sheets (36) (37) & (38) of (38).
Plumbing and electrical work not included in Superstructure Contract.



DETAIL OF DOOR ON TO SIDEWALK
Scale 1½"=1'0"

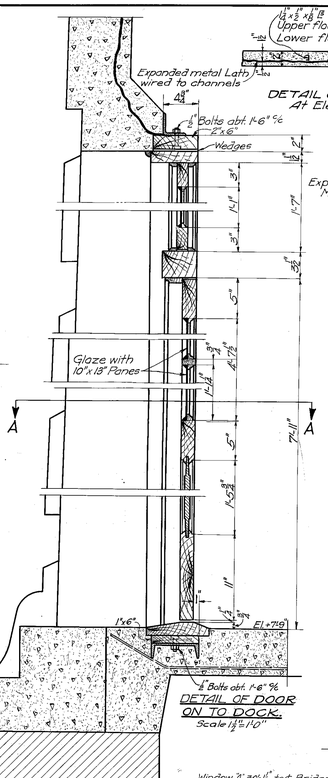


DETAIL OF FLOOR IN OPERATORS ROOM.
Scale 1½"=1'0"

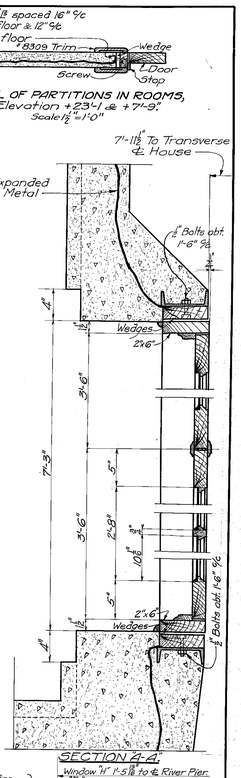


SECTION "C-C"

DETAIL OF WINDOW IN RIVER FRONT OF HOUSE.
Scale 1½"=1'0"

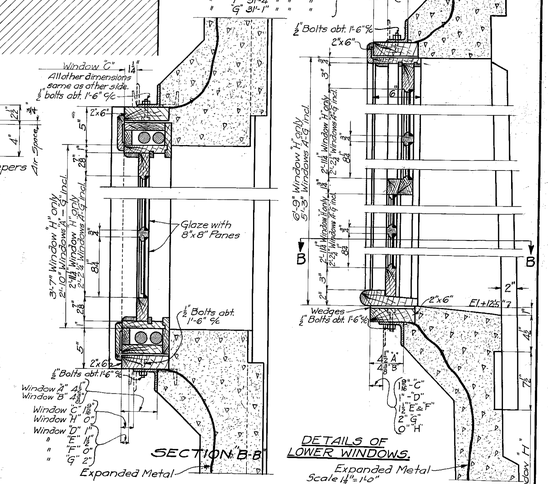


DETAIL OF DOOR ON TO DOCK.
Scale 1½"=1'0"



DETAIL OF PARTITIONS IN ROOMS, At Elevation +23'-1 & +7'-9".
Scale 1½"=1'0"

SECTION A-A.



DETAILS OF LOWER WINDOWS.
Scale 1½"=1'0"

Cont. for Window "H"

CITY OF CHICAGO
DEPARTMENT OF PUBLIC WORKS
BUREAU OF ENGINEERING
DIVISION OF BRIDGES AND HARBOR

Correct.... Hugh E. Young
Bridge Designing Engineer.

Approved.... Alexander von Baeyer
Engineer of Bridge Design

Approved.... Thos. G. Pihlfeldt
Engineer of Bridges and Harbor.

Approved.... John Ericson
City Engineer.

Approved.... [signature]
Commissioner of Public Works

DOUBLE LEAF TRUNNION BASCULE BRIDGE AT WEBSTER AVENUE OVER NORTH BRANCH OF THE CHICAGO RIVER

SUPERSTRUCTURE
FIXED PART

Operator's House & Enclosure Walls

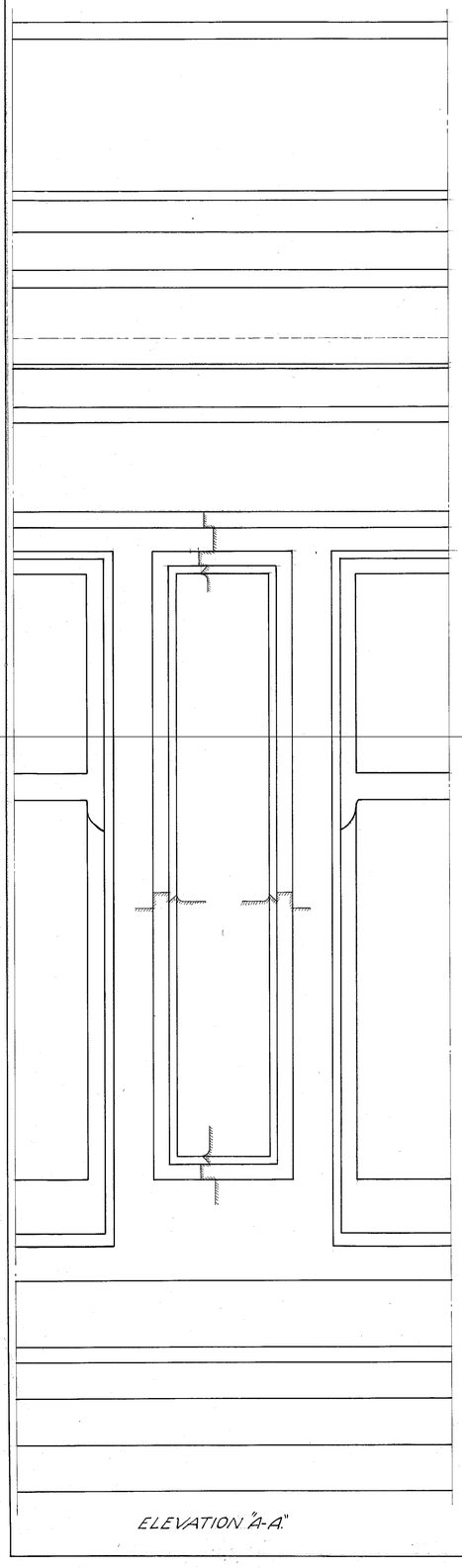
Scale: 3/8 in. = 1 ft. April, 1914.

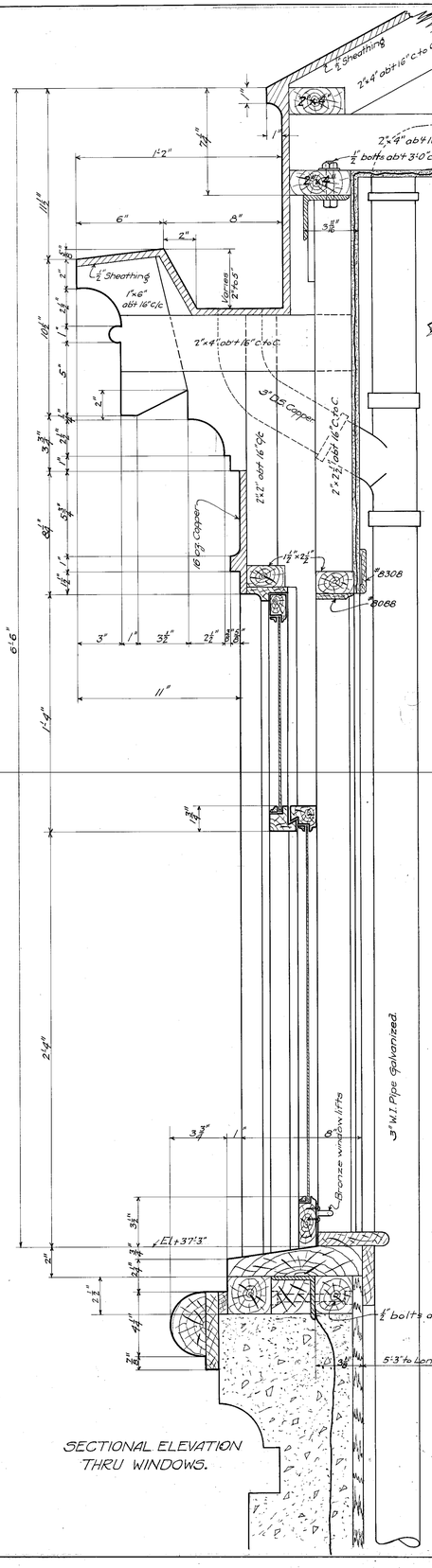
Drawn by D.N.B.
Traced by E.E.K.
Checked by [illegible]

Drawing No. 817
FILE No. 11-6A-37

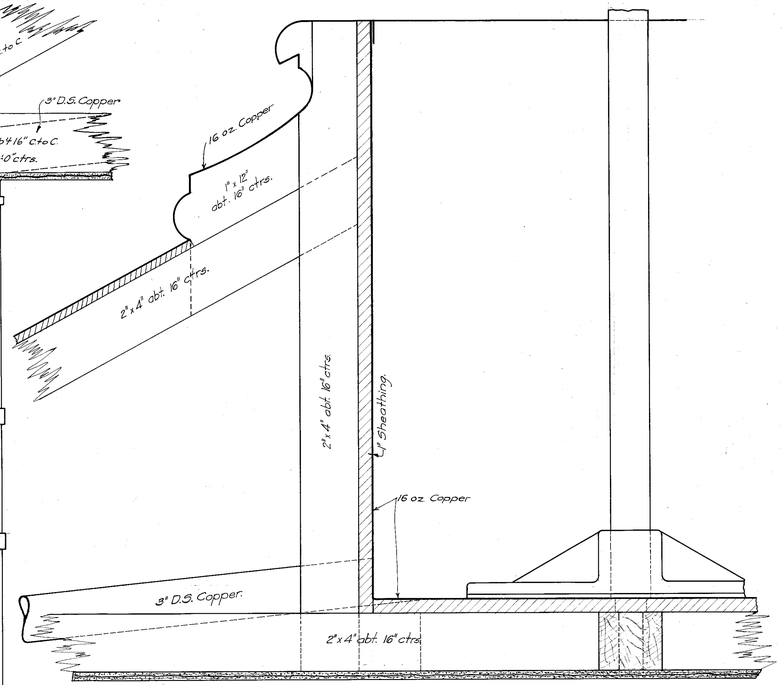
35 OF 38

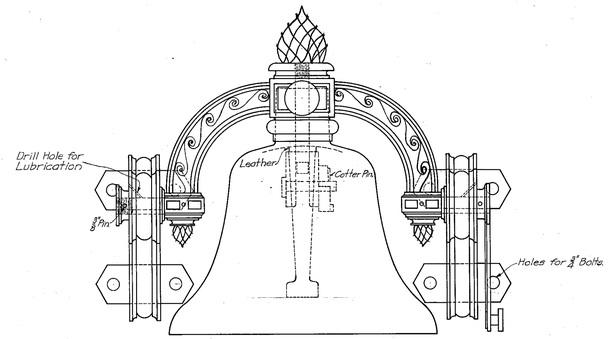
1660570038



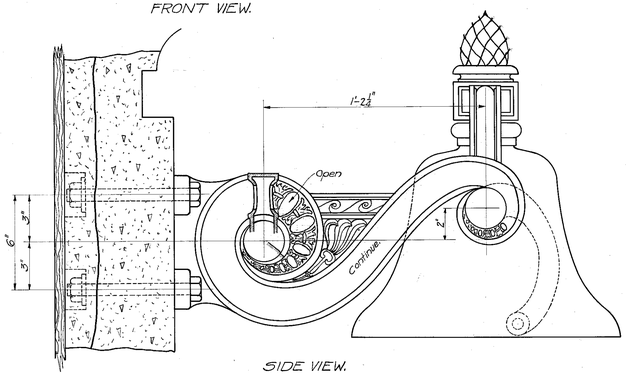


SECTIONAL ELEVATION THRU WINDOWS.





FRONT VIEW.

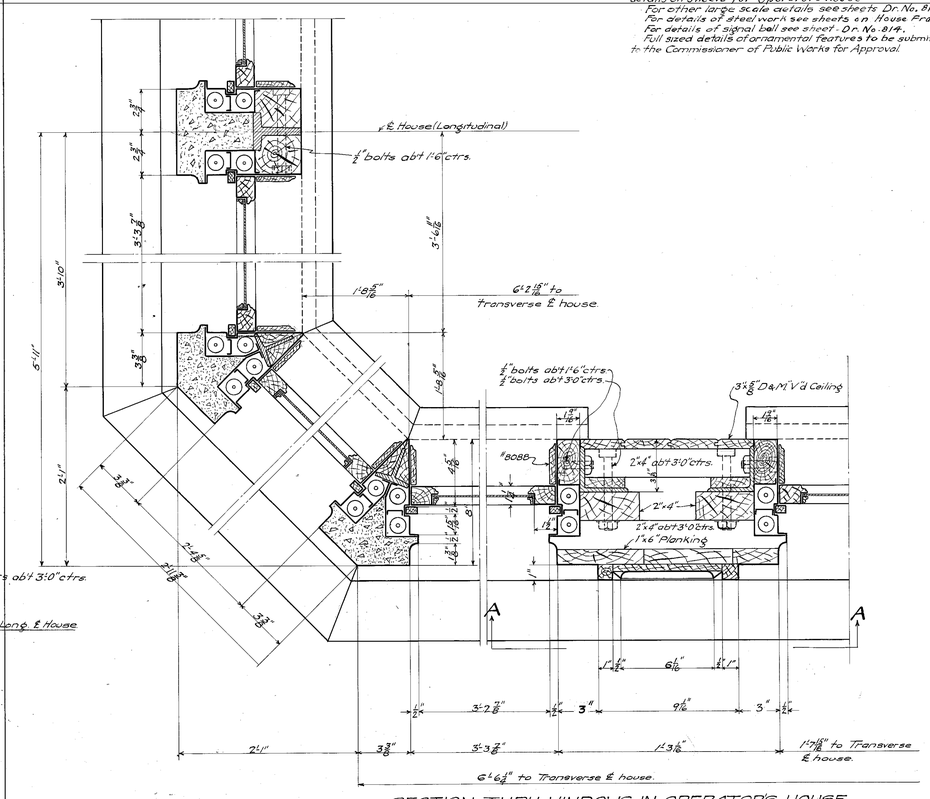


SIDE VIEW.

BELL & BRACKET.

Where bell cord passes through wall of house, pulleys shall be provided to prevent fraying of the rope.

NOTES:-
These details are supplementary to small scale details on sheets for Operator's House.
For other large scale details see sheets Dr. No. 819-820
For details of steel work see sheets on House Framing
For details of signal bell see sheet - Dr. No. 814.
Full sized details of ornamental features to be submitted to the Commissioner of Public Works for Approval.



SECTION THRU WINDOWS IN OPERATOR'S HOUSE.

CITY OF CHICAGO
DEPARTMENT OF PUBLIC WORKS
BUREAU OF ENGINEERING
DIVISION OF BRIDGES AND HARBOR

DOUBLE LEAF TRUNNION BASCULE BRIDGE AT WEBSTER AVENUE (36) OF (38)

OVER
NORTH BRANCH OF THE CHICAGO RIVER
SUPERSTRUCTURE
FIXED PART

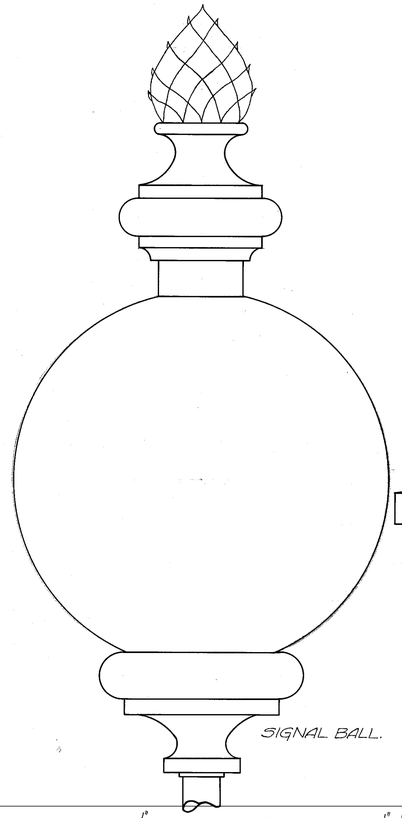
House & Signal Bell Details
Scale: 3 in. = 1 ft. April, 1914.

Drawn by H.E.M.
Traced by H.E.M.
Checked by D.N.B.
Drawing No. 818
FILE No. 11-6A-38

Correct.... Hugh L. Young, Bridge Designing Engineer.
Approved .... Hermann von Babo, Engineer of Bridge Design.
Approved .... Thos. G. Pihlfeldt, Engineer of Bridges and Harbor.
Approved .... John Ericson, City Engineer.
Approved .... Commissioner of Public Works

1660570039

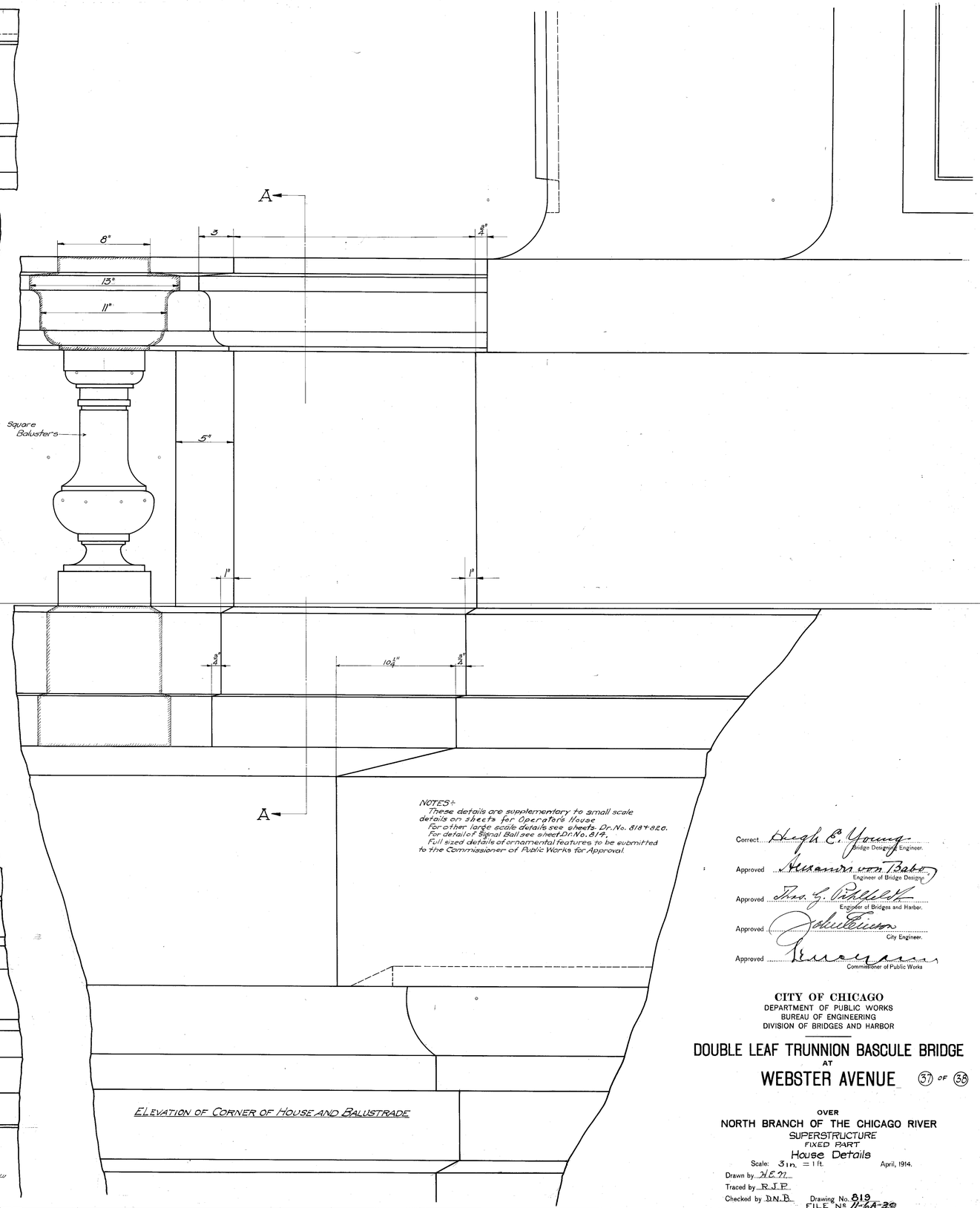
SIZE 27"x21"



SIGNAL BALL.



ELEVATION OF CORNER OF HOUSE SHOWING ROOF AND WINDOWS IN OPERATOR'S ROOM



ELEVATION OF CORNER OF HOUSE AND BALUSTRADE

NOTES:-
These details are supplementery to small scale details on sheets for Operator's House
For other large scale details see sheets. Dr. No. 818+820.
For detail of Signal Ball see sheet Dr. No. 819.
Full sized details of ornamental features to be submitted to the Commissioner of Public Works for Approval.

Correct... Hugh E. Young
Bridge Designing Engineer.

Approved... Hermann von Babo
Engineer of Bridge Designs

Approved... Thos. E. Pihlfeldt
Engineer of Bridges and Harbor.

Approved... John Ericson
City Engineer.

Approved... [illegible]
Commissioner of Public Works

CITY OF CHICAGO
DEPARTMENT OF PUBLIC WORKS
BUREAU OF ENGINEERING
DIVISION OF BRIDGES AND HARBOR

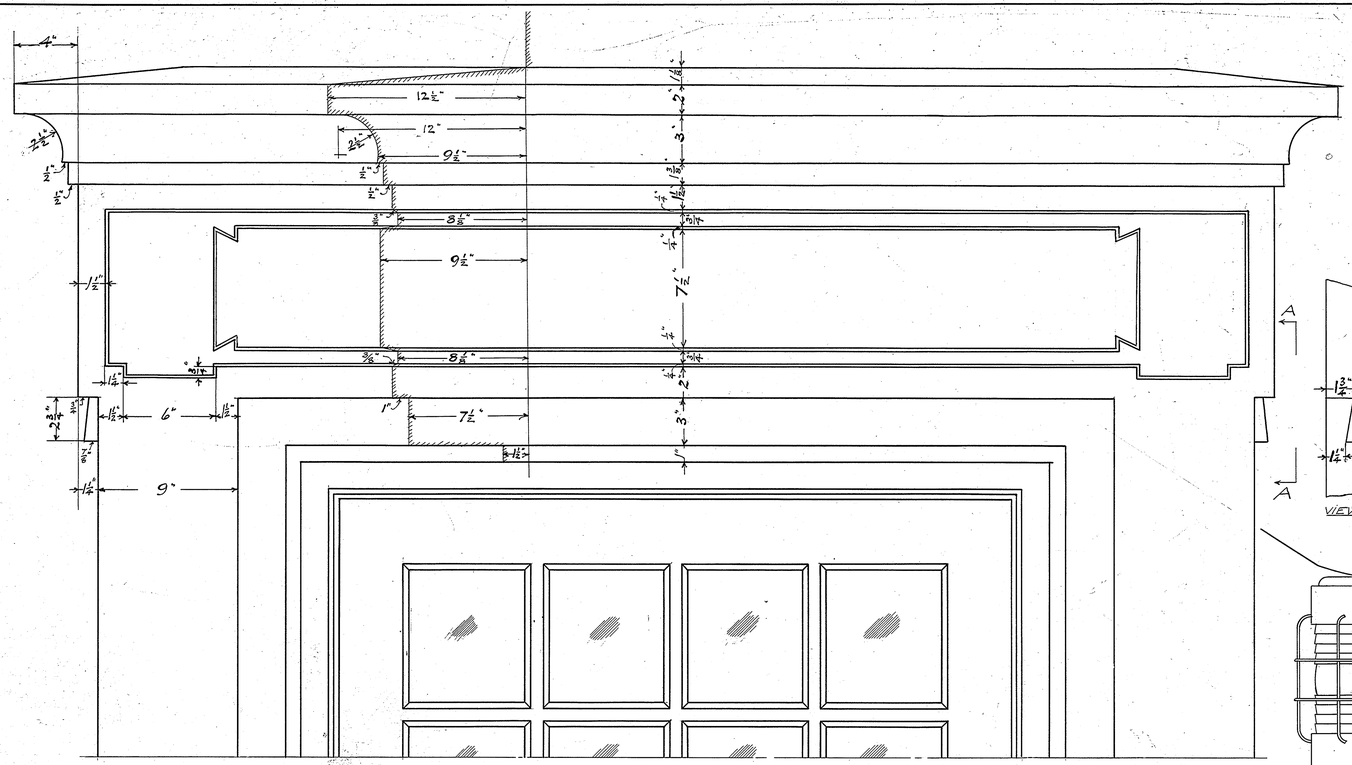
DOUBLE LEAF TRUNNION BASCULE BRIDGE AT WEBSTER AVENUE (37) OF (38)

OVER
NORTH BRANCH OF THE CHICAGO RIVER
SUPERSTRUCTURE
FIXED PART
House Details

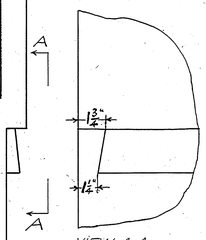
Scale: 3 in. = 1 ft. April, 1914.
Drawn by H.E.M.
Traced by R.J.P.
Checked by D.N.B.
Drawing No. 819
FILE No 11-64-39

1660570040

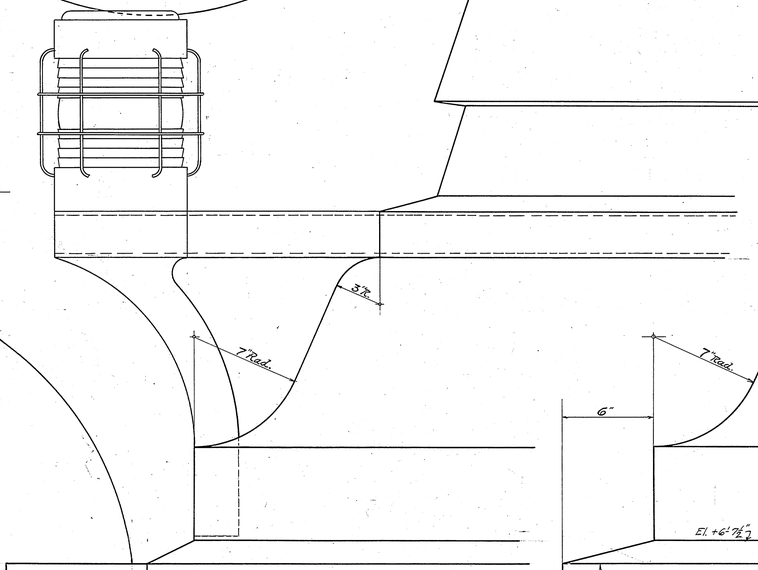
SIZE 27"x41"



ELEVATION SHOWING UPPER PART OF DOOR UNTO SIDEWALK

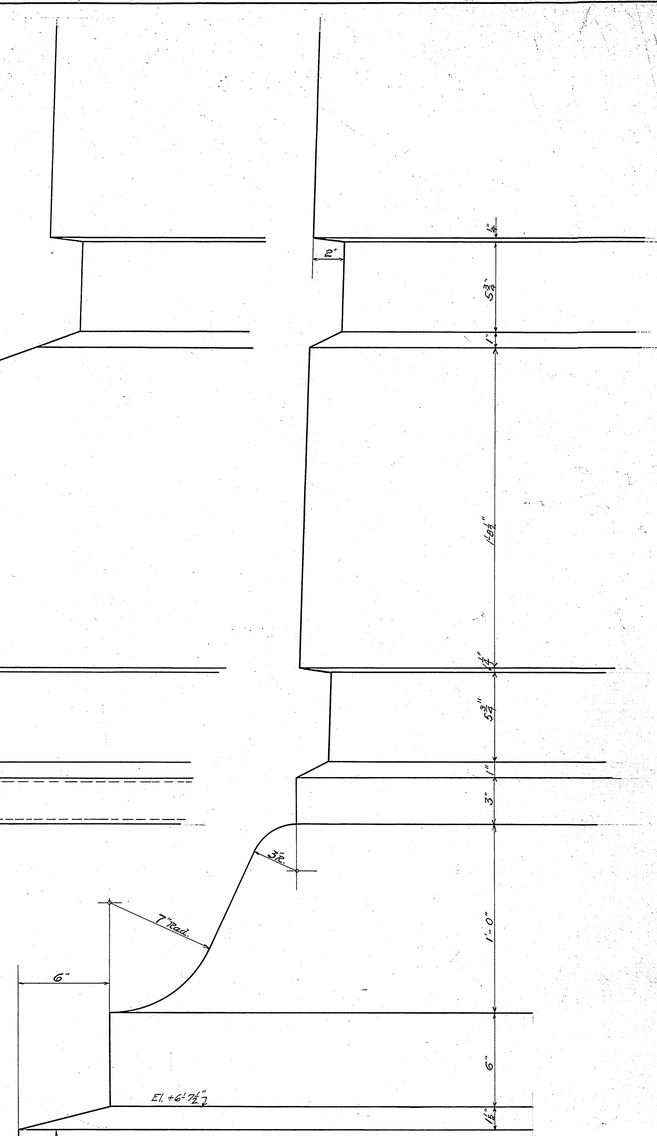


VIEW-A-A

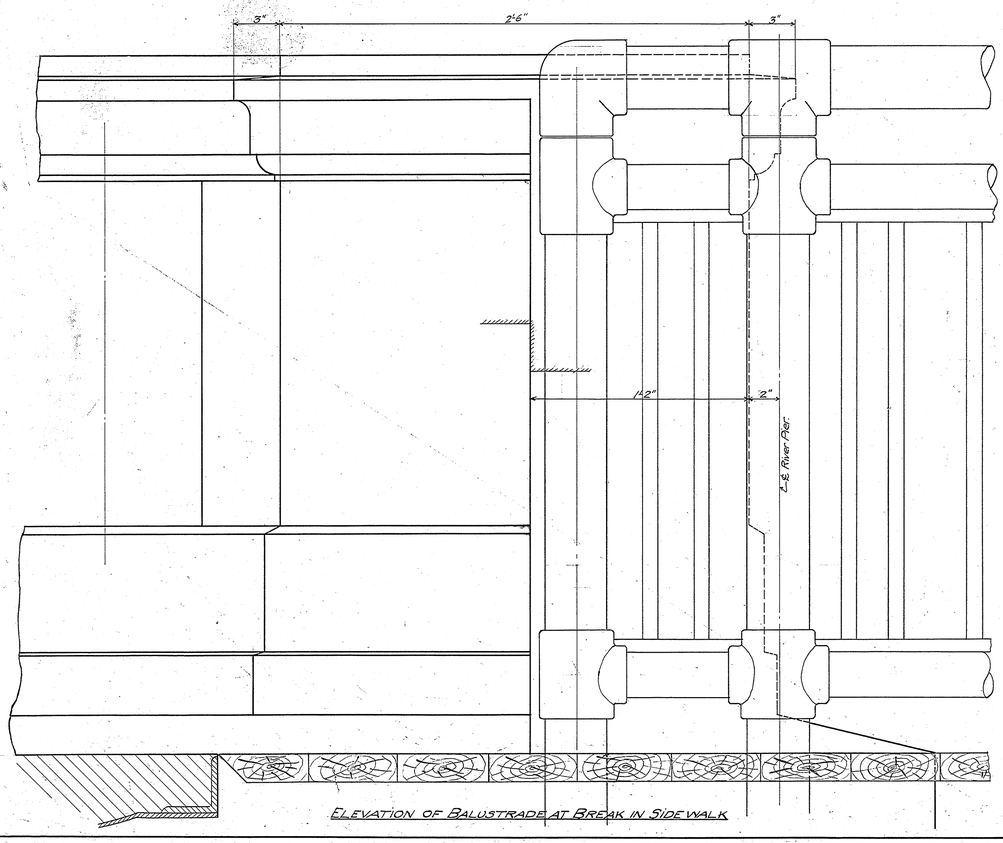


NOTES:-
These details are supplementary to small scale details on sheets for Operator's House.
For other large scale details see sheets Dr. No. 818 & 819.
For details of pipe railing see sheet Dr. No. 730.
Full sized details of ornamental features to be submitted to the Commissioner of Public Works for Approval.

ELEVATION OF LOWER CORNER OF ENCLOSURE WALL AND PIER LAMP



ELEVATION OF LOWER CORNER OF ENCLOSURE WALLS OF HOUSE



ELEVATION OF BALUSTRADE AT BREAK IN SIDEWALK

CITY OF CHICAGO
DEPARTMENT OF PUBLIC WORKS
BUREAU OF ENGINEERING
DIVISION OF BRIDGES AND HARBOR

DOUBLE LEAF TRUNNION BASCULE BRIDGE
AT
WEBSTER AVENUE (38 OF 38)
BELMONT AVENUE (41 OF 41)
OVER
NORTH BRANCH OF THE CHICAGO RIVER
SUPERSTRUCTURE
FIXED PART

House, Enclosure Walls & Railing Details
Scale: 3 in. = 1 ft. April, 1914.

Drawn by J.E.M.
Traced by J.E.M.
Checked by D.N.B.

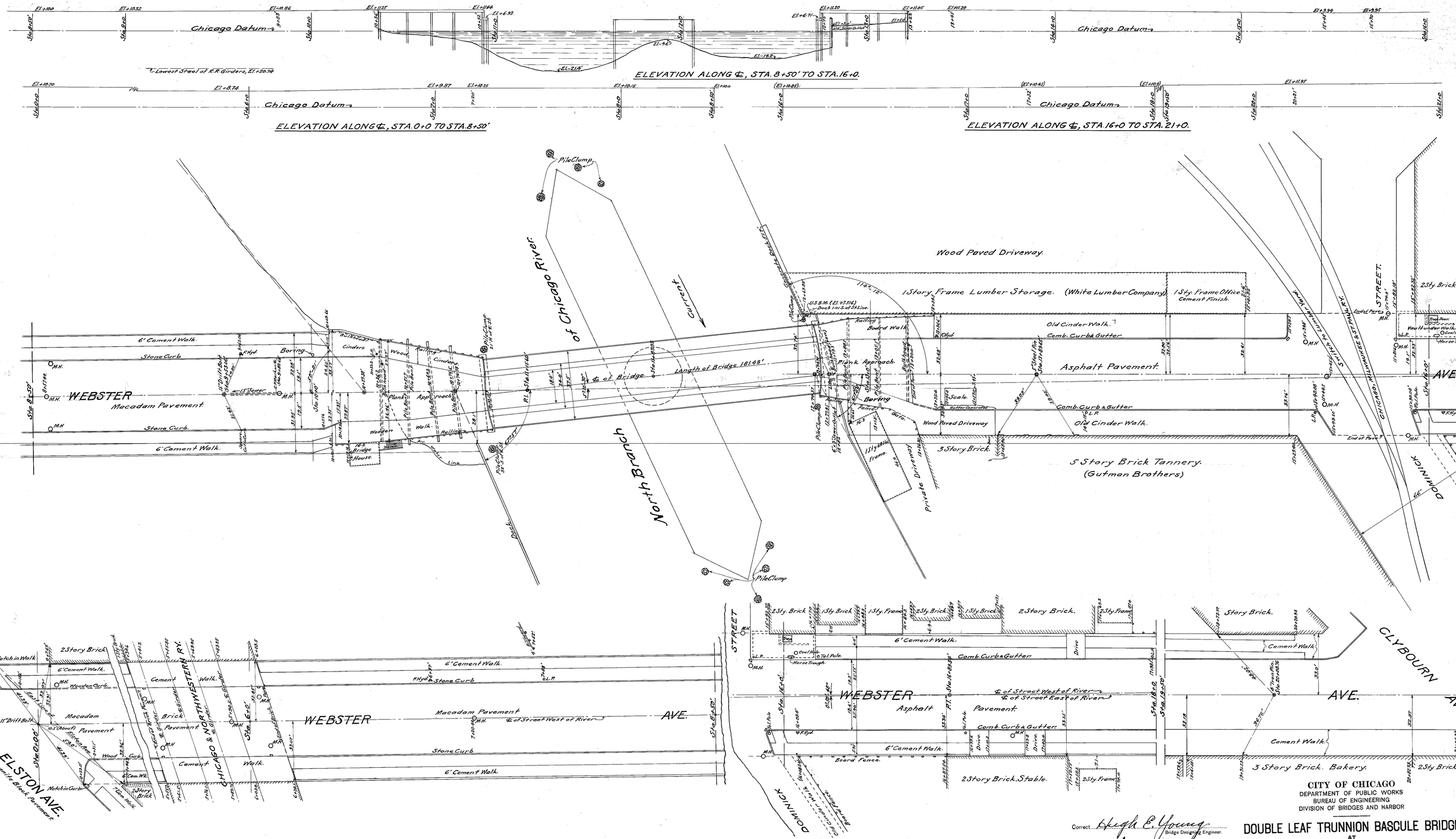
Drawing No. 820
FILE No 11-6A-40

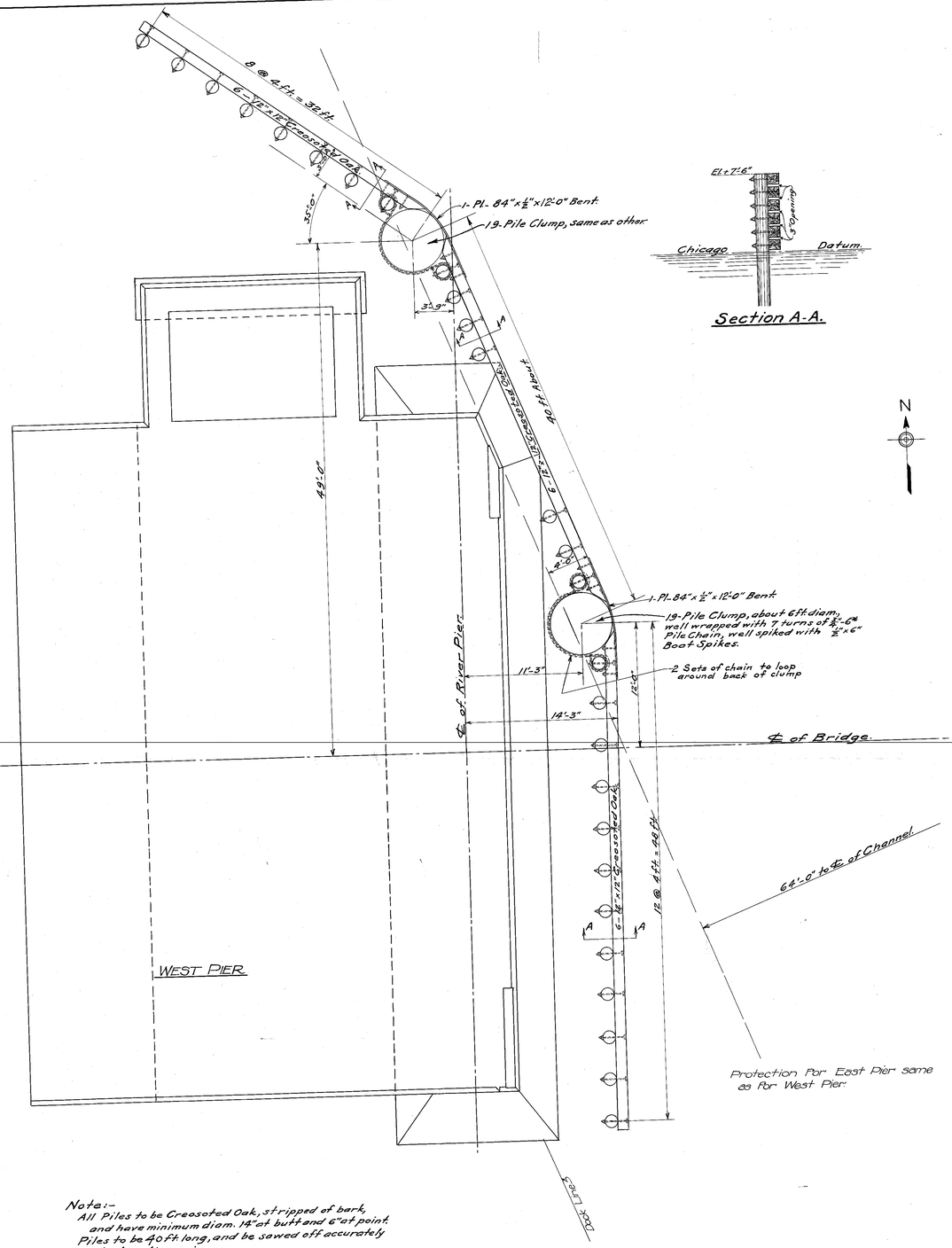
Correct ... Hugh E. Young, Bridge Designing Engineer.
Approved ... Norman von Babo, Engineer of Bridge Design.
Approved ... Thos. G. Pihlfeldt, Engineer of Bridges and Harbor.
Approved ... John Ericson, City Engineer.
Approved ... [illegible], Commissioner of Public Works

9960040162
1660570041

5-B

SIZE 27½ x 36


ELEVATION ALONG ℄, STA. 8+50' TO STA. 16+0.
Chicago Datum
Lowest Steel of R.R. Girders, El.+20.74
El.-21.4'
ELEVATION ALONG ℄, STA. 0+0 TO STA. 8+50'
ELEVATION ALONG ℄, STA. 16+0 TO STA. 21+0.
Pile Clump
Current
North Branch of Chicago River
Length of Bridge 181.48'
℄ of Bridge
WEBSTER
Macadam Pavement
Stone Curb
6' Cement Walk.
Boring
Cinders
Wooden Walk.
Railing
Plank Approach
Wooden Bridge House
Pile Clump 21' N. of ℄
P.I. Sta. 11+00.00
Wood Paved Driveway.
1 Story Frame Lumber Storage. (White Lumber Company)
1 Sty. Frame Office. Cement Finish.
Old Cinder Walk.
Comb. Curb & Gutter
Asphalt Pavement.
Plank Approach.
Boiler Walk.
Bulkhead
U.S.B.M. (El. 7.516)
Dock 1 on S. of St. Line.
Gasoline Tank Dock No. 2
Scale.
Gutter Concrete
3 Story Brick.
1 Sty. Wood Frame.
5 Story Brick Tannery.
(Gutman Brothers)
Private Driveway
Old Cinder Walk.
Comb. Curb & Gutter
Wood Paved Driveway
2 Sty. Brick
Yard Hydrant
Coal Hole
Horse Trough
Ended Paving
Sta. 16+0.00
Sta. 18+0.00
Sta. 19+50.00
Sta. 21+0.00
CHICAGO, MILWAUKEE & ST. PAUL R.Y.
LAWNDALE AVE.
STREET
AVE.
CLYBOURN AVE.
DOMINICK
66'
Notch in Walk
2 Story Brick
6' Cement Walk.
Wooden Curb
Macadam Pavement
15" Drift Bolt
Stone Curb
Notch in Curb
2 Sty. Brick
ELSTON AVE.
Granite Block Pavement
CHICAGO & NORTHWESTERN RY.
Cement Walk.
Brick Pavement
Wood Curb
Macadam
Brick
Cement
Walk.
Sta. 6+0.00
Sta. 8+50.00
Sta. 10+00
Sta. 11+00
Sta. 12+00
Sta. 13+00
Sta. 14+00
Sta. 15+00
Sta. 16+00
Sta. 17+00
Sta. 18+00
Sta. 19+00
Sta. 20+00
Sta. 21+00
Sta. 22+00
Sta. 23+00
Sta. 24+00
Sta. 25+00
Sta. 26+00
Sta. 27+00
Sta. 28+00
Sta. 29+00
Sta.



Note:-
All Piles to be Creosoted Oak, stripped of bark, and have minimum diam. 14" at butt and 6" at point. Piles to be 40 ft. long, and be sawed off accurately at elevations given.
All Wales to be 12" x 12" Creosoted Oak, fastened to each Pile with 1½" ϕ Bolts, with square head and nut, socket washers on outside and O-G washers on inside.

ESTIMATED QUANTITIES TO BE PAID BY UNIT PRICES—

C	Test Piles, furnishing and driving.	4	Piles
E	General excavation	8000	cu.yds.
F	Concrete piers, pits and abutments	4300	cu.yds.
G	Waterproofing mortar	260	cu.yds.
H	Concrete retaining walls	1100	cu.yds.
I	Steel reinforcement (Piers & Abutments-66000 / Retaining Walls-9000)	75000	lbs.
J	Structural steel furnished and erected	13000	lbs.
K	Structural steel erected	75000	lbs.
L	Creosoted oak piles delivered	6000	lin.ft.
M	Foundation piles delivered	48000	lin.ft.
N	All piles driven	38000	lin.ft.
O	Creosoted timber in place	26000	ft.B.M.
P	4' Diam. Sewer diversion and extension.	35	lin.ft.
Q	Filling approaches	8500	cu.yds.
R	Paving approaches	3600	sq.yds.
S	Curb and gutter combined	1525	lin.ft.
T	Gas pipe railing for approaches	970	lin.ft.
U	Sidewalks on approaches	9000	sq.ft.

NOTE:-
These quantities are approximate only and are given merely for the purpose of canvassing bids, the City of Chicago assuming no responsibility for correctness of same.

Correct... Hugh E. Young, Bridge Designing Engineer.
Approved... Alexander von Babo, Engineer of Bridge Design.
Approved... Thos. G. Pulford, Engineer of Bridges and Harbor.
Approved... John Ericson, City Engineer.
Approved... [illegible], Commissioner of Public Works

CITY OF CHICAGO
DEPARTMENT OF PUBLIC WORKS
BUREAU OF ENGINEERING
DIVISION OF BRIDGES AND HARBOR

DOUBLE LEAF TRUNNION BASCULE BRIDGE AT WEBSTER AVENUE OVER NORTH BRANCH OF THE CHICAGO RIVER

SUBSTRUCTURE

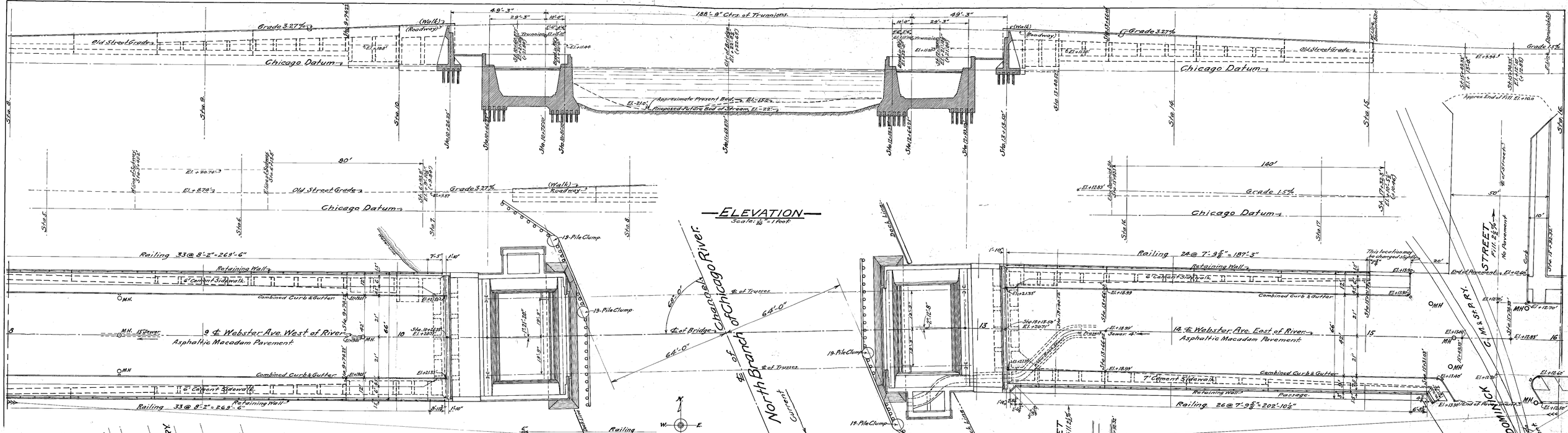
Pier Protection

Scale: 3/16 in. = 1 ft. April, 1914.
Drawn by GAH
Traced by GAH
Checked by R.E.G. Drawing No. 822

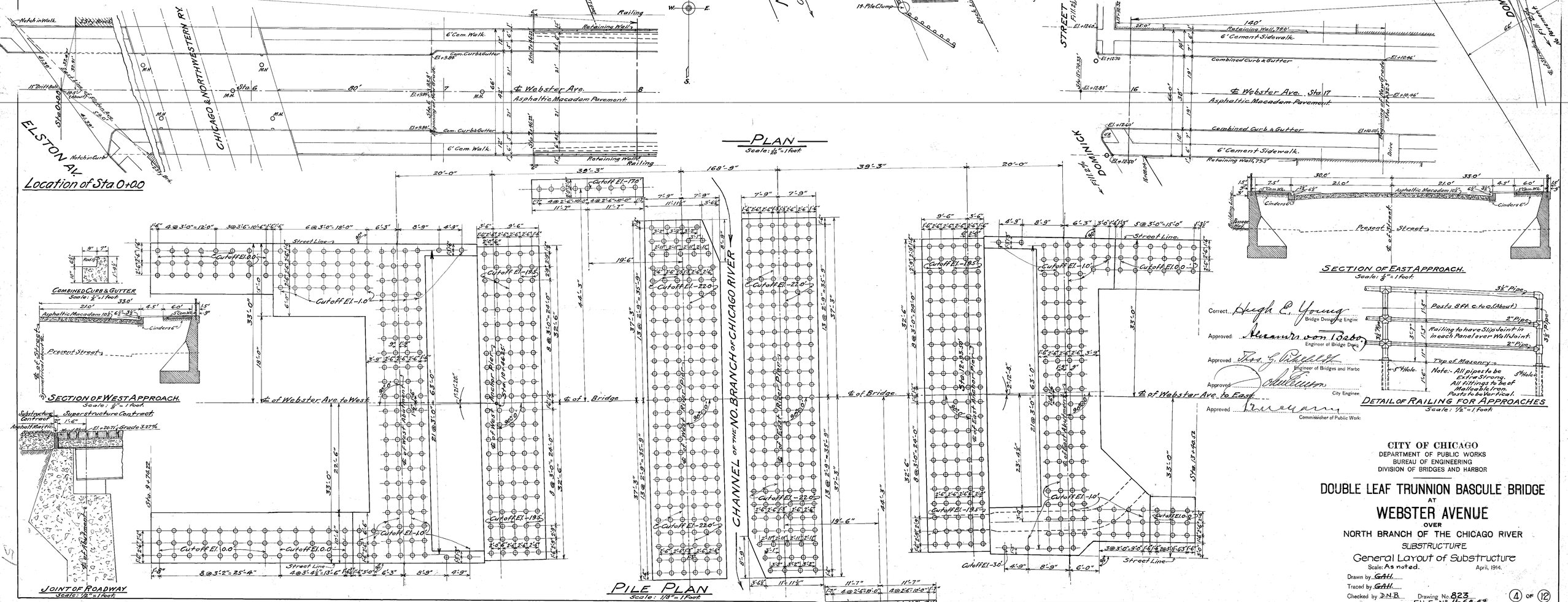
3 OF 12

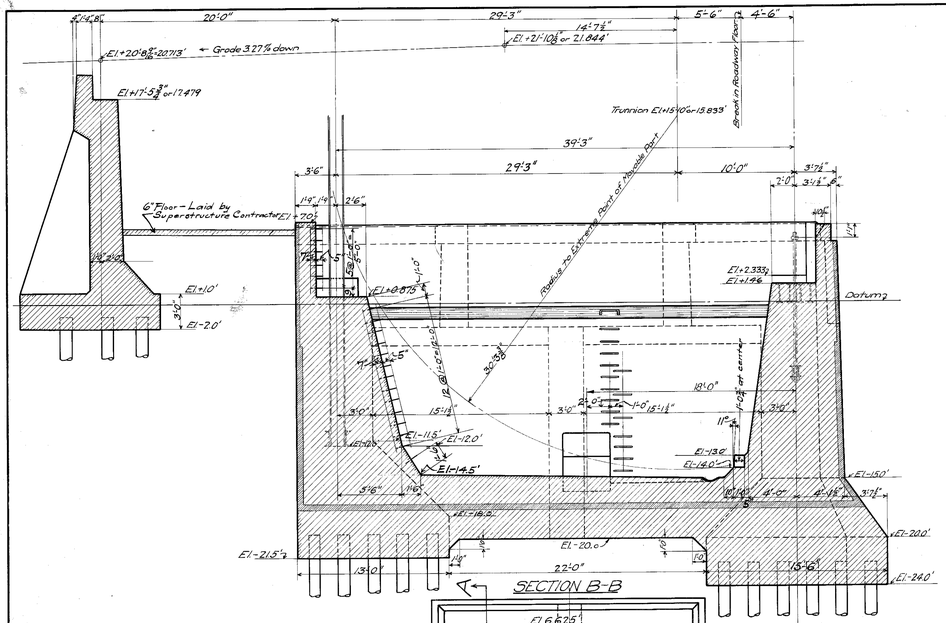
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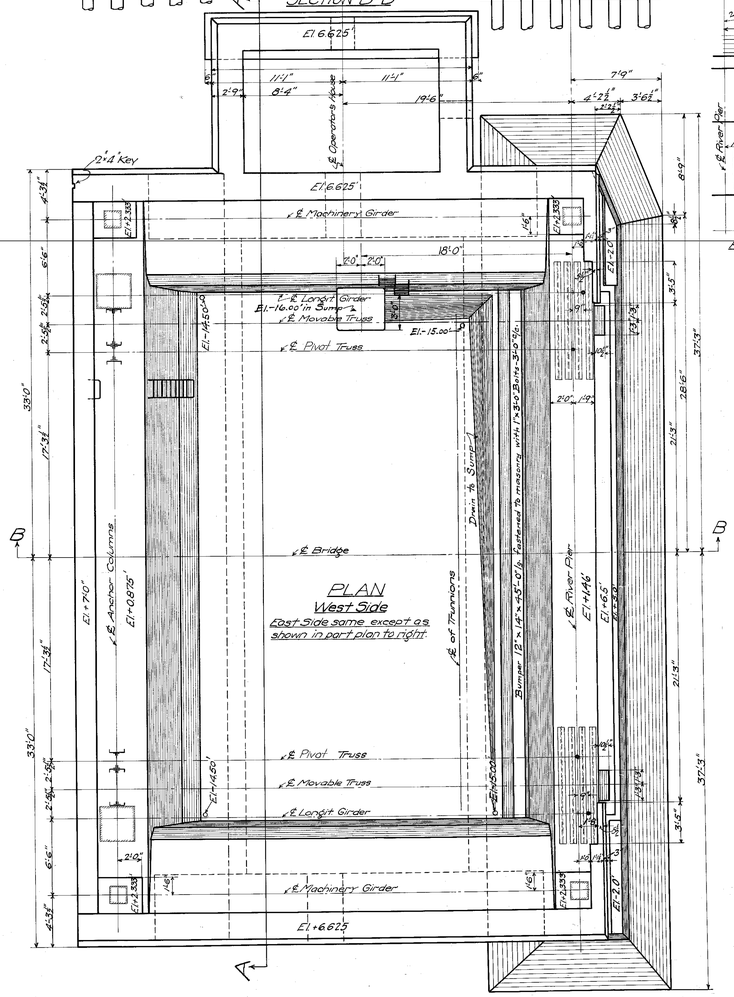
ELEVATION
Scale: 1/16" = 1 foot.

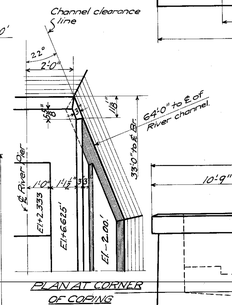


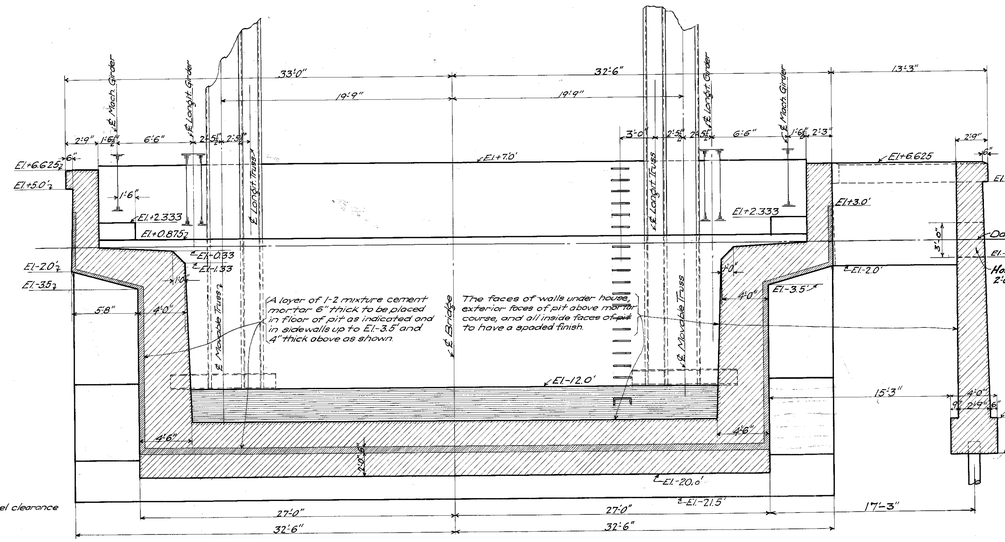
PLAN
Scale: 1/16" = 1 foot.

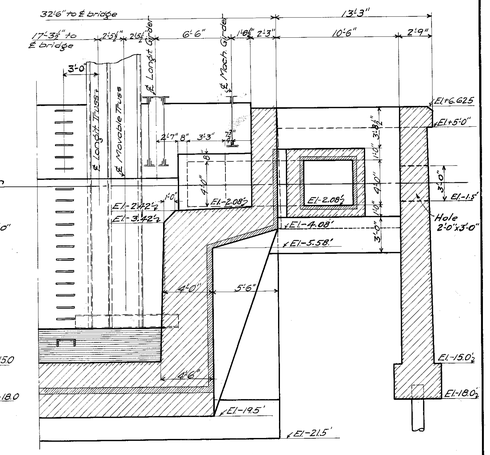

ELSTON Av.
Notch in Curb
Location of Sta 0+00
CHICAGO & NORTHWESTERN RY.
15" Drift Pipe
Sta 0+00
Sta 6
Sta 7
Sta 8
℄ Webster Ave.
Asphaltic Macadam Pavement
Railing
Retaining Wall
6' Cem. Walk.
Cem. Curb & Gutter
Notch in Walk.
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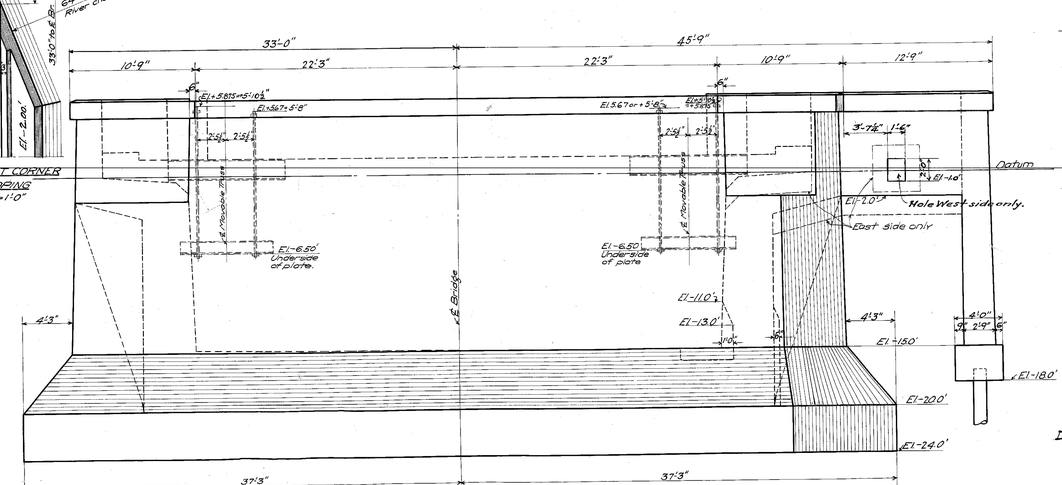


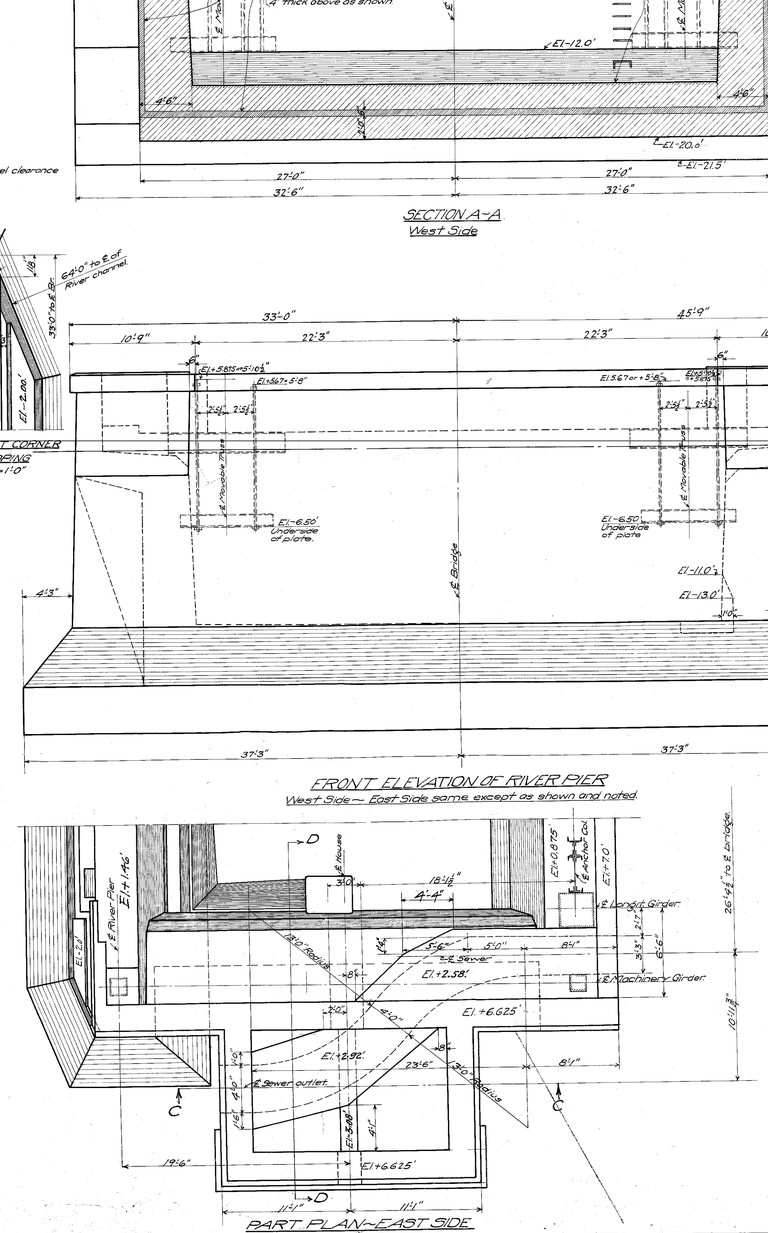


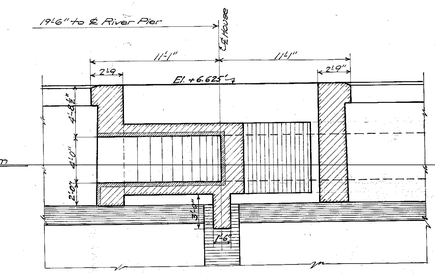


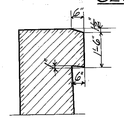


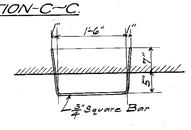












Notes-

For material, workmanship and other requirements see specifications

For reinforcement see sheets ⑥ and ⑦ of ⑫

For details of anchor columns, bolsters, bolts etc. furnished by the superstructure contractor and placed by substructure contractor see sheet ⑫ of ⑫.

For details of abutments see sheets ⑧ and ⑨ of ⑫.

Correct ..... Hugh E. Young ..... Bridge Designing Engineer.

Approved ..... Engineer of Bridge Design.

Approved ..... Engineer of Bridges and Harbor.

Approved ..... City Engineer.

Approved ..... Commissioner of Public Works.

CITY OF CHICAGO
DEPARTMENT OF PUBLIC WORKS
BUREAU OF ENGINEERING
DIVISION OF BRIDGES AND HARBOR

DOUBLE LEAF TRUNNION BASCULE BRIDGE AT WEBSTER AVENUE OVER NORTH BRANCH OF THE CHICAGO RIVER

SUBSTRUCTURE

Main Piers

Scale: 3/4", 3/8" & 3/4" = 1 ft. April, 1914.

Drawn by D.N.B.

Traced by D.E.M.

Checked by D.N.B.

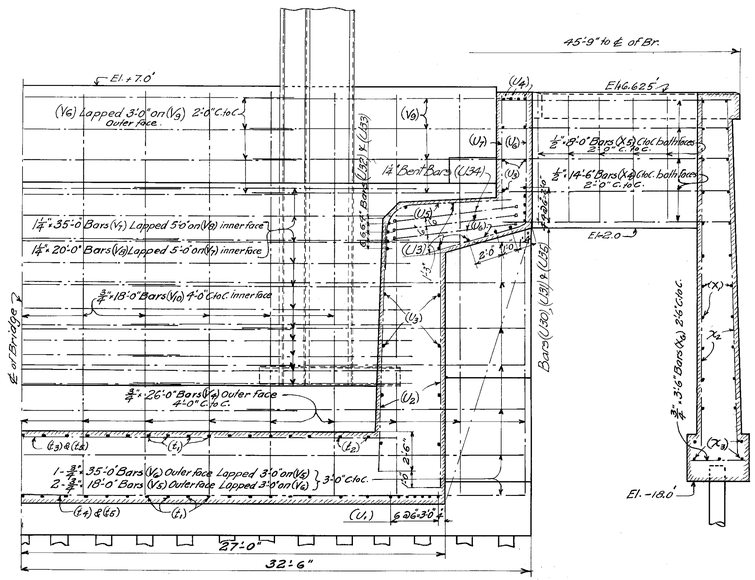
Drawing No. 824

FILE Nº 11-6A-44

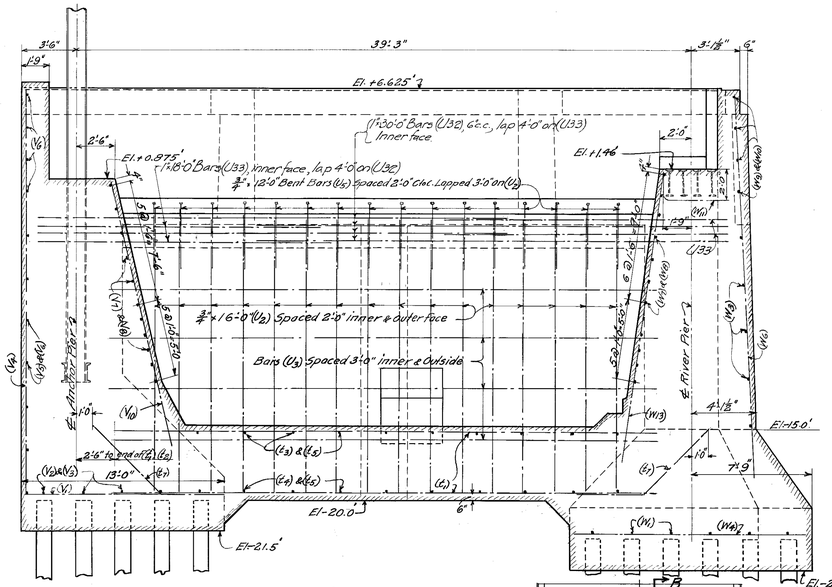
⑤ OF ⑫

1660570045

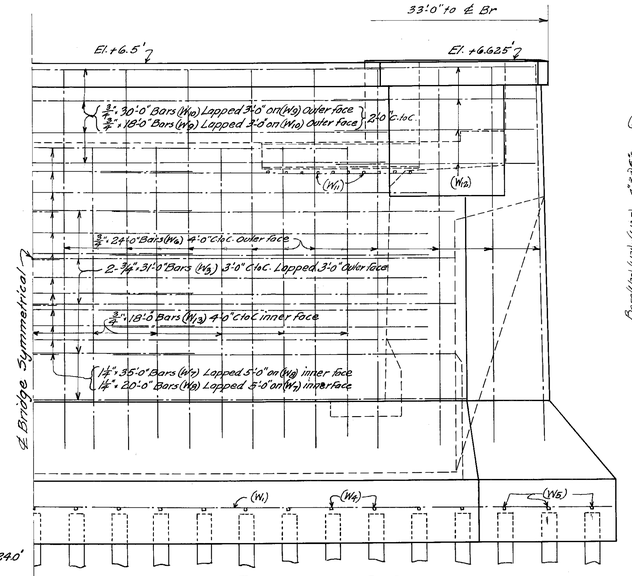
52



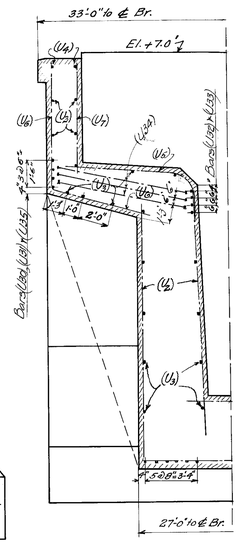
SECTION A-A



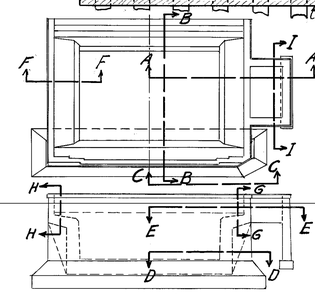
SECTION B-B



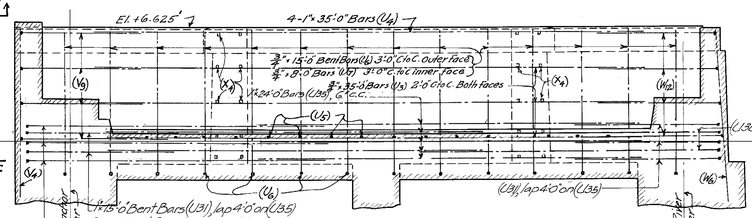
ELEVATION C-C



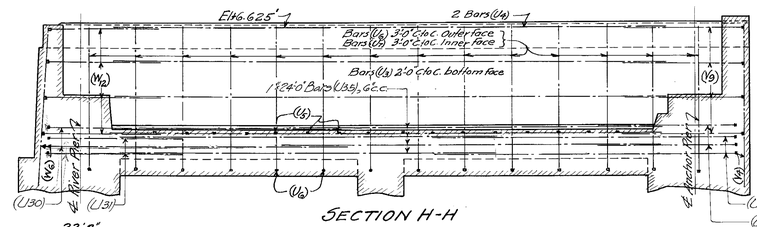
SECTION F-F



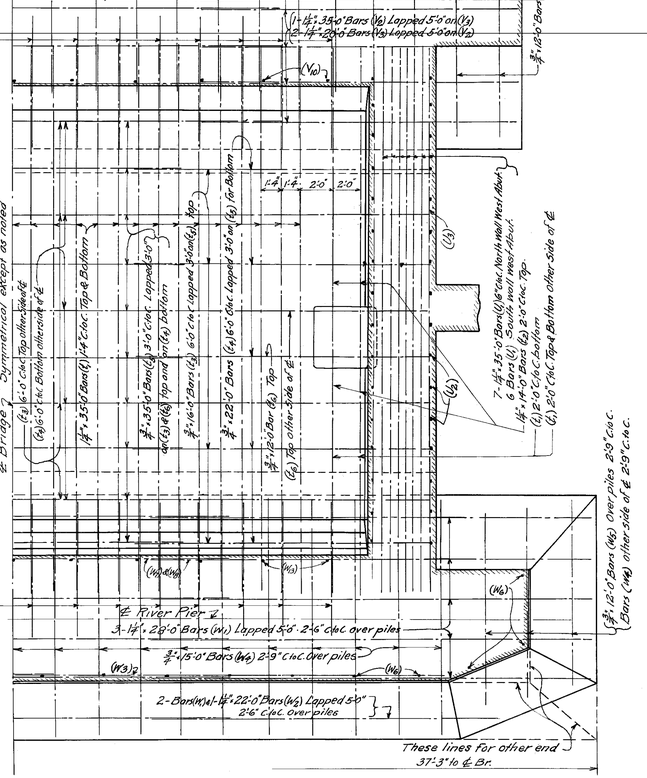
MARKING DIAGRAM



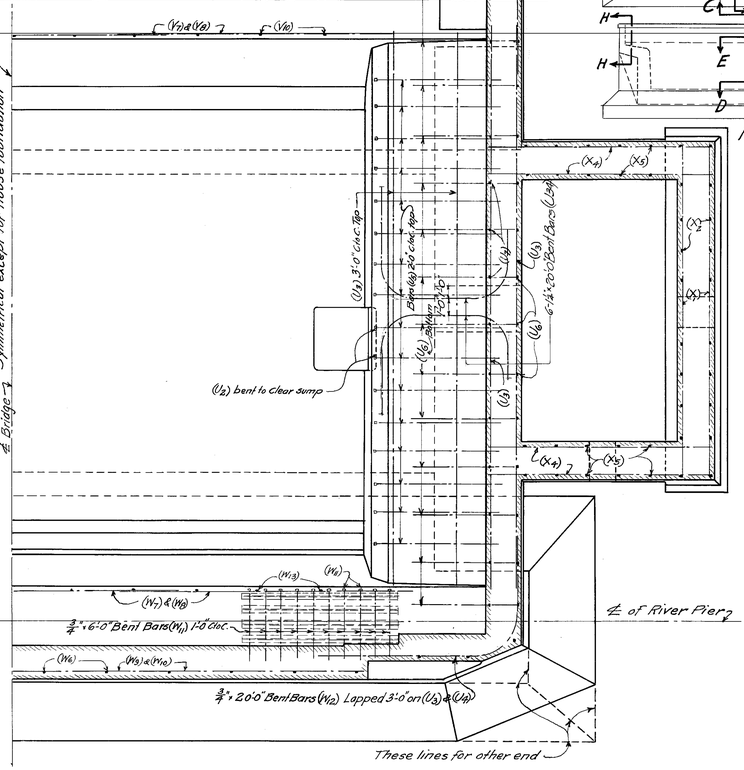
SECTION G-G



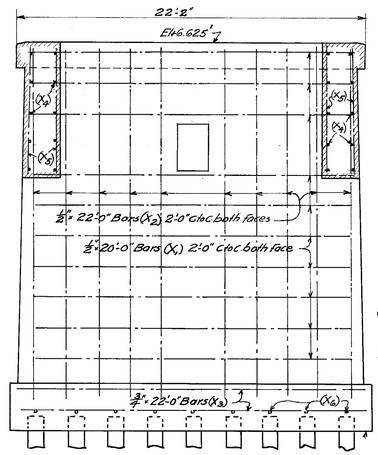
SECTION H-H



SECTION D-D



SECTION E-E



SECTION I-I

NOTES -

Bars shall not be placed closer to surface than 3" to the center of bar, except where shown.
All splices to be securely wired.
For bill of reinforcing, See Sheet drawing No. 7 of 12
for other information see specification.
All reinforcing Bars shown on this sheet to be plain Square Bars.

CITY OF CHICAGO
DEPARTMENT OF PUBLIC WORKS
BUREAU OF ENGINEERING
DIVISION OF BRIDGES AND HARBOR

Correct.... Bridge Designing Engineer.
Approved .... Engineer of Bridge Design.
Approved .... Engineer of Bridges and Harbor.
Approved .... City Engineer.
Approved .... Commissioner of Public Works

DOUBLE LEAF TRUNNION BASCULE BRIDGE AT WEBSTER AVENUE OVER NORTH BRANCH OF THE CHICAGO RIVER

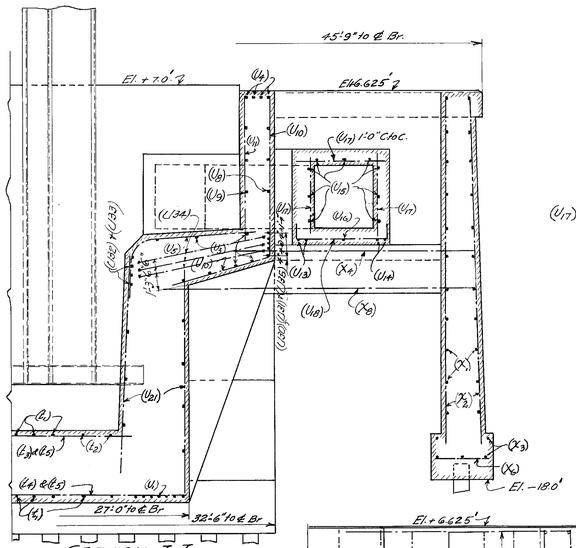
SUBSTRUCTURE.
WEST PIERS
Reinforcement Bars

Scale: 1/4 in = 1 ft. April, 1914.
Drawn by M.K.D.
Traced by M.K.D.
Checked by
Drawing No. 825

6 OF 12

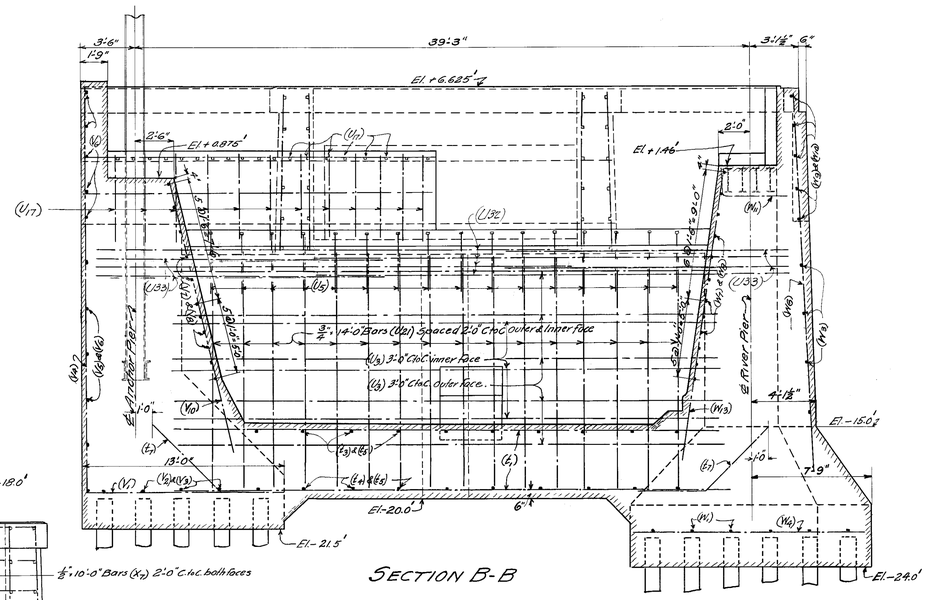
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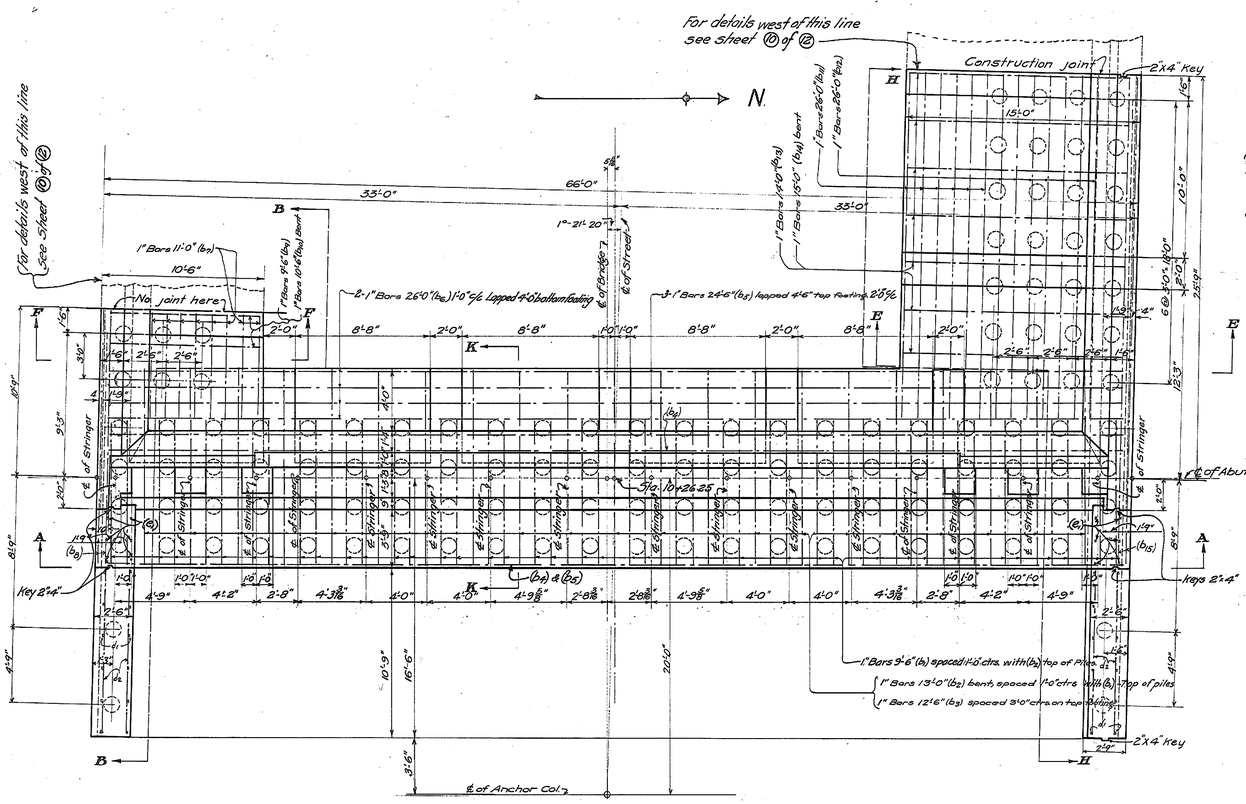
FILE No 11-6A-45



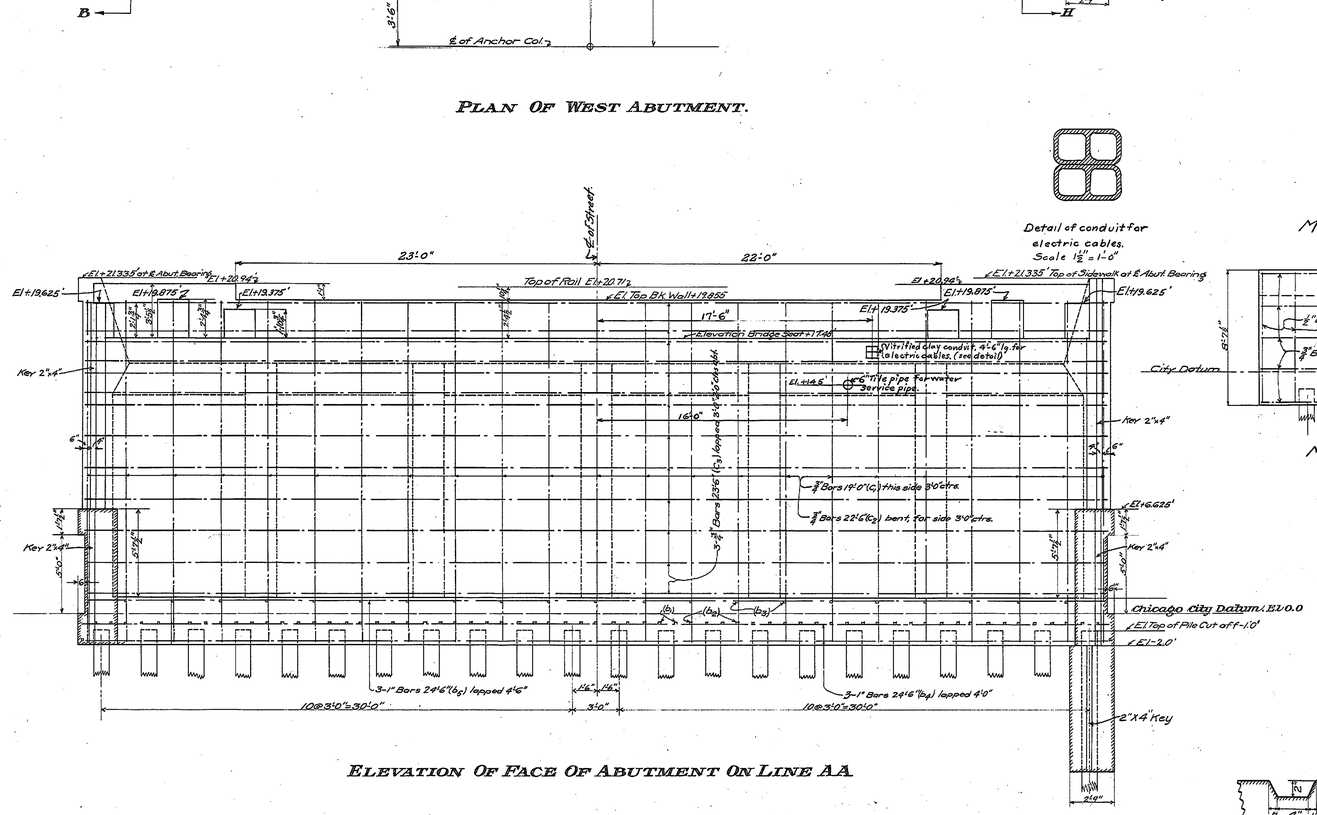
SECTION J-J.

Details not shown Same as for West Pier

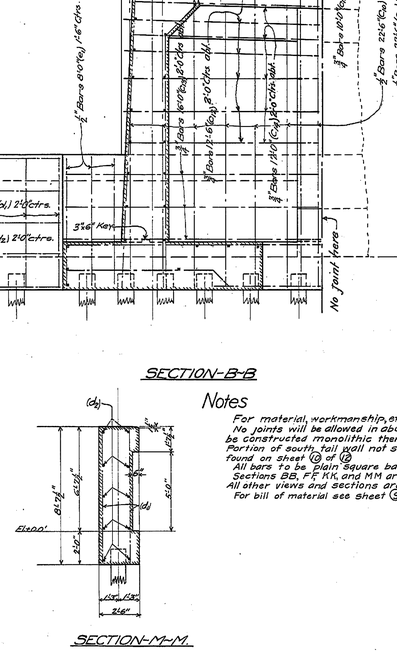


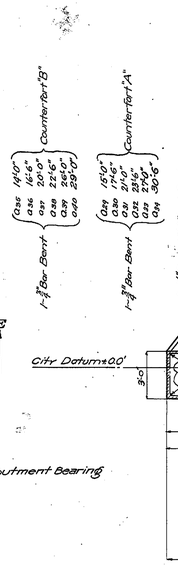


PLAN OF WEST ABUTMENT.

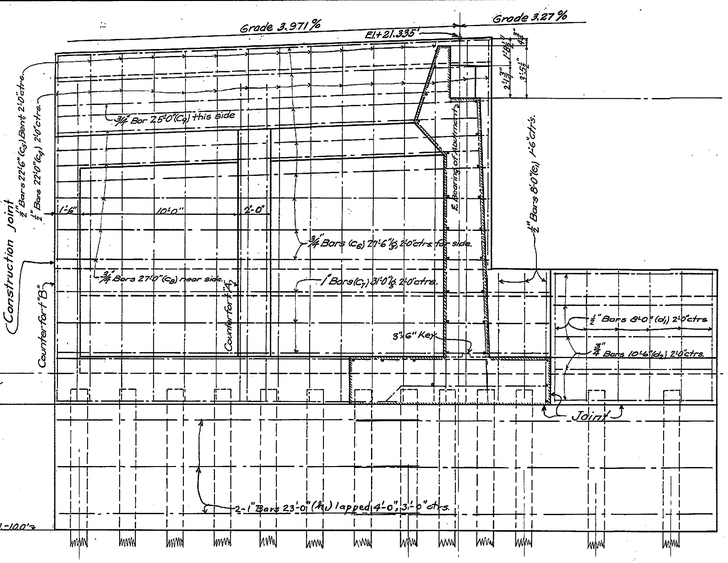


ELEVATION OF FACE OF ABUTMENT ON LINE AA.



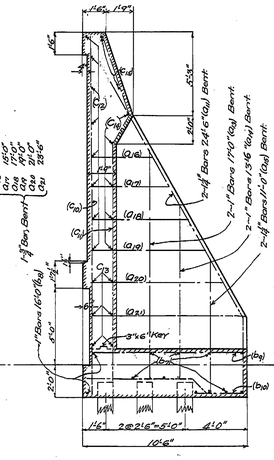


SECTION-E-E

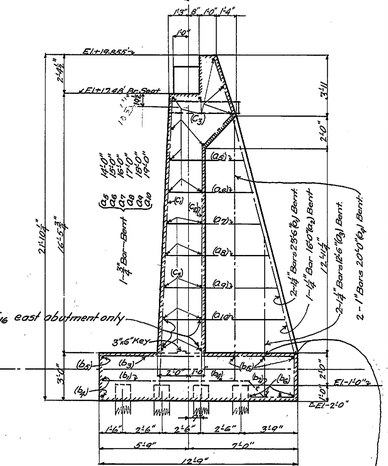


SECTION-H-H

SECTION-B-B



SECTION-F-F



SECTION-K-K (b22) east abut. only

SECTION-M-M.

Notes

For material, workmanship, etc., see specifications.
No joints will be allowed in abutment, and tail walls shall be constructed monolithic therewith back to Sta. 9+99.72
Portion of south tail wall not shown on this sheet will be found on sheet ⑨ of ⑫
All bars to be plain square bars.
Sections BB, FF, KK, and MM are for east and west abutments.
All other views and sections are for west abutment only.
For bill of material see sheet ⑤ of ⑫

Correct.... Hugh E. Young ... Bridge Designing Engineer.
Approved .... Alexander von Babo ... Engineer of Bridge Design.
Approved .... Thos. G. Pihlfeldt ... Engineer of Bridges and Harbor.
Approved .... John Ericson ... City Engineer.
Approved .... [illegible] ... Commissioner of Public Works

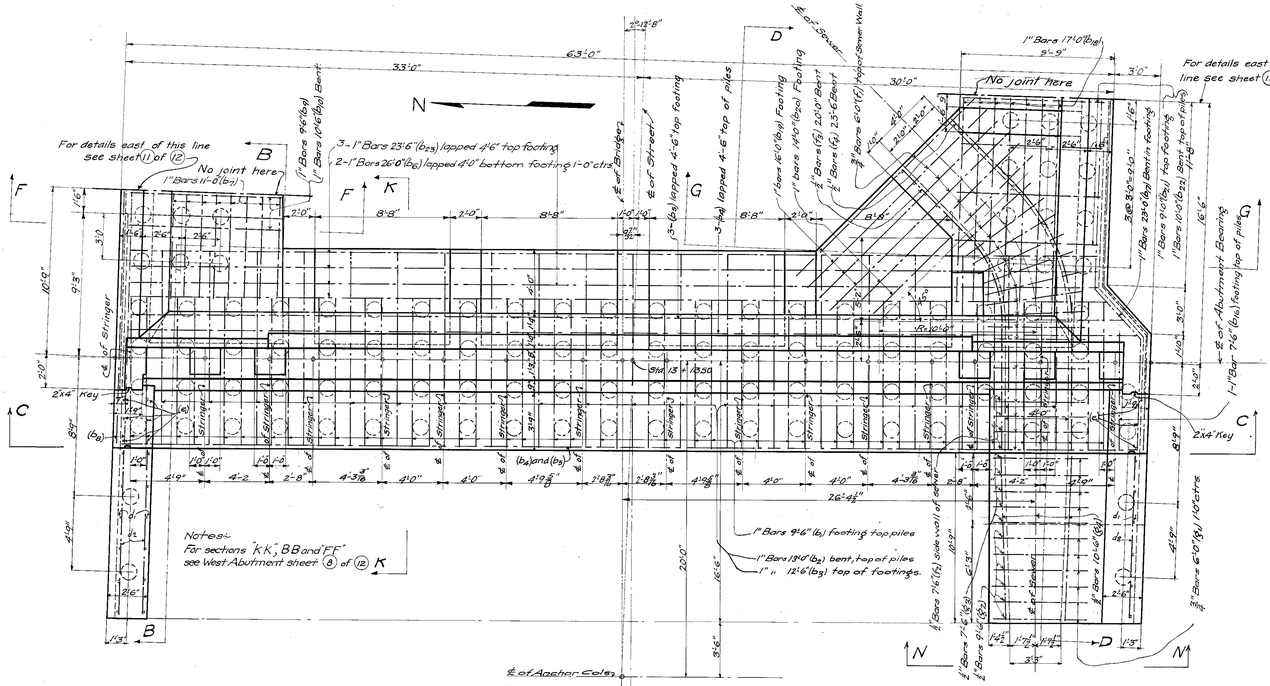
CITY OF CHICAGO
DEPARTMENT OF PUBLIC WORKS
BUREAU OF ENGINEERING
DIVISION OF BRIDGES AND HARBOR

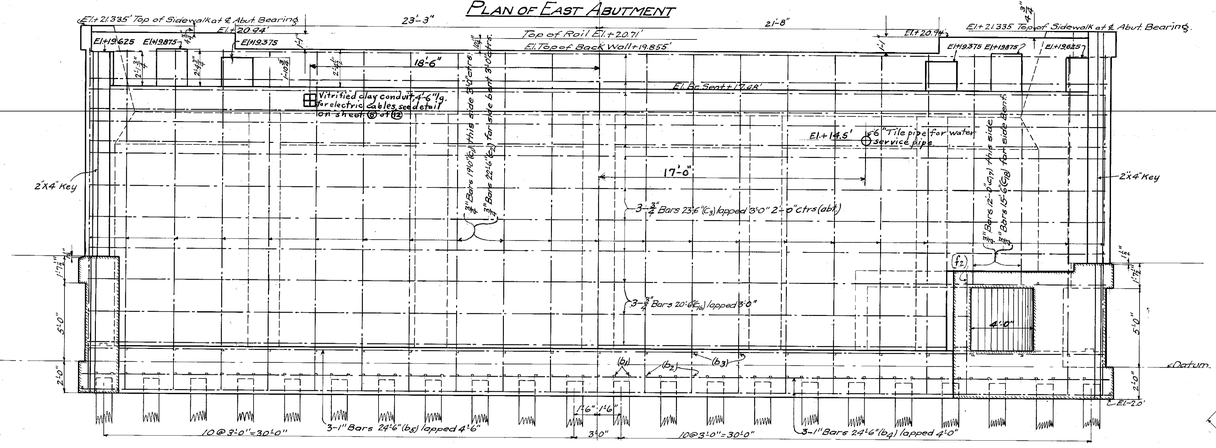
DOUBLE LEAF TRUNNION BASCULE BRIDGE AT WEBSTER AVENUE OVER NORTH BRANCH OF THE CHICAGO RIVER

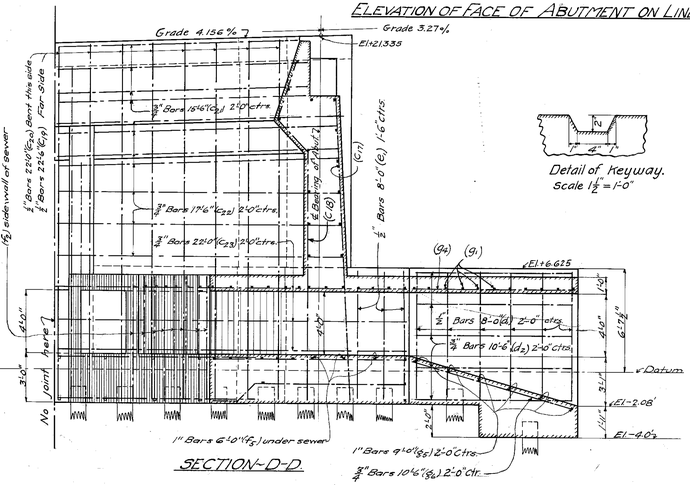
SUBSTRUCTURE
WEST ABUTMENT
Masonry & Reinforcement Bars
Scale: 1½"=1 ft. April, 1914.
Drawn by A.B.C.
Traced by J.E.M.
Checked by D.N.B.
Drawing No. 827
FILE No. 11-6A-47

(8) OF (12)

16605700 48





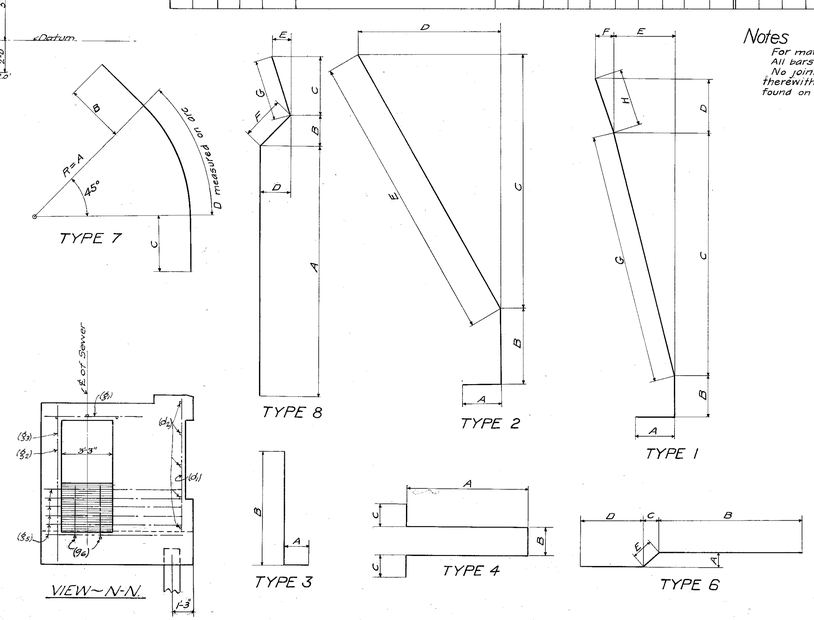


BILL OF REINFORCING BARS FOR EAST & WEST ABUTMENTS

Nº of Bars West	Nº of Bars East	Mark	Size	Length	Location	Bent or Straight	Type	Dimensions of Bent Bars A	B	C	D	E	F	G	H
10		d_1	1¼"	23'-6"	Counterforts Main Abutment	Bent	1	2'-6"	2'-9"	18'-6"	2'-7"	4'-6"	0'-11"	18'-6"	2'-9"
4		b_2	1"	16'-0"	" " "	"	2	2'-6"	2'-9"	10'-5"	2'-8"	10'-9"			
10		b_3	1"	12'-6"	" " "	"	3	2'-6"	10'-6"						
10		a_1	1"	20'-0"	" " "	"	3	3'-6"	16'-6"						
5		b_5	⅞"	24'-9"	" " "	"	4	4'-9"	1'-6"	1'-6"					
5		b_6	¾"	15'-0"	" " "	"	4	5'-6"	1'-6"	1'-3"					
5		b_7	¾"	16'-0"	" " "	"	4	6'-0"	1'-6"	1'-3"					
5		b_8	¾"	17'-0"	" " "	"	4	6'-9"	1'-6"	1'-0"					
5		b_9	¾"	18'-0"	" " "	"	4	7'-3"	1'-6"	1'-0"					
5		b_{10}	¾"	19'-0"	" " "	"	4	7'-9"	1'-6"	1'-0"					
2		a_{11}	1¼"	24'-6"	Counterfort South Wing West Abutment	"	2	2'-6"	21'-9"	15'-0"	8'-6"	17'-3"			
2		a_{13}	1"	17'-0"	" " "	"	3	2'-6"	14'-6"						
2		a_{14}	1"	13'-6"	" " "	"	3	2'-6"	11'-0"						
2		a_{15}	1¼"	11'-0"	" " "	"	3	2'-6"	8'-6"						
1		a_{16}	¾"	12'-6"	" " "	"	4	4'-0"	1'-0"	1'-9"					
1		a_{17}	¾"	18'-0"	" " "	"	4	4'-0"	1'-0"	2'-6"					
1		a_{18}	¾"	17'-0"	" " "	"	4	6'-3"	1'-0"	1'-9"					
1		a_{19}	¾"	19'-0"	" " "	"	4	7'-3"	1'-0"	1'-9"					
1		a_{20}	¾"	21'-0"	" " "	"	4	8'-3"	1'-0"	1'-9"					
1		a_{21}	¾"	23'-6"	" " "	"	4	9'-6"	1'-0"	1'-9"					
4		a_{22}	1¼"	28'-0"	Counterfort A and B North Wing West Abut	"	2	2'-6"	21'-9"	17'-9"	14'-3"	22'-9"			
4		a_{24}	1"	11'-6"	" " "	"	3	2'-6"	9'-0"						
4		a_{25}	1"	16'-6"	" " "	"	3	2'-6"	13'-0"						
4		a_{26}	1"	17'-0"	" " "	"	3	2'-6"	14'-0"						
4		a_{27}	1¼"	10'-6"	" " "	"	3	2'-6"	8'-0"						
4		a_{28}	1¼"	10'-0"	" " "	"	2	2'-6"	8'-6"	1'-6"	1'-3"	2'-6"			
1		a_{29}	¾"	15'-0"	Counterfort A only " "	"	4	5'-0"	1'-8"	1'-8"					
1		a_{30}	¾"	17'-6"	" " "	"	4	6'-3"	1'-8"	1'-8"					
1		a_{31}	¾"	21'-0"	" " "	"	4	7'-9"	1'-8"	2'-11"					
1		a_{32}	¾"	23'-6"	" " "	"	4	9'-3"	1'-8"	1'-8"					
1		a_{33}	¾"	27'-0"	" " "	"	4	11'-0"	1'-8"	1'-8"					
1		a_{34}	¾"	30'-6"	" " "	"	4	12'-6"	1'-8"	2'-1"					
1		a_{35}	¾"	14'-0"	Counterfort B only " "	"	4	5'-0"	1'-2"	1'-5"					
1		a_{36}	¾"	16'-6"	" " "	"	4	6'-3"	1'-2"	1'-5"					
1		a_{37}	¾"	20'-0"	" " "	"	4	7'-9"	1'-2"	1'-5"					
1		a_{38}	¾"	22'-6"	" " "	"	4	9'-3"	1'-2"	1'-5"					
1		a_{39}	¾"	26'-0"	" " "	"	4	11'-0"	1'-2"	1'-5"					
1		a_{40}	¾"	29'-0"	" " "	"	4	12'-4"	1'-2"	1'-7"					
	2	a_{41}	1¼"	25'-6"	Counterfort South Wing East Abutment	"	2	2'-6"	21'-9"	12'-8"	8'-6"	15'-3"			
	2	a_{43}	1"	18'-0"	" " "	"	3	2'-6"	15'-6"						
	2	a_{44}	1"	15'-0"	" " "	"	3	2'-6"	12'-6"						
2		a_{46}	1¼"	13'-0"	" " "	"	3	2'-6"	10'-6"						
1		a_{46}	¾"	12'-6"	" " "	"	4	4'-3"	1'-2"	1'-5"					
1		a_{47}	¾"	16'-0"	" " "	"	4	5'-6"	1'-2"	1'-5"					
1		a_{48}	¾"	18'-0"	" " "	"	4	6'-9"	1'-2"	1'-8"					
1		a_{49}	¾"	20'-0"	" " "	"	4	8'-0"	1'-2"	1'-5"					
2		a_{50}	¾"	22'-0"	" " "	"	4	9'-0"	1'-2"	1'-5"					

Nº of Bars West	Nº of Bars East	Mark	Size	Length	Location	Bent or Straight	Type	Dimensions of Bent Bars A	B	C	D	E	F	G	H
44	43	b_1	1"	9'-6"	Footing Abutment Top Piles	Str.									
21	20	b_2	1"	13'-0"	" " "	Bent	6	1'-0"	9'-4"	1'-0"	2'-3"	1'-5"			
21	20	b_3	1"	12'-6"	" " Top of Footing	Str.									
9	9	b_3	1"	24'-6"	" " In Toe	"									
12	6	b_5	1"	24'-6"	" " Top of Heel	"									
8	8	b_6	1"	26'-6"	" " Bottom of Heel	"									
10	10	b_7	1"	11'-0"	Footing South Wing W. Abut-N. Wing E. Abut	"									
2	2	b_8	1"	16'-0"	" " " " " "	"									
2	2	b_9	1"	9'-6"	" " " " " "	"									
2	2	b_{10}	1"	10'-6"	" " " " " "	Bent	6	1'-0"	6'-10"	7'-0"	2'-3"	1'-5"			
9		b_{11}	1"	26'-0"	Footing North Wing West Abutment	Str.									
11		b_{12}	1"	26'-0"	" " " " "	"									
7		b_{13}	1"	14'-0"	" " " " "	"									
7		b_{14}	1"	15'-0"	" " " " "	Bent	6	1'-0"	9'-4"	1'-0"	4'-3"	1'-5"			
4		b_{15}	1"	17'-6"	" " " " "	Str.									
	1	b_{16}	1"	7'-6"	Top Piles Footing East Abutment	"									
	2	b_{17}	1"	23'-0"	Footing South Wing East Abutment	Bent	6	3'-0"	7'-3"	3'-0"	11'-6"	4'-3"			
3		b_{18}	1"	17'-0"	" " " " "	Str.									
6		b_{19}	1"	16'-0"	" " " " "	"									
3		b_{20}	1"	14'-0"	" " " " "	"									
4		b_{21}	1"	9'-0"	" " " " "	"									
4		b_{22}	1"	10'-0"	" " " " "	Bent	6	1'-0"	6'-10"	1'-0"	1'-9"	1'-5"			
6		b_{23}	1"	23'-6"	Footing Main Abutment	Str.									

Nº of Bars West	Nº of Bars East	Mark	Size	Length	Location	Bent or Straight	Type	Dimensions of Bent Bars A	B	C	D	E	F	G	H
23	21	c_1	¾"	19'-0"	Face Wall Main Abutment Vertical	Str.									
21	19	c_2	¾"	22'-6"	" " " " "	Bent	8	15'-9"	2'-0"	3'-8"	2'-0"	1'-4"	2'-10"	3'-11"	
40	48	c_3	¾"	23'-6"	" " Horizontal	Str.									
15		c_4	¾"	22'-0"	Wall West Abutment North Wing	Str.									
13		c_5	¾"	22'-6"	" " " " "	Bent	8	16'-10"	2'-6"	5'-0"	1'-2"	1'-9"	2'-4"	3'-4"	
9		c_6	¾"	27'-6"	" " " " "	Str.									
6		c_7	1"	31'-0"	" " " " "	Str.									
5		c_8	¾"	27'-0"	" " " " "	Str.									
1		c_9	¾"	25'-0"	" " " " "	Str.									
7		c_{10}	¾"	23'-6"	Wall West Abutment South Wing	Str.									
5		c_{11}	¾"	22'-6"	" " " " "	Bent	8	16'-10"	2'-6"	5'-0"	1'-2"	1'-9"	2'-4"	3'-4"	
8		c_{18}	¾"	12'-6"	" " " " "	Str.									
6		c_{19}	¾"	16'-0"	" " " " "	Str.									
5		c_{14}	¾"	12'-0"	" " " " "	Str.									
2		c_{15}	¾"	10'-0"	" " " " "	Str.									
	12	c_{16}	¾"	20'-6"	Wall Main Abutment	Str.									
	2	c_{17}	¾"	12'-0"	" " " Over Sewer	Str.									
	2	c_{18}	¾"	15'-6"	" " " " "	Bent	8	8'-9"	2'-0"	3'-8"	2'-0"	1'-4"	2'-10"	3'-11"	
8		c_{19}	¾"	22'-6"	Wall South Wing East Abutment	Str.									
8		c_{20}	¾"	22'-0"	" " " " "	Bent	8	14'-4"	2'-0"	5'-0"	1'-2"	1'-9"	2'-4"	5'-4"	
5		c_{21}	¾"	15'-6"	" " " " "	Str.									
10		c_{22}	¾"	17'-6"	" " " " "	Str.									
6		c_{23}	¾"	22'-0"	" " " " "	Str.									
	24	18	d_1	½"	8'-0"	Room Wall	Str.								
	20	15	d_2	½"	10'-6"	" "	Str.								
12	9	e_1	½"	8'-0"	Room Wall on Abutment Footing	Str.									
	21	f_1	¾"	6'-0"	Sewer Top Wall	Str.									
	12	f_2	¾"	7'-6"	Sewer Side Wall Vertical Bars	Str.									
	1	f_3	¾"	20'-0"	" Spacer for Cover Bars	Bent	7	7'-9"	5'-9"	8'-1"	6'-2"				
	1	f_4	¾"	23'-6"	" " " " "	Bent	7	12'-3"	5'-9"	8'-1½"	9'-7½"				
	3	f_5	1"	6'-0"	" Footing										
11		g_1	¾"	6'-0"	Sewer Top Wall Joining to River Pier	Str.									
6		g_2	¾"	9'-6"	" Side " " " " "	Str.									
5		g_3	¾"	7'-6"	" " " " " " "	Str.									
3		g_4	¾"	10'-6"	" Spacers for Top Wall	Str.									
6		g_5	1"	9'-0"	" Footing Joining to River Pier	Str.									
2		g_6	¾"	10'-6"	" " " " "	Str.									
12		h_1	1"	23'-0"	Wall under North Wing West Abut.	Str.									



Notes

For material, workmanship, etc., see specifications.
All bars to be plain square bars.
No joints will be allowed in abutment, and tail walls shall be constructed monolithic therewith back to Sta. 13+40.52. Portions of tail walls not shown on this sheet will be found on sheet (1) of (12)

Correct.... Hugh E. Young, Bridge Designing Engineer.
Approved Alexander von Babo, Engineer of Bridge Design.
Approved Thos. G. Pihlfeldt, Engineer of Bridges and Harbor.
Approved ..., City Engineer.
Approved ..., Commissioner of Public Works

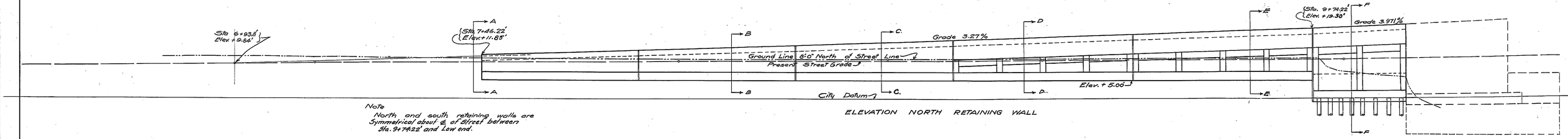
CITY OF CHICAGO
DEPARTMENT OF PUBLIC WORKS
BUREAU OF ENGINEERING
DIVISION OF BRIDGES AND HARBOR

DOUBLE LEAF TRUNNION BASCULE BRIDGE AT WEBSTER AVENUE OVER NORTH BRANCH OF THE CHICAGO RIVER

SUBSTRUCTURE
EAST ABUTMENT
Masonry & Reinforcement Bars
Scale: ¼ in. = 1 ft. April, 1914.
Drawn by A.B.G.
Traced by J.E.T.
Checked by D.N.B.
Drawing No. 828
FILE Nº 11-6A-48

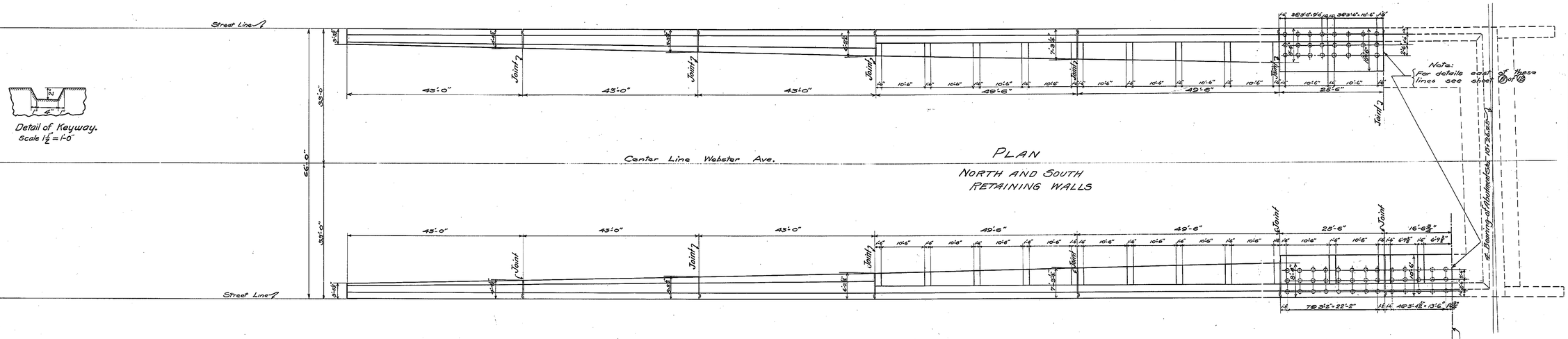
(9) OF (12)

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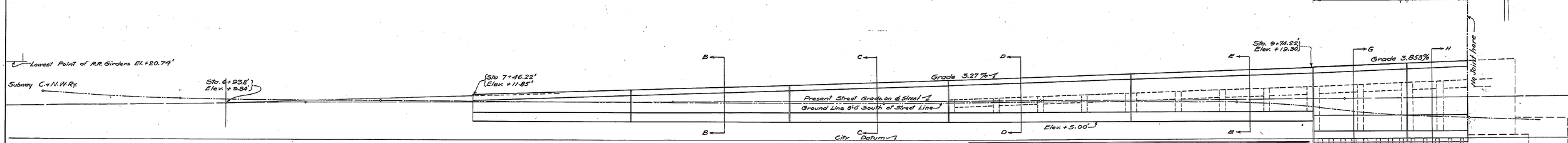
Note
North and south retaining walls are Symmetrical about ℄ of Street between Sta. 9+74.22' and Low end.

ELEVATION NORTH RETAINING WALL

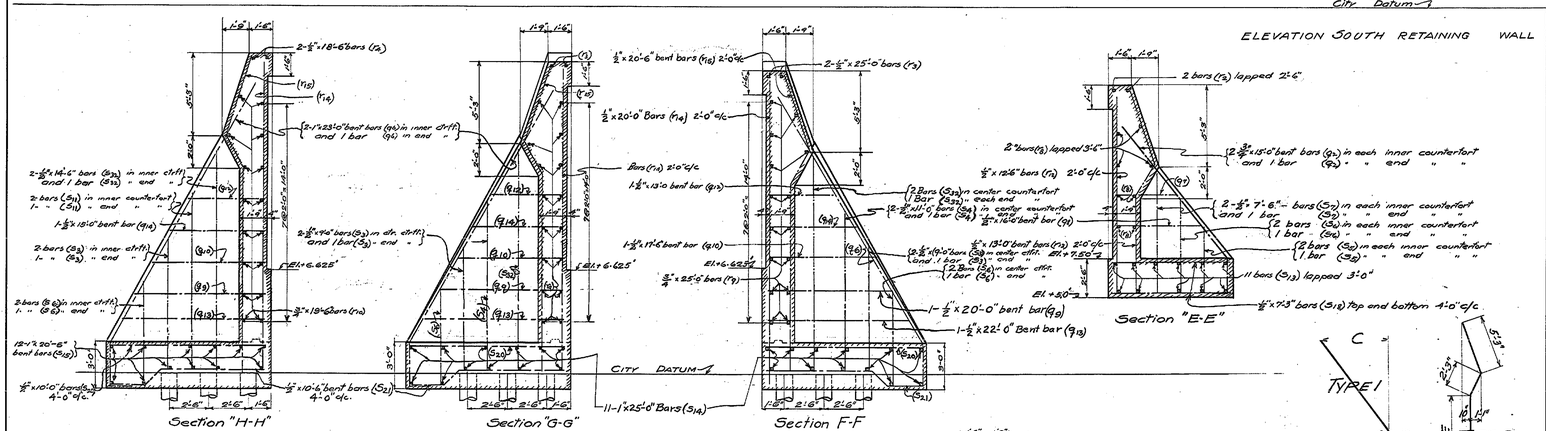


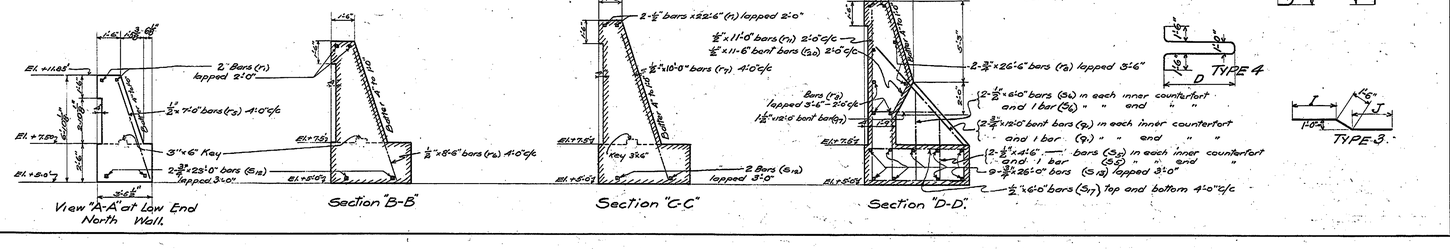
PLAN
NORTH AND SOUTH RETAINING WALLS

Detail of Keyway.
Scale 1½" = 1'-0"



ELEVATION SOUTH RETAINING WALL





BILL OF REINFORCING BARS

	Number	Mark	Size	Length	Location	Total No. of Similar Bars	Bent Diagram Types	Dimension of Bent Bars
Counterforts	16	9₁	¾"	12'-0"	North Wall AA	8	1	A=1'-9" B=2'-9" C=5'-6"
	16	9₂	¾"	15'-0"	North Wall DD	8	1	A=1'-9" B=3'-3" C=8'-9"
	8	9₃	¾"	1'-5½"	North Wall EE	3	4	D=5'-6"
	8	9₁₂	⅞"	13'-0"	North Wall FF	3	2	D=4'-6"
	8	9₁₃	⅞"	22'-0"	North Wall FF	3	2	D=9'-0"
	1	9₆	1"	23'-0"	South Wall AA	4	3	A=1'-9" B=2'-9" C=9'-6"
	20	9₇	¾"	12'-0"	South Wall DD	5	4	D=4'-0"
	10	9₈	⅞"	16'-0"	South Wall DD	5	4	D=6'-0"
	8	9₉	⅞"	20'-0"	South Wall EE	3	4	D=8'-0"
	8	9₁₀	⅞"	17'-6"	South Wall FF	3	4	D=6'-9"
Footings	24	11₁	⅞"	22'-6"	North Wall AA	4	5	
	16	12₂	⅞"	26'-0"	North Wall BB	4	5	
	4	13₃	⅞"	28'-0"	North Wall CC	2	5	
	2	14₄	⅞"	29'-6"	North Wall DD	2	5	
	22	15₅	⅞"	7'-0"	North Wall EE	11	5	
	22	16₆	⅞"	8'-6"	North Wall EE	11	5	
	22	17₇	⅞"	10'-0"	North Wall EE	11	5	
	28	18₈	⅞"	22'-6"	North Wall GG	14	5	
	31	19₉	¾"	25'-0"	South Wall AA	5	5	
	16	12₁₀	⅞"	26'-0"	South Wall BB	4	5	
	4	13₁₁	⅞"	28'-0"	South Wall CC	2	5	
	2	14₁₂	⅞"	29'-6"	South Wall DD	2	5	
	22	15₁₃	⅞"	7'-0"	South Wall EE	11	5	
	22	16₁₄	⅞"	8'-6"	South Wall EE	11	5	
	22	17₁₅	⅞"	10'-0"	South Wall EE	11	5	
	28	18₁₆	⅞"	22'-6"	South Wall GG	14	5	
	50	19₁₇	⅞"	25'-0"		25	5	
	50	20₁₈	⅞"	26'-0"		25	5	
	50	21₁₉	⅞"	28'-0"		25	5	
	50	22₂₀	⅞"	29'-6"		25	5	
	35	23₂₁	⅞"	7'-0"		18	5	
	35	24₂₂	⅞"	8'-6"		18	5	
	50	25₂₃	⅞"	10'-0"		25	5	
	50	26₂₄	⅞"	11'-6"		25	5	
	11	27₂₅	⅞"	21'-0"		4	5	
	11	28₂₆	⅞"	22'-0"		4	5	
	32	29₂₇	⅞"	4'-6"		8	5	
	43	30₂₈	⅞"	6'-0"		8	5	
	2	31₂₉	⅞"	7'-6"		1	5	
	1	32₃₀	⅞"	14'-6"		1	5	
	3	33₃₁	⅞"	11'-6"		3	5	
	24	34₃₂	¾"	23'-0"		4	5	
	20	35₃₃	¾"	24'-0"		5	5	
	22	36₃₄	1"	25'-0"		11	5	
	12	37₃₅	1"	20'-6"		12	6	I=16'-6" J=2'-6"
	32	37₁	⅞"	6'-0"		8	5	
	22	37₂	⅞"	7'-3"		11	5	
	18	37₃	⅞"	9'-0"		7	5	
	19	37₄	½"	10'-6"		7	5	I= 7'-0" J= 2'-0"

Notes:
For material workmanship, etc, See Specifications.
Joints to be made where indicated, by pouring the wall in alternate sections and placing tar paper against the face of the joints before placing the concrete in the intermediate sections. Sections between adjacent joints shall be poured continuously without a stop.
All bars to be plain square bars.
Reinforcement shown in the various cross sections is for that portion of the wall between the joints adjacent to the Section.
Section H-H is to be poured monolithic with abutment.

Correct.... Bridge Designing Engineer.
Approved ... Engineer of Bridges Designs
Approved ... Engineer of Bridges and Harbor.
Approved ... City Engineer.
Approved ... Commissioner of Public Works

CITY OF CHICAGO
DEPARTMENT OF PUBLIC WORKS
BUREAU OF ENGINEERING
DIVISION OF BRIDGES AND HARBOR

DOUBLE LEAF TRUNNION BASCULE BRIDGE AT WEBSTER AVENUE OVER NORTH BRANCH OF THE CHICAGO RIVER

SUBSTRUCTURE.
WEST APPROACH.

Retaining Wall Details & Reinforcement Bars
Scale: ¼" = 1 ft. April, 1914.

Drawn by R.E.G.
Traced by M.K.D.
Checked by D.N.B.
Drawing No. 829

(10) OF (12)

1660570050

FILE No 11-6A-89

ELEVATION NORTH RETAINING WALL

PLAN
NORTH AND SOUTH RETAINING WALLS

ELEVATION SOUTH RETAINING WALL

SECTION B-B

SECTION C-C

SECTION D-D

SECTION A-A

SECTION G-G

VIEW OF LOW END, SOUTH WALL

VIEW OF LOW END NORTH WALL

SECTION E-E

SECTION F-F

Detail of keyway
Scale 1½"=1'-0"

TYPE 1

TYPE 2

TYPE 3

TYPE 4

TYPE 5

TYPE 6

Correct ... Hugh E. Young
Bridge Designing Engineer.

Approved ... Alexander von Babo
Engineer of Bridge Design.

Approved ... Thos. G. Pihlfeldt
Engineer of Bridges and Harbor.

Approved ... John Ericson
City Engineer.

Approved ... Thos. Duncan
Commissioner of Public Works

BILL OF REINFORCING BARS

Number	Mark	Size	Length	Location	Dimensions of Bent Bars
				North Wall: A, B, C, D, E, F	South Wall: A, B, C, D, E, F
12	g1	⅜	12'-0	6 6	B 1 A=1'-9" B=2'-3" C=5'-6"
12	g2	¾	15'-0	6 6	B 1 A=1'-9" B=2'-3" C=6'-9"
8	g7	⅛	12'-0	4 4	B 4 D=4'-0"
6	g8	⅛	16'-0	3 3	B 4 D=6'-0"
3	g10	⅛	18'-0	2 2	B 4 D=7'-0"
3	g13	⅛	16'-0	2 2	B 4 D=6'-0"
11	g11	⅛	19'-0	4 4	B 4 D=5'-0"
6	g12	⅛	13'-0	3 3	B 4 D=4'-6"
2	g14	¾	16'-0	4 4	B 1 A=1'-9" B=2'-3" C=7'-6"
4	g16	1"	23'-0	3 3	B 1 A=1'-3" B=2'-9" C=8'-9"
3	g17	⅞	20'-0	2 2	B 4 D= 8'-0"
3	g18	¾	22'-0	2 2	B 4 D= 9'-0"
				Walls	
4	l1	1½	22'-6	4 4	G 5
4	l3	1⅛	23'-0	2 2	G 5
12	l6	1⅛	8'-6	10 10	G 5
23	l7	1⅛	10'-0	12 12	G 5
20	l8	¾	25'-0	10 10	G 5
44	l11	1⅛	11'-0	23 21	G 5
44	l12	1⅛	12'-6	23 21	G 5
44	l13	1¼	13'-0	23 21	B 2 E= 5'-6"
44	l20	1⅛	11'-6	23 21	B 2 E= 4'-0"
6	l21	1⅛	24'-0	4 2	G 5
2	l22	1⅛	23'-0	2 2	B 6 J=17'-0", J=6'-0", H=5'-9"
8	l23	1⅛	23'-6	4 4	G 5
8	l24	1⅛	22'-0	4 4	G 5
30	l25	¾	24'-0	16 14	G 5
30	l26	¾	22'-6	16 14	G 5
26	l27	1⅛	14'-0	13 13	G 5
2	l28	1⅛	19'-6	2 2	G 5

Number	Mark	Size	Length	Location: North Wall	Location: South Wall	Dimensions of Bent Bars
				Footings: A, B, C, D, E, F	Footings: A, B, C, D, E, F	
2	f29	1⅛	11'-6"		G	
12	f30	¾	20'-6"	12	G	
12	f31	¾	12'-6"	12	G	
14	f32	1⅛	20'-6"	9	G	
14	f33	1⅛	21'-0"	9	G	B 2 E=1'-6"
26	f34	1⅛	14'-6"	13	13	B 2 E=7'-0"
				Footings		
4	s3	⅛	9'-0"	3	G	
28	s2	1⅛	7'-0"	6 6	G	
4	s31	1⅛	15'-0"	3	G	
32	s5	1⅛	4'-6"	16 16	G	
12	s6	⅛	6'-0"	3 3	G	
6	s9	¾	24'-3"	3	G	
2	s9	¾	26'-0"	1	G	B 6 J=18'-9", J=7'-3", H=6'-1"
8	s10	⅛	8'-6"	4	G	
20	s14	1"	25'-0"	10	G	
11	s15	1"	20'-6"	11	G	
28	s16	1⅛	8'-0"	14 14	G	
46	s17	1⅛	6'-0"	23 23	G	
46	s18	1⅛	7'-9"	23 23	G	
8	s29	1⅛	9'-6"	3 3	G	
8	s30	1⅛	10'-0"	3 3	G	3 See diagram
36	s33	¾	24'-0"	18 18	G	
40	s34	¾	22'-6"	18 18	G	
11	s35	1"	13'-6"	11	G	
4	s36	1⅛	12'-0"	3	G	

Notes:
For material, workmanship, etc., see Specifications.
Joints to be made where indicated, by pouring the wall in alternate sections and placing tar paper against the face of the joints before placing the concrete in the intermediate sections. Sections between adjacent joints shall be poured continuously without a stop.
All bars to be plain square bars.
Reinforcement shown in the various cross sections is for that portion of the wall between the joints adjacent to the section.
Sections A-A are to be poured monolithic with abutment.
Location of walls shown on this sheet may be altered by order of the Commissioner of Public Works.

CITY OF CHICAGO
DEPARTMENT OF PUBLIC WORKS
BUREAU OF ENGINEERING
DIVISION OF BRIDGES AND HARBOR

DOUBLE LEAF TRUNNION BASCULE BRIDGE
AT
WEBSTER AVENUE
OVER
NORTH BRANCH OF THE CHICAGO RIVER
SUBSTRUCTURE
EAST APPROACH

Retaining Wall Details & Reinforcement Bars

Scale: ¼" = 1 ft. April, 1914.

Drawn by P.E.G.
Traced by M.K.D.
Checked by D.N.B. Drawing No. 830

(11) OF (12)

1660570051

FILE No. 11-6A-30

N.

Grade 3.27% Up | El. +19.01 | Curb Grade 4.6 % (Walk) El +21.33 | Roadway El. +20.65 | El. +20.71

(Walk) Curb & Roadway | Old Street Grades | Chicago Datum

Sta. 6 | Sta. 7 | Sta. 8 | Sta. 9 | Sta. 9+74.22 | Sta. 10 | Sta. 10+24.88 | Sta. 10+26.25

Approximate end of Approach | El. +11.44

End of Retaining Wall

Building Line | Side walk | Curb line | Curb El. +21.33 | Gutter El. +20.65 | El. +20.71

El. +19.84 | Approximate N. Line of Bridge | Sta. 6 + 38.61

9 ℄ Webster Ave. West of River

Asphaltic Macadam Pavement.

El. +19.54 | Curb line | Sidewalk Line | Building Line

End of Retaining Wall

Sta. 10+16.63 El. +20.71 | El. +20.65 | Sta. 10+26.25

Channel of Chicago River. | North Branch

℄ of Trusses | 64'-0" | ℄ of Bridge | 64'-0" | ℄ of Trusses

Dock Line

HALF SECTION OF WEST APPROACH.
Scale ⅛" = 1 Ft.

21.0 | 4.5 | 6.0 | 1.5 | 9" | Asphaltic Macadam 10" | 6½" | 3½" | 6" Cem. Con. | Cinders | Present Street

TYPICAL SECTION
EAST APPROACH
Scale ⅛" = 1 Ft.

56'0" | 33'0" | 1.5 | 7.5 | 21.0 | 4.5 | 6.0 | 1.5 | 9" | 6" Cem. Con. | Asphaltic Macadam 10" | Cinders 6" | Building Line | Passage Way | ℄ of Street

Approximate end of Approach

Sta. 13+42.32 | El. +18.84 | Grade 1.5% | Sta. 15+95.32 | Sta. 16 | Sta. 17 | Grade 4.8% | Grade 2.5% | Chicago Datum ℄ | Profile of Dominick Street.

Lumber Shed | Lumber Co's Office | Building Line | 6' Cement Sidewalk | Curb Line | El. 11.046'

Fill 28 % | 14' Pavement | C. M. & St. P. R'y | STREET | DOMINICK | No Pavement

Sta. 13+13.50 | El. +18.99 | 14 ℄ Webster Ave. East of River | Asphaltic Macadam Pavement.

El. +20.71 Gutter | El. +20.65 | El. +20.71 Gutter | El. +20.65 | El. +18.99 Curb | Curb Line | 7' Cement Sidewalk | Retaining Wall | Passage | Building Line | Retaining Wall

2.0 | 50.0 | 140.0 | 2 Sty. Brick | 1 Sty. Brick | 1 Sty. Frame | 2 Sty. Brick | 1 Sty. Brick | 20.3 | 6' Cement Sidewalk | Curb Line | El. 11.046'

3 Sty. Brick | 5 Sty. Brick | El. 12.60' | Curb line | El. 11.05' | 6' Cement Sidewalk. | Board Fence | 2 Story Brick Stable | Sta. 16+08.04 | Drive

Approximate end of Approach | Sta. 13+64.62 | El. +18.99 | Curb and Roadway | Old Street Grade | Grade 1.5% | Chicago Datum

SOUTH HALF PROFILE.

Section "a-a" | 8" | 15" | 6" Cinders | El. 18.8'

Section "b-b" | 8" | 10" | El. 12.0 | 6" Cinders

This change not to be used! Drawing No 1232 to be followed as per Min of Corporation Counsel to Comm. of Public Work, dated Feb 22, 1915.

Section "c-c" | Present Pavement | Present Sub-sidewalk Space

Section "d-d" | Present Pavement | Present Curb Wall and Walk | Present Sub-sidewalk Space.

Section "e-e" | 6" Cinders. | 8" Tile Pipe Bedded in Gravel

Section "f-f" | 6" Cinders | 8" Drain pipe Bedded in Gravel

Scale: ¼" = 1'-0"

CITY OF CHICAGO
DEPARTMENT OF PUBLIC WORKS
BUREAU OF ENGINEERING
DIVISION OF BRIDGES AND HARBOR

DOUBLE LEAF TRUNNION BASCULE BRIDGE
AT
WEBSTER AVENUE
OVER
NORTH BRANCH OF THE CHICAGO RIVER

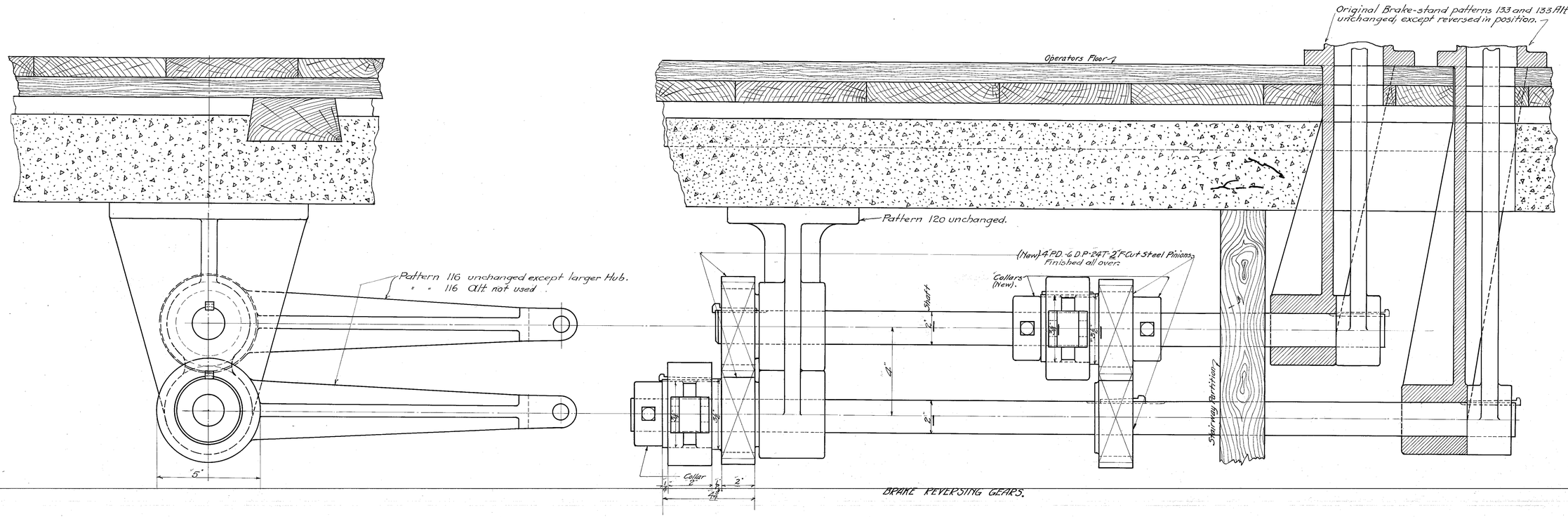
General Plan of Approaches

Scale: 1" - 20'-0" | Dec. 1914.
Drawn by H.R.M.
Traced by H.R.M.
Checked by J.M.
REVISED SEP. 23, 1915.

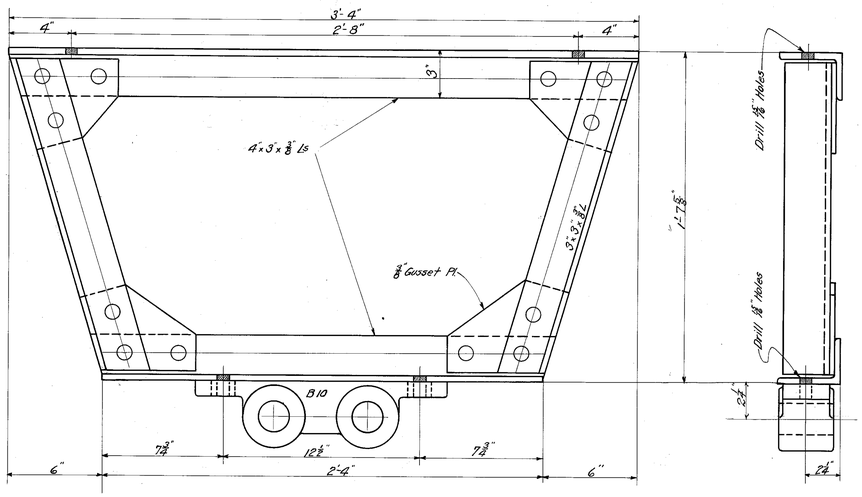
1660570052

Drawing No. 1231
FILE Nº 11-6A-51

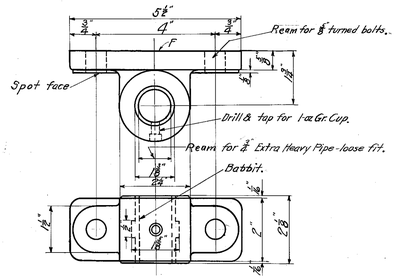
Size 27.7.41



BRAKE REVERSING GEARS.



STRUCTURAL STEEL SUPPORT FOR BRAKE CONNECTION SHAFT BEARINGS.
Scale 3"=1'-0" 2 Required.
(New, except bearing.)



GUIDE FOR ROD OF CENTER-LOCK INDICATOR.
STEEL CASTING.
Scale 6"=1'-0". 1 Required.
(New.)

MATERIAL FOR NEW PARTS
(ESTIMATED WEIGHT)
CHANGE IN BRAKE CONNECTIONS

Steel Castings	130#
Structural Steel for Brackets	400#
One Center Lock Guide, Steel Casting	8#

NOTE: The material of the new parts shown on this sheet to be paid for at unit prices named in the Contract for materials not shown on City's Drawings.

Correct Alexander von Babo
Engineer of Bridge Design
Approved Thos. G. Pihlfeldt
Engineer of Bridges and Harbor
Approved John Ericson
City Engineer
Approved H. A. Gruen
Commissioner of Public Works.

CITY OF CHICAGO
DEPARTMENT OF PUBLIC WORKS
BUREAU OF ENGINEERING
DIVISION OF BRIDGES & HARBOR

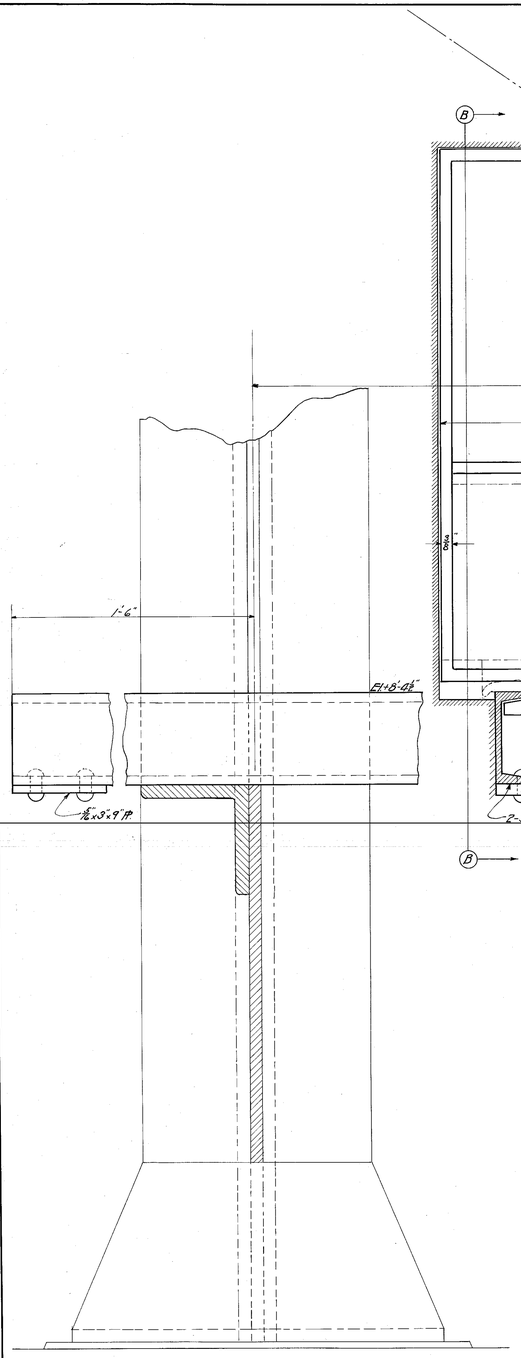
Change in Brake Connections for Webster Ave. Bridge.

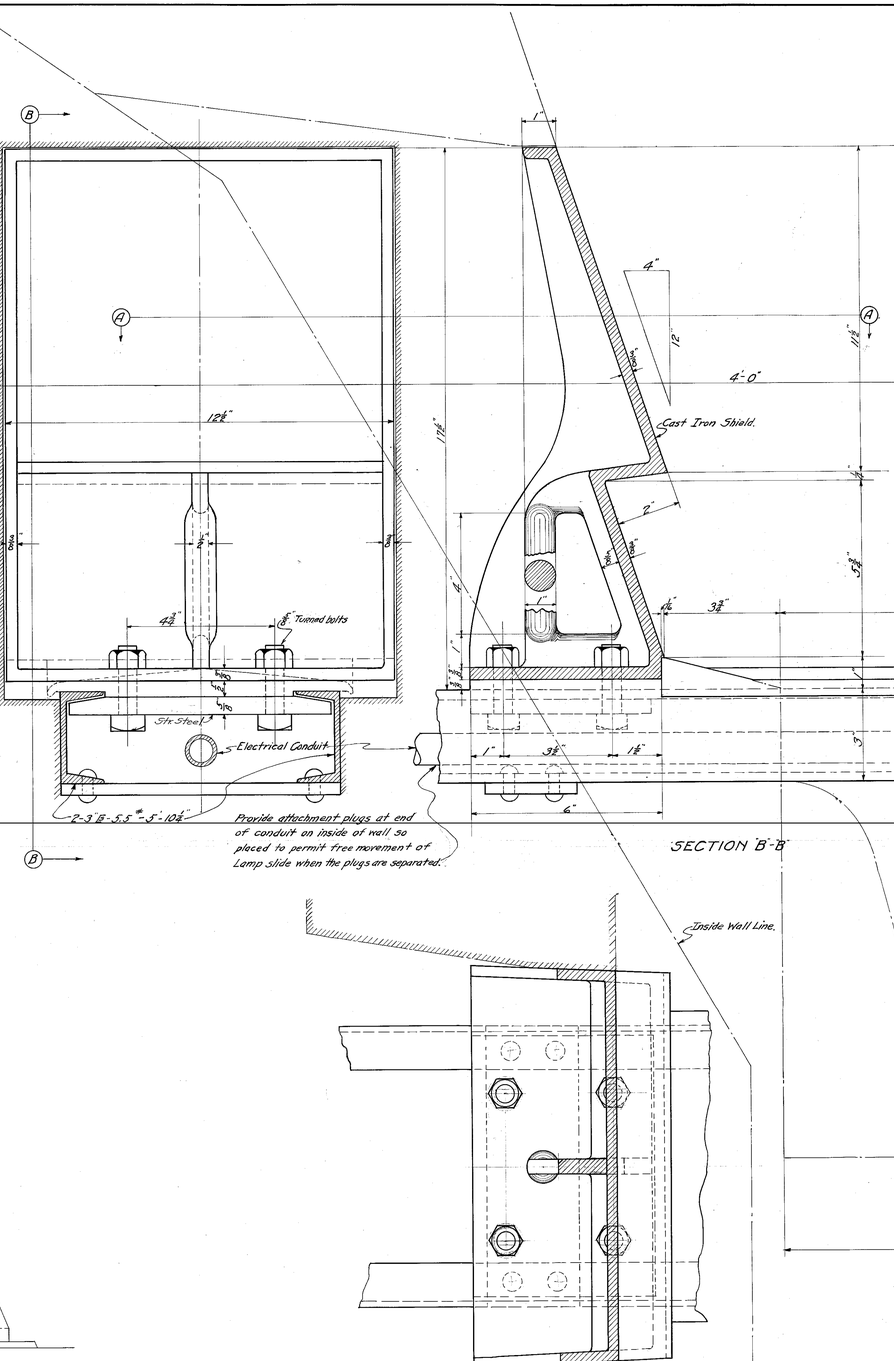
Scale: 6"=1'-0" Mar. 25, 1915

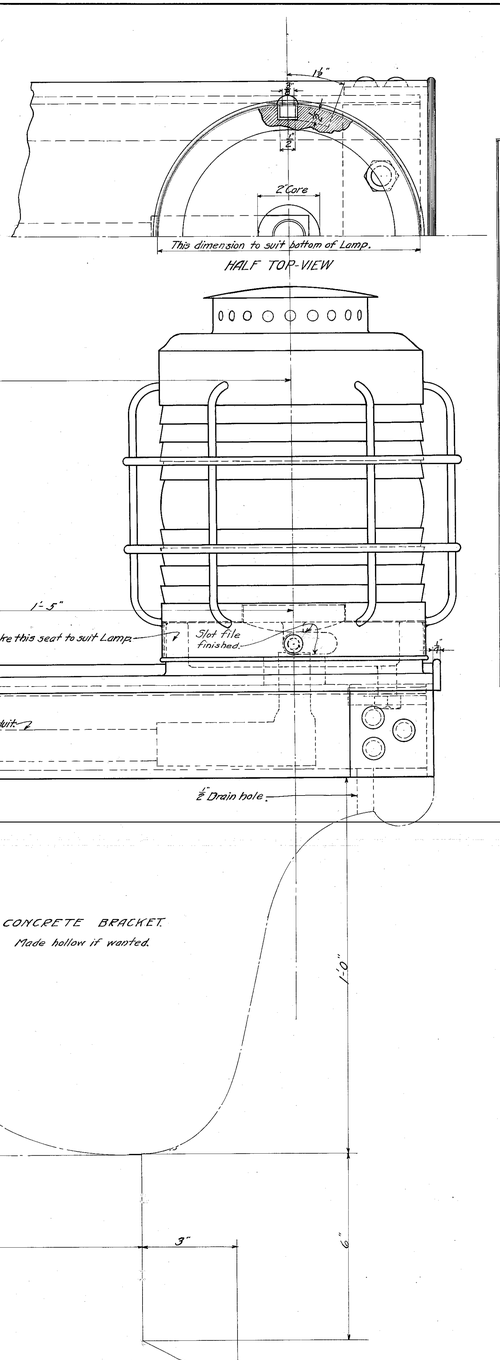
Drawn By H.C.F.
Traced " W.S.
Checked " J.C.O.

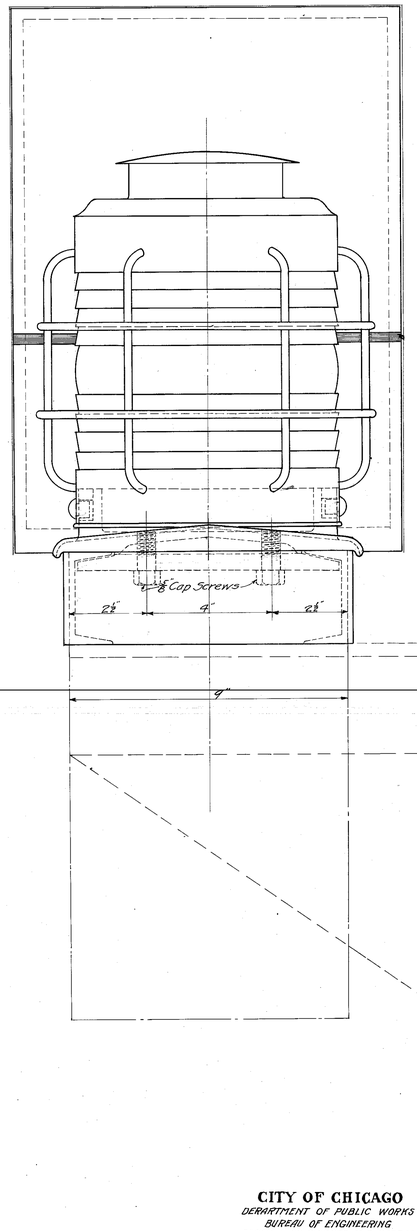
Drawing No. 1377.
FILE No. 11-CA-52

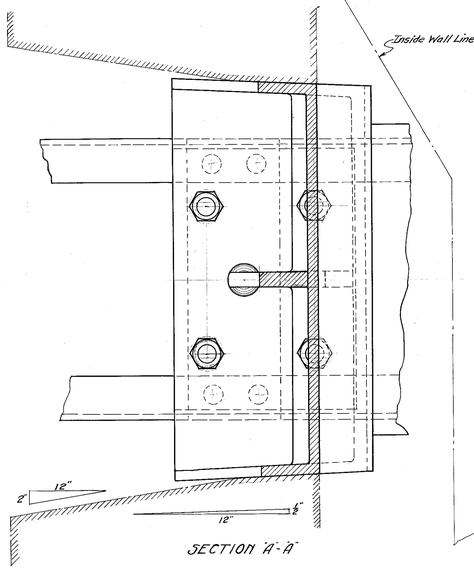
1660570053

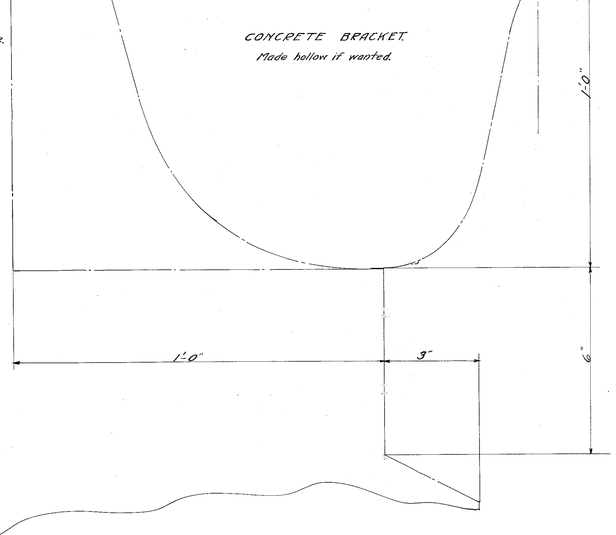












Correct _____ Engineer of Bridge Design

Approved _____ Engineer of Bridges & Harbor

Approved _____ City Engineer

Approved _____ Commissioner of Public Works

CITY OF CHICAGO
DEPARTMENT OF PUBLIC WORKS
BUREAU OF ENGINEERING
DIVISION OF BRIDGES AND HARBOR

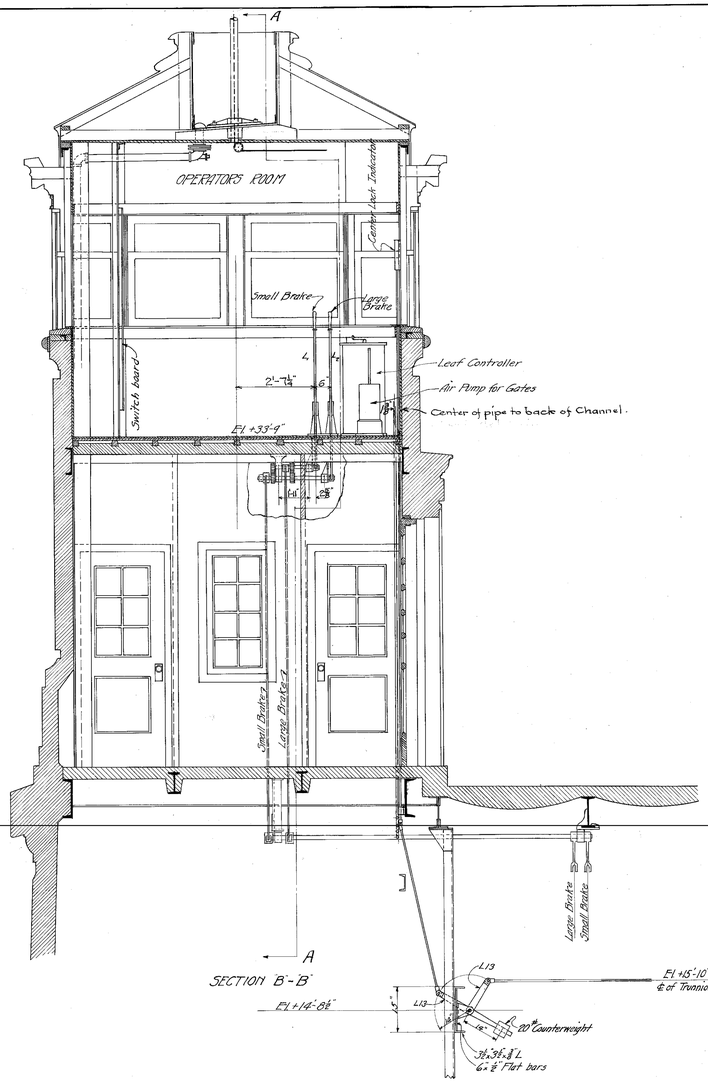
DOUBLE LEAF TRUNNION BASCULE BRIDGE
AT
WEBSTER AVE
OVER
NORTH BRANCH OF THE CHICAGO RIVER
PROPOSED PIER LAMP SLIDE

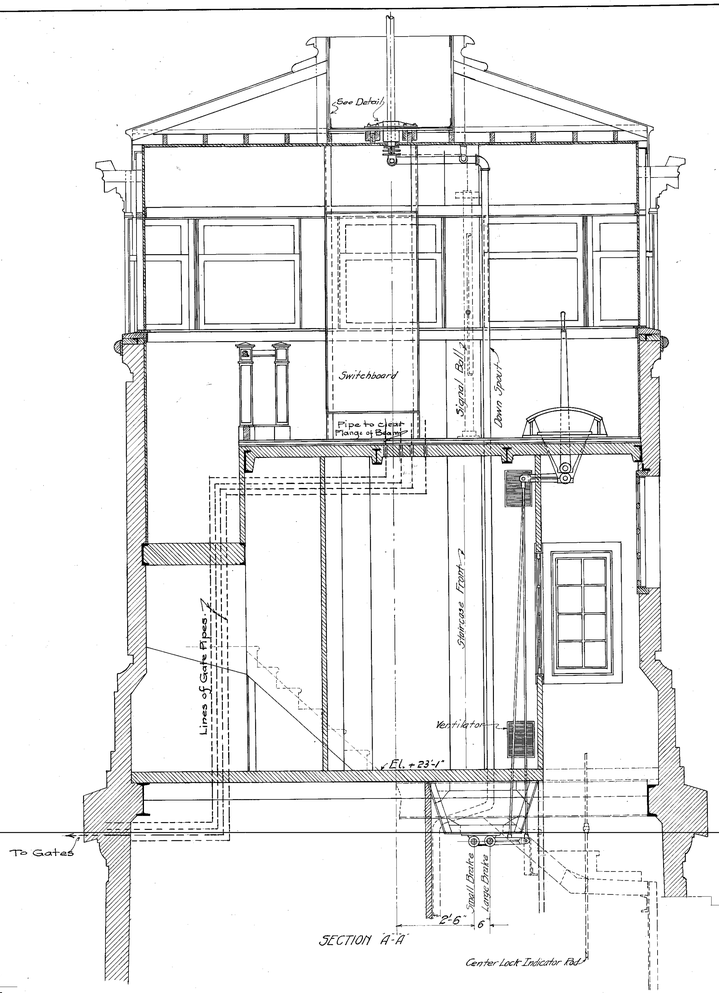
Scale: 1"=1'-0" Apr. 1915
Drawn by J.H.
Traced by S.M.S.
Checked by

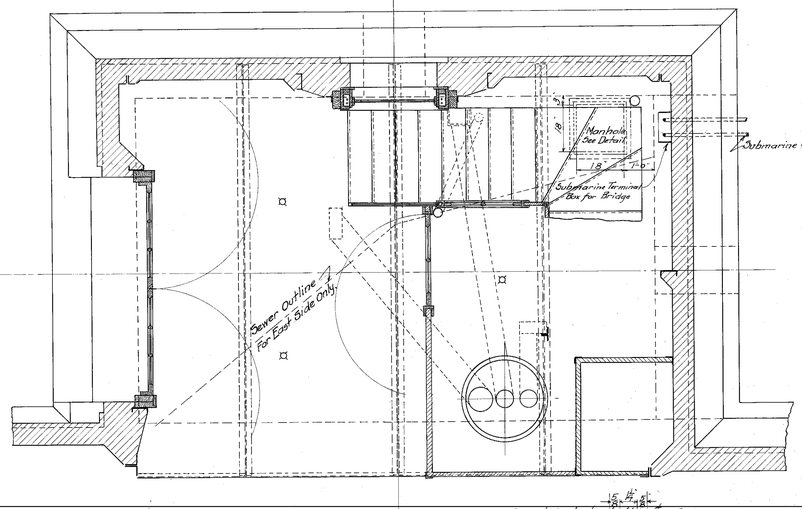
DRAWING NO. 1612.
FILE No. 11-6A-52

1660570051

27"x41"







Estimated Weights of Manhole Cover 94#
" " Frame 110#

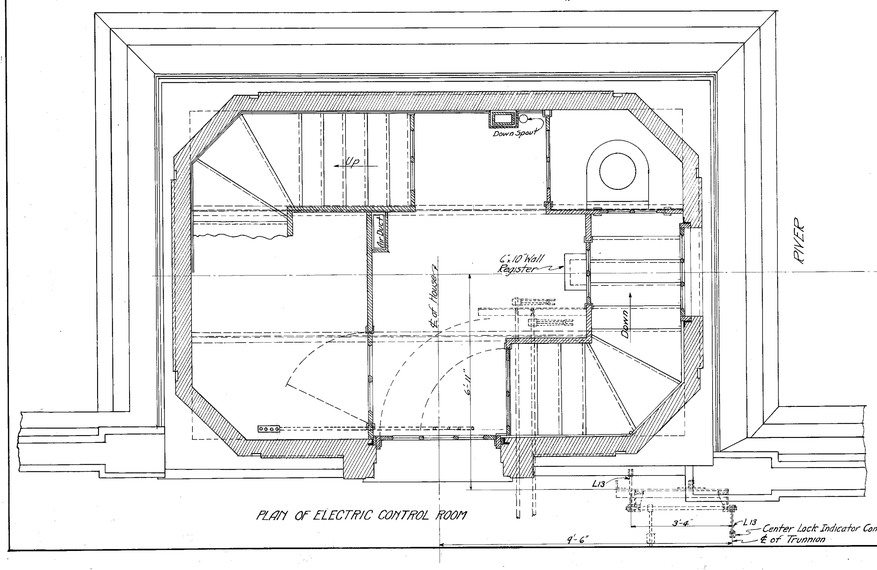
CAST IRON MANHOLE.

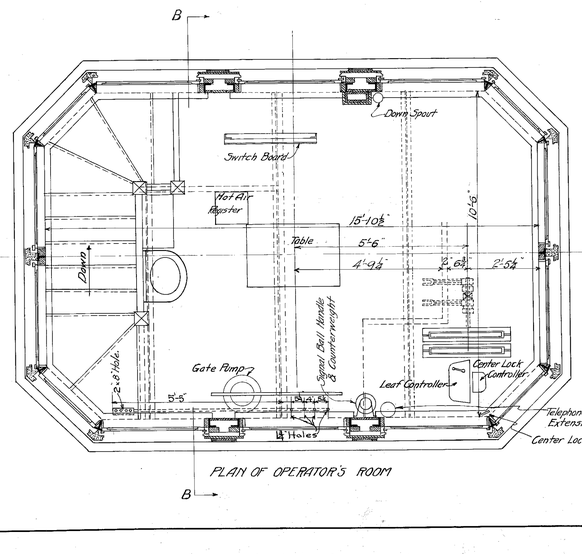
2-REQ.

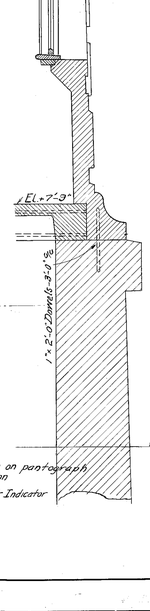
SCALE 3" to 1 ft.

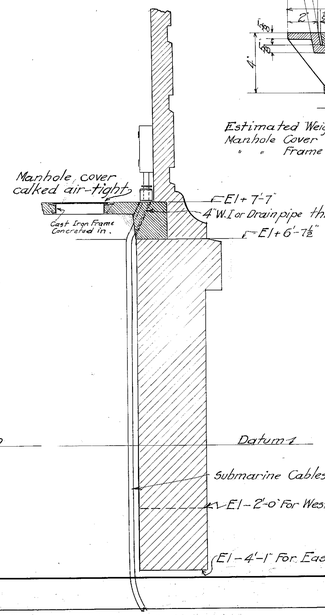
8-21-'15'

The labor and material for above parts, to be paid for at unit prices named in the Contract for materials not shown on City's Drawings.









CITY OF CHICAGO

DEPARTMENT OF PUBLIC WORKS
BUREAU OF ENGINEERING
DIVISION OF BRIDGES AND HARBOR

DOUBLE LEAF TRUNNION BASCULE BRIDGE

AT

WEBSTER AVE

OVER

NORTH BRANCH OF THE CHICAGO RIVER

OPERATOR'S HOUSES AND APPARATUS

Scale ¾" = 1'-0" Mar 1915

Drawn by H

Traced by H.H.S.

Checked by

Revised 8-21-'15.

DRAWING NO. 1743

FILE NO. 11-6A-54

1660570055

WILLIAM HALE THOMPSON

MAYOR

WM.R.MOORHOUSE

COMMISSIONER OF PUBLIC WORKS

WM.BURKHARDT

DEPUTY COMMISSIONER OF PUBLIC WORKS

JOHN ERICSON

CITY ENGINEER

THOS.G.PIHLFELDT

ENGINEER OF BRIDGES AND HARBOR

ALEX.VON BABO

ENGINEER OF BRIDGE DESIGN

SUBSTRUCTURE BUILT BY

GREAT LAKES DREDGE AND DOCK CO.

CHICAGO,ILL.

SUPERSTRUCTURE BUILT BY

THE KETLER-ELLIOTT ERECTION CO.

CHICAGO,ILL.

ELECTRICAL EQUIPMENT INSTALLED BY

C.H.NORWOOD

CHICAGO,ILL.

1916

Polished Surface

Height of Letters. Top surface polished

Sand blast finish.

Rosette

Rib

Rib

about 6"

¾" dia soft steel bolt

Washer

SECTION AA

NOTES:

2 Name Plates Required.

Material:

The metal to be used for these plates shall be strongite (alloy of nickel) or a metal equally as good.

Workmanship:-

The straight surfaces of the frame or border shall be polished unless otherwise noted.

The letters shall be raised one-eighth ($\frac{1}{8}$) of an inch and their upper surface shall be polished

The surfaces of the visible parts of the name plate shall be neatly treated

The thickness of the metal shall not in any case be less than three-sixteenths ($\frac{3}{16}$) of an inch thick

Correct: Alexander von Babo
Engineer of Bridge Design.

Approved: Thos. G. Pihlfeldt
Engineer of Bridges and Harbor

Approved: John Ericson
City Engineer

Approved: Wm. R. Moorhouse
Commissioner of Public Works

CITY OF CHICAGO
DEPARTMENT OF PUBLIC WORKS
BUREAU OF ENGINEERING
DIVISION OF BRIDGES AND HARBOR

WEBSTER AVE. BRIDGE.

NAME PLATE

Scale: Full Size Nov 8-1915

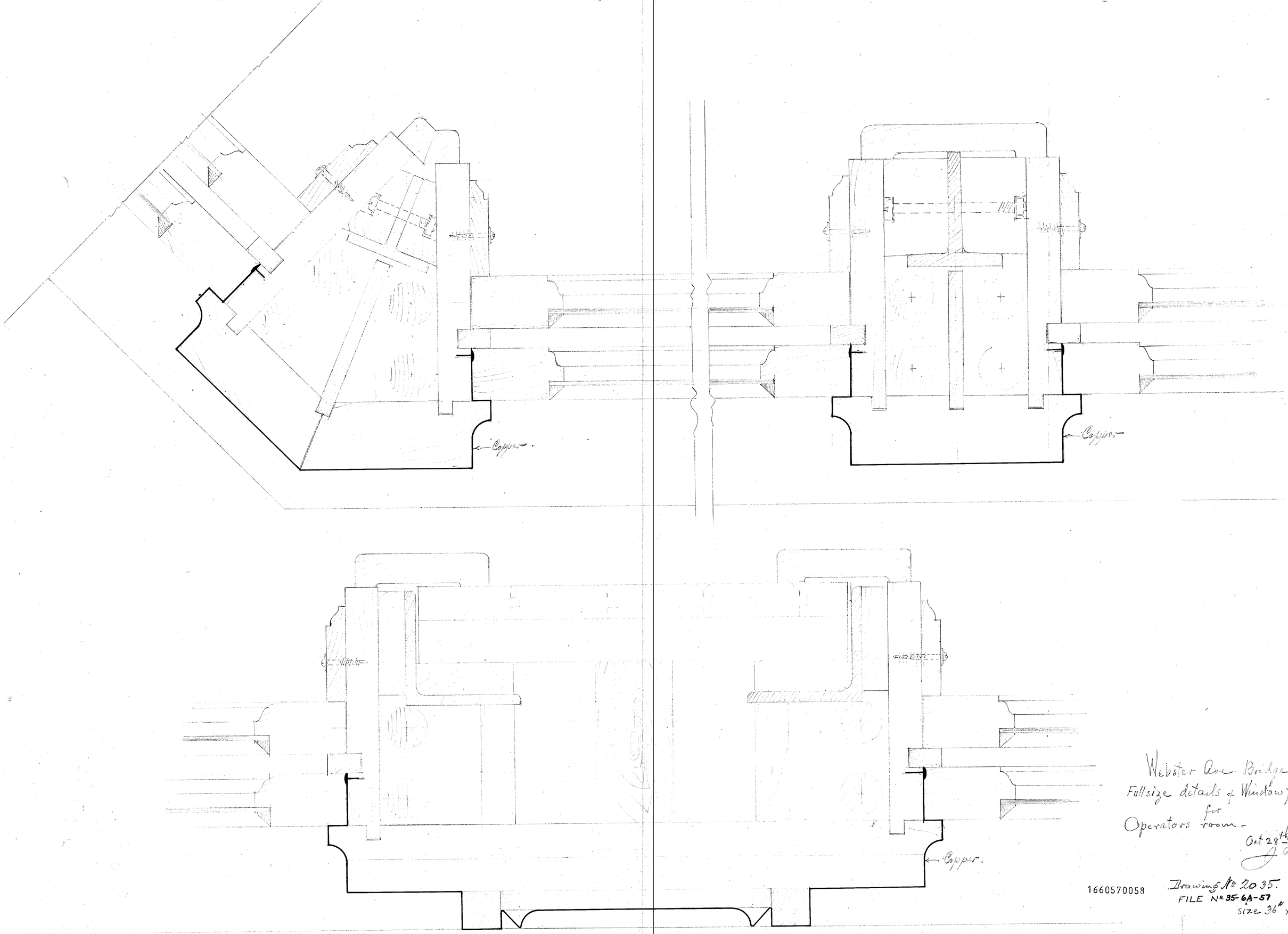
Drawn By T.F.M.
Traced
Checked J.A.

Drawing No 1796.

1660570057

FILE No 35-6A-56

31'x55'

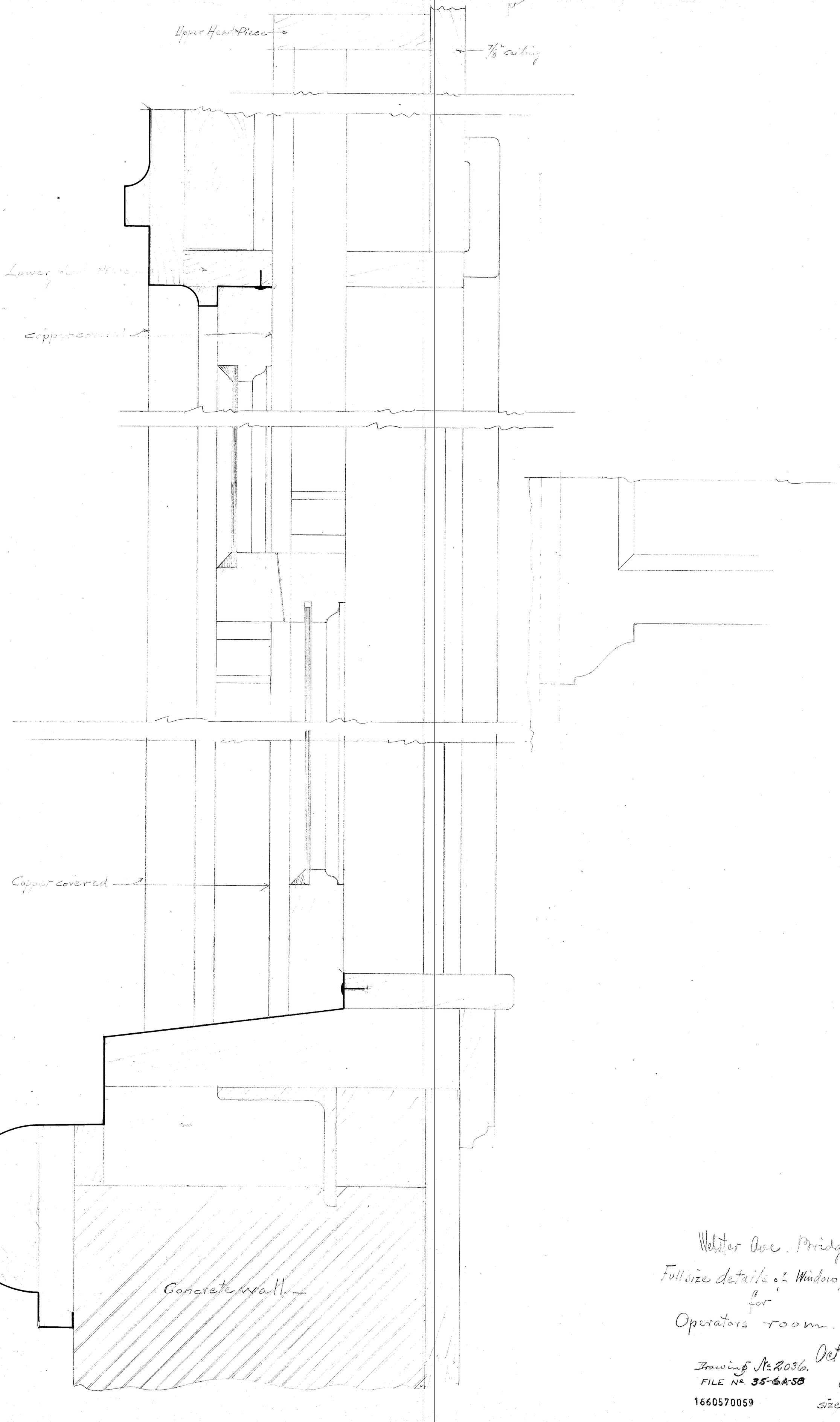


Webster Ave. Bridge.
Fullsize details of Window frames
for
Operators room -
Oct 28th 1915
J. Aguew.

1660570058

Drawing No 2035.
FILE No 35-6A-57
Size 36" x 25"

36"x25"



Webster Ave. Bridge.
Full size details of Window frames.
for
Operators room.

Drawing No 2036.
FILE No. 35-6A-58

Oct. 29th 1915
J agnew

1660570059

size 36" x 25"
36"X25"

PROFILE OF STREET WEST OF RIVER.

NORTH HALF PROFILE EAST OF RIVER.

Section A-A.

Section B-B.

Section C-C.
(Wall to be built: See detail)

Detail of Pavement, Curb and Sidewalk.
Scale: ¾"=1ft.

Typical Cross Section.

Detail of Wall.
(At Section C-C)
Scale: ½"=1ft.

Existing Wall
Recess to be cut in end of existing wall for key.
Chamfer 1"
Extension to be built.
Close joint

Detail of Sub-sidewalk
Scale: ½"=1ft.

Sectional Elevation E-E.

Sectional Elevation F-F

This retaining wall, to be located at and from Sta. 15+01.8 to Sta. 15+19.8 (being 36' long) on the north side of Webster Avenue, is included in this Contract.

Item	ESTIMATED QUANTITIES	
A	Granite Block Pavement	3600 sq.yd.
B	Concrete Sidewalk (Exclusive of Reinforced Slabs and Driveways Slabs)	8600 sq.ft.
C	Concrete Curb	1500 lin.ft.
D	Grading on Dominick Street	1400 sq.yd.
E	Additional Filling	200 cu.yd.
F	Concrete in Retaining Wall, Slabs, etc.	50 cu.yd.
G	New Catch Basins, complete	6
H	New Catch Basin or Manhole Covers	6
I	Steel Beams, Reinforcing Material, etc.	3500 lbs.
J	8" Sewer Tile	300 ft.
K	New Sewer Inlet Gratings	2

Note: These quantities are approximate only, and are given for the purpose of canvassing bids, the City assuming no responsibility for the correctness of the same.

CITY OF CHICAGO
DEPARTMENT OF PUBLIC WORKS
BUREAU OF ENGINEERING
DIVISION OF BRIDGES AND HARBOR

DOUBLE LEAF TRUNNION BASCULE BRIDGE AT WEBSTER AVENUE OVER NORTH BRANCH OF THE CHICAGO RIVER

Paving on Approaches.

Council Proceedings P. 1049. July 6, 1915.
Scale: 1/50"=1ft. February, 1916.
Drawn by T.F.M. & G.A.H.
Traced by
Checked by G.A.H. Drawing No. 2137.
Revised March, 1916. Apr. 22, 1916. May 9, 16. May 24, 1916.

Approved: Hugh E. Young, Engineer of Bridge Design
Approved: Thos. G. Pihlfeldt, Engineer of Bridges and Harbor
Approved: John Ericson, City Engineer.
Approved: W. R. Mosthouse, Commissioner of Public Works.

1660570060 FILE No. 11-6A-59

9A Per 3

27x41"

N

WHITE LUMBER CO.

FREDERICK FURST STONE CO.

50'

PROPERTY OF WHITE LUMBER CO.

Right of Way Line of C.M.&St.P.R.R.Co.

14'

28'

Lumber Piles.

Driveway.

Foot of Approach El. +10.5

680'

54' Grade 3.27%

1227

125'

14'

30' Grade 3.27%

One Story Frame Lumber Shed.

OFFICE

N. Line Webster Ave.

1.5'

6'-0"

4.5'

+13.25

+14.25

31.56'

14'

50'

DOMINICK STREET

3'

6'

1'-0"

1'

4'

1'

up ← Grade 3.27%

33'

℄ Webster Ave.

CITY OF CHICAGO
DEPARTMENT OF PUBLIC WORKS
BUREAU OF ENGINEERING
DIVISION OF BRIDGES AND HARBOR

WEBSTER AV. BRIDGE.

PROPOSED RECONSTRUCTION OF ENTRANCE TO WHITE LBR. CO.

Revised May 17, 1916.

1660570061 SCALE 10'-1" APRIL 26, 1916.
DRG. NO. 2197
FILE Nº 11-64-60

27"x41"

N

WHITE LUMBER CO.

FREDERICK FURST
STONE CO.

50'

PROPERTY OF WHITE LUMBER CO.

℄ Right of Way Line of CM&StPRR Co.

14'

14'

28'

Lumber Piles.

Foot of Approach
El. +10.5

℄ Right of Way Line of CM&StPRR Co.
71'@ 3±%

Lumber Piles.

℄ Right of Way

50'

DOMINICK STREET.

3'

6'

10'

Driveway

Foot of Approach
El. +10.5

71'@ 3±%

+13.0

+13.24

+13.0

20'

39'@ 5%

One Story Frame Lumber Shed

OFFICE
Moved to this position
to give 20' Driveway

℄ N. Line Webster Ave.

1.5'

Cement Sidewalk

6'-0"

4.5'

Curb

+15.75

+15.42

+14.63

El +13.23

13'

17'

14'

10'

6"

1'

33'

℄ Webster Ave.

CITY OF CHICAGO
DEPARTMENT OF PUBLIC WORKS.
BUREAU OF ENGINEERING
DIVISION OF BRIDGES AND HARBOR

WEBSTER AV. BRIDGE

PROPOSED RECONSTRUCTION
OF ENTRANCE TO WHITE LUMBER CO.

SCALE 10'= 1" May 4. 1916.

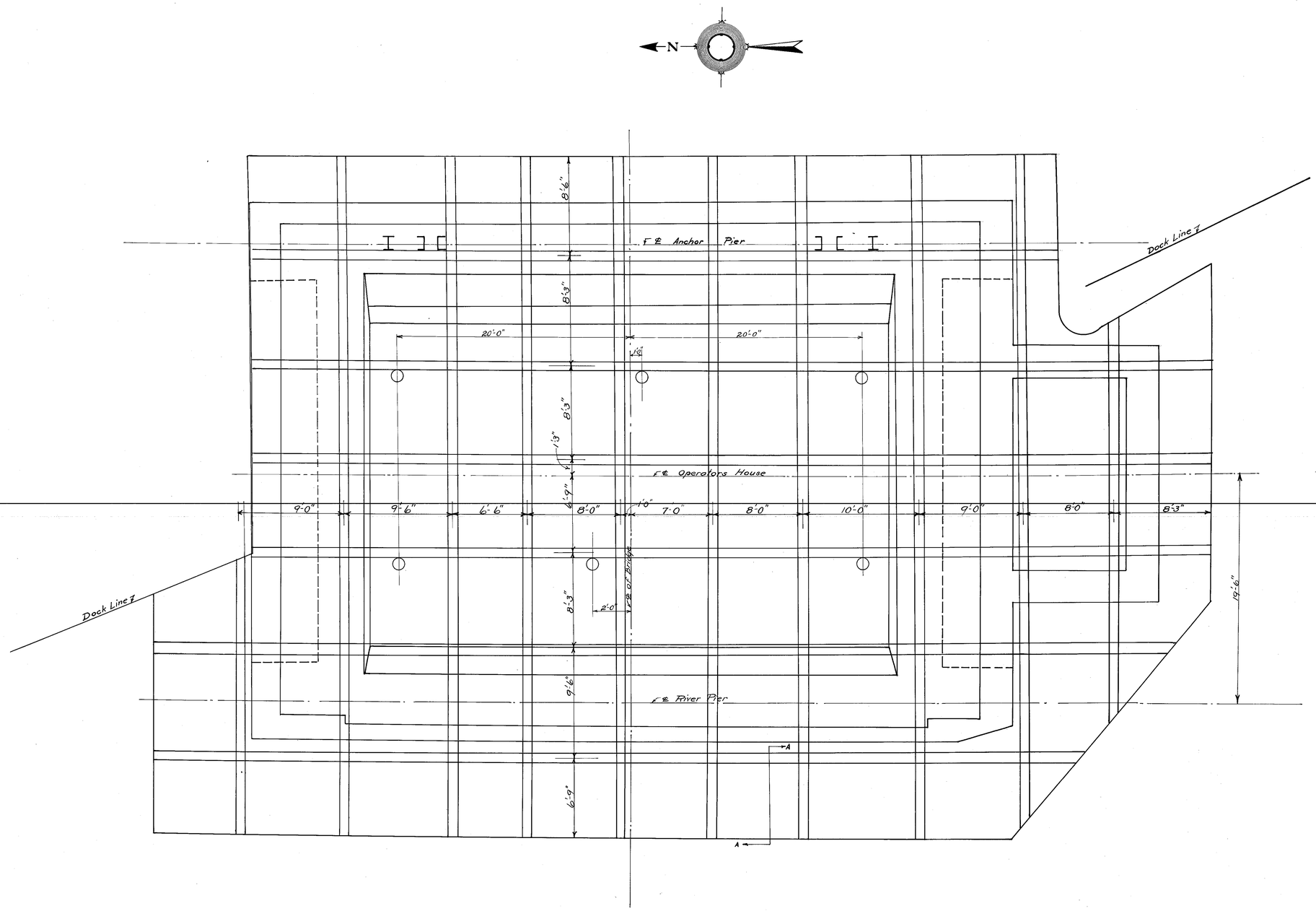
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FILE Nº 11-6A-61

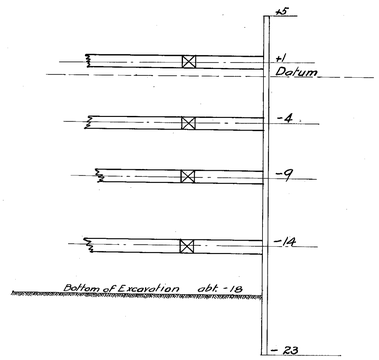
H.L.S

1660570063

Scheme #2.

27x41"





Section "A-A."
Scale 3/16" = 1 Ft.

Approved: _____ Engineer of Bridge Design

Approved: _____ Engineer of Bridges and Harbor

Approved: _____ City Engineer

Approved: _____ Commissioner of Public Works

DOUBLE LEAF TRUNNION BASCULE BRIDGE AT WEBSTER AVE.

Suggestion for East Cofferdam layout

Scale 1/4" = 1 Ft. March 2 - 1915

Great Lakes Dredge & Dock Company
Monroe Building, Chicago

1660570063

DRAWING No. 3731
FILE No. 11-6A-62

27"x41"

Webster Ave

Retaining Wall

Sta 13 + 16.3

3 Story Brick Office

5 Story Brick

1 Story Brick

2 Sty. Frame

1 Story Frame

2 Story Frame

2 Story Brick

Roadway

Fence

Plank

Wood Canopy

3 Story Brick

Engine Room 1 Story Brick

Boiler Room 1 Story Brick

1 Story Frame

Plank Roadway

1 Story Frame

4 Story Brick

Vats

Chicago River

Dock line

Plank Roadway

1 Story Frame

Storage Yard for Tan Bark

Sta 16+08.1

Sta 16+87.6

Drive

Drive

Sta 17+52.7

Shultz Baking Co Stables 2 Story Brick

Dominick St.

1 Story Brick J.F. Helmold and Bro. Machine Shop

C.M. and St. P. Ry.

Side Track

Fence

Fence

Cement Walk

Cement Walk

Hamburg St.

Frame Shed

Building Layout
Gutman Tannery
Webster Ave Bridge
May 15, 1915 W.M. Richards
Scale 20 ft = 1"

1660570064

DRAWING № 3832
FILE № 15-6A-63

LIST OF CAST PIECES FOR WEBSTER AVE. BRIDGE (TRUNNION).

FROM MODERN STEEL STRUCTURAL CO's SHOP DRAWINGS.

(FEDERAL BRIDGE CO. SUCCESSOR TO MODERN STEEL STRUCTURAL CO.).

Description	Located by DWG. No.	Detailed on DWG. No.	No. of Pieces for Bridge	Part Symbol	Pattern No. & Material: Cast Steel	Cast Iron	Bronze, etc.	Remarks
Trunnion bearing 16½" shaft Base		201	8	B1	45			
" " " " Cap		"	8	" "	42			
" " " " Bushing		"	8	" "			43	Phosphor bronze
Bearing 16½" shaft Base	215	"	4	B2	41			
" " " Cap	"	"	4	" "	42			
" " " Bushing	"	"	4	" "			43	Phos. bronze (See B1)
Trunnion Shaft collar		202	8	—	53			(R & L patterns?)
Motor driven shaft collar		"	4	—	145			
Bearing cap 8" shaft Main Op. Mech.	215	203	12	B3 B4	46			
" base " " " " "	"	"	4	B3	43A			
" " " " " "	"	"	8	B4	45B			
" bushing " " " "	"	"	12				48	Phosphor bronze
Bearing base 8" shaft " " "	28	"	4	B5	47			
" cap " " " "	"	"	4	" "	46			
" bushing " " " "	"	"	4	" "			48	Phosphor bronze (see B4)
Double stand bearing base " " "	215	"	2	B6	49A			
" " " " " " "	"	"	2	B7	49B			
" " " " " " "	"	"	4	B8	49C			
" " " cap " " "	"	"	8	B6 B7 B8	50			
" " " " " " "	"	"	8	" " "	51			
Brake bracket " " "	"	"	4	B9	52			
Pinion 35.809" P.D., 7½" C.P., 15T, 15"F. " " "	"	204	4	G2	56			Rack pinion
Rack (Top section) 7½" C.P. " " "	—	205	4	—	63			
" (center section) 7½" C.P. " " "	—	"	8	—	62			
" (bottom section) " " " " " "		"	4	—	61			
Pinion 20" P.D. 4.18 C.P. 18T. 13"F. " " "	215	204	4	G4	58			
Gear 72" P.D. 4.18 C.P. 54T., 12"F. " " "	"	"	4	G3	57			split, half pattern
Gear 60" P.D. 2.5 C.P. 75T., 8"F. " " "	"	"	4	G5	59			
Gear 38" P.D. 1.5 C.P. 76 T., 5"F. " " "	"	"	4	G7	60			
Brake shoe (large) " " "	"	207	4		64			
" " "	"	"	4		65			
Brake wheel (large) " " "	"	"	4		73			
Brake lever " " "	"	"	4		69			
Trunnion hinge (large brake) " " "	"	"	4		71			
Washer " " "	"	"	8			75		
Brake shoe (small brake) " " "	"	"	4		66			
" " " " " "	"	"	4		67			
Brake lever " " "	"	"	4		68			
Trunnion hinge " " "	"	"	4		70			
Brake wheel " " "	"	"	4		72			
Washer " " "	"	"	8			74		
Brake lever Brake Mech.	206	208	4	L3	116			
Limit lever " "	"	"	8	L6	118			
Brake lever " "	"	"	28	L5	119			
" " " "	"	"	4	L7	124			
Brake shaft bearing " "	"	"	50	B21		111		
Brake support " "	"	"	2	B12	120			Double bearing
Brake lever bearing " "	"	"	4	B10		112		
Clip " "	"	"	32			115		Malleable cast iron.
Counterweight " "	"	"	8			126		
" lever " "	"	"	4		149			
" " cap " "	"	"	4		148			
Shoe (for brake shaft bearing) " "	"	"	2			114		
Roller " "	"	"	8			136		
Coupling (flange) " "	"	213	8		91			In halves - see DWG 210
Collar (shaft) " "	"	"	8		127			
Clevis (rod end) " "	"	"	4		130			
Rod end (single) " "	"	"	12		128			
" " " " "	"	"	15	212 213	110			
Clevis (rod end) " "	"	"	4		129			Pipe connection
Support lever (for brake shoes) " "		217	4		143			
" " " "		"	4		144			
Brake lever stand " "	206	213	2			133		
" " " " "	"	"	2			133 alt.		
Grip trigger " "	"	"	4				132	Cast brass
Guide (on brake handle) " "	"	"	4				131	" "
Lock bolt Center lock	211	211	2	E	103			
Bolt guide " "	"	"	2	d	101			
Socket holder " "	"	"	2	B	102			
Bolt socket " "	"	"	2	C	106			
Connecting rod link " "	"	"	2	F	104			
" " cap " "	"	"	2	"	105			
" " bushing " "	"	"	2	"			138	Phosphor bronze
Lever " "	214	212	2	L15	146			
Indicator rod guide " "	"	"	2		108			
Counterweight " "	"	"	2			147		
Shackle (swivel joint) " "	"	"	1				109	Phosphor bronze Babbitted. Same as Ind. rod guide
Hand wheel shaft 1¼" bearing " "	211	"	1		108			
Hand wheel (18") " "	"	"	1		107			
Coupling (flange) Lock Indicator	214	210	4		91			In halves. See DWG. 206
Indicator bracket " "	"	"	2				90	Cast brass
Bearing (3½" shaft) base Center Lock	211	"	4	B20	95			Babbitted
" " " cap " "	"	"	4	" "	96			"
Bearing base " "	"	"	8	210 213	97			2 for 2" shaft. 6 " 2½" " Babbitted

Description	Located on DWG. No.	Detailed on DWG. No.	No. of Pieces for Bridge	Part Symbol	Pattern No. & Material: Cast Steel	Cast Iron	Bronze, etc.	Remarks
Bearing, cap Center Lock	211	210	8	B18 B19	98			2 for 2" shaft. 6 " 2½" " Babbitted
(Bracket bearing, base " "	"	"	1		99			Babbitted
" " cap " "	"	"	1		100			"
Crank shaft " "	"	"	1	C56	137			
" " " "	"	"	1	C57	137 Alt.			
Gear 24" P.D., 428 C.P. 120T., 2"F " "	"	"	1	G15	92			
" 30" " , 785" " , " " 2½"F " "	"	"	1	G13	93			
" 36" " , 1.257" " , 90T. 3½"F " "	"	"	2	G11	94			
Double bracket Lock Ind.	214	209	1	B13	86			
Geared lever, single arm " "	"	"	1	L11	76			
" " double arm " "	"	"	1	L12	76 Alt.			
Bracket " "	"	"	3	B16	83			
Lever, double " "	"	"	1	L14	84			
" , single " "	"	"	2	L13	78			
" , double " "	"	"	3	L9	80			
" , " " "	"	"	1	L8	81			
Crank " "	"	"	1	H	79			
Bracket " "	"	"	1	B17	85			
" " "	"	"	4	B14	87			
Rope clip eye " "	"	"	6			88		Malleable Iron
" " clamp " "	"	"	6			89		" "
Cast iron frame Coal Chute	220	220	2			145		
Cast iron cover " "	"	"	2			146		
Hinges " "	"	"	2				147	Cast brass
" "	"	"	2				148	" "
Railing post bracket	15	15	24	15 Alt's		40		Malleable cast iron.
Connector (railing)	"	"	24			150		
Break in floor casting, base		21	4		38			Fixed part, bridge
" " " " "		"	2		18R			" " "
" " " " "		"	2		18L			" " "
" " " " , wearing face		"	2		23R			" " "
" " " " " "		"	2		23L			" " "
" " " " " "		"	4		39			" " "
" " " " " "		"	4		22			" " "
" " " " " "		"	4		24			" " "
" " " " " "		"	2		25			" " "
" " " " , base		"	4		20			" " "
" " " " "		"	2		21			" " "
" " " " "		"	2		19R			" " "
" " " " "		"	2		19L			" " "
" " " "		22	2		29			Movable part, bridge
" " " " "		"	4		28			" " "
" " " " , connection		"	8		30R			" " "
" " " " "		"	8		30L			" " "
" " " " "		"	2		27R			" " "
" " " " "		"	2		27L			" " "
Bumper		"	4		15			" " "
Break in floor casting		23	2		26R			
" " " "		"	2		26L			
Disc plate		"	4		14			
" "		"	4		13			
Separator, journal-block support		"	8		34			
" " " "		"	8		35			
" , anchor rod "		"	4		9			
" journal block "		"	12		36			
" Outboard journal block support		"	8		139			
" journal block support		"	4		140			
" " " "		"	32		33			
" " " "		"	24		32			
" anchor rod support		"	4		10			
" journal block support		"	4		142			
Sole plate		"	4		11			
Trunnion bolt blocks		"	4		37			
Shoe (pedestal)		24	2			6		
Pedestal		"	4			12		
Sole plate		"	4		31			
Pedestal		"	4			5		
"		"	12			8		
"		"	8			7		
Hand hole cover		"	8			141		
Bolster		"	4			4R		
"		"	3			4L		
Bolster block		"	1			3		
Bolster		"	4			2		
Shoe (brake shaft support)		208	14			113		
Filler		"	14			125		
Equalizer lever		"	4			122		
Separator (for 20-65#I, 10¾" c. to c.).		2	48			1		

Description	Located on DWG. No.	Detailed on DWG. No.	No. of Pieces for Bridge	Part Symbol	Pattern No. & Material: Cast Steel	Cast Iron	Bronze, etc.	Remarks
THE FOLLOWING CASTINGS PROVIDED UNDER ELECTRICAL CONTRACT.								
Cam (lever) C.L. Limit Sw.		W&A	2		CB11			
Lever (double arm) " " " "		" "	2		CB10			
Hinge (bracket) " " " "		" "	2		CB12			
Pier lamp mounting			2		LM1			
Ball bearing cage		W&A	2		M⁴BB6			
Pipe strap		" "	2		M⁴PC1			
Jaw coupling		" "	2					(Probably furnished from stock.
Vertical bearing		" "						

Correct- Hugh L. Young, Engineer of Bridge Design

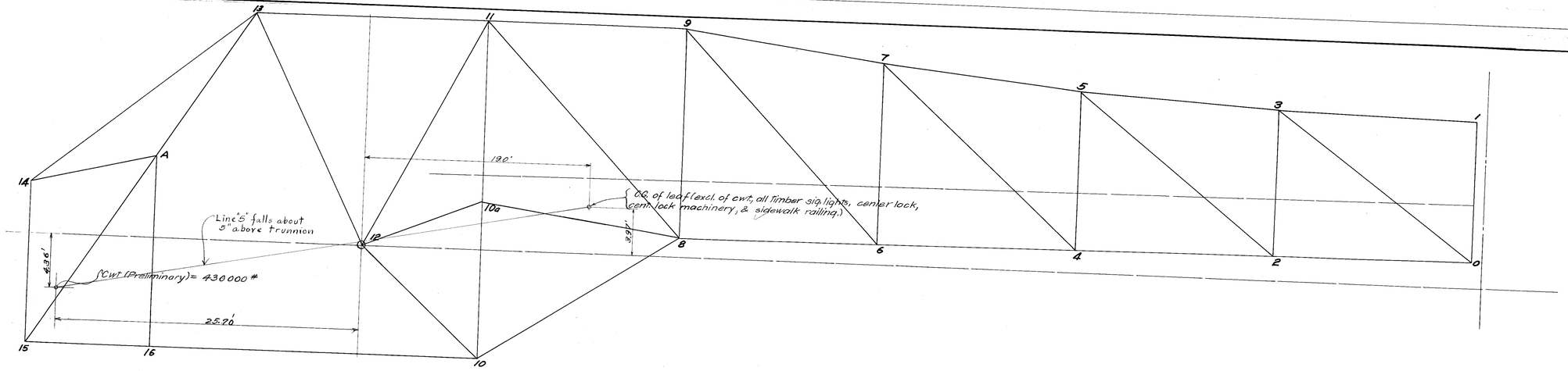
Approved- Thos. G. Pihlfeldt, Engineer of Bridges

Approved- John Ericson, City Engineer

CITY OF CHICAGO
Department of Public Works
Bureau of Engineering
Division of Bridges
WEBSTER AVE. TRUNNION BASCULE BRIDGE
CASTING PATTERN LIST
PATTERN NOS & MATERIALS
Listed by- FNF Date- Dec. 1916
Traced by- FNF
Checked by- J.C.B.
DRAWING NO. 3795
9 PER 217
24"x36"

1660570065

FILE No. 15-6A-65

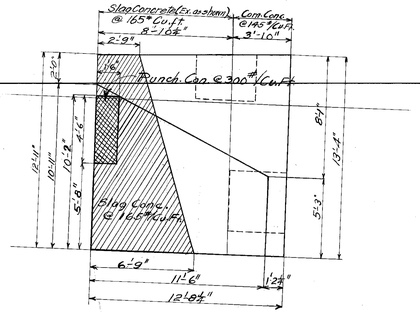


Item	Weight	X ft.	Moment (ft lbs) +	Moment (ft lbs) −	Y in.	Moment (inch lbs) +	Moment (inch lbs) −
Floor Beam 00	10600	+9349	990994		+43.75	506150	
" " 2-2	10573	+76.796	811901		+46.19	488367	
" " 4-4	10573	+60.094	635332		+44.63	471873	
" " 6-6	10573	+43.336	458868		+43.07	455379	
" " 8-8	10645	+25.636	272922		+41.51	441874	
" " 10-10	12420	+10.0	124200		+37.5		465750
Horizontal Gir.	9235	+ 9.73	89857		+52.0	346313	
Lattice Strut	6200	+ 4.84	30008		-52.25		323950
Sidewalk Brackets	9860	+51.75	510255		+57.75	569415	
" Laterals	1400	+51.75	72450		+68.5	95900	
Roadway Laterals	8450	+60.0	507000		+23.62	199589	
Cantilar Struts	3885	+60.0	233100		+23.62	91764	
Laterals 8-10a	2490	+13.95	45692		+13.76	86552	
Strut 8-10	1510	+16.85	27708		-45.56		68790
Laterals 8-10	2430	+16.85	44600		-45.56		110711
Stringers (Rear)	70804	+49.91	3533828		+62.0	4389848	
Bracing Struct'rs	165	+ 7.33	1209		+82.0	13530	
Roadway Castings	8945	+ 6.66	59573		+62.0	554590	
Trusses & Plates	321626		6071138	1932400		30599910	1203380
Cwt Box	68295	-22.6		1566067	-5.00		3464750
Totals	581679		14531935	3488471		39311054	11637337

$$X = \frac{14531935 - 3488471}{581679} = 19.0'$$

$$Y = \frac{39311054 - 11637337}{581679 \times 12} = 3.97'$$

$$\text{Cwt Req.} = \frac{14531935 - 3488471}{25.90} = 442000\#$$



CROSS SECTION OF CWT.

Part of Cwt. shown shaded necessary to ballance bridge exclusive of all timber, signal lights center lock, center lock machinery & sidewalk railing.

Material { 2120 Cu. Ft. Slag conc. @ 165 # = 350000 #
265 " Punch. " @ 300 # = 80000 #
Total 430000 #

CITY OF CHICAGO
DEPARTMENT OF PUBLIC WORKS
BUREAU OF ENGINEERING
DIVISION OF BRIDGES AND HARBOR

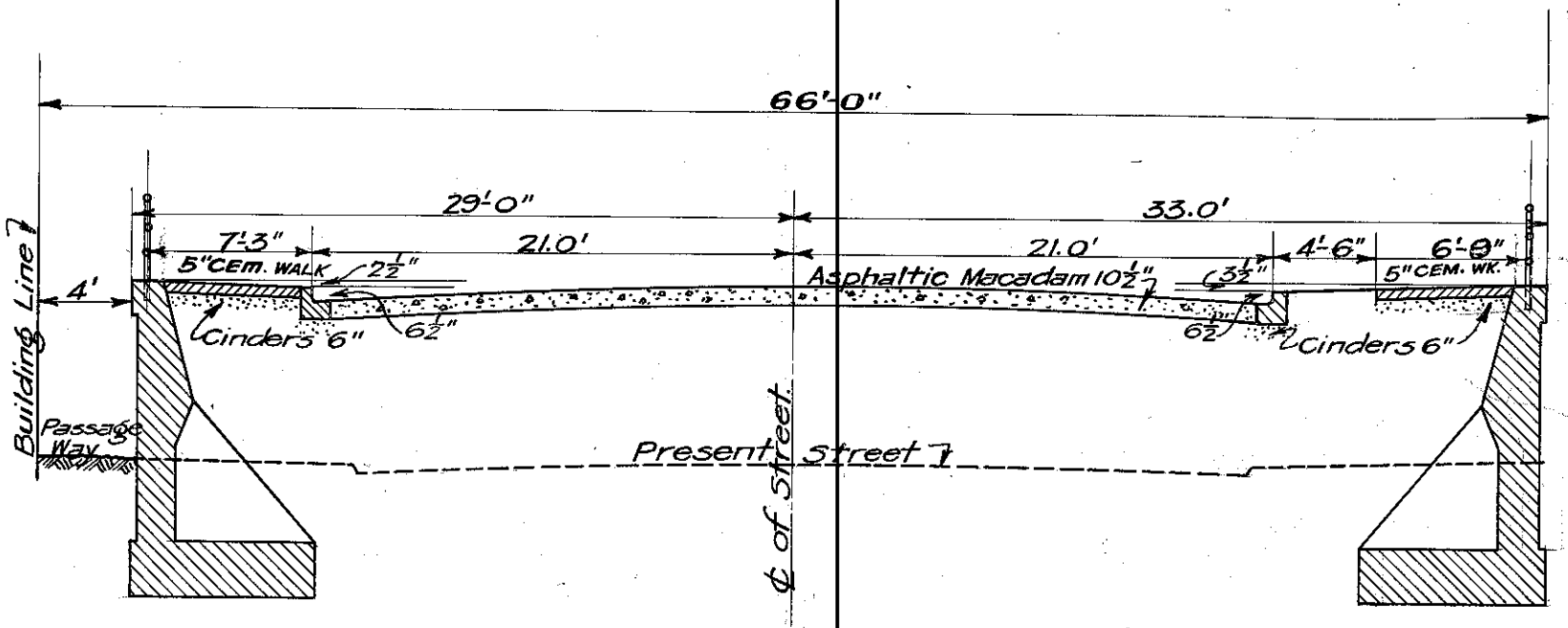
DOUBLE LEAF TRUNNION BASCULE BRIDGE AT WEBSTER AVENUE OVER NORTH BRANCH OF THE CHICAGO RIVER

SUPERSTRUCTURE
MOVABLE PART

Preliminary Counterweight

Scale

Drawn by...I.P.....
Traced by...R.J.H.....



Section Of East Approach.

Scale ⅛"=1-Ft.

WEBSTER AVE. BRIDGE.

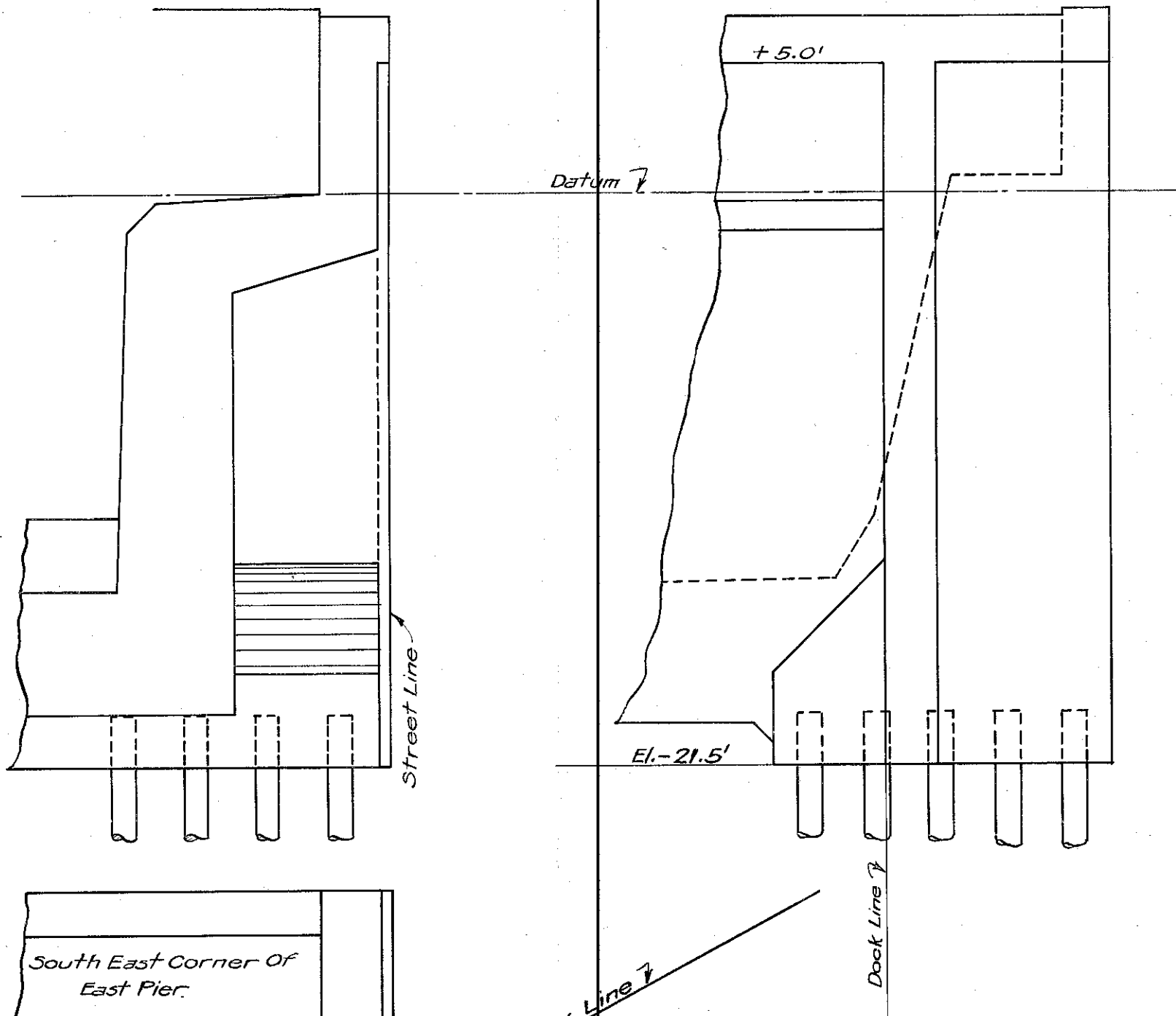
Drg No 944

1660570068

FILE No 34-D1-505.

8½ X 11"

7-16-14



CITY OF CHICAGO
DEPARTMENT OF PUBLIC WORKS
BUREAU OF ENGINEERING
DIVISION OF BRIDGES & HARBOR

WEBSTER AVE. BRIDGE,

Modification Of South End Of
Anchor Pier
To Suit Dock Construction.

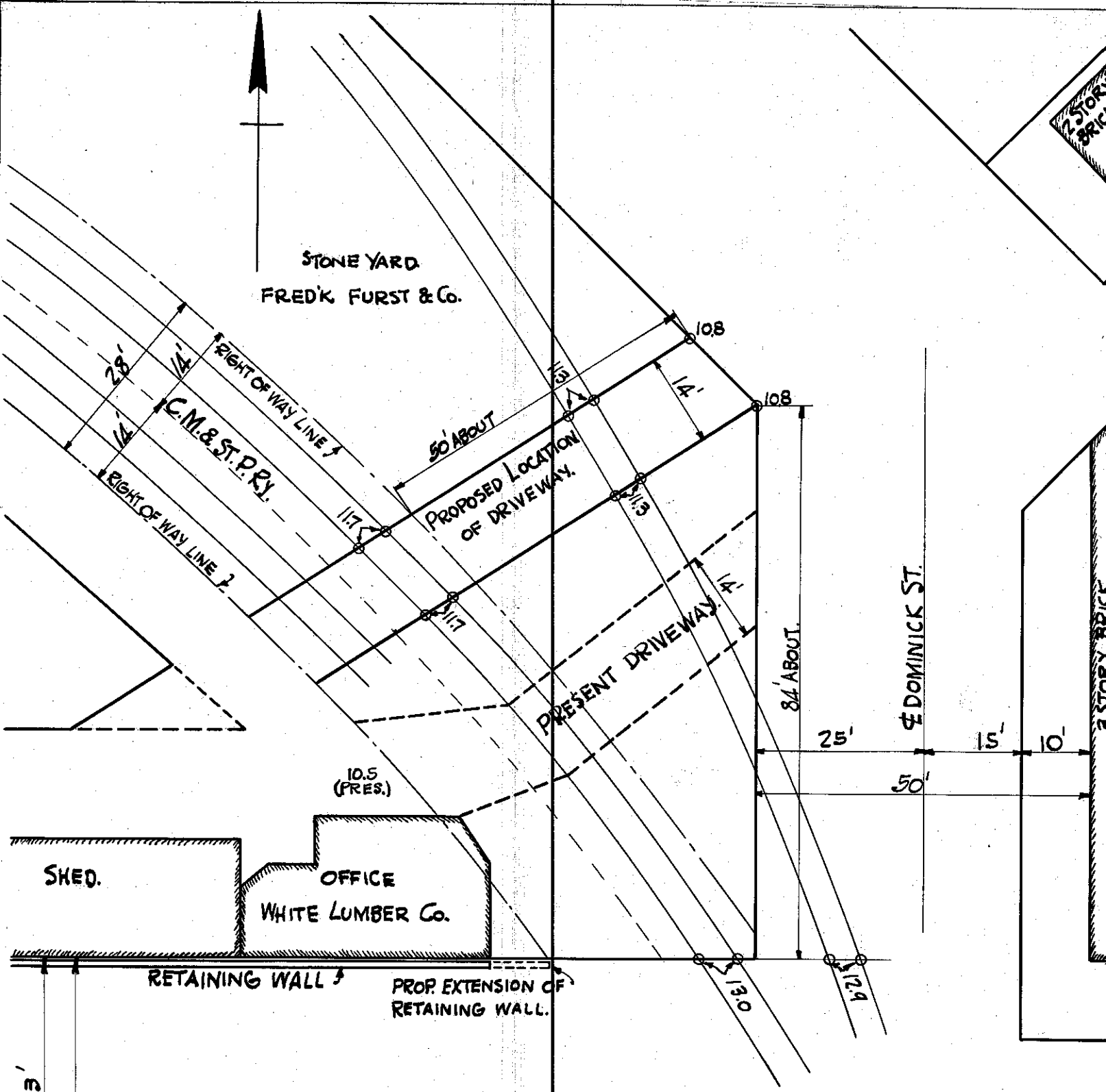
Scale $\frac{3}{16}$" = 1'-0" Feb. 15-1915

Drawing № 1339

FILE № 14-D-506

1660570069

Size 8½" x 11"



NOTE:-

ALL ELEVATIONS REFER TO CITY DATUM.

CITY OF CHICAGO.
DEPARTMENT OF PUBLIC WORKS.
BUREAU OF ENGINEERING.
DIVISION OF BRIDGES AND HARBOR.

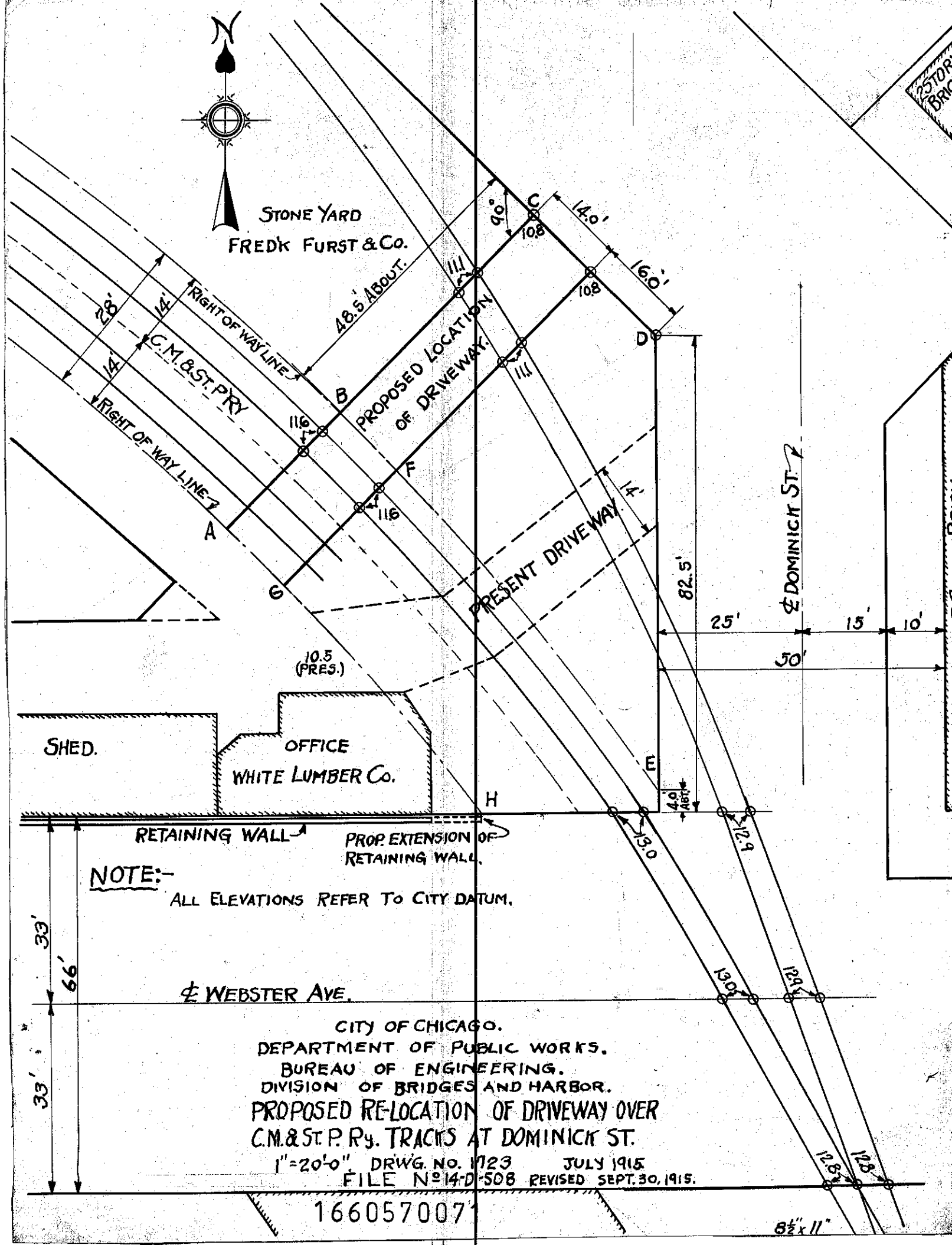
PROPOSED RE-LOCATION OF DRIVEWAY OVER C.M.&ST.P.Ry. TRACKS AT DOMINICK ST.

1"=20'-0". DRWG. NO. 1700. JULY 1915.

FILE Nº 14-D1-507

1660570070

JHR 8½"×11"



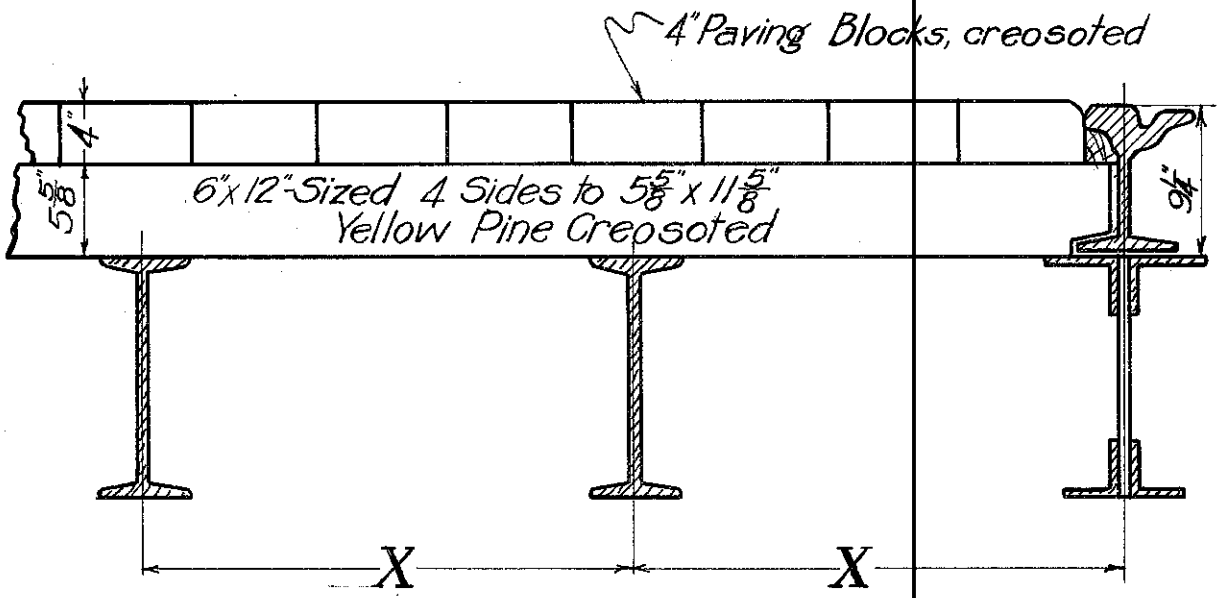
CITY OF CHICAGO.
DEPARTMENT OF PUBLIC WORKS.
BUREAU OF ENGINEERING.
DIVISION OF BRIDGES AND HARBOR.

PROPOSED RE-LOCATION OF DRIVEWAY OVER C.M. & ST. P. Ry. TRACKS AT DOMINICK ST.

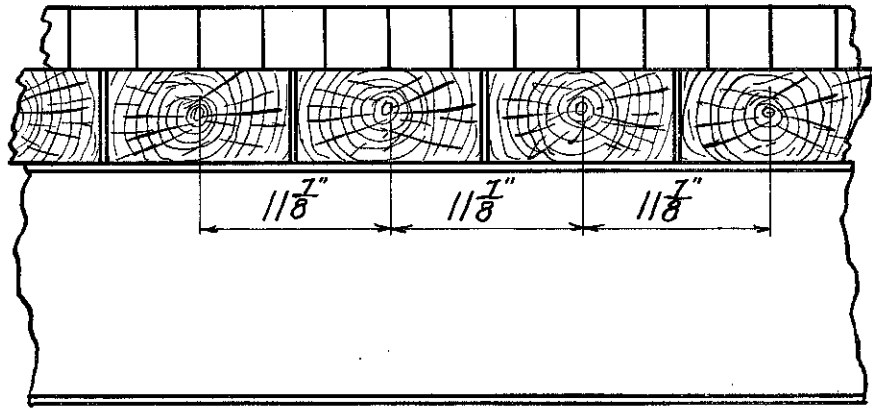
1"=20'-0" DRWG. NO. 1723 JULY 1915
FILE No 14-D-508 REVISED SEPT. 30, 1915.

166057007

8½" x 11"



CROSS SECTION



LONGITUDINAL SECTION.

"X" (Centers of stringers) varies from 2'-4 13/16" to 2'-8 3/16"

Correct _____
Engr. of Bridge Design.

Approved _____
Engr. of Bridges & Harbor

Approved _____
City Engineer

1660570072

CITY OF CHICAGO
DEPARTMENT OF PUBLIC WORKS
BUREAU OF ENGINEERING
DIVISION OF BRIDGES & HARBOR.

WEBSTER AVE. BRIDGE.

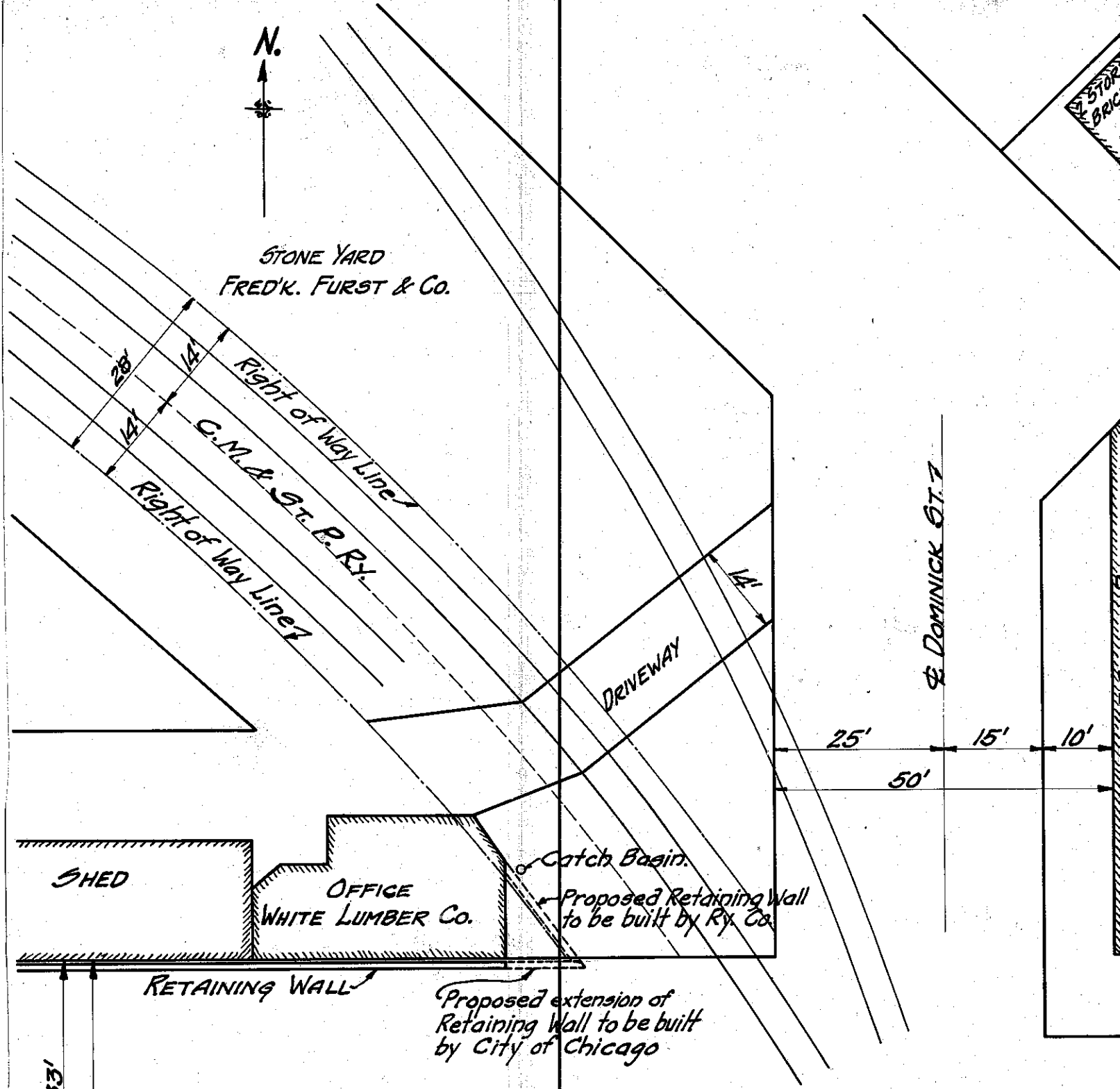
SOLID SUB-PLANKING UNDER PAVEMENT ON MOVABLE PART.

Scale 1"=1'-0" Aug. 6, 1915

J.A.

DRAWING No. 1734

FILE Nº 14-D1-509 8½"x11"



CITY OF CHICAGO.
DEPARTMENT OF PUBLIC WORKS
BUREAU OF ENGINEERING
DIVISION OF BRIDGES AND HARBOR.

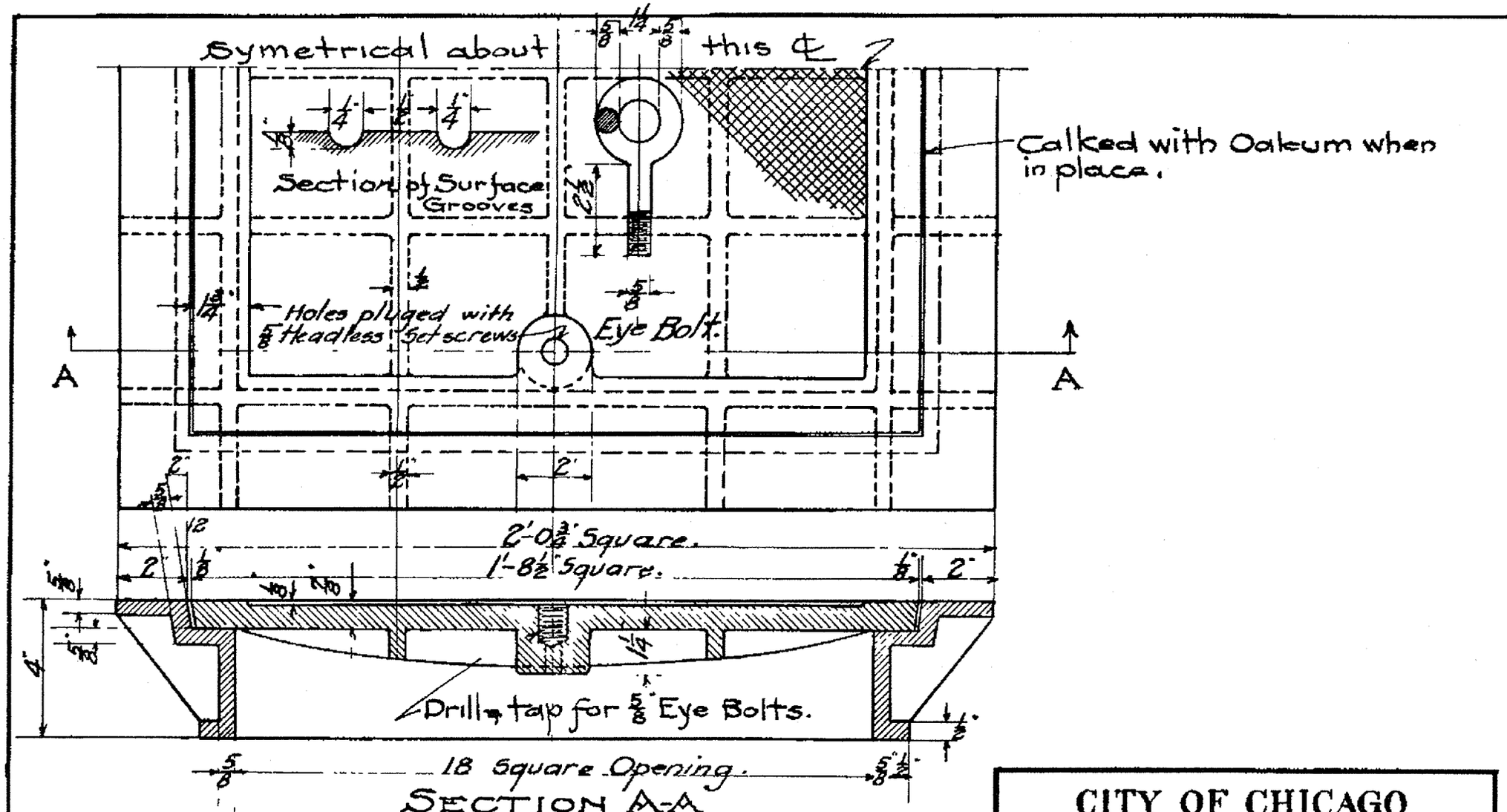
SKETCH OF SITUATION ON WEBSTER AVE. AT DOMINICK ST

1"= 20' DRWG. No 1738 Aug. 1915

FILE No. 14-D1-510

1660570073

8½"×11"



SECTION A-A

CITY OF CHICAGO
DIVISION OF BRIDGES AND HARBOR

STANDARD
SUBMARINE MANHOLE AND COVER

Scale :- 3" = 1 ft.
Date :- Sept. 1, 15

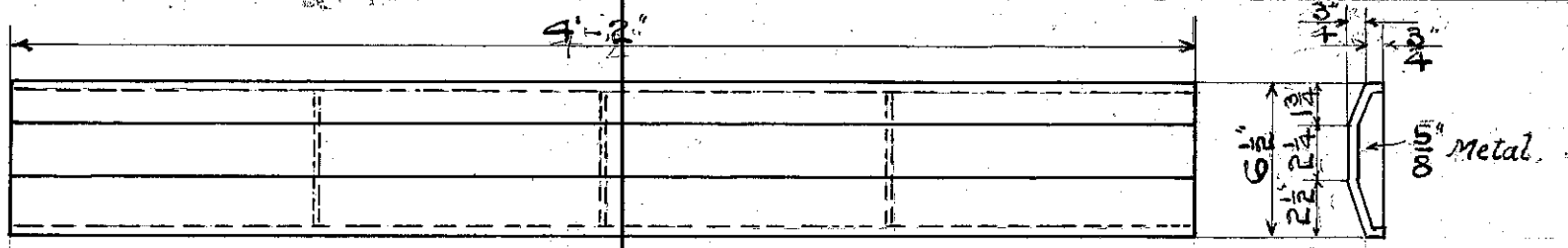
Drawn by :- M
Checked by :-

DRAWING Nº 1749.

Webster Av. & Lake St.

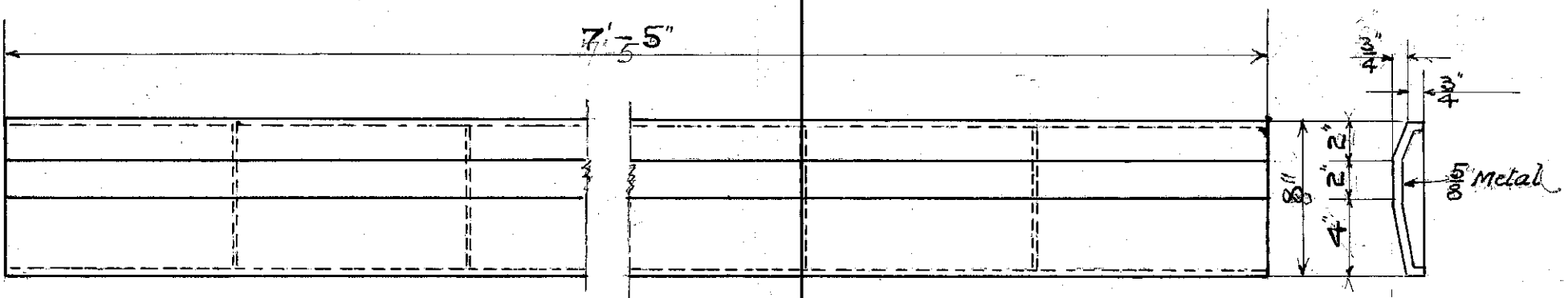
1660570074 1660290208

FILE Nº 14-DI-511
Size 8½ x 11½



CAST IRON THRESHOLD FOR MAIN ENTRANCE DOOR SIDEWALK LEVEL

2 REQUIRED



CAST IRON THRESHOLD FOR ENTRANCE DOOR - DOCK LEVEL

2 REQUIRED

CITY OF CHICAGO
DEPARTMENT OF PUBLIC WORKS
BUREAU OF ENGINEERING
DIVISION OF BRIDGES AND HARBOR

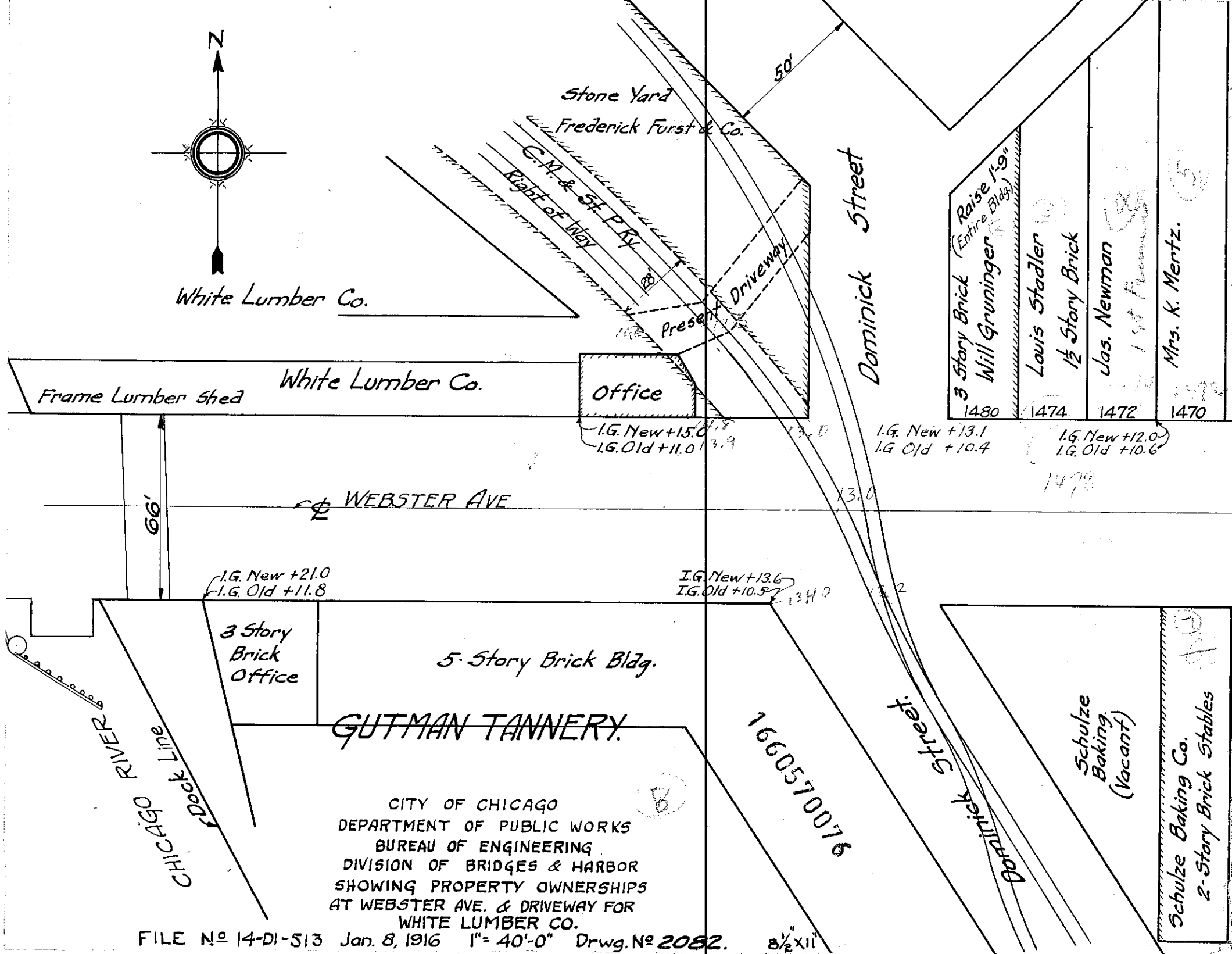
WEBSTER AVE. BRIDGE

1660570075

CAST IRON THRESHOLDS FOR OPERATORS HOUSES.

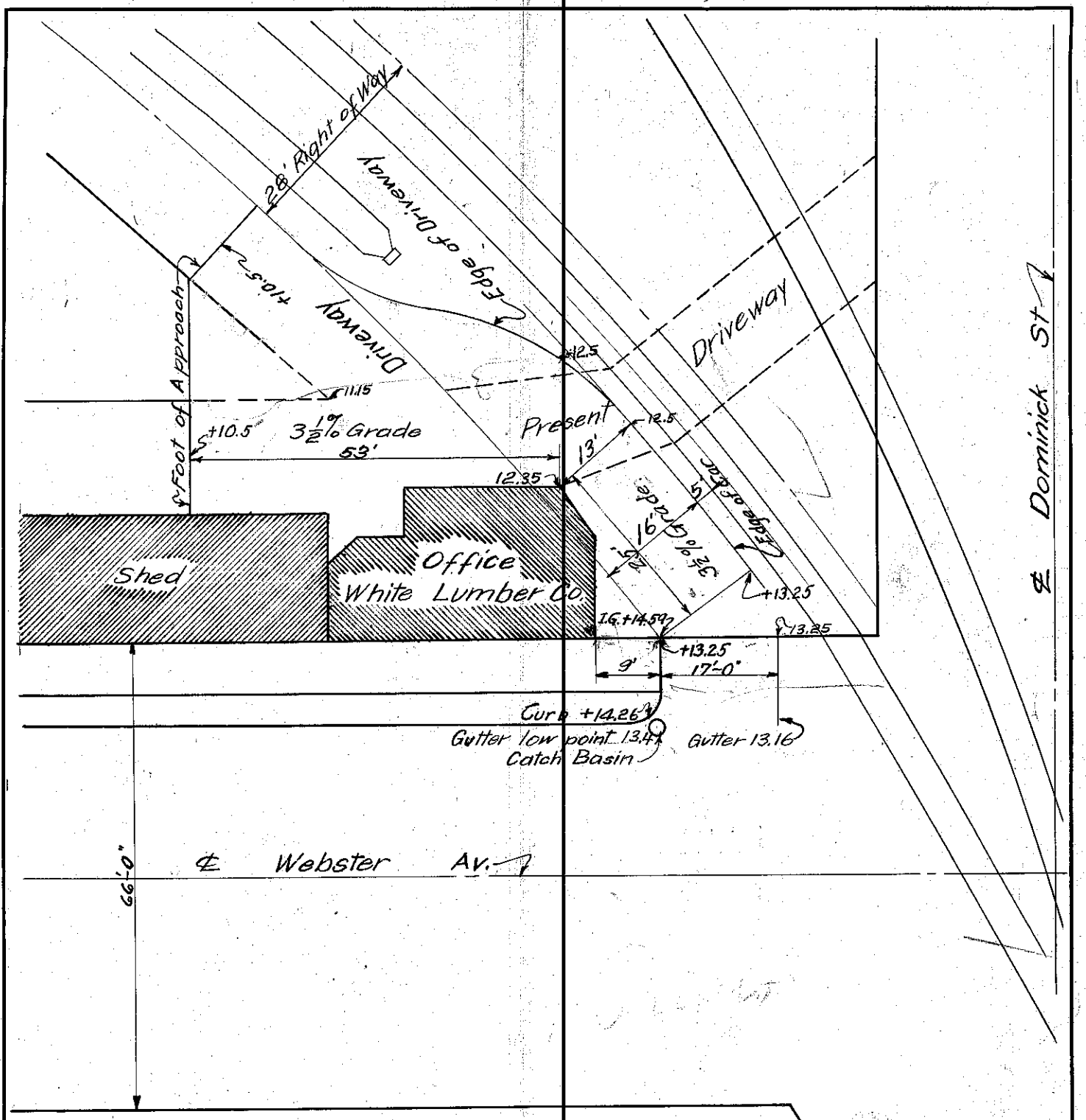
SCALE 1½" = 1FT. SEP 14, '15

FILE Nº 34-01-512 DRAWING No. 1758.



CITY OF CHICAGO
DEPARTMENT OF PUBLIC WORKS
BUREAU OF ENGINEERING
DIVISION OF BRIDGES & HARBOR
SHOWING PROPERTY OWNERSHIPS
AT WEBSTER AVE. & DRIVEWAY FOR
WHITE LUMBER CO.

FILE Nº 14-DI-513 Jan. 8, 1916 1"= 40'-0" Drwg. Nº 2082. 8½"x11"



CITY OF CHICAGO

DEPARTMENT OF PUBLIC WORKS
BUREAU OF ENGINEERING
DIVISION OF BRIDGES AND HARBOR

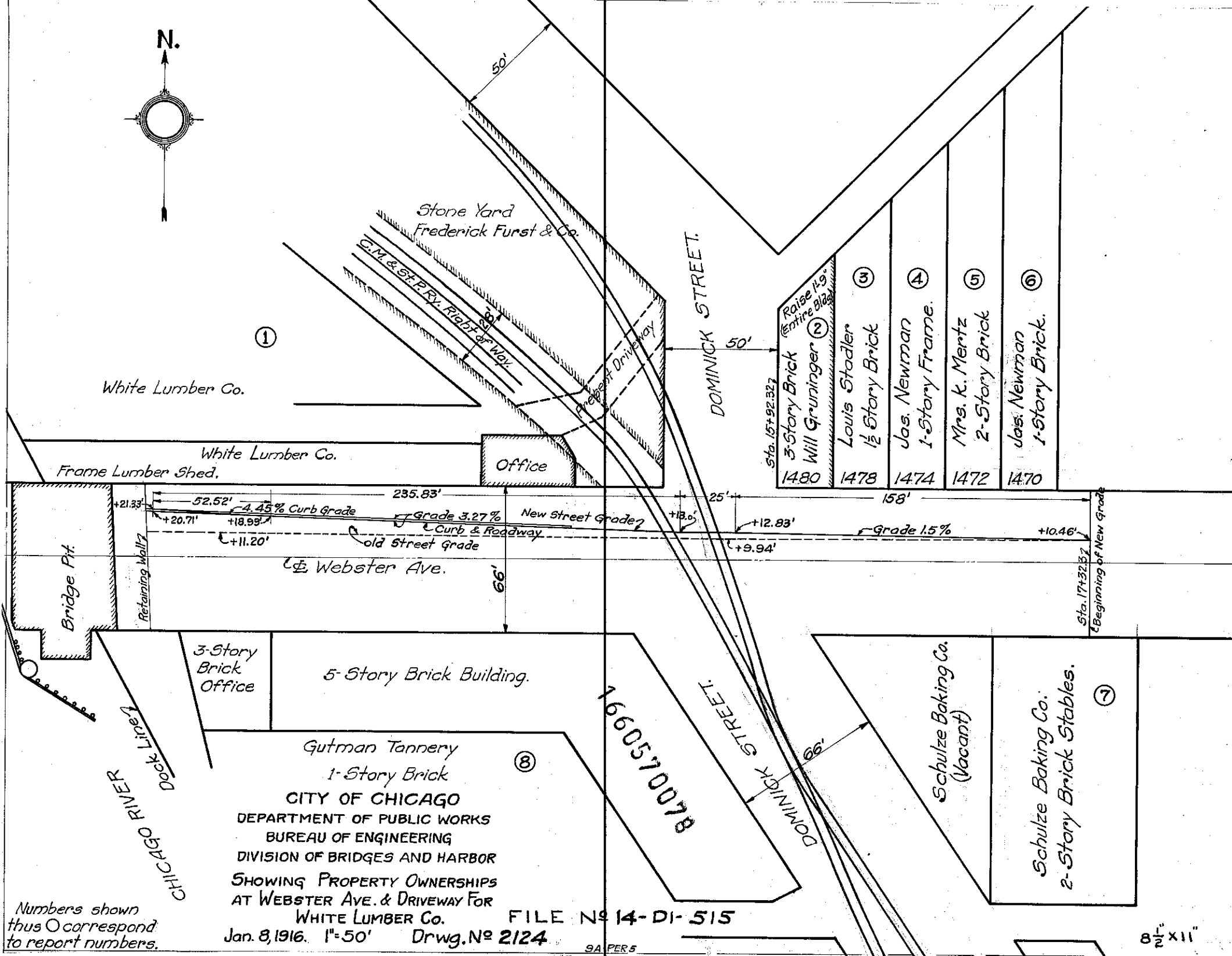
SKETCH SHOWING PROPOSED ENTRANCE
TO WHITE LUMBER CO'S PROPERTY.
WEBSTER AVE. BRIDGE.

Scale: 1ft = 20ft. Feb. 1916

1660570077

DRAWING NO. 2112

FILE Nº 14-D1-514 Size 8½" x 11"



CITY OF CHICAGO
DEPARTMENT OF PUBLIC WORKS
BUREAU OF ENGINEERING
DIVISION OF BRIDGES AND HARBOR

SHOWING PROPERTY OWNERSHIPS AT WEBSTER AVE. & DRIVEWAY FOR WHITE LUMBER CO.

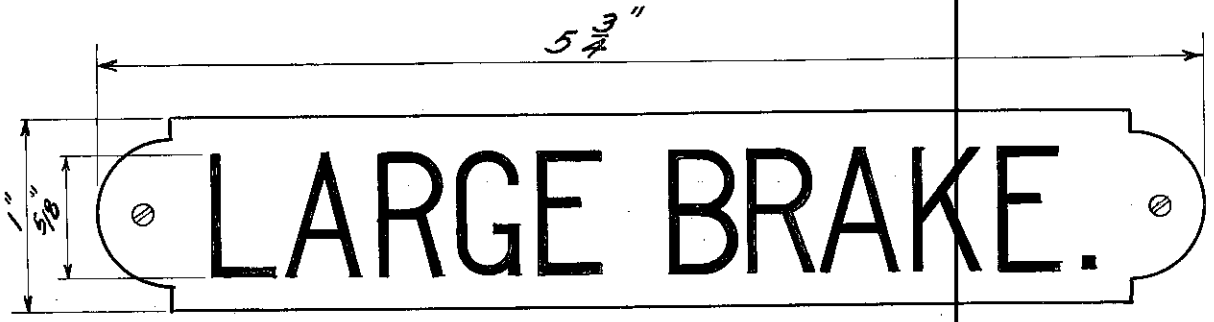
FILE Nº 14-D1-515

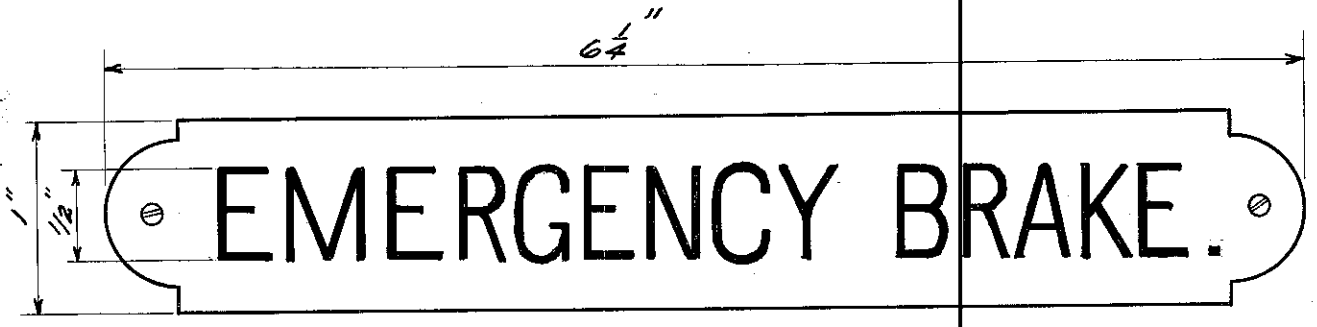
Jan. 8, 1916. 1"=50' Drwg. Nº 2124

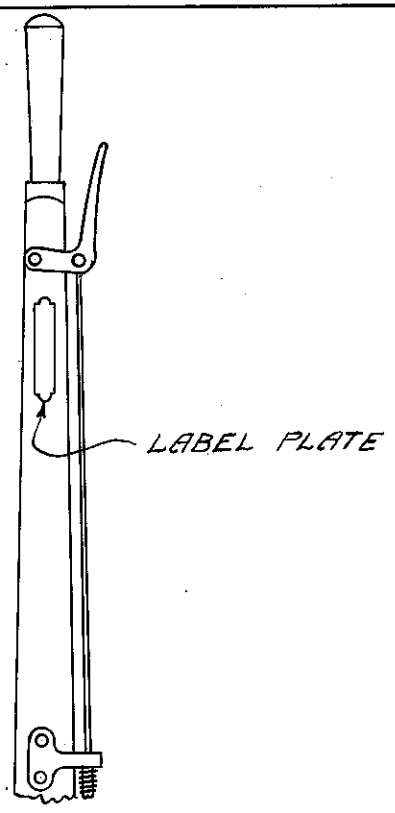
Numbers shown thus ○ correspond to report numbers.

9A PER 5

8½" x 11"







NOTE-

MAKE OF BRASS 1/16" TO 1/8" THICK
2 OF EACH REQUIRED
USE #10 R.H. BRASS MACHINE SCREWS 5/8" long.

Correct _____
Engineer of Bridge Design.

Approved _____
Engineer of Bridges.

1660570079

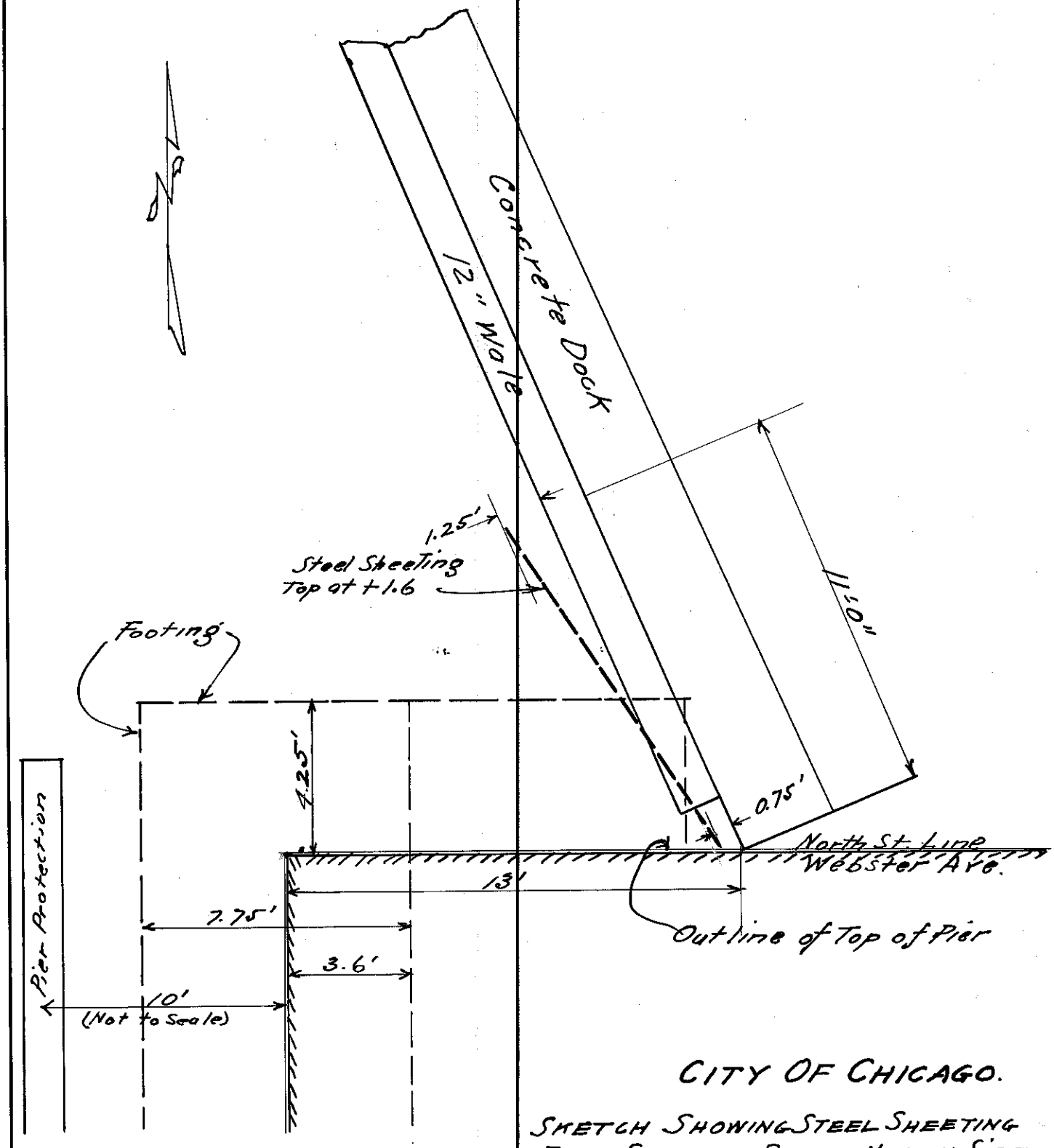
CITY OF CHICAGO
Department of Public Works
Bureau of Engineering
Division of Bridges

PROPOSED LABEL PLATES
FOR WEBSTER AVE. BRIDGE.

Drawn by J.G.B. & F.W.F. Date-July, 1916
Traced by F.W.F. & J.G.B. Scale-Full size.
Checked by DWG. NO. 3526

FILE Nº 14-D1-516

9 PER 201
8 1/2" x 11"



CITY OF CHICAGO.

SKETCH SHOWING STEEL SHEETING EAST SIDE OF RIVER, NORTH SIDE OF STREET IN FRONT OF WHITE'S PROPERTY.

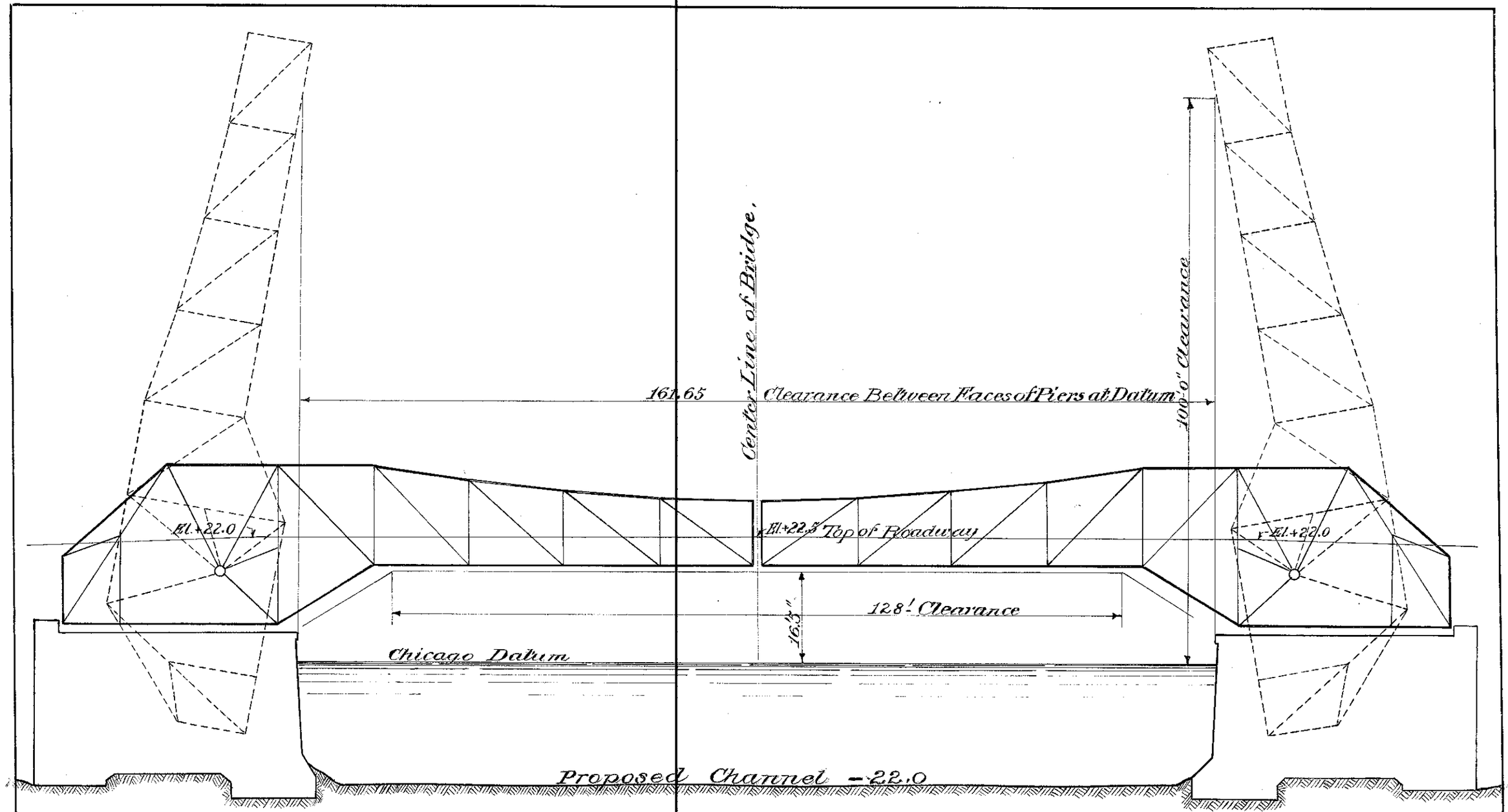
Scale 1 in = 4 ft. June 15, '16 F. BERRY.

DRAWING NO. 3531
FILE Nº 14-D1-517

D.J. 7-27-1916

1660570080

8 1/2" x 11"

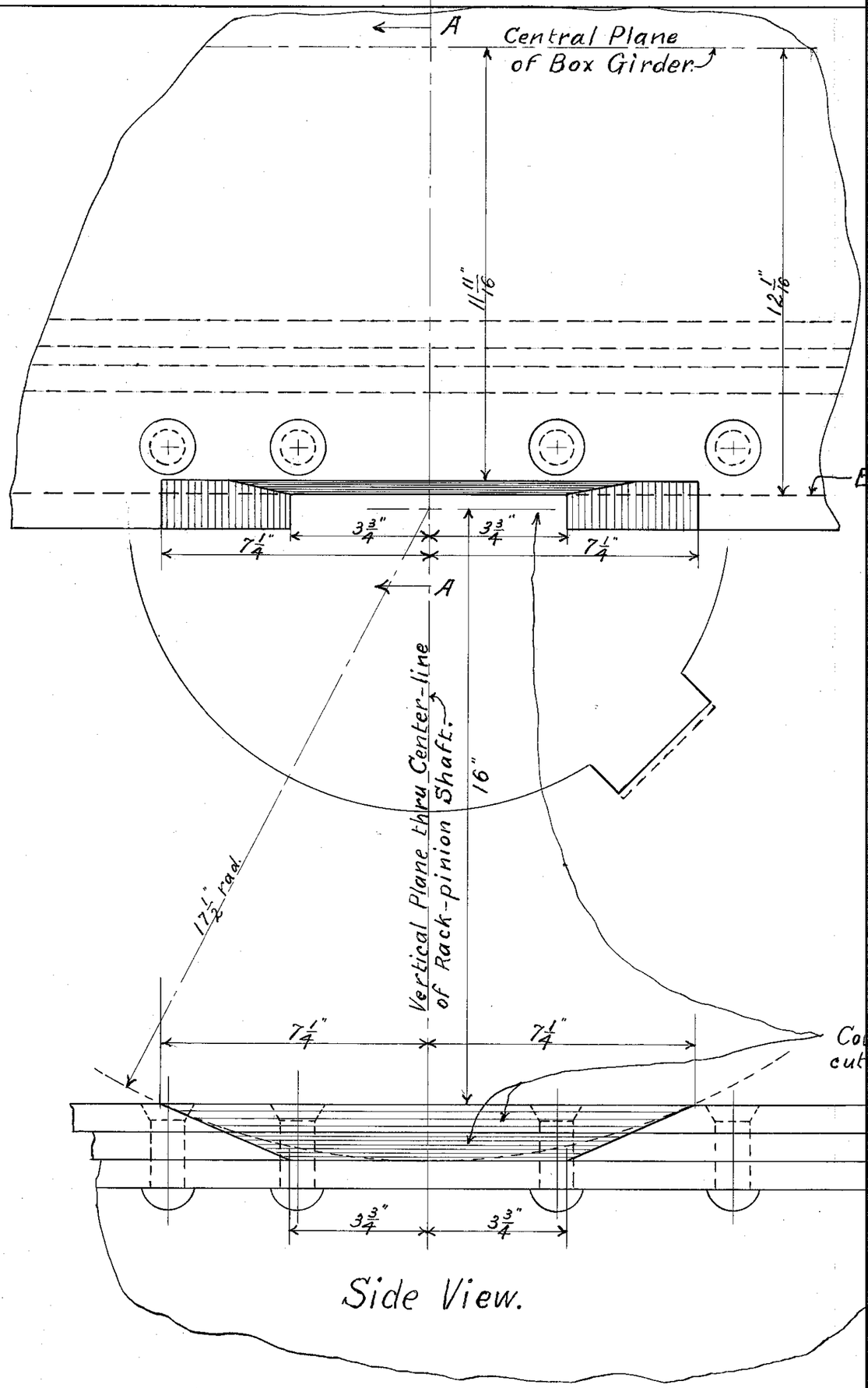


WEBSTER AVE. BRIDGE

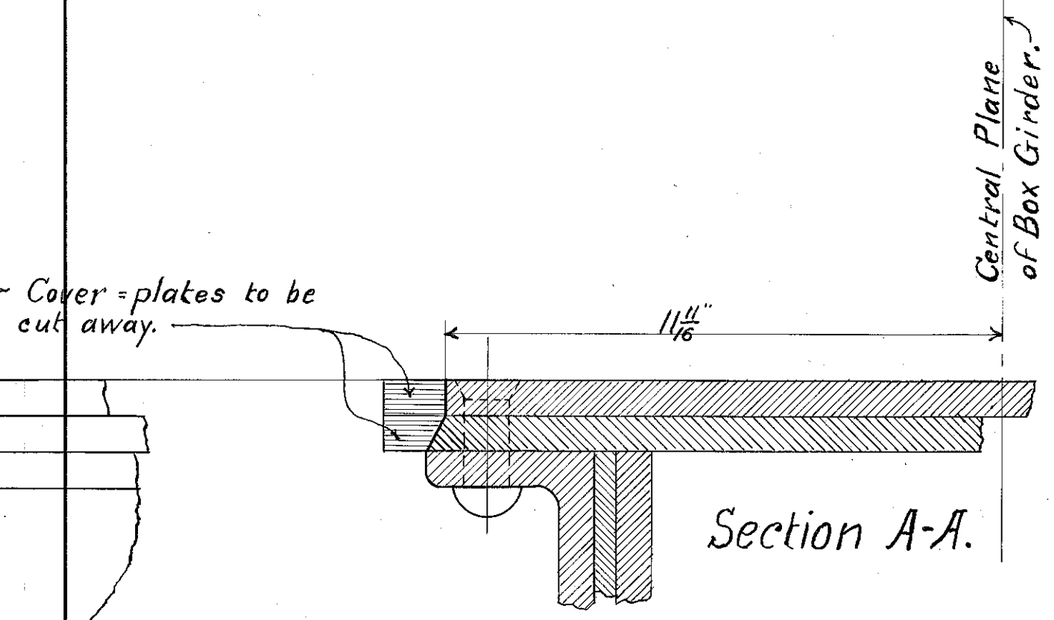
1660570081

DRAWING Nº 445 Sept. 15th 1913,

FILE Nº 15-01-1420 8½"x14"



Side View.



Section A-A.

Correction of Interference of

Split-Gear Hub-bolts with Box Girder,

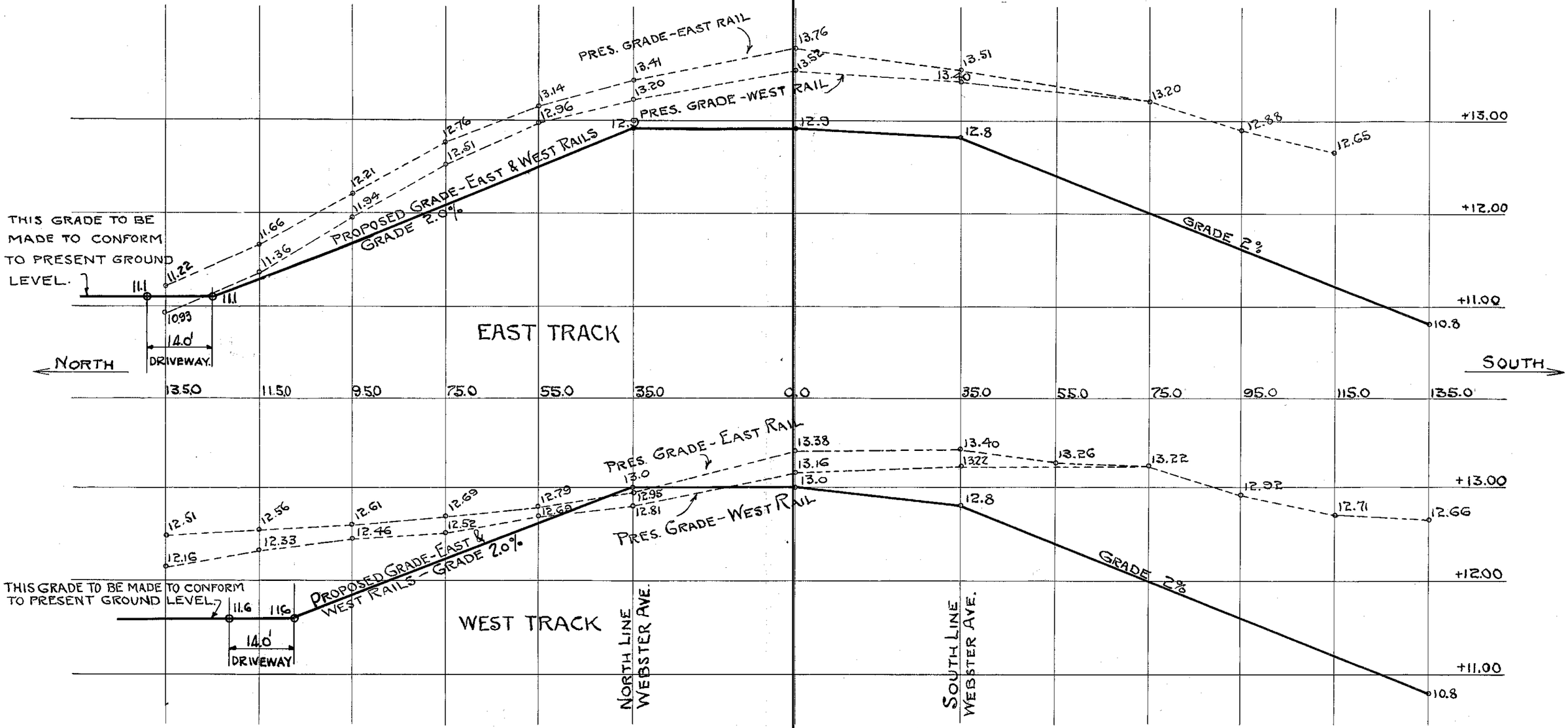
Webster Avenue Bridge.

1660570083

Scale 4" to 1 Ft. Aug. 20-1915.

Drawing No. 1741.

FILE No. 15-D1-1622 Size 14" x 18".



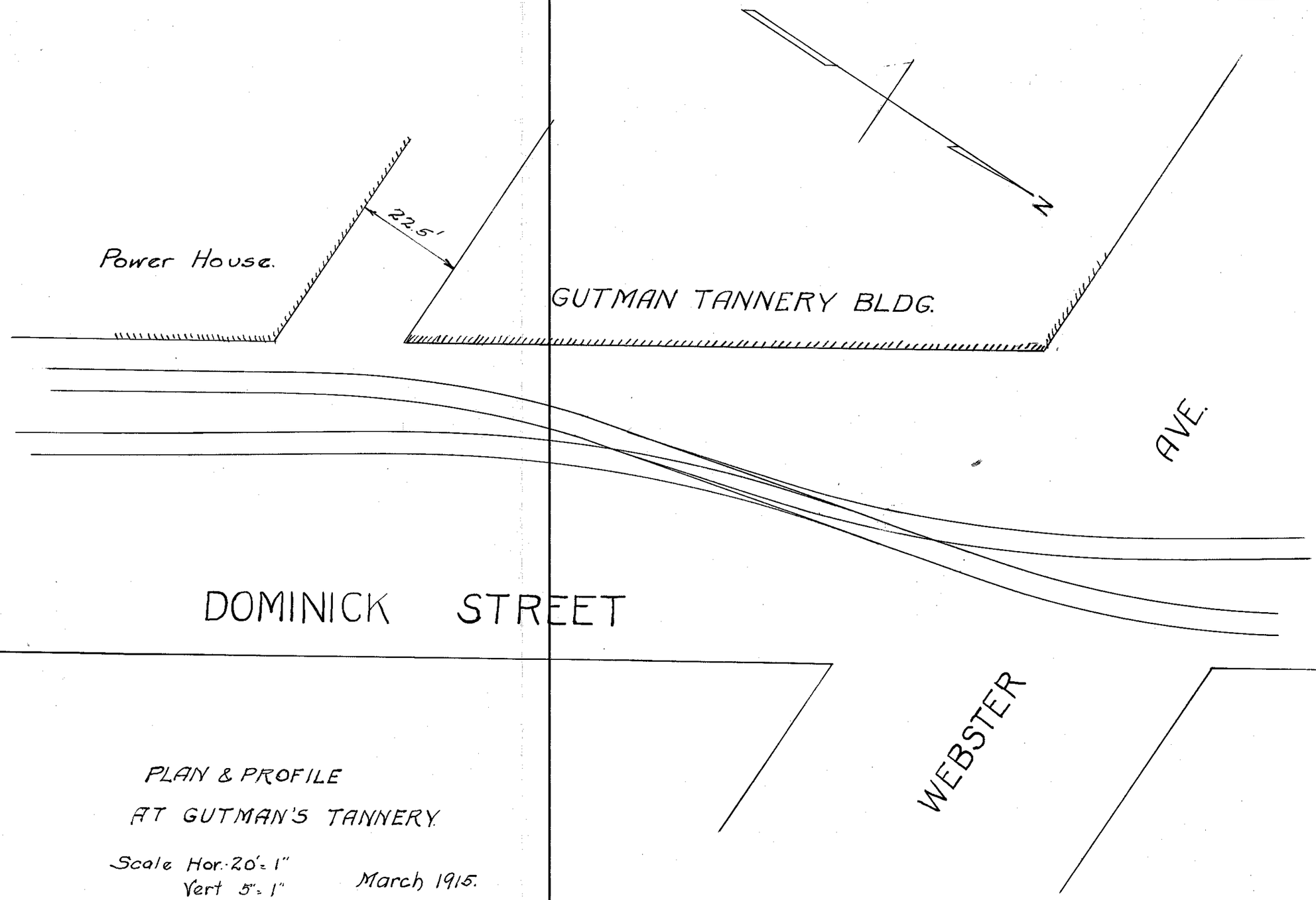
CITY OF CHICAGO
DEPARTMENT OF PUBLIC WORKS
BUREAU OF ENGINEERING
DIVISION OF BRIDGES AND HARBOR

PRESENT & PROPOSED PROFILES OF C.M.&St.P. RY. TRACKS AT WEBSTER AVENUE & DOMINICK STREET.

1660570084

SCALES HOR. 1"= 20'-0"
VERT. 1"= 1'-0"

SEPT. 25, 1915.
DRWG. No. 1766. REVISED SEPT. 30-15. J.H.R.
FILE Nº 15-D2-126 12"×18".

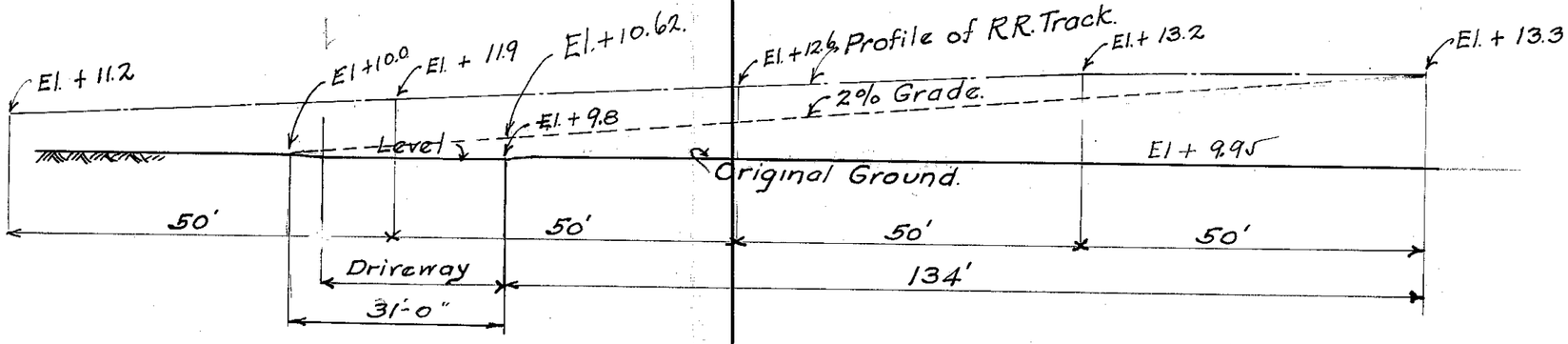


PLAN & PROFILE

AT GUTMAN'S TANNERY.

Scale Hor. 20' = 1"
Vert 5" = 1"

March 1915.

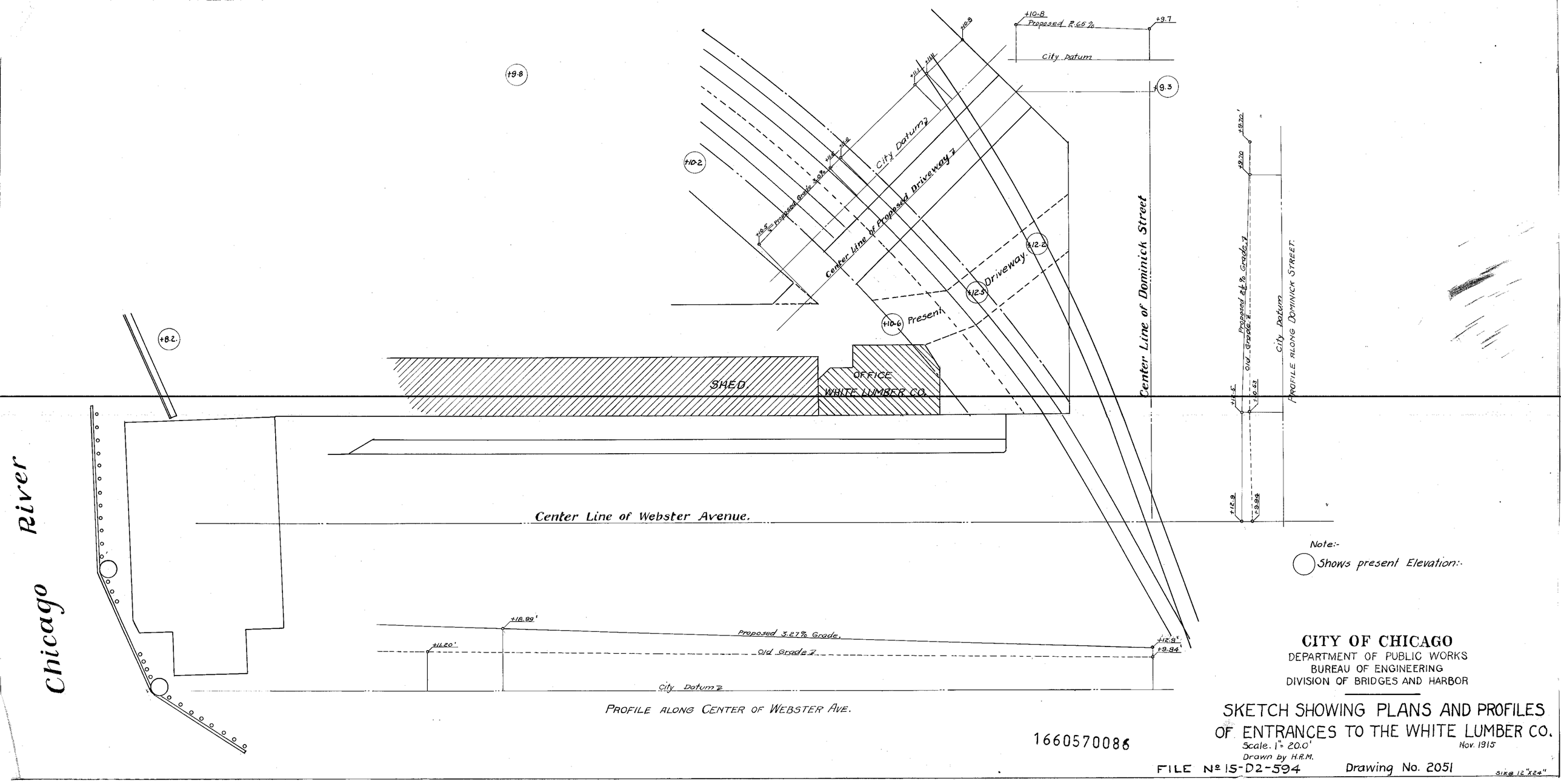


DRAWING Nº 3834.
FILE Nº 15-D1-1623.

Chicago Datum

1660570085

16"X18"



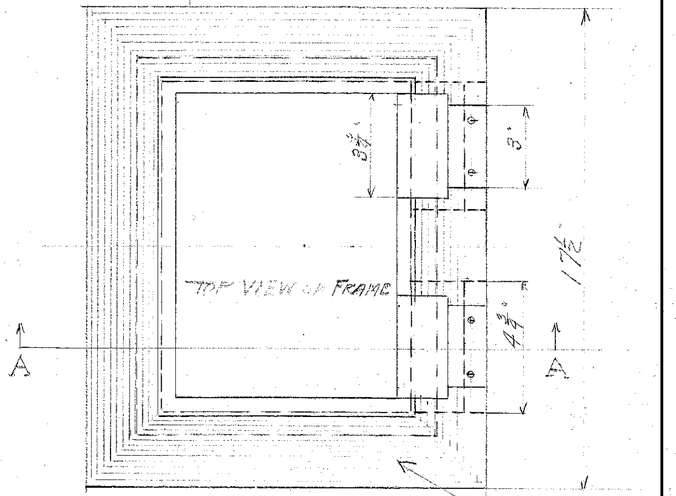
CITY OF CHICAGO
DEPARTMENT OF PUBLIC WORKS
BUREAU OF ENGINEERING
DIVISION OF BRIDGES AND HARBOR

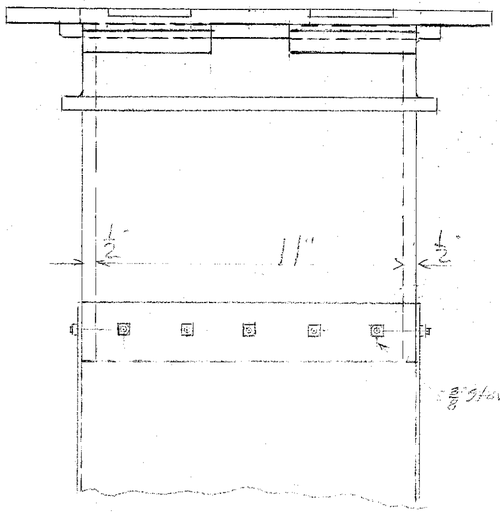
SKETCH SHOWING PLANS AND PROFILES OF ENTRANCES TO THE WHITE LUMBER CO.

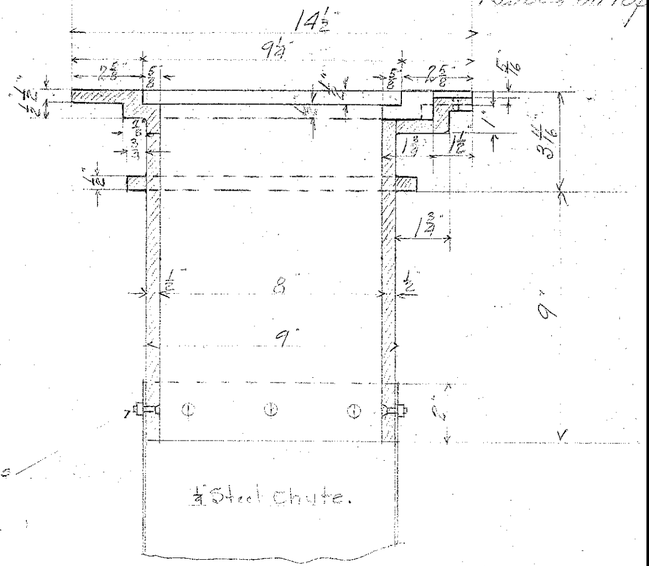
Scale. 1" = 20.0'
Nov. 1915
Drawn by H.R.M.

1660570086

FILE Nº 15-D2-594
Drawing No. 2051
SIZE 12"X24"

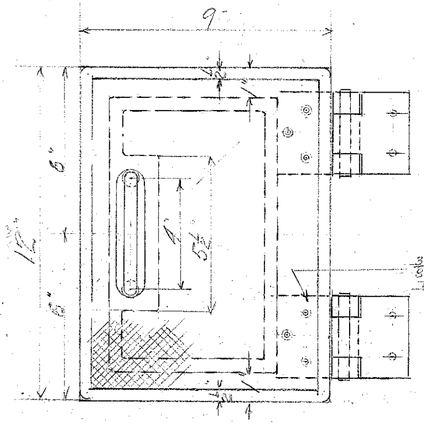


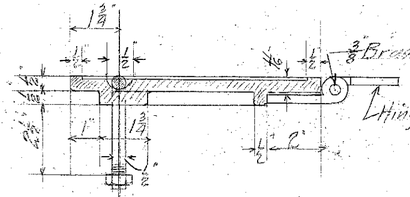




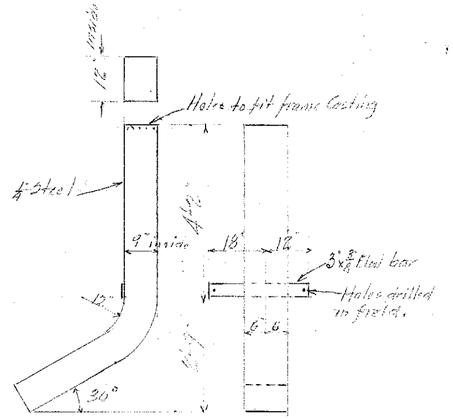
SECTION A-A.

CAST IRON FRAME.
Scale 2" to 1 ft. 2 Required.





CAST IRON COVER.
Scale 3" to 1 ft. 2 Required.



Coal Chute Diagram.
2 Required.

CITY OF CHICAGO

DIVISION OF BRIDGES & HARBORS.

COAL CHUTE-FRAME & COVER.

WEBSTER AVE. BRIDGE.

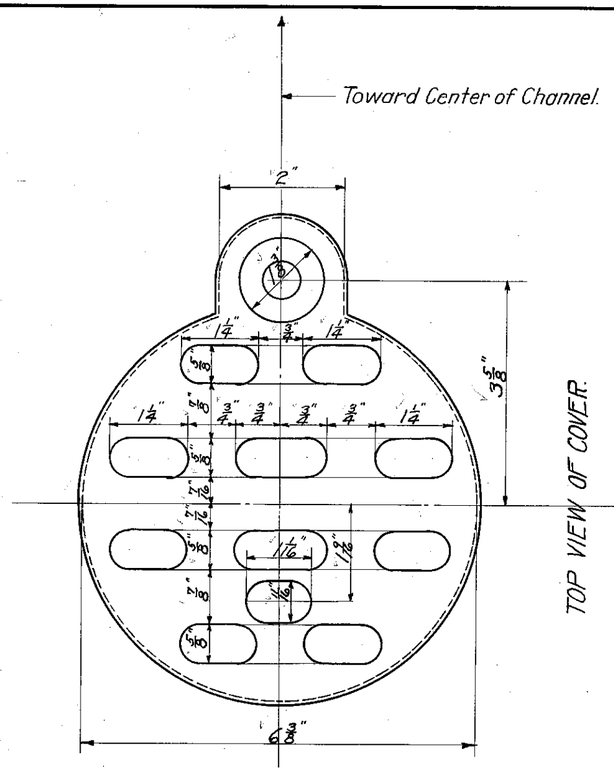
Scale 2"& ⅜" to 1 ft. Drw. by JH. September 3 - 1910.

Drawing № 1753.

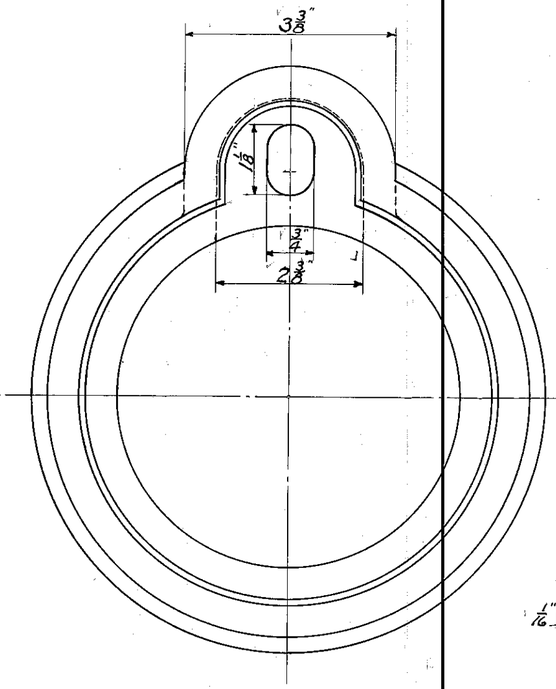
FILE № 35-D2-595

1660570087

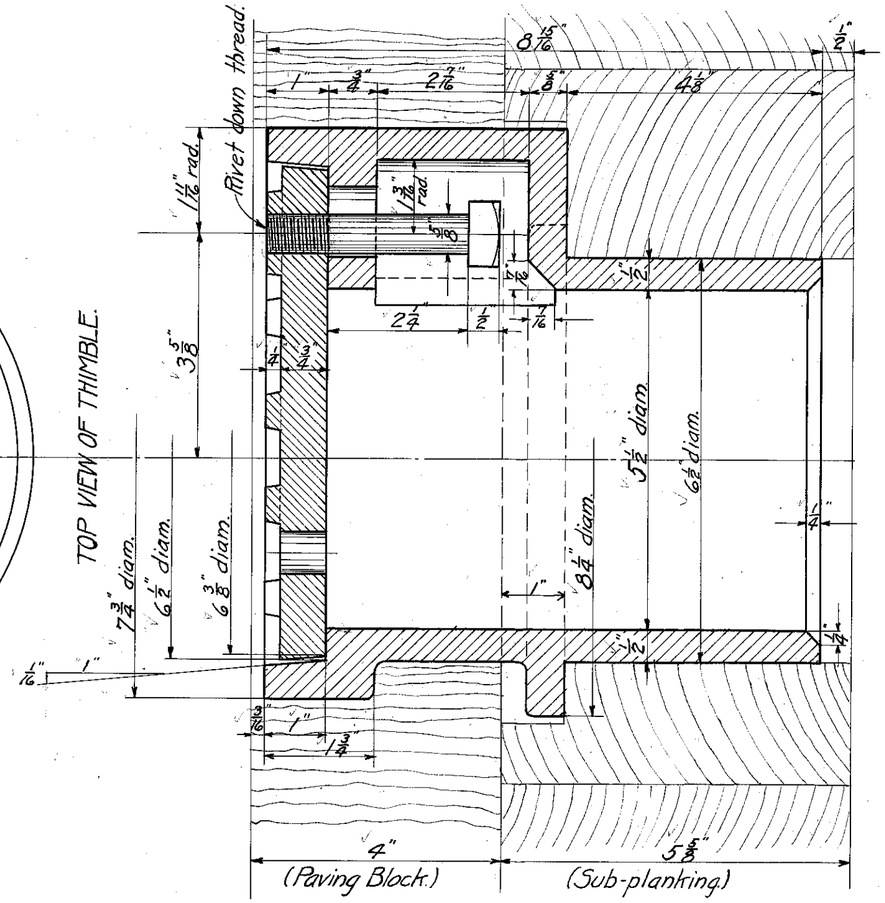
SIZE 12"X24"



TOP VIEW OF COVER.



TOP VIEW OF THIMBLE.



CENTRAL SECTION OF HAND-HOLE.

Material, Cast Iron.
3 Required for Webster Ave. Bridge.
3 Required for Belmont Ave. Bridge.

To be paid for at the price per pound stated in the Contract for materials erected in place in addition to that required by the City's Drawings.
Estimated weight of 3 = 120 pounds.

Correct: Alexander von Babo
Engineer of Bridge Design.

Approved: Thos. G. Pihlfeldt
Engineer of Bridges and Harbor.

Approved: John Griffin
City Engineer.

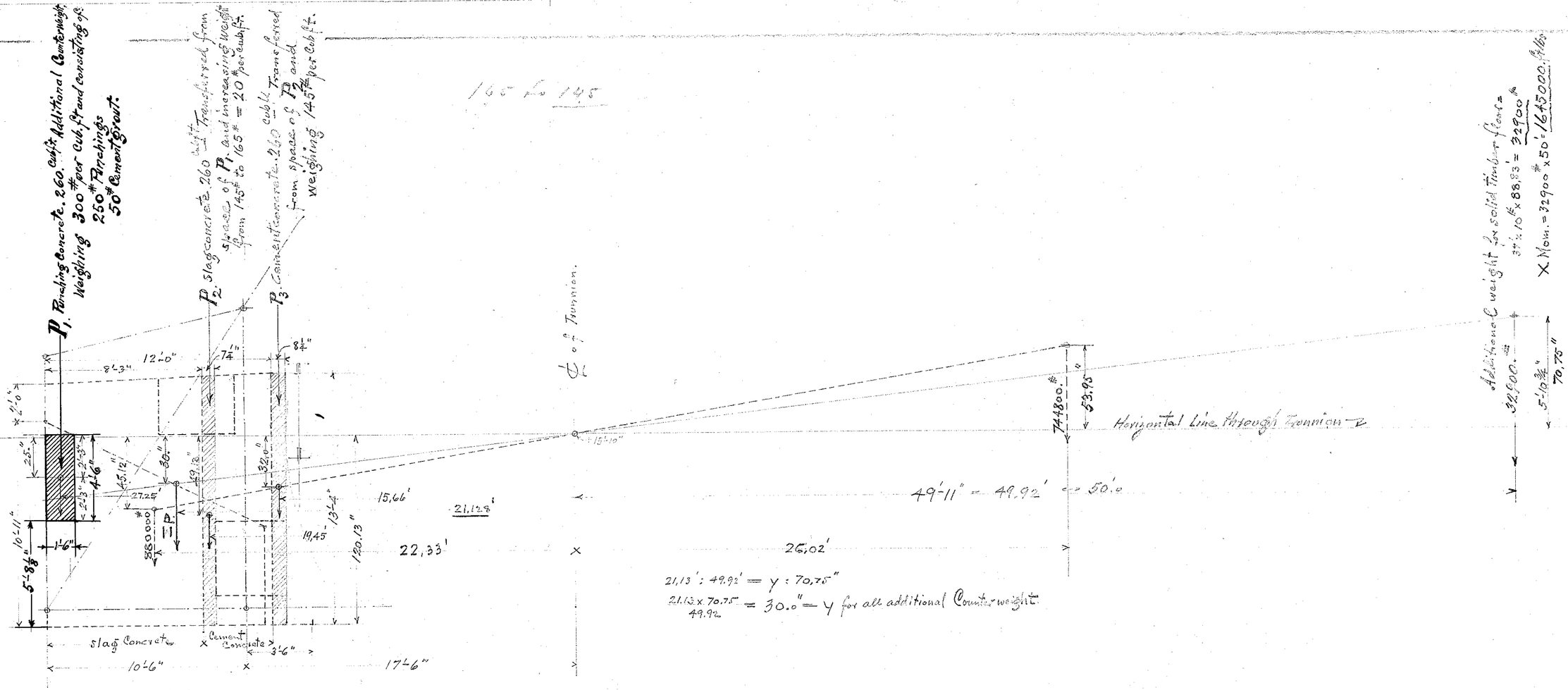
Approved: W. R. Moorhouse
Commissioner of Public Works.

CITY OF CHICAGO,
DEPARTMENT OF PUBLIC WORKS,
BUREAU OF ENGINEERING,
DIVISION OF BRIDGES AND HARBOR.

Webster Ave and Belmont Ave Bridges, Hand-hole Thimble and Cover For Center-lock Cross-shaft.

Scale 6" to 1 ft. Jan. 1916
Drawn by: J.C.B. Traced by: [illegible] Checked by: J.C.B.
DRAWING NO. 2106.

1660570088 Size 13½" x 20½" FILE No 13-D2-127



Item	Counterweight	Volume Cub Feet	Weight per cub. ft.	Total Weight	X.	X Mom.	Y.	Y Mom.
P_1	Punching Concrete	260.	135 #	35100.	27.25	956475	25.0"	877500
P_2	Slag Concrete	260.	20 #	5200	19.45	101140	49.13	255476
P_3	Cement Concrete	260.	145. #	37700	15.66	590382	32.0	1206400
				78000.		1647997.		2339376
					X =	1647997 / 78000.	Y =	2339376 / 78000.
					X =	21.128' = 21'-1 5/16"	Y =	30.0"

Punchings required:
net Metal 260 x 250 # = 65000. lbs. per leaf
Grout 260 x 50 # = 13000. " " "
Total = 78000 #

Webster Avenue Bridge

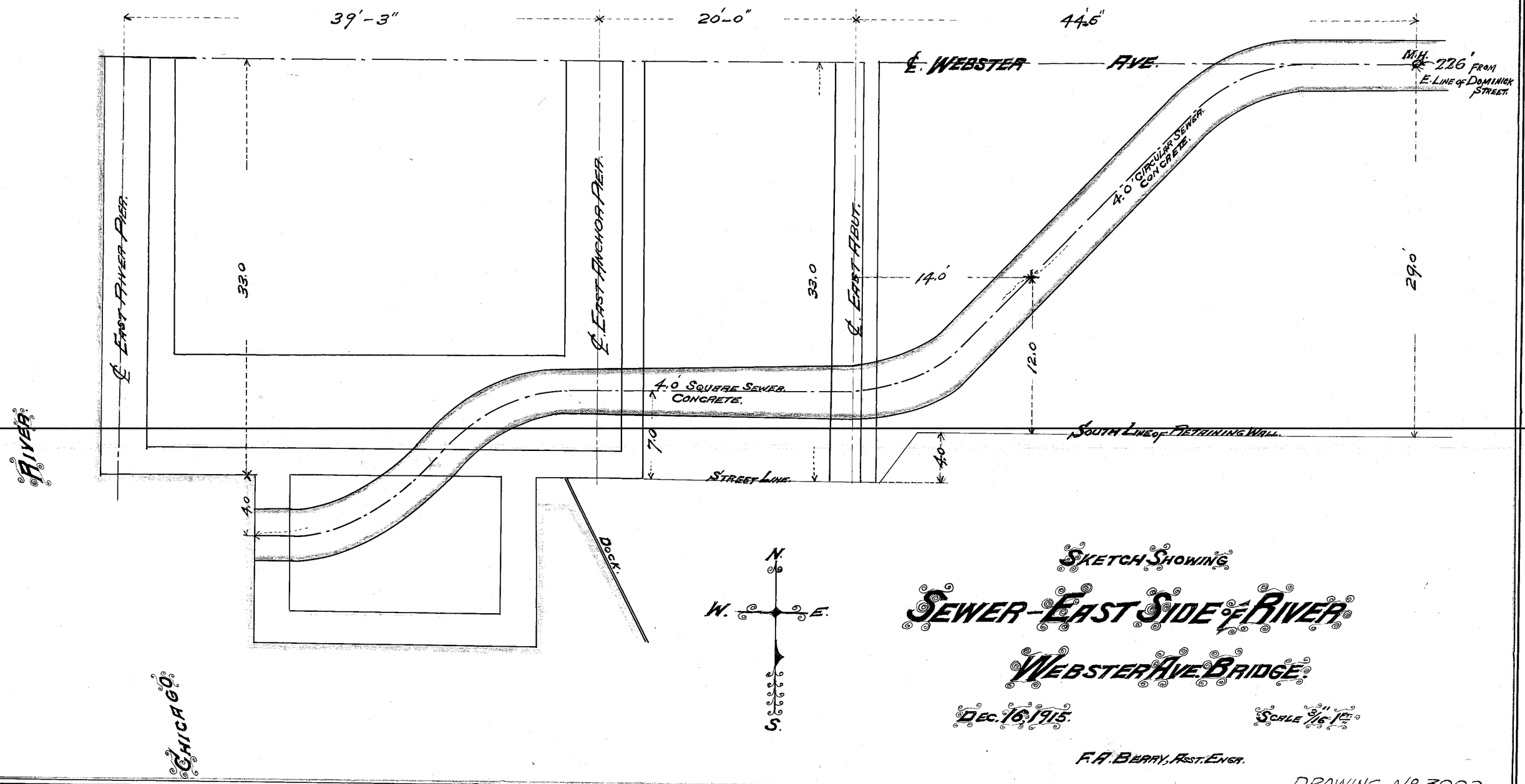
Diagram showing
the Location and Amount of additional Counterweight
necessary for solid timber floors
on movable leaves.

Scale 1/4 inch = One foot

July. 1915.
J. Agness.

Drawing No 2034. 1660570089

FILE No 35-D2-596



SKETCH SHOWING

SEWER - EAST SIDE OF RIVER

WEBSTER AVE. BRIDGE.

DEC. 16, 1915.

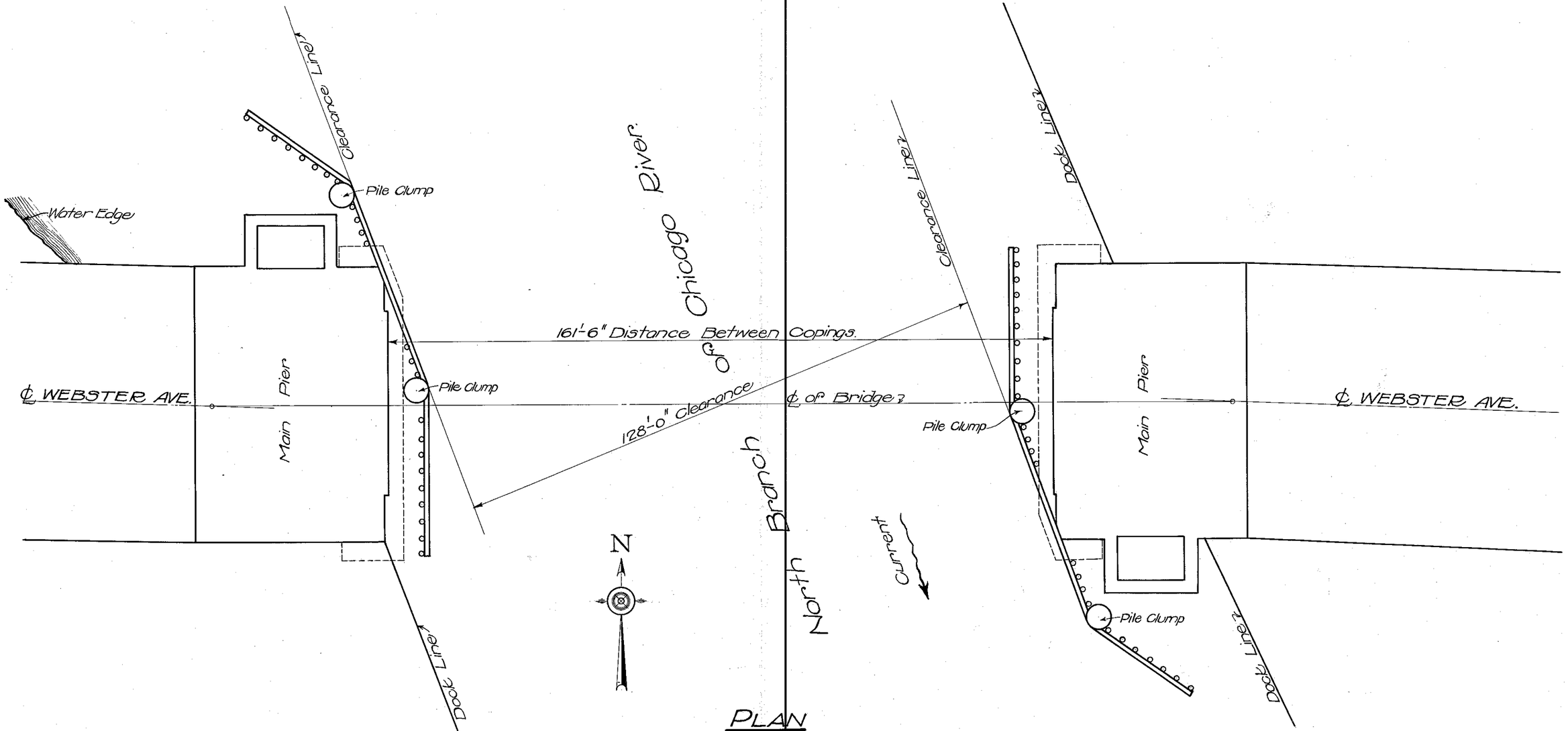
SCALE 3/16" = 1'

F. A. BERRY, ASST. ENGR.

DRAWING No. 3002.

1660570090

FILE No. 15-D2-597



PLAN

Correct: Hugh E. Young
Bridge Designing Engineer.

Approved: Alexander von Babo
Engineer of Bridge Design.

Approved: Thos. G. Pihlfeldt
Engineer of Bridges and Harbor.

Approved: John Ericson
City Engineer.

Approved: L. McGann
Commissioner of Public Works.

CITY OF CHICAGO
DEPARTMENT OF PUBLIC WORKS
BUREAU OF ENGINEERING
DIVISION OF BRIDGES AND HARBOR.

DOUBLE LEAF TRUNNION BASCULE BRIDGE
AT
WEBSTER AVENUE
OVER
North Branch of the Chicago River
SUBSTRUCTURE

Layout of Pier Protection Showing 128'-0" Channel Clearance.

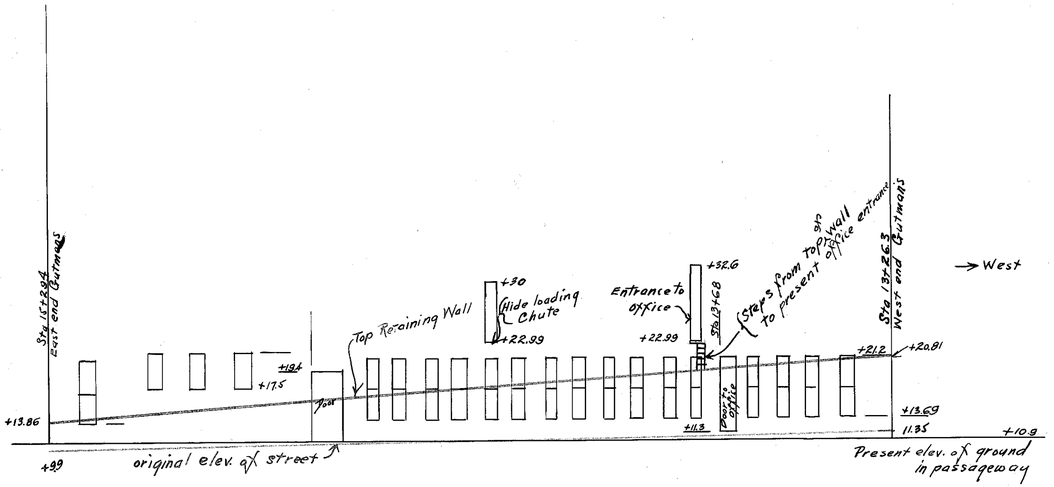
Scale: 1/20" = 1'-0"
Made by D.N.B.

Date Nov. 12, 1914.
Drawing No. 1184

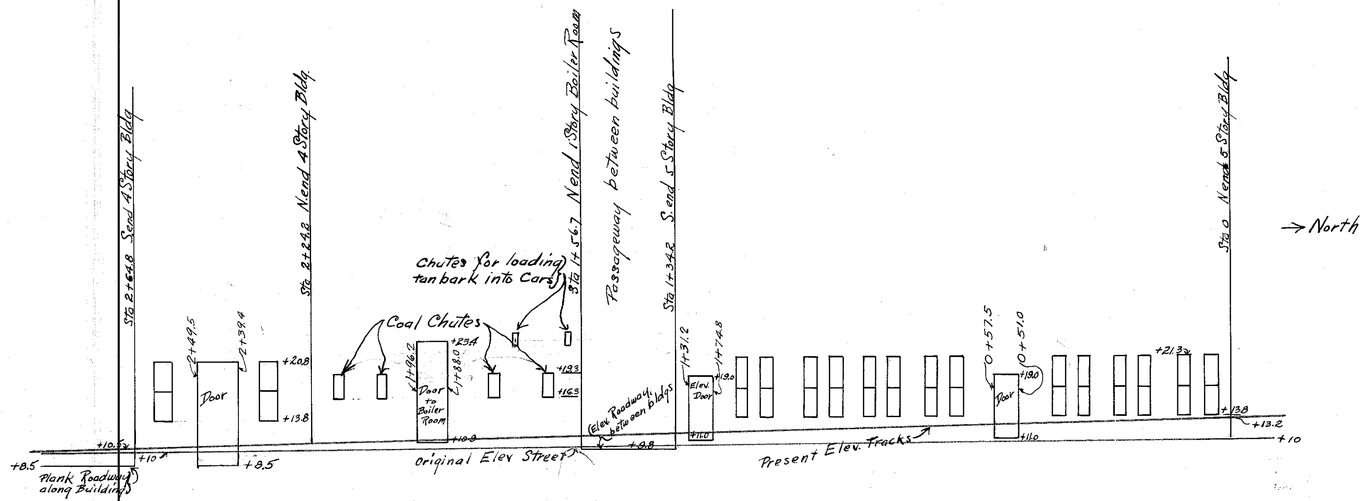
1660570091

FILE No. 13-D2-128

Size 13½" x 20½"



Front Elevation Gutman Tannery
facing on Webster Ave
Webster Ave Bridge May 18, 1915
Horizontal Scale 20 feet = 1"
Vertical " 10 " = 1" W.M.R.

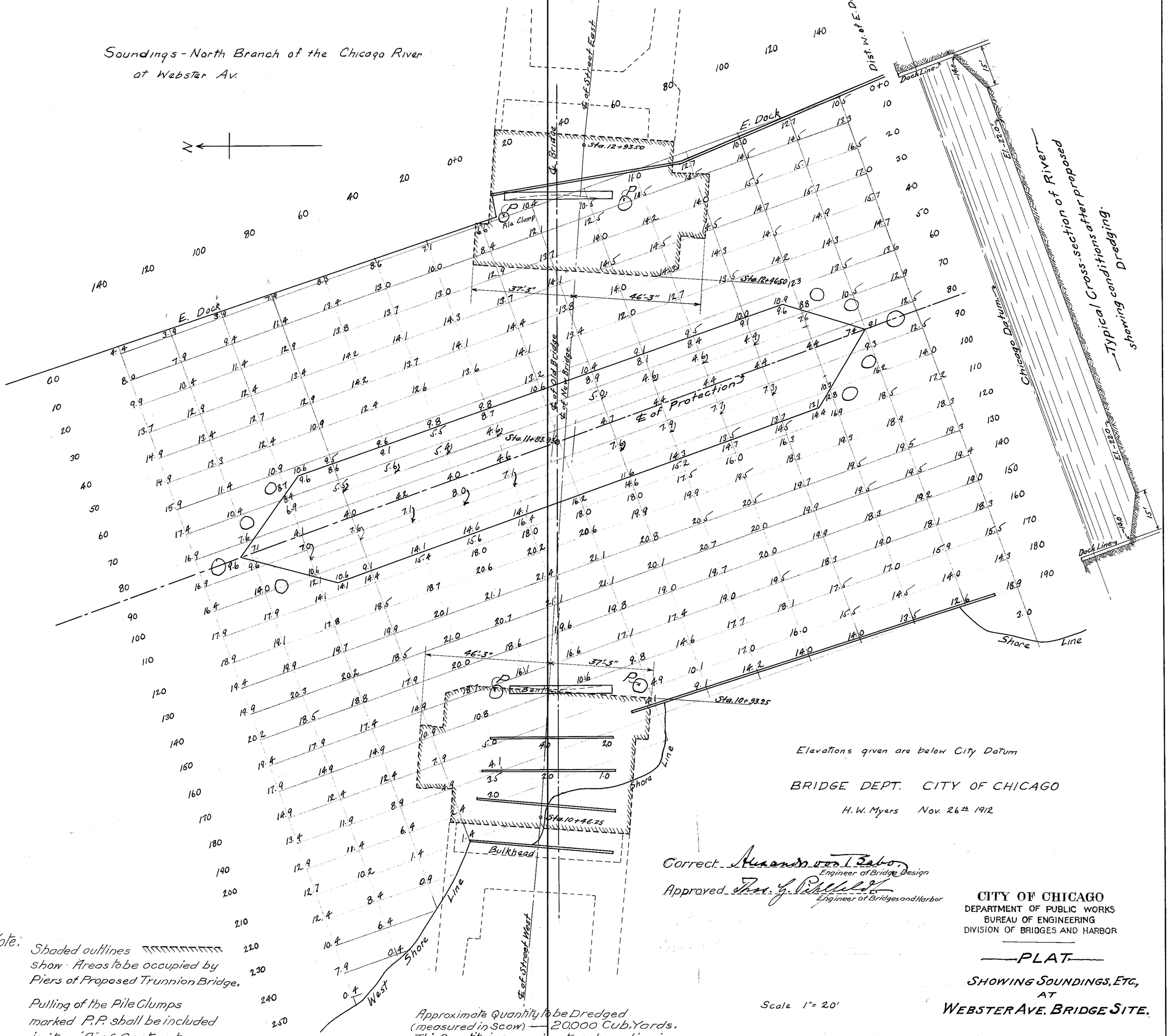


Front Elevation Gutman Tannery Buildings
facing on Dominick St.
Webster Ave Bridge May 18, 1915
Horizontal Scale 20 Feet = 1"
Vertical " 10 " = 1" W.M.R.
DRAWING Nº 3835
FILE Nº 15-D3-635

1660570092

13"x31"

Soundings - North Branch of the Chicago River at Webster Av.



Elevations given are below City Datum

BRIDGE DEPT. CITY OF CHICAGO

H. W. Myers Nov. 26th 1912

Correct Alexander von Babo
Engineer of Bridge Design

Approved Thos. G. Pitfield
Engineer of Bridges and Harbor

CITY OF CHICAGO
DEPARTMENT OF PUBLIC WORKS
BUREAU OF ENGINEERING
DIVISION OF BRIDGES AND HARBOR

PLAT

SHOWING SOUNDINGS, ETC., AT
WEBSTER AVE. BRIDGE SITE.

Scale 1" = 20'

Note: Shaded outlines ▭▭▭ show Areas to be occupied by Piers of Proposed Trunnion Bridge.

Pulling of the Pile Clumps marked P.P. shall be included in item "A" of Contract.

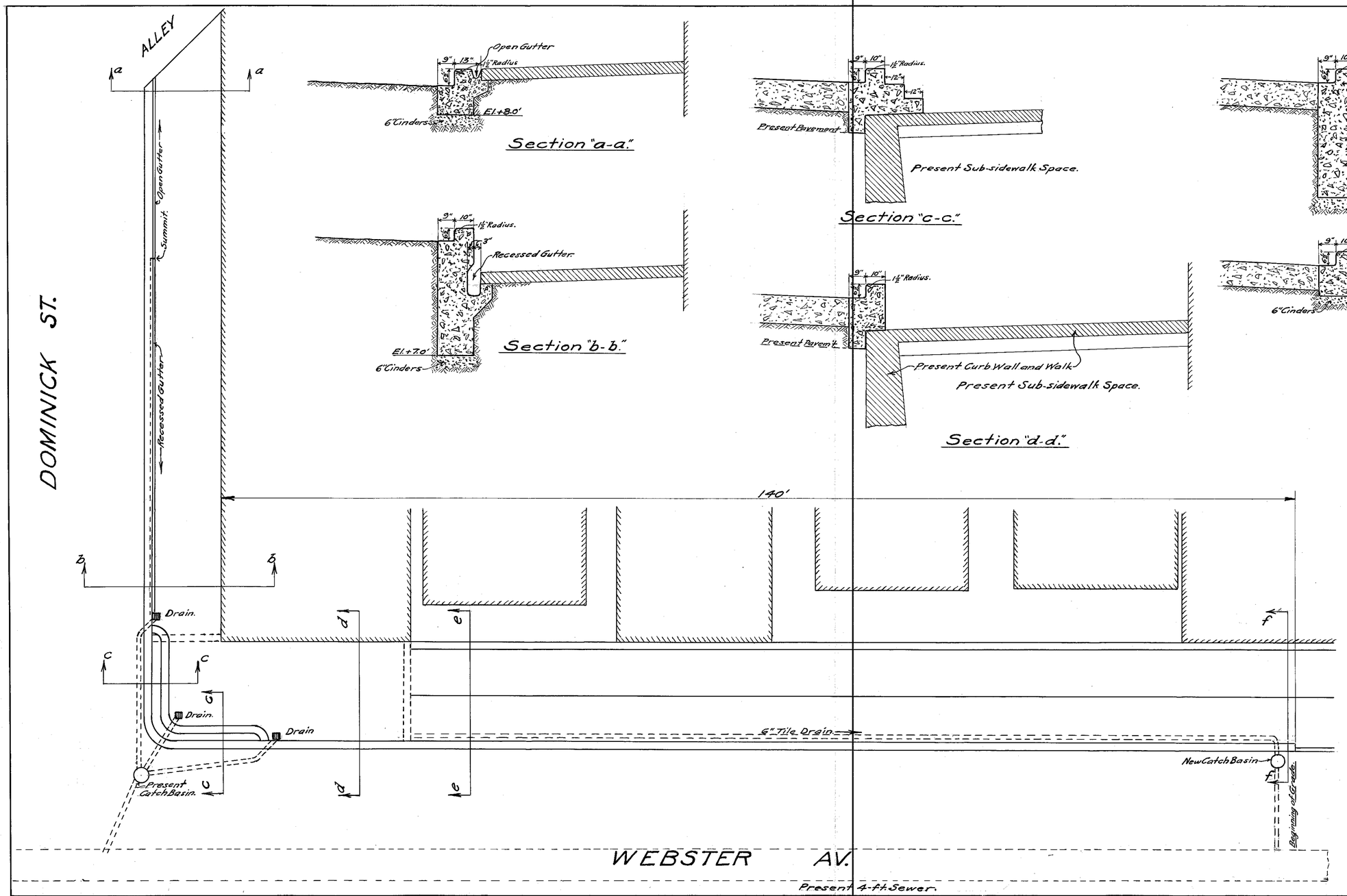
Approximate Quantity to be Dredged (measured in Scow) — 20,000 Cub. Yards. This Quantity is approximate only and is given merely for the purpose of canvasing bids. The City of Chicago assumes no responsibility for the correctness of the same.

Revised in reference to outlines of foundations of proposed trunnion bascule bridge, Apr. 3, 1914.

Drg. No. 663. Size: 22" x 23"

1660570093

FILE No 15-D4-640



Correct: Hugh L. Young
Bridge Designing Engineer.

Approved: Nathan Ryan Jr.
Engineer of Bridge Design.

Approved: Thos. J. Whitehead
Engineer of Bridges & Harbor.

Approved: [illegible]
City Engineer.

Approved: [illegible]
Commissioner of Public Works.

CITY OF CHICAGO
DEPARTMENT OF PUBLIC WORKS
BUREAU OF ENGINEERING
DIVISION OF BRIDGES AND HARBOR

DOUBLE LEAF TRUNNION BASCULE BRIDGE AT WEBSTER AVENUE OVER NORTH BRANCH OF THE CHICAGO RIVER.

SUBSTRUCTURE

Details of Curb and Walk at N.E. corner Dominick St.

Scale: ¼" & ⅜" = 1 foot. November, 1914.

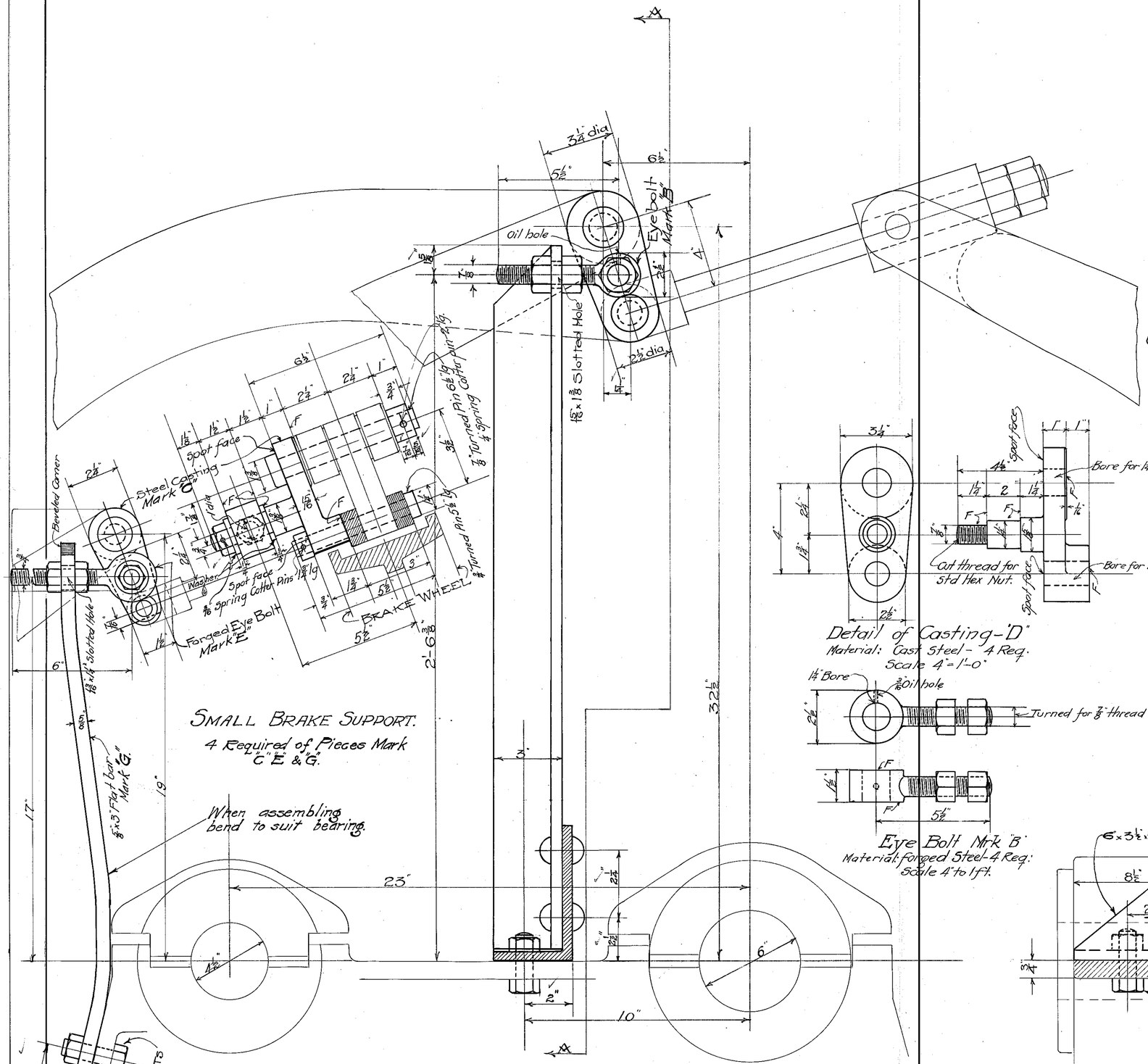
Made by GAH.
Traced by GAH.
Checked by T.B.B.

Drawing No. 1185

1660570094

FILE No. 5-04-641

15⅝" x 20½"

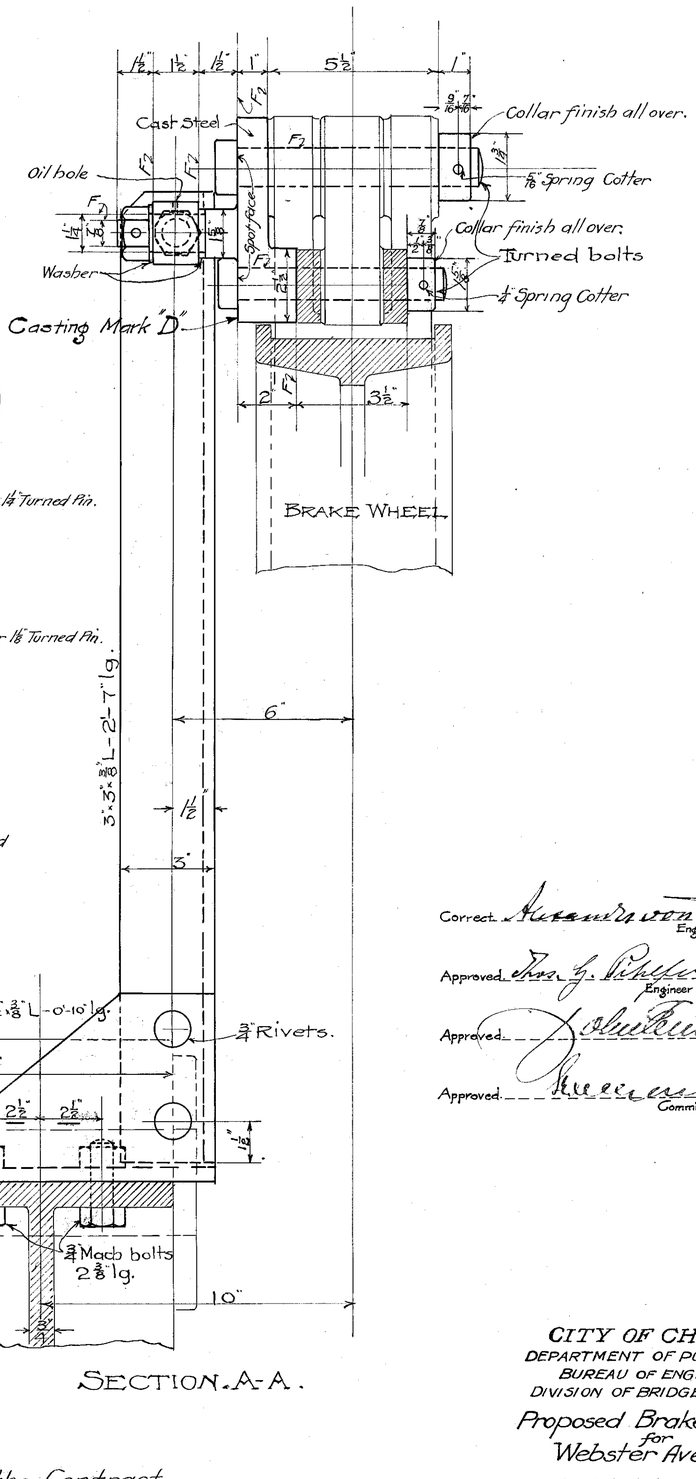


SMALL BRAKE SUPPORT.
4 Required of Pieces Mark "C" "E" & "G".

BEARING. B-6.

Detail of Casting-"D"
Material: Cast Steel - 4 Req.
Scale 4" = 1'-0"

Eye Bolt Mrk "B"
Material: forged Steel - 4 Req.
Scale 4 to 1 ft.



LARGE BRAKE SUPPORT.

SECTION. A-A.

NOTE:
To be paid for at unit prices named in the Contract for materials not shown on City's Drawings.

Correct Alexander von Babo
Engineer of Bridge Design.

Approved Thos. G. Pihlfeldt
Engineer of Bridges and Harbor.

Approved Chas. Burton
City Engineer.

Approved [illegible]
Commissioner of Public Works.

CITY OF CHICAGO.
DEPARTMENT OF PUBLIC WORKS.
BUREAU OF ENGINEERING.
DIVISION OF BRIDGES & HARBOR.

Proposed Brake-Supports for Webster Ave. Bridge.

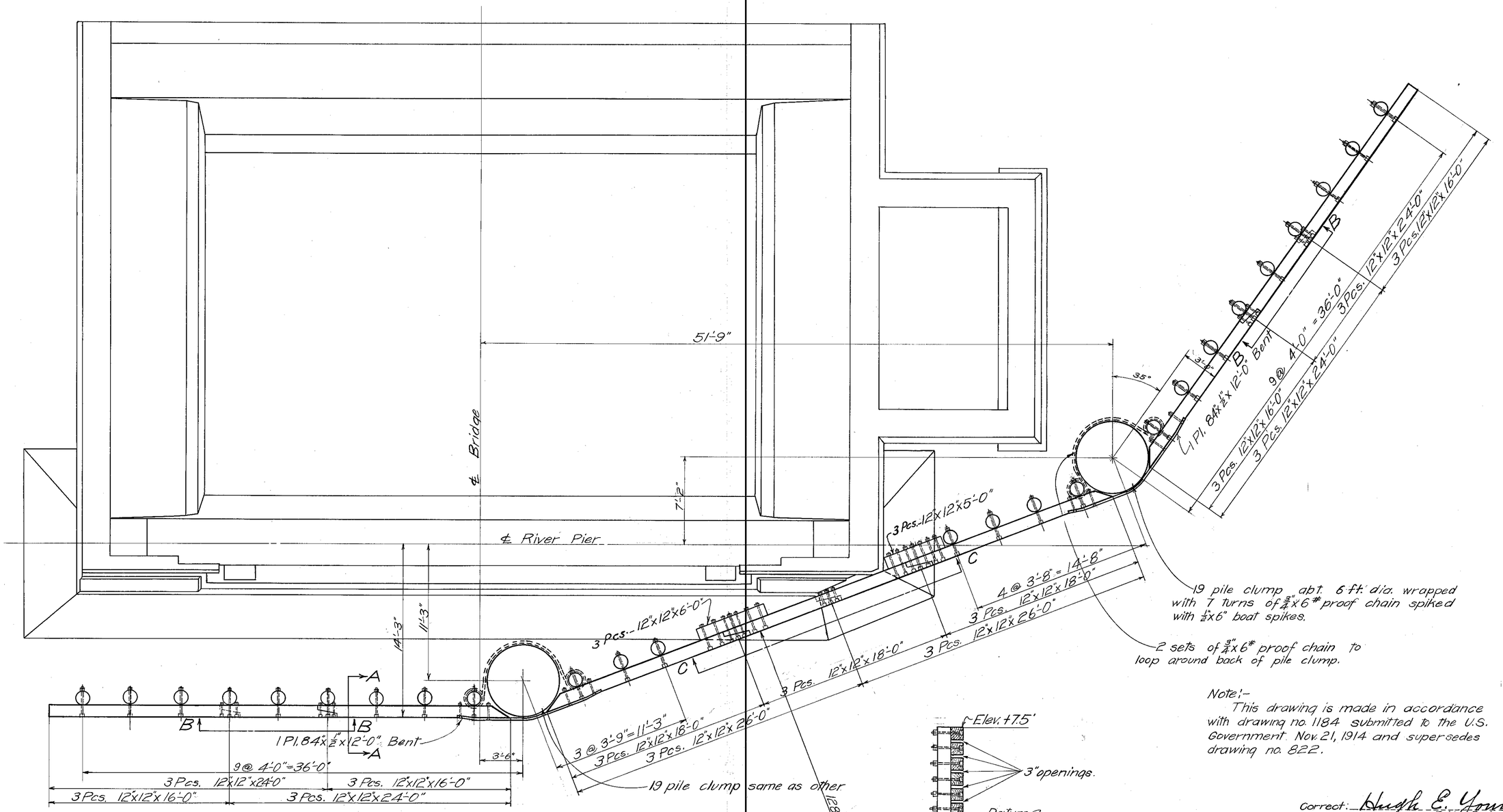
Scale: 4" to 1'-0" Dec. 8, 1914.

Drawn By A.L.
Traced " "
Checked " A.T.

Drawing No 1207
FILE No 2-D4-642

1660570095

Size 20" x 27"



Note:-

All piles to be creosoted oak, stripped of bark, and to have minimum diam. of 14" at butt and 6" at point

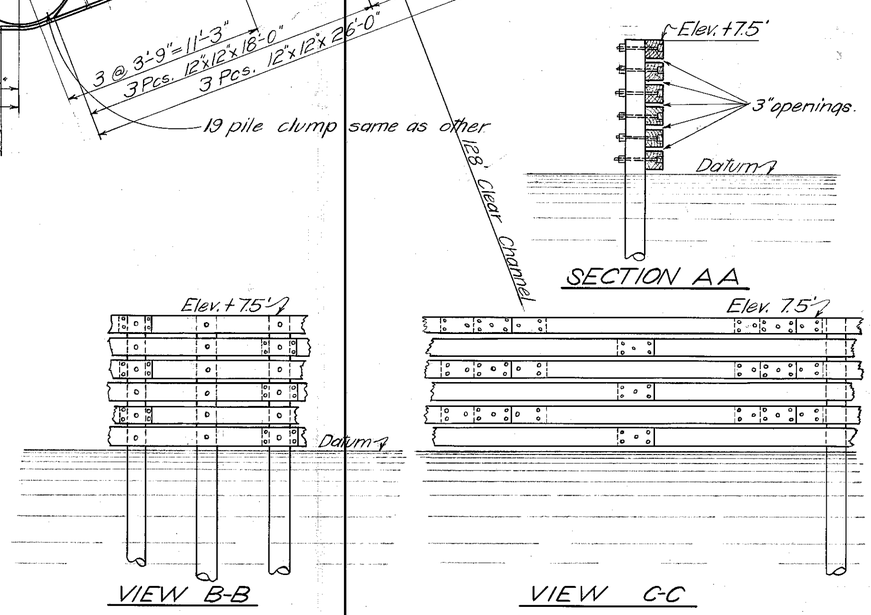
Piles to be 45 ft. long and be sawed off accurately at elevations given.

All wales to be 12"x12" creosoted oak fastened to each pile with 1 1/4" ϕ bolts, with square head and nut, socket washers on outside, and O.G. washers on inside.

Splices in wales to be bolted with 1" ϕ bolts with square head and nut, socket washers on outside and O.G. washers on inside.

Protection same for both piers.

Billed lengths of timber include allowance for cuts and laps.



Note:-

This drawing is made in accordance with drawing no. 1184 submitted to the U.S. Government Nov. 21, 1914 and supersedes drawing no. 822.

Correct: Hugh E. Young
Bridge Designing Engineer

Approved: Alexander von Babo
Engineer of Bridge Design

Approved: Thos. G. Pihlfeldt
Engineer of Bridges and Harbor

Approved: John Ellerton
City Engineer

Approved: L. Levy
Commissioner of Public Works

CITY OF CHICAGO
DEPARTMENT OF PUBLIC WORKS
BUREAU OF ENGINEERING
DIVISION OF BRIDGES AND HARBOR

DOUBLE LEAF TRUNNION BASCULE BRIDGE AT WEBSTER AVENUE OVER North Branch of the Chicago River

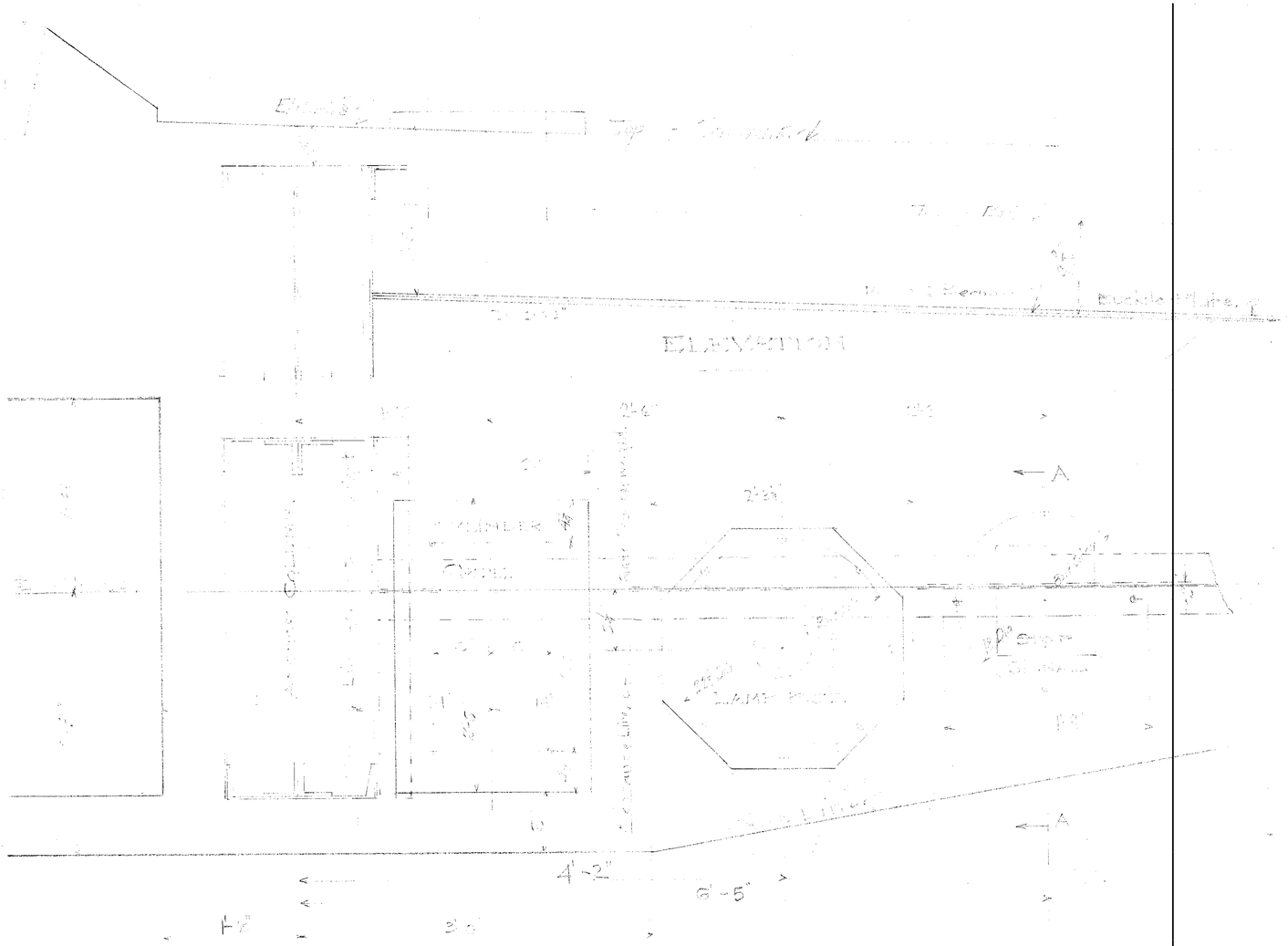
SUBSTRUCTURE
Pier Protection

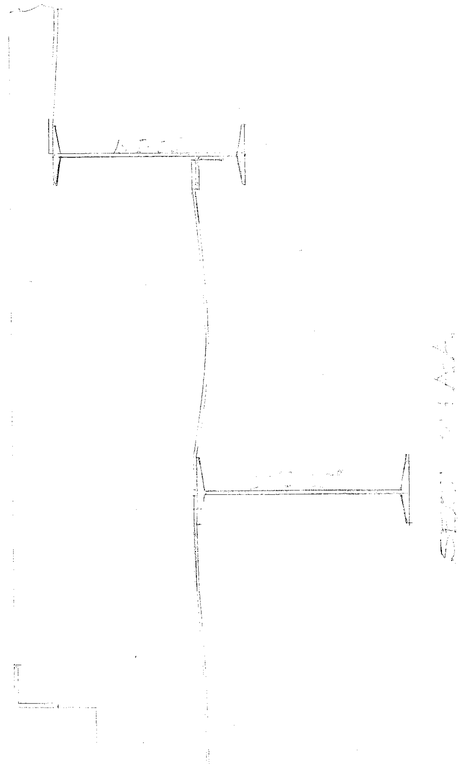
Scale: 3"/16 = 1'-0" Date Dec. 1914.
Made by D.N.B. Checked by G.A.H.

Drawing No. 1210
FILE Nº 12-04-643

1660570096

Size 20½x27"





CITY OF CHICAGO

DIVISION OF BRIDGES & HARBORS

LAYOUT

OF

ROADWAY GATES, LAMP POSTS & STOP SIGNS,

WEBSTER AVE BRIDGE

Scale 1/8 inch = 1 ft.

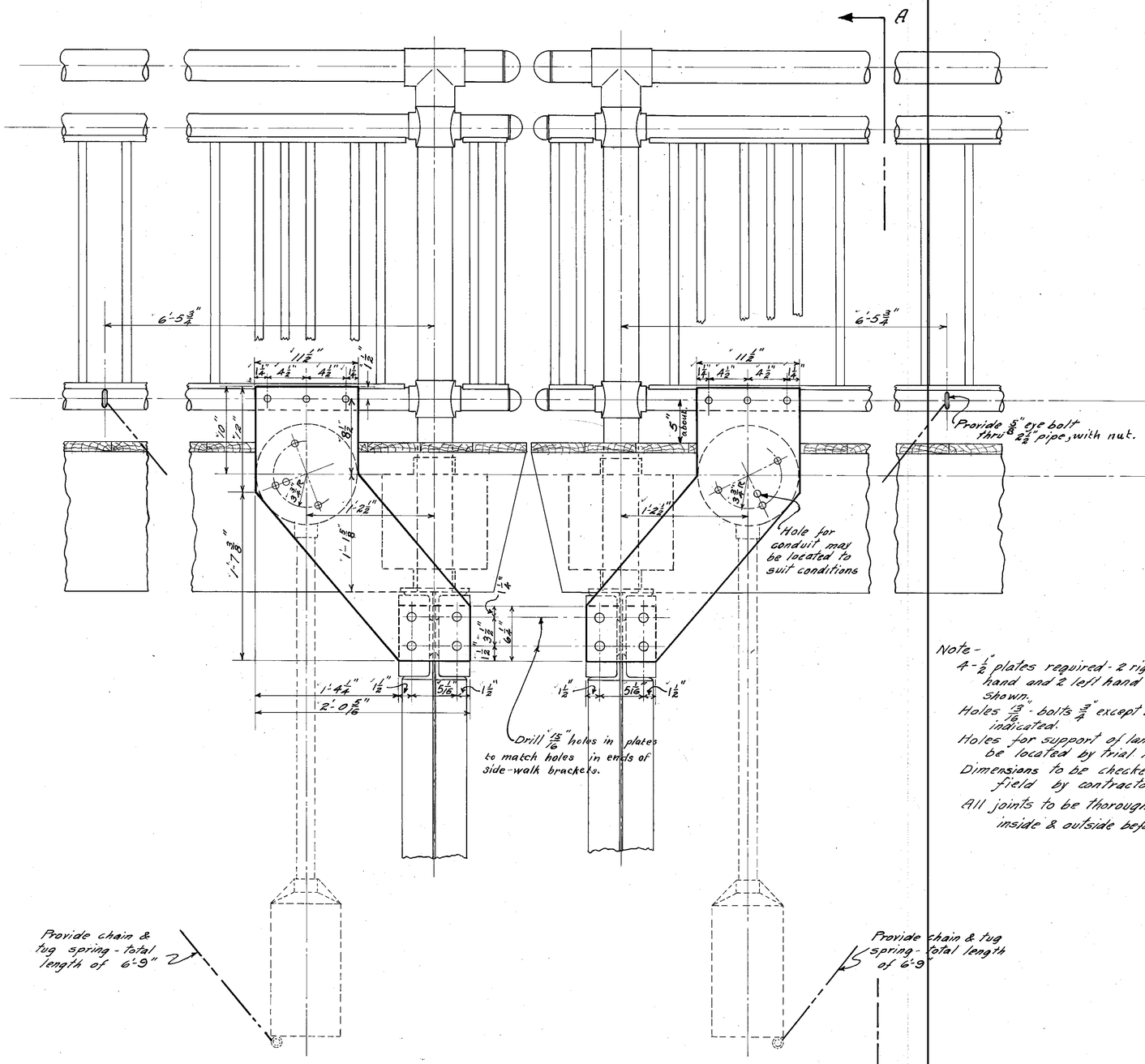
September 1-1915

Drawing No 17150

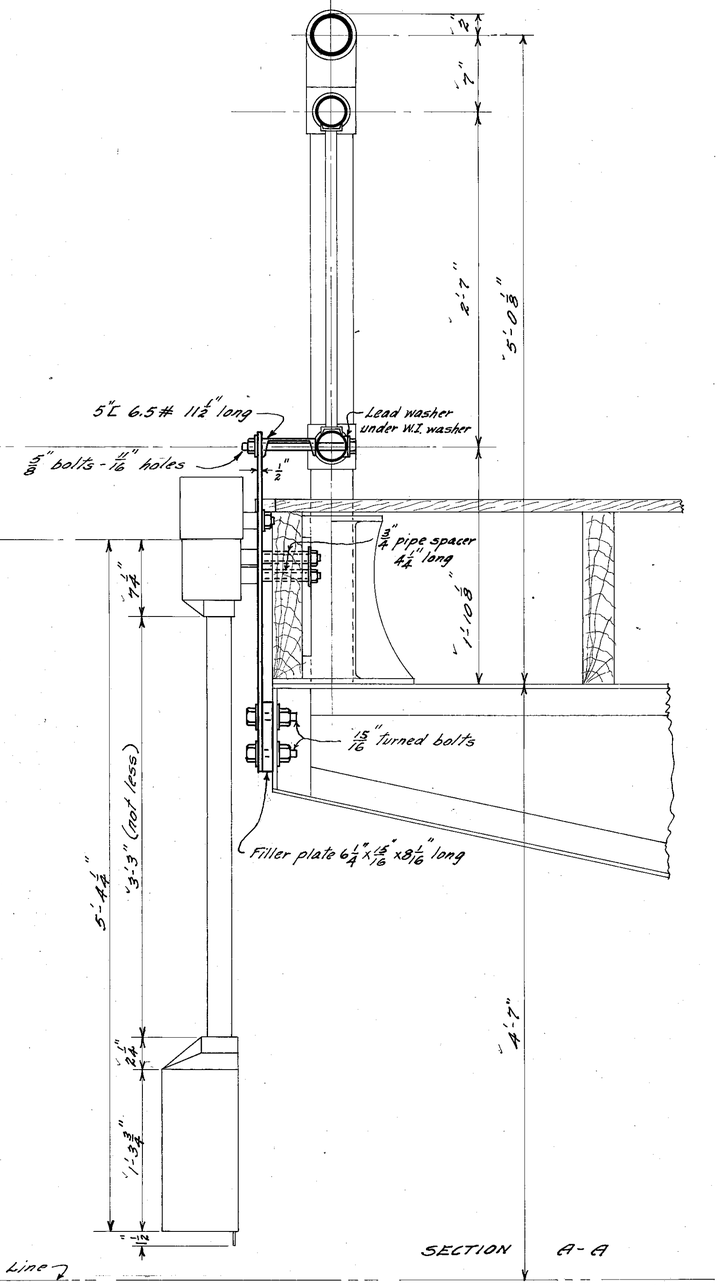
FILE No 35-D4-644

1660570097

Sig 19x30"



Tug Spring



Note -
4 - ½" plates required - 2 right hand and 2 left hand as shown.
Holes 13/16" - bolts ¾" except as indicated.
Holes for support of lamp to be located by trial in field.
Dimensions to be checked in field by contractor.
All joints to be thoroughly painted inside & outside before assembling.

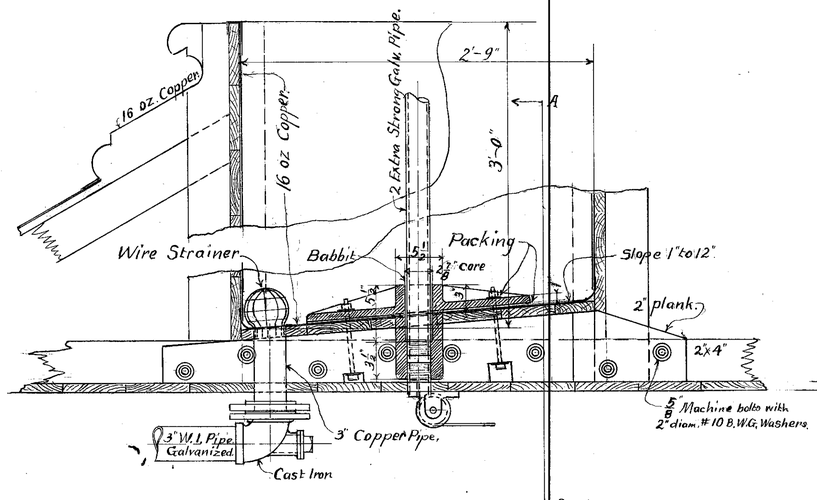
Correct - Hugh E. Young — Engineer of Bridge Design
Approved - Thos. E. Pihlgelt — Engineer of Bridges & Harbor
Approved - John Ellerson — City Engineer
Approved - W. R. Moorhouse — Commissioner of Pub. Works

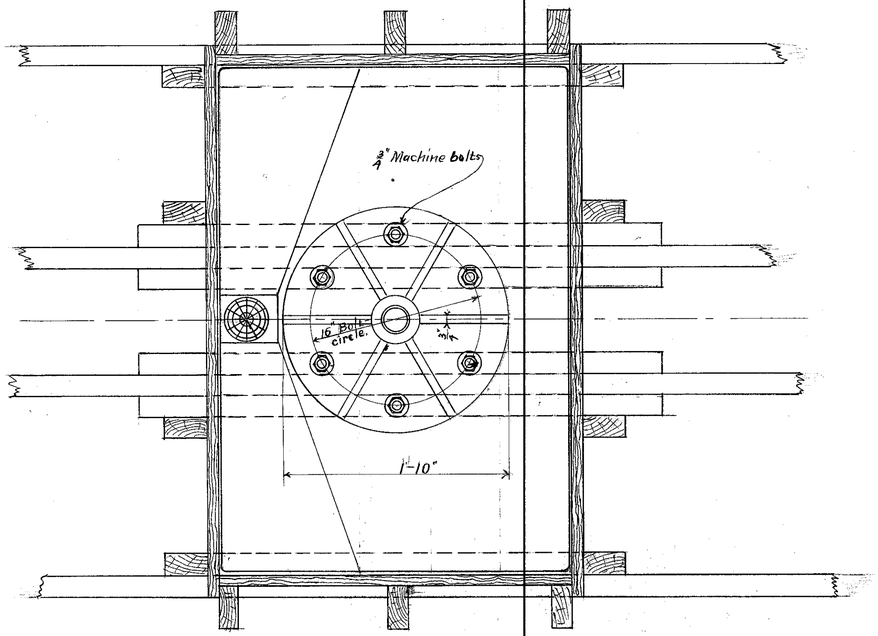
CITY OF CHICAGO.
Department of Public Works,
Bureau of Engineering,
Division of Bridges & Harbor.

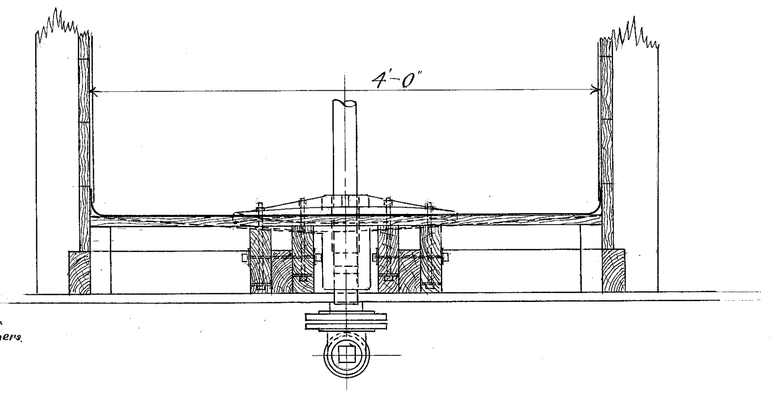
PROPOSED ARRANGEMENT OF CHANNEL LIGHT SUPPORTS FOR BELMONT & WEBSTER AVE. BRIDGES.

Drawn by - F.W.F. Date - Mar-1916
Traced by - F.W.F. Scale - 1½" = 1'-0"
Checked by - J.C.B. DRG. NO. 2235

1660570098 FILE № 12-D4-645 9 PER 200 20½" X 27"







SECTION AA.

City of Chicago,
Division of Bridges and Harbor.

Suggestion for Details of Signal Ball Support For Webster Ave. Bridge.

Drawn by H.A. Aug. 11-'15. Inked Dec-17-'15 J.C.B.
Scale. 1½" to 1Ft.

DRAWING Nº 3836
FILE Nº 35-D4-647.

1660570100

10x30"

G. L. CLAUSEN.
CONSULTING ENGINEER.

F. J. GERAGHTY

TEL. RANDOLPH 5216.

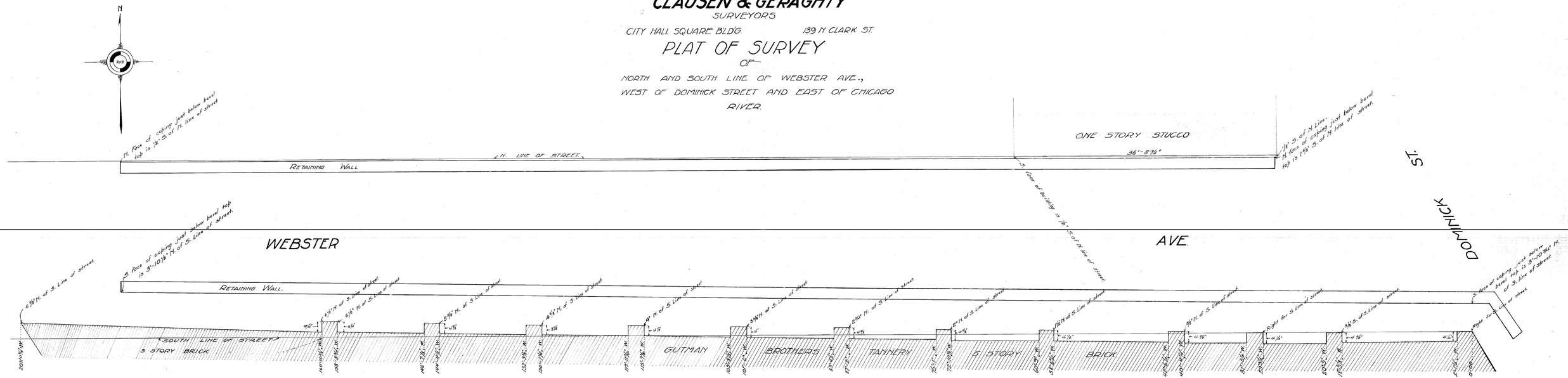
CLAUSEN & GERAGHTY
SURVEYORS

CITY HALL SQUARE BLD'G. 139 N. CLARK ST.

PLAT OF SURVEY

OF

NORTH AND SOUTH LINE OF WEBSTER AVE., WEST OF DOMINICK STREET AND EAST OF CHICAGO RIVER.



For City of Chicago.
"Bridge Division"
ORDER NO. 8869.
REQUISITION NO. E. 4193.
NOT TO SCALE.
BOOK 186 - P. 2.
ORDER # 9152.

STATE OF ILLINOIS } S.S.
COUNTY OF COOK }

We, CLAUSEN & GERAGHTY, do hereby certify that we have surveyed the property described above and that the plat hereon drawn is a correct representation of said survey.

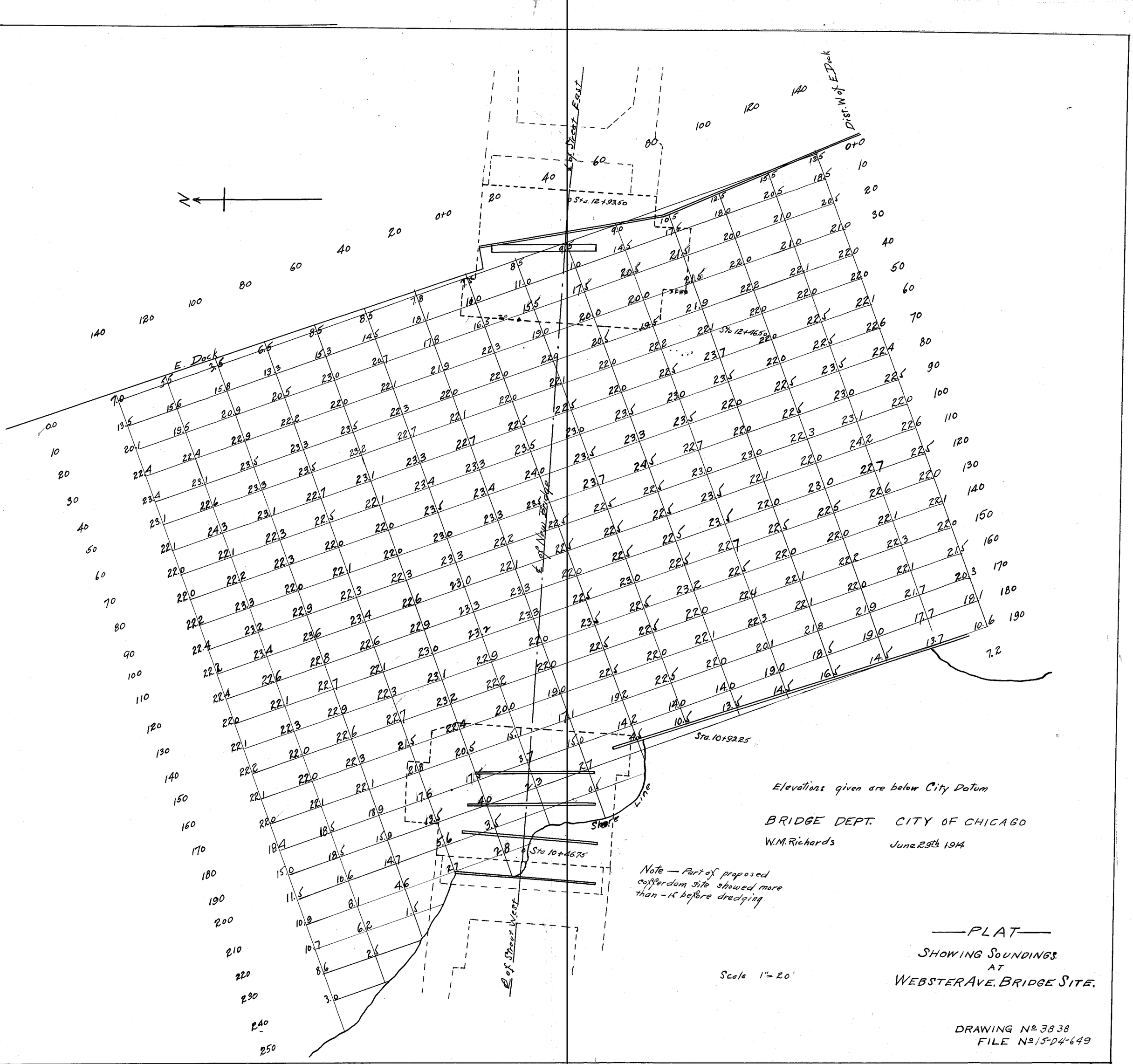
Chicago, March 16th A.D. 1915.

Clausen & Geraghty
Surveyors.

DRAWING Nº 3837.
FILE Nº 15-24-648

1660570101

21x1



Elevations given are below City Datum

BRIDGE DEPT. CITY OF CHICAGO

W.M. Richards June 29th 1914

Note — Part of proposed cofferdam site showed more than -15 before dredging

Scale 1" = 20'

PLAT

SHOWING SOUNDINGS AT WEBSTER AVE. BRIDGE SITE.

DRAWING No. 3838
FILE No. 15-D4-649

1660570102

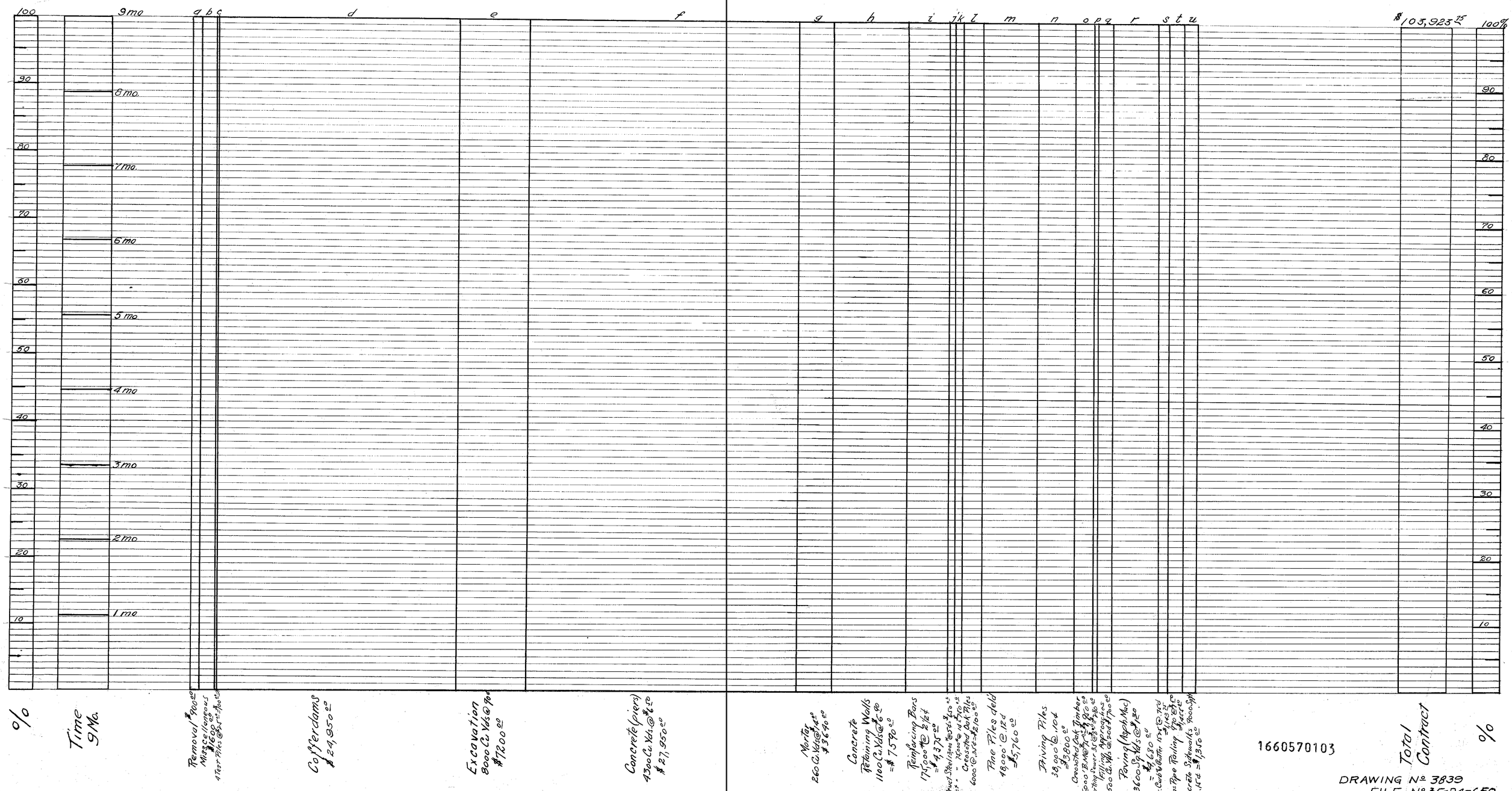
21"x22½"

WEBSTER AV. BRIDGE SUBSTRUCTURE PROGRESS DIAGRAM.

Bids opened

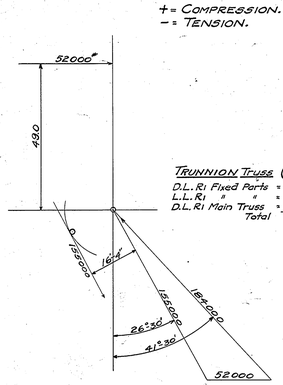
Contract signed

Notified to begin work

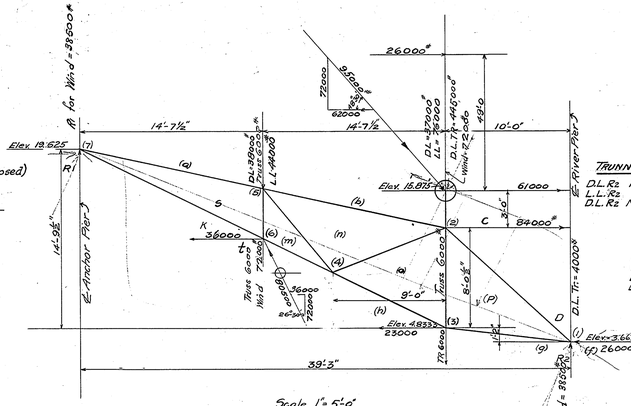


DRAWING Nº 3839
FILE Nº 35-D4-650
19X30"

+ = COMPRESSION.
− = TENSION.



Wind Reaction Diagram Per Truss.



Scale 1" = 5'-0"

TRUNNION TRUSS.

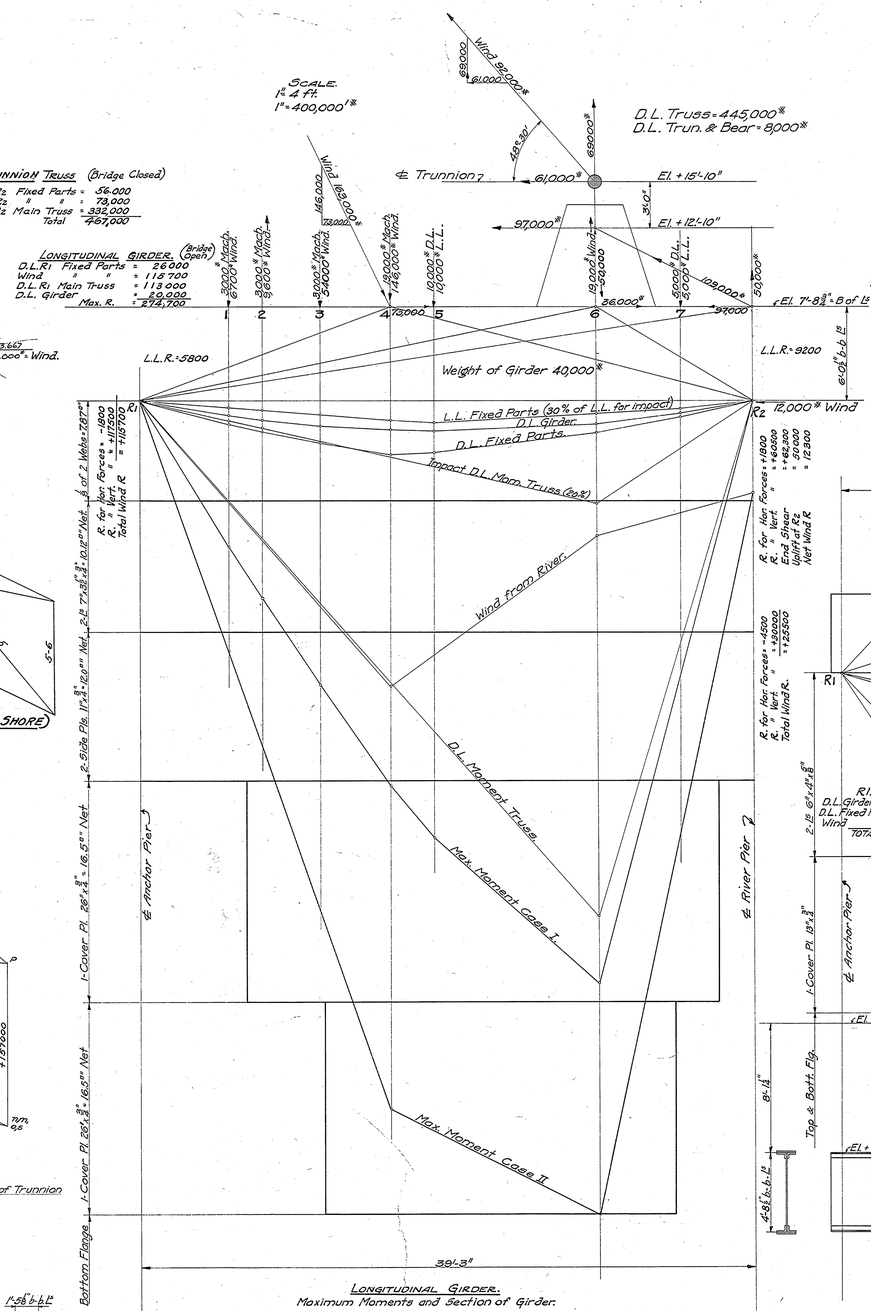
TRUNNION TRUSS (Bridge Closed)
D.L. R1 Fixed Parts = 43000
L.L. R1 " " = 47000
D.L. R1 Main Truss = 113000
Total 203000

TRUNNION TRUSS (Bridge Closed)
D.L. R2 Fixed Parts = 56.000
L.L. R2 " " = 73,000
D.L. R2 Main Truss = 332,000
Total 467,000

LONGITUDINAL GIRDER (Bridge Open)
D.L. R1 Fixed Parts = 22,900
Wind " = 116 700
D.L. R1 Main Truss = 113 000
D.L. Girder = 22,900
Max. R. = 274,700

LONGITUDINAL GIRDER, (Bridge Open)
D.L. R2 Fixed Parts = 22000
Wind " = 12300
D.L. R2 Main Truss = 332000
D.L. Girder = 20000
Max. R = 388300

SCALE.
1" = 4 ft.
1" = 400,000 1#

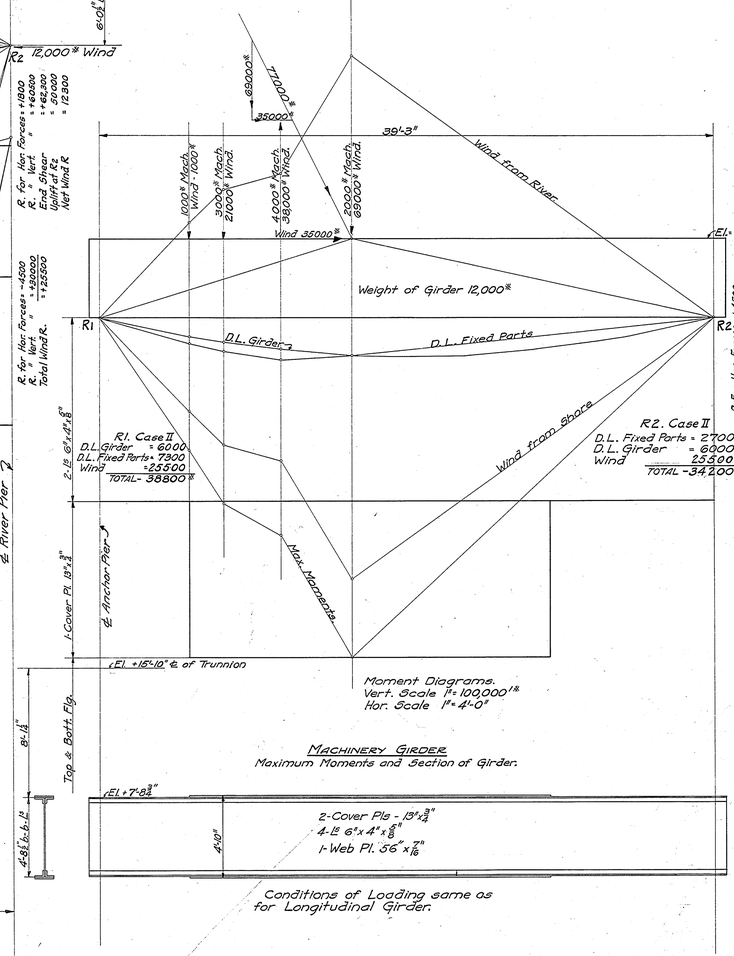


LONGITUDINAL GIRDER.
Maximum Moments and Section of Girder.

4-Cover Pls.-26" x 3/4"
4-Side Pls.- 11" x 3/4"
4-L²s: 7" x 3½" x 7/8"
2-Web Pls.- 72" x 7/16"

CASE I BRIDGE CLOSED.
For max. moments:- Fixed parts fully loaded with L.L. 30% of L.L. added for impact, D.L. fixed parts & D.L. movable parts.

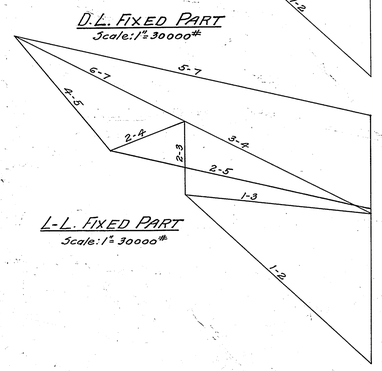
CASE II BRIDGE MOVING
For max. moments:- D.L. fixed parts, and movable parts, plus Impact of 20% of D.L. of movable parts. Movable parts loaded by Wind Load (20# per sq. ft.)



Moment Diagrams.
Vert. Scale 1" = 100,000 1#
Hor. Scale 1" = 4'-0"

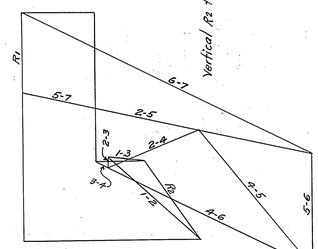
MACHINERY GIRDER
Maximum Moments and Section of Girder.

D.L. FIXED PART
Scale: 1" = 30000#

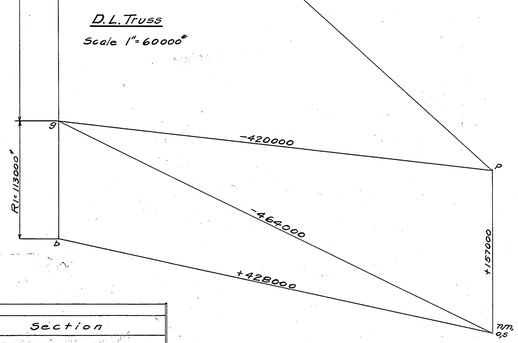


L-L. FIXED PART
Scale: 1" = 30000#

WIND STRESSES (WIND FROM SHORE)
Scale: 1" = 30000#



D.L. TRUSS
Scale 1" = 60000#



STRESSES IN TRUNNION TRUSS.

Case I Bridge Closed

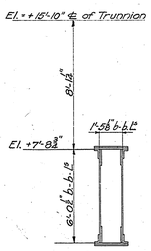
Member	D.L.	L.L.	Impact 20% of L.L.	Truss D.L.	Impact 20% DL Tr.	Designing Stress	Length Member	r	l/r	Unit Stress	Area Reqd	Gross Section	Net Section	Section
1-2	+95000	+124000	30000	564000		813000								
2-5	+110000	+139000	33000	928000		710000								
5-7	+163000	+178000	40000	928000		809000								
1-3	−70000	−95000	23000	920000		608000								
3-4	−79500	−104000	25000	464000		672500								
4-6	−175000	−192000	46000	464000		877000								
6-7	−175000	−192000	46000	464000		877000								
2-3	+27000	+34000	8000	157000		276000								
5-6	0.0	0.0				0.0								
2-4	−44000	−39000	9000			92000								
4-5	+80000	+70000	17000			167000								

Case II Bridge Moving

Member	Wind													Section
1-2	+95000	±60000		+54000	+112800	+83180	15.6	5.8	28	14000	61.0	64.08		2-Webs-18"x⅜" 4-L⁸-4"x4"x⅞" Diaph. (1-Pl.-14"x⅜" 4-L⁸-3½"x3½"x⅜"
2-5	+110000	±87000		+428000	+85600	+71060	15.0	7	25.5	14000	52.5	53.04		1-Cov Pl. 25"x⅜" 2-Web pls. 18"x⅜" 2-L⁸-6"x4"x⅞" Top. 2-L⁸-6"x4"x⅞" Bott.
5-7	+163000	± 142000		+428000	+ 85600	+818600	15.0	7	25.5	14000	59.8	63.04		1 Cov Pl. 25"x⅜" 2- Web Pls. 18"x⅜" 2-Pls. 6"x⅜" 2-L⁸-6"x4"x⅞" 2-L⁸-6"x4"x⅞"
1-3	−70000	± 17500		−420000	− 84000	−59150	10.1			16000	38.2	50.0	44.25	2- Web Pls. 24"x⅜ 4-L²-5"x3½"x ⅝" 8
3-4	−79500	± 6500		−464000	−92800	−64290	10.0			16000	41.4	55.86	42.86	2- Web Pls. 20"x⅜" 4-L⁸-4"x4"x 7/16
4-6	−175000	± 115000		−464000	−92800	−846900	6.3			16000	54.4	75.36	57.49	2- Web Pls. 20"x⅜" 4-L⁸-4"x4"x⅞" 2-Pls. 12"x 7/16
6-7	−175000	± 155000		−464000	−92800	−886900	16.3			16000	54.4	75.36	57.49	2-Web Pls. 20"x⅜" 4-L⁸-4"x4"x 7/16 2-Pls. 12"x 7/16
2-3	+27000	± 5000		+157000	− 31400	+220400	8.0	6.5	14.7	14000	15.8	18.44		4-L⁸-4"x4"x⅝
5-6	0.0	± 55000		0.0	0.0	± 55000	4.0			16000	4.67	8.8	7.05	2-L⁸-7"x 3½" x 7/16
2-4	−44000	± 47000		0.0	0.0	−91000	9.7			16000	−6.0	9.92	6.92	4 L⁸ 3½"x3½"x⅜
4-5	+80000	±85000		0.0	0.0	+165000	8.8	1.7	64	11700	13.0	13.0		4 L⁸ 3½"x3½"x⅜

CASE I BRIDGE CLOSED
For Max. moment fixed parts fully loaded with L.L., 30% of L.L. added for impact. D.L. fixed parts and D.L. movable parts.

CASE II BRIDGE MOVING
For Max. moments D.L. fixed parts and movable parts plus impact of 20% of D.L. movable parts. Movable parts loaded by wind load of 20# per sq. ft.



BELMONT AVENUE BRIDGE
AND
WEBSTER AVENUE BRIDGE.
STRESSES
FOR
CARRYING TRUSS, LONGITUDINAL GIRDER AND MACHINERY GIRDER.

Made By H.E.Y.
Checked By A.B.L.
Date-August 1913.

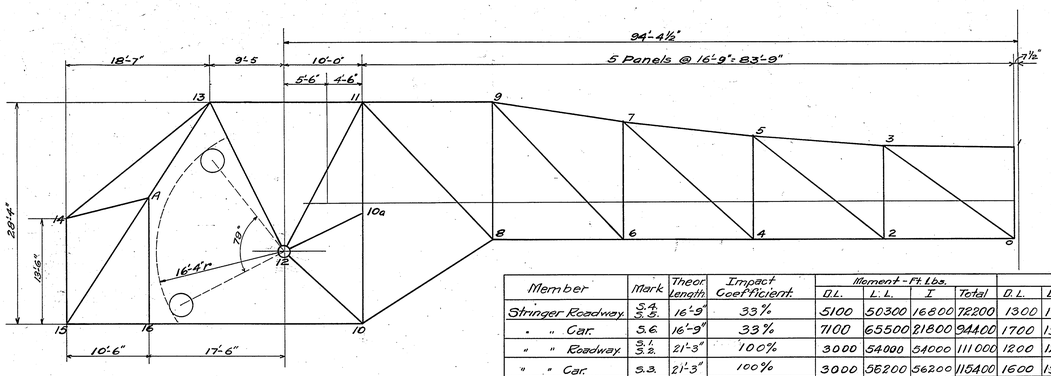
DRAWING Nº 439.
FILE Nº 11-6E-66

(5) OF (7)

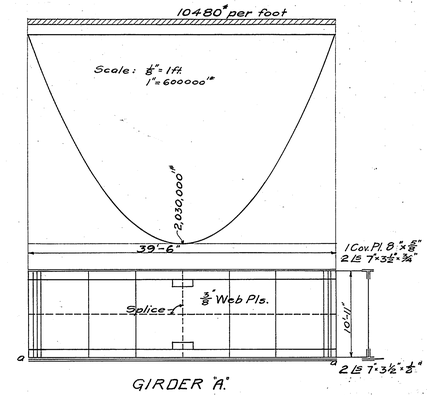
9960040122 - 1660570104

9 PER 208

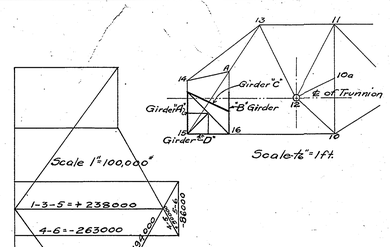
SIZE 22"x41"



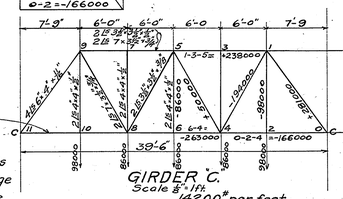
Member	Mark	Theor. Length	Impact Coefficient	Moment - Ft. Lbs. D.L.	L.L.	I	Total	Shear Lbs. D.L.	L.L.	I	Total	Flange Sec. Reqd	Material	Flange Sec. Provided
Stringer Roadway	S.4, S.3.	16'-9"	33%	5100	50300	16800	72200	1300	17700	5700	24000	Sec. Mod. 54.0	15"@42# I Beam.	Sec. Mod. 56.9
" " Car.	S.6.	16'-9"	33%	7100	65500	21800	94400	1700	19800	6600	28100	Sec. Mod. 70.8	2L⅝"×3½"×⅝" Top. Web 15"×⅜" 2L⅝"×3½"×½" Bottom.	Sec. Mod. 71.0
" " Roadway	S.1, S.2.	21'-3"	100%	3000	54000	54000	111000	1200	12000	12000	25200	15"@ 60#"I Beam.		Sec. Mod. 61.2
" " Car.	S.3.	21'-3"	100%	3000	56200	56200	115400	1600	19800	19800	41200	Sec. Mod. 82.8	2L⅝"×3½"×⅝" Top. Web 15"×⅜" 2L⅝"×3½"×⅝" Bottom.	Sec. Mod. 91.5
Floorbeam 0-0		39'-6"	100/(4.4×28.2)+300 = 27% +23% for wheels at brack'g flrs.	159000	688000	272000	1119000	15300	52000	19200	86500	Sec. Mod. 16.15	4L 6"x4"x⅜" Web 52.5 ⅜"	Sec. Mod. 16.42
" " (2-2)(4-4) (6-6)(8-8)		39'-6"	100/(4.4×28)+300 = 28%	264000	888000	205000	1357000	25100	70500	16200	111800	Sec. Mod. 13.1	4L 6"x6"x⅜" Web .375 ⅜"	Sec. Mod. 13.23
" " 10-10		39'-6"	100/(4.4×28)+300 = 28% +28% for wheels at brack'g flrs.	222000	970000	363000	1555000	24000	72000	20000	116000	Trussed.		
Sidewalk Stringers		16'-9"	18%	1600	9500	1700	12800	400	2200	400	3000	Sec. Mod. 12.80	3"x16" Pine Stringers	128.0
" " Bracket.			18%	23300	83000	14900	121200	10000	15100	2700	27800	2.64 ""	4L 3½"x 3"x ⅜" Web = ⅜"	2.84 ""



GIRDER "A."



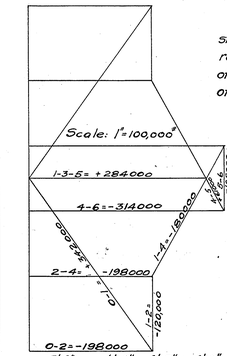
Scale 1"=1ft.

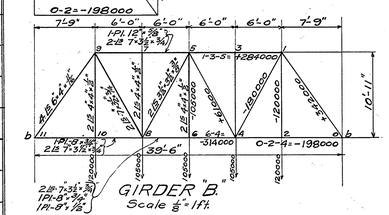


GIRDER "C."
Scale ⅛" = 1ft.
14200" per foot.

Top Flg. Girder "A" { 1 Cov. Pl. 8"x⅝" / 2 L⅝ 7"x3½"x¾" }

NOTE- When bridge is open stress in bottom flange of Girder "C" is reduced by compression in top flange of Girder "A". Rivets in bottom flange of Girder "C" must take full stress.





GIRDER "B."
Scale ⅛" = 1ft.

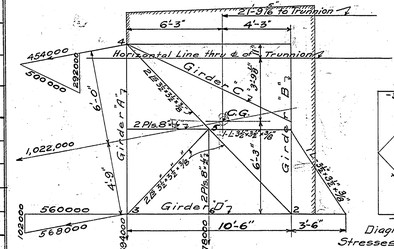


Diagram giving loading on Girders. (Bridge Open)

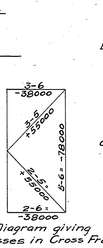
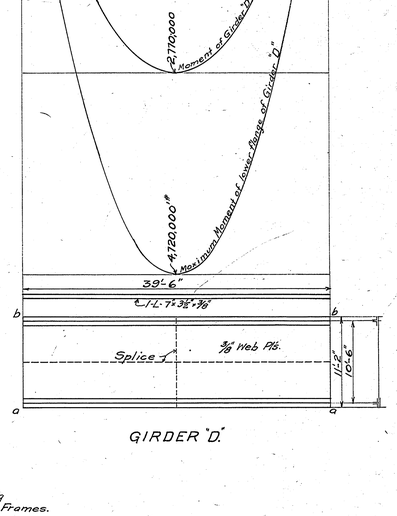


Diagram giving Stresses in Cross Frames.



GIRDER "D."

Member	Bridge Closed D.L. Closed	L.L. Closed	Impact to L.L.	Lock Shear	50% Reversal	Total	Bridge Opening or Fully Open D.L.R Open	Wind	20% Vibration	50% Reversal	Total	Designing Stress	Length of Member	r	l/r	Unit Stress	Area Regd.	Gross	Net	Sections
Bottom Chord 1-3	0.0	0.0		0.0			+1500	0.0			+1500	+1500				16000		19.62	14.62	4 L 8"x3"x ⅝" = 7.12 − 2.5 = 4.62; 2 Pls. 20"x ⅝" = 12.50 − 2.5 = +10.00
3-5	-40000	-49000	-15000	±72000	23000	+ 69000 -199000	-3000	±7000	-600	2000	-11000	-199000				16000	12.4	24.92	18.92	4 L 8"x3½"x⅜" = 9.32 − 3.0 = 6.32; 2 Pls. 20"x ⅜" = 15.00 − 3.0 = 12.00
5-7	-122000	-172000	-43000	-71000	5000	-413000	-15000	±25000	-3000	5000	-48000	-413000				16000	26.0	34.48	25.98	4 L 8"x3½"x⅝" = 14.48 − 4.5 = 9.98; 2 Pls. 20"x ½" = 20 − 4.0 = 16.0
7-9	-232000	-333000	-66600	-38000	10000	-680000	-31000	±50000	-6200	10000	-88000	-680000				16000	42.5	53.14	42.14	4 L 8"x6"x 11/16" = 25.64 − 5.5 = 20.14; 2 Pls. 20"x 11/16" = 27.50 − 5.5 = 22.00
9-11	-346000	-495000	-84200	-13000	14000	-952000	-46000	±74000	-9200	14000	-130000	-952000				16000	59.4	74.88	59.38	4 L 8"x6"x ⅞" = 29.88 − 6.5 = 23.38; 2 Pls. 20"x ⅞" = 25.0 − 5.0 = 20.0; 2 Pls. 20"x ½" = 20 − 4 = 16.0
11-13	-544000	-420000 -680000*	-57000 -81000	0.0		-1021000	-233000	±148000	-46600		-428000	-1,021,000				16000	64.00	79.88	63.38	4 L 8"x6"x 13/16" = 29.88 − 6.5 = 23.38; 2 Pls. 20"x ⅝" = 26.0 − 5.0 = 20.0; 2 Pls: 20"x 5/16" = 25.0 − 5 = 20.00
Top Chord 0-2	+40000	+50000	+15000	±72000	23000	- 69000 +200000	+9000	±6000	+1800		+17000	+200000	20.1	5.62	36	13500	14.8	19.8		2 L 6"x6"x.33" = 19.80
2-4	+121000	+171,000	+42700	+71000		+406000	+30000	±22000	+6000		+58000	+406000	20.1	6.65	30	13900	29.2	29.0		4 L 4"x4"x 7/16" = 13.24; 2 Pls. 18"x 7/16" = 15.75
4-6	+230000	+330000	+66000	+38000		+664000	+58000	±44000	+11600		+114000	+664000	20.1	6.3	38	13300	49.8	53.41		4 L 4"x4"x 7/16" = 13.24; 2 Pls. 18"x 7/16" = 15.75; 2 Pls. 7"x ½" = 7.00; 4 L 3½"x3½"x⅜" = 9.92; 1 Pl. 20"x ⅜" = 7.50
6-8	+346000	+494000	+84000	+13000		+937000	+90000	±67000	+18000		+175000	+937000	20.1	5.6	38	13500	69.5	71.13		4 L 8"x4"x ⅜" = 18.44; 4 L 4"x4"x 3/8" = 11.44; 2 Pls. 18"x ⅜" = 22.50; 2 Pls. 20"x 9/16" = 11.25; 1 Pl. 20"x ⅜" = 7.50
8-10	+408000	+570000	+85500	0.0		+1064000	+104000	±79000	+20800		+204000	+1064000	23.9	5.75	42	13100	81.1	80.26		4 L 6"x4"x ¾" = 27.76; 4 L 4"x4"x ½" = 15.0; 2 Pls. 8"x 5/16" = 10.00; 2 Pls. 20"x 7/16" = 20.00; 1 Pl. 20"x ⅜" = 7.50
10-15	+257000	+240000 +384000*	+33000 +33000		245000	+775000	-386000	±26000	-77200	245000	-734000	+775000 -734000	332 726	5.97		+12100 -16000	+642 -45.9	51.24	42.24	4 L 6"x3½"x⅜" = 26.24-6.00 = 20.24; 2 Pls. 20"x ⅝" = 25.00-5.00 = 20.00
Posts 0-1	1500	0.0		0.0		1500	+1000	0.0	+200		1200	+1500	14.1	2.07	68	11200		9.92		4 L 4"x3"x ⅜" = 9.92 Laced
2-3	+28000	+34000	+10200	±46000	12000	- 42000 +132000	+6000	±5000	+1200		+12000	+132000	14.6	2.07	70	11100	10.62	11.48		4 L 4"x3"x 7/16" = 11.48' Laced
4-5	+60000	+82000	+20500	+20000		+183000	+13000	±12000	+2600		+28000	+183000	16.0	2.54	63	11600	15.8	16.00		4 L 5"x3½"x ½" = 16.0 Laced
6-7	+83000	+113000	+22600	+6200		+225000	+18000	±17000	+3600		+39000	+225000	18.2	3.15	58	11900	18.90	20.12		4 L 6"x3½"x 9/16" = 20.12 Laced
8-9	+170000	+227000	+38600	+3600	1000	+441000	+33000	±35000	+6600	1000	+75000	+441000	21.1	3.6	59	11900	37.2	39.24		1 Pl. 20"x ½" = 10.00; 4 L 7"x3½"x ¾" = 29.24
10a-11	-364000	+112000 +275000*	+15000 +41000		158000 158000	-522000 +471000	-416000	±137000	-83000	158000	+474000 -794000	+474000 -794000	16.5 34.0			-16000	49.7	79.76	62.76	4 L 6"x4"x ¾" = 27.76 − 6.0 = 21.76; 2 Pls. − 20"x ⅝" = 30.00-6.00 = 24.00; 4 L 3½"x3½"x ⅝" = 13.00-4.0 = 9.00; 1 Pl. 18"x ⅝" = 9.00-1.00 = 8.00
10-10a	-364000	+178000 +372000*	+24000 +56000		182000	-546000 +610000	-530000	±137000	-106000	214000	+642000 -987000	+642000 -987000	17.5 34.0			16000	61.7	79.76	62.76	DO.
Diagonals 0-3	-49000	-62000	+12000 -18600	±88000	34000	- 252000 +101000	-9000	±9000	-1800		-20000	-252000				16000	13.6	17.64	14.1	4 L 7"x3½"x 7/16" = 17.6 − 3.5 = 14.10 Laced
2-5	-105000	-156000	-39000	-39000	1000	-340000	-21000	±23000	-4200	1000	-48000	-340000				16000	21.4	26.35	21.97	4 L 7"x3½"x 11/16" = 17.6 − 3.5 = 14.10; 1 Pl. − 20"x 1/16" = 8.75 − .88 = 7.87
4-7	-147000	-217000	-43400	-11800	1000	-420000	-30000	±32000	-6000	1000	-68000	-420000				16000	26.2	31.25	26.12	4 L 7"x3½"x ½" = 20.00 − 4.0 = 16.0; 1 Pl. 20"x 9/16" = 11.25 − 1.13 = 10.12
6-9	-170000	-242000	-41200	-2600		-456000	-37000	±37000	-7400		-82000	-456000				16000	28.5	35.93	29.80	4 L 7"x3½"x ⅝" = 24.68 − 6.0 = 18.68; 1 Pl. 20"x 9/16" = 11.25 − 1.13 = 10.12
8-11	+ 2000	- 76000 +108000	- 16000 +21000	-10000 +11000	51000	-152000 +193000	+20000	± 3000	+4000		+27000	+193000	29.2	3.6	81	10300	18.72	20.00		4 L 7"x3½"x ½" = 20.0 Laced
Counterweight Truss 10-12	+121000	+337000 +660000*	+45000 +99000			+759000	+673000	±135000	+134000		+942000	+694000 -526000	16.3	6.0	27	14100	66.9	79.31		4 L 6"x4"x ⅜" = 25.64; 4 L 3½"x3½"x ⅜" = 9.92; 2 Pls. − 8"x ⅝" = 10.00; 1 Pl. 20"x ⅝" = 7.50; 4 L 6"x4"x 11/16" = 25.64; 4 L 3½"x3½"x ⅜" = 9.92; 2 Pls. − 8"x ⅝" = 10.00; 1 Pl. 20"x ⅝" = 7.50
11-12	+427000	-111000 -305000 *	-18000 -46000			175000 175000	+470000	±157000	+94000	178000	+896000		26.0	5.7	46	12800	70.00	78.06		4 L 7"x3½"x 7/16" = 17.60; 1 Pl. 20"x ⅜" = 7.50
10a-12							+228000		+45800		+275000	+275000	13.4	3.5	38	13400	20.03	25.10		4 L 7"x3½"x 7/16" = 17.60; 1 Pl. 20"x ⅜" = 7.50
12-13	+640000	+408000 +783000 *	+61000 +117000			+1,109,000	+126000	±108000	+123000 +425000		+768000	+1,109,000	25.6	6.0	43	13000	85.5	85.64		4 L 6"x4"x 7/16" = 25.64; 4 L 4"x4"x ½" = 15.00; 2 Pls. 9"x 5/8" = 11.25; 1 Pl. 20"x ⅜" = 7.50; 4 L 4"x4"x ½" = 15.00; 2 Pls. 21"x ⅝" = 26.25
13-14	+260000	- 43000	- 6000			+260000	-235000		+92000 -47000	118000 130000	+430000 -412000	+430000 -412,000	28.5	7.72	37	+13300 -16000	+32.3 -25.9	42.52	37.40	2 Pls. 20"x ⅜" = 15.0 − 3.0 = 13.5; 2 L 4"x4"x ½" = 7.5 − 1.0 = 6.5; 2 Bars 4"x ⅜" = 5.0 − 1.28 = 3.72; 2 L 4"x4"x ½" = 7.5 − 1.0 = 6.5; 2 Pls. 9"x 5/8" = 11.25 − 2.81 = 8.44; 1 Pl. 30"x 5/16" = 9.30 − 6.25 = 29.69
13-A	-848,000	- 388.000 -1,004,000*	-53000			-1,289,000	+50000	±190000	-160000 +10000	125000	-1,414,000 +375,000	-1,414,000				16000	88.5	114.35	92.98	4 L 7"x3½"x 7/8" = 33.68 − 7.00 = 26.68; 2 Pls. 21"x ⅞" = 36.75 − 7.0 = 29.75; 1 Pl. 18"x 7/16" = 12.42 − 1.37 = 11.05
A-15	-446000	- 388.000 - 622.000*	-53000			- 887,000	+50000	±190000	-88000 +10000	125000	-1,012,000 +375,000	-1,012,000				16000	63.3	82.85	67.48	4 L 7"x3½"x 7/8" = 33.68 − 7.00 = 26.68; 2 Pls. 21"x ⅞" = 36.75 − 7.0 = 29.75; 1 Pl. 18"x 7/16" = 12.42 − 1.37 = 11.05
14-15	+125000	0.0				+125000	-112000		+25000 -22000	56000 63000	+206000 -197000	+206000 -197000	16.5	2.5	66	+10400 -16000	+19.8 -12.3	24.22	20.72	4 L 6"x4"x 7/16" = 16.72 − 3.50 = 13.22; 1 Pl. − 20"x ⅜" = 7.50 − 35 = 6.75
A-16	-273000	0.0				-273000	-3000		- 600		- 3600	-273000				16000	17.5	23.44	18.44	4 L 6"x4"x ⅝" = 23.44 − 5.0 = 18.44
14-A	-210000	-34000	-5000			-249000	-3000		- 600		- 3600	-249000				16000	13.4	21.18	15.68	1 Pl. − 20"x ⅜" = 7.50 − 1.5 = 6.00; 4 L 6"x3½"x ⅜" = 13.68 − 4.0 = 9.68

* With D.L. relieved from trunnion bearings. Stress shown = D.L.+L.L. Stress

BELMONT AVENUE BRIDGE
AND
WEBSTER AVENUE BRIDGE

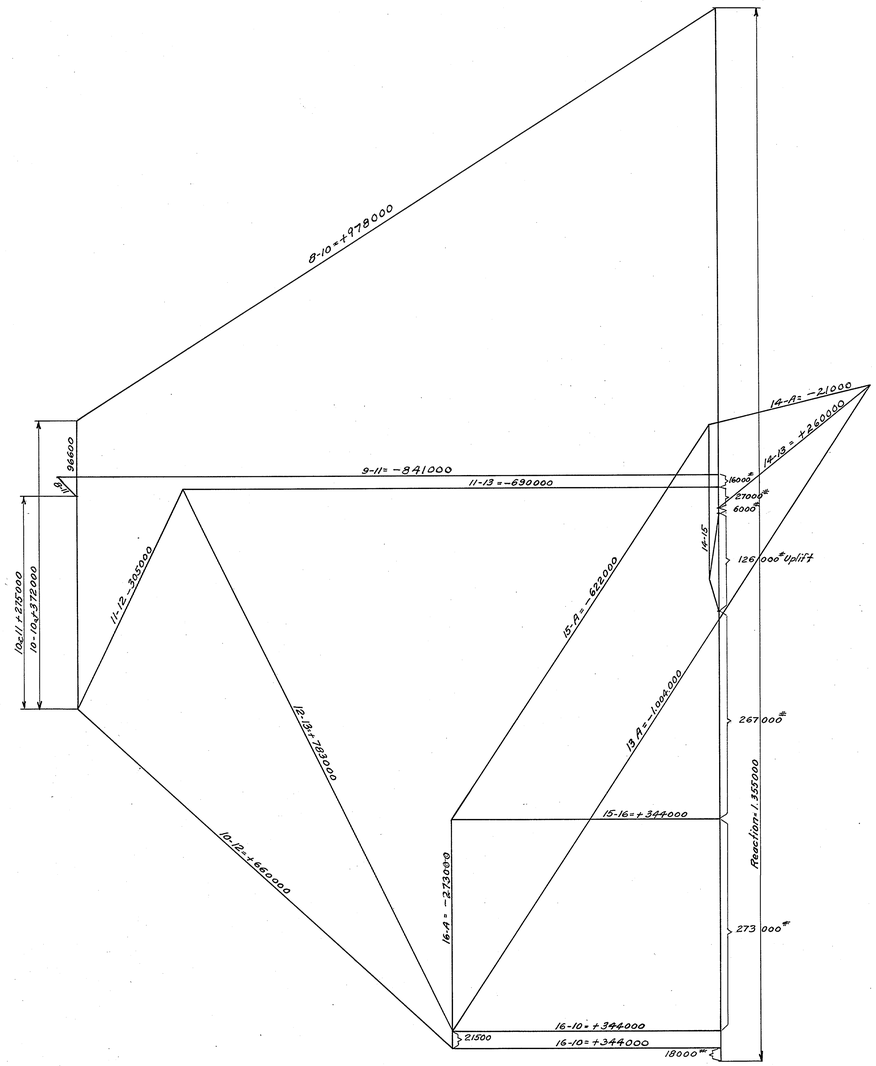
TABLE OF STRESSES FOR MAIN TRUSSES AND DIAGRAMS FOR COUNTERWEIGHT STRESSES.

SCALE AS NOTED DATE ___
MADE BY H.E.Y.
CHECKED BY J.P. DRAWING NO. 1641
FILE No. 11-6E-67 1 OF 7

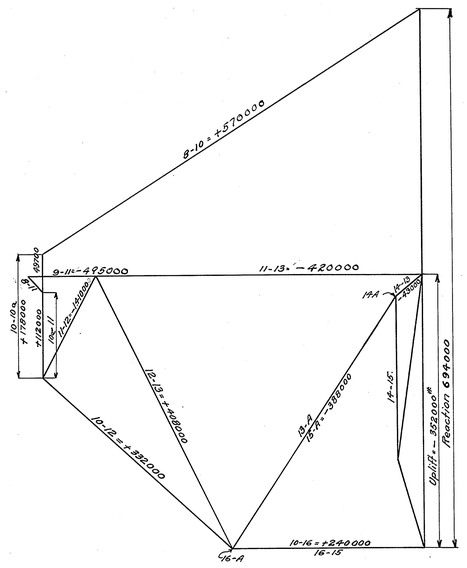
SPER 206

9960040123 16605701O6

95'-4 5/8"
5 Panels @ 16'-8 3/8" = 83'-5 7/8"
18'-7" 9'-5" 10' 5'-6" 4'-6" 10 3/8"
D.L. 27000 = P13 · C13
D.L. 16000 = P11 · C11
D.L. 10000 = P9 · C9
D.L. 6200 = P7 · C7
D.L. 4800 = P5 · C5
D.L. 3000 = P3 · C3
D.L. 1500 = P1 · C1
Vertical Line thru Trunnion Bridge Open 79°
+ = Compression
− = Tension
R-13 = -62000
R=1555000
D.L. 6000 = P14
Truss = 6000
Cwt + Box = 178000
C14 = 178000
Uplift 126000
8'-10"
13'-5"
13'-6"
4'-5"
Cwt + Box 511000
Cwt = 180000
16-10 +257000
22.6'
155000
79°
El. 22'-0"
LL. 49700 = B6
LL. 63900 = B5
LL. 63900 = B4
LL. 63900 = B3
LL 63900 = B2
LL. 37200 = B1
El + 22'-6 1/4"
± 0 to 8 = 1356000
D.L. 21600
29'-4"
El. 15'-10"
D.L. React. 890000
232000
DL 45000 = P8
D.L. 41300 = P6
DL 39200 = P4
D.L. 37600 = P2
D.L. 26000 = P0
Scale - 1/4" = 1'-0"
Wind = 1000000
Wind = 1000000
Wind = 1000000
92.4'
75.8'
59.5'
43.0'
26.6'
8'-0" Arch
C15 = 335000
Truss = 341000
C15 = 335000
DL. 13000 = Box
DL. 14000 = Truss
Cwt 240000
287000 = P15
DL. 13000 = Box
DL. 14000 = Truss
Cwt 240000
273000 = P16
16-15 +257000
15-16 +257000
17'-6"
16'-6"
El. 6'-8"
D.L. 64900 = P10
Reaction at (12) = 184000
Reaction = 870000
Reaction at (R) = 155000
Reaction at (12) = 184000
R-15 = -206000
15-16 +184000
10-15 +26000
11-9 = +74000
11-13 = +148000
9-10 = +3000
8-10 = -79000
6000
10-15 +26000
Wind Stresses
Cwt Arm Bridge Open
Scale 1" = 20000
12-10 = -135000
10-11 = +137000
12-11 = -157000
Uplift Case I = 0
" " II = 352000#
" " III = 126000#
I. Pier Reaction = 0#
D.L. only on Bridge.
II. Pier Reaction = 694000#
L.L. on Bridge and D.L. assumed to be carried by Trunnion.
III Pier Reaction = 1355000#
LL on Bridge and D.L. assumed to be relieved from Trunnion.
11-8 = +17000
Stress in 8-11 as shown in table is calculated analytically
Dead Load Diagram Cwt Arm
Bridge Closed
Scale 1" = 100000#
Dead Load Diagram River Arm.
Bridge Open Scale 1" = 10000
Live Load Diagram - River Arm
Scale 1" = 60000
Dead Load Diagram River Arm Bridge Closed
Scale 1" = 40000
+ = Compression. − = Tension.
Dead Lood Stresses
Cwt Arm Bridge Open
Scale 1" = 60000
Wind Stresses. River Arm.
Bridge Open Scale 1" = 20000
Stesses From 1" at 0 Scale 1" = 0.5#
LOCK SHEAR DIAGRAM
BELMONT AVENUE BRIDGE
AND
WEBSTER AVENUE BRIDGE
STRESS DIAGRAMS
Made By H.E.Y. Date - September 1913
Checked By I.P.
DRAWING Nº 1642
FILE Nº 11-6E-68
2 OF 7
9960040124
16605T0107



LIVE LOAD & DEAD LOAD DIAGRAM
Dead Load assumed to shift from Support at Trunnion to Pier and Anchor Column.
Scale - 1" = 80000 #



LIVE LOAD DIAGRAM
C'tw't. Arm.
Scale - 1" = 80000 #

BELMONT AVENUE BRIDGE
AND
WEBSTER AVENUE BRIDGE
STRESS DIAGRAMS

Made By: J.R. .....
Checked By .....
Jan. 10th 1914

DRAWING No. 1643.....
FILE No. 11-6E-69

(3) of (7)

9 PER 211

9960040125 1660570108

27X41

Concentrations of 14	
Member	Load
13-14	1875
A-14	300
15-14	745
Total	2920
X dist.	Y dist.
− 28.00	+52.0

Concentrations at A	
Member	Load
13-A	7770
15-A	
14-A	313
16-A	770
Total	8853
X dist.	Y dist.
− 17.50	+82.185

Concentrations at 13	
Member	Load
14-13	1900
A-13	3980
12-13	6000
11-13	3825
Total	15705
X dist.	Y dist.
− 9.50	+230.0

Concentrations at 11	
Member	Load
13-11	3375
12-11	3200
10-11	5460
9-11	980
9-11	26.98
Total	15703
X dist.	Y dist.
+ 10.00	+230.0

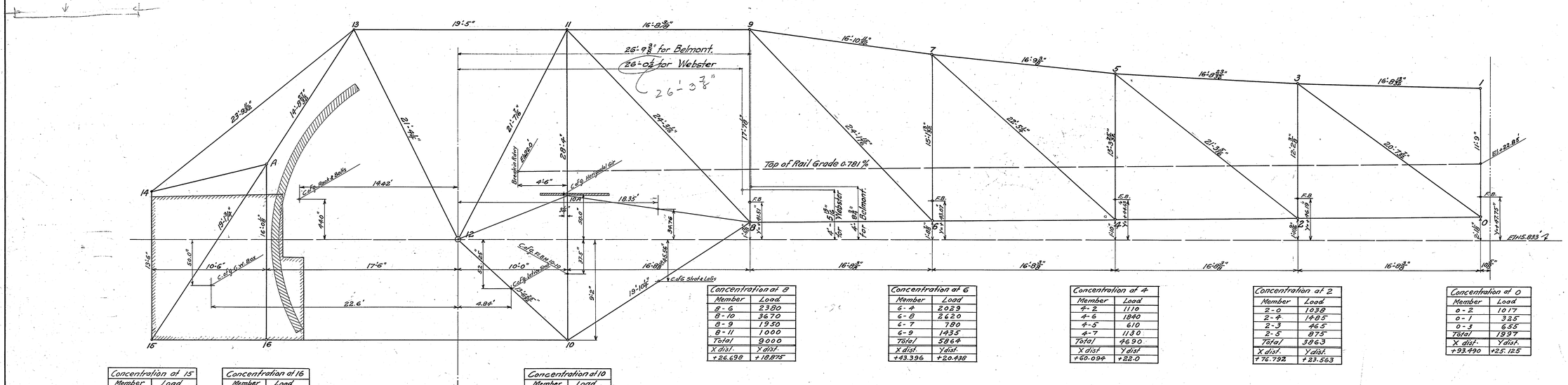
Concentration at 9	
Number	Load
7-9	1840
6-9	1430
8-9	1975
11-9	3182
Total	8327
X dist.	Y dist.
+26.698	+230.0

Concentration at 7	
Member	Load
5-7	1210
4-7	1130
6-7	745
9-7	2310
Total	5395
X dist.	Y dist.
+43.396	+201.844

Concentration at 5	
Member	Load
3-5	1160
2-5	870
4-5	545
7-5	1490
Total	4065
X dist.	Y dist.
+60.094	+181.781

Concentration at 3	
Member	Load
1-3	815
0-3	655
2-3	400
5-3	1060
Total	2930
X dist.	Y dist.
+76.792	+169.938

Concentration at 1	
Member	Load
0-1	320
3-1	975
Total	1295
X dist.	Y dist.
+93.490	+166.125



Concentration at 8	
Member	Load
8-6	2380
8-10	3670
8-9	1930
8-11	1000
Total	9000
X dist.	Y dist.
+26.698	+18.875

Concentration at 6	
Member	Load
6-4	2029
6-8	2620
6-7	780
6-9	1435
Total	5864
X dist.	Y dist.
+43.396	+20.438

Concentration at 4	
Member	Load
4-2	1110
4-6	1840
4-5	610
4-7	1130
Total	4690
X dist.	Y dist.
+60.094	+22.0

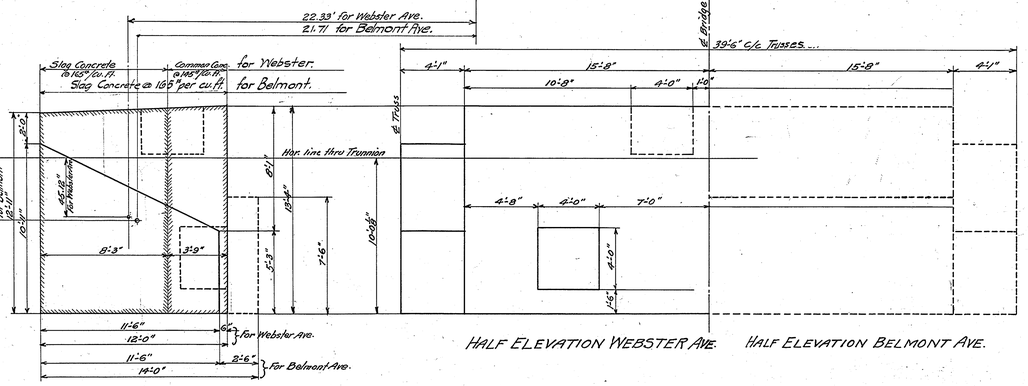
Concentration at 2	
Member	Load
2-0	1038
2-4	1485
2-3	465
2-5	875
Total	3863
X dist.	Y dist.
+76.792	+23.563

Concentration at 0	
Member	Load
0-2	1017
0-1	325
0-3	595
Total	1937
X dist.	Y dist.
+93.490	+25.125

Concentration at 15	
Member	Load
15-16	2885
15-14	750
15-A	3180
Total	6815
X dist.	Y dist.
−28.0	−110.0

Concentration at 16	
Member	Load
16-10	5650
16-15	
16-A	1800
Total	7450
X dist.	Y dist.
−17.50	−110.0

Concentration at 10	
Member	Load
10-8	3120
10-15	4565
10-11	6365
10-12	2000
Total	16050
X dist.	Y dist.
+ 10.00	−110.0



HALF ELEVATION WEBSTER AVE. HALF ELEVATION BELMONT AVE.

Counter Weights

3915 Cu.ft. Slag Conc. @ 165# = 646000#
1620 " " Conc. " @ 145# = 235000#
881000# Total Cwt. for Webster Ave. 1 Leaf

5879 cu. ft. slag conc. @ 165# = 972000# Total Cwt. for Belmont Ave. 1 Leaf.

Note: The above Cwts are figured for an approximate increase of 2% in the weight of the Steelwork in the finished bridge.

The figures for the co-ordinates of the center of gravity of bridge and the counterweight given on drawing no. 861 of Belmont Ave Bridge, which do not agree with corresponding figures given on this drawing, were taken from preliminary calculations and are approximately correct. The results given on this sheet are correct.

One Truss Point	Weight	X ft.	Moments +	Moments −	Y in.	Moments +	Moments −
0	1997	+93.49	186700		+25.13	50185	
1	1295	+93.49	121070		+164.13	215130	
2	3863	+76.79	296640		+23.56	91018	
3	2930	+76.79	224995		+169.94	497924	
4	4690	+60.09	281822		+22.0	103180	
5	4065	+60.09	244266		+181.78	738936	
6	5864	+43.39	254439		+20.44	119860	
7	5395	+43.39	234083		+201.84	1088927	
8	9000	+26.69	240610		+18.87	169830	
9	8327	+26.69	222248		+230.0	1915210	
10	16050	+10.0	160500		−110.0		1765500
11	15703	+10.0	157030		+230.0	3611690	
12	11570	0.0	0		0	0	
13	15305	−9.5		145397	+230.0	3520150	
14	2920	−28.0		81760	+52.0	151840	
15	6815	−28.0		190820	−110.0		749650
16	7450	−17.50		130375	−110.0		819500
A	8530	−17.50		149125	+82.13	700569	
10A	450	+10.0	4500		+50.0	22500	
Rock & Rolls	12404	−14.42		178866	+44.0	545776	
Total 1 Truss	144623		2628909	8033493		13542727	3334650
Total 2 Trusses	289246		+5257818	−16066986		+27085454	−6669300

Moments due to Gusset Plates

One Truss Point	Weight	X ft.	Moments +	Moments −	Y in	Moments +	Moments −
0	525	+92.0	48300		+37.1	19477	
1	0		0		0	0	
2	525	+75.8	39795		+32.0	16800	
3	480	+77.4	37152		+146.0	69680	
4	610	+59.2	36112		+38.5	19825	
5	635	+60.8	38824		+176.0	115280	
6	1255	+42.4	53212		+39.5	49573	
7	795	+44.0	34980		+194.0	154230	
8	1670	+26.1	43587		+27.9	46593	
9	1395	+27.1	37808		+216.0	301320	
10	1864	+9.3	17344		−96.0		179040
11	1855	+10.0	18550		+206.0	382130	
13	2610	−9.9		25839	+202	527220	
14	950	−26.6		25270	+58.0	55100	
15	1000	−26.75		26750	−88.0		88000
Total 1 Truss	16190		406660	77859		1757228	267040
Total 2 Trusses	32380		+813320	−155718		+3514456	−534080
Total Trusses & Pls.	321626		+6071138	−1922404		+30599910	−7203380

Item	Weight	X ft.	Moment (ft. lbs) +	Moment (ft. lbs) −	Y in.	Moment (inch lbs) +	Moment (inch lbs) −
Floor Beam 0-0	10600	+93.49	990994		+41.75	506150	
" " 2-2	10573	+76.79	811901		+46.13	488367	
" " 4-4	10573	+60.09	635332		+44.63	471873	
" " 6-6	10573	+43.39	458868		+43.07	455379	
" " 8-8	10645	+26.69	284222		+41.51	441874	
" " 10-10	12420	+10.0	124200		−37.5		465750
Horizontal Gir.	9235	+9.73	89857		+50.0	346313	
Lattice Strut	6200	+4.84	30008		−52.25		323950
Sidewalk Brackets	9901	+51.76	512265		+57.75	569415	
" Laterals	1400	+51.75	72450		+68.5	95900	
Roadway Laterals	8450	+60.0	507000		+23.62	199589	
Center Struts	3885	+60.0	233100		+23.62	91764	
Laterals 8-10a	2490	+13.35	45692		+34.76	86552	
Strut 8-10	1510	+18.35	27708		−65.56		68796
Laterals 8-10	2430	+18.35	44600		−45.56		110711
Stringers (Rolled)	70804	+49.91	3533828		+62.0	4389848	
Brackets Structural	165	+7.33	1209		+82.0	13530	
Roadway Castings	8945	+6.66	59573		+62.0	554590	
Center Lock Castings	1220	+93.49	114058		+25.12	30846	
Center Lock Gearing	2270	+86.76	197045		+34.5	78315	
Machinery Motor	250	+151.49	37870		+37.6	9375	
Center Lock Steel	445	+85.14	37887		+31.0	13795	
Machinery Platform Trim.	180	+85.14	15325		+16.0	2880	
Roadway Timber	125290	+49.91	6253224		+75.02	9399256	
Sidewalk Timber	26160	+49.91	1305384		+82.12	2148260	
" Railing	5975	+51.75	309206		+113.0	675175	
" Posts & Castings	1356	+51.75	70173		+83.0	112548	
Signal Lights							
Trolley Cat. # 1	1600	+93.49	150000		+660.0	991000	
Wire							
Supports " " 9	1425	+26.7	38000		+254.0	362000	
Rail & Fastenings	16065	+49.91	803000		+75.02	1205200	
Signal Bell Coils	3200	+60.0	192000		+212.0	678400	
Lighting Fixtures	470	+283	118000		+2388	996000	
Counterweight Box.	69295	−22.6		1566067	−5.00		3464750
Trusses & Pls.	321626		+6071138	−1922404		+30599910	−7203380
TOTALS.	771285		+24156107	−3488471		+5541404	−11637337

Note: To be deducted for Webster Ave.

$X = \frac{24156107 - 3488471}{771285} = 26.78' = 26'-9\frac{3}{8}"$ Belmont Ave.

$Y = \frac{5541404 - 11637437}{771285} = 56.75 = 4'-8\frac{5}{8}"$ Belmont Ave.

$X = \frac{22855107 - 3488471}{744825} = 26.02' = 26'-0\frac{1}{4}"$ Webster Ave.

$Y = \frac{5178404 - 11637337}{744825} = 53.95" = 4'-5\frac{15}{16}"$ Webster Ave.

WEBSTER AVENUE BRIDGE AND BELMONT AVENUE BRIDGE

COUNTER WEIGHTS CALCULATIONS

Made By: M.F.Z. June 1914

Checked By: A.B.C. Scale: 1"=1'-0"

DRAWING No. 1644

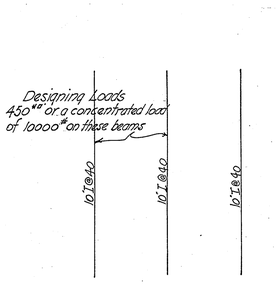
FILE No. 11-6E-70

4 OF 7

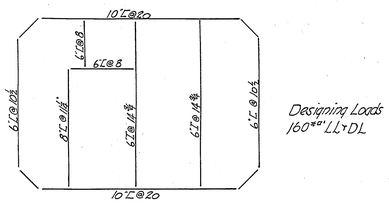
9960040126

1660570109

SPER 205

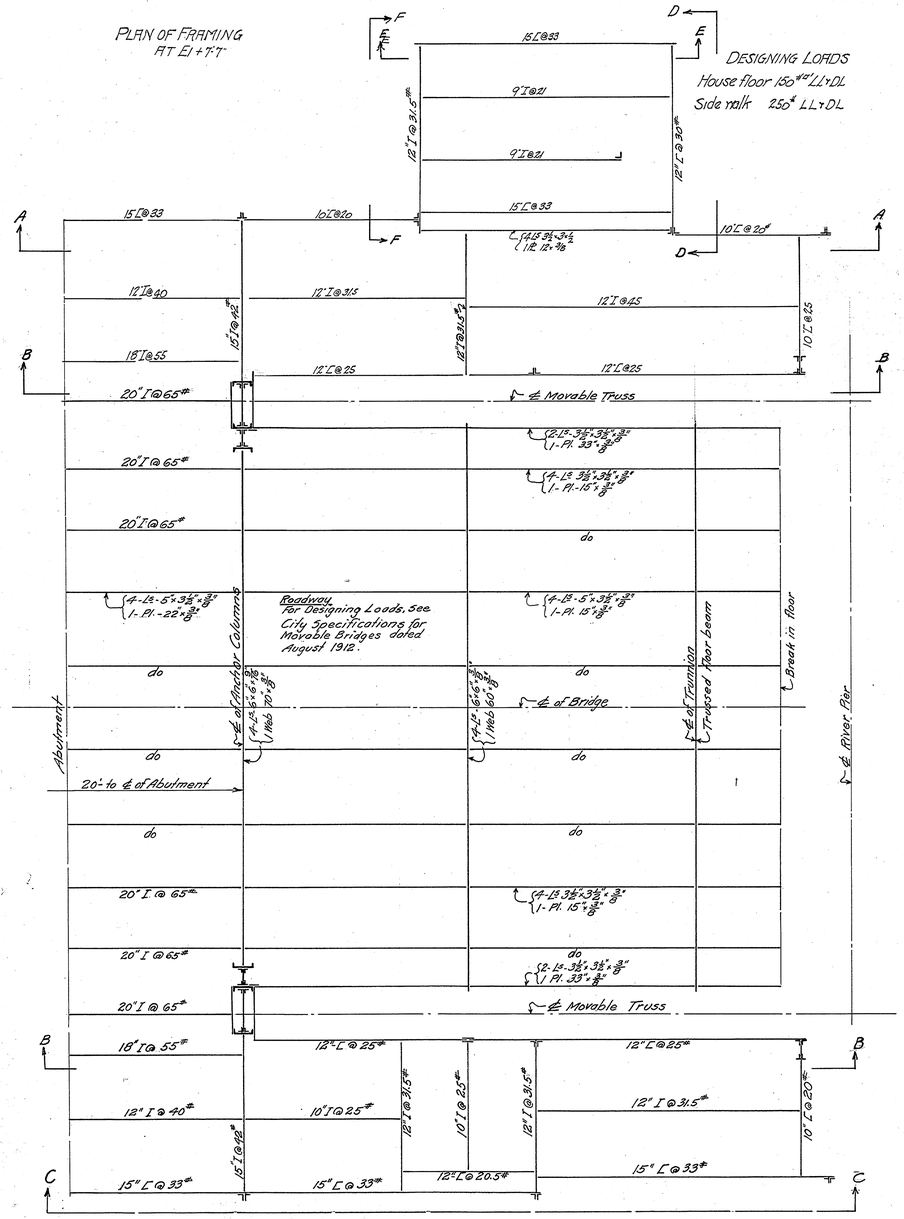


PLAN OF FRAMING
AT El. +7'-7"



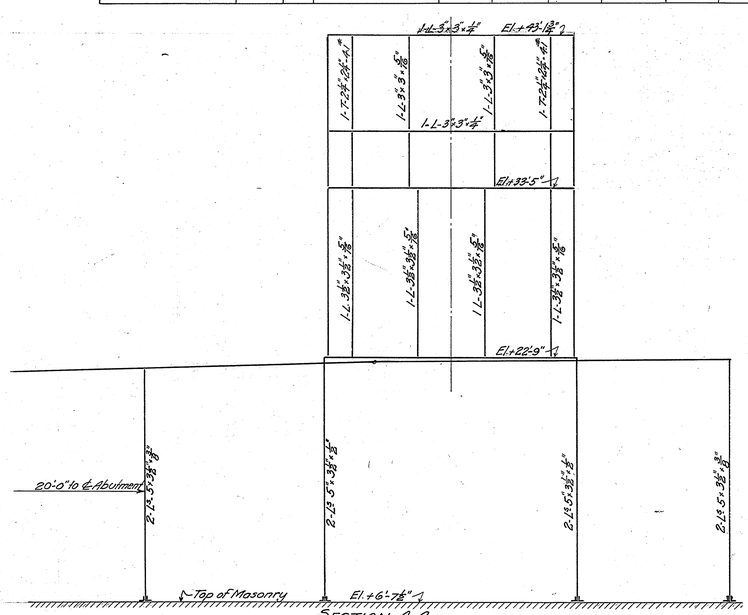
Designing Loads
160#/ft LL+DL

PLAN OF FRAMING
AT El. +33'-5"

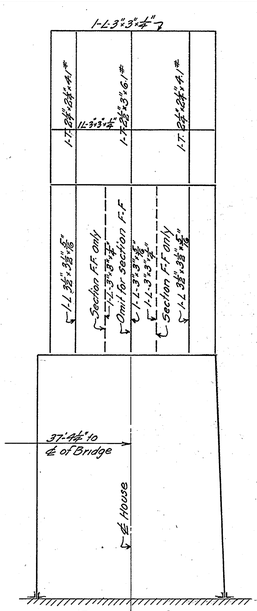


STRESSES IN FLOOR SYSTEM — FIXED PART

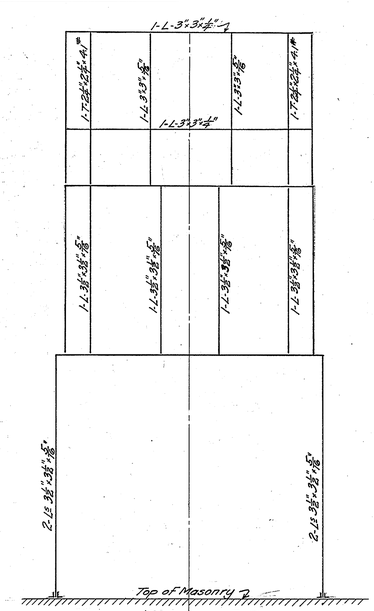
Member	Mark	Length	Impact Coefficient	Moment in Ft. Lbs				Shear Lbs				Fl. Sect. Reqd	Material	Fl. Sect. Provided
				DL.	LL	I	Total	DL	LL	I	Total			
Floodway Stringer		20'-0"	33⅓%	271000	411000	73600	121600	5400	18500	600	30000	Sect. Mod. 9.10	20 I @ 65	Sect. Mod. 11.70
Street Car "		20'-0"	33⅓%	35500	93500	31000	160000	1100	23800	7900	38800	6.58"	1 Web PL 22"×⅜" 4 L's 5"×3½"×⅜"	6.43"
Floodway "		14'-7½"	33⅓%	14000	46000	15000	75000	3400	15800	5200	24400	50"	1 Web PL 15"×⅜" 4 L's 5"×3½"×⅜"	49.1"
Street Car "		14'-7½"	33⅓%	16000	52000	17000	85000	4500	19500	6500	30500	5.66"	1 Web PL 15"×⅜" 4 L's 5"×3½"×⅜"	5.42"
Anchor Col. Floorbeam		33'-3"	I = 100/(36+33.92+300) = 23½%	363000	410000	167000	1240000	44000	13000	17000	134000	140"	1 Web PL 70"×⅜" 4 L's 6"×6"×⅝"	150"
Floorbeam	F	34'-7"	I = 100/(36+29.25+300) = 24.7%	314000	644000	158000	1116000	38000	61000	15000	114000	14.75"	1 Web PL 60"×⅜" 4 L's 6"×6"×⅝"	15.68"
"	12-12	34'-7"	I = 100/(36+20+300) = 26.9%	316000	943000	320000	1579000	37000	76000	28000	141000		Trussed	



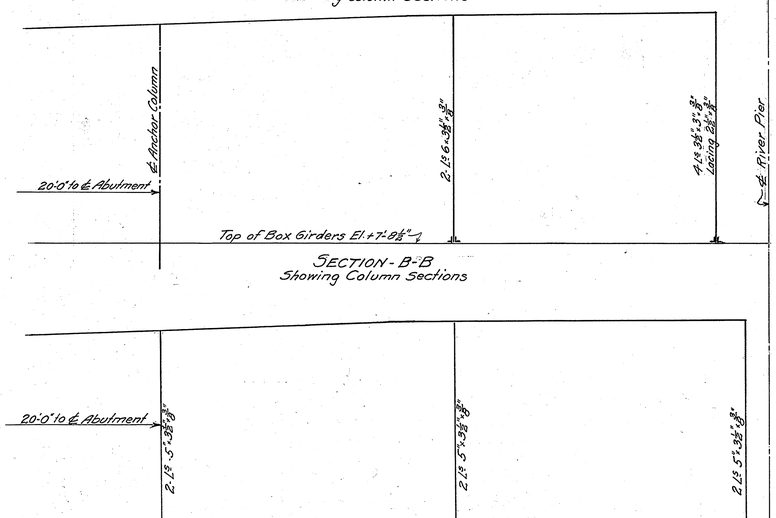
SECTION A-A
Showing Column Sections



SECTION D-D
Showing House Columns
Section F-F exactly Opp. hand except as noted



SECTION E-E
Showing House Columns



SECTION - B-B
Showing Column Sections

SECTION C-C
Showing Column Sections

BELMONT AVENUE BRIDGE
AND
WEBSTER AVENUE BRIDGE
STRESS DIAGRAMS

Made By: [illegible] Jan. 10th 1914
Checked By: I.P.

DRAWING No. 1645

SCALE: 1/4"=1'-0"
FILE No. 11-6E-71

6 OF 7

3 PER 210

9960040127

1660570110

27X41

Lot left

TABLE OF GEARS.

GEAR.	NO. OF TEETH.	PITCH.	FACE. INCHES.	PITCH DIAMETER INCHES.	TOOTH PRESSURE POUNDS.	TORSION INCH LBS.	UNIT STRESS LBS PER SQ.IN.	REV. PER OPERATION	R.P.M. DRIVING GEAR IN 45 SEC.	HEIGHT OF TEETH INCHES. ABOVE P.L.	HEIGHT OF TEETH INCHES. BELOW P.L.	HEIGHT OF TEETH INCHES. TOTAL.	THICKNESS AT PITCH LINE INCHES.
G-1.	39	7½ C.P.	20⅝	392.000	160000			.219	.292	.625	4.000	4.625	2.625
G-2.	15	7½ C.P.	15	35.809	132000	2720000	11700	2.40	3.20	3.000	1.625	4.625	4.500
G-3.	54	⅜ D.P.	12	72.000	75600	2720000	14100	2.40	3.20	.815	1.687	2.500	1.875
G-4.	15	⅜ D.P.	13	20.000	71900	719000	13300	8.65	11.5	1.375	1.125	2.500	2.187
G-5.	75	¼ D.P.	8	60.000	23900	719000	10400	8.65	11.5	.800	.926	1.726	1.216
G-6.	15	¼ D.P.	8⅛	12.000	22700	136000	13600	43.2	57.6	.800	.926	1.726	1.216
G-7.	76	2 D.P.	5	38.000	7190	136000	8000	43.2	57.6	.500	.578	1.078	.760
G-8.	16	2 D.P.	5⅛	8.000	6850	27300	10200	205.	273.	.500	.578	1.078	.760
G-9.	69	3 D.P.	5	23.000	2370	27300	3960	205.	273.	.333	.386	.719	.507
G-10.	17	3 D.P.	5	5.667	2250	6400	4280	834.	1111.	.333	.386	.719	.507

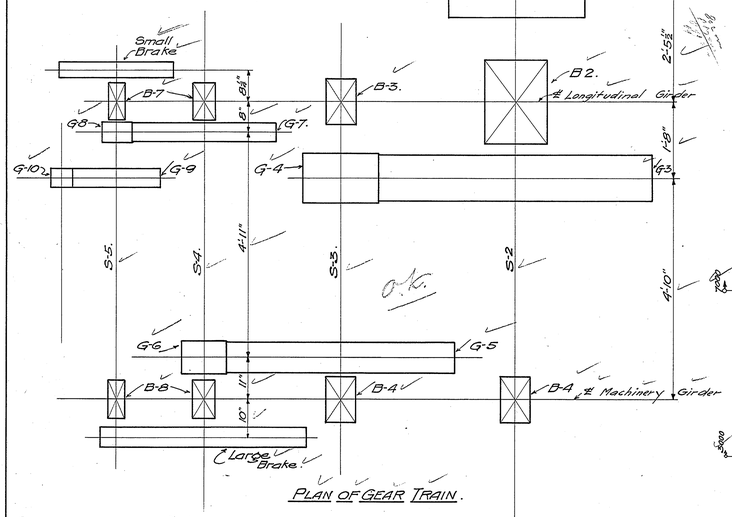
Above table computed for holding against wind pressure of 20# per Sq.Ft. with allowance of 5% for friction at each gear reduction.

TABLE OF SHAFTS.

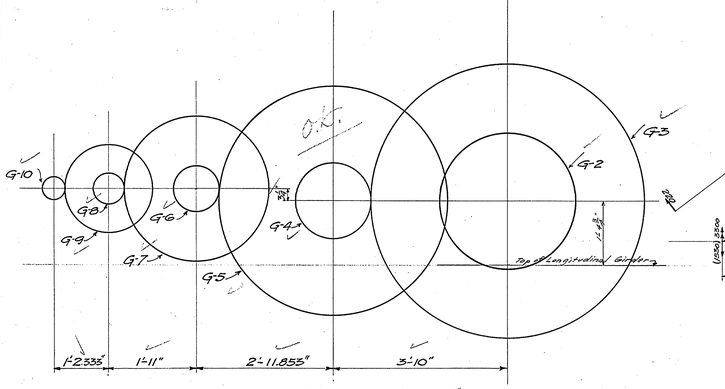
SHAFT.	SECTION.	BEND. MOMENT INCH LBS.	TORSION MOMENT INCH LBS.	COMB. MOMENT INCH LBS.	DIAM. INCHES.	UNIT STRESS LBS PER SQ.IN.
S-1	G-1	2800000	2720000	3490000	16½	8300
S-2	B-2	4490000	2720000	4970000	16⅝	11300
S-2	G-3	4410000	2720000	4885000	16½	11600
S-3	G-4	1140000	719000	1271000	10⅜	10400
S-3	G-5	429000	719000	684000	8¾	10400
S-4	B-8	40000	136000	104000	6	4900
S-4	G-6	220000	136000	245000	6⅝	10800
S-4	G-7	80000	136000	129000	6⅝	5700
S-5	B-7	11700	27300	26000	4⅛	2900
S-5	G-8	51200	27300	55000	4⅞	6000
S-5	G-9	25500	27300	33000	3	3700

No allowance made for keyways.
Above table computed for holding against wind pressure of 20# per sq.ft. with allowance of 5% for friction at each gear reduction.

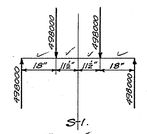
Motors:
2 Motors - G.E. 202. Railway Type - for each leaf.
Back gear torsion for 10# wind including friction = 17000 in.Lbs.
Time for operation of leaf of this torsion = 1.3 min.
Power required = 56 H.P.
For operation in 45 sec. back gear torsion = 4900#
Corresponding wind pressure = 2.9 lbs per Sq.Ft.
Power required = 25 H.P.



PLAN OF GEAR TRAIN.



ELEVATION OF GEAR TRAIN.



Trunnion Loads.
D.L. = 846000
Wind = 190000
Resultant = 996000
Max. Mom. = 8970000
Unit Stress = 15700 for 18' diam.

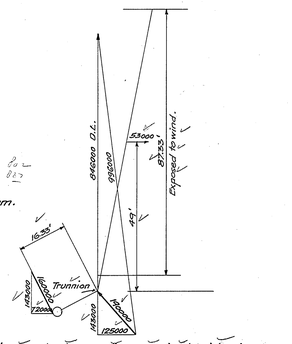
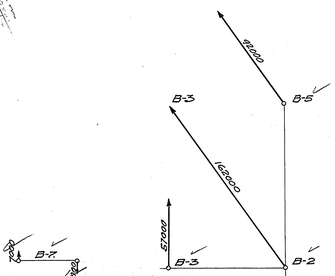


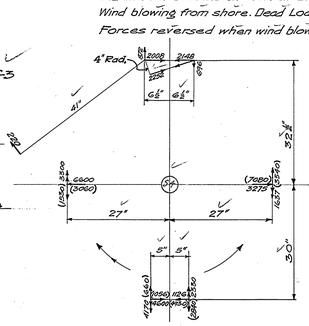
Diagram showing reactions on raised bridge leaf.
Wind reactions reversed when wind blows from river.



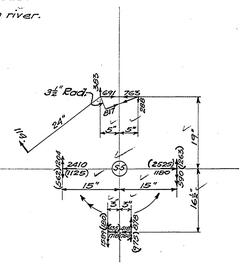
For Longitudinal Girder.

For Machinery Girder.

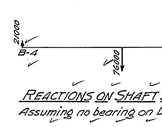
Maximum Reactions on Journal Blocks
Wind blowing from shore. Dead Load neglected.
Forces reversed when wind blows from river.



LARGE BRAKE REACTIONS.
Coefficient of friction assumed 0.5
Figures in paran theses ( ), correspond to a counter-clockwise direction of rotation

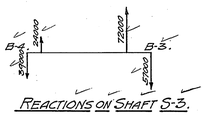


SMALL BRAKE REACTIONS.
Coefficient of friction assumed 0.5
Figures in paran theses ( ), correspond to a counter-clockwise direction of rotation

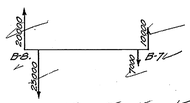


REACTIONS ON SHAFT S-2.
Assuming no bearing on Longitudinal Girder.

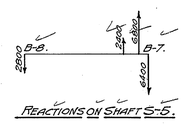
REACTIONS ON SHAFT S-2.
Assuming no bearing on Trunnion Truss



REACTIONS ON SHAFT S-3.



REACTIONS ON SHAFT S-4.



REACTIONS ON SHAFT S-5.

CITY OF CHICAGO
DEPARTMENT OF PUBLIC WORKS
BUREAU OF ENGINEERING
DIVISION OF BRIDGES AND HARBOR

Double Leaf Trunnion Bascule Bridge
AT
WEBSTER AVE.
BELMONT AVE.
OVER
SOUTH BRANCH OF THE CHICAGO RIVER
STRESSES.
SUPERSTRUCTURE —— MACHINERY

Scale:
May, 1914.

Drawn by.....
Traced by.....
Checked by.....
Drawing No. 3.7.5.7.....
File No. 11-6E-73

7 OF 7

Correct.....
Bridge Designing Engineer.

Approved.....
Engineer of Bridge Design.

Approved.....
Engineer of Bridges and Harbor

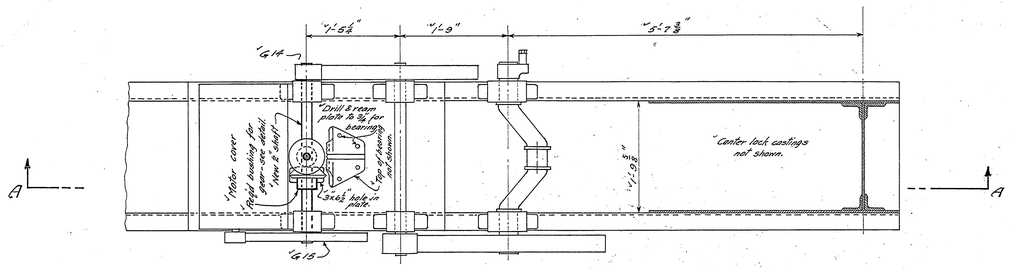
Approved.....
City Engineer.

Approved.....
Commissioner of Public Works.

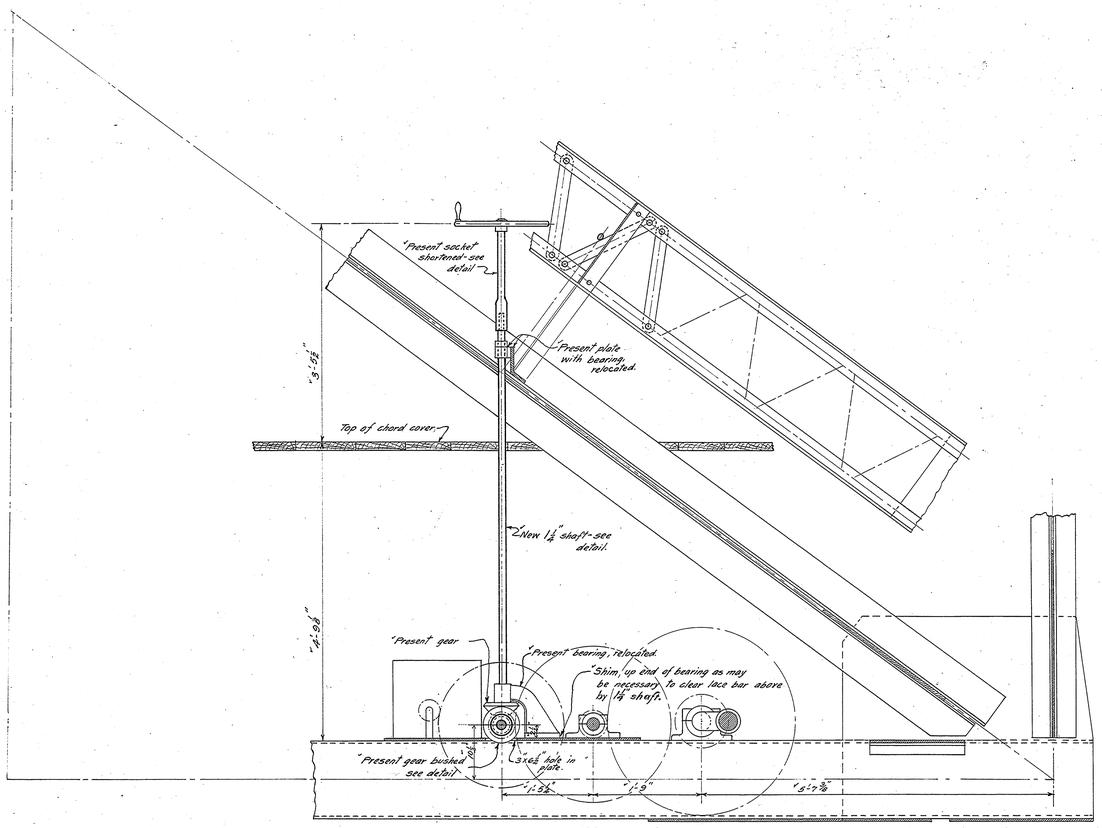
9960040129 1660570112

9 PER 209

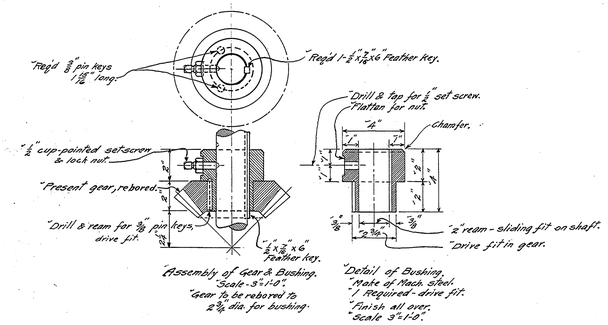
27X41



PLAN OF CENTER LOCK MACHINERY

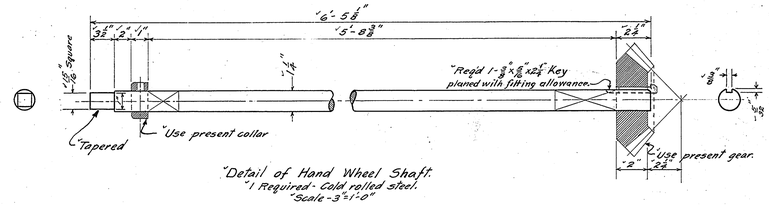


SECTION "A-A"
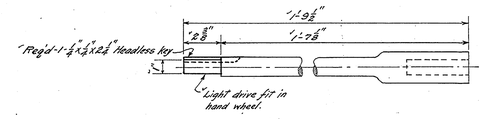


"Assembly of Gear & Bushing. "Scale - 3"=1'-0". "Gear to be rebored to 2⅜ dia. for bushing.

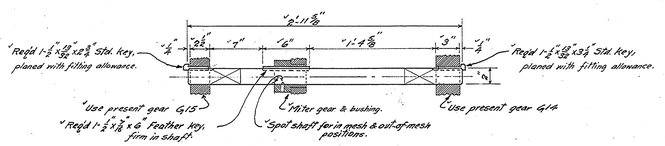
"Detail of Bushing. "Make of Mach. Steel. "1 Required - drive fit. "Finish all over. "Scale 3"=1'-0".



"Detail of Hand Wheel Shaft. "1 Required - Cold rolled steel. "Scale - 3"=1'-0"



"Hand Wheel Socket. "Shorten present socket as shown. "Scale 3"=1'-0"



"Detail of 2" Shaft "To replace present 2" shaft. "1 Required - cold rolled steel. "Scale - ½"=1'-0"

Note.

One set, as shown, for Belmont Ave. Bridge.
" " " " " Webster Ave. " .

Correct - Hugh E. Young, Engineer of Bridge Design.

Approved - Thos. G. Pulley, Engineer of Bridges.

Approved - John Ericson, City Engineer.

CITY OF CHICAGO,
Department of Public Works,
Bureau of Engineering,
Division of Bridges.

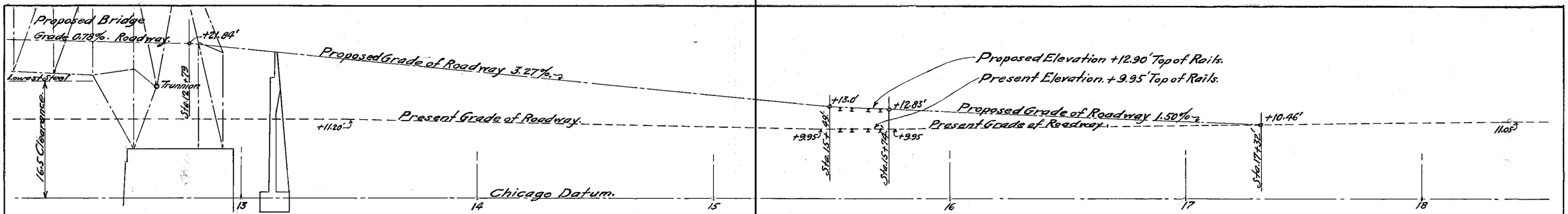
REARRANGEMENT OF HAND POWER MECHANISM FOR CENTER LOCKS OF BELMONT AVE. AND WEBSTER AVE. BRIDGES.

Drawn by - F.W.F
Traced by - F.W.F
Checked by - J.C.B.

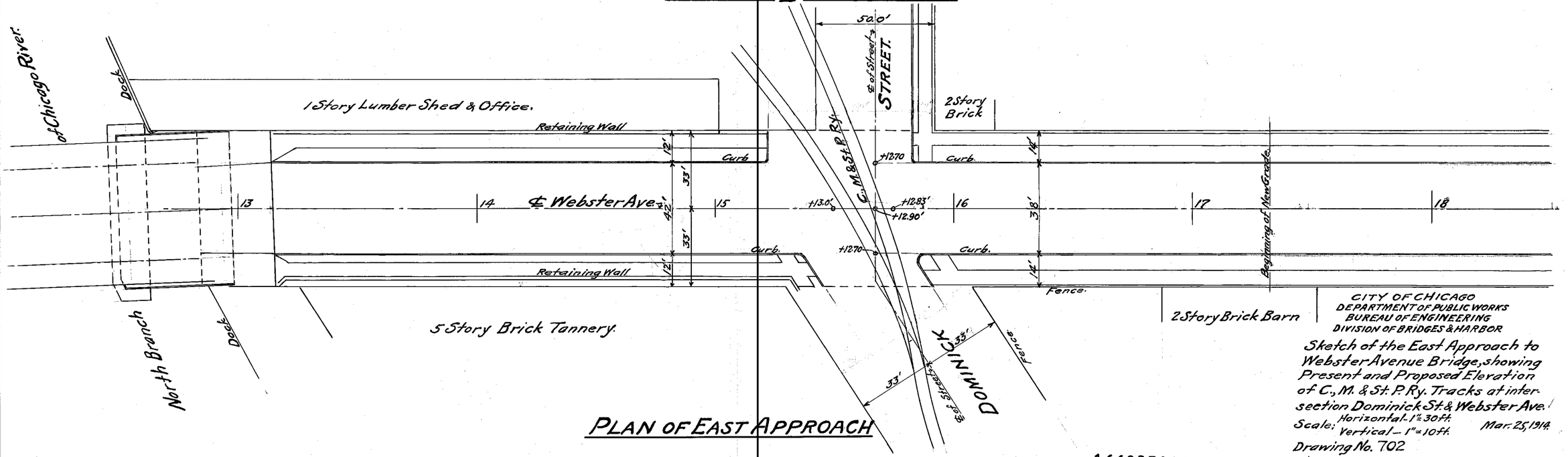
Date - Dec. - 1916.
Scale - 1"=1'-0".

1660570113
9960040130

DRAWING NO. 3781
FILE NO 11-6E-74
9 PER 216.
27"x41"



PROFILE ON ℄ OF WEBSTER AVE.



PLAN OF EAST APPROACH

CITY OF CHICAGO
DEPARTMENT OF PUBLIC WORKS
BUREAU OF ENGINEERING
DIVISION OF BRIDGES & HARBOR

Sketch of the East Approach to Webster Avenue Bridge, showing Present and Proposed Elevation of C., M. & St. P. Ry. Tracks at intersection Dominick St. & Webster Ave.

Scale; Horizontal - 1" = 30 ft. Vertical - 1" = 10 ft.

Mar. 25, 1914.

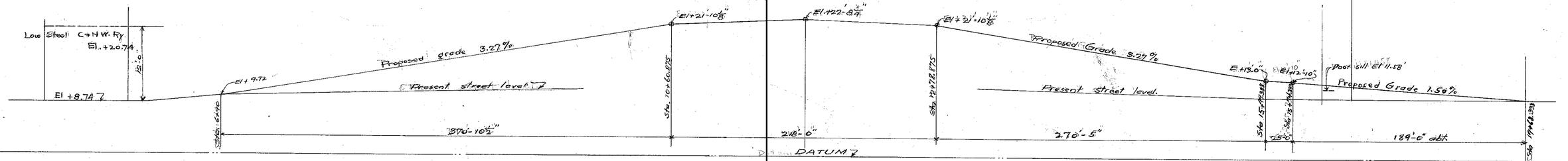
Drawing No. 702

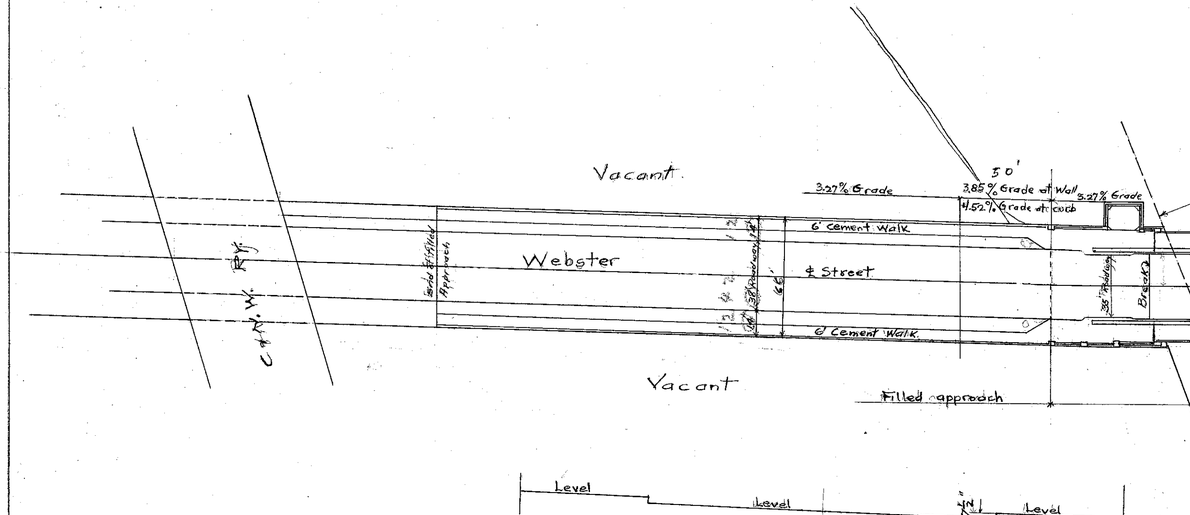
File No. 15-D3-656

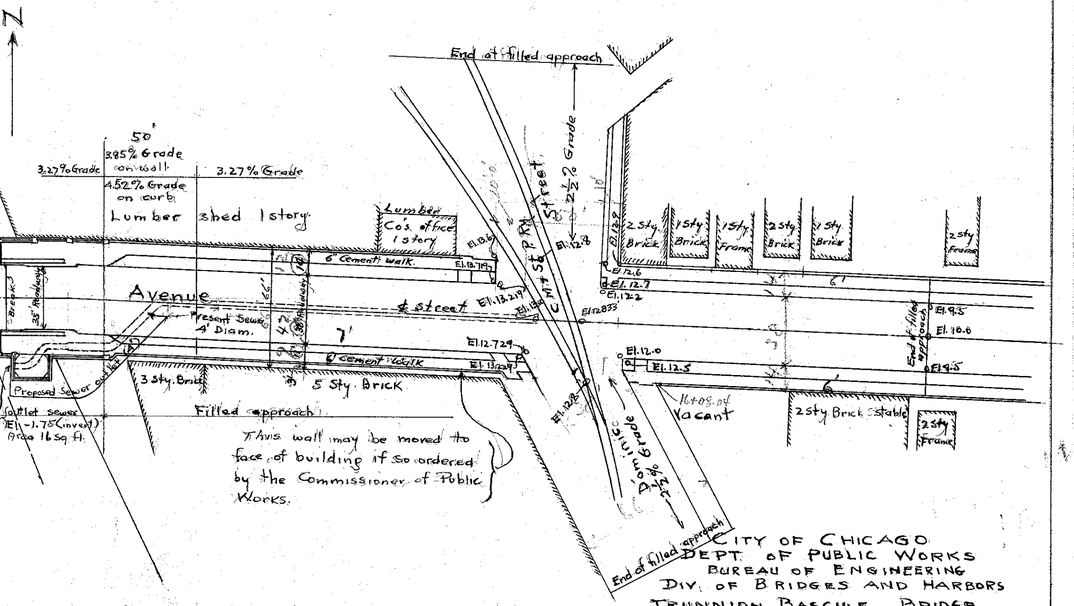
1660570114

9 Per 215

Size: 11" x 24"







CITY OF CHICAGO
DEPT. OF PUBLIC WORKS
BUREAU OF ENGINEERING
DIV. OF BRIDGES AND HARBORS

TRUNNION BASCULE BRIDGE
AT
WEBSTER AVE

PROPOSED LAYOUT AND PROFILE

SCALE HORIZ. 50'=1"
SCALE VERT. 10'=1"
SCALE SECTIONS 10'=1"

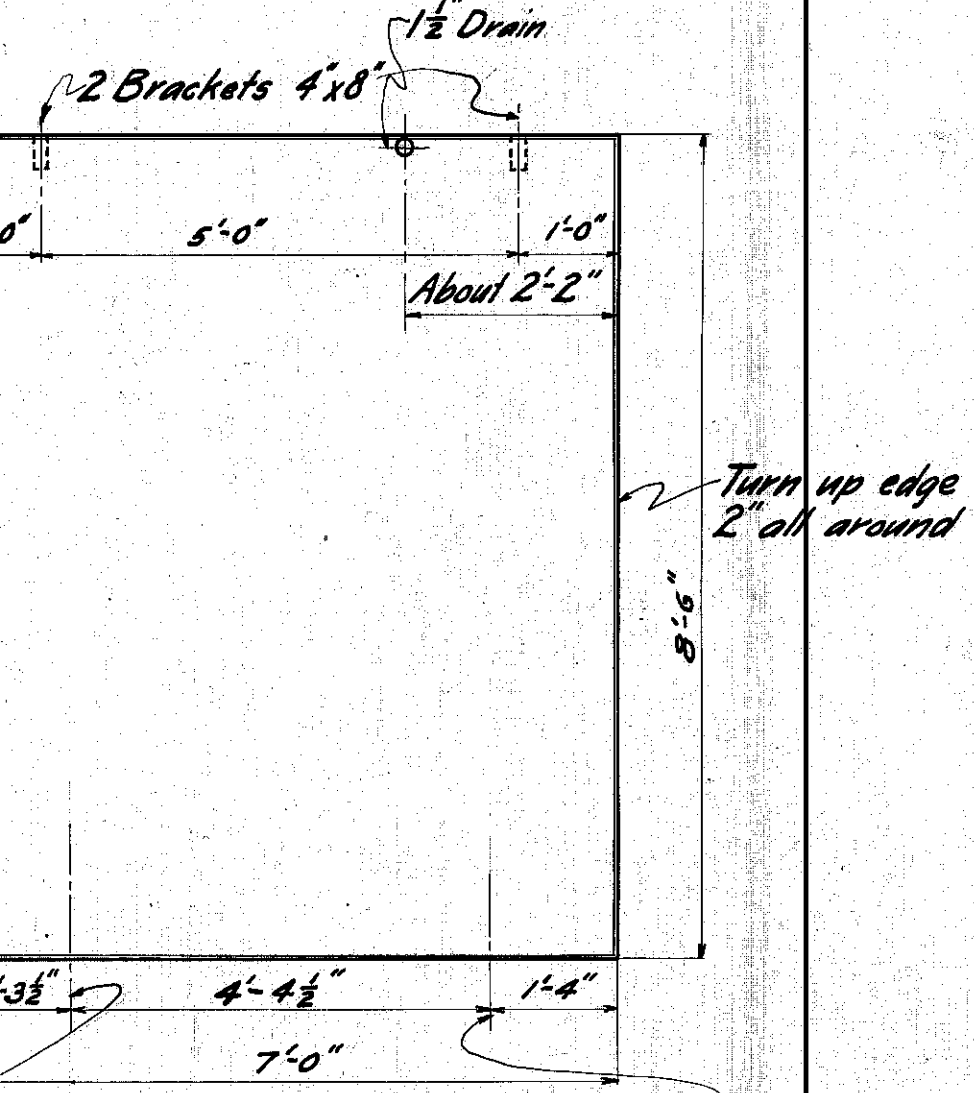
MARCH-9-1914.

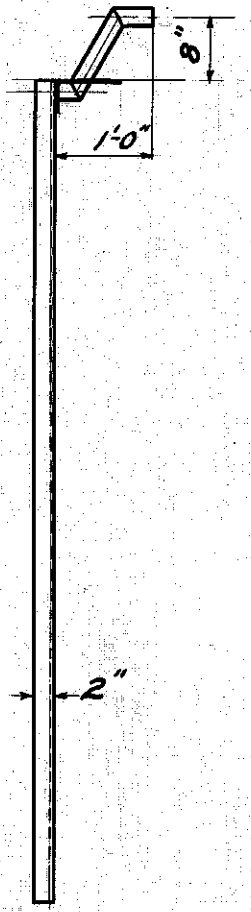
DWG No. 709.

9 Per 214.

FILE No. 35-03-657.

1660570115





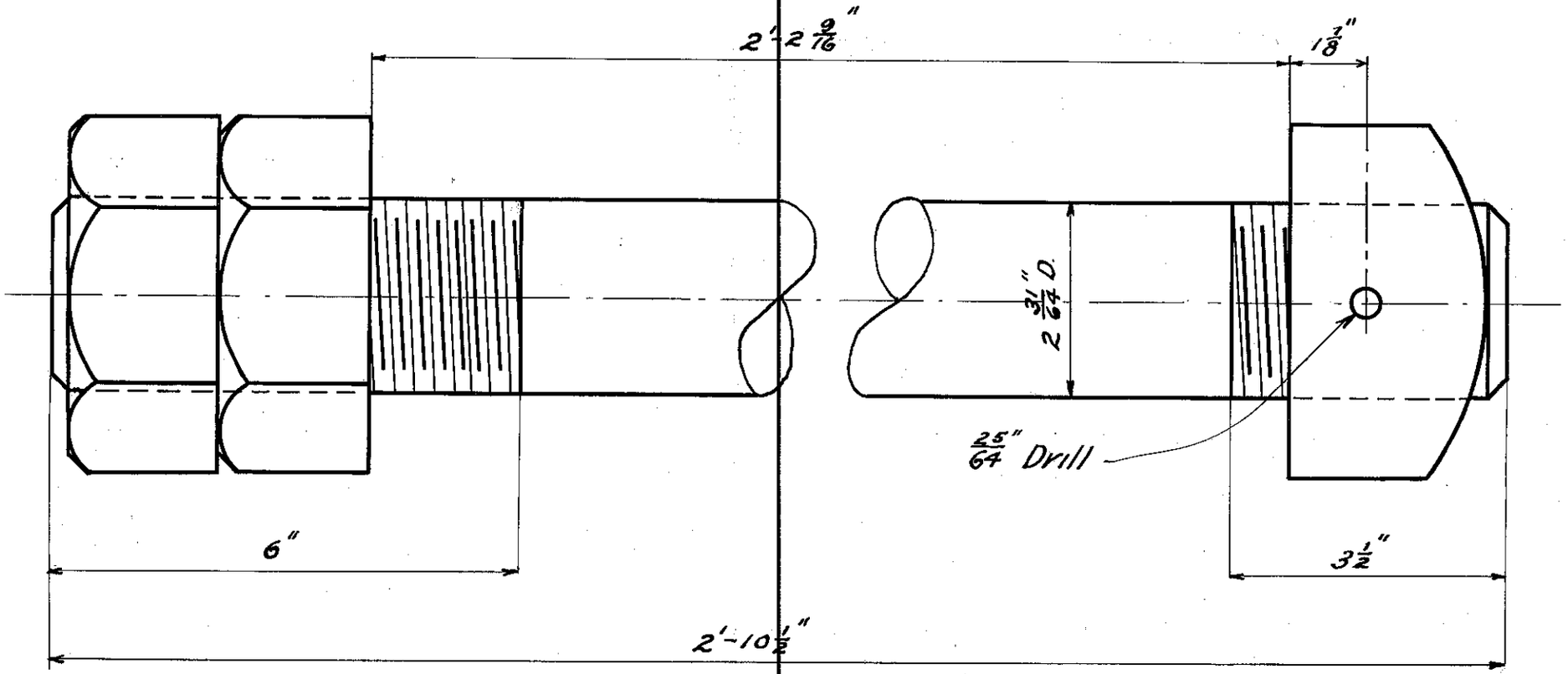
eet metal perforated strap about
long with clamps for 12" I beam

PAN - 1 Required
18 Gauge sheet iron Scale ½" = 1FT.

CITY OF CHICA
DEPARTMENT OF PUBLI
BUREAU OF ENGINE
DIVISION OF BRIDGE

WEBSTER AVENUE BR
PAN FOR MACHINERY PRO

| C.J.L. | C.J.L. | | DATE: 6
SCALE: ½ |
|---|---|---|---|
| CORRECT | | | |
| ENG. OF BRIDGE CONST. & REP. | | | CI |
| APPROVED | | | |
| ENGINEER OF BRIDGES | | | |
| DRAWING No. 5790 | | | FILE No. |



TURNED BOLT SWEDISH IRON

Scale 6"=1FT. 1 Required

1 Cotter Pin required 3/8" x 4 3/4"

Estimated weight Bolt & Nuts 76#

CITY OF CHICAGO
DEPARTMENT OF PUBLIC WORKS
BUREAU OF ENGINEERING
DIVISION OF BRIDGES

WEBSTER AVENUE BRIDGE
BASE BOLT FOR OUTBOARD BEARING

C.J.L.	C.J.L.	K.J.B.	DATE: 9/27/18
			SCALE: 6"=1FT.

CORRECT — ENG. OF BRIDGE CONST. & REP.

APPROVED — CITY ENGINEER

APPROVED — ENGINEER OF BRIDGES

DRAWING No. 4853 — FILE No. 14-06-58

8 1/2" x 11"

11 O'CLOCK AM.
APRIL 27. 1916

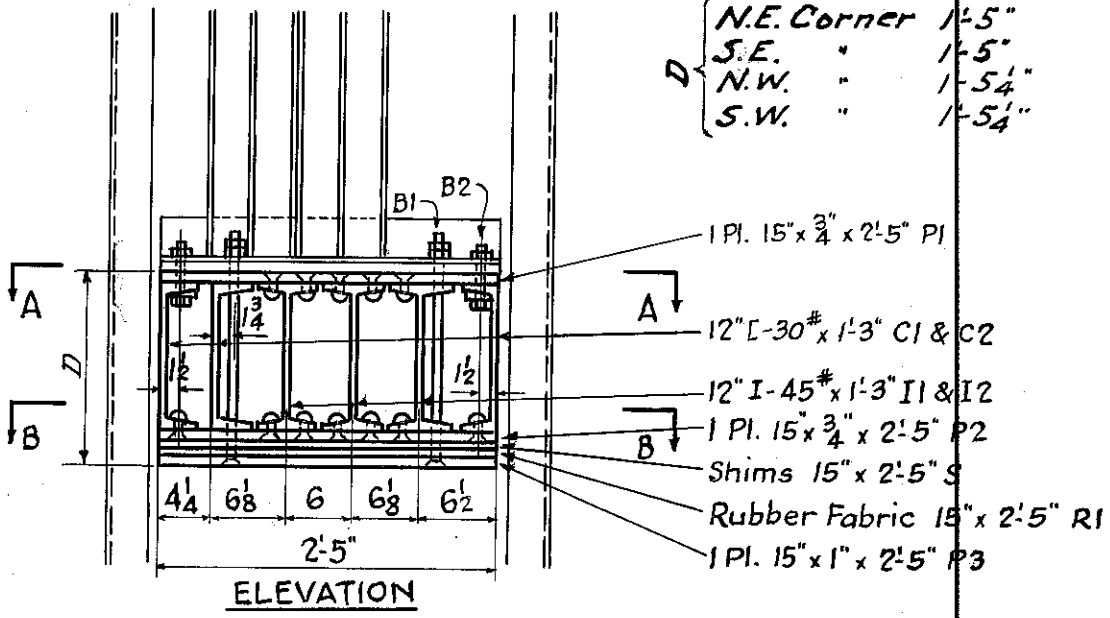
PROPOSALS FOR APPROACHES TO WEBSTER AVE. BRIDGE

ITEM		APPROXIMATE QUANTITIES	RATE	NASH-DOWDLE	RATE	J.A. SACKLEY	RATE	MARQUETTE CON.	RATE	W.H. KENEFICK	RATE	J.J. CROAKE CO.
Paving	A	3600 sq. yd	$ 3.35	$ 12060.00	$ 3.40	$ 1224.000	$ 3.63	$ 13,068.00	$ 3.99	14,364.00	$ 4.40	$ 15,840.00
Sidewalks	B	8600 sq. ft.	0.12	1032.00	0.135	1161.00	0.14	1,204.00	0.16	1376.00	0.13	1118.00
Curb	C	1500 ft.	.62	930.00	0.61	915.00	0.55	825.00	0.78	1170.00	0.70	1050.00
Grading	D	1400 sq. yd.	.10	140.00	0.05	70.00	0.10	140.00	0.25	350.00	0.15	210.00
Fill	E	200 cu. yd.	.25	50.00	0.05	10.00	0.01	2.00	0.30	60.00	0.25	50.00
Concrete	F	50 cu. yd.	12.00	600.00	12.00	600.00	8.50	425.00	11.00	550.00	10.50	525.00
Catch Basins	G	6	55.00	330.00	60.00	360.00	57.00	342.00	90.00	540.00	70.00	420.00
Covers	H	6	10.00	60.00	12.00	72.00	11.00	66.00	12.00	72.00	20.00	120.00
Structural Steel	I	3500 lb.	0.05	175.00	0.065	227.50	0.05	175.00	0.075	262.50	0.05	175.00
Tiles	J	300 ft	0.75	225.00	1.00	300.00	0.85	255.00	1.90	570.00	1.25	375.00
Gratings	K	2	10.00	20.00	13.00	26.00	12.00	24.00	13.00	26.00	15.00	30.00
		TOTALS		$ 15,622.00		$ 15,981.50		$ 16,526.00		$ 19,340.50		$ 19,913.00

1660570118

DRAWING Nº 2562.
FILE Nº 15-D3-358

7"x23"

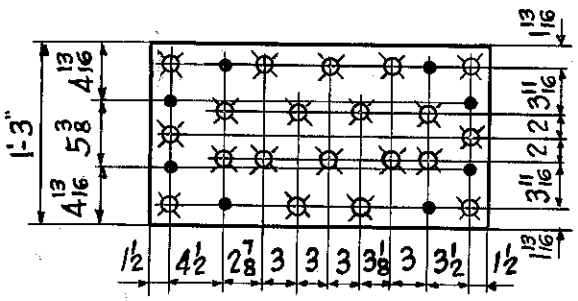


ELEVATION

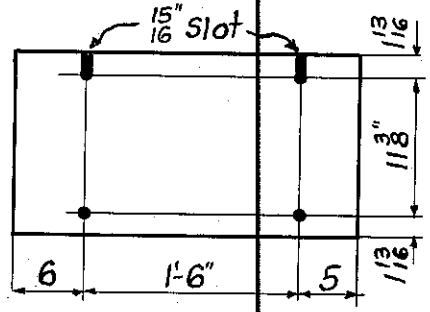
D { N.E. Corner 1'-5"
S.E. " 1'-5"
N.W. " 1'-5 1/4"
S.W. " 1'-5 1/4" }

BILL OF MATERIAL FOR 1 BUMPER		
Pcs.	ITEM	MARK
3	12" I-45# x 1'-3"	I1 & I2
3	12" [-30# x 1'-3"	C1 & C2
1	Pl. 15" x 3/4" x 2'-5"	P1
1	Pl. 15" x 3/4" x 2'-5"	P2
1	Pl. 15" x 1" x 2'-5"	P3
1	Pl. 15" x 3/4" x 2'-5"	S1
1	Pl. 15" x 3/8" x 2'-5"	S2
1	Pl. 15" x 1/4" x 2'-5"	S3
1	Pl. 15" x 1/8" x 2'-5"	S4
2	Pls. 15" x 1/16" x 2'-5"	S5
1	15" x 1/4" x 2'-5" Rubber Fabric	R1
4	Bolts 7/8" ϕ x 1'-9 1/2" - 4 1/4" Thr. Csk. Hd. 2 Hex. Nut	B1
4	Bolts 7/8" ϕ x 4 1/4" - 1 3/4" Thr. 1 Hex. Nut	B2
4	Beveled Washers - 15/16" ϕ hole.	W1

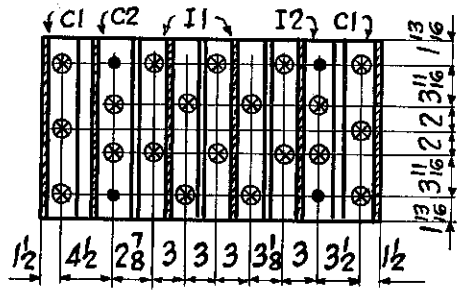
4 Bumpers Reqd. - Complete
EST. WT. 3250# STEEL.



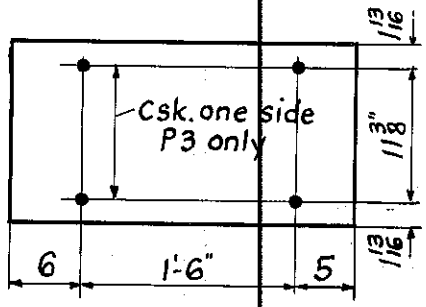
SECTION A-A



SHIMS S



SECTION B-B



RUBBER FABRIC R1 AND PLATE P3

NOTES

MATERIAL	Structural steel, except as noted.
RIVETS	3/4" ϕ
OPEN HOLES	15/16" ϕ
PAINT	1 Shop coat.

CITY OF CHICAGO
DEPARTMENT OF PUBLIC WORKS
BUREAU OF ENGINEERING
DIVISION OF BRIDGES

WEBSTER AVE. BRIDGE
STEEL BUMPERS

DATE FEB. 3, 1945
SCALE 3/4" = 1'-0"

Dog | WC | Reg.

CORRECT
ENG. OF BRIDGE MAINTENANCE

APPROVED
CITY ENGINEER

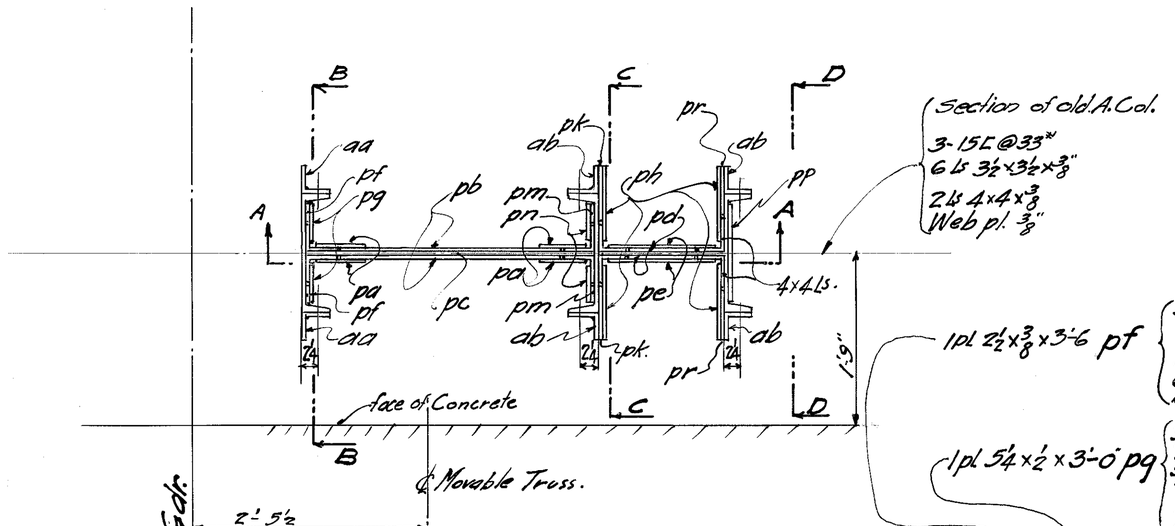
APPROVED
ENGINEER OF BRIDGES

DRAWING No. 16243
FILE No. 14-01-1593.

31142

Imperial Tracing Cloth 156
K & E CO., N. Y. — 6-39

REVISIONS



℄ Longitudinal Gdr.

℄ Movable Truss.

2'-5½

1'-3¾"

1'-9½"

2-pl-8x⅜x3'-6-pd

2-pl-144x½x3'-6-pe

2-pl-6x½x3'-6"-pa

2-pl-29x⅜x3'-6"-pb

1-pl-28x⅜x1'-11½-pc

(to replace cut out portion of present web pl)

13@3=3'-3"

1'-4½"

3"

1½

3'-1¼" bb ℄'s

1'-4"bb ℄'s

SECTION A-A

1pl 2½x⅜x3'-6 pf
- ⅜" fillet welds at ends and 3" along each side at ends.
- 5/16" fillet welds 2" long @ 4½" ctrs. along each edge.
- Chip or grind flush if necessary before welding plates pg.

1pl 5¼x½x3'-0 pg
- ⅜" fillet welds at end and 3" along each side at ends.
- 5/16" fillet welds 2" long @ 4½" ctrs. along each edge.
- Enlarge 1½ ϕ holes in pg if necessary to clear old rivets

1½" ϕ holes in pg

pg
pf

face of Concrete

4½"

4½"

1'-4½"

3"

1½

3

6

6

6

6

6

3

3

1L 3½x3½x⅝x3'-6" aa

aa.

SECTION B-B

1L 3½x3½x½ 3'-6" ab
1-pl-10x½x3'-6" ph nearside
1-pl-7¼x⅜x3'-6 pk nearside
1-pl-2½x⅜x3'-6 pm farside
1-pl-3½x½x3'-6 pn farside.

ab

ph n.side
pk n.side.
pm f.side
pn f.Side.

13@3=3'-3"
12@3=3'-0"

SECTION C-C.

1-Pl-ph farside.
1-pl-13x½x3'-6 pp n.side
1-pl 6⅞x⅜x3'-6 pr. farside

ab

ab

for pr

13@3"=3'-3"
12@3=3'-0"

SECTION D-D

REQ. LIST FOR 4 COLS			
Mark	No. Pcs.	Mark	No. Pcs.
pa	16	pr	8
pb	8	aa	8
pc	4	ab	16
pd	8		
pe	8		
pf	8		
pg	8		
ph	16		
pk	8		
pm	8		
pn	8		
pp	4		

Material: Structural Steel.
Holes 15/16 ϕ Unless noted.
Paint 1 coat red lead and linseed oil.

Est. Weight 6300#

1660570120

CITY OF CHICAGO
DEPARTMENT OF PUBLIC WORKS
BUREAU OF ENGINEERING
DIVISION OF BRIDGES

WEBSTER AVE. BRIDGE
Repairs to Anchor Columns

DRAWN	TRACED	CHECKED	IN CHARGE	DATE March 1945
VT	VT	cay.	cay.	SCALE 1" = 1'-0"

CORRECT — APPROVED
ENGINEER OF BRIDGE MAINTENANCE — CITY ENGINEER
APPROVED — APPROVED
ENGINEER OF BRIDGES — COMMISSIONER OF PUBLIC WORKS

DRWG NO. 16396 — FILE NO. D 5-463

S1145

20½" x 27"

REVISIONS

NORTH BRANCH CHICAGO RIVER

WEBSTER AVENUE

PLAN

SECTIONAL ELEVATION

4-D conduit to bridge mach. house.
Service box
Dock line
Abutment
120'-0"
Bridge pit
Break in Roadway
℄ bridge
108'-0"
2-2½" steel pipes inside curbs.
℄ anchor pier
℄ river pier
Submarine cable
323'-0"
213'-0"
178'-0"
Handhole
B D
Approx. Length of Duct 1135 trench ft.
161'-6" between masonry
Chicago Datum 0.0'
Submarine cable
1-Signal
N
DOMINICK ST.
CLYBOURN
197'-0"
157'-0"
3 BD Cables
Junction conn. to Rys. Neg.
80'-0"
Conn. to Rys. feeder. Sec. 37L
1-B.D. Cable
Connection to C.S.L. feeder sec. 34L
SOUTHPORT AVE.
ELSTON
82'-0"
Conn. to C.S.L. feeder 30 AM
65'-0"
251'-0"
201'-0"
191'-0"
192'-0"
153'-0"
C. & N.W. R.R.
WOODS ST.
Approx. Length of Duct 2610 Trench ft.
LISTER ST.
270'-0"
125'-0"
46'-0"
WINCHESTER AVE.
138'-0"
127'-0"
LINCOLN ST.
187'-0"
143'-0"
GIRARD ST.
Total Approx. Length of Duct 3750 trench ft.
DAMEN AVE.
1-B.D. Cable
Connection to C.S.L. Sec. 12-A
162'-0"
195'-0"

LEGEND

- 1,000,000 c.m.l.c.
- 500,000 c.m.l.c.
- 350,000 c.m.l.c.
- B D Bridge Division ducts
- Bridge Division Manhole
- Chicago Surface Lines manhole.
- Chicago Surface Lines Duct

OK

WEBSTER AVE. BRIDGE
FEEDERS AND SUBMARINE CABLES

Scale 1" = 60'-0" April 1933
Drawing No. 46148 FILE NO. 13 - E5-68
File No. C1

1660570121

9aa Per 1.

Traced by 316

3500

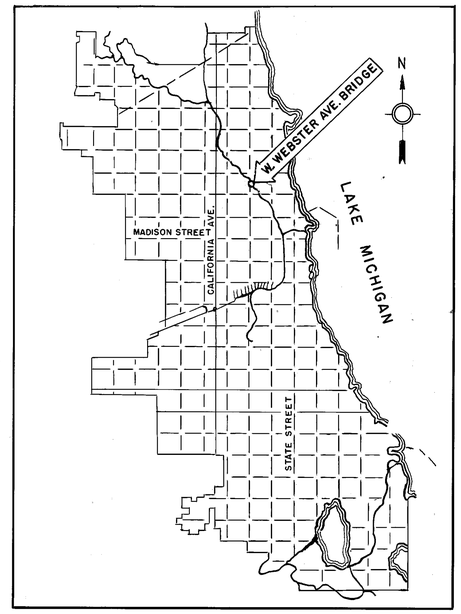
INDEX OF DRAWINGS		
DRAWING NO.	SET NO.	TITLE
30227	II-A59-14	TITLE SHEET
30228	II-A59-15	GENERAL PLAN & ELEVATION
30229	II-A59-16	REHABILITATION PROGRAM AND TRAFFIC PATTERN
30230	II-A59-17	FRAMING AND LOCATION PLAN-MOV. PART
30231	II-A59-18	TRANSVERSE ROADWAY SECTION MOVABLE & FIXED PART
30232	II-A59-19	CENTER BREAK, CURB ASSEMBLY & COVER PLS. BETWEEN TRUSS MEMBERS
30233	II-A59-20	COUNTERWEIGHT BALANCE
30234	II-A59-21	STRUCTURAL REPAIRS, TRUSSES & BRIDGE FLOOR SYSTEM-EAST LEAF
30235	II-A59-22	STRUCTURAL REPAIRS, TRUSSES & BRIDGE FLOOR SYSTEM-WEST LEAF
30236	II-A59-23	STRUCTURAL REPAIRS
30237	II-A59-24	STRUCTURAL WORK IN REHABILITATION OF HORIZONTAL TRUSS-EAST SIDE
30238	II-A59-25	STRUCTURAL WORCK IN REHABILITATION OF HORZONTAL TRUSS- WEST SIDE
30239	II-A59-26	STRUCTURAL REPAIR, FIXED PART

CITY OF CHICAGO

RICHARD J. DALEY

MAYOR

DEPARTMENT OF PUBLIC WORKS
BUREAU OF ENGINEERING



DOUBLE LEAF BASCULE OVER NORTH BRANCH CHICAGO RIVER

WEST WEBSTER AVENUE BRIDGE

REDECKING AND REPAIRS

M.F.T. SECTION: WEBSTER AVE. 0809-C.S.
SPECIFICATION NO. 80.77.67-12

CITY OF CHICAGO
DEPARTMENT OF PUBLIC WORKS
BUREAU OF ENGINEERING

DATE.....

APPROVED. H. Bernstein — BRIDGE DESIGN ENGINEER

APPROVED. M.D. Kraus — CHIEF BRIDGE ENGINEER

APPROVED. Marshall Suhr — ASST. CHIEF ENGINEER

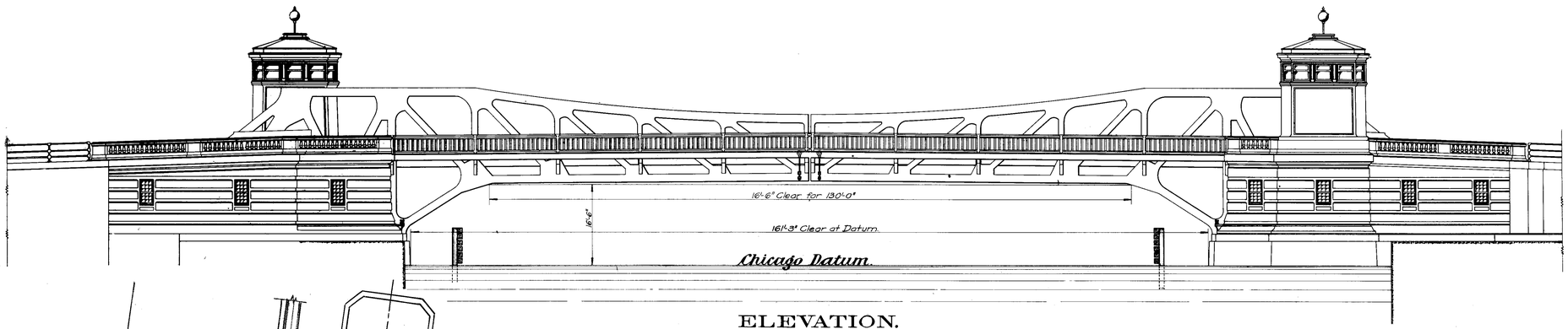
APPROVED. O.E. Kasmire — CHIEF ENGINEER

APPROVED. Milton J. Pikarsky — COMMISSIONER

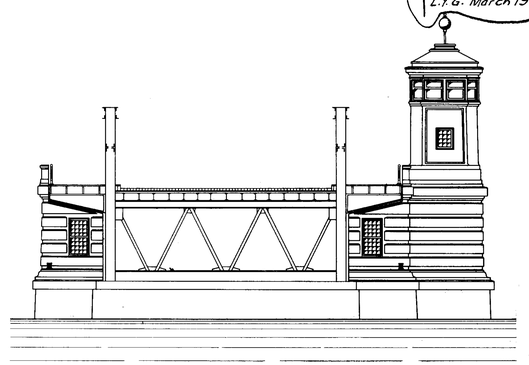
SHEET NO. 1 OF 13 SHEETS
DRWG NO. 30227 FILE NO. II-A59-14

1660570122

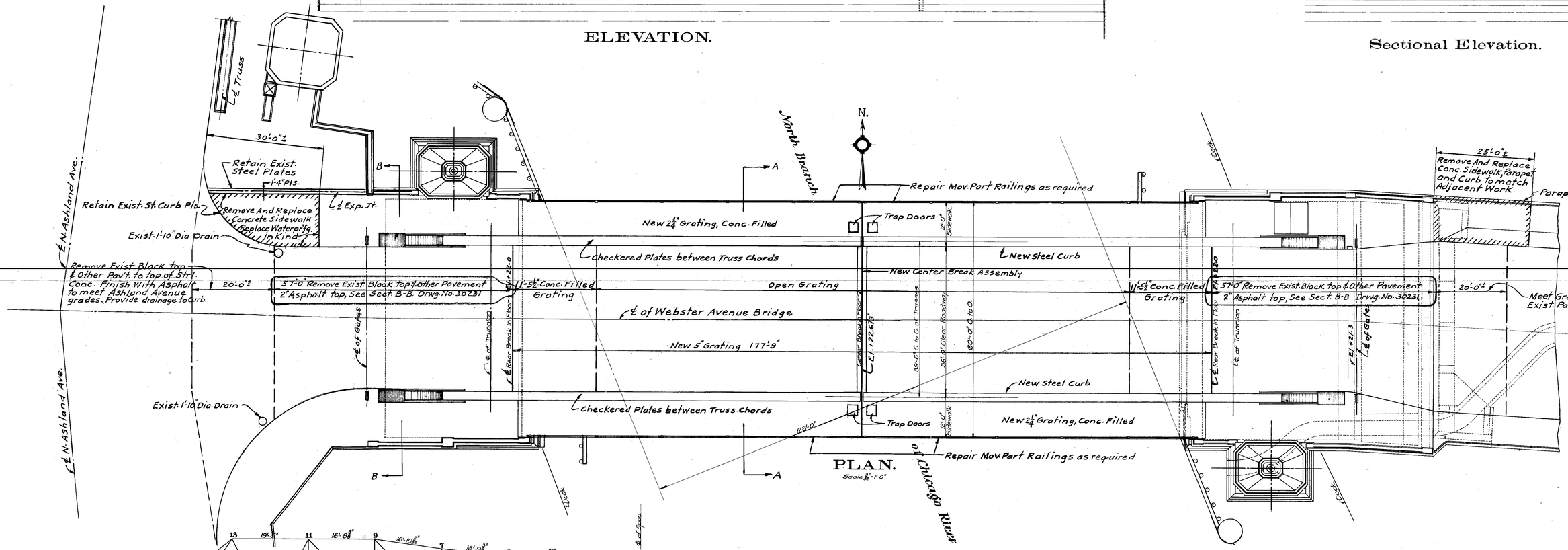
REVISIONS
Fixed Part Struct. Conc. Epoxy Sealant and 2" Bitum. Top
L.Y.G. March 1968



ELEVATION.



Sectional Elevation.



PLAN.
Scale 1/8" = 1'-0"

NOTE
It shall be the responsibility of the Contractor to verify all dimensions and Conditions existing in the field prior to Construction and ordering of materials.

BRIDGES & VIADUCTS
Drawn By L.Y. Goldman
Checked By E.D.R.
Correct [signature] IN CHARGE OF DESIGN
Approved [signature] BRIDGE DESIGN ENGINEER
Approved M.D. Richardson CHIEF BRIDGE ENGINEER

CITY OF CHICAGO
DEPARTMENT OF PUBLIC WORKS
BUREAU OF ENGINEERING

DOUBLE LEAF TRUNNION BASCULE BRIDGE
AT
WEBSTER AVE.
OVER
NORTH BRANCH OF THE CHICAGO RIVER

GENERAL PLAN & ELEVATION

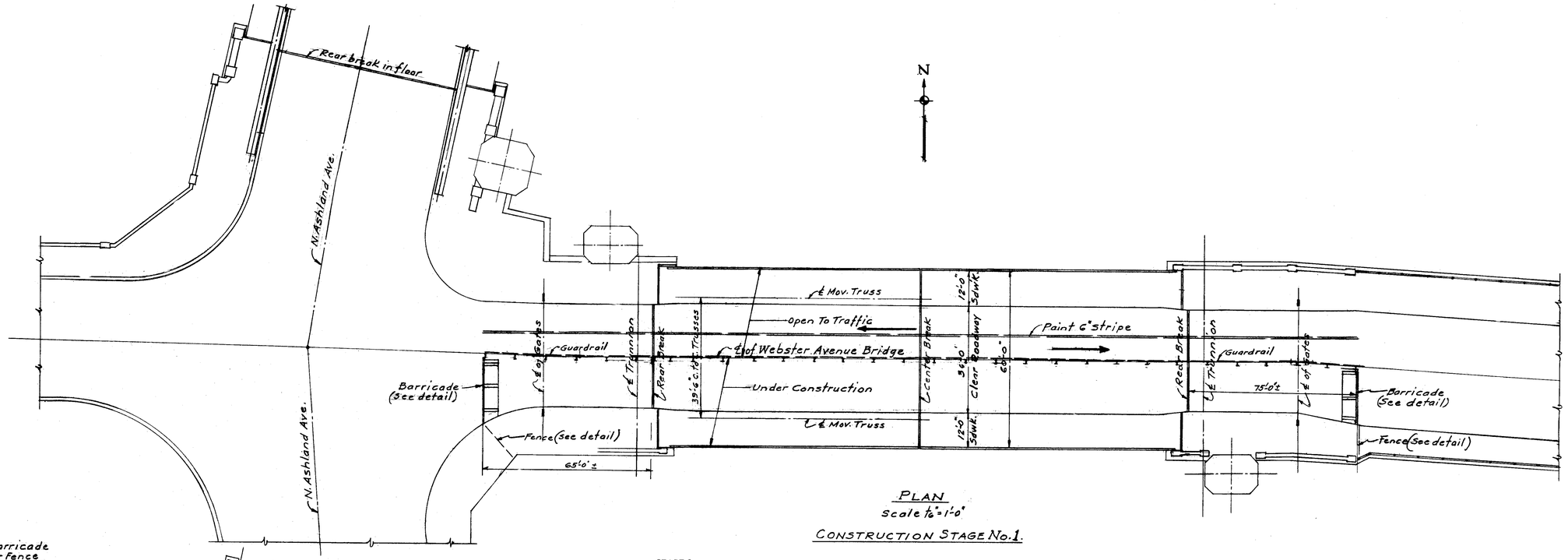
SCALE AS NOTED JULY 1967
SHEET NO. 2 OF 13 SHEETS
DRWG. NO. 30228 FILE NO. 11-A59-15

98 Per 801

1660570123

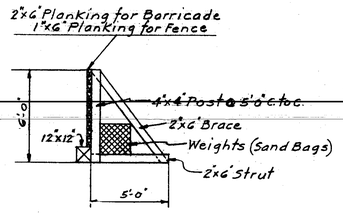
98 Per 801

REVISIONS



PLAN
Scale 1/16" = 1'-0"

CONSTRUCTION STAGE No. 1.



BARRICADE AND FENCE
Scale 1/2" = 1'-0"

STAGE I

ROUTE TRAFFIC THRU NORTH TWO LANES AND REHABILITATE SOUTH HALF OF BRIDGE.

a. Paint 6" stripe divider for north temporary lanes, build barricades, fences and guard rails on south half of bridge.

b. Remove roadway and sidewalk timber flooring and parts interfering with new construction. Begin at center break and work back two panels at a time, removing existing flooring, repairing or replacing steel, and placing grating. Finish each section before proceeding with new one, and provide temporary balancing as removal of flooring progresses. Bridge shall be kept in balance at all times.

c. While steel is exposed, inspect the top flanges of the floorbeams. Repair or replace all deteriorated steel not shown on plans, but ordered by the City Engineer. Install new center break weldments and supporting steel.

d. Place new jack beams, curbs, and checkered plates between truss members, as shown. Place 5" roadway grating and 2" sidewalk grating as shown on plans.

e. Repair fixed part sidewalks and roadway approaches, and resurface in accordance with Special Provisions and plans.

f. Remove fences, barricades and paint stripe dividers and place on south half of bridge.

g. Open south half of bridge to traffic.

STAGE II

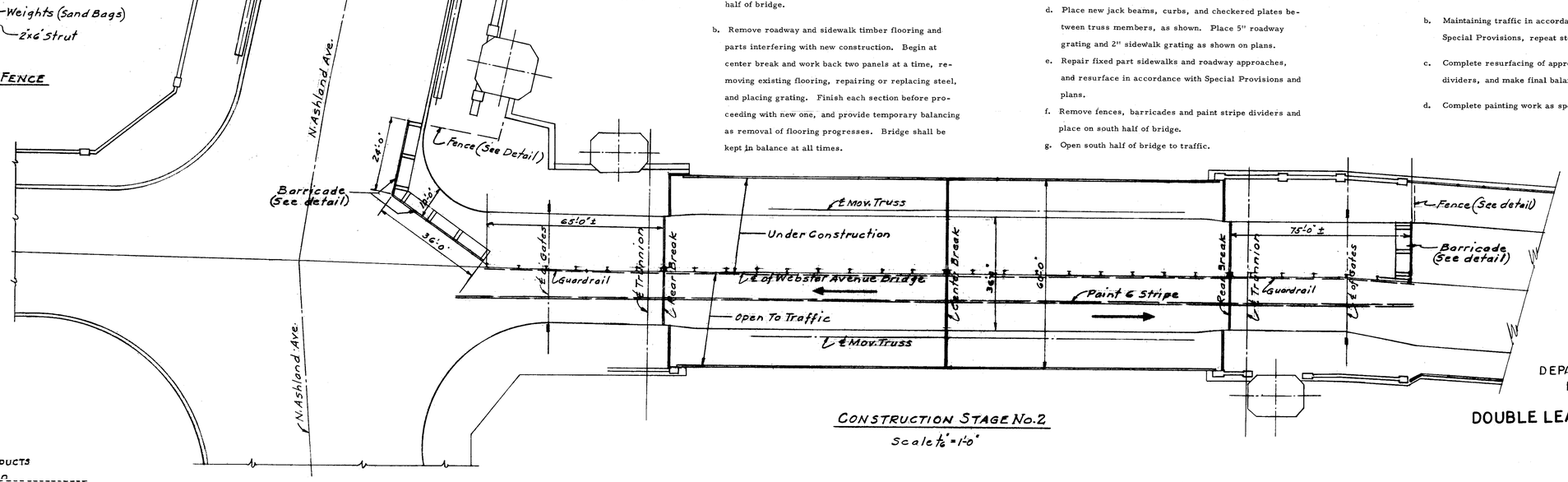
ROUTE TRAFFIC THRU SOUTH TWO LANES AND REHABILITATE NORTH HALF OF BRIDGE.

a. Build barricades, fences and guard rails.

b. Maintaining traffic in accordance with the plans and Special Provisions, repeat steps b to f.

c. Complete resurfacing of approaches, remove stripe dividers, and make final balancing of bridge.

d. Complete painting work as specified.



CONSTRUCTION STAGE No. 2
Scale 1/16" = 1'-0"

BRIDGES & VIADUCTS
Drawn By L.Y. Goldman
Checked By G.Q.R.
Correct [signature] IN CHARGE OF DESIGN
Approved [signature] BRIDGE DESIGN ENGINEER
Approved M.D. Markman CHIEF BRIDGE ENGINEER

CITY OF CHICAGO
DEPARTMENT OF PUBLIC WORKS
BUREAU OF ENGINEERING

DOUBLE LEAF TRUNNION BASCULE BRIDGE
AT
WEBSTER AVE.
OVER
NORTH BRANCH OF THE CHICAGO RIVER

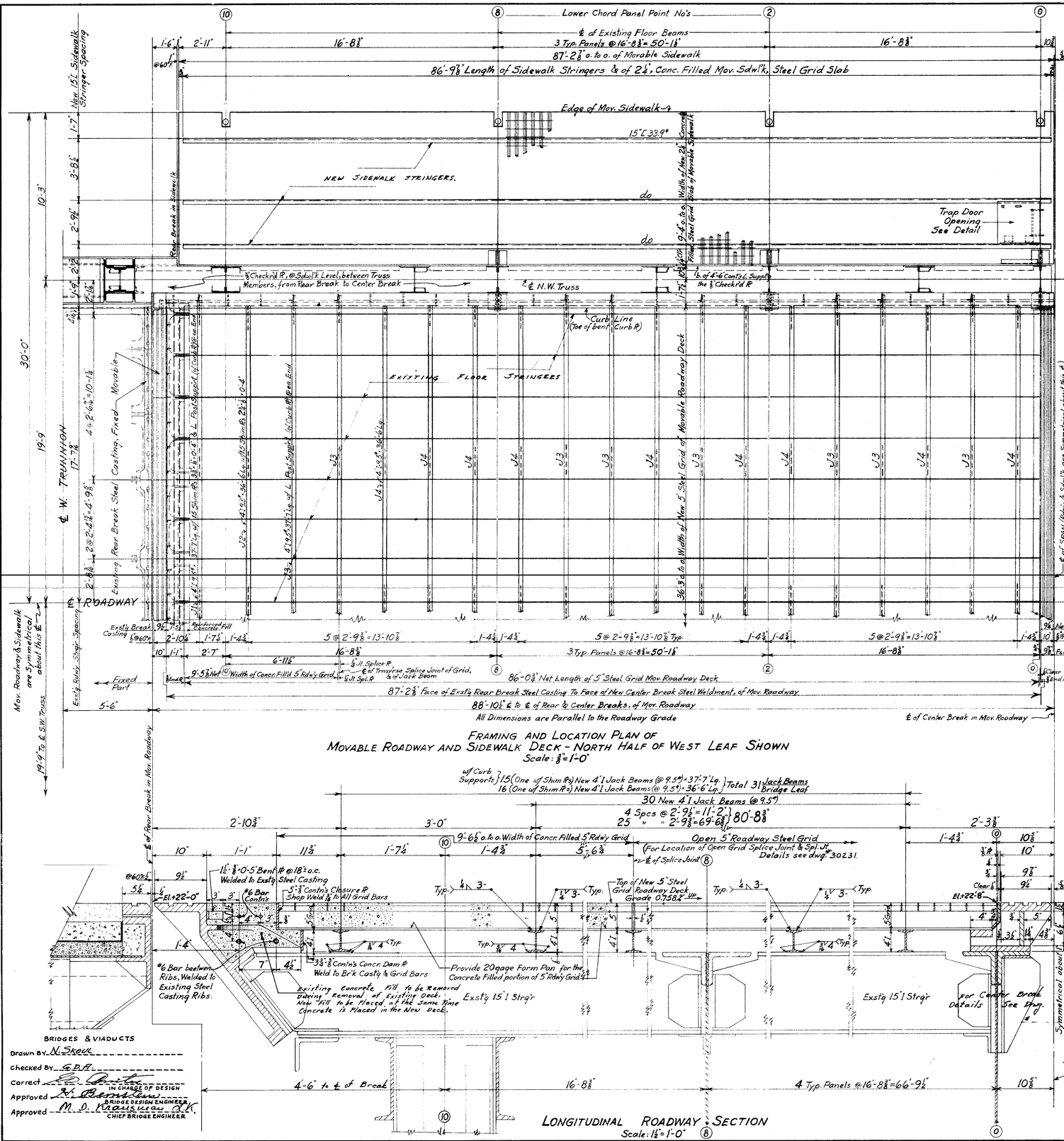
REHABILITATION PROGRAM
AND TRAFFIC PATTERN

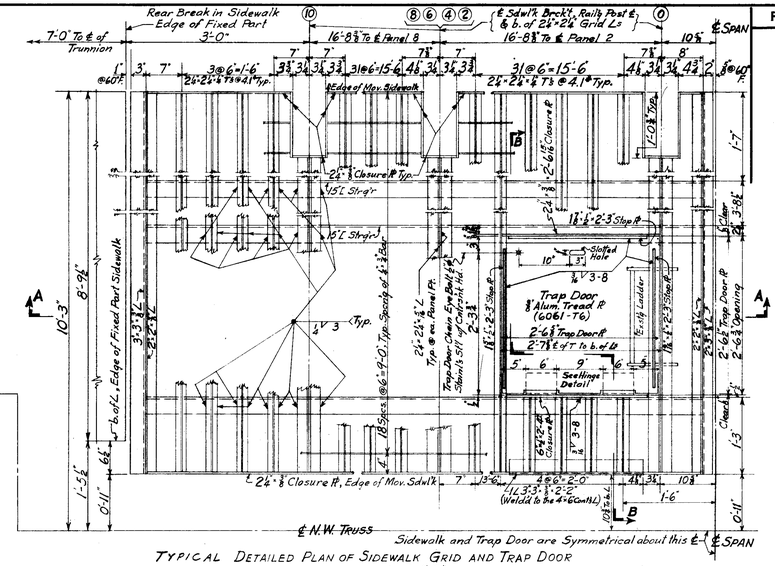
SCALE AS NOTED — JULY 1967
SHEET NO. 3 — OF 13 SHEETS
DRWG. NO. 30229 — FILE NO. 11-A59-16

9B Per 802

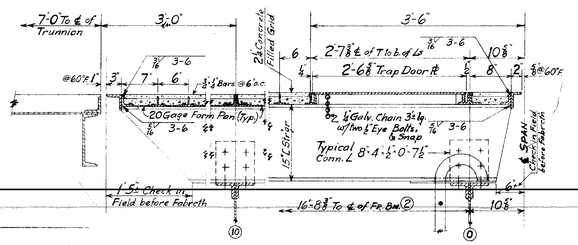
1660570124 9B Per 802

REVISIONS

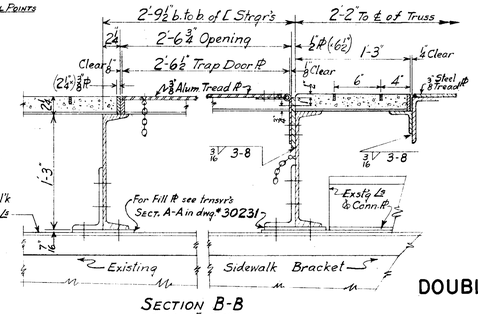




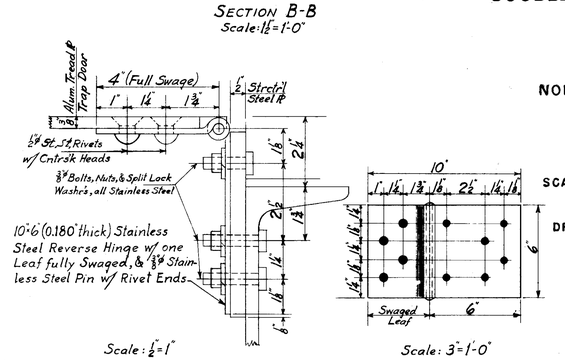
TYPICAL DETAILED PLAN OF SIDEWALK GRID AND TRAP DOOR
Scale: 1" = 1'-0"
TRAP DOORS ON 4 SIDES.



SECTION A-A
Scale: 1" = 1'-0"

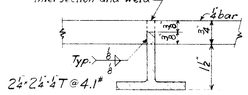


SECTION B-B
Scale: 1½" = 1'-0"



Scale: ½" = 1"
Scale: 3" = 1'-0"

TRAP DOOR HINGE DETAIL, 8 REQ'D.
MATERIAL:- Stainless St., 18-8 Alloy.



TYPICAL SIDEWALK DETAIL
BAR AND TEE INTERSECTION
Scale: 6" = 1'-0"

NOTES:-

Dimensions shown are based on the design drawings of the original structure, and are parallel to the grade of the roadway of each leaf.

The Contractor and Fabricator shall verify, by field measurement, all dimensions which affect the details and clearances of all component parts, and shall be responsible for the proper fittings of their assembly. Fabricators' shop drawings shall indicate those dimensions which were obtained by measurement in the field.

The concrete fill for the Sidewalk grid and portion of the Roadway grid indicated shall be ordinary structural concrete and have a uniform, air dried, weight of 144 lbs. per cubic foot.

For the physical and structural properties of the ordinary structural concrete, the structural steel rolled sections and the roadway and sidewalk grid flooring, see the Specifications.

For TRANSVERSE SECTIONS, and other DETAILS see Dwg. Nos. 30231, and 30232.

CITY OF CHICAGO
DEPARTMENT OF PUBLIC WORKS
BUREAU OF ENGINEERING

DOUBLE LEAF TRUNNION BASCULE BRIDGE
AT
WEBSTER AVE.
OVER
NORTH BRANCH OF THE CHICAGO RIVER

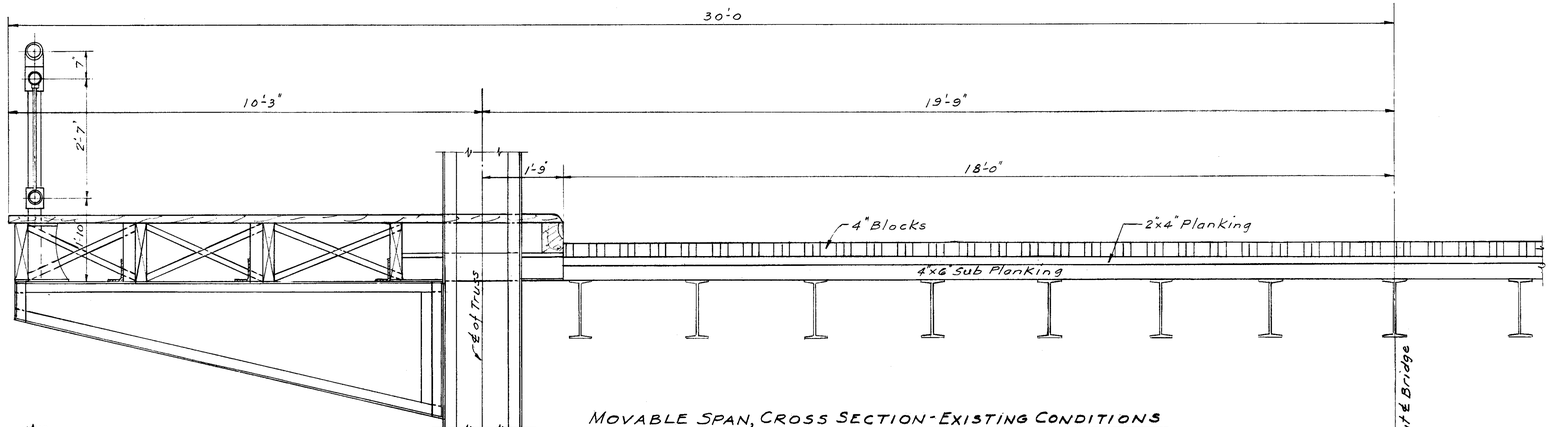
FRAMING AND LOCATION PLAN - MOV. PART

SCALE AS NOTED — JULY 1967
SHEET NO. 4 — OF 13 SHEETS
DRWG. NO. 30230 — FILE NO. 11-459-17

BRIDGES & VIADUCTS
Drawn by N. Skow
Checked by G.D.M.
Correct E. Quitz — IN CHARGE OF DESIGN
Approved H. Bremiller — BRIDGE DESIGN ENGINEER
Approved M. O. Marks — CHIEF BRIDGE ENGINEER

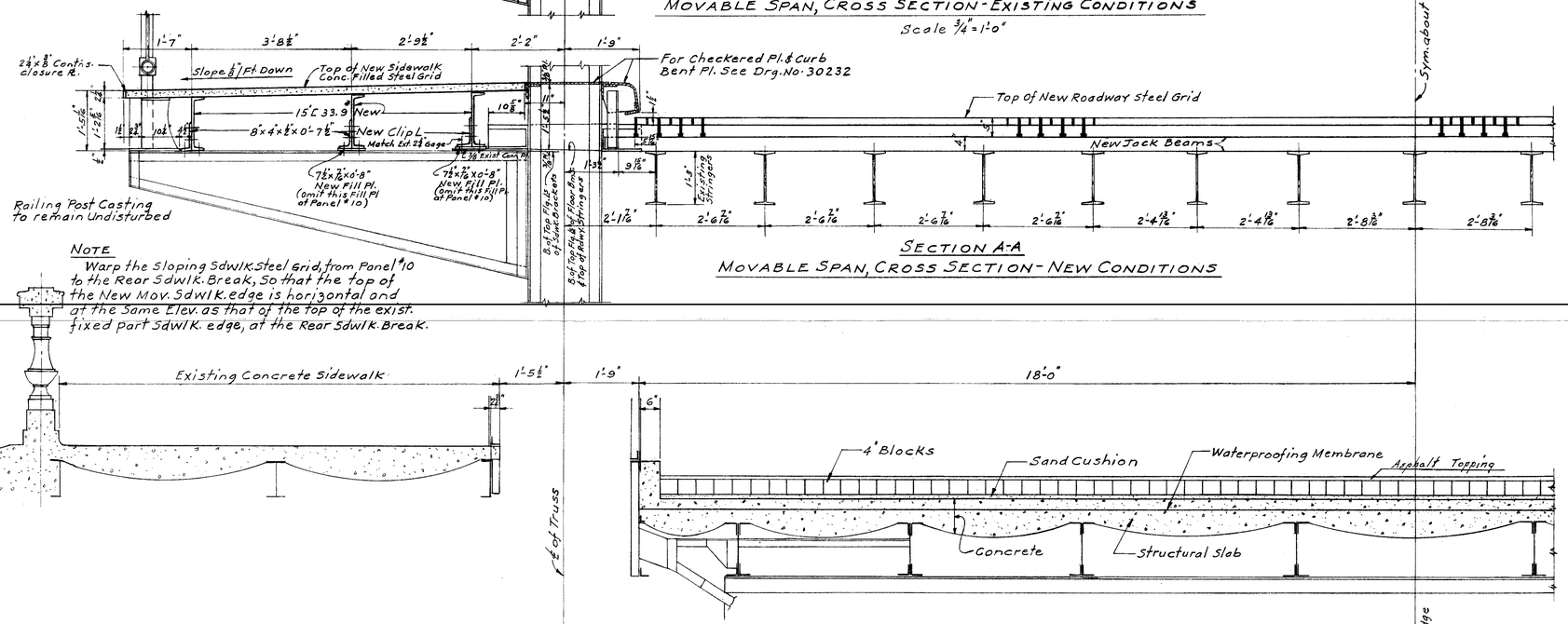
1660570125

9B Rev. 803 3449



MOVABLE SPAN, CROSS SECTION - EXISTING CONDITIONS

Scale 3/4"=1'-0"



SECTION A-A

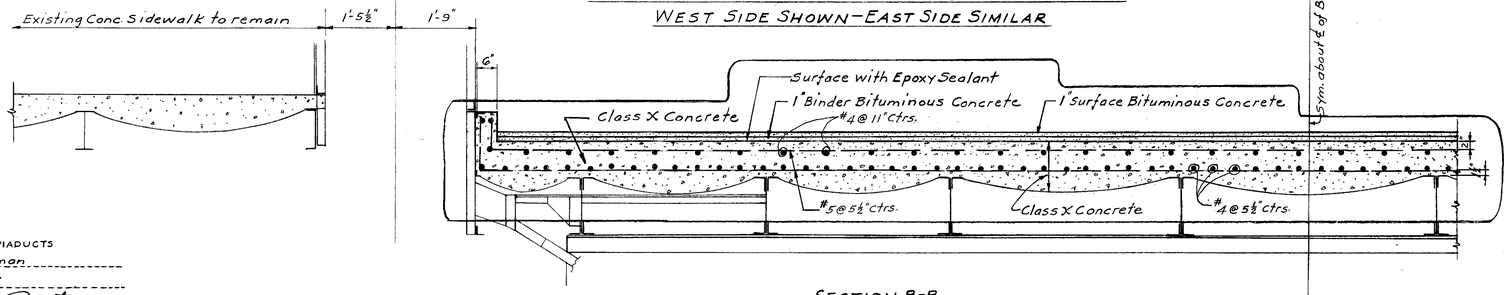
MOVABLE SPAN, CROSS SECTION - NEW CONDITIONS

NOTE

Warp the sloping Sdwlk. Steel Grid, from Panel #10 to the Rear Sdwlk. Break, So that the top of the New Mov. Sdwlk. edge is horizontal and at the Same Elev. as that of the top of the exist. fixed part Sdwlk. edge, at the Rear Sdwlk. Break.

FIXED PART, CROSS SECTION — EXISTING CONDITIONS

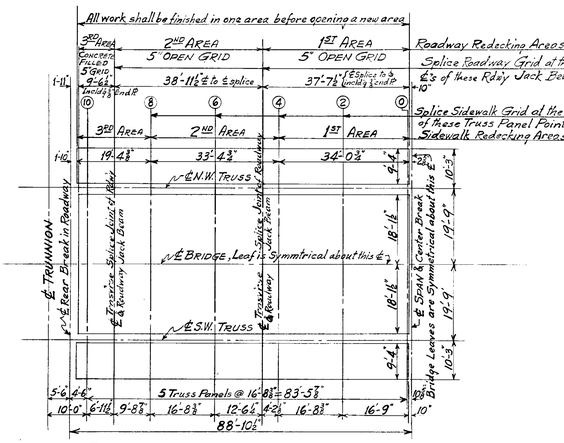
WEST SIDE SHOWN — EAST SIDE SIMILAR



SECTION B-B

FIXED PART, CROSS SECTION — NEW CONDITIONS

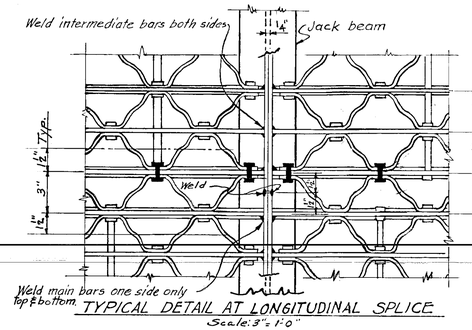
Scale 3/4"=1'-0"



PLAN OF WEST MOVABLE BRIDGE LEAF

SHOWING PROGRESSIVE ROADWAY AND SIDEWALK AREAS TO BE OPENED AND COMPLETED

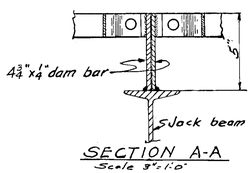
Scale: 1/16" = 1'-0"



TYPICAL DETAIL AT LONGITUDINAL SPLICE

Scale: 3"=1'-0"

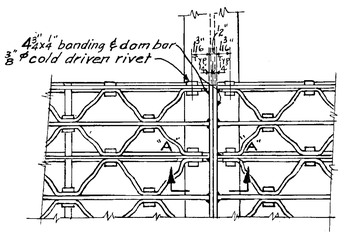
Note:
4½"x¼" dam bars at longitudinal splices to extend ½" beyond final main bars and weld as shown.



SECTION A-A

Scale 3"=1'-0"

Note:
Transverse Joints Must Fall Upon ℄ Of Jack Beams.



TYPICAL DETAIL AT TRANSVERSE JOINT SHOWING FIELD CONNECTION

Scale: 3"=1'-0"

Note:
4¾"x¼" dam bars to be cut flush at curb side as shown.

REVISIONS

Revised Sect. B-B to Show Structural Pavement. Epoxy Sealant and 2" Bituminous Conc.
L.Y.G. March 1968

BRIDGES & VIADUCTS

Drawn BY L.Y. Goldman

Checked By G.D.A.

Correct [signature] IN CHARGE OF DESIGN

Approved [signature] BRIDGE DESIGN ENGINEER

Approved M.D. Markuson A.S.S. CHIEF BRIDGE ENGINEER

CITY OF CHICAGO
DEPARTMENT OF PUBLIC WORKS
BUREAU OF ENGINEERING

DOUBLE LEAF TRUNNION BASCULE BRIDGE AT WEBSTER AVE. OVER NORTH BRANCH OF THE CHICAGO RIVER

TRANSVERSE ROADWAY SECTION
MOVABLE & FIXED PART

SCALE AS NOTED — JULY 1967

SHEET NO. 5 OF 13 SHEETS

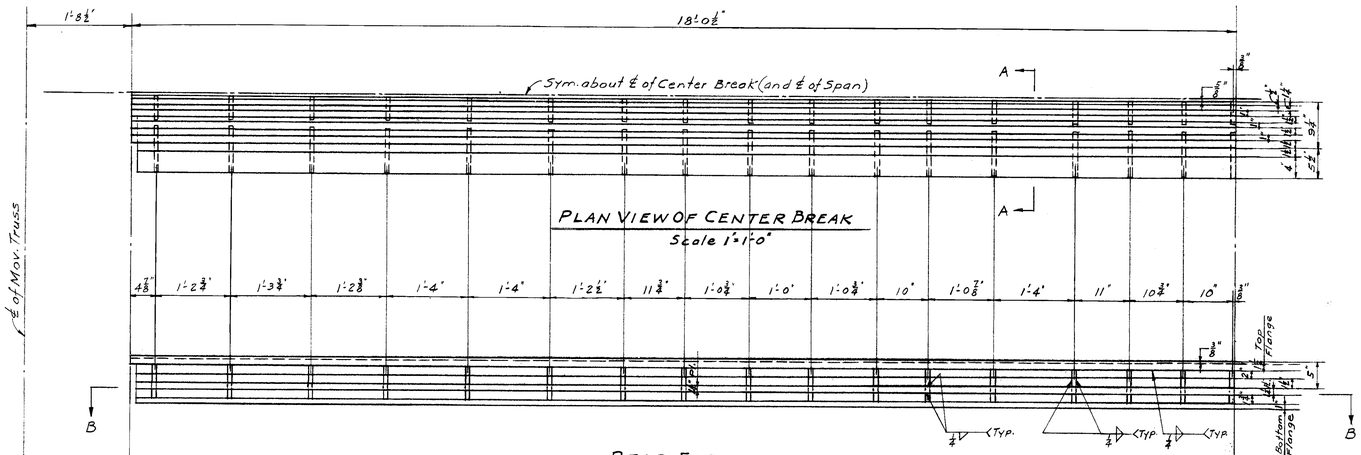
DRWG. NO. 30231 — FILE NO. 11-A59-18

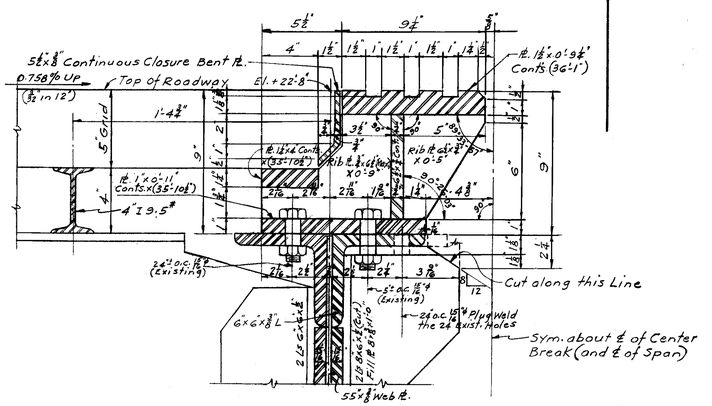
9B Per 804

1660570126

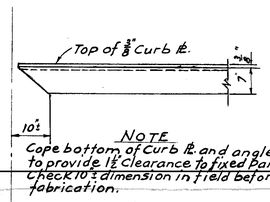
9B Per 804

REVISIONS



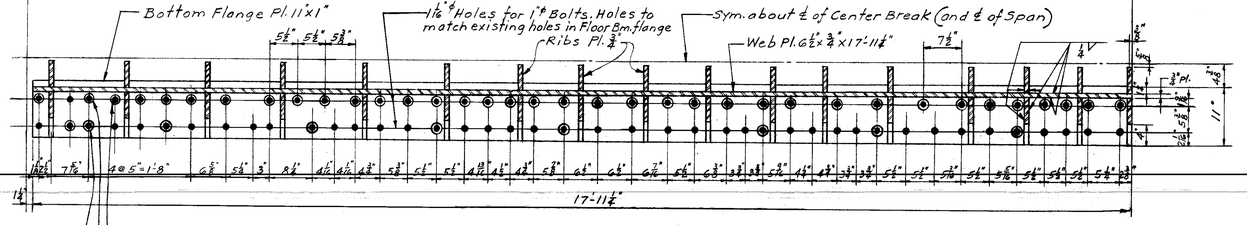


DETAILS OF CENTER BREAK
SECTION A-A
Scale 3"=1'-0"



NOTE
Cope bottom of Curb Pl. and angles to provide 1½" clearance to fixed part. Check 10½" dimension in field before fabrication.

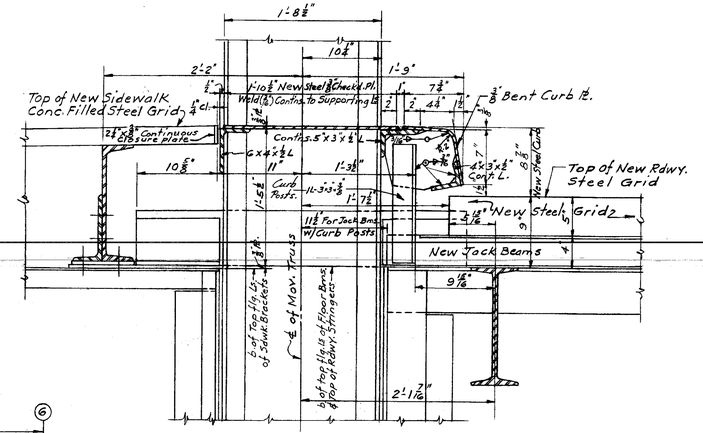
ELEV. A-A



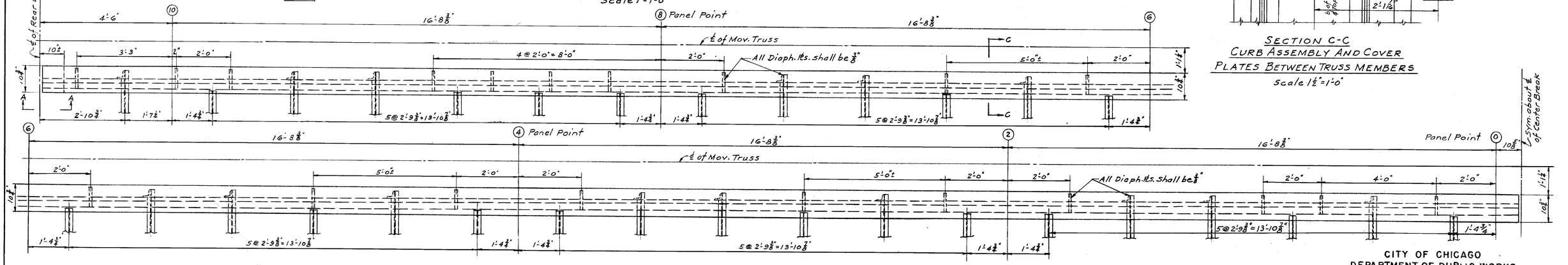
Contractor shall Verify By Field measurements Location and dimensions of all existing holes shown.

Holes marked ◉ are existing 15/16" ϕ in flange ℄ of Floor Beam 0-0 and shall be reamed to 1 1/16" ϕ

PLAN BOTTOM FLANGE-SECTION B-B
HALF SEGMENT OF CENTER BREAK
4-Required-2 As Shown & 2 Opposite Hand
Scale 1"=1'-0"



SECTION C-C
CURB ASSEMBLY AND COVER PLATES BETWEEN TRUSS MEMBERS
Scale 1½"=1'-0"



PLAN OF CURB ASSEMBLY
℄ OF REAR BREAK TO ℄ OF CENTER BREAK
4-Required-2 As Shown & 2 Opposite Hand
Scale ¾"=1'-0"

BRIDGES & VIADUCTS
Drawn By L.Y. Goldman
Checked By N. Skoul
Correct [signature] IN CHARGE OF DESIGN
Approved [signature] BRIDGE DESIGN ENGINEER
Approved [signature] CHIEF BRIDGE ENGINEER

CITY OF CHICAGO
DEPARTMENT OF PUBLIC WORKS
BUREAU OF ENGINEERING

DOUBLE LEAF TRUNNION BASCULE BRIDGE AT WEBSTER AVE. OVER NORTH BRANCH OF THE CHICAGO RIVER

CENTER BREAK, CURB ASSEMBLY & COVER PLS. BETWEEN TRUSS MEMBERS

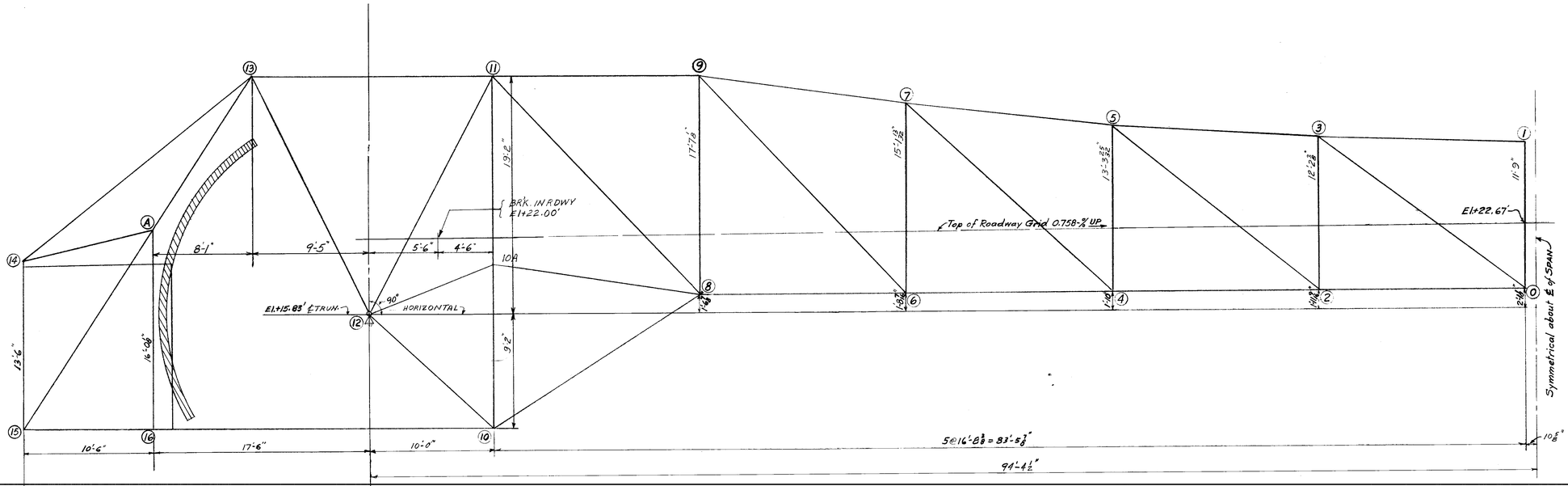
SCALE AS NOTED JULY 1967
SHEET NO. 6 OF 13 SHEETS
DRWG. NO. 30232 FILE NO. 11-A59-19

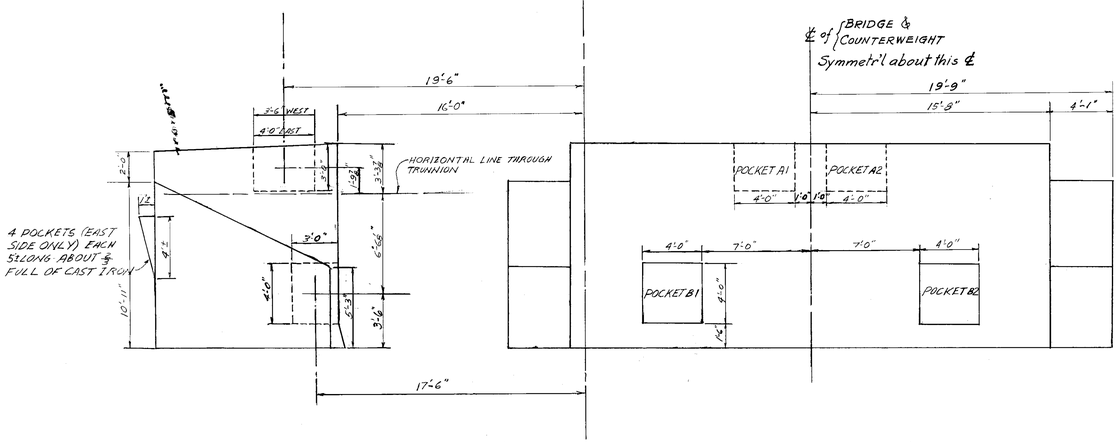
98 Per 805

1660570127

98 Per 805

REVISIONS





SIDE ELEVATION COUNTERWEIGHT

FRONT ELEVATION COUNTERWEIGHT

BALANCING CONDITIONS AFTER NEW REDECKING
QUANTITIES LISTED ARE FOR ONE LEAF

	ITEM	WEIGHT KIPS	X-ARM FEET	Y-ARM FEET	X-MOM. FT.-KPS.	Y-MOM. FT.-KPS.
	ORIGINAL BRIDGE MATERIAL NOT INCLDG ORGN'L SDWLK AND RDWY TIMBER DECK	593.4	—	—	11,808.0	2,383.0
NEW REDECKING MATERIAL ADDED	ROADWAY JACK BEAMS	10.95	50.25	5.92	550.2	64.8
	ROADWAY GRID	59.3	50.48	6.31	2993.5	374.2
	CONCRETE FILL IN RDW'Y GRID	19.4	12.19	6.02	236.5	116.8
	CENTER BREAK - RDW'Y	4.5	93.71	6.53	421.7	29.4
	CONC. FILL IN REAR BREAK - RDW'Y	5.0	7.00	5.82	35.0	29.1
	CHECKERED PLATE - BETWEEN TRUSS MEMBERS, AT SIDEWALK LEVEL	5.4	50.04	7.22	270.2	39.0
	ANGLE FOR CHECKERED PL	2.38	50.04	7.04	119.1	16.8
	CURB PL ASSEMBLY	7.9	50.04	6.92	395.3	54.7
	SIDEWALK GRID	55.8	50.70	7.09	2,829.1	395.6
	SIDEWALK STRINGERS	17.7	50.70	6.47	897.4	114.5
	CONN. L's & FILL PL's OF SDW'LK STRG	0.6	50.70	5.67	30.4	3.4
	TOTAL	782.3			20,586.4	3,621.3

BALANCING CONDIT'NS BEFORE NEW REDECKING
QUANTITIES LISTED ARE FOR ONE LEAF

	ITEM	WEIGHT KIPS	X-MOM. FT.-KIPS	Y-MOM FT.-KIPS
	ORIGINAL BRIDGE MATERIAL INCLUDING ORGN'L SDWL'K AND RDW'Y TIMBER DECK	744.8	19,366.6	3,345.4
MATERIAL ADDED TO ORIGINAL BRIDGE BEFORE NEW DECK	NET INCREASE DUE TO RDW'Y DECK CHANGE FROM 8" TIMBER TO 24" CONCRETE (8'-0"x36'-0") NEAR REAR BREAK	72.5	749.1	370.4
	NET INCREASE DUE TO ADDITION TO RDW'Y DECK OF ASPHALT PLANKING	15.0	814.8	97.3
	INCREASE DUE TO CHANGE OF RDW'Y DECK SUBPLANKING FROM ALTERNATE BLOCK LAYING TO SOLID (BASED ON 30%)	21.6	1,173.3	128.1
	TOTAL	853.9	22,103.8	3,941.2

REFERENCE DRAWINGS:
FILE: 11-GE-70
FILE: 35-D2-596

QUANTITIES LISTED ARE FOR ONE LEAF

	WEIGHT	X-MOM.	Y-MOM.
MAT'RL OF EXST'NG RDW'Y AND SDW'LK DECK BEFORE REDCK'NG	854 kips	22,104 ft.-kps	3,941 ft.-kps.
MAT'RL OF RDW'Y AND SDW'LK DECK AFTER REDECKING	782 "	20,586 " "	3,621 " "
REDUCTION OF RDW'Y AND SDW'LK DECK MAT'RL DUE TO REDECKING	72 kips	1,518 ft.-kps	320 ft.-kps.

NOTES:
The concrete fill for the sidewalk grid and for the specified portion of the roadway grid shall be ordinary concrete of normal weight or 144 lbs. per cu. ft.
The existing bridge leaves are heavy on the river side.
The size and order of the sidewalk and roadway leaf areas to be opened and redecked shall be as shown on Dwg. No. 30231.
The existing balance of the bridge leaves shall be maintained during all stages of redecking operations.
It is estimated that after redecking, each bridge leaf will be lighter on the river side, resulting in an approximate reduction in weight of 72,000 lbs., and a corresponding reduction of 1,520,000 ft.-lbs. in the X-Mom., and 320,000 ft.-lbs. in the Y-Mom., per leaf.
The final counterweight adjustment, to balance each bridge leaf, shall be made by this Contractor, by transfer, elimination or addition of removable cast iron or concrete blocks in the upper and lower counterweight pockets, and shall be subject to the approval of the Chief Engineer.

BRIDGES & VIADUCTS
Drawn By P. Kessis
Checked By N. Skoul
Correct H. D. Quites — IN CHARGE OF DESIGN
Approved [illegible] — BRIDGE DESIGN ENGINEER
Approved M. J. Rutigliano — CHIEF BRIDGE ENGINEER

CITY OF CHICAGO
DEPARTMENT OF PUBLIC WORKS
BUREAU OF ENGINEERING

DOUBLE LEAF TRUNNION BASCULE BRIDGE AT WEBSTER AVE. OVER NORTH BRANCH OF THE CHICAGO RIVER

COUNTERWEIGHT BALANCE

SCALE AS NOTED — JULY 1967
SHEET NO. 7 OF 13 SHEETS
DRWG. NO. 30233 — FILE NO. 11-A59-20

98-806

1660570128

98-806

175H

REVISIONS

Replace deteriorated Stringers With New 15" I Beams (See Note)

Connections of Beams shall be Repaired & Reinforced as indicated

Replace Batten Pl.

Replace deteriorated Stringers With New 15" I Beams (See Note)

Replace Batten Pl.

Section CC

Section BB

Section AA

PLAN OF DECK.
Scale 1/16"=1'-0"

INSIDE ELEVATION OF NORTH TRUSS.

Section DD

Replace Batten Plates

Section EE

NOTE

Replace Street Car Stringers Mark S4 With New 15" I Beams @ 42.9#

Replace S3 Stringers indicated With New 15" I Beams @ 42.9#

Replace S8 Stringers indicated With New 15" I Beams @ 60.0#

Navigation light brackets repaired or replaced, as directed

Replace bottom flange angle on river side.

Replacement or repair of latteral bracing members shall be done as directed and Paid Under Force Account.

EAST LEAF

BRIDGES & VIADUCTS

Drawn By L.Y. Goldman

Checked By G.D.P.

Correct G.D. Conley IN CHARGE OF DESIGN

Approved H. Bienkowski BRIDGE DESIGN ENGINEER

Approved M. D. Mallilian CHIEF BRIDGE ENGINEER

CITY OF CHICAGO
DEPARTMENT OF PUBLIC WORKS
BUREAU OF ENGINEERING

DOUBLE LEAF TRUNNION BASCULE BRIDGE

AT

WEBSTER AVE.

OVER

NORTH BRANCH OF THE CHICAGO RIVER

STRUCTURAL REPAIRS, TRUSSES & BRIDGE FLOOR SYSTEM-EAST LEAF

REDECKING & REHABILITATION

SCALE AS NOTED JULY 1967

SHEET NO. 8 OF 13 SHEETS

DRWG. NO. 30234 PILE NO. 11-A59-21

98 Per 807

1660570129

98 Per 807

REVISIONS

Replace deteriorated Stringers With new 15" I Beams (See Note)

Connections of Beams shall be Repaired & Reinforced as indicated

Replace Top Batten Plates

Replace deteriorated Stringers With new 15" I Beams (See Note)

Replace deteriorated Stringers With new 15" I Beams (See Note)

Repair Indicator

Replace Diaphram angles and rusted rivet heads

Section CC

Section BB

Section AA

Section DD

PLAN OF DECK.
Scale 3/16" = 1'-0"

INSIDE ELEVATION OF NORTH TRUSS.
Scale 3/16" = 1'-0"

Section EE

WEST LEAF

NOTE

Replace Street Car Stringers Mark S4 With New 15" I Beams 42.9#

Replace S3 Stringers indicated With New 15" I Beams 42.9#

Replace S6 & S7 Stringers indicated With New 15" I Beams 60.0#

Navigation light brackets repaired or replaced, as directed

Replace bottom flange angle On River Side

Replacement or repair of latteral bracing members shall be done as directed and Paid Under Force Account.

BRIDGES & VIADUCTS

Drawn By L.Y. Goldman

Checked By G.D.R.

Correct _____ IN CHARGE OF DESIGN

Approved _____ BRIDGE DESIGN ENGINEER

Approved M.D. Krauman K.K. CHIEF BRIDGE ENGINEER

CITY OF CHICAGO
DEPARTMENT OF PUBLIC WORKS
BUREAU OF ENGINEERING

DOUBLE LEAF TRUNNION BASCULE BRIDGE

AT

WEBSTER AVE.

OVER

NORTH BRANCH OF THE CHICAGO RIVER

STRUCTURAL REPAIRS, TRUSSES & BRIDGE FLOOR SYSTEM · WEST LEAF

REDECKING & REHABILITATION

SCALE AS NOTED — JULY 1967

SHEET NO. 9 — OF 13 SHEETS

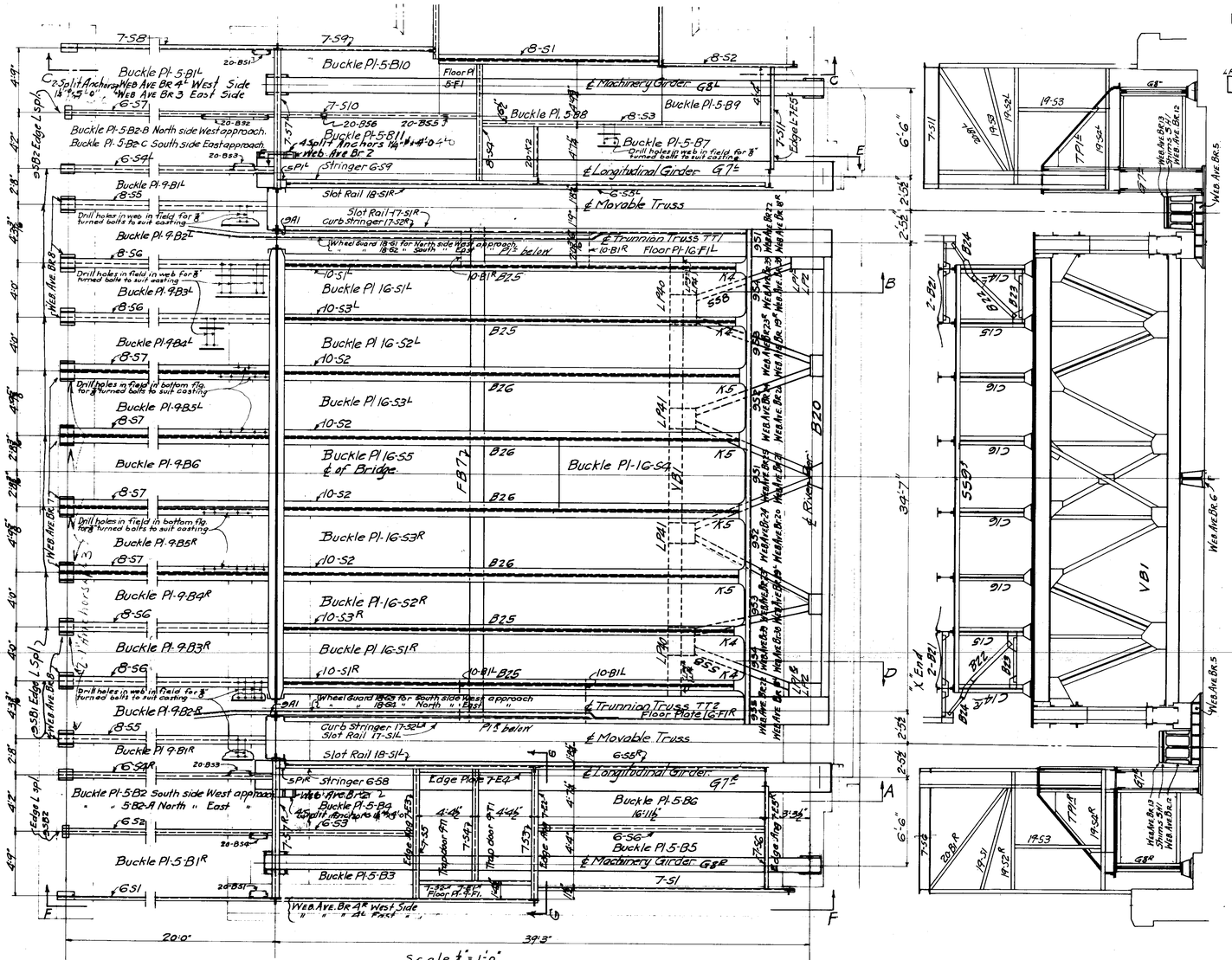
DRWG. NO. 30235 — FILE NO. 11-A59-22

1660570130

9B Per 808

9B Per 808

REVISIONS


Buckle Pl·5·B1L
Buckle Pl·5·B10
Buckle Pl·5·B8
Buckle Pl·5·B9
Buckle Pl·5·B11
Buckle Pl·5·B7
Stringer G·59
℄ Longitudinal Girder G7℄
Slot Rail 18·S1R
℄ Movable Truss
Slot Rail 17·S1R
Curb Stringer 17·S2R
℄ Trunnion Truss TT1
Floor Pl·1G·F1L
Buckle Pl 1G·S1L
Buckle Pl 1G·S2L
Buckle Pl 1G·S3L
Buckle Pl·1G·S5
℄ of Bridge
Buckle Pl·1G·S4
Buckle Pl·1G·S3R
Buckle Pl·1G·S2R
Buckle Pl 1G·S1R
Buckle Pl·9·B2L
Buckle Pl·9·B3L
Buckle Pl·9·B4L
Buckle Pl·9·B5
Buckle Pl·9·B6
Buckle Pl·9·B4R
Buckle Pl·9·B3R
Buckle Pl·9·B2R
Buckle Pl·9·B1R
Buckle Pl·5·B2 South side West approach
Buckle Pl·5·B2·A North " East "
Buckle Pl·5·B2·B North side West approach.
Buckle Pl·5·B2·C South side East approach
Buckle Pl·5·B1R
Buckle Pl·5·B3
Buckle Pl·5·B6
Buckle Pl·5·B5
℄ Machinery Girder G8L
℄ Machinery Girder G8R
Web Ave Br 1
Web Ave Br 2
Web Ave Br 3
Web Ave Br 4
Web Ave Br 5
Web Ave Br 6
Web Ave Br 7
Web Ave Br 8
Web Ave Br 9
Web Ave Br 10
Web Ave Br 11
Web Ave Br 12
Web Ave Br 13
Web Ave Br 14
Web Ave Br 15
Web Ave Br 16
Web Ave Br 17
Web Ave Br 18
Web Ave Br 19
Web Ave Br 20
Web Ave Br 21
Web Ave Br 22
Web Ave Br 23
Web Ave Br 24
Web Ave Br 25
Web Ave Br 26
Web Ave Br 27
Wheel Guard 18·S1 for North side West approach
Wheel Guard 18·S2 for South side West approach
Drill holes in web in field for 8" turned bolts to suit casting
Drill holes in field in bottom flg. for 8" turned bolts to suit casting
Slot Rail 17·S1L
Curb Stringer 17·S2L
Edge Plate 7·E4
Floor Pl 4·F1
Floor Pl 4·F1L
Floor Pl 4·F1R
Stringer G·58
Stringer G·57
Edge L 5x3½
Edge L 4x3½
Edge L 3½x3½
Edge L 3x3
Edge L 2½x2½
Edge L 2x2
Edge Plate 7·E3
Edge Plate 7·E2
Edge Plate 7·E1
Thickness Pl 1
Thickness Pl 2
Thickness Pl 3
Thickness Pl 4
Thickness Pl 5
Thickness Pl 6
Thickness Pl 7
Thickness Pl 8
Thickness Pl 9
Thickness Pl 10
Thickness Pl 11
Thickness Pl 12
Thickness Pl 13
Thickness Pl

REVISIONS

Section D-D

Vertical Bracing Between Trunnion Trusses.

Plan of Horizontal Bracing Between Trunnion Trusses.

Section "AA"
Showing Stringer Connections to Top of Posts.

Section "CC" and "BB"

Section "DD"

Elevation of Front Strut of Horizontal Bracing Between Carrying Trusses.

Notes:~
Material Structural Steel except as noted.
Rivets ⅞" except in 3" leg of ∠ and in flanges of ⊏s which are ¾".
Open holes ⅞" except as noted.
For punching, reaming and general requirements of Fabrication ~ See Specifications.

BRIDGES & VIADUCTS
Drawn By L.Y. Goldman
Checked By G.D.K.
Correct [illegible] IN CHARGE OF DESIGN
Approved [illegible] BRIDGE DESIGN ENGINEER
Approved M.D. Krausman CHIEF BRIDGE ENGINEER

EAST SIDE

NOTE
WORK REQUIRED UNDER REHABILITATION CONTRACT

1. Replace Bottom Angle, S. End
2. Replace Bottom Angle, S. End
3. Replace So. End Gusset
4. Replace Bottom Gusset
5. Reinforce No. End Bottom Gusset
6. Replace No. End Bottom Angle
7. Replace No. End Bottom Angle
8. Replace No. End Bottom Angle

CITY OF CHICAGO
DEPARTMENT OF PUBLIC WORKS
BUREAU OF ENGINEERING

DOUBLE LEAF TRUNNION BASCULE BRIDGE
AT
WEBSTER AVE.
OVER
NORTH BRANCH OF THE CHICAGO RIVER

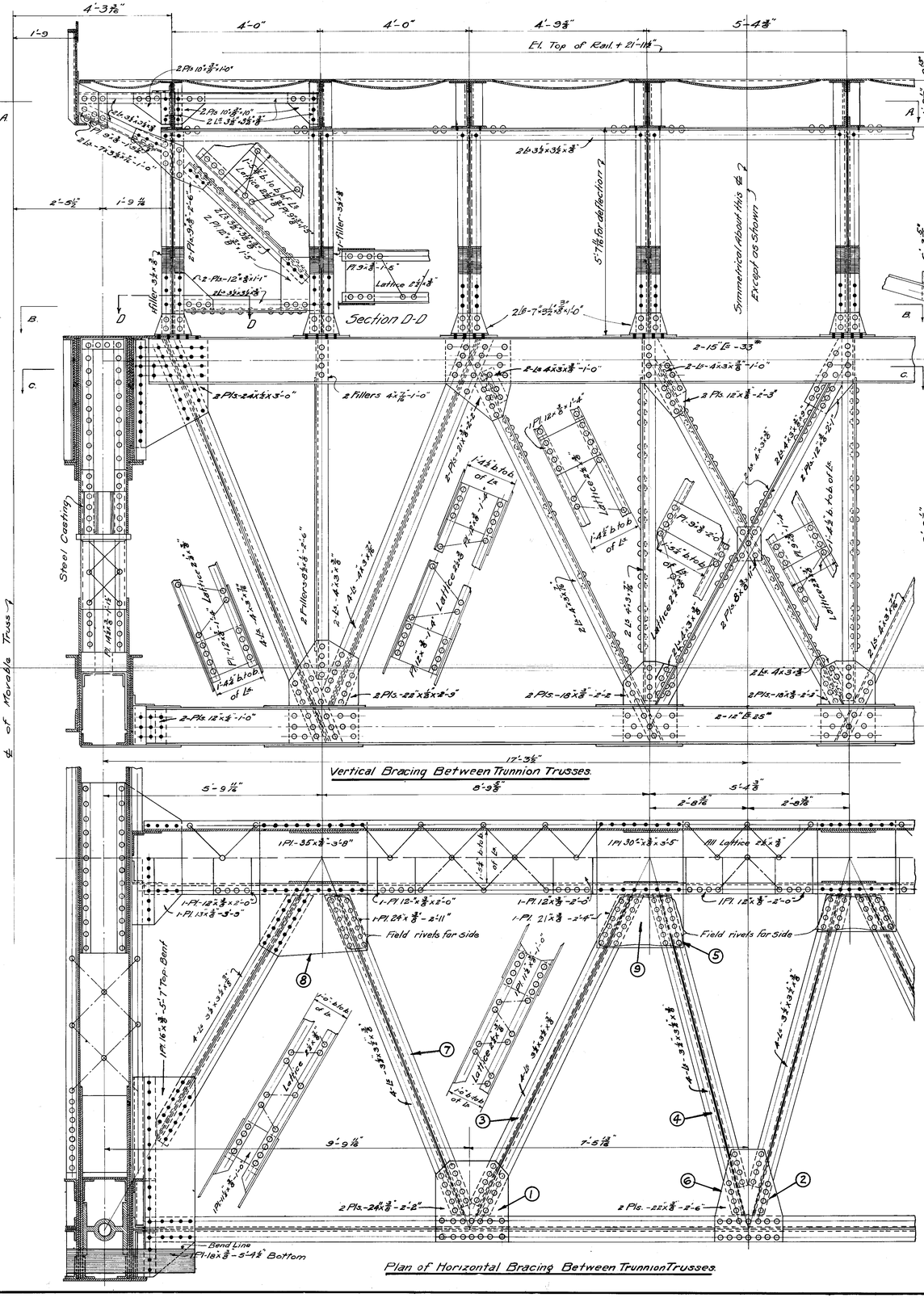
STRUCTURAL WORK IN REHABILITATION
OF HORIZONTAL TRUSS EAST SIDE

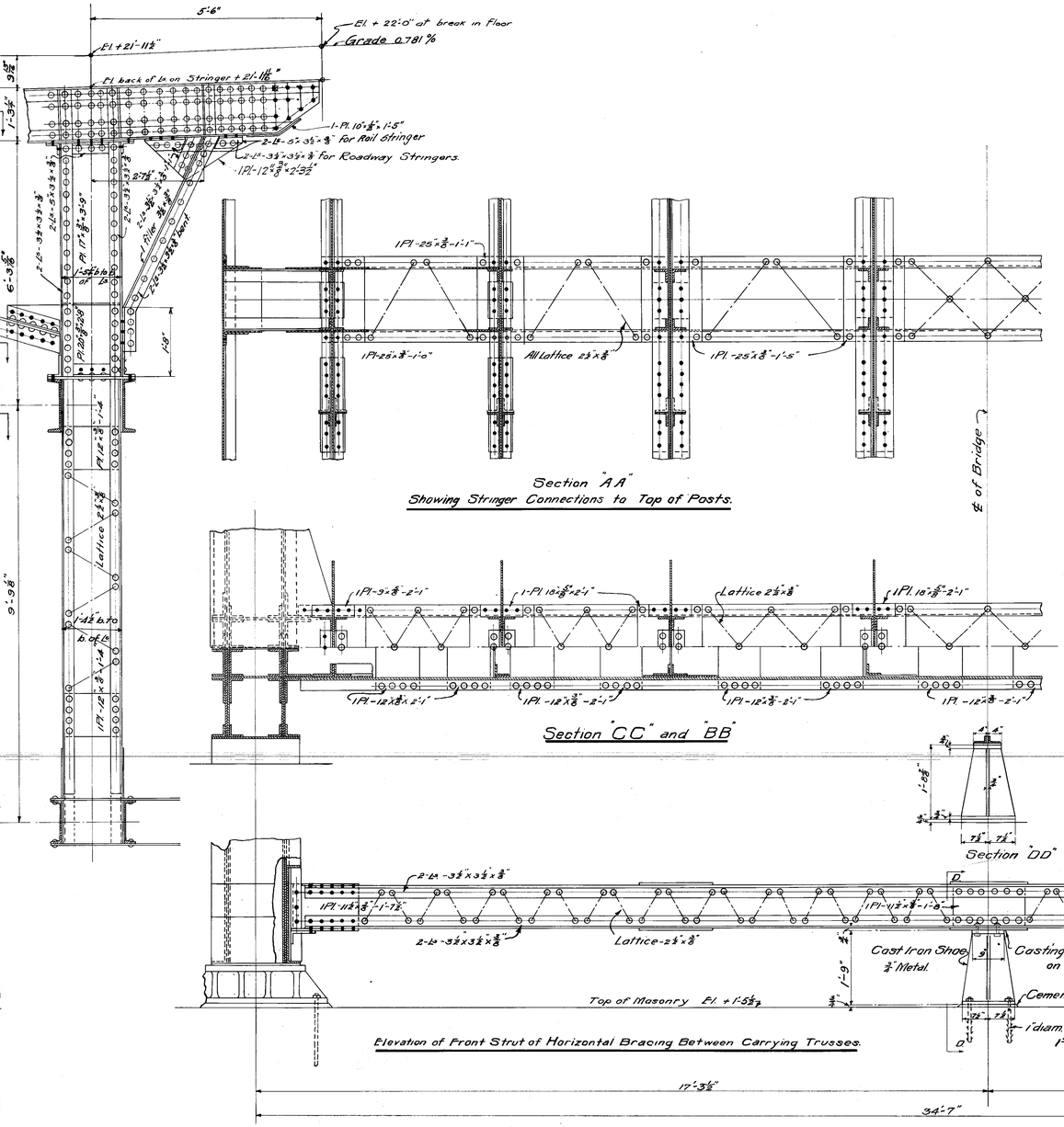
SCALE AS NOTED — JULY 1967
SHEET NO. 11 — OF 13 SHEETS
DRWG. NO. 30237 — FILL NO. 11-A59-24

1660570132

98 Per 810

REVISIONS





Notes:~
Material Structural Steel except as noted.
Rivets ⅞" except in 3" leg of L's and in flanges of I's which are ¾".
Open holes 1⅛" except as noted.
For punching, reaming and general requirements of Fabrication ~ See Specifications.

BRIDGES & VIADUCTS

Drawn By L.Y. Goldman
Checked By G.D.A.
Correct R.C. Smith — IN CHARGE OF DESIGN
Approved H. Remstein — BRIDGE DESIGN ENGINEER
Approved M.D. Krausman A.K. — CHIEF BRIDGE ENGINEER

WEST SIDE

NOTE:
WORK REQUIRED UNDER REHABILITATION CONTRACT

1. Replace Top & Bottom Gusset, N. End
2. Replace Bottom Gusset, N. End
3. Replace Angles, N. End
4. Replace Angles, N. End
5. Replace Bottom Gusset N. End
6. Replace Bottom Gusset S. End
7. Replace Angles, S. End
8. Replace Bottom Gusset, So. End
9. Reinforce or Replace Channel, as directed

CITY OF CHICAGO
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DOUBLE LEAF TRUNNION BASCULE BRIDGE
AT
WEBSTER AVE.
OVER
NORTH BRANCH OF THE CHICAGO RIVER

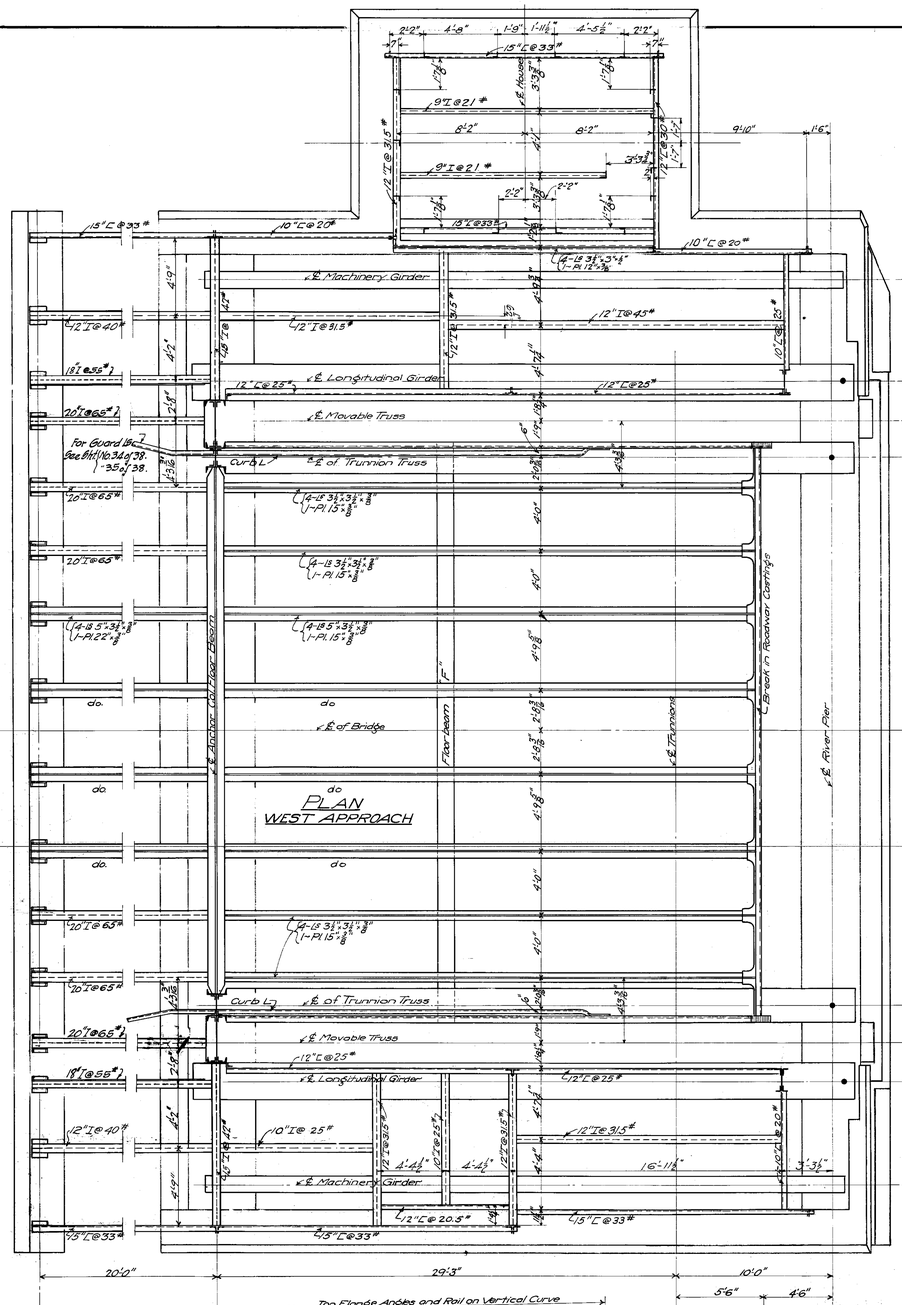
STRUCTURAL WORK IN REHABILITATION OF HORIZONTAL TRUSS WEST SIDE

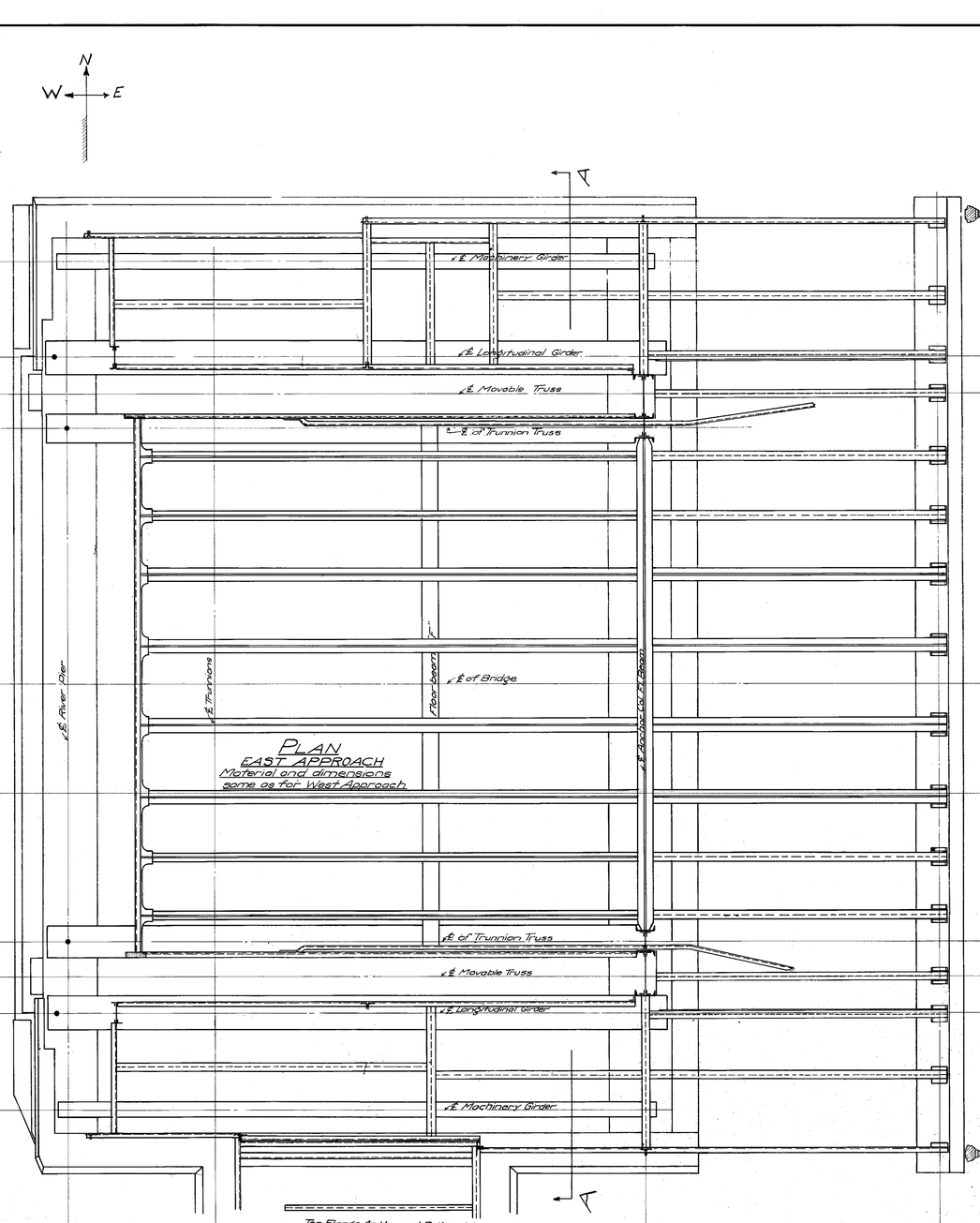
SCALE AS NOTED — JULY 1967
SHEET NO. 12 — OF 13 SHEETS
DRWG. NO. 30238 — FILE NO. 11-A59-25

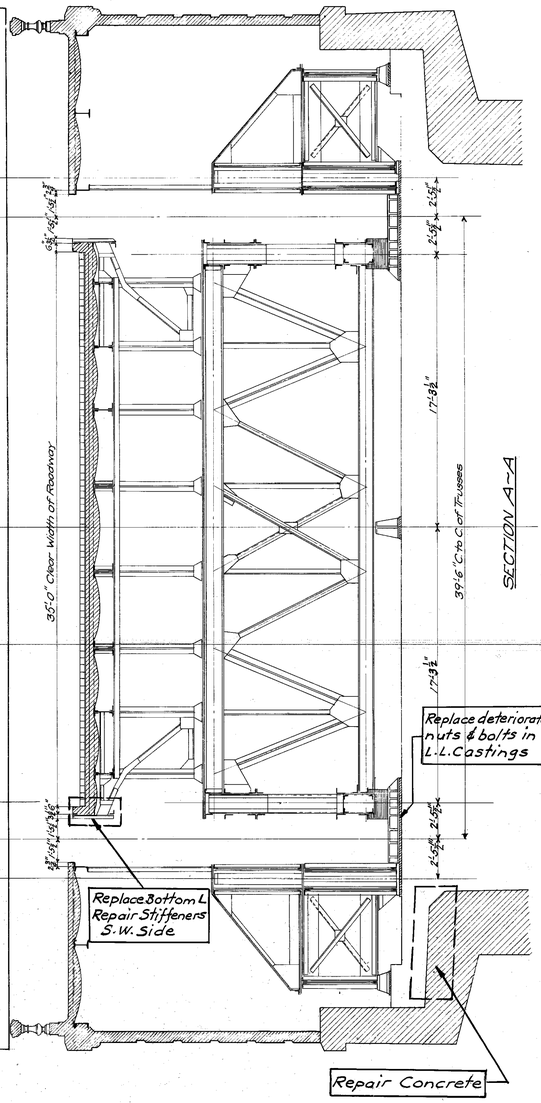
98 Per 811

1660570133

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CITY OF CHICAGO
DEPARTMENT OF PUBLIC WORKS
BUREAU OF ENGINEERING

DOUBLE LEAF TRUNNION BASCULE BRIDGE
AT
WEBSTER AVE.
OVER
NORTH BRANCH OF THE CHICAGO RIVER

STRUCTURAL REPAIRS, FIXED PART.

BRIDGES & VIADUCTS

Drawn By L.Y. Goldman
Checked By G.P.B.
Correct [signature] IN CHARGE OF DESIGN
Approved [signature] BRIDGE DESIGN ENGINEER
Approved M.D. Kratz [signature] CHIEF BRIDGE ENGINEER

SCALE AS NOTED — JULY 1967
SHEET NO. 13 — OF 13 SHEETS
DRWG. NO. 30239 — FILE NO. 11-A59-26

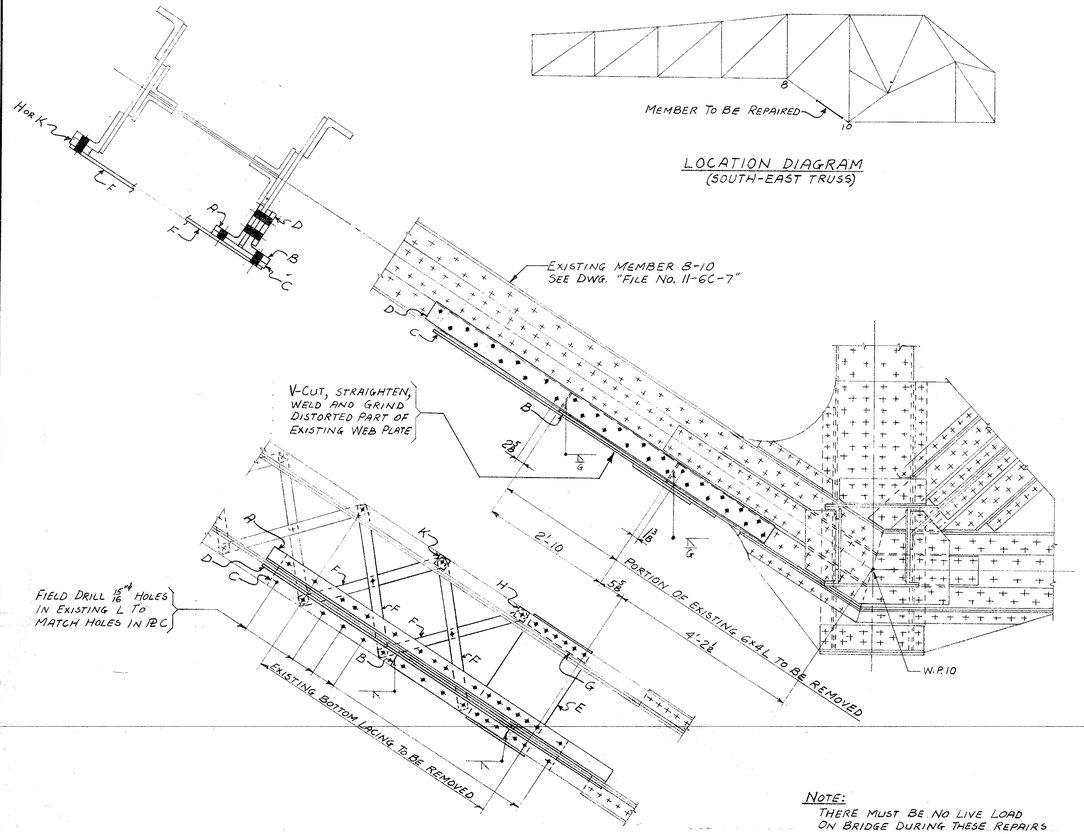
98 Per 8/2

1660570134

98 per 8/2

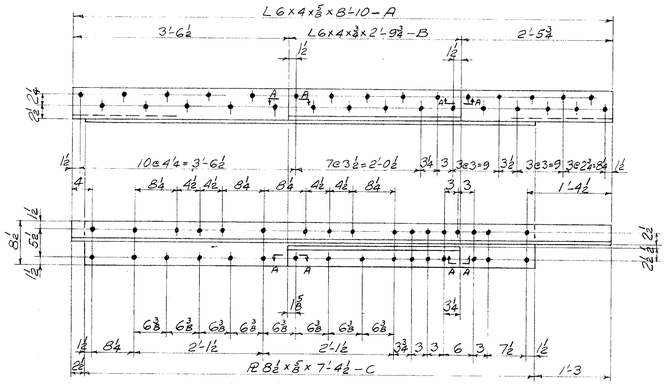
REVISIONS

LOCATION DIAGRAM
(SOUTH-EAST TRUSS)

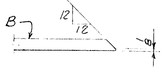


NOTE:
THERE MUST BE NO LIVE LOAD ON BRIDGE DURING THESE REPAIRS

FIELD WORK AND ERECTION DIAGRAM



ANGLE - A
ANGLE - B
PLATE - C



SECTION A-A

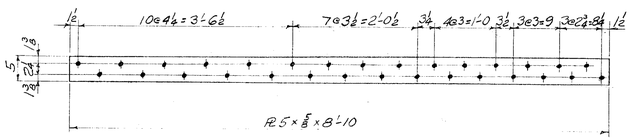


PLATE - D

BILL OF MATERIAL

LINE	MARK	No. Pc's	SECTION	LENGTH	REMARKS
1	A	1	L 6x4x⅝	8'-10	
2	B	1	L 6x4x⅜	2'-9⅜	BEVEL END EDGES
3	C	1	PL 8½x⅝	7'-4½	
4					
5	D	1	PL 5x⅝	8'-10	
6					
7	E	1	PL 18x⅜	2'-6⅜	
8					
9	F	4	PL 2½x⅜	3'-4½	
10					
11	G	1	PL 3x⅝	1'-6	
12					
13	H	1	PL 3x1	0'-3	
14	K	1	PL 3x⅝	0'-3	
15					
16					
17					
18					
19					
20					
21					
22					

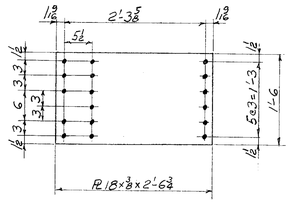


PLATE - E

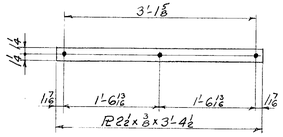


PLATE - F

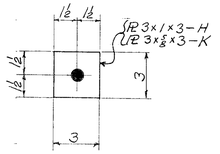


PLATE - H
PLATE - K

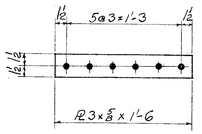


PLATE - G

15/16" HOLES FOR ⅞" RIVETS

SUPPLEMENTARY SHEET ① TO SET OF ⑬

CITY OF CHICAGO
DEPARTMENT OF PUBLIC WORKS
BUREAU OF ENGINEERING
BRIDGE & VIADUCT DESIGN SECTION

WEBSTER AVE. BRIDGE
REDECKING & REHABILITATION
REPAIRS TO S.E. TRUSS MEMBER 8-10

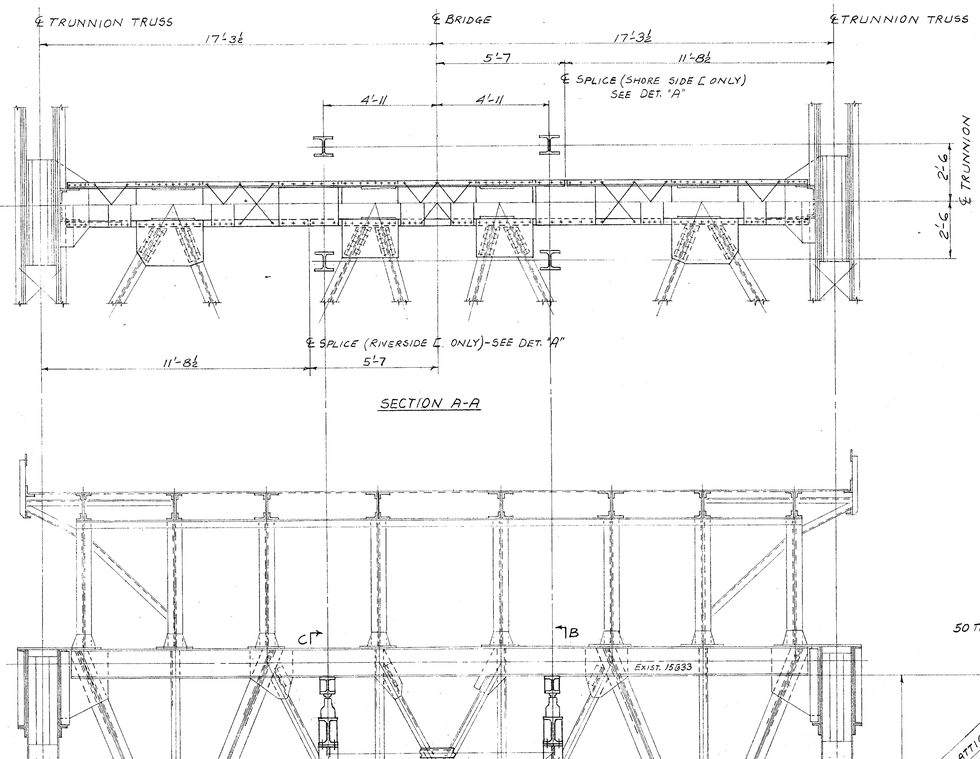
DRAWN	TRACED	DESIGNED	CHECKED	DATE	Feb. 1968
A.P.		KST.	AR	SCALE	

CORRECT — BRIDGE ENGINEER
APPROVED — CHIEF BRIDGE ENGINEER

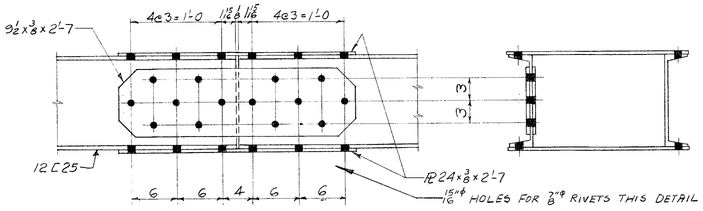
DRWG. NO. 30559
FILE NO. 11-A59-26A

1660570136

REVISIONS



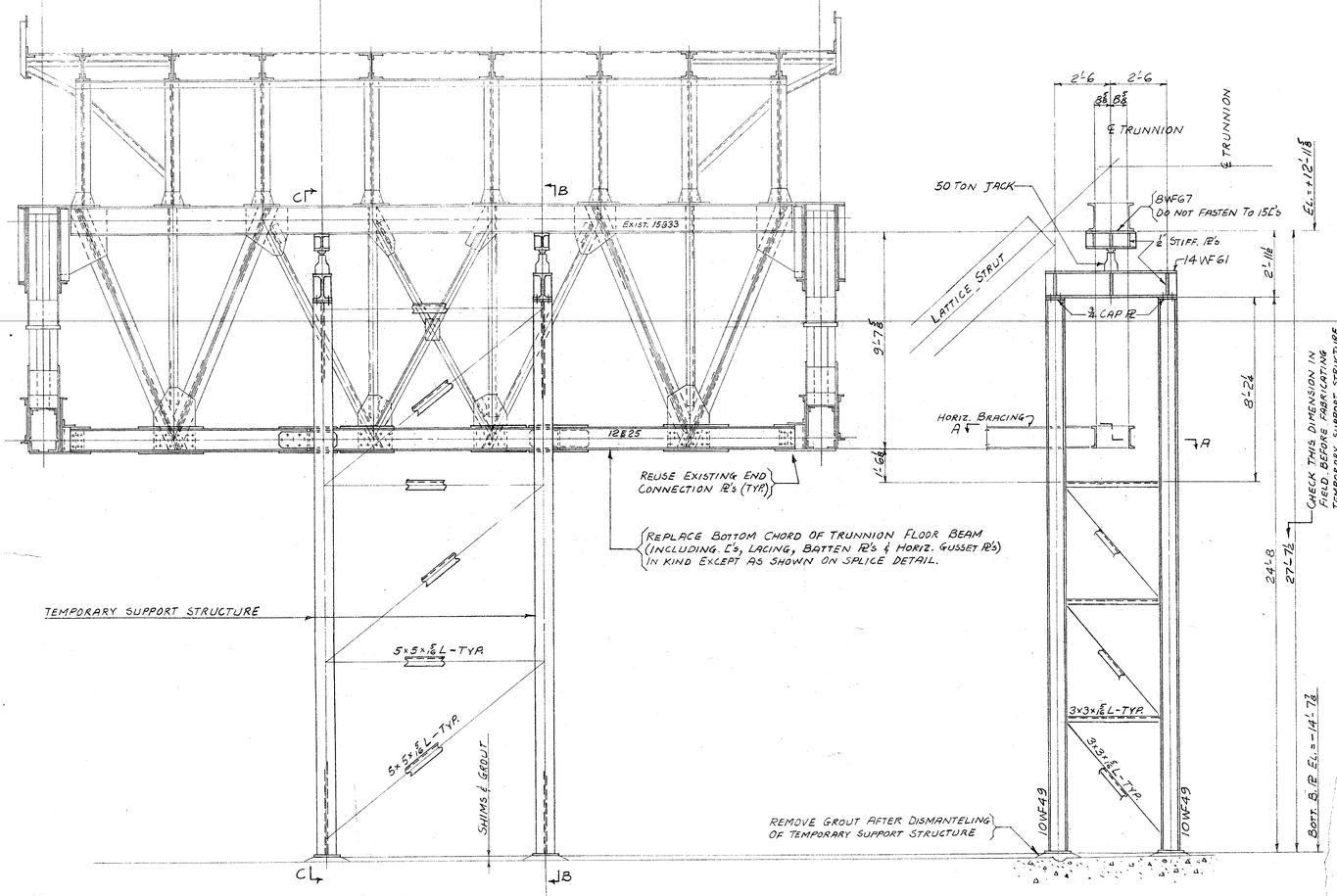
SECTION A-A



SPLICE DETAIL "A"

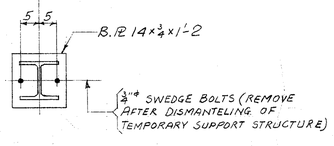
INSTALLATION PROCEDURE:

1) FURNISH & INSTALL TEMPORARY SUPPORT STRUCTURE.
2) RAISE SCREW JACKS FOR BWF67 TO BEAR AGAINST UNDERSIDE OF 15833.
3) REMOVE BOTTOM CHORD OF TRUNNION FLOOR BEAM.
4) RAISE SCREW JACKS TO ATTAIN A 1/16" UPWARD DEFLECTION OF THE 15833 @ THE ℄ OF BRIDGE.
5) FURNISH & INSTALL NEW BOTTOM CHORD OF TRUNNION FLOOR BEAM.
6) REMOVE TEMPORARY SUPPORT STRUCTURE.
7) REPEAT STEPS 1 THROUGH 6 FOR OPPOSITE SIDE.



ELEVATION

SECTION B-B (AS SHOWN)
SECTION C-C (OPP. HAND)



NOTES:

1) TRAFFIC TO BE LIMITED TO LIGHT VEHICLES DURING THIS REPAIR.
2) FOR EXISTING BOTTOM CHORD OF TRUNNION FLOOR BEAM SEE DRAWING "FILE 11-GB-31 & 11-GB-32.
3) FIELD CONNECTIONS FOR TEMPORARY SUPPORT STRUCTURE — ¾" ϕ H.S. BOLTS.

SUPPLEMENTARY SHEET (2) TO SET OF (13)

CITY OF CHICAGO
DEPARTMENT OF PUBLIC WORKS
BUREAU OF ENGINEERING
BRIDGE & VIADUCT DESIGN SECTION

WEBSTER AVE. BRIDGE
REDECKING & REHABILITATION
REPAIRS TO TRUNNION FLOOR BEAM

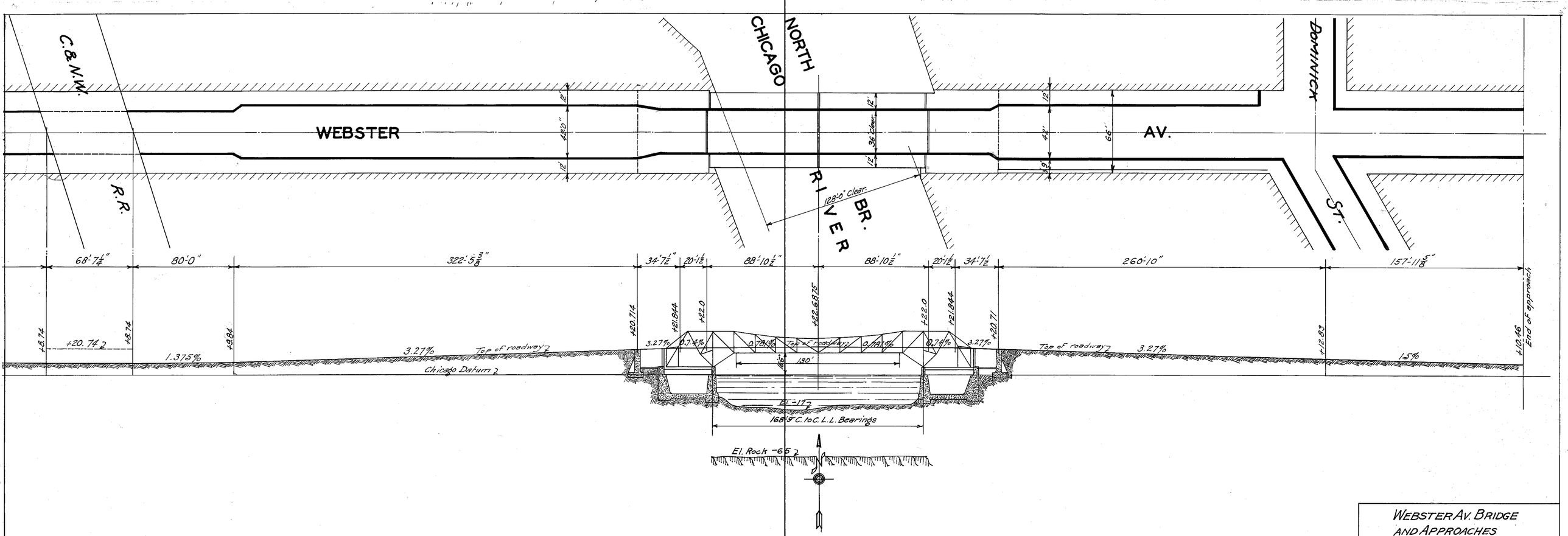
DRAWN	TRACED	DESIGNED	IN CHARGE	DATE	SCALE
A.P.		KST	AR	Feb 1968	

CORRECT
H. Bernstein
BRIDGE ENGINEER

APPROVED
A. Ollos
CHIEF BRIDGE ENGINEER

DRWG. NO. 30560
FILE NO. 11-A59-26B

1660570137



1660570139

WEBSTER AV. BRIDGE
AND APPROACHES
SCALE 1 IN. = 40 FT. SEPT. 1923
DR. Nº 575 FILE 15-D3-804.
11x31

PLAT OF SURVEY

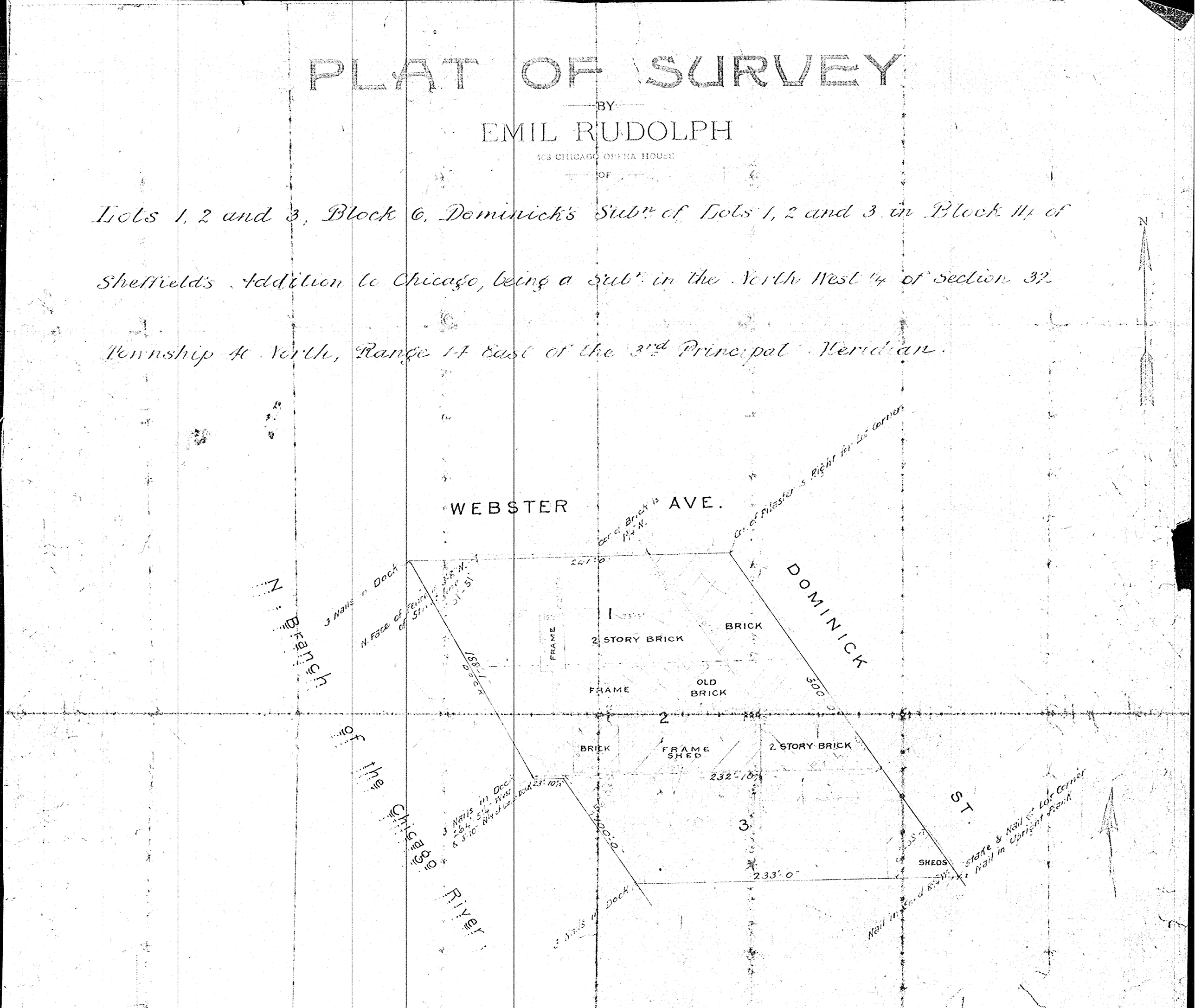
BY

EMIL RUDOLPH

405 CHICAGO OPERA HOUSE

OF

Lots 1, 2 and 3, Block 6, Dominick's Subd. of Lots 1, 2 and 3 in Block 14 of Sheffield's Addition to Chicago, being a Subd. in the North West 1/4 of Section 32 Township 40 North, Range 14 East of the 3rd Principal Meridian.



○ CITY DATUM

Compare your points before building by the same, and AT ONCE report any difference.

All distances marked in Feet "and Inches".

Office Copy
Not to be taken from
the Files

STATE OF ILLINOIS, } SS.
COUNTY OF COOK,

I, EMIL RUDOLPH, do hereby certify that I have surveyed for Mr. Gutmann the above described tract of land, and that the annexed plat is a correct representation of said survey.

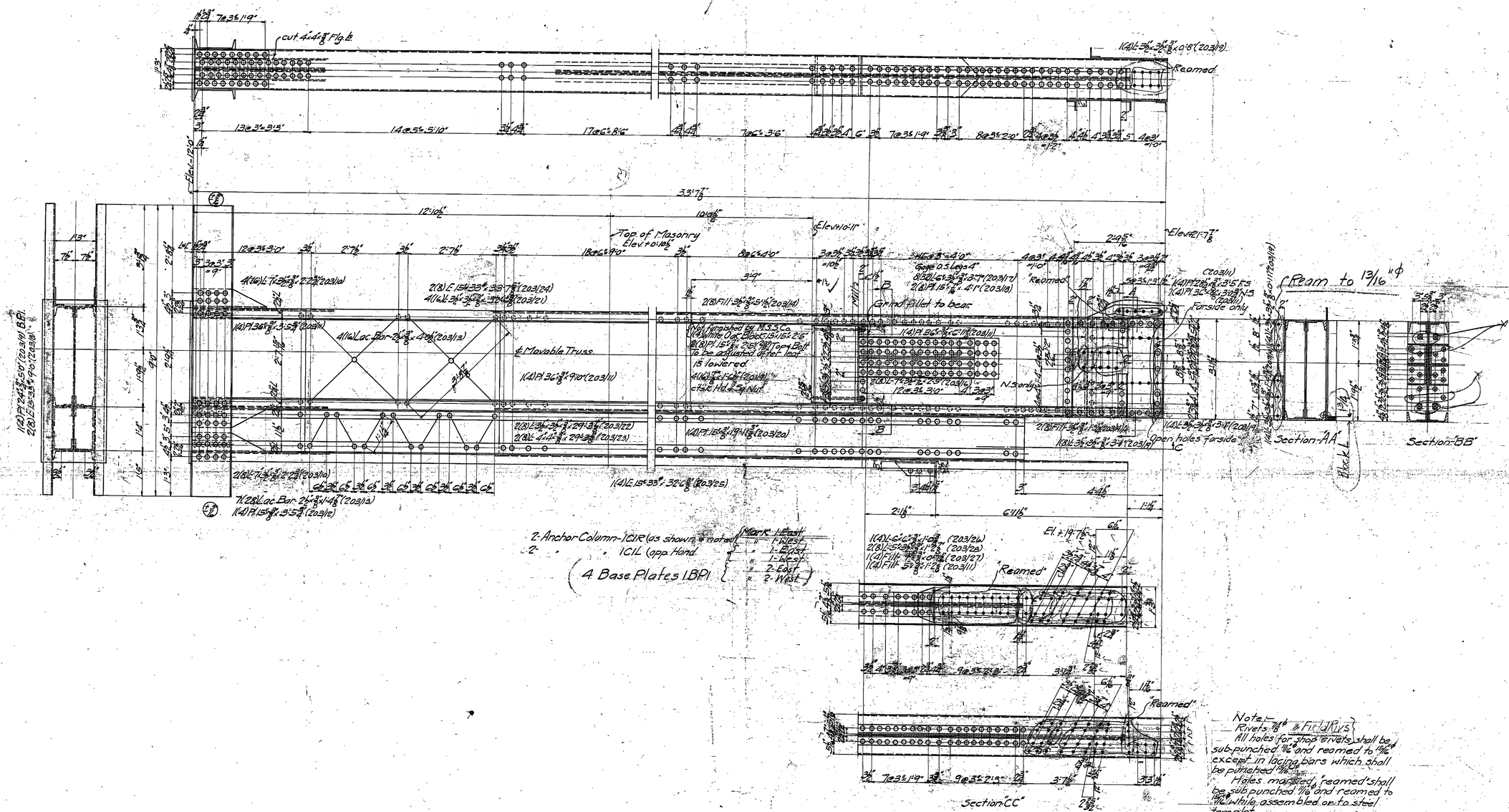
CHICAGO, April 12th & 13th A. D. 1901.

Emil Rudolph
SURVEYOR.

Book 245 Page 74 No. 138

FILE No. 25-04-651

1660570140


cut 4 L 4"x4"x⅞" Fig. E
Reamed
Elev. 1.20'
Top of Masonry Elev. 10.46"
Elev. 10.11"
Elev. 1.7⅞"
Grind fillet to bear.
℄ Movable Truss
Not furnished by M.S.S.Co.
Varnished Duck Cloth 15x162 2-ply
Section "AA"
Section "BB"
Section "CC"
Ream to 13/16" ϕ
Open holes farside
Farside only
N. Side only
Reamed
Ream to fit
Ream to 1" ϕ
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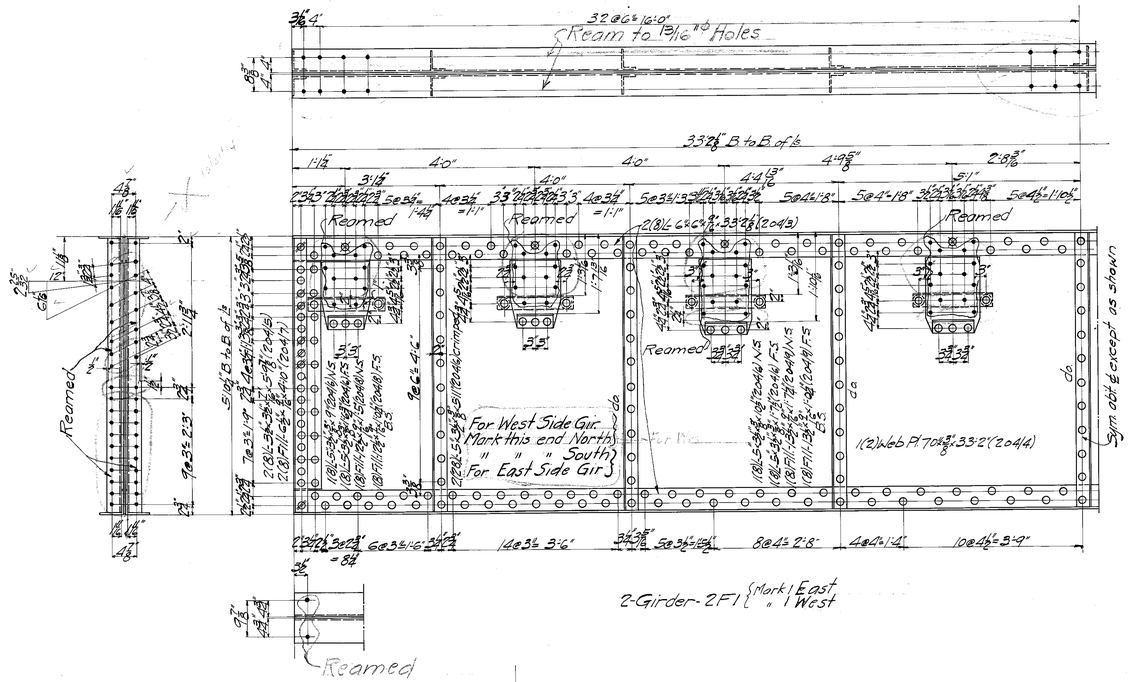


Diagram for Anchor Cols + Girders.
Scale 1/8" = 1 Ft.

Note:—
Rivets-7/8ϕ
All holes for shop rivets shall be sub-punched 1/16" and reamed to 15/16"
Holes marked "reamed" shall be sub-punched 1/16" and reamed to 15/16" while assembled or to steel templet.
Reaming to be done with twist drills and without using any lubricant.

Shop Paint - See Sh. 1

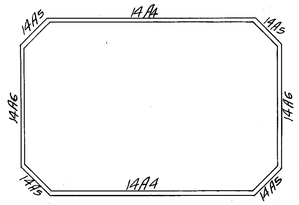
Revised 1/16/14 for Direction marks on 2F1.

Approved Alexander von Tacsy, ENGINEER OF BRIDGES AND HARBOR
Approved Wm. G. Atkinson, CITY ENGINEER
Approved [illegible], COMMISSIONER OF PUBLIC WORKS
4-30-14

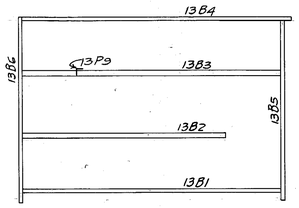
THE KETLER-ELLIOTT ERECTION CO.
WEBSTER AVE. BRIDGE
FOR THE
CITY OF CHICAGO
Dept. of Public Works :: Bureau of Engineering :: Division of Bridges and Harbor
MODERN STEEL STRUCTURAL COMPANY
Anchor Column Floor Beam-Grillage Beam.
SEE MAT. BILLS 3&4 SCALE 3/4" = 1 FT.
MADE BY E.F.H. TRACED BY E.F.H. CH'K'D BY M.R.N. 1/16 1914
CONTRACT No. 2201 **SHEET No. 2**
DRAW. No. 3841
FILE No 11-68-2

1660570161

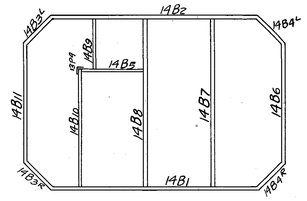
Buckle Pl-5-B1L
2 Split Anchors 1¼"ϕ x 5'-0" Web Ave Br 4L West Side / Web Ave Br 3 East Side
Buckle Pl-5-B2-B North side West approach. Buckle Pl-5-B2-C South side East approach.
Buckle Pl-5-B10
Floor Pl 5-E1
℄ Machinery Girder G8L
Buckle Pl-5-B9
Buckle Pl-5-B8
Buckle Pl-5-B11
4 Split Anchors 1¼"ϕ x 4'-0" Web Ave Br 2
Buckle Pl-5-B7 Drill holes in web in field for ⅞" turned bolts to suit casting
Stringer G-S9
℄ Longitudinal Girder G7L
Slot Rail 18-S1R
Slot Rail 17-S1R Curb Stringer 17-S2R
℄ Movable Truss
Wheel Guard 18-G for North side West approach / 18-G2 " South " East
℄ Trunnion Truss TT1 / Floor Pl 1G-F1L
Buckle Pl 1G-S1L
Buckle Pl 1G-S2L
Buckle Pl 1G-S3L
Buckle Pl 1G-S5 ℄ of Bridge
Buckle Pl-1G-S4
Buckle Pl 1G-S3R
Buckle Pl 1G-S2R
Buckle Pl 1G-S1R
Buckle Pl-9-B4L
Buckle Pl-9-B3L
Buckle Pl-9-B2L
Buckle Pl-9-B1L
Buckle Pl-9-B4R
Buckle Pl-9-B3R
Buckle Pl-9-B2R
Buckle Pl-9-B1R
Buckle Pl-5-B2 South side West approach / 5B2-A North " East
Buckle Pl-5-B4
4 Split Anchors ¼"ϕ x 4'-0"
Buckle Pl-5-B3
Buckle Pl-5-B1R
Web Ave Br 8 / Web Ave Br 7
Drill holes in field in web for ⅞" turned bolts to suit casting
Drill holes in field in bottom flg. for ⅞" turned bolts to suit casting
Edge L sp. 5B2
Edge L sp. 5B1
Web Ave Br 2
Web Ave Br 4L West Side / " " " 4R East " — 2 Split Anchors 1¼"ϕ x 5'-0"
Web Ave Br 4R West Side / " " " 4L East " — 2 Split Anchors 1¼"ϕ x 5'-0"
Web Ave Br 4L West Side / " " " 4R East " — 2-1¼"ϕ Split Anchors x 5'-0
Web Ave Br 5 — 4 Split Anchors 1¼"ϕ x 5'-0"
Web Ave Br 6 — 4 Split Anchors 1¼"ϕ x 5'-0"
Web Ave Br 5 — 6 Split Anchors 1¼"ϕ x 5'-0"
Web Ave Br 4 — 4 Split Anchors 1¼"ϕ x 5'-0"
Web Ave Br 3 — 4 Split Anchors 1¼"ϕ x 5'-0"
Web Ave Br 2 — 4 Split Anchors 1¼"ϕ x 5'-0"
Web Ave Br 1 — 4 Split Anchors 1¼"ϕ x 5'-0"
Web Ave Br 1 — 4 Split Anchors 1¼"ϕ x 4'-0"
Web Ave Br 2 — 4 Split Anchors 1¼"ϕ x 4'-0"
Web Ave Br 3 — 4 Split Anchors 1¼"ϕ x 4'-0"
Web Ave Br 4 — 4 Split Anchors 1¼"ϕ x 4'-0"
Web Ave Br 5 — 4 Split Anchors 1¼"ϕ x 4'-0"
Web Ave Br 6 — 4 Split Anchors 1¼"ϕ x 4'-0"
Web Ave Br 7 — 4 Split Anchors 1¼"ϕ x 4'-0"
Web Ave Br 8 — 4 Split Anchors 1¼"ϕ x 4'-0"
Web Ave Br 8 — 4 Split Anchors 1¼"ϕ x 5'-0"
Web Ave Br 7 — 4 Split Anchors 1¼"ϕ x 5'-0"
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Web Ave Br 3 — 4 Split Anchors 1¼"ϕ x 5'-0"
Web Ave Br 2 — 4 Split Anchors 1¼"ϕ x 5'-0"
Web Ave Br 1 — 4 Split Anchors 1¼"ϕ x 5'-0"
Edge Plate 7-E2
Edge Plate 7-E3
Trap door 9-T1
Trap door 9-T2
Edge Plate 7-E4
Edge Plate 7-E5
Edge Plate 7-E6
Edge Plate 7-E7
Floor Pl 5-F1
Floor Pl 5-F1
Floor Pl 1G-F1L
Floor Pl 1G-F1R
Floor Pl 5-F1
Floor Pl 5-F1
Floor Pl 5-F1



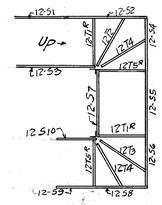
Top Plan.



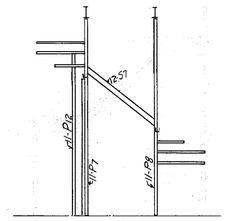
Section "BB"



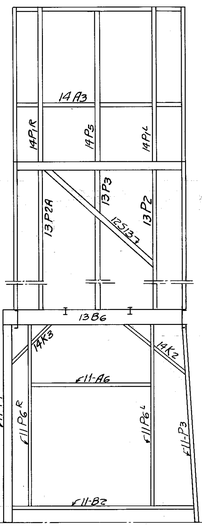
Section "CC"



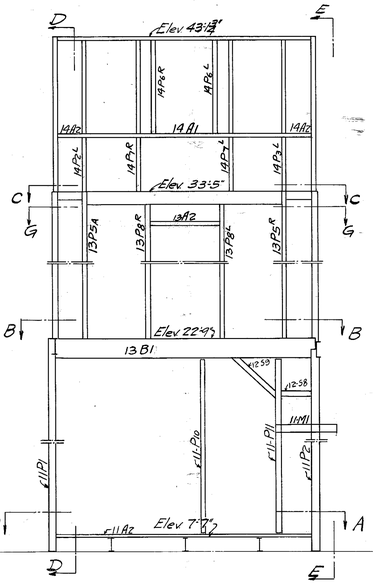
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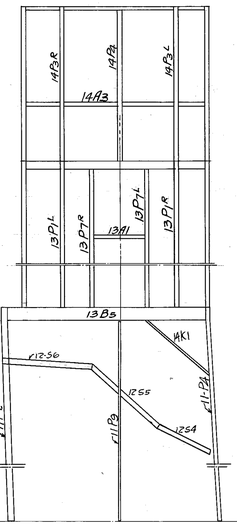
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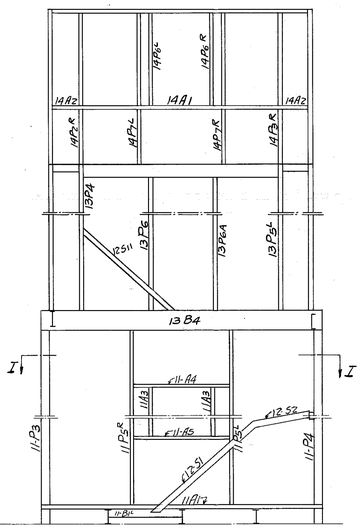
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Front Elevation

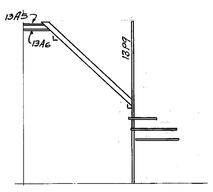


View "EE"

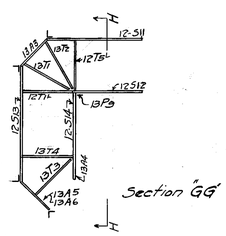


Section "FF"

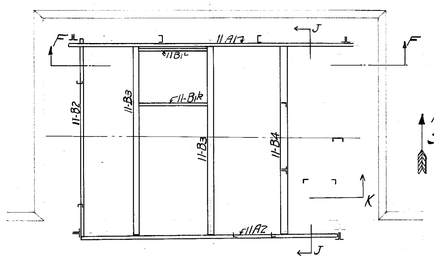
Note:
All anchor bolts 1"ϕ x 1'-3 for house.



Section "HH"

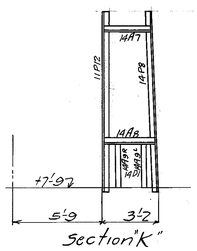


Section "GG"



Section "AA"

North for West Side of River
South " East " " "



Section "K"

Approved Alexander von Babo
ENGINEER OF BRIDGE DESIGN
Approved Thos. G. Pulsifer
ENGINEER OF BRIDGES AND HARBOR
Approved John Ericson
CITY ENGINEER
Approved Bion J. Arnold
COMMISSIONER OF PUBLIC WORKS
3-15-15.

THE KETLER-ELLIOTT ERECTION CO.
WEBSTER AVE. BRIDGE
FOR THE
CITY OF CHICAGO
Dept. of Public Works :: Bureau of Engineering :: Division of Bridges and Harbor
MODERN STEEL STRUCTURAL COMPANY
Diagram of Operators House
SEE MAT. BILLS SCALE 3/4" = 1 FT.
MADE BY E.F.H. TRACED BY E.F.H. CH'K'D BY H.B. 3/19 1915
CONTRACT No. 2201 G SHEET No. 4E
DRAW. No 3843
FILE No. 11-68-44

1660570165

Buckle Pl. 5-B11
1-Buckle Pl-(2)-61 x 14'-6⅜"
Die #1

Buckle Plate 5-B10
1-Pl-(2)-57½ x ⅞ x 11'-10½"
Die #1
1-Sp1-Pl-(2) 7 x ⅜ x 4'-4
1 " L (2)-4 x ⅜ x 4'-4

Floor Plate 5-F1
1-Pl-(2)-42⅝ x ⅜ x 4'-2⅝"

Buckle Plate 5-B6
1-Buckle Pl-(2)-55 x ⅜ x 17'-2"
Die #5

Buckle Pl-5-B5
1-Buckle Pl-(2)-55 x ⅜ x 17'-2"
Die #5

Buckle Plate 5-B8
1-Buckle Pl-57 x ⅝ x 13'-2¼"
(2)
Die #4

Buckle Pl-5-B9
1-Buckle Pl-(2) 54½ x ⅜ x 5'-1"
Die #5

Buckle Plate 5-B7
1-Buckle Pl-(2)-55 x ⅜ x 21'-6¼"
Die #5

Buckle Plates 5-B2, 5B2A, 5B2B, and 5-B2C.
1-Buckle Pl-(4) 49½ x ⅜ x 21-5⅝"
Die #4

Buckle Plate 5-B4
1-Buckle Pl-(2)-42 x ⅜ x 10'-2½"
Die #1

Buckle Plate 5-B1R
1-Buckle Pl-(2) 60 x ⅜ x 21-5⅝"
Die #1

Buckle Plate 5-B3
1-Buckle Pl-(2)-60 x ⅜ x 10'-2"
Die #1

1-L-(7)-3½ x 3½ x ⅜ x 6'-0" for 5-B2
1 do x 6'-3½ " 5-B2-A
1 do x 4'-11⅜ " 5-B2-B
1 do x 4'-7½ " 5-B2-C

1-L-(2)-2½ x 2½ x ⅜ x 3'-7½" for 5-B2A
1-L-(2)-3½ x 3½ x ⅜ x 3'-7½" for 5-B2B
1-L-(2)-3½ x 3½ x ⅜ x 3'-7½" for 5-B2C

1-Pl-(4)-7½ x ⅜ x 1'-0⅜" (22⅞)
1-Pl-(4)-4 x ⅜ x 1'-0⅜" (22⅞)

REQUIRED			
1-East 1-West	2 Buckle Plates	as shown	5-B1R
do	2 " "	Opp. hand	5-B1L
West	1 " "	as shown	5-B2
West	1 " "	Opp hand	5-B2B
1-East 1-West	2 " "	as shown	5-B3
do	2 " "	" "	5-B4
do	2 " "	" "	5-B5
do	2 " "	" "	5-B6
do	2 " "	" "	5-B7
do	2 " "	" "	5-B8
do	2 " "	" "	5-B9
do	2 " "	" "	5-B10
do	2 Floor "	" "	5-F1
East	1 Buckle Plate	as shown	5-B2A
East	1 " "	Opp hand	5-B2C
1 East 1 West	2 Plates	as shown	5 PIR
1 West	2 "	opp hand	5 PIL
1 East 1 West	2 Buckle Plates	as shown	5 B11

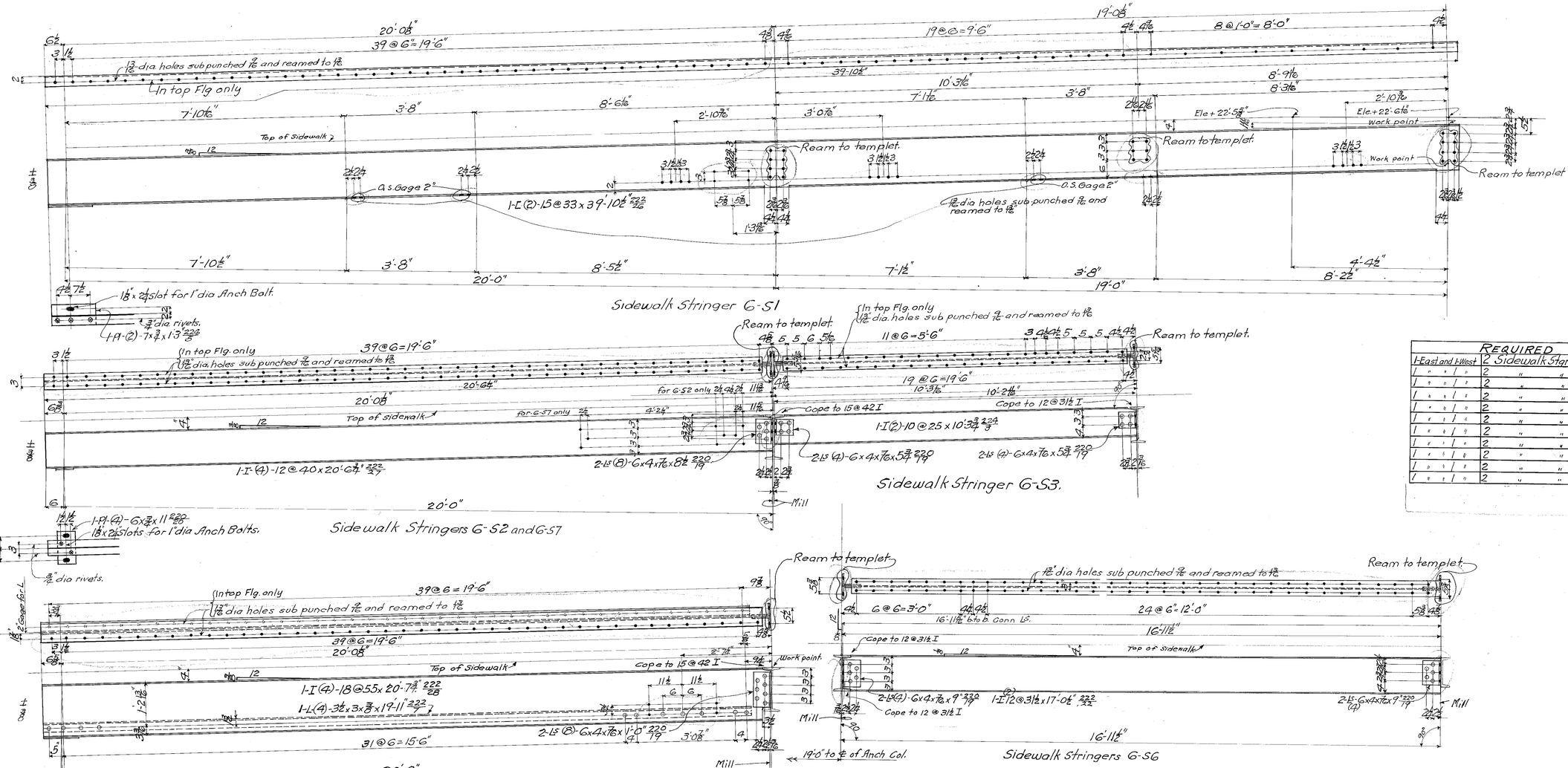
Note:-
Open holes:- 1⅛" dia. Rivets- ⅞ dia.
Reaming:- None.
Shop Paint:- 1 coat red lead and pure linseed oil.
At least 24 lbs of red lead to 1 gallon of oil.
Drain holes: No drain holes wanted.
All buckles turned down.
Sizes given for buckle plates on this sheet are net after buckling.

Approved [illegible] ENGINEER OF BRIDGE DESIGN
Approved Jno. F. Pfeiffer ENGINEER OF BRIDGES AND HARBORS
Approved [illegible] CITY ENGINEER
Approved [illegible] COMMISSIONER OF PUBLIC WORKS

THE KETLER-ELLIOTT ERECTION CO.
WEBSTER AVE. BRIDGE
FOR THE
CITY OF CHICAGO
Dept. of Public Works :: Bureau of Engineering :: Division of Bridges and Harbor
MODERN STEEL STRUCTURAL COMPANY
Buckle Plates for Sidewalk Fixed Part.

SEE MAT. BILLS 92-93-94 SCALE ¾" = 1 FT.
MADE BY F.R.C. TRACED BY F.R.C CH'K'D BY W.A.M. 1914
CONTRACT No. 2201 M SHEET No. 5
DRAW. No. 3844
FILE. No. 11-68-55

166057016



REQUIRED		
1-East and West	2 Sidewalk Stgrs.	G-S1
1 " " 1 "	2 " "	G-S2
1 " " 1 "	2 " "	G-S3
1 " " 1 "	2 " " as shown	G-S4R
1 " " 1 "	2 " " Opp hand	G-S4L
1 " " 1 "	2 " " as shown	G-S5R
1 " " 1 "	2 " " Opp hand	G-S5L
1 " " 1 "	2 " " as shown	G-S6
1 " " 1 "	2 " " " "	G-S7
1 " " 1 "	2 " " " "	G-S8
1 " " 1 "	2 " " Opp hand	G-S9

Approved Herman von Babo, ENGINEER OF BRIDGE DESIGN
Approved Thos. G. Pihlfeldt, ENGINEER OF BRIDGES AND HARBOR
Approved John Towers, CITY ENGINEER
Approved [illegible], COMMISSIONER OF PUBLIC WORKS
Dec. 1-2-15

THE KETLER-ELLIOTT ERECTION CO.

WEBSTER AVE. BRIDGE

FOR THE

CITY OF CHICAGO

Dept. of Public Works :: Bureau of Engineering :: Division of Bridges and Harbor

MODERN STEEL STRUCTURAL COMPANY

Sidewalk Stringers Fixed Part.

SEE MAT. BILLS 95-96. SCALE 3/4"

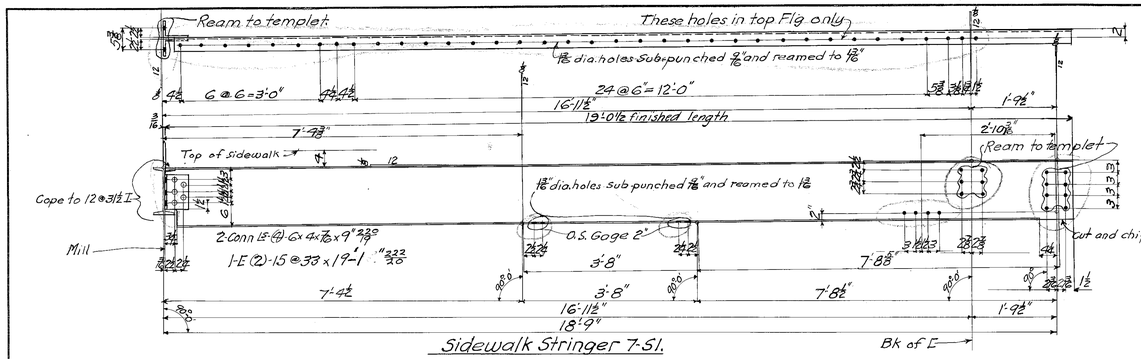
MADE BY F.R.C. TRACED BY F.R.C. CH'K'D BY M.P.

CONTRACT No. 2201 M SHEET No.

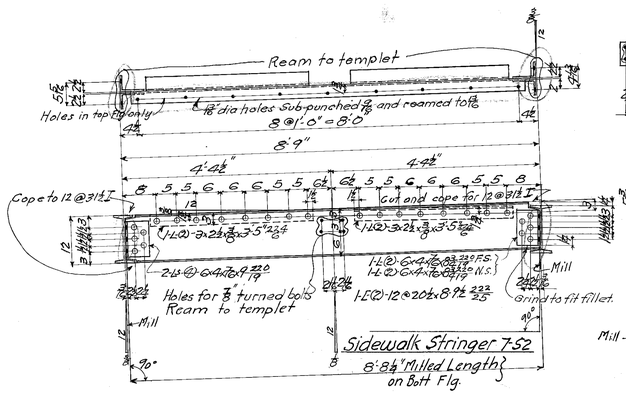
DRAW. No. 3387

FILE No. 11-68

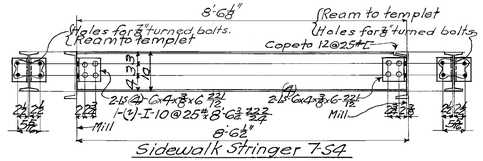
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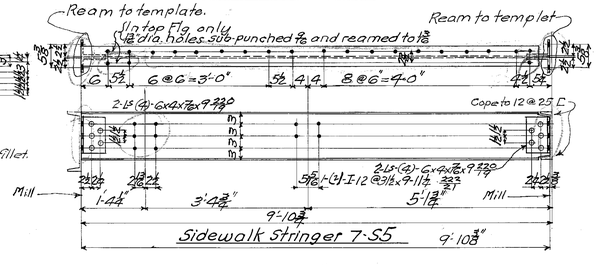
Sidewalk Stringer 7-S1.



Sidewalk Stringer 7-S2

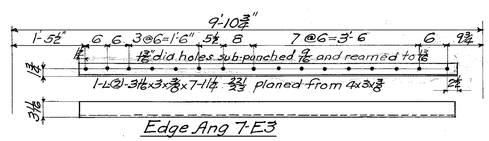


Sidewalk Stringer 7-S4

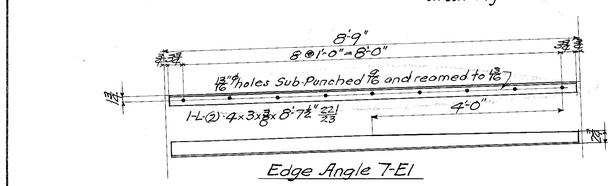


Sidewalk Stringer 7-S5

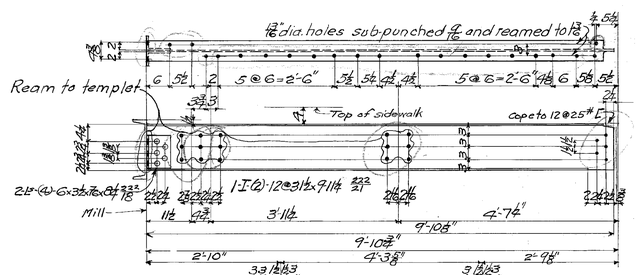
9'-10⅞"



Edge Ang 7-E3



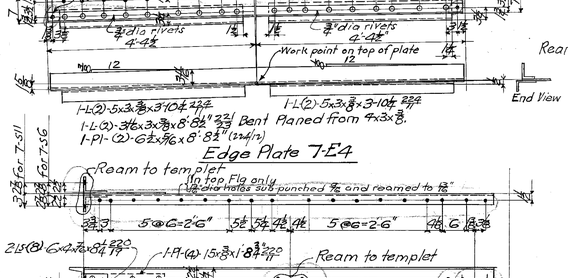
Edge Angle 7-E1



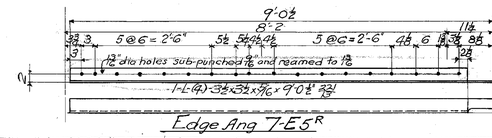
Sub-punch ⅞" and ream to 1⅜"

Sidewalk Stringer 7-S3

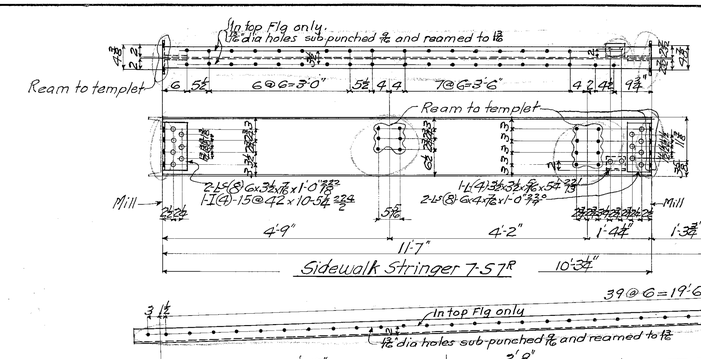
Edge Plate 7-E4



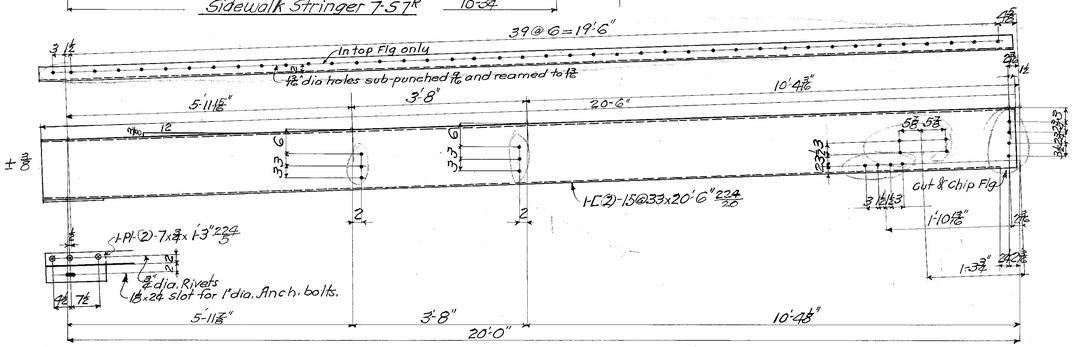
Sidewalk Stringer 7-S6 & 7-S11



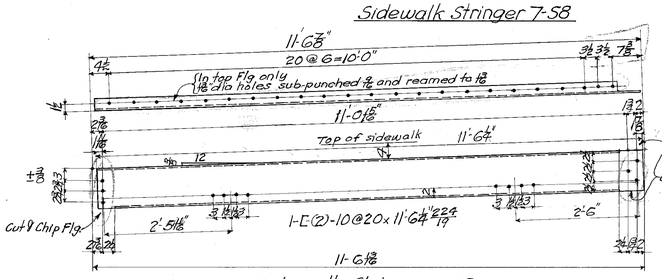
Edge Ang 7-E5R



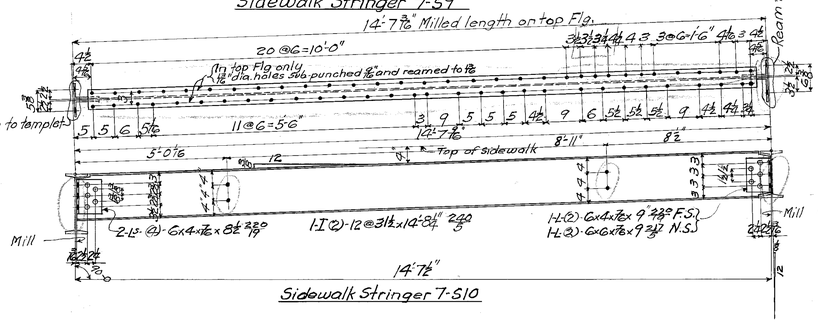
Sidewalk Stringer 7-S7R



Sidewalk Stringer 7-S8



Sidewalk Stringer 7-S9



Sidewalk Stringer 7-S10

REQUIRED			
West / East	2	Sidewalk Stringers	7-S1
do	2	" "	7-S2
do	2	Edge Angles	7-E1
do	2	Sidewalk Stringers	7-S3
do	2	Edge Angles	7-E2
do	2	Sidewalk Stringers	7-S4
do	2	" "	7-S5
do	2	Edge Angles	7-E3
do	2	Edge Plates	7-E4
do	2	Sidewalk Stringers as shown	7-S6
do	2	" " opp hand	7-S11
do	2	Sidewalk Stringers as shown	7-S7R
do	2	" " opp hand	7-S7L
do	2	" " as shown	7-S8
do	2	" " " "	7-S9
do	2	" " " "	7-S10
do	2	Edge Angles " "	7-E5R
do	2	Opp hand	7-E5L

Note:-
Rivets:- ⅞" dia unless noted
Open holes:- 1⅛" dia unless noted
Reaming:- Holes for ⅞" shop rivets sub-punched 1⅛ and reamed to 1⅛. Holes for ⅞" shop rivets Sub-punched ⅞" and reamed to 1⅜". 1⅛" dia. open holes to be sub-punched 1⅛ and reamed to 1⅜". Open holes marked Ream to Templet punched 1⅛ and reamed to 1⅜ to a hardened steel templet. Reaming to be done with twist drills and without using any lubricant.
Shop Paint:- 1 coat red lead and pure linseed oil. At least 24 lbs of red lead to 1 gallon of oil.

Approved [signature] ENGINEER OF BRIDGE DESIGN
Approved [signature] ENGINEER OF BRIDGES AND HARBOR
Approved [signature] CITY ENGINEER
Approved [signature] COMMISSIONER OF PUBLIC WORKS

THE KETLER-ELLIOTT ERECTION CO.

WEBSTER AVE. BRIDGE

FOR THE

CITY OF CHICAGO

Dept. of Public Works :: Bureau of Engineering :: Division of Bridges and Harbor

MODERN STEEL STRUCTURAL COMPANY

Sidewalk Stringers Fixed Part.

SEE MAT. BILLS 97-98-99 SCALE ¾" = 1 FT.

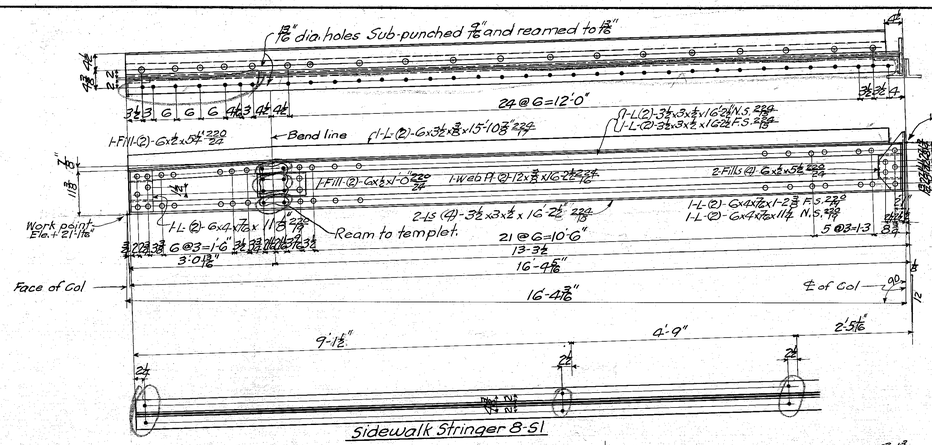
MADE BY F.R.C. TRACED BY F.R.C. CH'K'D BY H.K.N. 1914

CONTRACT No. 2201-N SHEET No. 7

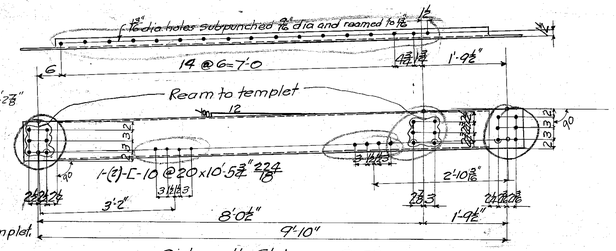
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DRAW. No. 3846

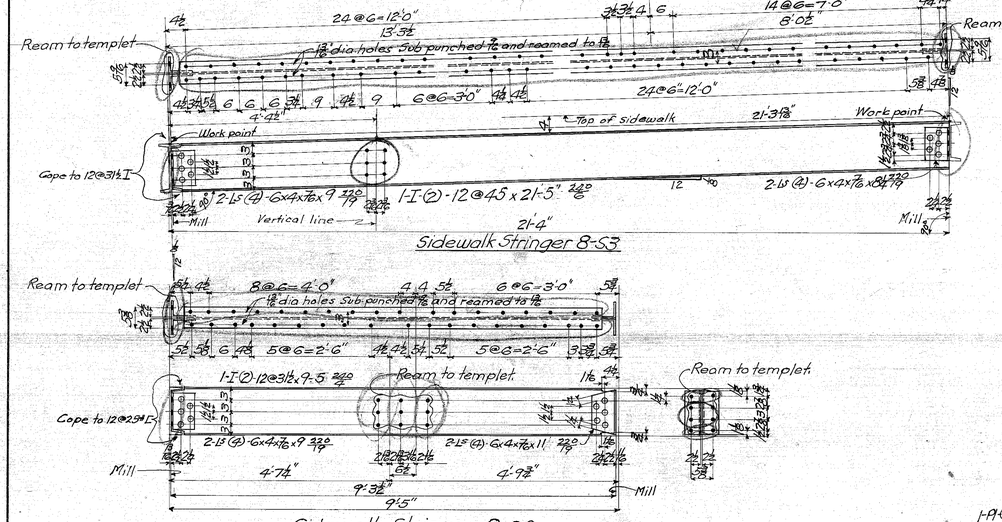
FILE No 11-6B-7



Sidewalk Stringer 8-S1

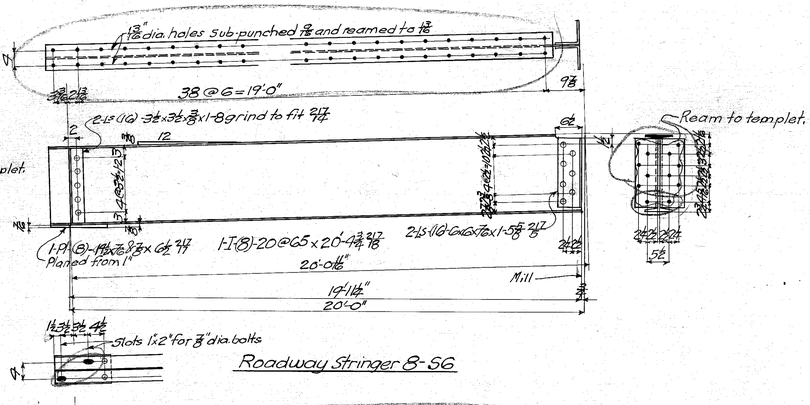


Sidewalk Stringer 8-S2

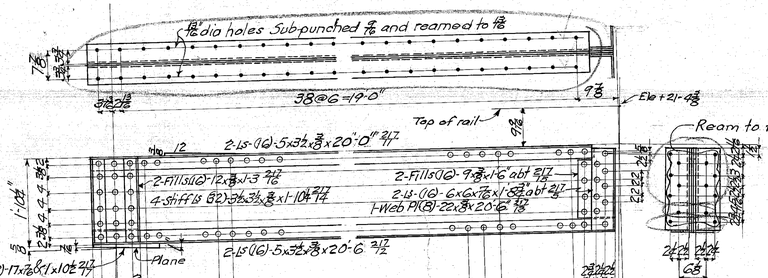


Sidewalk Stringer 8-S3

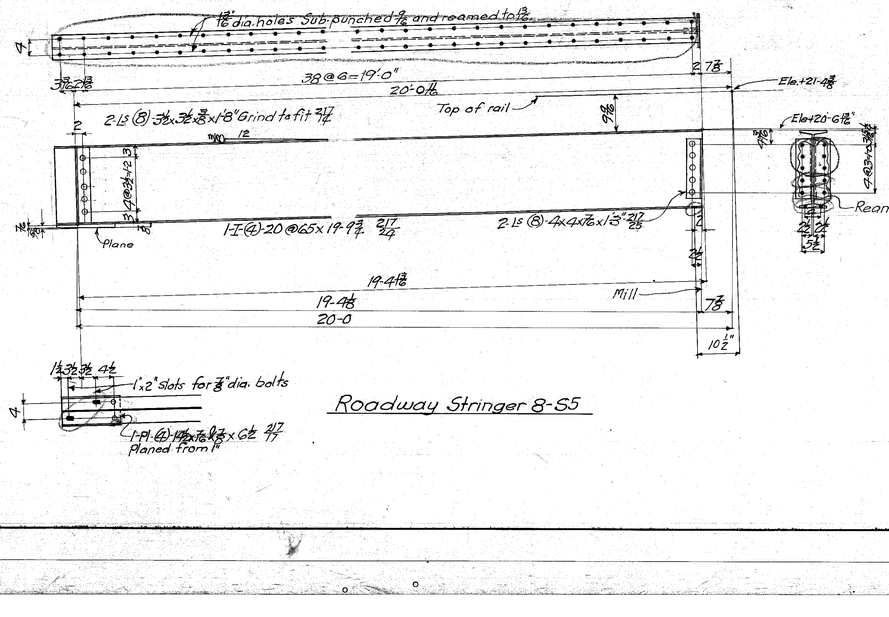
Sidewalk Stringer 8-S4



Roadway Stringer 8-S6



Roadway Stringer 8-S7



Roadway Stringer 8-S5

REQUIRED				
1 East and 1 West		2	Sidewalk Stringers	8-S1
1 "	1 "	2	" "	8-S2
1 "	1 "	2	" "	8-S3
1 "	1 "	2	" "	8-S4
2 "	2 "	4	Roadway "	8-S5
4 "	4 "	8	" "	8-S6
4 "	4 "	8	" "	8-S7

Note:-
Rivets:- 7/8" dia unless noted.
Open holes:- 1 1/16" dia unless noted.
Reaming:- Holes for 7/8" shop rivets Sub-punched 1/16" and reamed to 13/16". Holes for 7/8" shop rivets Sub-punched 7/16" and reamed to 13/16". 1 1/16" open holes to be Sub-punched 13/16" and reamed to 1 1/16". Open holes marked Ream to Templet punched 1/16" and reamed to 1/16" to a hardened steel templet. Reaming to be done with twist drills and without using any lubricant.
Shop Paint:- 1 coat red lead and pure linseed oil. At least 24 lbs. of red lead to 1 gallon of oil.

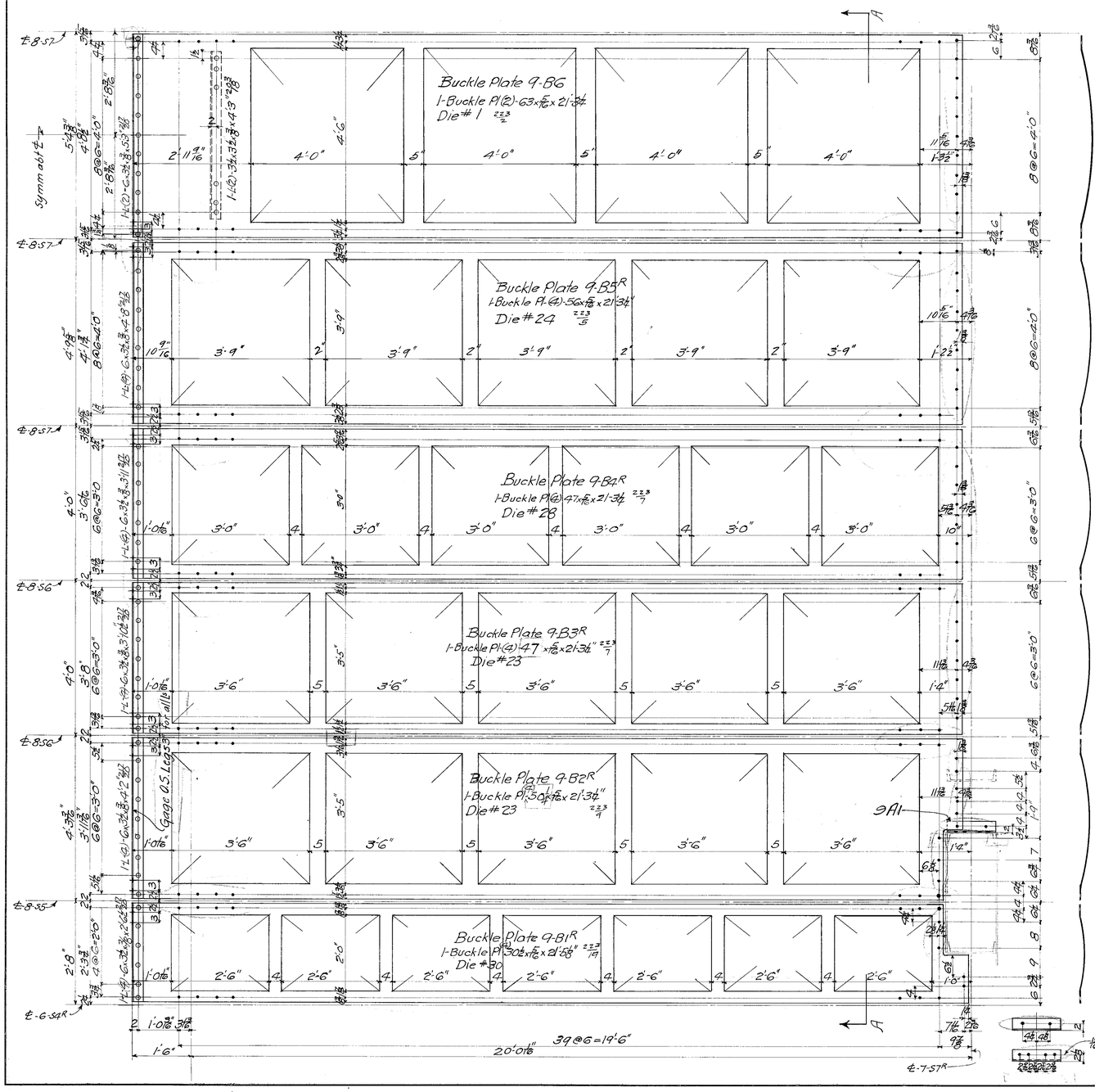
Approved [signature] ENGINEER OF BRIDGE DESIGN
Approved [signature] ENGINEER OF GRADE AND HARBOR
Approved [signature] CITY ENGINEER
Approved [signature] COMMISSIONER OF PUBLIC WORKS

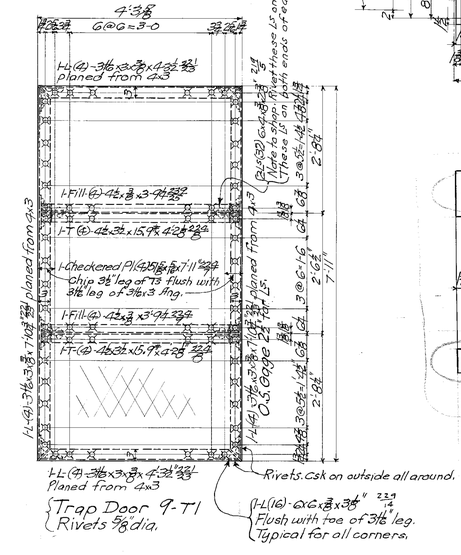
THE KETLER-ELLIOTT ERECTION CO.
WEBSTER AVE. BRIDGE
FOR THE
CITY OF CHICAGO
Dept. of Public Works :: Bureau of Engineering :: Division of Bridges and Harbor
MODERN STEEL STRUCTURAL COMPANY
Stringers Fixed Part.

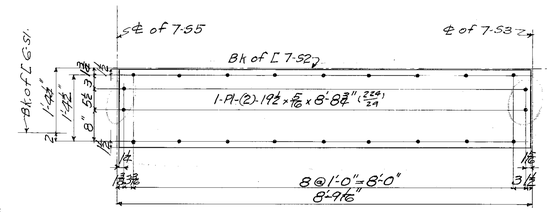
SEE MAT. BILLS 100-101 SCALE 3" = 1 FT.
MADE BY E.R.C. TRACED BY E.R.C. CH'K'D BY M.R.N. 1914
CONTRACT No. 2201 M SHEET No. 8

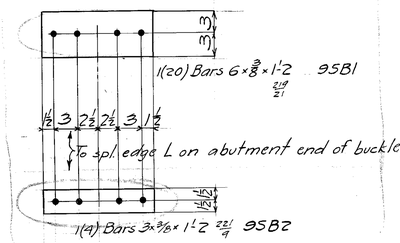
DRAW. No 3847
FILE No. 11-6 8

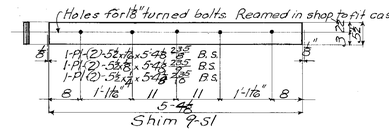
1660570170

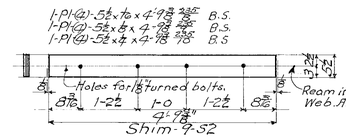


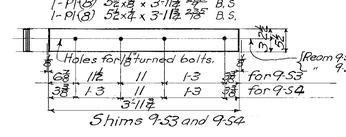


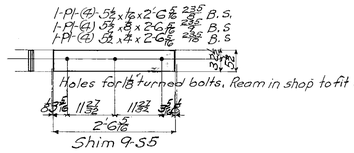












REQUIRED				
1-East 1-West	2	Buckle Plates	as shown	9-B1R
do	2	"	Opp hand	9-B1L
do	2	"	as shown	9-B2R
do	2	"	Opp hand	9-B2L
do	2	"	as shown	9-B3R
do	2	"	Opp hand	9-B3L
do	2	"	as shown	9-B4R
do	2	"	Opp hand	9-B4L
do	2	"	as shown	9-B5R
do	2	"	Opp hand	9-B5L
do	2	"	as shown	9-B6
2-East 2-West	4	Trap doors	" "	9-T1
1-East 1-West	2	Shims	" "	9-S1
2 East 2-West	4	"	" "	9-S2
do	4	"	" "	9-S3
do	4	"	" "	9-S4
do	4	"	" "	9-S5
1-East 1-West	2	Floor Plates	" "	9-F1
11 East 11 West	20	Splice Bars	" "	9SB1
2 East 2 West	4	"	" "	9SB2
2 East 2 West	4	Shelf Ls	" "	9A1

Note:-
Rivets: 3/4" dia unless noted.
Open holes: 1 1/16 dia. unless noted.
Reaming:- None. " "
Shop Paint:- 1 coat red lead and pure linseed oil. At least 24 lbs. of red lead to 1 gallon of oil.
No drain holes wanted.
All buckle plates turned down.
Sizes given for buckle plates on this sheet are net after buckling.

Approved Nov. 20 1913
Approved Jan. 6, 1914 ENGINEER OF BRIDGES AND HARBOR
Approved CITY ENGINEER
Approved COMMISSIONER OF PUBLIC WORKS

THE KETLER-ELLIOTT ERECTION CO.
WEBSTER AVE. BRIDGE
FOR THE
CITY OF CHICAGO
Dept. of Public Works :: Bureau of Engineering :: Division of Bridges and Harbor
MODERN STEEL STRUCTURAL COMPANY
Buckle Plates for Roadway and Trap Door Fixed Part.

SEE MAT. BILLS 102-103-104 SCALE 3/4" =1 FT.
MADE BY F.R.C. TRACED BY F.R.C. CH'K'D BY [illegible] 1914
CONTRACT No. 2201 M SHEET No. 9
DRAW. No. 3848
FILE NO 11-67-9

1660570171

Roadway & Track Stringers 10-S1 and 10-S2. and 10-S3.

REQUIRED		
2-East 1-West	12 Struts	10-S4
1-East	2 Posts	10-P1
do	2 "	10-P2
do	2 "	10-P3
do	2 Knee Braces	10-K1
do	2 " "	10-K2
2-East 2-West	4 Braces as shown	10-B1R
do	4 " Opp hand	10-B1L
1-East 1-West	2 Roadway Stringers	10-S1R
do	2 " "	10-S1L
4-East 4-West	8 Track "	10-S2
1-East 1-West	2 Knee Braces	10-K3
do	2 " "	10-K4
do	2 Roadway Stringers	10-S3R
do	2 " "	10-S3L

Note:-
Rivets:- 7/8 dia unless noted.
Open holes:- 15/16 unless noted.
Reaming:- Holes for 7/8 shop rivets sub-punched 13/16 and reamed to 15/16, 15/16 open holes sub-punched 13/16 and reamed to 15/16 Open Holes marked Ream to Templet punch 1/16 w Ream to 15/16, 7/8 open holes not reamed.
Reaming to be done with twist drills and without using any lubricant.
Paint:- 1 coat red lead and pure linseed oil. At least 24 lbs of red lead to 1 gallon of oil.

These views for 10-S2 only. Parts not shown same as 10-S1 unless noted.

Approved [signature] ENGINEER OF BRIDGES DESIGN
Approved [signature] ENGINEER OF SHORELAND HARBOR
Approved [signature] CITY ENGINEER
Approved [signature] COMMISSIONER OF PUBLIC WORKS

THE KETLER-ELLIOTT ERECTION CO.
WEBSTER AVE. BRIDGE
FOR THE
CITY OF CHICAGO
Dept. of Public Works :: Bureau of Engineering :: Division of Bridges and Harbor
MODERN STEEL STRUCTURAL COMPANY
Roadway Stringers and Posts Fixed Part.
SEE MAT. BILLS 105-106-107 SCALE 3/4" = 1 FT.
MADE BY F.R.C. TRACED BY F.R.C. CH'K'D BY V.K.N. 1914
CONTRACT No. 2201-M SHEET No. 10
DRAW. No 3849
FILE No. 11-68-10

1660570172

2 Angles 11-A1
2 " 11-A2
2 Channels 11-B1R (as shown)
2 " 11-B1L (opp hand)
2 Channels 11-B2
4 Beams 11-B3
2 " 11-B4

2 Posts 11-P1

2 Posts 11-P9

2 Posts 11-P10

2 Posts 11-P2

2 Plates 11-M1

2 Posts 11-P3 (as shown)
2 " 11-P4 (opp hand)

2 Posts 11-P5R (as shown)
2 " 11-P5L (opp hand)

2 Posts 11-P6R as shown
2 " 11-P6L opp hand

2 Posts 11-P7

2 Posts 11-P8

4 Angles 11-A3
2- " 11-A4
2- " 11-A5

Mark one half of material listed on this sheet "East" and the other half "West."

Notes: Rivets $\frac{7}{8}$"ø & Holes $\frac{15}{16}$"ø unless noted.
Reaming: All holes sub-punched $\frac{1}{4}$" under size & reamed to size, except $\frac{9}{16}$" holes for wood which punch full size. Open Holes marked "Ream to templet" punch $\frac{1}{4}$" undersize & reamed to size to a hardened steel templet.

Paint: One coat of red lead & pure linseed oil. (At least 24 lbs. of lead to one gallon of oil)

THE KETLER-ELLIOTT ERECTION CO.

WEBSTER AVE. BRIDGE

FOR THE

CITY OF CHICAGO

Dept. of Public Works :: Bureau of Engineering :: Division of Bridges and Harbor

MODERN STEEL STRUCTURAL COMPANY

Operators House Below 1st Floor Beams.

Approved [illegible] ENGINEER OF BRIDGES AND HARBOR
Approved [illegible] ENGINEER OF BRIDGES AND HARBOR
Approved [illegible] CITY ENGINEER
Approved [illegible] COMMISSIONER OF PUBLIC WORKS

4-8-15

SEE MAT. BILLS 127/128-129-130-131- SCALE 1" = 1 FT.
MADE BY M.R.N. TRACED BY M.R.N. CH'K'D BY H.B. 8/10 1915
CONTRACT No. 2201 G SHEET No. 11

DRAW. No 38.50
FILE No 11-6B-11

1660570173

2-Stairs 12-54
2- " 12-55
2- " 12-56

2-Stairs 12-57

2-Stairs 12-511

2-Stairs 12-512

2-Stairs 12-53

2-Stairs 12-514

2-Stairs 12-513

2-Stairs 12-52

2-Stairs 12-59

2-Stairs 12-58

2-Stairs 12-510

Risers 12T1 as shown
Risers 12T1 Opp Hand
" 12T2 as shown
" 12T3 " "
" 12T4 " "
" 12T5 " "
" 12T5 Opp Hand

Note
Mark one half of material listed on this sheet East and the other half West.

Rivets ¾" ø & Holes 13/16" unless noted.
Reaming: All holes sub-punched ¼" under size & reamed to size.

Paint: One Coat of red lead & pure linseed oil (At least 24 lbs. of lead to one gal of oil.

THE KETLER-ELLIOTT ERECTION CO.

WEBSTER AVE. BRIDGE

FOR THE

CITY OF CHICAGO

Dept. of Public Works :: Bureau of Engineering :: Division of Bridges and Harbor

MODERN STEEL STRUCTURAL COMPANY

Operators House (Stairs)

Approved Alexander von Babo, DIVISION OF BRIDGE DESIGN
Approved Thos. G. Pihlfeldt, ENGINEER OF BRIDGES AND HARBOR
Approved John Ericson, CITY ENGINEER
Approved Fred Caine, COMMISSIONER OF PUBLIC WORKS

SEE MAT. BILLS. 132-133-134-135. SCALE 1" = 1 FT.
MADE BY M.R.N. TRACED BY M.R.N. 5/14. CH'K'D BY H.B. 2/16 1915
CONTRACT No. 2201 G SHEET No. 12
DRAW. No. 3651
FILE No. 11-68-12

1660570174

Block Bott Flg flush with web.

Block flush with web

13B2 in Bott. Flg only

in bott. flg. only

Top Flg only

Bott " "

2-Channels 13B1

2-Beams 13B2
2- " 13B3

2-Channels 13B4

All rivets ⅞" ø & all holes 15/16" ø in webs only of above E & F.

2-Risers 13T4

Ream to Templet

2-Channels 13B5

2-Beams 13B6

All rivets ⅞" ø and all holes 15/16" ø in webs only of above E & F.

2-Risers 13T3
2-Angles 13AA
2- " 13A5
2- " 13A6

2-Post 13P6 (as shown)
2- " 13P6A (opp hand)

2-Posts 13P1R (as shown)
2 " 13P1L (opp hand)
2 " 13P2 "
2 " 13P2A (as shown)

2-Posts 13P3

2-Posts 13P4 (as shown)
2 " 13P5R " "
2 " 13P5L (opp hand)
2 " 13P5A (" ")

2-Posts 13P7R (as shown)
2 " 13P7L (opp hand)
2-Angles 13A1

2-Posts 13P8R As Shown
2 " 13P8L Opp Hand
2 Angles 13A2 As Shown

2-Posts 13P3
2-Risers 13T1
2 " 13T2
2 Angles 13A3

Section "AA"
Section "BB"
Section "CC"
Section "DD"
Section "EE"
Section "FF"

Notes: 3/4 & Holes 13/16 unless noted.
Reaming: All holes punched 1/4" undersize and ream to size, except 9/16" holes for wood which punch full size.
Open Holes marked "Ream to Templet" punch 1/4" undersize & ream to size to a hardend steel templet.

Paint: One coat of red lead & pure linseed oil. (At least 24 lbs. of lead to one gallon of oil.)

Mark one half of material listed on this sheet 'East' and the other half 'West'

THE KETLER-ELLIOTT ERECTION CO.

WEBSTER AVE. BRIDGE

FOR THE

CITY OF CHICAGO

Dept. of Public Works :: Bureau of Engineering :: Division of Bridges and Harbor

MODERN STEEL STRUCTURAL COMPANY

Operators House 1st Floor Bms. & Details.

SEE MAT. BILLS 36-137-138-139-140 SCALE 1" = 1 FT.

MADE BY M.R.N. TRACED BY M.R.N. CH'K'D BY H.B. 2/17 1915

CONTRACT No. 2201 G SHEET No. 13

Approved ENGINEER OF BRIDGE DESIGN

Approved ENGINEER OF CHANNEL AND HARBOR

Approved CITY ENGINEER

Approved COMMISSIONER OF PUBLIC WORKS

DRAW. No. 3852

FILE. No. H-68-13

1660570175

2 - 14B3L
2 - 14B3R (as shown)
2 - 14B5
2 - 14B7
2 - 14B1
2 - 14B4L (opp hand)
2 - 14B4R (as shown)
4 Posts 14P6L (opp hand)
4 " 14P6R (as shown)
4 Posts 14P7 (opp hand)
4 " 14P7 (as shown)
2 Channels 14A6
2 Beams 14A8
2 " 14A9
2 Channels 14A10
2 Channels 14A9
2 Channels 14B1
2 Posts 14P8
2 Doors 14D1
2 Angles 14A7
2 " 14A8
2 " 14A9R As Shown
2 " 14A9L Opp Hand
2 Posts 14P1
2 " 14P4
4 Angles 14A1
8 Angles 14A2
4 Angles 14A3
4 Angles 14A4
8 Angles 14A5
4 Angles 14A6
2 Knee Braces 14K1 (as shown)
2 " " 14K2 (opp hand)
2 " " 14K3 (as shown)

All rivets 7/8" ϕ and all holes 13/16" ϕ in webs and bott. flanges only of above Cs

Notes:
Rivets 7/8" ϕ & Holes 11/16" ϕ unless noted.
Reaming All holes punched 1/4" under size & reamed to size, except 9/16" ϕ holes for wood which punch full size.

Paint: One Coat Red Lead, & pure Linseed oil. (At least 24 lbs. of lead to one gallon of oil.)

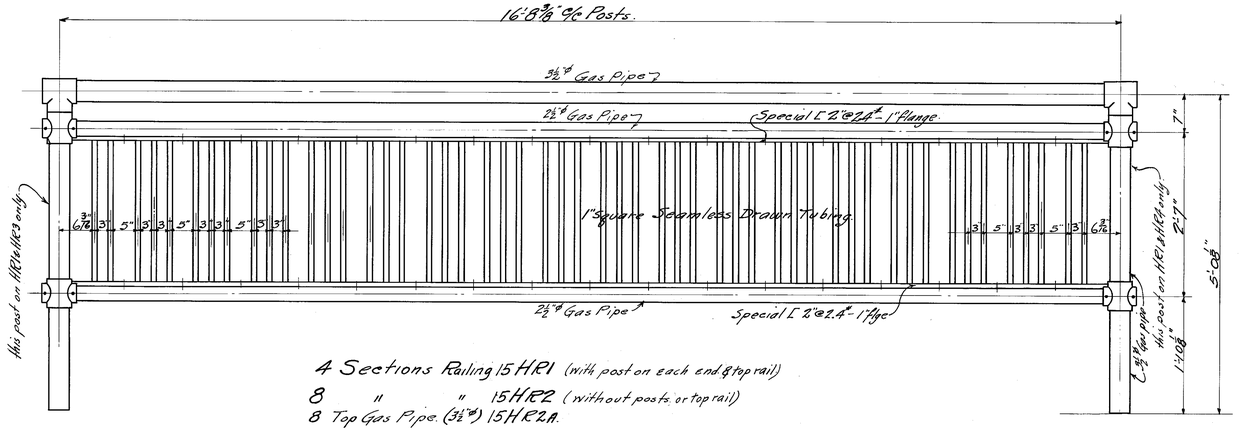
Mark one half of material listed on this sheet 'East' and the other half 'West'

THE KETLER-ELLIOTT ERECTION CO.
WEBSTER AVE. BRIDGE
FOR THE
CITY OF CHICAGO
Dept. of Public Works :: Bureau of Engineering :: Division of Bridges and Harbor
MODERN STEEL STRUCTURAL COMPANY
Operators House 2nd Floor Bms. & Details
SEE MAT. BILLS 141-142-143-144-145 SCALE 1" = 1 FT.
MADE BY M.R.N. TRACED BY M.R.N. CH'K'D BY H.B. 2/19 1915
CONTRACT No. 2201G SHEET No. 14

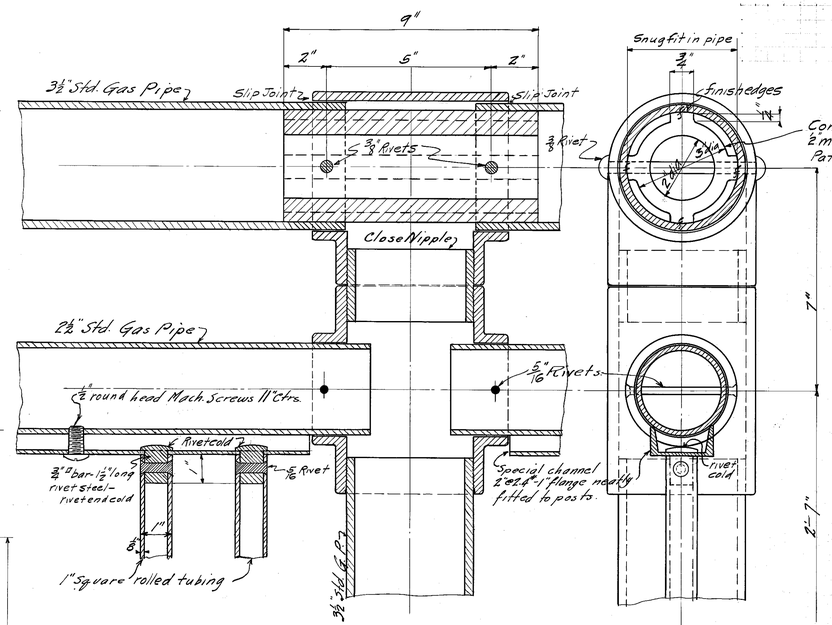
Approved Hermann von Schon ENGINEER OF BRIDGE DESIGN
Approved [illegible] ENGINEER OF BRIDGES AND HARBOR
Approved [illegible] CITY ENGINEER
Approved [illegible] COMMISSIONER OF PUBLIC WORKS
2-15-15

DRAW. No 38853
FILE No. 11-6B-14

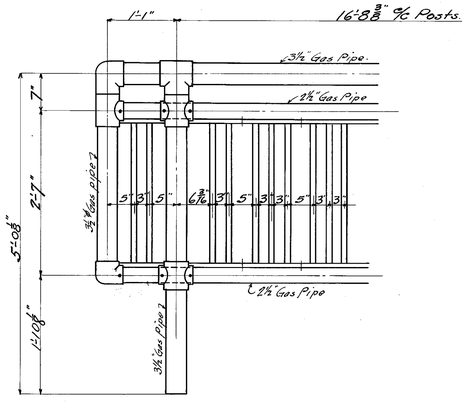
16605701/6



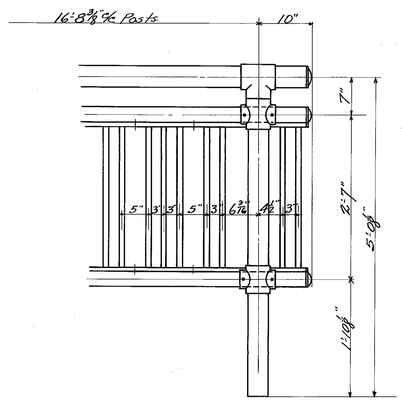
4 Sections Railing 15HR1 (with post on each end & top rail)
8 " " 15HR2 (without posts or top rail)
8 Top Gas Pipe. (3½") 15HR2A.



½ Size Typical Details of Railing.

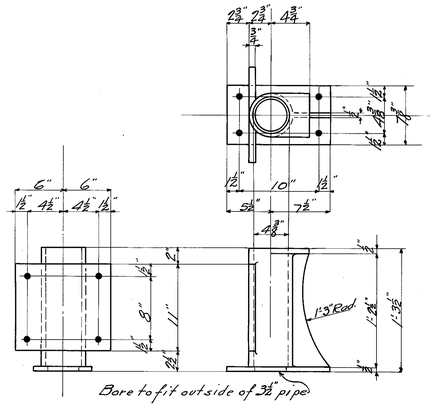


This detail for this end of HR4 only.
Other end same as HR1.

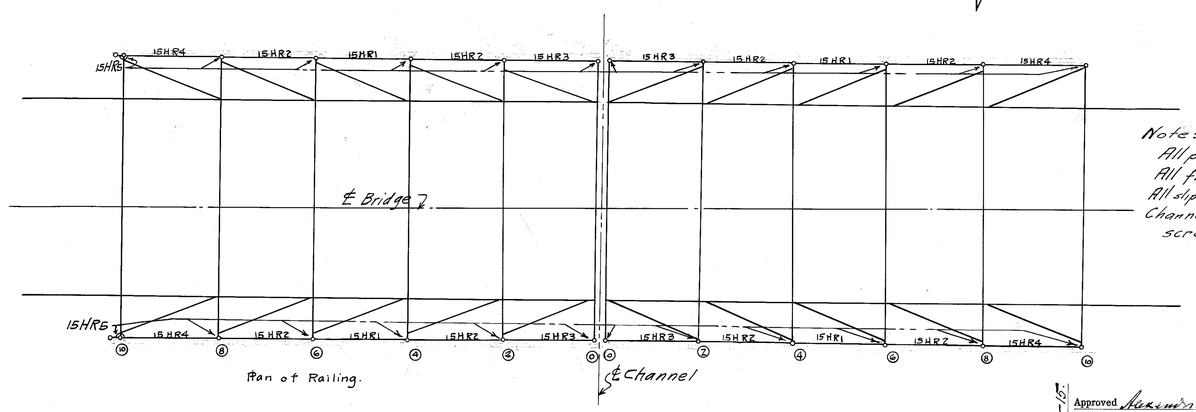


This detail for this end of "HR3" only.
Other end same as HR1

4 Sections Railing 15HR3. (with post on each end & top rail)
4 " " 15HR4. (" " " " " " " ")



24 Malleable Cast Iron Post Brackets 15HR5.
Holes drilled for ¾" Bolts. Patt. WEB AVE BR 40



Plan of Railing.

Note:-
All pipe to be Std. Wrot. Iron Gas Pipe.
All fittings to be malleable iron and have smooth finish.
All slip joints to have a close fit and riveted as shown.
Channels shall fit neatly at posts and be securely screwed to gas pipe with ⅜" Rd. Hd. Mach. Screws.

Approved Alexander von Babo, ENGINEER OF BRIDGE DESIGN
Approved Thos. G. Pihlfeldt, ENGINEER OF BRIDGES AND HARBOR
Approved [illegible], CITY ENGINEER
Approved M. R. Montgomery, COMMISSIONER OF PUBLIC WORKS

THE KETLER-ELLIOTT ERECTION CO.
WEBSTER AVE. BRIDGE
FOR THE
CITY OF CHICAGO
Dept. of Public Works :: Bureau of Engineering :: Division of Bridges and Harbor
MODERN STEEL STRUCTURAL COMPANY
Hand Railing
SEE MAT. BILLS. SCALE 1'-6" = 1 FT.
MADE BY E.Gunther TRACED BY F.G. CH'K'D BY M.R.N. 1914
CONTRACT No. 2201 B **SHEET No. 15**
DRAW. No. 3854
FILE No. 11-68-15

1660570177

Buckle Plate 16-55
1-Buckle Pl (2) - G2½x⅝x20'-8"
Die #1

Buckle Plate 16-54
1-Buckle Pl (2) G2½x⅝x13'-8¾"
Die #1

Buckle Pl 16-53R
1-Buckle Pl (4) - 56x⅝x34'-4"
Die #5

Buckle Plate 16-52R
1-Buckle Pl (4) 46½x⅝x34'-4"
Die #13

Buckle Plate 16-51R
1-Buckle Pl (4) 46½x⅝x34'-4"
Die #13

Floor Plate 16-F1
1-Pl (4) 22½x⅝x34'-4"

13-Reif L 5 (52) 3½x3½x⅝ x 1'-8½"

1-Pl (2) 7x⅜x4'-4½"
1 L (2) 4x4x⅜x4'-4½"

1-L (2) 3½x3½x⅜x4'-3¾"

Drill in field to split rail casting

Section at A-A

REQUIRED			
Webster	2 Floor Plates	as shown	16 F1R
do	2 Floor Plates	opp hand	16-F1L
do	2 Buckle Plates	as shown	16-51R
do	2 " "	opp hand	16-51L
do	2 " "	as shown	16-52R
do	2 " "	Opp hand	16-52L
do	2 " "	as shown	16-53R
do	2 " "	Opp hand	16-53L
do	2 " "	as shown	16-54
do	2 " "	" "	16-55

Note:-
Rivets:-⅞" dia.
Open holes:-⅞" dia.
Reaming:-None.
Shop Paint:-1 coat red lead and pure linseed oil. At least 24 lbs. of red lead to 1 gallon of oil.
Drain holes:-No drain holes wanted.
All buckles turned down.
Sizes given for buckle Pls. on this sheet are net after buckling.

Approved [signature] ENGINEER OF BRIDGE DESIGN
Approved [signature] ENGINEER OF STREETS AND HARBOR
Approved [signature] CITY ENGINEER
Approved [signature] COMMISSIONER OF PUBLIC WORKS
1-7-15

THE KETLER-ELLIOTT ERECTION CO.
WEBSTER AVE. BRIDGE
FOR THE
CITY OF CHICAGO
Dept. of Public Works :: Bureau of Engineering :: Division of Bridges and Harbor
MODERN STEEL STRUCTURAL COMPANY
Buckle Plates for Roadway Fixed Part
SEE MAT. BILLS 108-109- SCALE ⅜ =1 FT.
MADE BY F.R.C. TRACED BY F.R.C. CH'K'D BY M.R.N.D. 1914
CONTRACT No. 2201:M SHEET No. 16
DRAW. No. 3855
FILE No 11-6B=16

1660570178

Holes for ⅞" turned bolts.
1-Pl-(2)-9⅛x10" 2@8
1-L(4)-3½x2½x⅜x2'-11" 2@8
gage
1-Pl-(2)-9⅛x10" 2@8
Holes for ⅞ turned bolts.
7-Lug L5-(28)-5½-3½x⅜x6 2@8
Holes for ⅞" turned bolts
1'-7⅛" @ 6 = 7'-0"
Movable Truss
1-Pl-(4)-41x⅝x8'-6" abt 2@8
Bent 17PIR
Holes for ⅞" turned bolts
6@10=5'-0"
4@1'-0"=4'-0"
Section at A-A.
1-L(4)-5x3½x⅜x6' 2@8
Bend line
Holes for ⅞" turned bolts
Horizontal
Vertical
1-Pl-(4)-10⅜x3'-4½" Bent B.S.
Movable Truss
1-Z-(4)-6-23½x3½x2½ 2@8
Holes for ⅞" turned bolts.
Ele+21'-7⅛"
Ele+19'-3⅛"
Horiz.
10@4=3'-4"
1-L(4)-3½x2½x⅜x10'-7⅛" 2@8
1-Fill(4)-12x⅜x4'-7⅛" 2@8
1-Spl Pl-(4)-9⅛x⅜x1'-1¼" 2@8
1-Fill(4)-3½x⅜x11" 2@8
1-Web Pl-(4)-33x⅜x19'-11⅞" 2@8
1-L(4)-3½x2½x⅜x9'-2" 2@8
1-L(4)-3½x2½x⅜x2'-9⅞" 2@8
2'-9⅞" b.to.b. of Flange Angs.
These lines parallel to top flange
Parallel to top flange between these points.
Gage line
Section D-D showing spacing in shelf Angle
Bottom Flange.
1-L(4)-3½x3½x⅜x15'-5" 2@8
1-Web Pl-(2)-62½x⅜x21'-5"
1-L(4)-3½x2½x⅜x11" 2@8
1-L(4)-3½x3½x⅜x4'-6" 2@8
1-Pl-(4)-15½x⅜x16'-3⅛" 2@8
1-Fill(2)-3½x⅜x13" 2@8
1-L(4)-3½x3½x⅜x6'-5" 2@8
1-Pl-(4)-13⅜x⅜x11" 2@8
1-Fill(4)-9⅛x⅜x5'-3⅛" 2@8
1-L(4)-3½x2½x⅜x2'-9⅛" 2@8
1-L(4)-3½x2½x⅜x12'-4⅛" 2@8
1-Pl-(4)-12⅜x⅜x11" 2@8
1-L(4)-3½x2½x⅜x13'-5⅛" 2@8
Ele+19'-8⅜"
Curb Stringer 17-52R
1-L(4)-3½x3½x⅜ 90°-12" abt 2@8
Ele+19'-10½"
Slot Rail 17-51R
Rivets ⅞ dia
1-L(4)-3½x3½x⅜x9'-6" abt 2@8
1-L(4)-3½x3½x⅜x32'-9⅝" 2@8
1-Web Pl-(2)-15½x⅜x11' abt 2@8
1-L(4)-3½x3½x⅜x7'-7" abt 2@8
1-L(4)-3½x2½x⅜x2'-8⅝" 2@8
1-Web Pl-(2)-33½x⅜x20'-8" 2@8
1-L(4)-3½x2½x⅜x2'-5" 2@8
1-Pl-(4)-12⅜x⅜x1'-2⅛" 2@8
1-Pl-(4)-11½x⅜x2'-0" 2@8
Ele+22'-0" Work point Top of rail
Ream in (Shop with casting in place.
Patt Web Ave. Br #18-Sh 21.
Section B-B.
Section C-C.
2" Gage.
2½" Gage
Ele+22'-0"
Sketch showing Vertical curve for Shelf Angle
Vertical leg shown.
Vertical curve connecting these points.
This line parallel to top flange.
Parallel to top flange between these points.
1-L(4)-3½x3½x⅜x32'-8⅞" 2@8
35@6=17'-6"
Section D-D showing spacing in shelf Angle
Subpunch 9/16" and ream to 13/16"
Bottom Flange.
Cut & chip L
1-Pl-(4)-3½x⅜x1'-4¼" 2@2 2@7 Bent.
Vertical line
Bend line
Horizontal
6'-4½" Horizontal.
20'-1⅛"
14'-7⅛" Horizontal.

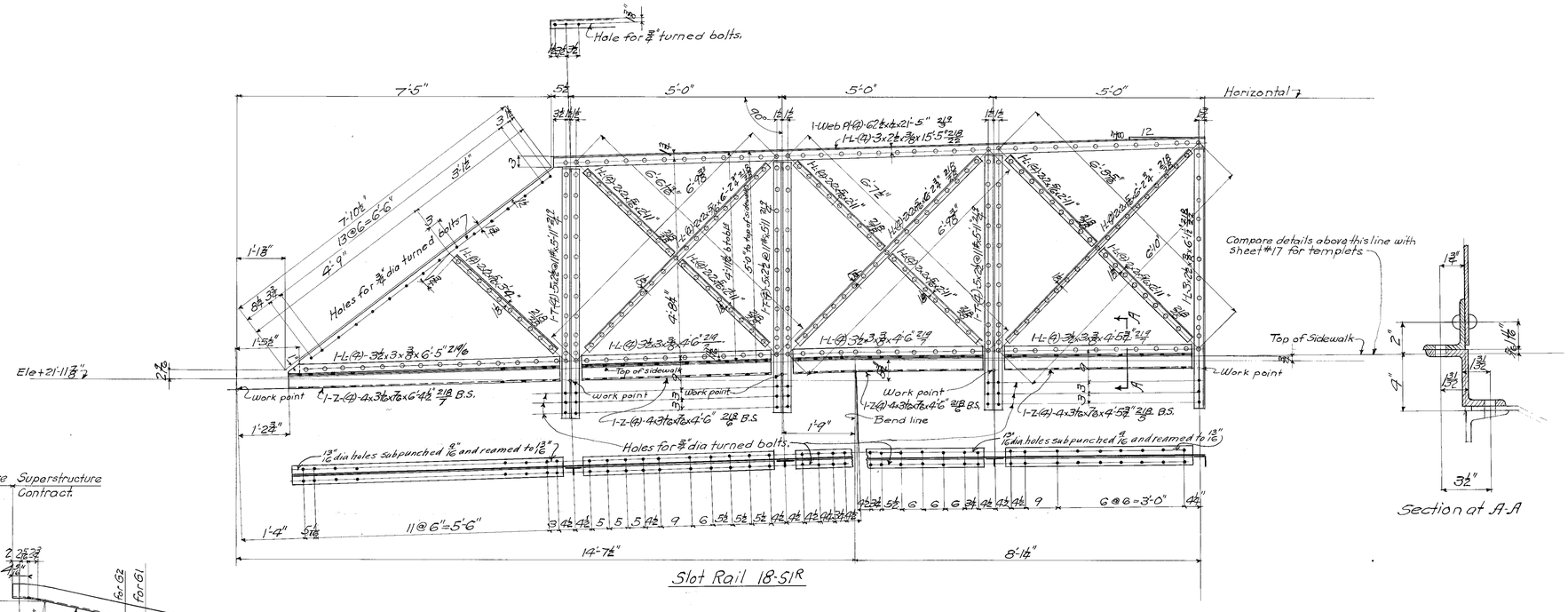
REQUIRED			
2	Slot Rails as shown	17-51R	17-52L
2	" " Opp hand	17-51L	do
2	Curb Stringers as shown	17-52R	do
2	" " Opp hand	17-52L	do
2	Plates as shown	17 PlR	do
2	" opp hand	17 PlL	do

Note
Rivets:- ⅞" dia unless noted.
Open holes:- 1⅛" dia unless noted
Reaming:- Holes for ⅞" dia. shop rivets punched 1/16 and reamed to 1⅛". Holes for ⅞ dia. shop rivets not reamed 1⅛ dia open holes punched 1/16 and reamed to 1⅛". Holes for turned bolts punched ¼" under size and reamed to size with parts assembled or to a steel templet.
Reaming to be done with twist drills and without using any lubricant.
Shop Paint:- 1 coat red lead and pure linseed oil. At least 24 lbs of red lead to 1 gallon of oil.

Approved [illegible] ENGINEER OF BRIDGE DESIGN
Approved Thos. G. Pihlfeldt ENGINEER OF BRIDGES AND HARBOR
Approved [illegible] CITY ENGINEER
Approved [illegible] COMMISSIONER OF PUBLIC WORKS

THE KETLER-ELLIOTT ERECTION CO.
WEBSTER AVE. BRIDGE
FOR THE
CITY OF CHICAGO
Dept. of Public Works :: Bureau of Engineering :: Division of Bridges and Harbor
MODERN STEEL STRUCTURAL COMPANY
Slot Rail and Curb Stringer
SEE MAT. BILLS 110-111-112 SCALE 3/4" = 1 FT.
MADE BY F.R.C. TRACED BY F.R.C. CH'K'D BY M.K.N. 12/1914
CONTRACT No. 2201-M SHEET No. 17
DRAW. No. 3856
FILE No. 11-68-17

1660570179



REQUIRED			
2	Slot Rails as shown	18-S1R	East & West
2	" " opp hand	18-S1L	do
1	Wheel Guard as shown	18-G1	West
1	" " " "	18-G2	East
1	" " " "	18-G3	West
1	" " " "	18-G4	East

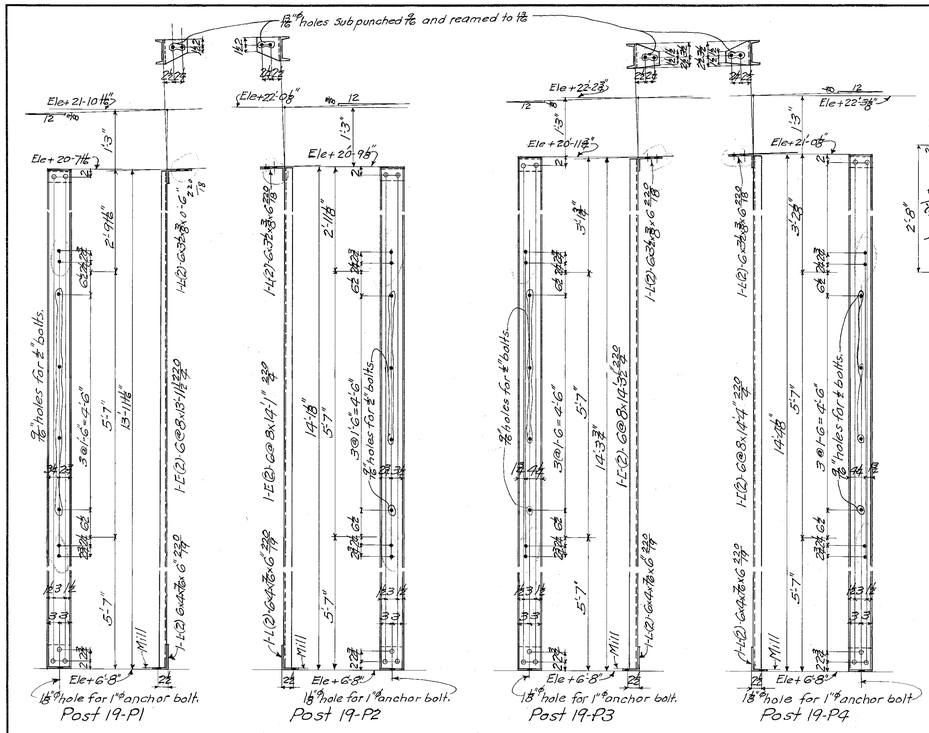
Note:-
Rivets:-⅞" dia
Open holes:-13/16" dia, unless noted.
Reaming:-Hole for ⅞" dia shop rivets not reamed. 13/16" dia open holes punched 1/16" and reamed to 13/16". Holes for ⅞" dia. turned bolts punched ¼" under size and reamed to size with parts assembled or to a steel templet.
Reaming to be done with twist drills and without using any lubricant.
Shop Paint:-1 coat red lead and pure linseed oil. At least 24 lbs of red lead to 1 gallon of oil.

Approved Alexander von Babo ENGINEER OF BRIDGE DESIGN
Approved Peter J. Wittenberg ENGINEER OF BRIDGES AND HARBOR
Approved John Ericson CITY ENGINEER
Approved Jno. Williams COMMISSIONER OF PUBLIC WORKS
Ld. 1-7-15.

THE KETLER-ELLIOTT ERECTION CO.
WEBSTER AVE. BRIDGE
FOR THE
CITY OF CHICAGO
Dept. of Public Works :: Bureau of Engineering :: Division of Bridges and Harbor
MODERN STEEL STRUCTURAL COMPANY
Slot Rail and Wheel Guards

SEE MAT. BILLS 113. SCALE =1 FT.
MADE BY F.R.C. TRACED BY F.R.C. CH'K'D BY M.K.N. 1914
CONTRACT No. 2201-M SHEET No. 18
DRAW. No. 3857
FILE. No. 11-68-18

1660570180



REQUIRED				
2	Posts		19-P1	1-East 1-West
2	"		19-P2	do
2	"		19-P3	do
2	"		19-P4	do
2	"		19-P5	do
2	"	as shown	19-P6	do
2	"	opp hand	19-P7	do
2	"	as shown	19-P8	do
2	"	" "	19-P9	do
2	"	" "	19-P10	do
2	Knee Braces	" "	19-K1	do
2	" "	" "	19-K2	do
2	" "	" "	19-K3R	do
2	" "	opp hand	19-K3L	do
2	" "	as shown	19-K4	do
2	" "	" "	19-K5	do
4	struts	" "	19-S1	2-East 2-West
2	"	" "	19-S2R	1-East 1-West
2	"	opp hand	19-S2L	do
8	"	as shown	19-S3	4-East 4-West
2	"	" "	19-S4R	1-East 1-West
2	"	opp hand	19-S4L	do
2	"	as shown	19-S6R	do
2	"	opp hand	19-S6L	do
6	"	as shown	19-S7	3 East 3 West
2	"	" "	19-S9	1-East 1-West
4	Knee Braces	" "	19-K6R	do
4	" "	opp hand	19-K6L	do
2	Struts	as shown	19-S10	1-East 1-West
4	"	" "	19-S5	2-East 2-West

Note:-
Rivets: ⅞" dia
Open holes: 1 1/16" dia. unless noted.
Reaming :- Holes for ⅞" dia. shop rivets sub-punched 13/16 dia and reamed to 1 1/16". 1 1/16" dia open holes sub-punched 1" and reamed to 1 1/16" with parts assembled or to a steel templet. 13/16 dia. open hole not reamed.
Reaming to be done with twist drills and without using any lubricant.
Shop Paint 1 coat red lead and pure linseed oil
At least 2 lbs of red lead to 1 gallon of oil.

Approved Alexander von Babo ENGINEER OF BRIDGE DESIGN
Approved Thos. G. Pihlfeldt ENGINEER OF BRIDGES AND HARBOR
Approved [illegible] CITY ENGINEER
Approved [illegible] COMMISSIONER OF PUBLIC WORKS
Dec. 1-7-15.

THE KETLER-ELLIOTT ERECTION CO.

WEBSTER AVE. BRIDGE

FOR THE

CITY OF CHICAGO

Dept. of Public Works :: Bureau of Engineering :: Division of Bridges and Harbor

MODERN STEEL STRUCTURAL COMPANY

Posts and Intermediat Framing Fixed Part.

SEE MAT. BILLS. 114-115-116-117- SCALE 3/4" = 1 FT.

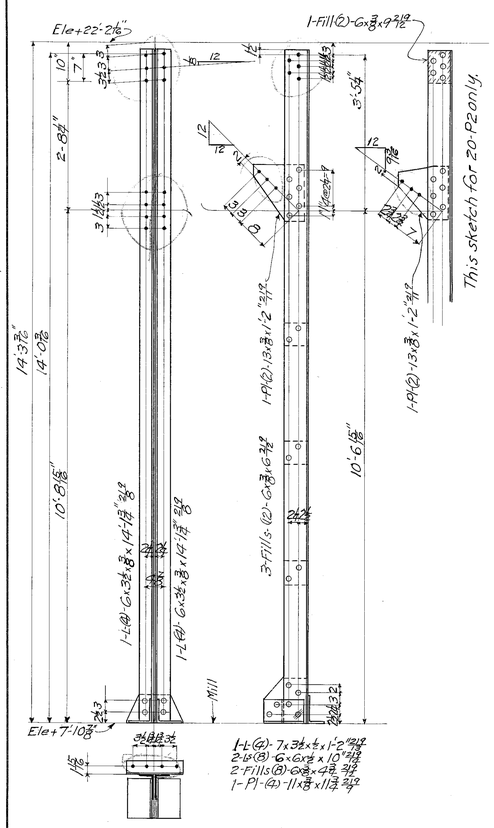
MADE BY F.R.C. TRACED BY F.R.C. CH'K'D BY MAR 4 1914

CONTRACT No. 2201-M SHEET No. 19

1660570181

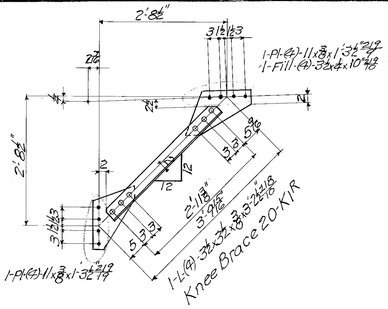
DRAW. No. 3858

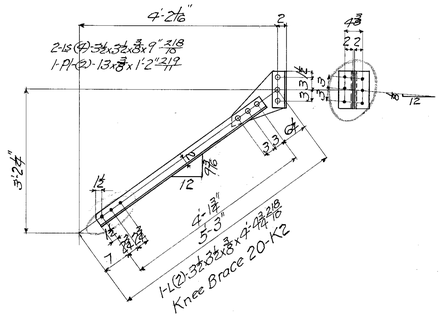
FILE No. 11-68-19

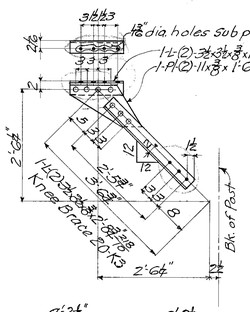


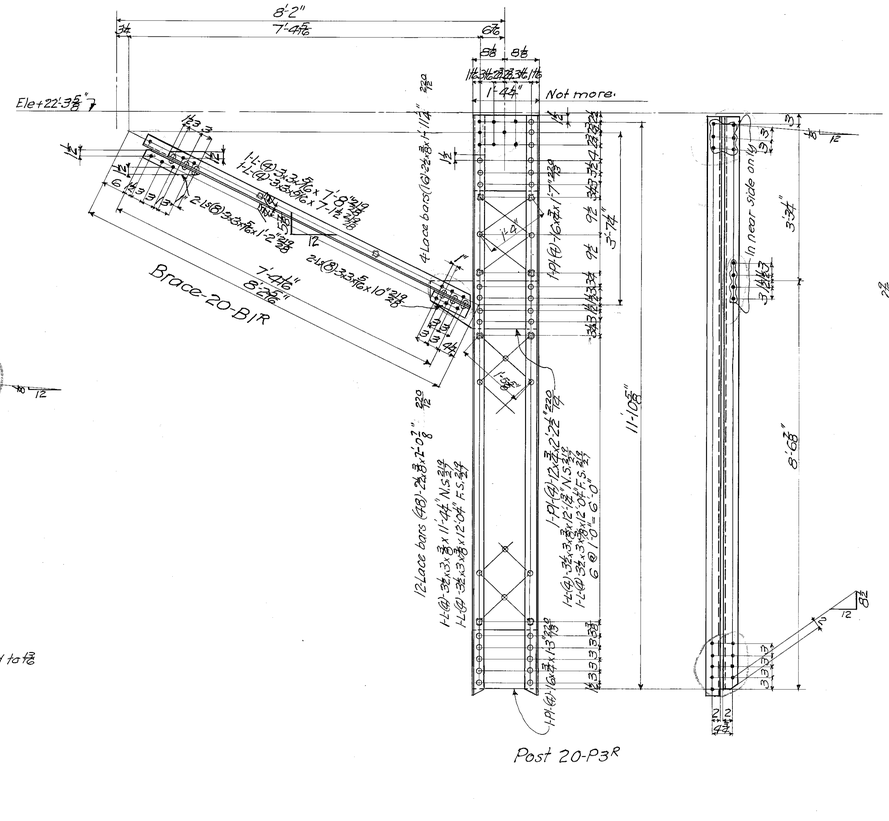
This sketch for 20-P2 only

Posts - 20-P1 and 20-P2

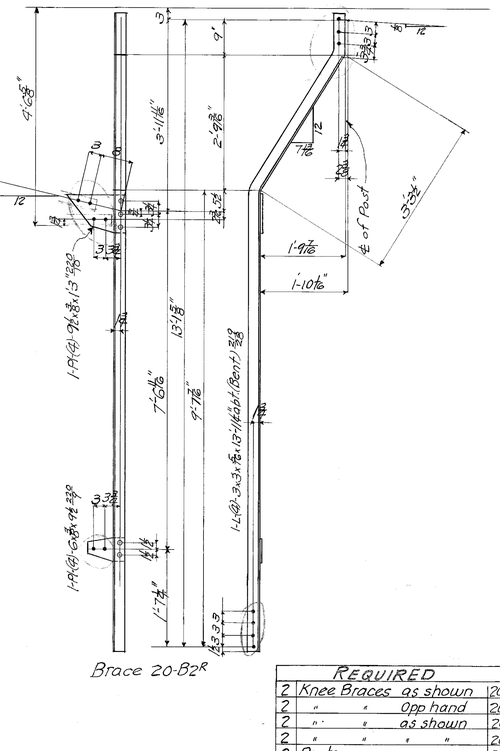








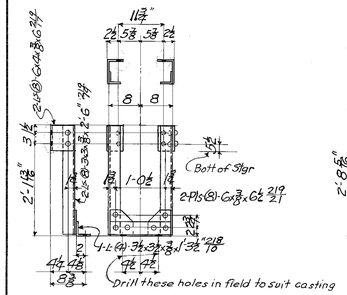
Post 20-P3R



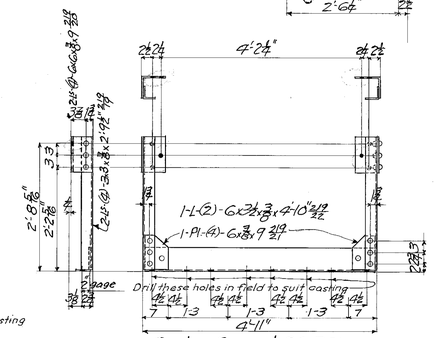
Brace 20-B2R

REQUIRED				
2	Knee Braces as shown		20-K1R	1-East, 1-West
2	" " Opp hand		20-K1L	do
2	" " as shown		20-K2	do
2	" " " "		20-K3	do
2	Posts		20-P1	do
2	"	Opp hand	20-P2	do
2	"	as shown	20-P3R	do
2	"	Opp hand	20-P3L	do
2	Braces	as shown	20-B1R	do
2	"	Opp hand	20-B1L	do
2	"	as shown	20-B2R	do
2	"	Opp hand	20-B2L	do
4	Brake Supports as shown		20-BS1	2-East, 2-West
2	" "		20-BS2	1-East, 1-West
2	" "		20-BS4	do
4	" "		20-BS3	2-East, 2-West
2	" "		20-BS5	1-East, 1-West
2	" "		20-BS6	do

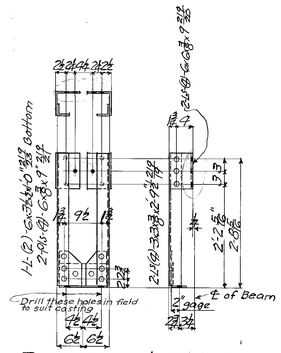
Notes:-
Rivets: ⅞ dia.
Open holes:- 1⅛ dia unless noted
Reaming:- Holes for ⅞ shop rivets sub-punched 1/16" and reamed to 1/16", 1/16" dia open holes sub punched 1½ and reamed to 1⅝ with parts assembled or to a steel templet.
Reaming to be done with twist drills and without using any lubricant.
Shop Paint:- 1 coat red lead and pure linseed oil. At least 24 lbs. of red lead to 1 gallon of oil.



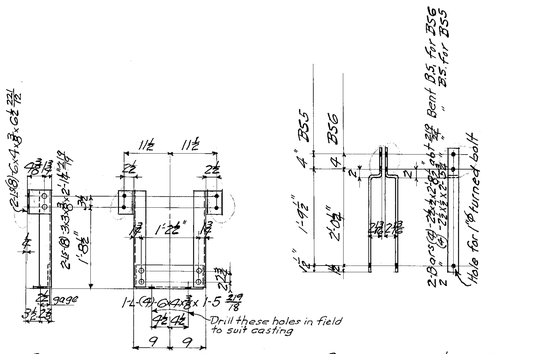
Brake Support 20-BS1



Brake Support 20-BS2



Brake Support 20-BS4



Brake Support 20-BS3

Brake Support 20-BS5-6

Approved Alexander von Babo ENGINEER OF BRIDGE DESIGN
Approved Jno. L. Whitehouse ENGINEER OF STREETS AND HARBOR
Approved [illegible] CITY ENGINEER
Approved [illegible] COMMISSIONER OF PUBLIC WORKS

THE KETLER-ELLIOTT ERECTION CO.
WEBSTER AVE. BRIDGE
FOR THE
CITY OF CHICAGO
Dept. of Public Works :: Bureau of Engineering :: Division of Bridges and Harbor
MODERN STEEL STRUCTURAL COMPANY
Posts, Bracing & Brake Supports Fixed Part.
SEE MAT. BILLS 118-119-120. SCALE ¾" = 1 FT.
MADE BY F.R.C. TRACED BY F.R.C. CH'K'D BY F.R.N. 1914
CONTRACT No. 2201M **SHEET No. 20**

1660570182
DRAW. No. 3859
FILE No. 1246-20

General Notes.

All patterns, including core boxes, for castings of any material shall be the property of the City of Chicago, and after the bridge is completed shall be delivered in good condition by the Contractor to the pattern loft of the Bridge Division, Bureau of Engineering, in the City of Chicago.

All patterns for castings shall be subject to inspection and approval before castings are made from them and again on final delivery to the City.

Patterns for castings shall be made of thoroughly seasoned, first-class pattern lumber, and shall be put together to stand repeated use and long time storage without damage. They shall be finished to give a neat appearance to castings. The outer unfinished edges of all ribs, bosses, etc., shall be rounded off to a radius of one-fourth the thickness of the rib, and inside corners shall be filled with wood or leather fillets well fastened and rounded out to a radius of at least one-half the thickness of the thinnest rib forming the corner.

All patterns shall be fitted with lifting and rapping plates and each one, if large enough, shall have set flush with its surface a metal plate bearing the letters "Web. Ave. Br." in sharp face gothic style, at least three-quarters inch high. Each pattern shall have a designating letter and number situated so as to be visible when the casting is in position in the structure.

Patterns for iron and steel castings shall be stained black on surfaces unfinished on castings, red on surfaces tool finished, and yellow or clear shellac on core prints. The stain shall be mixed with the shellac. The patterns shall be thoroughly varnished before use with first-class pattern shellac dissolved in grain alcohol and after final use, shall be thoroughly repaired, cleaned and varnished again before delivery to the City.

Break in Floor Casting
2 Reqd: Patt # Web Ave Br. 21 (225/15)
Cast Steel Scale 1½"=1'-0"

Break in Floor Casting
2-Reqd Patt # Web Ave Br. 19R as shown (225/13)
2 " " " " " 19L Opp hand
Cast Steel. Scale 1½"=1'-0"

Break in Floor Casting
2-Reqd Patt # Web Ave Br. 18R as shown, (225/12)
2 " " " " " 18L Opp hand.
Cast Steel Scale 1½"=1'-0"

Break in Floor Casting
4-Reqd. Patt # Web Ave Br. 38 (225/25)
Cast Steel Scale 1½"=1'-0"

Break in Floor Casting
4-Reqd Patt # Web Ave Br. 20 (225/14)
Cast Steel Scale 1½"=1'-0"

Break in Floor Casting
2-Reqd Patt # Web Ave Br. 25 (225/18)
2-Reqd Patt # Web Ave Br. 24 (225/18)
Cast Steel Scale 1½"=1'-0"

Break in Floor Casting
4-Reqd Patt # Web Ave Br. 22 (225/16)
4-Reqd Patt # Web Ave Br. 39 (225/26)
Cast Steel Scale 1½"=1'-0"

Break in Floor Casting
2-Reqd Patt # Web Ave Br. 23 (225/17)
2-Reqd Patt # Web Ave Br. 28 Opp hand
Cast Steel Scale 1½"=1'-0"

THE KETLER-ELLIOTT ERECTION CO.

WEBSTER AVE. BRIDGE

FOR THE

CITY OF CHICAGO

Dept. of Public Works :: Bureau of Engineering :: Division of Bridges and Harbor

MODERN STEEL STRUCTURAL COMPANY

Break in Floor Castings. Fixed Part

Approved Alexander von Babo, ENGINEER OF BRIDGE DESIGN
Approved Jno. T. Pierce, ENGINEER OF BRIDGES AND HARBOR
Approved [illegible], CITY ENGINEER
Approved [illegible], COMMISSIONER OF PUBLIC WORKS

SEE MAT. BILLS 121. SCALE =1 FT.
MADE BY F.R.C. TRACED BY F.R.C. CH'K'D BY [illegible] 1914
CONTRACT No. 2201-C SHEET No. 21
DRAW. No. 3860
FILE No 11-68-21

166057018

Note:- All castings must line up on this point when assembled in shop, if not, planing must be done.

Break in Floor Castings Movable Part.
2 Reqd - Patt # Web Ave. Br. 29 (225/23)
4 " Patt # Web Ave. Br. 28 (225/22)
Cast Steel Scale 1½"=1'-0"

C.S. Bumper Casting
Patt # Web. Ave. Br. 15 (225/6)
4-Reqd Scale 1½"=1'-0"

Break in Floor Casting Movable Part.
2-Reqd Patt # Web. Ave. Br 27R as shown, (225/21)
2 " " " " 27L Opp hand.
Cast Steel Scale 1½"=1'-0"

Break in Floor Casting. Movable Part.
8-Reqd. Patt # Web. Ave. Br. 30R as shown (225/24)
8 " " " " 30L Opp hand
Cast Steel. Scale 3"=1'-0"
Rivet in Shop to 58

General Notes.

All patterns, including core boxes, for castings of any material shall be the property of the City of Chicago, and after the bridge is completed shall be delivered in good condition by the Contractor to the pattern loft of the Bridge Division, Bureau of Engineering, in the City of Chicago.

All patterns for castings shall be subject to inspection and approval before castings are made from them and again on final delivery to the City.

Patterns for castings shall be made of thoroughly seasoned, first-class pattern lumber, and shall be well put together to stand repeated use and long time storage without damage. They shall be finished to give a neat appearance to castings. The outer unfinished edges of all ribs, bosses, etc., shall be rounded off to a radius of one-fourth the thickness of the rib, and inside corners shall be filled with wood or leather fillets well fastened and rounded out to a radius of at least one-half the thickness of the thinnest rib forming corner.

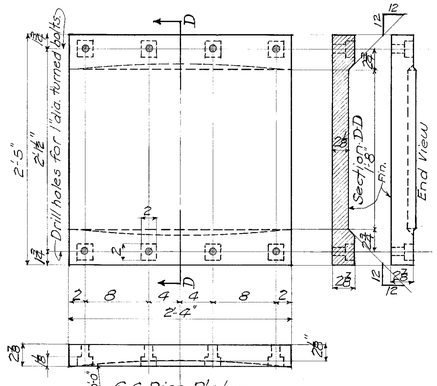
All patterns shall be fitted with lifting and rapping plates and each one, if large enough, shall have set flush with its surface a metal plate bearing the letters 'Web. Ave. Br.' in sharp face gothic style, at least three-quarters inch high. Each pattern shall have a designating letter and number situated so as to be visible when the casting is in position in the structure.

Patterns for iron and steel castings shall be stained black on surfaces unfinished on castings, red on surfaces tool finished, and yellow or clear shellac on core prints. The stain shall be mixed with the shellac. The patterns shall be thoroughly varnished before use with first-class pattern shellac dissolved in grain alcohol and after final use shall be thoroughly repaired, cleaned and varnished again before delivery to the City.

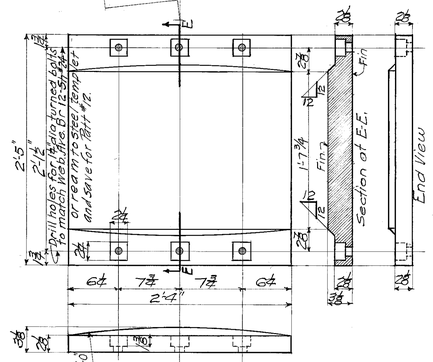
Approved Dec. 8-15
Approved
Approved
Approved

THE KETLER-ELLIOTT ERECTION CO.
WEBSTER AVE. BRIDGE
FOR THE
CITY OF CHICAGO
Dept. of Public Works :: Bureau of Engineering :: Division of Bridges and Harbor
MODERN STEEL STRUCTURAL COMPANY
Break in Floor Castings. Movable Part.
SEE MAT. BILLS. 122. SCALE =1 FT.
MADE BY F.R.C. TRACED BY F.R.C. CH'K'D BY T.K.N. Dec. 1914
CONTRACT No. 2201-C. SHEET No. 22
DRAW. No 3861
FILE No 11-68-22

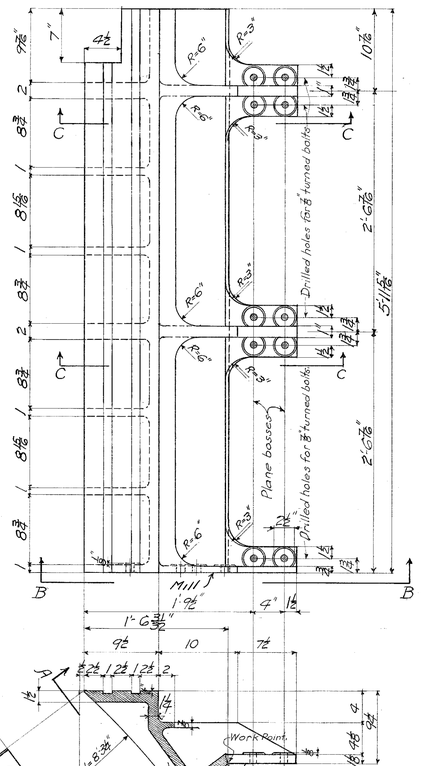
1660570189

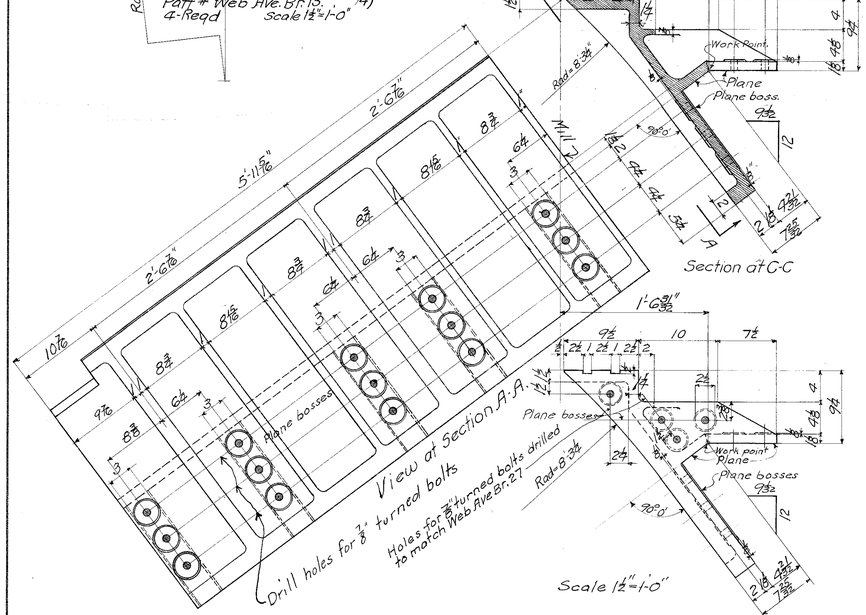


C.S. Disc Plates
Patt# Web Ave. Br. 14 (225/6)
4-Read. Scale 1½"=1'-0"

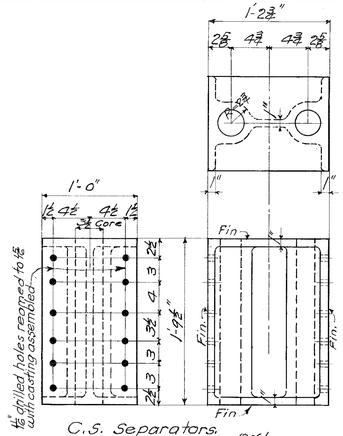


C.S. Disc Plate
Patt# Web Ave. Br. 13 (225/4)
4-Read Scale 1½"=1'-0"

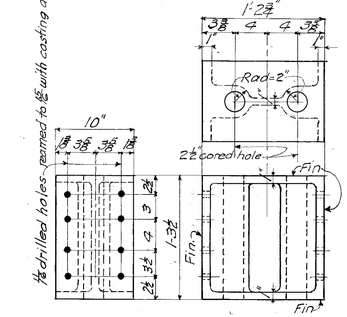




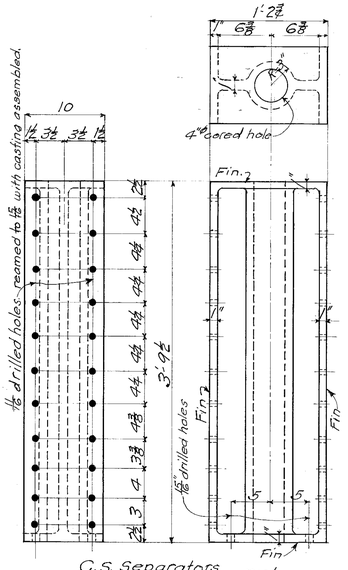
Break in Floor Castings. Movable Part. (Cast Steel)
2-Read Patt# Web Ave. Br. 26R as shown. (225/20)
2 " " " " " 26L Opp hand.



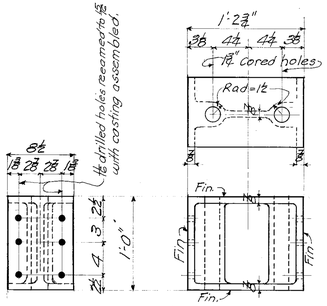
C.S. Separators.
Patt# Web Ave. Br. 34 (206/12)
8-Read.
Rivet in shop to G7E



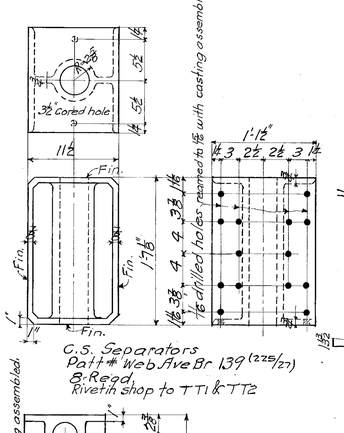
C.S. Separators.
Patt Web Ave. Br. 35 (206/13)
8-Read.
Rivet in shop to G7E



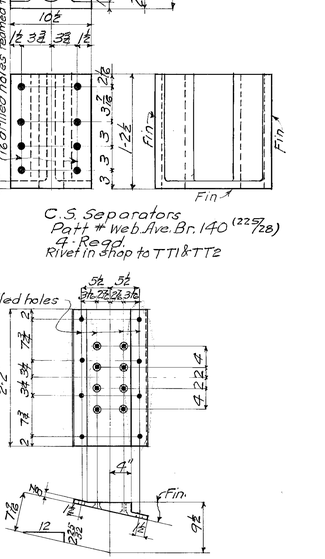
C.S. Separators
Patt# Web Ave Br. 9 (206/8)
4-Read.
Rivet in shop to G7E



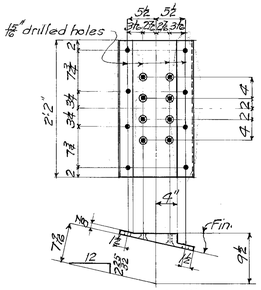
C.S. Separators.
Patt# Web Ave. Br. 36 (206/14)
12-Read.
Rivet in shop to G7E



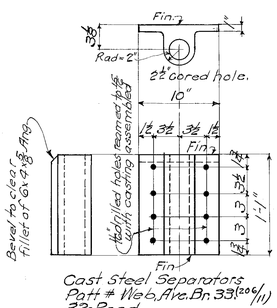
C.S. Separators
Patt# Web Ave Br 139 (225/27)
8-Read.
Rivet in shop to TT1 & TT2



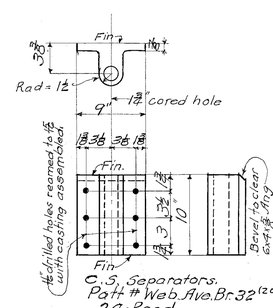
C.S. Separators
Patt# Web Ave. Br. 140 (225/28)
4-Read.
Rivet in shop to TT1 & TT2



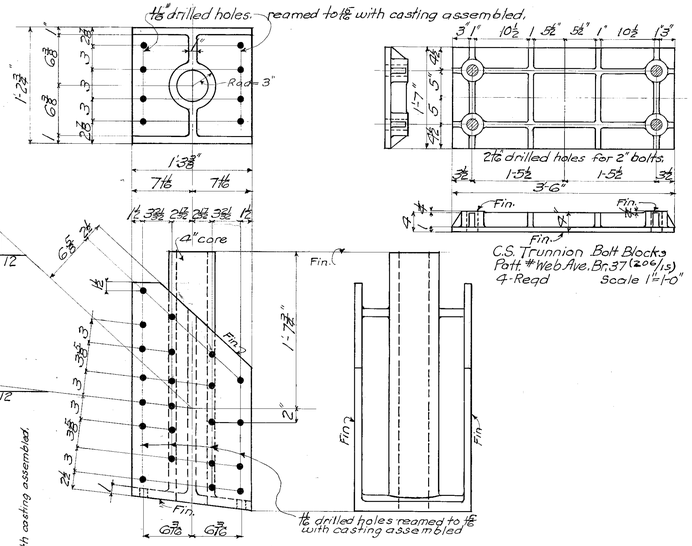
C.S. Sole Pl
Patt# Web Ave Br 11 (206/7)
4-Read. Rivet in shop to FB1.



Cast Steel Separators
Patt # Web. Ave. Br. 33 (206/11)
32-Read.
Rivet in shop to G8E



C.S. Separators.
Patt # Web Ave. Br. 32 (206/10)
24-Read.
Rivet in shop G8E



C.S. Trunnion Bolt Blocks
Patt # Web Ave. Br. 37 (206/15)
4-Read Scale 1½"=1'-0"

C.S. Separator
Patt # Web Ave. Br. 10 (206/6)
4-Read.
Rivet in shop to TT1 & TT2

Other views same as Patt # Web Ave. Br. 140.

C.S. Separator.
Patt # Web Ave. Br. 142 (206/16)
4-Read.
Rivet in shop to TT1 & TT2.

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All patterns shall be fitted with lifting and rapping plates and each one if large enough, shall have set flush with its surface a metal plate bearing the letters Web Ave. Br. in sharp face gothic style, at least three-quarters of an inch high. Each pattern shall have a designating letter and number situated so as to be visible when the casting is in position in the structure.

Patterns for iron and steel castings shall be stained black on surfaces unfinished on castings, red on surfaces tool finished, and yellow or clear shellac on core prints. The stain shall be mixed with the shellac. The patterns shall be thoroughly varnished before use with first-class pattern shellac dissolved in grain alcohol and after final use shall be thoroughly repaired, cleaned and varnished again before delivery to the city.

Approved Alexander von Babo ENGINEER OF BRIDGE DESIGN
Approved Thos. J. Pihlstrom ENGINEER OF BRIDGES AND HARBOR
Approved J. Sherman CITY ENGINEER
Approved [illegible] COMMISSIONER OF PUBLIC WORKS

THE KETLER-ELLIOTT ERECTION CO.

WEBSTER AVE. BRIDGE

FOR THE

CITY OF CHICAGO

Dept. of Public Works :: Bureau of Engineering :: Division of Bridges and Harbor

MODERN STEEL STRUCTURAL COMPANY

Steel Castings.

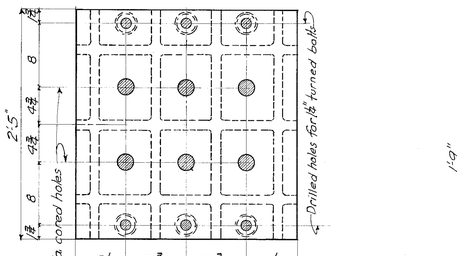
SEE MAT. BILLS 123. SCALE 1"&1½" = 1 FT.
MADE BY F.R.C. TRACED BY F.R.C. CH'K'D BY M.N. 1914

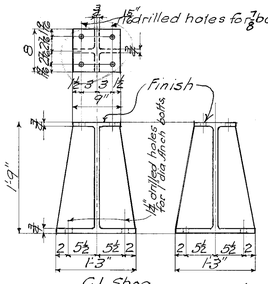
CONTRACT No. 2201-C SHEET No. 23

1660570185

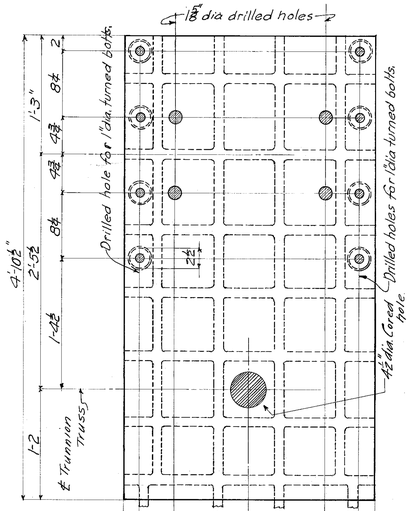
DRAW. No. 3862

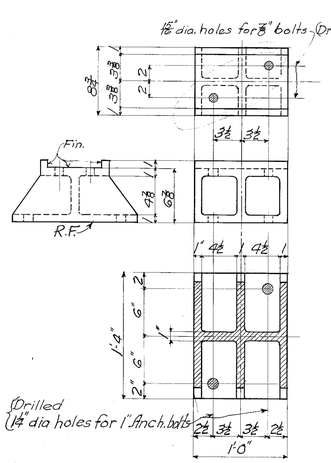
FILE No 11-68-23



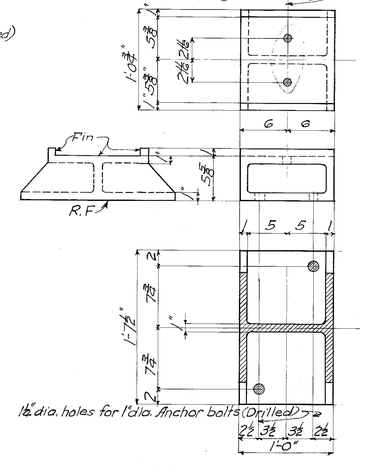


C.I. Shoe.
Patt # Web. Ave. Br. 6 (205/13)
2-Read Scale 1½"=1'-0"

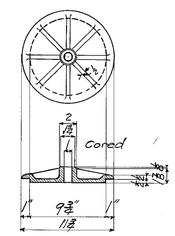




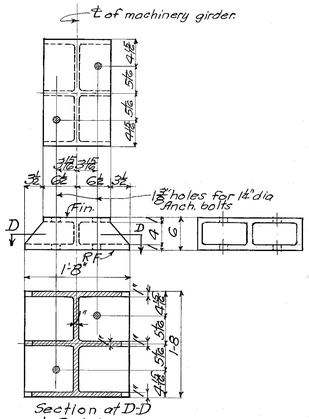
C. I. Pedestal.
Patt # Web. Ave. Br. 8 (205/11)
12. Read
Scale 1½"=1'-0"



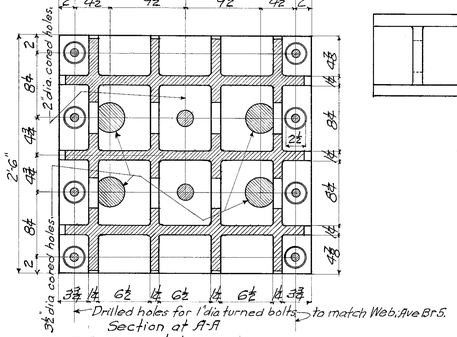
C.I. Pedestal
Patt # Web Ave. Br. 7 (205/16)
8-Read
Scale 1½"=1'-0"



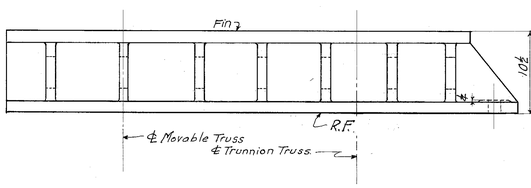
C.I. Hand Hole Cover.
Patt # Web. Ave. Br. 14 (205/21)
8-Read
Scale 1½"=1'-0"

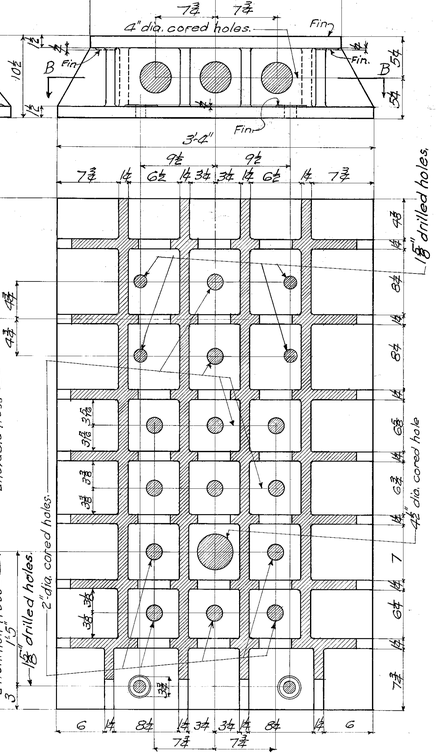


C.I. Bolster
4-Patt # Web. Ave. Br. 4 R (205/7)
3- " " " " 4 "
Scale 1½"=1'-0"

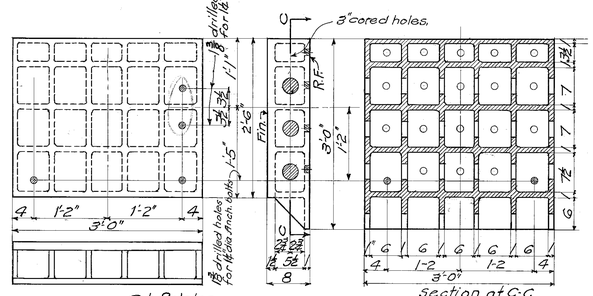


C.I. Pedestal
Patt # Web Ave. Br. 12 (226/3)
4-Read.
Scale 1½"=1'-0"



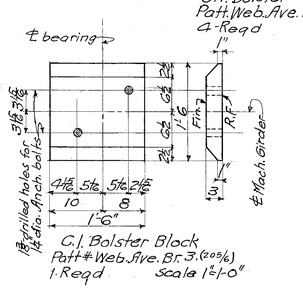


C. I. Pedestal
Patt # Web. Ave. Br. 5 (205/10)
4 Read
Scale 1½"=1'-0"

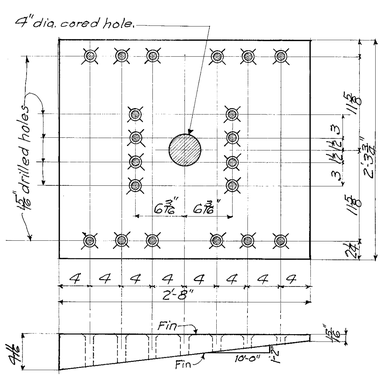


C.I. Bolster
Patt. Web. Ave. Br. 2 (205/3)
4-Read Scale 1"=1'-0"

All holes in this view 1¼" cored except as noted.



C.I. Bolster Block
Patt # Web. Ave. Br. 3. (205/6)
1. Read Scale 1"=1'-0"



C.S. Sole Plate.
Patt. # Web. Ave. Br. 31. (205/20)
4. Read.
Scale 1½"=1'-0
Rivet shop to TT1 & TT2.

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Approved Alexander von Babo
ENGINEER OF BRIDGE DESIGN
Approved Thos. G. Pihlfeldt
ENGINEER OF BRIDGES AND HARBOR
Approved John Ericsson
CITY ENGINEER
Approved Lyman Law
COMMISSIONER OF PUBLIC WORKS

THE KETLER-ELLIOTT ERECTION CO.

WEBSTER AVE. BRIDGE

FOR THE

CITY OF CHICAGO

Dept. of Public Works :: Bureau of Engineering :: Division of Bridges and Harbor

MODERN STEEL STRUCTURAL COMPANY

Iron Castings.

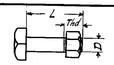
SEE MAT. BILLS 24 SCALE =1 FT.
MADE BY F.R.C. 12/8/14 TRACED BY CH'K'D BY 1914

CONTRACT No. 2201-D SHEET No. 24

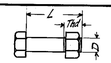
DRAW. No. 3863

1660570186

FILE No 11-6B-24



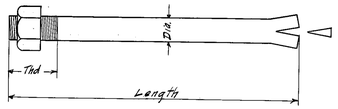
Detail A



Detail B

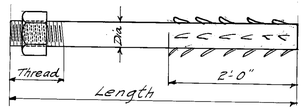
TURNED BOLTS

No	Dia.	Grip	Length	Thread	Description	Use Detail	Location	Item
4	7/8	2¼+¼	3¼	1⅛	Hex.H. & Hex.N.	B	Patt# Web Ave. Br. 26℄ to Patt# Web Ave Br. 27℄	(227/20)
88	"	2⅛+⅜+¼	3⅝	1⅜	" " " "	"	" " " " 26℄ 27℄ 28. 29 to 55.56.57	(227/21)
88	"	2+¼	3¼	1⅛	" " " "	"	" " " " " " " " " " to Gl	(227/20)
44	"	2⅝+¼	3⅜	"	" " " "	"	" " " " " " " " " " " " " "	(227/22)
32	"	3+¼	4¼	"	" " " "	"	" " " " Gl to 58	(227/24)
16	"	3⅜+¼	4⅜	"	" " " "	"	" " " " " " " "	(227/23)
32	"	2½+¼	3¾	"	" " " "	"	" " " " 58 to Patt# Web Ave Br. 28. 29. 27	(227/22)
8	"	1⅜+¼	2⅜	"	Sq. H. & Hex. N.	A	754 to 655℄ & 658	(226/7)
8	"	1"lot 1½	2	1¼	" " " "	"	" " 752	(226/8)
12	"	1¾+¼	3	1⅛	Hex Hds Hex N	B	Patt# Web Ave Br 26℄ to Web Ave Br 27℄	(226/9)
64	15/16	1⅜+¼	3	1⅜	Sq. Hd & Hex N	A	CW1 to 13-15" to CW2	(226/10)
32	1	3½+¼	5	1⅜	Hex " " "	B	Patt Web Ave Br 5 to Patt# Web Ave Br. 12	(227/3)
100	Verona Nut Locks For ⅞" Bolts) For above bolts							(207/11)
335	"		"	"	" ⅞"⌀ "			(207/21)
88	Bevel Washers (12°32') for ⅞"⌀ Bolts						Patt Web Ave Br 26℄ 27℄ 28 29 to 55-6-7	(227/25)
128	¾"⌀	⅜+¼	1¾	1⅛	Sq. Hd. Hex N.	A	17P1 to 1751℄ & 18.51℄	(226/11)
275	"	¾+¼	1⅛	1	" " " "	"	2.60 35" ℄ to 1751℄ Rd. Rail & guard to 1752℄	(226/12)
325	"	⅞+¼	2	1	" " " "	"	1751℄ to 1752℄ & 17P1 to 1751℄ & 1851℄; 1851℄ to 56℄ & 58-59	(226/13)
728	Verona Nut Locks for ¾" Bolts For above bolts.							(207/6)



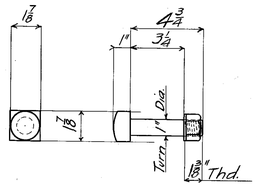
ANCHOR BOLTS

No.	Dia.	Length	Thread	Nut	Wedge	Location	Item
24	1⅛	2'-6"	3"	Hex.	1⅛ x ⅝ x 1½	At Patt# Web Ave. Br. 5	(207/13)



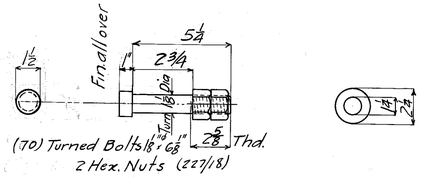
ANCHOR BOLTS (RAGGED)

No.	Dia.	Length	Thread	Nut	Location	Item
8	1¼	4'-0"	3"	Hex	at Web Ave. Br. #2	(207/9)
16	1¼	5'-0"	3"	Hex	at Web Ave. Br. #3 and #4	(207/8)



(32) Turned Bolts 1"⌀ 0'-4¾" Sq Hd & Hex Nut. (227/5)
(32) Verona Nut Locks (207/11)

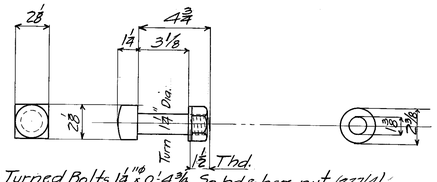
32 Turned Bolts
Location Web Ave Br 14 to 10-11℄



(70) Turned Bolts 1⅛ x 0'-6⅝" 2 Hex. Nuts (227/18)

70 Turned Bolts (Round Head) 70 Adjustment Washers ¼" Thick.
70 " " ⅜" " .

{Above turned bolts & washers used at break in floor (Fixed Part)
Web Ave 25 to 351 to Web Ave Br 21, etc.

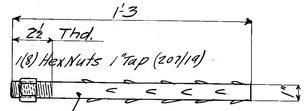


(24) Turned Bolts 1¼"⌀ x 0'-4¾" Sq hd & hex nut. (227/4)
(24) Verona nut locks (207/16)

24 Turned Bolts

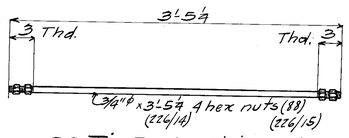
24 Adjustment Washers ⅜" Thick
24 " " ¼" "
24 " " ⅛ " "

Location of above bolts & washers Web Ave Br 12 to Web Ave Br 13



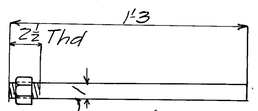
1(8) Hex Nuts 1"Tap (207/19)
(8) Rag Bolts Hex Nut (207/18)

8 Anchors
Location For Web Ave Br 6.



¾"⌀ x 3'-5¼ 4 hex nuts (88) (226/14) (226/15)

22 Tie Rods Tieing stair stringers operators house.



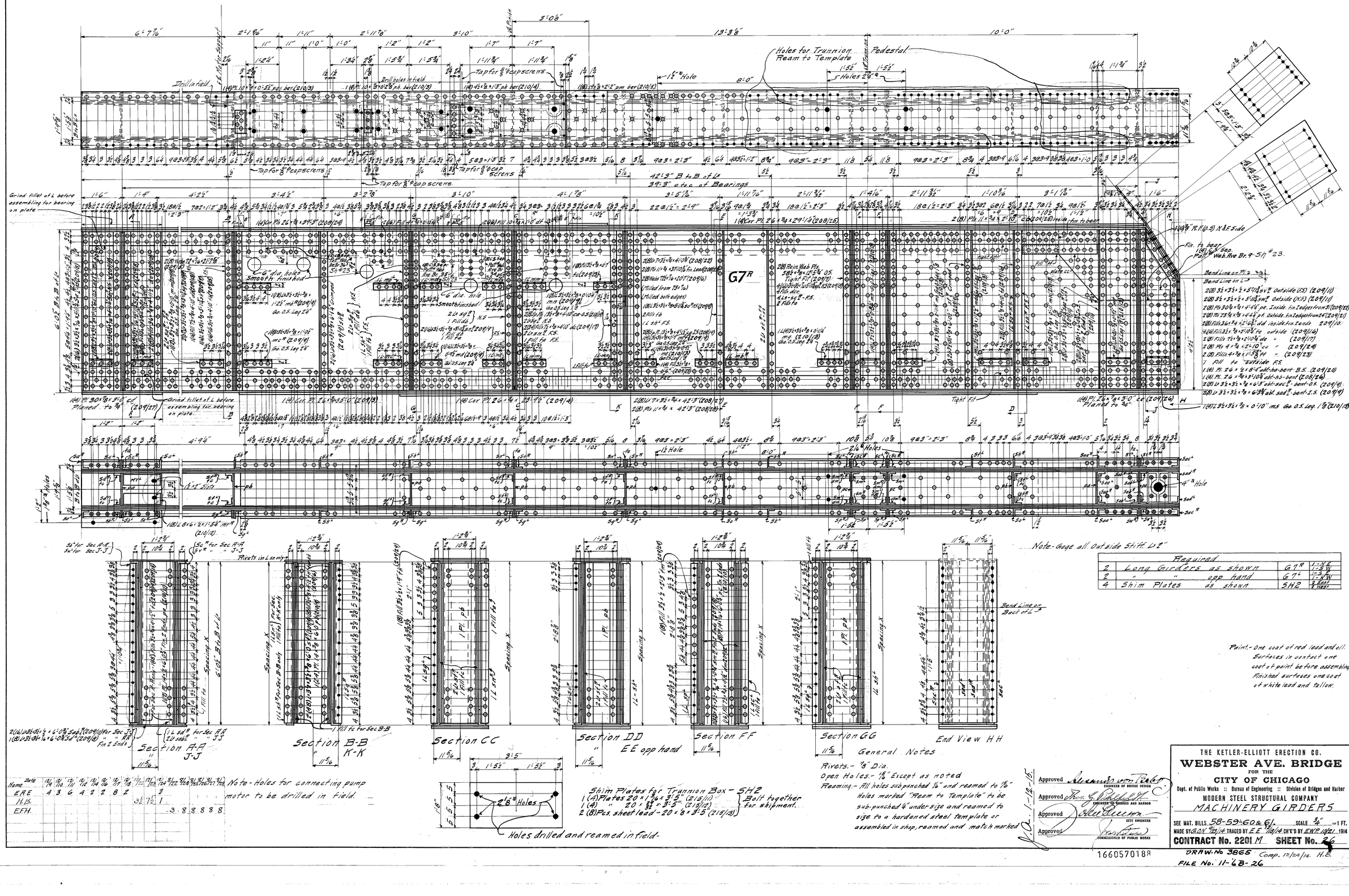
146-1"⌀ x 1'-3 (207/23)
146 Hex Nuts 1" Tap (207/24)

146 Anchors Stringers & Posts.

Approved Alexander von Babo
ENGINEER OF BRIDGE DESIGN
Approved Thos. G. Pihlfeldt
ENGINEER OF BRIDGES AND HARBOR
Approved
CITY ENGINEER
Approved
COMMISSIONER OF PUBLIC WORKS

THE KETLER-ELLIOTT ERECTION CO.
WEBSTER AVE. BRIDGE
FOR THE
CITY OF CHICAGO
Dept. of Public Works :: Bureau of Engineering :: Division of Bridges and Harbor
MODERN STEEL STRUCTURAL COMPANY
Bolts & Washers
SEE MAT. BILLS 125-126. SCALE 3" = 1 FT.
MADE BY E.E. TRACED BY E.E. 12/30 CH'K'D BY M.R.N/6 1915
CONTRACT No. 2201 E **SHEET No. 25**
DRAW. No 3864
FILE No. 11-6B-25

1660570187



Required			
2	Long Girders as shown	$G7^R$	1-WE
2	" " opp hand	$G7^L$	1-KW
4	Shim Plates as shown	SH2	4 EAST 4 WEST

Name	Date																
E.A.E.	4	3	6	A	2	2	8	2									
H.B.									3½	7½	1						
E.F.H.												3	8	8	8	8	8

Approved Alexander von Babo ENGINEER OF BRIDGE DESIGN
Approved Jno. G. Sublett ENGINEER OF BRIDGES AND HARBOR
Approved John Ericson CITY ENGINEER
Approved [illegible] COMMISSIONER OF PUBLIC WORKS

1660570188

THE KETLER-ELLIOTT ERECTION CO.

WEBSTER AVE. BRIDGE

FOR THE

CITY OF CHICAGO

Dept. of Public Works :: Bureau of Engineering :: Division of Bridges and Harbor

MODERN STEEL STRUCTURAL COMPANY

MACHINERY GIRDERS

SEE MAT. BILLS 58-59-60 & 61. SCALE ¾" = 1 FT.

MADE BY G.O.N. 12/14 TRACED BY E.E. 12/14 CH'K'D BY E.W.P. 12/21 1914

CONTRACT No. 2201 M SHEET No. 26

DRAW. No 3865 Comp. 12/24/14 H.E.

FILE No. 11-68-26

NAME DATE 8/12 8/14 8/16 8/16 8/11 8/18
B.M. 1 8 6 6 2
H.B. 6 3

Section A-A

Holes tapped in cover plate and Fig L. for ⅞" ϕ capscrews

℄ of Motor Support

Drill in Field

Holes for Trunnion Pedestal Ream to Templet

Section B-B
" G-G opp hand.

Section C-C

Section E-E
" F-F opp hand

Section H-H
" I-I opp hand

Section D-D

REQUIRED				
2	Girders	as shown	G8 R	W. EAST
2	"	opp hand	G8 L	W. WEST
				E. WEST
				E. EAST

General Notes
Rivets - ⅞" Dia. Open holes 15/16" dia. except as noted.
Reaming:- All holes Sub-punched 1/16" and reamed to 15/16". Open holes marked "Ream to Templet" to be subpunched ¼" undersize and reamed to size to a hardened steel templet or assembled in shop, reamed and match marked.
Paint: One coat of red lead and oil. Surfaces in contact one coat before assembling. Finished surfaces one coat of white lead and tallow.

Approved Alexander Von Zabern ENGINEER OF BRIDGE DESIGN
Approved Wm. G. Schofield ENGINEER OF BRIDGES AND HARBOR
Approved John Ericson CITY ENGINEER
Approved [illegible] COMMISSIONER OF PUBLIC WORKS

THE KETLER-ELLIOTT ERECTION CO.
WEBSTER AVE. BRIDGE
FOR THE
CITY OF CHICAGO
Dept. of Public Works :: Bureau of Engineering :: Division of Bridges and Harbor
MODERN STEEL STRUCTURAL COMPANY
MACHINERY GIRDERS.

SEE MAT. BILLS 62 & 63 SCALE 1" = 1 FT.
MADE BY DLF 12/11/14 TRACED BY B.W. 12/16/14 CH'K'D BY E.H.P 1920 1914
CONTRACT No. 2201/M SHEET No. 27.

DRAW. No. 3866 Comp. 12/18/14 H.B.
FILE No. 11-63-27
1660570189

GENERAL NOTES.

Rivets: $\frac{7}{8}\phi$

Open Holes: $\frac{15}{16}\phi$ unless noted.

Paint: One coat red lead & oil. Surfaces in contact one coat before assembling

Reaming: All holes sub-punched $\frac{11}{16}\phi$ and reamed to $\frac{15}{16}\phi$ except in Lac. Bars. Holes marked "REAM TO TEMPLET" to be reamed to a hardened steel templet.

REQUIRED				
2	TRUNNION TRUSSES	TT1	1-SE. 1-NW.	AS SHOWN.
2	"	TT2	1-SW. 1-NE.	OPP. HAND
2	LATERAL PLS.	LP1R	1-SW. 1-NE.	AS SHOWN.
2	"	LP1L	1-SW. 1-NE.	OPP. HAND
4	"	LP2	1-SW. 1-SE. 1-NE. 1-NW.	AS SHOWN.
4	"	LP4	1-SW. 1-SE. 1-NE. 1-NW.	"
2	"	LP3R	1-SE. 1-NW.	"
2	"	LP3L	1-SW. 1-NE.	OPP. HAND

TT1 S.E. & TT1 N.W. as shown

TT2 N.E. & TT2 S.W. opposite hand.

THE KETLER-ELLIOTT ERECTION CO.

WEBSTER AVE. BRIDGE

FOR THE

CITY OF CHICAGO

Dept. of Public Works :: Bureau of Engineering :: Division of Bridges and Harbor

MODERN STEEL STRUCTURAL COMPANY

TRUNNION TRUSSES

SEE MAT. BILLS 64 to 70 incl. SCALE $\frac{3}{4}$" = 1 FT.

MADE BY H.H.C. 10/7 TRACED BY E.J. 12/16 CH'K'D BY W.B. 10/21/1914

CONTRACT No. 2201 M SHEET No. 28

DRAW. No. 3861 Comp. 12/22/14 H.B.

FILE No. 11-68-28

Approved Alexander Von Babo ENGINEER OF BRIDGE DESIGN

Approved Jno. G. Gutelius ENGINEER OF STREETS AND HARBOR

Approved [illegible] CITY ENGINEER

Approved [illegible] COMMISSIONER OF PUBLIC WORKS

1660570199

Sections X-X, Y-Y

TOP LATERAL SYSTEM.

BOTT LATERAL SYSTEM.

CF1
CF2ℓ

CF3
CF4

KB1
KB2ℓ

KB3.

REQUIRED		
4	LATERAL PLATES	LP1
4	" "	LP2
4	" "	LP3
4	" "	LP4
4	" "	LP5
4	" "	LP6
4	" "	LP7
4	" "	LP8
4	" "	LP9
4	" "	LP10
4	" "	LP11
4	" "	LP12
4	" "	LP13
4	" "	LP14
4	" "	LP15
4	" "	LP16
4	" "	LP17
4	" "	LP18
4	" "	LP19
4	" "	LP20
4	" "	LP21
4	" "	LP22
4	" "	LP23
4	" "	LP24
4	" "	LP25
4	" "	LP26
4	" "	LP27
4	" "	LP28
4	" "	LP29
4	" "	LP30
4	" "	LP31
4	" "	LP32
4	" "	LP33
4	" "	LP34
4	" "	LP35
4	" "	LP36
4	" "	LP37
4	" "	LP38
4	LATERALS	L4
4	"	L5
4	"	L6
4	"	L7
4	"	L8
4	"	L9
4	"	L10
4	"	L11
4	"	L12
4	"	L13
4	"	L14
4	"	L15
4	"	L16
4	"	L17
4	"	L18
4	"	L19
4	"	L20
4	"	L21
4	"	L22
4	"	L23
4	"	L24
4	"	L25
4	"	L26
4	"	L27
4	"	L28
4	"	L29
4	"	L30
4	"	L31
4	"	L32
4	"	L33
4	"	L34
4	"	L35
4	"	L36
4	"	L37
4	"	L38

REQUIRED		
4	LATERALS	L34
4	"	L35
AS SHOWN	8 CROSS FRAMES	CF1
"	4 " "	CF2ℓ
OPP HAND	4 " "	CF2ℓ
AS SHOWN	4 " "	CF3
"	4 " "	CF4
"	8 " "	CF5
"	4 " "	CF6ℓ
OPP HAND	4 " "	CF6ℓ
AS SHOWN	4 " "	CF7ℓ
OPP HAND	4 " "	CF7ℓ
AS SHOWN	8 " "	CF8
"	8 " "	CF9
"	8 " "	CF10
"	8 " "	CF11
"	8 " "	CF12
"	32 BRACKETS	KB1
"	4 "	KB2ℓ
OPP HAND	4 "	KB2ℓ
AS SHOWN	4 "	KB3

Note - Mark one half of Material listed on this sheet "East and the other half "West."

General Notes.
Rivets - 7/8 ϕ
Open holes 15/16 ϕ
Paint - One coat of red lead and oil.
Surfaces in contact one coat of paint before assembling.
Reaming: All holes sub-punched 1 1/16 ϕ and reamed to 15/16 ϕ.

all 3½x3½x⅜ ls ordered under item 210/3.

15/16" holes for 7/8" bolts.

DATE	1/7	1/8	1/9	1/21	1/22	1/28	1/29	1/30	8/29	8/31	9/1	9/2	9/3	9/4
BM	6	6	4	3	7		2							
H.B.						2	6½	1½						
E.F.H.									4½	7	8	8	8	2

Approved Alexander von Babo (1)
Approved Wm. G. Hulbert
ENGINEER OF BRIDGES AND HARBOR
Approved [illegible]
CITY ENGINEER
Approved [illegible]
COMMISSIONER OF PUBLIC WORKS

THE KETLER-ELLIOTT ERECTION CO.

WEBSTER AVE. BRIDGE

FOR THE

CITY OF CHICAGO

Dept. of Public Works :: Bureau of Engineering :: Division of Bridges and Harbor

MODERN STEEL STRUCTURAL COMPANY

BRACING FOR MACHINERY GIRDERS.

SEE MAT. BILLS 71 to 80 SCALE 1 FT. = 1 FT.

MADE BY H.A.T. 9/23/14 TRACED BY B.M. 12/11/14 CH'K'D BY E.H.P. 10/22/1914

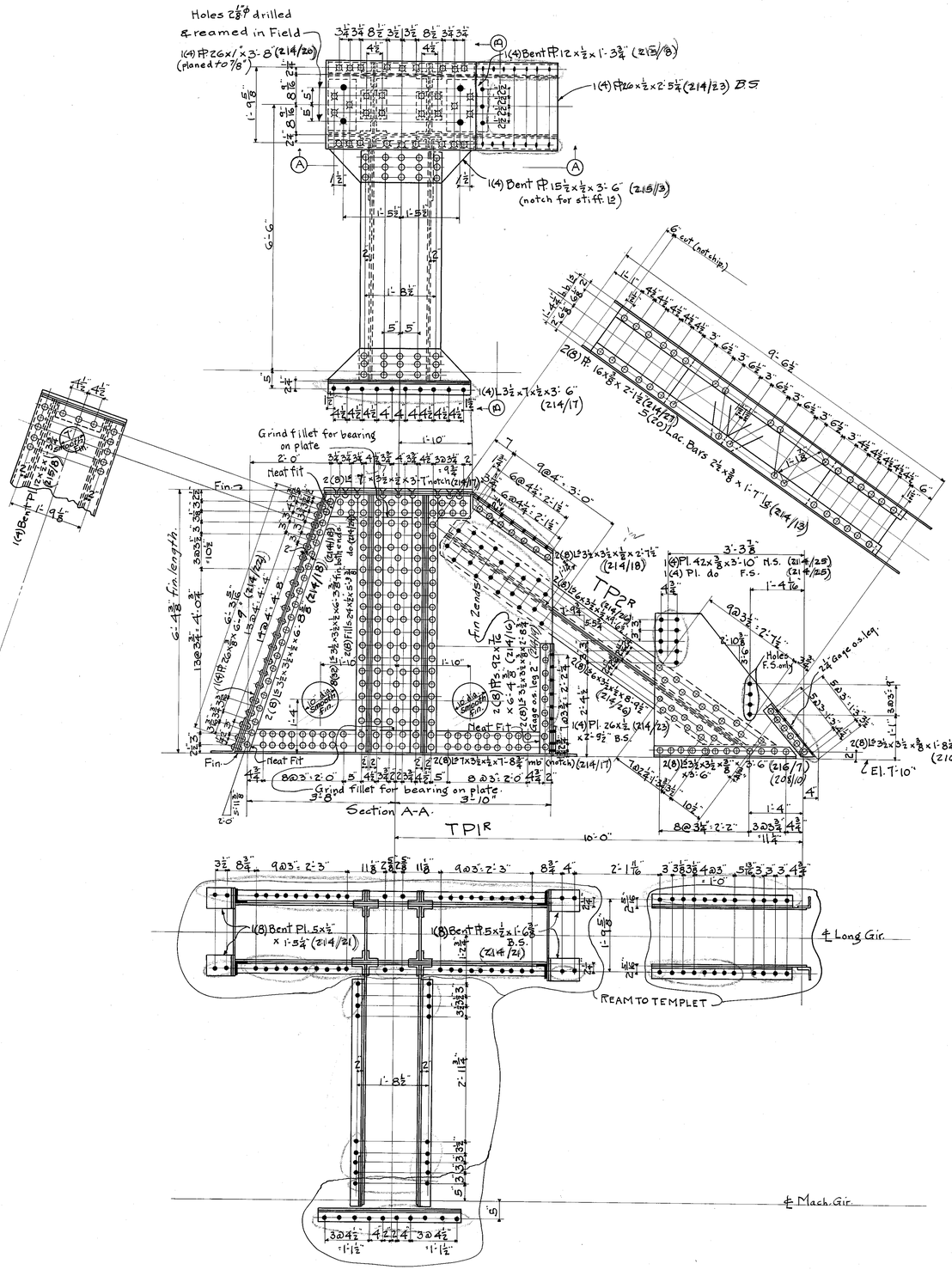
CONTRACT No. 2201 M. SHEET No. 29.

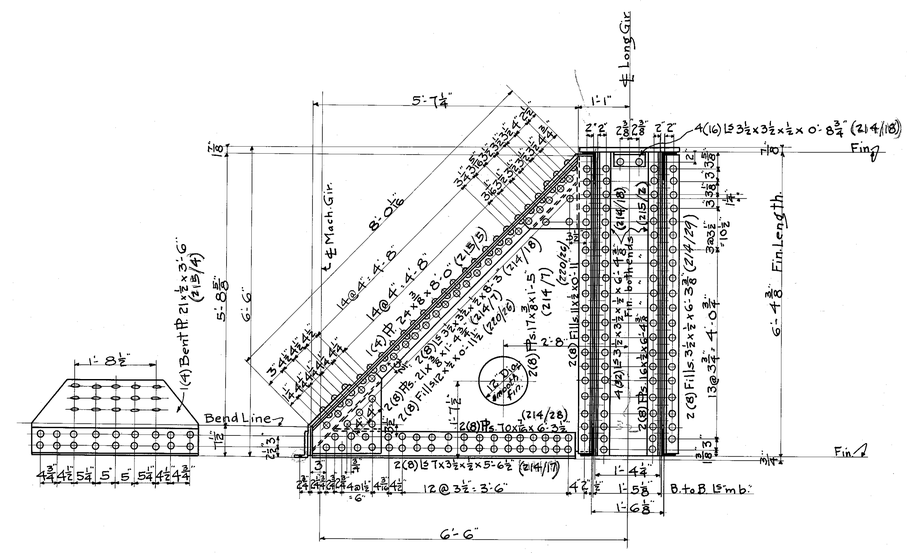
DRAW. No. 3868 Comp. 12/30/14 H.B.

FILE No. 11-68-29

1660570191

9/4	19/28	15/24	12/21	12/12	11/18	3/17	Date & Init'l
			2	4	1/4	1/4	E.J.
	1	6					H.B. E.A.H.
6							





	REQUIRED			
AS SHOWN	2	TRUNNION PEDESTALS	TP1R	1'- East 1'- West
OPP. HAND	2	" "	TP1L	do.
AS SHOWN	2	" STRUTS	TP2R	do.
OPP. HAND	2	" "	TP2L	do.

GENERAL NOTES.

Rivets: 7/8" dia.
Open Holes: 15/16" dia. except as noted.
Paint: One Coat of red lead and oil.
Surfaces in contact one coat of paint before assembling fin. surfaces one coat of white lead and tallow.
Reaming:- All holes sub-punched 11/16" and reamed to 15/16" except holes in lac. bars. Holes marked "REAM TO TEMPLET" to be subpunched 11/16" and reamed to size thru a hardened steel templet. or assembled in Shop, reamed and match-marked.

Approved Alexander von Babo ENGINEER OF BRIDGE DESIGN
Approved John G. Sutherland ENGINEER OF BRIDGES AND HARBOR
Approved [illegible] CITY ENGINEER
Approved [illegible] COMMISSIONER OF PUBLIC WORKS

THE KETLER-ELLIOTT ERECTION CO.

WEBSTER AVE. BRIDGE

FOR THE

CITY OF CHICAGO

Dept. of Public Works :: Bureau of Engineering :: Division of Bridges and Harbor

MODERN STEEL STRUCTURAL COMPANY

TRUNNION PEDESTAL & STRUT

SEE MAT. BILLS 81-82 SCALE =1 FT.

MADE BY H.B.T. 9/23 TRACED BY G.J. 12/24 CH'K'D BY E.W.P 10/12/1914

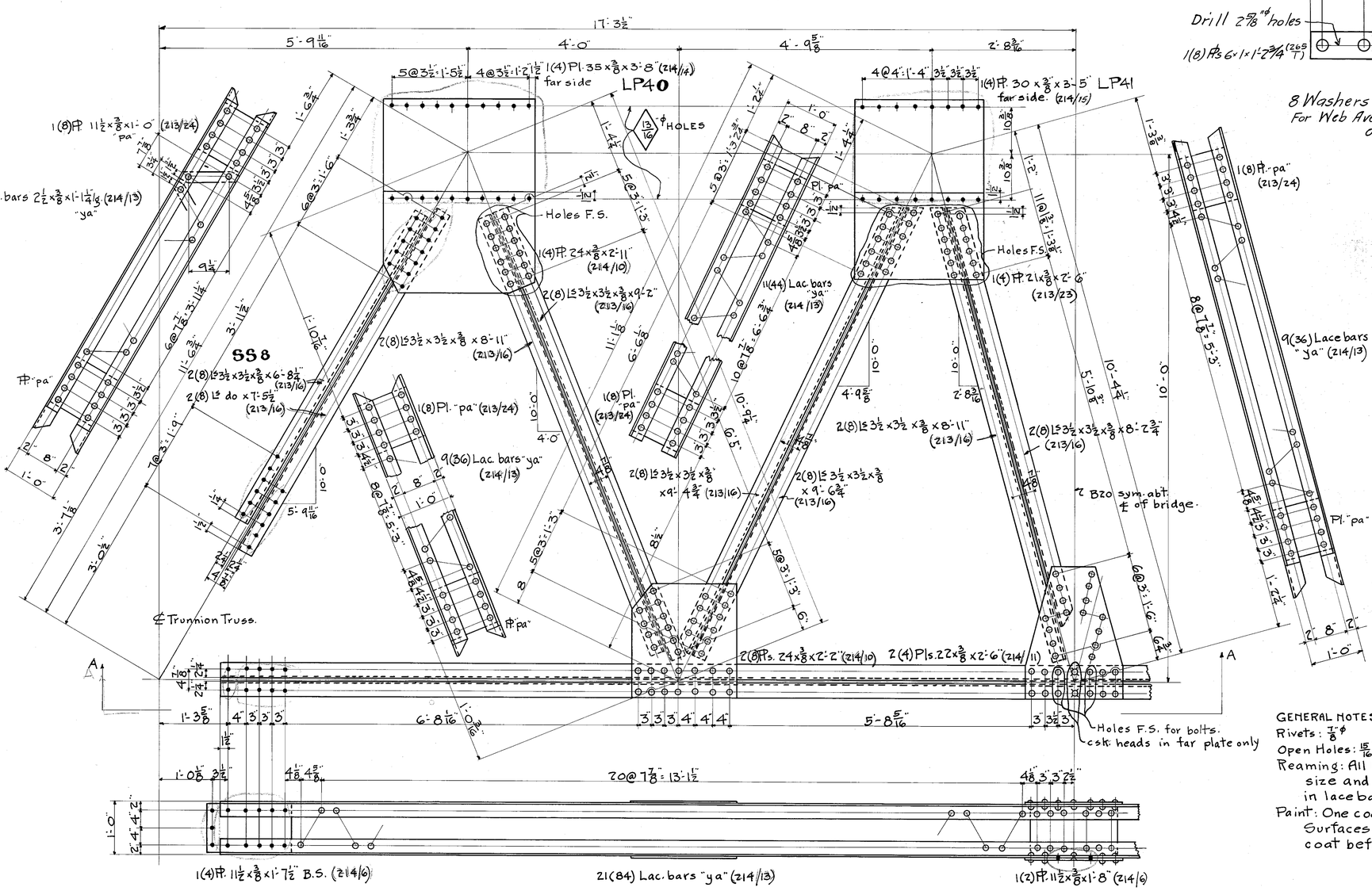
CONTRACT No. 2201 M SHEET No. 30.

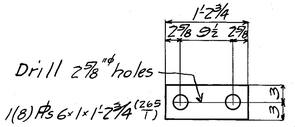
DRAW. No 3869 Comp. 12/28/14 H.B.

FILE No. 11-6B-30

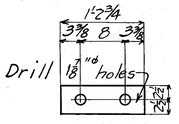
1660570192

12/30	12/22	12/21	date
3	1		E.J.
1½			H.B.

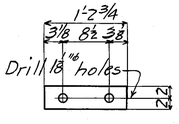




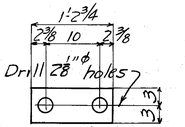
8 Washers WP1
For Web Ave Br 34 on G7L



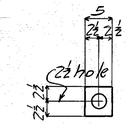
8 Washers WP2
For Web Ave Br 35 on G7L



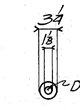
12 Washers WP3
For Web Ave Br 36 on G7L



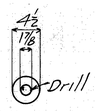
8 Washers WP4
For Web Ave Br 140 & 142 on TT1&2



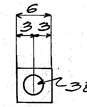
8 Washers WP6
For Web Ave Br 139 TT1&2



24 Washers WP7
For Web Ave Br 32 on G8L



32 Washers WP8
For Web Ave Br 33 on G8L



1(8) Washers 6" x 1" x 0'-6 (210/23)
8 Washers WP9 -
For Web Ave Br 9 & 10 on TT1&2 & G7L

GENERAL NOTES.
Rivets: ⅞" ϕ
Open Holes: 15/16" ϕ except as noted.
Reaming: All holes subpunched ¼" under size and reamed to size except in lace bars.
Paint: One coat red lead and oil. Surfaces in contact each one coat before assembling.

B20
4(8) L 3½ x 3½ x ⅜ x 32'-2¾" (213/14)

Required			
8	Washers	WP1	4 East 4 West
8	"	WP2	4 " 4 "
12	"	WP3	6 " 6 "
8	"	WP4	6 " 6 "
8	"	WP6	4 " 4 "
24	"	WP7	12 " 12 "
32	"	WP8	16 " 16 "
8	"	WP9	4 " 4 "

Required.			
2	Horiz. Bracings	B20	1 East - 1 West
4	Struts	SS8	2 " - 2 "
4	Plates	LP40	2 " - 2 "
4	"	LP41	2 " - 2 "

Approved Alexander von Babo, Engineer of Bridge Design
Approved Thos. G. Pihlfeldt, Engineer of Bridges and Harbor
Approved John Ericson, City Engineer
Approved Jos. Gurtler, Commissioner of Public Works

THE KETLER-ELLIOTT ERECTION CO.

WEBSTER AVE. BRIDGE

FOR THE

CITY OF CHICAGO

Dept. of Public Works :: Bureau of Engineering :: Division of Bridges and Harbor

MODERN STEEL STRUCTURAL COMPANY

BRACING FOR TRUNNION TRUSS.

SEE MAT. BILLS 83-84 SCALE = 1 FT.

MADE BY W.S.P. 10/2 TRACED BY E.J. 12/22/ CH'K'D BY W.B. 10/2/1914

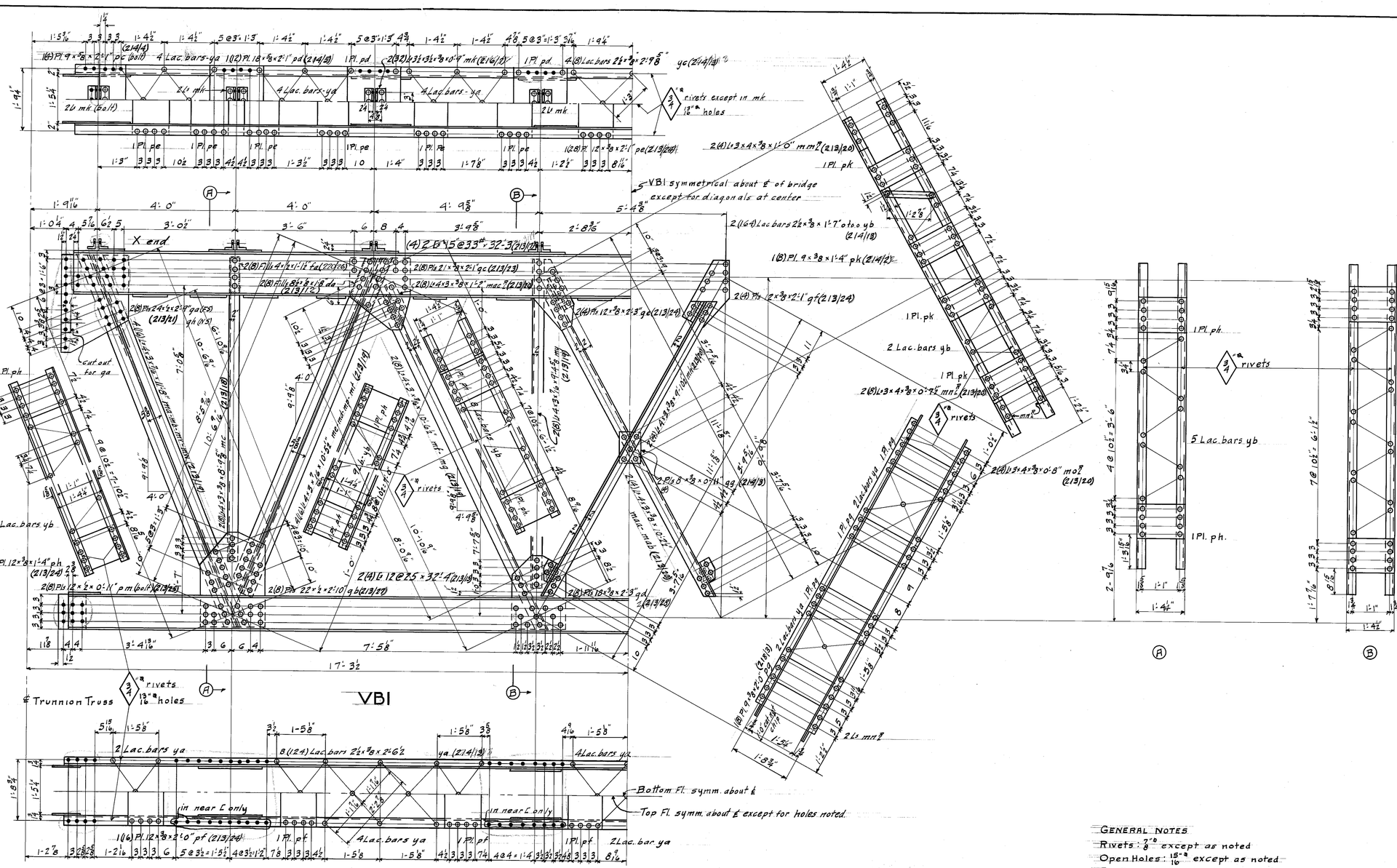
CONTRACT No. 2201 **SHEET No. 31**

1660570193 DRAW. No. 3870

FILE No. 11-68-31

Comp. 12/30/14 H.B.

Date	12/22	12/23	12/24	12/30	12/31
Name					
E.A.E.	6	7	1		
H.B.				4	1½


VBI
Trunnion Truss
X end
cut out for ga
rivets
holes
5 VBI symmetrical about ℄ of bridge except for diagonals at center
Bottom Fl. symm. about ℄
Top Fl. symm. about ℄ except for holes noted.
in near ℄ only
1 Pl. ph
5 Lac. bars yb
7 Lac. bars yb
1 Pl. pk
2 Lac. bars yb
10 Lac. bars yb
4 Lac. bars ya
8 (124) Lac. bars 2½ × ⅜ × 2'-6½" ya (214/12)
2 Lac. bars ya
4 Lac. bars ya
2 Lac. bar ya
1 Pl. pf
1 Pl. pe
1 Pl. pd
1 Pl. pa
2 Lac. bars yd
1 Pl. pk
2 Lac. bars ya
1 Pl. pf
4 Lac. bars ya
1 Pl. pf

Section B-B

(4) C.S. Sole Pl. Pattern No. 4 or 5 detailed on Sheet 23

End-View-D-D.

Section A-A

FB7

MS1 - MS2

B25 - B26

Section C-C
C14 - C15 - C16

B23

B21

	REQUIRED			
AS SHOWN	2	FLOOR BEAMS	FB7	1 East - 1 West
"	2	TENSION PLS	PL-E	1 " 1 "
OPP HAND	2	" "	PL-L	1 " 1 "
AS SHOWN	2	STRUTS	SS9	1 " 1 "
OPP HAND	2	Columns	C14-E	1 " 1 "
OPP HAND	2	Columns	C14-L	1 " 1 "
AS SHOWN	4	"	C15	2 " 2 "
"	8	"	C16	4 " 4 "
"	8	KNEE BRACES	K4	4 " 4 "
"	8	" "	K5	4 " 4 "
"	8	BRACINGS	B21	4 " 4 "
"	4	"	B22	2 " 2 "
"	4	"	B23	2 " 2 "
"	4	BRACKETS	B24	2 " 2 "
"	8	"	B25	4 " 4 "
"	8	"	B26	4 " 4 "
"	2	Motor Supports	MS1	1 " 1 "
"	2	" "	MS2	1 " 1 "

General Notes.

Rivets - 7/8" dia.
Holes - 15/16" dia. unless noted.
Paint. - One coat of red lead and oil.
Surfaces in contact one coat before assembling. Finished surfaces one coat white lead and tallow.
Reaming: All holes sub punched 1/4" undersize and reamed to size except in lacing bars.
Open holes marked "Ream to Templet" to be sub punched 1/4" undersize and reamed to size thru a hardened steel templet or assembled in shop, reamed and match marked.

Approved Ernest von Sachs, ENGINEER OF BRIDGE DESIGN
Approved [illegible], ENGINEER OF BRIDGES AND HARBOR
Approved [illegible], CITY ENGINEER
Approved [illegible], COMMISSIONER OF PUBLIC WORKS

THE KETLER-ELLIOTT ERECTION CO.

WEBSTER AVE. BRIDGE

FOR THE

CITY OF CHICAGO

Dept. of Public Works :: Bureau of Engineering :: Division of Bridges and Harbor

MODERN STEEL STRUCTURAL COMPANY

ROADWAY SUPPORTS

SEE MAT. BILLS 87 to 91 SCALE 1 FT.
MADE BY JOV. 10/1/14 TRACED BY BM 12/23/14 CHK'D BY LTB 10/22/1914
CONTRACT No. 2201 M SHEET No. 33.

DRAW. No 3872 Comp. 12/31/14, H.B.
FILE No. 11-6B-33

16605701 95

3/16	12/0	10½	12/3	12/1	11/13	11/12/14	11/6/14	11/8	11/6/14	DATE / PLATE
½	¾				1	3½		3 3/8	¾	E.J.
1	1½	1½	5½				2			H.B.
			7¼							J.B.W.

Section CC

Section BB

Each Strut in center line to be erected before Floor Beam above is swung in place

N.- for west side of River
S.- " east " "

PLAN OF DECK.

Section AA

39'-6" c to c of Trusses

INSIDE ELEVATION OF NORTH TRUSS.

Section DD

Section EE
39'-6" c to c of Trusses

ERECTOR-NOTE

The following system of match-marking in reaming the trusses while assembled in the shop, and must be followed in erection.

All members for the southeast truss marked SE
" " " southwest " " SW
" " " northeast " " NE
" " " northwest " " NW

Approved Alexander von Babo ENGINEER OF BRIDGE DESIGN
Approved Chas. S. Whitehead ENGINEER OF BRIDGES AND HARBOR
Approved [illegible] CITY ENGINEER
Approved [illegible] COMMISSIONER OF PUBLIC WORKS

1660570196

THE KETLER-ELLIOTT ERECTION CO.

WEBSTER AVE. BRIDGE

FOR THE

CITY OF CHICAGO

Dept. of Public Works :: Bureau of Engineering :: Division of Bridges and Harbor

MODERN STEEL STRUCTURAL COMPANY

ERECTION PLAN OF MOVABLE PART.

SEE MAT. BILLS SCALE 3/16" = 1 FT.

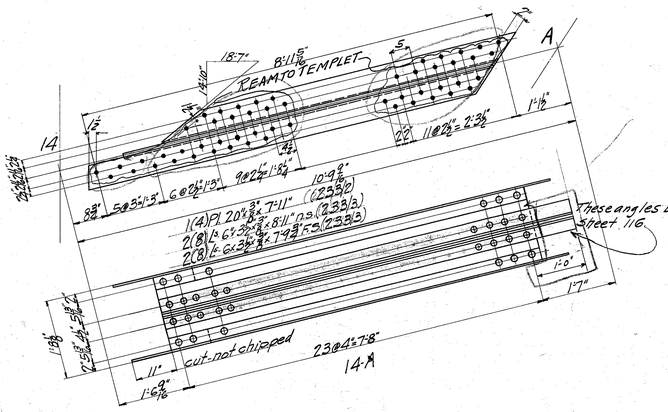
MADE BY W.L.M. 9/10/14 TRACED BY E.J. 11/9/14 CH'K'D BY A.W.O. 9/14/1914

CONTRACT No. 2201 M SHEET No. E 101

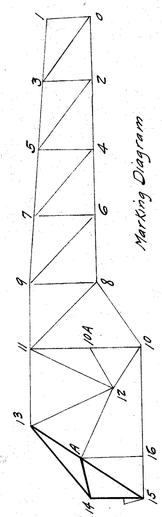
DRAWING No 3873 Comp. 11/11/14 H.B.

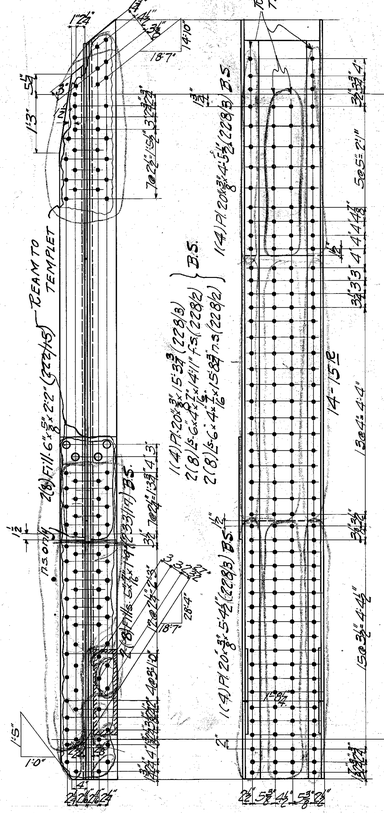
FILE No. 11-GC-11

Name	7/8	7/8	7/8	7/8	1/2	1/2	1/2	7/8	7/8
Date									
E.F.H.	3	6	4	3					
J.B.W.				1/3			3 2/3	6	
H.B.					3½	2	1	1½	1½



Rivet in shop to CM1 shown on sheet 116




REAM TO TEMPLET
18'-7"
14'-10"
13"
5½"
10'-6"
28'-4"
15'-6"
2(8)Fill 6"x⅝"x 2'-2" (233/8)
1(4)PL 20⅜"x⅝"x 15'-3" (228/8)
2(8)L 6"x4"x⅝"x 14'-11" (228/8)
2(8)L 6"x4"x⅝"x 15'-0" (228/8)
1(4)PL 20⅜"x⅝"x 15'-3" (228/8)
2(8)L 6"x4"x⅝"x 15'-0" (228/8)
14-15E
14-15E
2(8)Fill 6"x⅝"x 2'-2" (233/8)
2(8)PL 21⅜"x⅝"x 14'-11" (233/8)
2(8)PL 21⅜"x⅝"x 15'-3

Section B-B

Ream to Templet

Ream with casting assembled with Member 12-10a in place

Ream to Templet

2"ϕ Hole for 1¼" Rod N.S. only.

Ream to Templet

Ream to Templet

Ream to Templet

	13/16	3/4	11/16	9/16	5/8	DATE PUNCHED
	1/2	1 3/4	1	5 1/4	6 1/4	E.J.
		5/8				H.B.

13

11

12

10

REAM TO TEMPLET

REAM TO TEMPLET

℄ of Top Chord.

Holes in pls. pm to be drilled in field.

1(8) PL 5"x 3/8" x 4'-7 1/2" pm (234/7)

1(8) PL 30"x 3/8" x 4'-7 1/2" (233/28)

1(8) L 3 1/2" x 3 1/2" x 3/8" x 4'-7 1/2" (234/25)

1(8) Fill 3 1/2" x 3/8" (234/8)

1(8) L 4"x 4"x 3/8" x 2'-7" (234/3) open

SR4

4'-4 5/8"

Fin. length of diaphragm cover pl. at center-line

Main Material

Diaphragm

Short drill these holes 3 deg. out of square with face of flange for turning of bolts in direction of nearest distance

Drill Holes for 1 1/8" Turned bolts to match Patt. - Web. Ave. Br. #40

3(12) Pls. 28"x 1/16"x 2'-5" (204/12)
1(4) " 28"x 1/4"x 2'-5" (204/13)
1(4) " 28"x 5/16"x 2'-5" (204/14)

Bolt together for shipm't.
Mark: SH1

Hole to be bored to a light driving fit for 18" shaft.

Location of Key.

Marking Diagram.

REQUIRED				
4	Truss Members	11-12	1 Each NW SW NE SE	AS SHOWN
4	Sidewalk plates.	SR4	1 Each NE SE	" "
1	Truss Members	10-13R	N.W.	" "
1	" "	10-13R	S.E.	" "
2	" "	10-13L	N.E.-S.W.	OPP. HAND.
4	Shims	SH1	1 Each NW-SE NE-SW	AS SHOWN

GENERAL NOTES.

Rivets 7/8"ϕ
Open Holes 15/16"ϕ unless noted.
Reaming:- All holes sub-punched 11/16"ϕ and reamed to 15/16"ϕ except holes in lacing bars. Holes marked "REAM TO TEMPLET" to be sub-punched 11/16"ϕ and reamed to size thru a hardened steel templet, or assembled in shop, reamed & match-marked.
Paint:- One coat red lead & oil. Surfaces in contact one coat before assembling.

Rivets far side. Open holes near side. REAM TO TEMPLET.

THE KETLER-ELLIOTT ERECTION CO.

WEBSTER AVE. BRIDGE

FOR THE

CITY OF CHICAGO

Dept. of Public Works :: Bureau of Engineering :: Division of Bridges and Harbor

MODERN STEEL STRUCTURAL COMPANY

MAIN TRUSS MEMBERS.

SEE MAT. BILLS 41-42-43 SCALE 3/4" = 1 FT.
MADE BY H.M.S. 10/6 TRACED BY E.J. 11/19/14 CH'K'D BY W.T.S. 10/22, 1914
CONTRACT No. 2201 M SHEET No. 103

Approved Alexander von Babo, ENGINEER OF BRIDGES AND HARBOR
Approved Thos. G. Pihlfeldt, ENGINEER OF BRIDGES AND HARBOR
Approved John Ericson, CITY ENGINEER
Approved [illegible], COMMISSIONER OF PUBLIC WORKS

DRAWING No 3876 Comp. 12/1/14 H.B.
FILE No. 11-6C-4

1660570199

Name	Date							
E.F.H.	3	8						
J.a.m.	4		4	12	12			
H.B.		2.2	12					
M.R.N.								

		Required	
As Shown	2	Top Chords	5-9 one each NE+SW
As Shown	2	" "	5-9 " SE+NW
As Shown	1	Bott Chord	4-8½ NW
As Shown	1	" "	4-8½ SE
Opp Hand	2	" "	4-8½ one each NE+SW
As Shown	2	Diagonals	6-9½ SE+NW
Opp Hand	2	"	6-9½ one each SW+NE
As Shown	2	"	4-7½ one each SE+NW
Opp Hand	2	"	4-7½ one each SW+NE
As Shown	2	Posts	6-7½ one each SE+NW
Opp Hand	2	"	6-7½ one each SW+NE

General Notes.

Rivets ⅞" ϕ
Holes 15/16" ϕ unless noted
Paint:- One coat of red lead and oil. Surfaces in contact one coat before assembling.
Reaming: All holes subpunched 1/16" ϕ and reamed to ⅛" except holes in lac bars. Open holes marked "Ream to Templet" to be subpunched 1/16 and reamed to size thru a hardened steel templet or assembled in shop, reamed and match marked.

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FOR THE

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MODERN STEEL STRUCTURAL COMPANY

MAIN TRUSS MEMBERS

Approved Thos. G. Pihlfeldt, ENGINEER OF BRIDGES AND HARBOR
Approved [illegible], CITY ENGINEER
Approved [illegible], COMMISSIONER OF PUBLIC WORKS

Approved Norman Scott Sabo, ENGINEER OF BRIDGE DESIGN

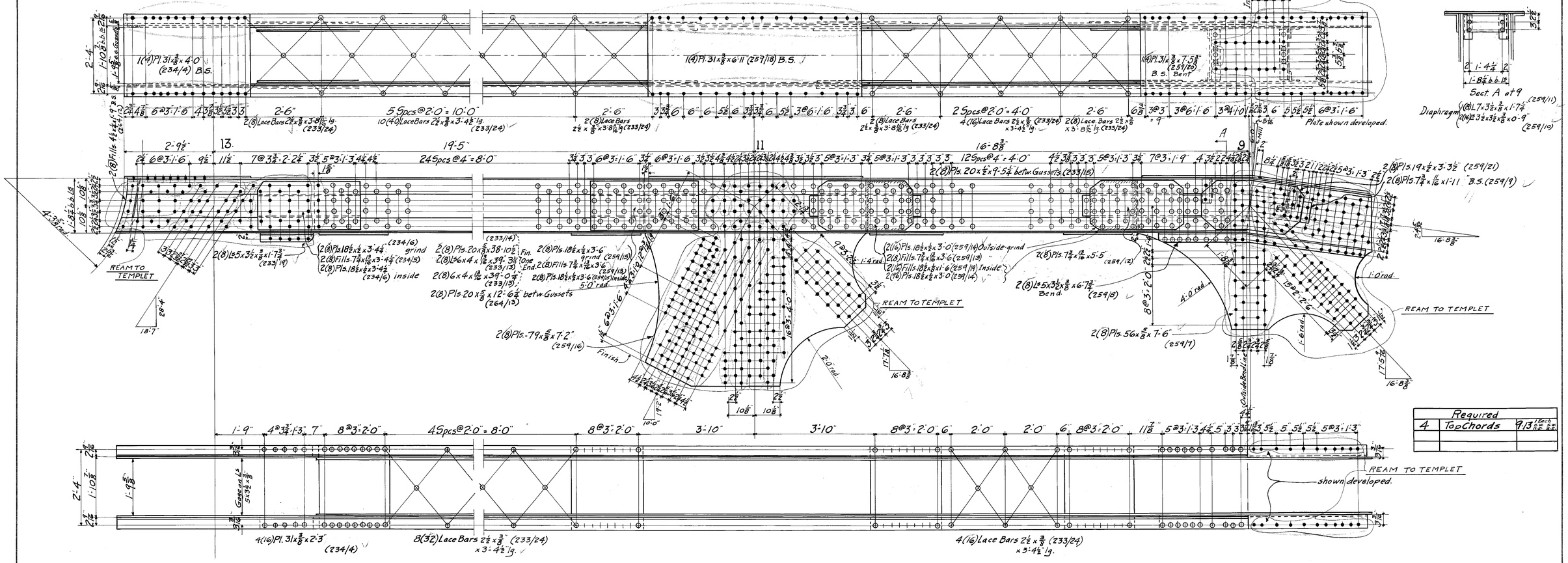
SEE MAT. BILLS 16-17-18-19 SCALE =1 FT.
MADE BY W.B. TRACED BY E.W. 12/1 CH'K'D BY A.R.R. 1914

CONTRACT No. 2201M. SHEET No. 104

DRAWING No. 3877 Comp 11-4-14 H.B.
FILE No 11-GC-5

1660570200

12/3	1/4	11/12	1/10	11/9	NAME	DATE
3/4	1		7	2 3/4	E.S.	
		1			H.B.	



— General Notes —

Rivets 7/8 ϕ
Open Holes 15/16 ϕ
Paint One coat of red lead and oil Surfaces in contact one coat before assembling.
Reaming. All holes to be sub-punched 1 5/16 ϕ and reamed to 15/16 ϕ except in lacing bars.
Open Holes marked "REAM TO TEMPLET" to be subpunched 1 1/16 and reamed to size to a hardened steel templet, or assembled in shop, reamed and match-marked.

Approved [illegible] ENGINEER OF BRIDGE DESIGN
Approved [illegible] ENGINEER OF BRIDGES AND HARBOR
Approved [illegible] CITY ENGINEER
Approved [illegible] COMMISSIONER OF PUBLIC WORKS

J.A. 12-8-11

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MAIN TRUSS MEMBERS.

SEE MAT. BILLS 12-13 SCALE 3/4" = 1 FT.

MADE BY W.B. 9/21 TRACED BY E.J. 11/10 CH'K'D BY JAO 12/12/1914

CONTRACT No. 2201 M SHEET No. 105

DRAWING No. 3878 Comp. 11/14/11 H.B.

FILE No. 11-GC-6

1660570201

							DATE	NAME
13/4	11/8	11/21	11/20	11/12	11/11			
1/4				2 1/2	6 1/2			E.J.
	1/2	1 1/2	1/2					H.B.

Required.			
as shown	2	Bottom Chord	8-10 1/2 L one each 11 W-5 E.
opp. hand	2	" "	8-10 1/2 L " " 11 E-5 W.

Marking Diagram.

1(12)PL-18 3/8 x 0'-2" B.S. (258/27) 8(32) Lac. Bars 2 1/2 x 3/8 x 3'-5 1/4" lg. (258/24)

4 Spcs @ 2'-1 1/2" = 8'-6"

Pl. 18 x 3/8 x 2'-7"

REAM TO TEMPLET

1(4) Fill 4 1/2 x 3/8 x 0'-9 1/2" B.S. (258/23)

2(8) Pls. 69 x 3/8 x 1'-4" (258/21)

1(4) L 5 x 3 1/2 x 3/8 x 2'-4" (258/12) F.S.

1(4) L 5 x 3 1/2 x 3/8 x 2'-4" (258/12) N.S. B.S.

2(8) Web pls. 20 x 1/2 x 20'-3" (258/16)
Main Material 2(8) L 6 x 4 x 3/4 x 19'-10 3/4" (258/14) Fin. both ends.
2(8) L 6 x 4 x 3/4 x 20'-1 1/4" (258/15)
2(8) Pls. 8 x 3/8 x 12'-1 3/4" between Gussets. (258/20)

2(8) L 5 x 3 1/2 x 3/8 x 17'-8 3/8" (258/17)
Diaphragm 2(8) L 4 x 4 x 3/8 x 17'-6 3/8" (258/18)
1(4) Web pl. 20 x 3/8 x 17'-6 1/2" (258/19)

17 Spcs @ 4'-4" = 6'-0 1/2" c. to c.
19-10 1/4" c. to c.

2(8) L 5 x 3 1/2 x 3/8 x 11'-2" (258/22)

2(8) Pls. 7 3/4 x 3/4 x 5'-3 1/2" (258/25)

8(32) Lace Bars 2 1/2 x 3/8 x 3'-5 1/4" lg. (257/20)

4 Spcs @ 2'-1 1/2" = 8'-6"

24 Spcs @ 6" = 12'-0"

Pl. 18 x 3/8 x 2'-7" B.S.

REAM TO TEMPLATE

Sect. A-A at 8

10

1(4) Pl - 31 x 3/8 x 9'-8 3/4" (259/3) bent.

1(8) Wedge Fill 4 1/2 x 2 3/8 x 0'-11" C.S. Patt. Web. Ave # 16. (225/8)

1(8) Wedge Fill 4 1/2 x 3 1/2 x 0'-10" C.S. B.S. Patt. Web. Ave # 17 (225/9)

Sect. B-B at 8

Patt. Web. Ave # 16. F.S.

Patt. Web. Ave # 17. N.S.

Core 5/8 dia.

Horizontal Line thru Trunnion.

1(4) L 5 x 3 1/2 x 3/8 x 2'-7" N.S. 258/22
1(4) L Do. F.S. Bent.

Enlarged View at 8.

2(8) Pls. 22 x 3/8 x 3'-3" (258/24)
1(4) L 5 x 3 1/2 x 3/8 x 2'-7 1/2" (258/22) N.S.
1(4) L Do. (258/22) F.S. B.S.

1(4) Fill 4 1/2 x 3/8 x 0'-11 3/4" B.S. (258/23)

Horizontal Line

2(8) L 3 1/2 x 3 1/2 x 3/8 x 4'-6" (258/28)

Diaphragm

for Chord

for Diaphragm

Bent Plate

REAM TO TEMPLET

REAM TO TEMPLATE

1'-8 3/8" ins. Gusset's

General Notes:-
Rivets 3/8"ϕ
Open Holes 15/16"ϕ
Paint. One coat of red lead and oil. Surfaces in contact, one coat before assembling.
Reaming. All holes to be sub-punched 1/16"ϕ and reamed to 15/16"ϕ except in lacing bars.
Open Holes marked "REAM TO TEMPLET" to be subpunched 1/16"ϕ and reamed to size to a hardened steel templet, or assembled in shop, reamed and match-marked.

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FOR THE

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MODERN STEEL STRUCTURAL COMPANY

MAIN TRUSS MEMBERS.

SEE MAT. BILLS 20 SCALE 3/4" = 1 FT.

MADE BY W.B. 9/20 TRACED BY E.J. 11/21 CH'K'D BY 11/12 1914

CONTRACT No. 2201 M SHEET No. 106

DRAWING No. 3879 Comp. Weight 11-B.

FILE No. 11-GC-7

Approved [illegible] ENGINEER OF BRIDGE DESIGN

Approved [illegible] ENGINEER OF BRIDGES AND HARBOR

Approved [illegible] CITY ENGINEER

Approved [illegible] COMMISSIONER OF PUBLIC WORKS

1660570202

REQUIRED		
/	CHORD SECTION	0-2 NW As shown
/	" "	0-2 SW OPP hand
/	" "	0-2 SE As shown
/	" "	0-2 NE OPP hand
/	" "	2-4 NW As shown
/	" "	2-4 SW OPP hand
/	" "	2-4 SE As shown
/	" "	2-4 NE OPP hand
/	" "	1-5 NW As shown
/	" "	1-5 SW "
/	" "	1-5 NE "
/	" "	1-5 SE "

Dimensions given are measured on ℄ of chord

Ream to Templet

Top llam for 2-4 SW & 2-4 NE

2-4 SE same as 2-4 NW except for holes in web as noted
2-4 SW + 2-4 NE opphand of 2-4 NW " " " " " " "
and top view

2-4 NW as shown and noted

Holes in far side - 2-4 NW only - to be drilled in field

Horizontal line thru trunnion ℄

Marking Diagram

0-2 NW As shown 13/16 ϕ NOTED 16 holes for 3/4 ϕ bolts

0-2 SW opp hand of 0-2 NW except { for open holes in web as noted and top view.

Holes F.S. 0-2 NW only to be field drilled

Holes in 0-2 NW + 5W only

Open holes near side for 0-2 NW + 0-2 SW only

0-2 NE opphand of 0-2 NW except for open holes in web as noted and top and bottom view.

0-2 NE + 5E

0-2 SE same as

Rivets 7/8 ϕ Rivets 13/16 ϕ holes except as noted

Slot for smooth finish

Field drill to suit motor

Holes for turned bolts: Drill in shop with casting in place. Ream to Templet

Open holes F.S.

gage on L

Rivets not in L

Tracing Revised 12/30/14

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Approved Wm. G. Schmidt ENGINEER OF BRIDGES AND HARBORS

Approved John Ericson CITY ENGINEER

Approved Burrgan COMMISSIONER OF PUBLIC WORKS

SEE MAT. BILLS 21-22-23 SCALE 1" = 1 FT.

MADE BY W.S. 12/9/14 TRACED BY JAM 12/9/14 CH'K'D BY JAM 12/30/1914

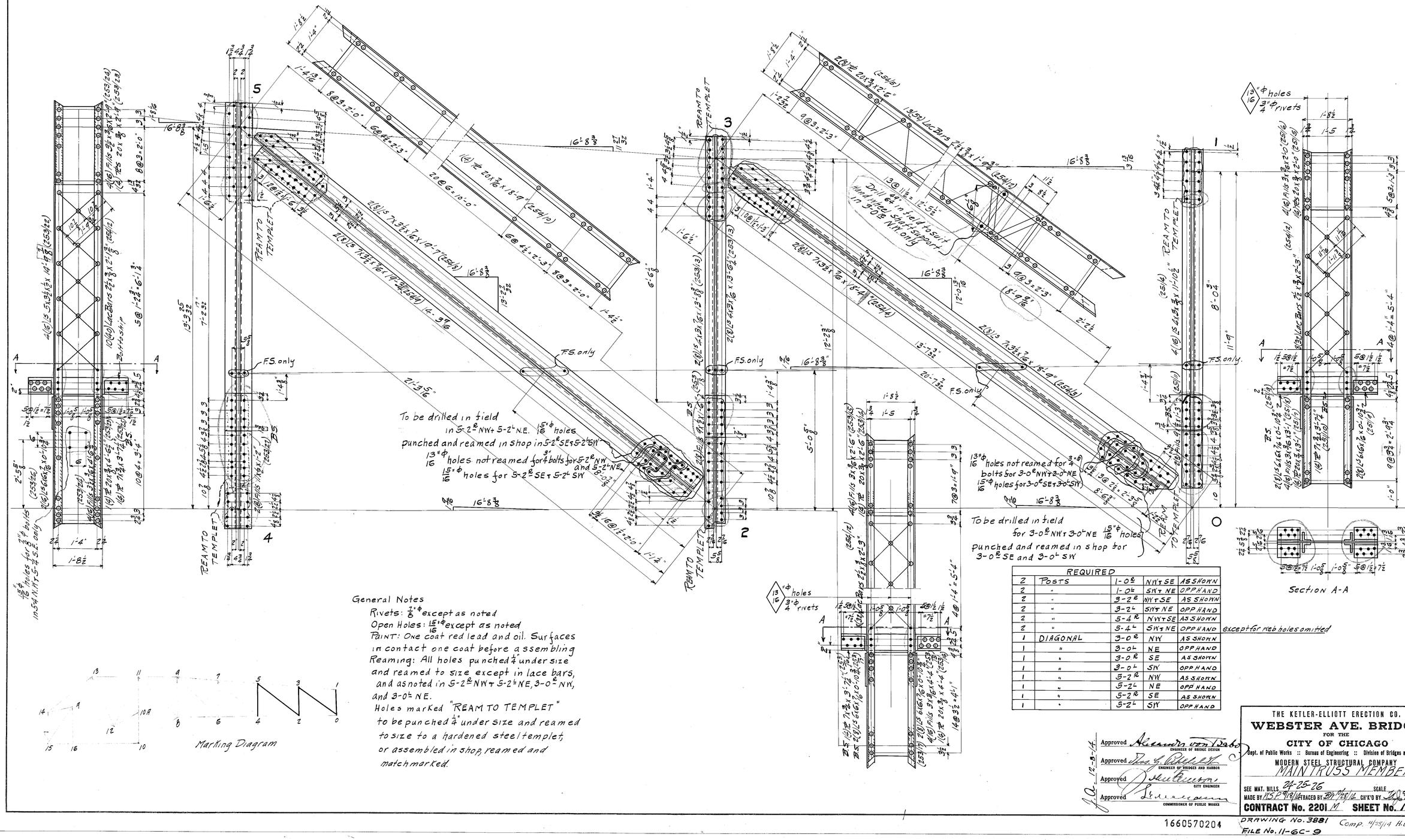
CONTRACT No. 2201 M. SHEET No. 107

DRAWING No. 3880 Comp. 11/27/14 H.B.

FILE No. 11-GC-8

1660570203

NAME-DATE 9/23 9/24 9/28 11/23 12/8 1/sc 10/3
J.B.M. 6 2 3 1½ 2
H.B. 1½ 1½



REQUIRED				
2	POSTS	1-0½	NW & SE	AS SHOWN
2	"	1-0½	SW & NE	OPP HAND
2	"	3-2½	NW & SE	AS SHOWN
2	"	3-2½	SW & NE	OPP HAND
2	"	5-4½	NW & SE	AS SHOWN
2	"	5-4½	SW & NE	OPP HAND except for web holes omitted
1	DIAGONAL	3-0½	NW	AS SHOWN
1	"	3-0½	NE	OPP HAND
1	"	3-0½	SE	AS SHOWN
1	"	3-0½	SW	OPP HAND
1	"	5-2½	NW	AS SHOWN
1	"	5-2½	NE	OPP HAND
1	"	5-2½	SE	AS SHOWN
1	"	5-2½	SW	OPP HAND

General Notes

Rivets: 7/8 ϕ except as noted
Open Holes: 15/16 ϕ except as noted
PAINT: One coat red lead and oil. Surfaces in contact one coat before assembling
Reaming: All holes punched ¼" under size and reamed to size except in lace bars, and as noted in 5-2½ NW & 5-2½ NE, 3-0½ NW, and 3-0½ NE.
Holes marked "REAM TO TEMPLET" to be punched ¼" under size and reamed to size to a hardened steel templet, or assembled in shop, reamed and matchmarked.

Marking Diagram

Approved Alexander von Babo ENGINEER OF BRIDGE DESIGN
Approved Wm. J. Pillsbury ENGINEER OF BRIDGES AND HARBOR
Approved H. McKinney CITY ENGINEER
Approved [illegible] COMMISSIONER OF PUBLIC WORKS

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FOR THE

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MODERN STEEL STRUCTURAL COMPANY

MAIN TRUSS MEMBERS

SEE MAT. BILLS 24-25-26 SCALE 1 FT. = 1914
MADE BY JSP 9/18/14 TRACED BY BH 9/25/14 CH'K'D BY JJ 9/29/14

CONTRACT No. 2201 M SHEET No. 108.

DRAWING No. 3881 Comp. 11/25/14 H.B.
FILE No. 11-GC-9

1660570204

| | | |

39'-6" c-c Trusses

37'-4¾"

E Truss 2

E Truss 1

"X" End

Ream to Templet

FBI

1(E) Hcb 7/8" 55 x ⅞ x 37-9¼" (260/5)

2(6) L5 6x6x⅞ x 37-10½" (260/4)

Section A-A

Section B-B

Section C-C

Section F-F

37'-8¼" E to E Finished Length

FB2

1(E) Hcb 7/8" 56 x ⅞ x 37-9¼" (264/23)

2(4) L5 6x8x¾ x 36'-10" (260/24)

FB4

1(E) Hcb 7/8" 56 x ⅞ x 37-9¼" (264/21)

2(4) L5 6x8x¾ x 36'-10" (260/20)

Remainder of details for FB4 same as for FB2.

Section D-D

Section E-E

Section G-G

Marking Diagram.

REQUIRED			
2	FLOOR BEAMS	FB1	1'-2" EAST
2	" "	FB2	do
2	" "	FB4	do

General Notes

Rivets ⅞"
Holes 15/16" unless noted
Paint. One coat of Red Lead & Oil. Surfaces in contact 1 Coat before assembling. Finished Surfaces 1 coat white lead and tallow.
Reaming- All holes sub-punched ¼" undersize and reamed to size except holes for wood in top flanges as noted. Open holes marked "REAM TO Templet" to be punched ¼" undersize and reamed to size to a hardened steel templet.

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FLOOR BEAMS

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Approved [signature] ENGINEER OF BRIDGES AND HARBOR
Approved [signature] CITY ENGINEER
Approved [signature] COMMISSIONER OF PUBLIC WORKS

J.A. 11-30-14

SEE MAT. BILLS 5-6-7 SCALE 1=1 FT.
MADE BY JA TRACED BY JA 11/9/14 CH'K'D BY H.T.S. 1914

CONTRACT No. 2201M SHEET No. 110.

R.L.H. 11/3/14.

DRAWING No 3883
FILE No. 11-GC-11

1660570206

For remainder of details for FB6 see FB2 Sheet # 110

Remainder of details for FB5 same as for FB6

REQUIRED			
2	FLOOR BEAMS	FB6	1 FB 6 ST
2	" "	FB5	DO

General Notes

Rivets 7/8 ø
Holes 15/16 ø except as noted
Paint- One coat of Red Lead and Oil. Surfaces in contact 1 coat before assembling. Finished surfaces 1 Coat White Lead and Tallow.
Reaming- All holes sub-punched 1/4" under size and reamed to size except holes in top flanges as noted. Open holes marked "Ream to Templet" to be sub punched 1/4" and reamed to size to a hardened steel templet

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Approved [signature] ENGINEER OF BRIDGES AND HARBOR
Approved [signature] CITY ENGINEER
Approved [signature] COMMISSIONER OF PUBLIC WORKS

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FLOOR BEAMS

SEE MAT. BILLS 8-9 SCALE =1 FT.

MADE BY B.K. TRACED BY B.M. 19/9/14 CH'K'D BY K.T.S. 1914

CONTRACT No. 2201M. SHEET No. 111

Comp. 11/9/14 by H.B.
DRAWING No. 3884
FILE No. 11-GC-12

1660570207

39'-6" c to c Trusses

Symm about this ℄

Ream to Templet

℄ Floor Bm 10-10

G1

5/8" Rivets

5/8" smooth holes

37'-8½" o to o

Sec A-A

Sec C-C

Sec G-G.

Sec E-E

Sec I-I

View B-B

View F-F

Bend Line 7 on back of bent ℄

℄ Truss at point 10-10

Bend Line 2 on back of bent ℄

Ream To Templet

See Sec A-A for remainder of Conn Lg.

Drill openholes to suit casting of ℄ curved flange assembly with casting assembled

Sec. D-D.

Sec. H-H

Section K-K

Top Flange of SS1

Bottom Flg of SS1

℄ Truss 2

These openholes in bent ℄ are clipped on this side only

Chip corner 45° not more

Marking Diagram.

hardened steel templet or assembled in shop, reamed and matchmarked.

REQUIRED			
2	Horizontal Girders	G1	1 East, 1 West
2	Struts	SS1	1 East, 1 West
4	Diagonals	B1	2 East, 2 West
4	"	B2	2 East, 2 West
4	"	B3	2 East, 2 West

- General Notes -

Rivets - ⅞" except as noted.
Holes - 13/16" except as noted.
Paint: - One coat red lead and oil Surfaces in contact one coat before assembling.
Finished surfaces one coat red lead and tallow.
Reaming: All holes punched ¼ under size and reamed to size except holes in lacing bars. All holes marked Ream to Templet to be punched ¼" under size and reamed to size thru a

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J.A. 1-4-15.

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HORIZONTAL GIRDER + BRACING

SEE MAT. BILLS 27-28-29-30 SCALE 3/4" = 1 FT.

MADE BY R.D.M. TRACED BY B.W. 10/14 CH'K'D BY M.T.S. 1914

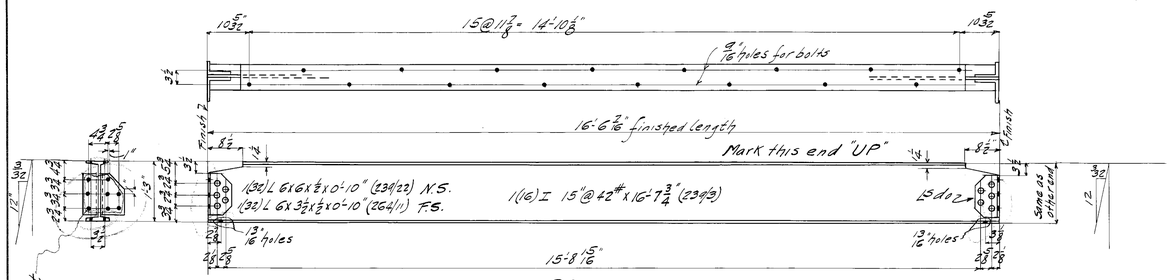
CONTRACT No. 2201/M. SHEET No. 112.

DRAWING No. 3885 Comp. 12/12/14 H.B.

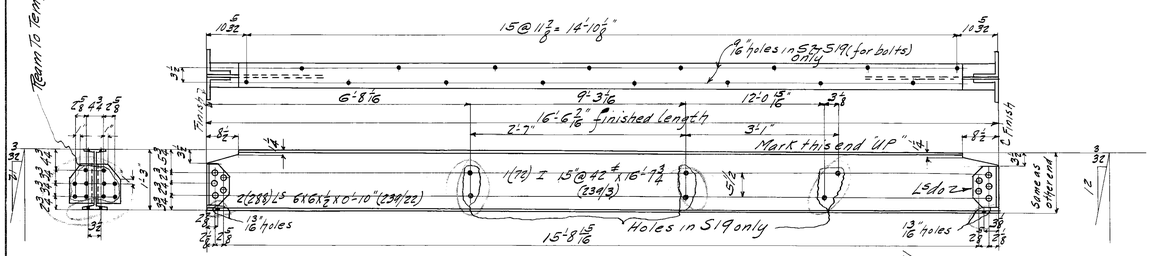
FILE No. 11-GC-13

1660570209

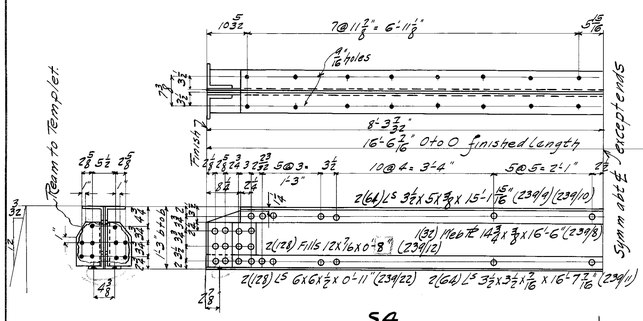
Date Name
3 2 3 3 8 8 3 J.E.M.
1 4 5 H.S.



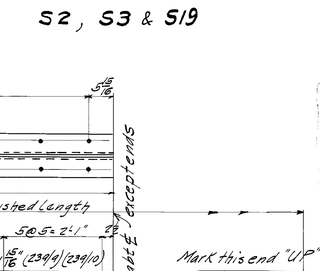
S1

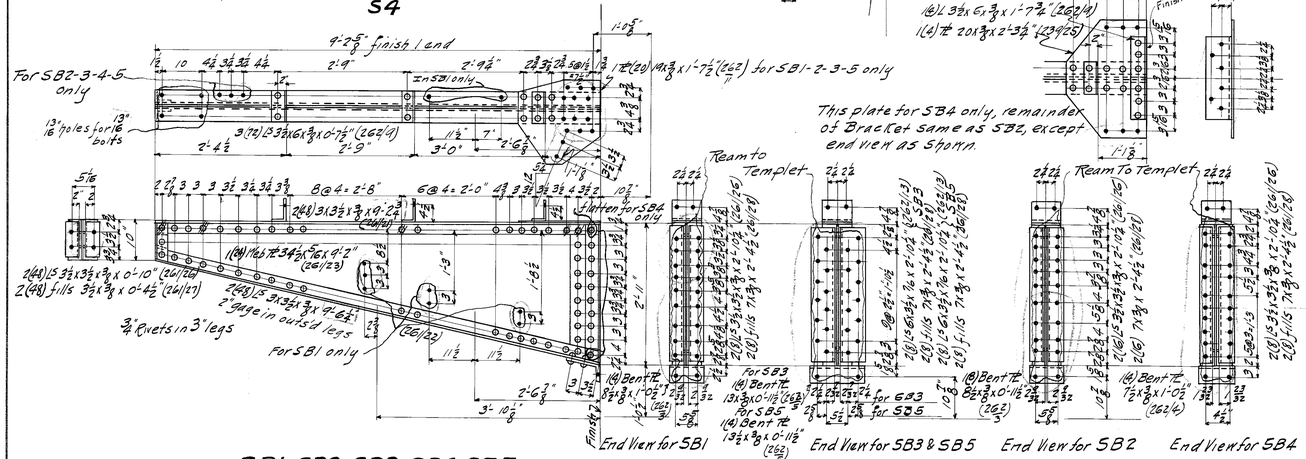


S2, S3 & S19

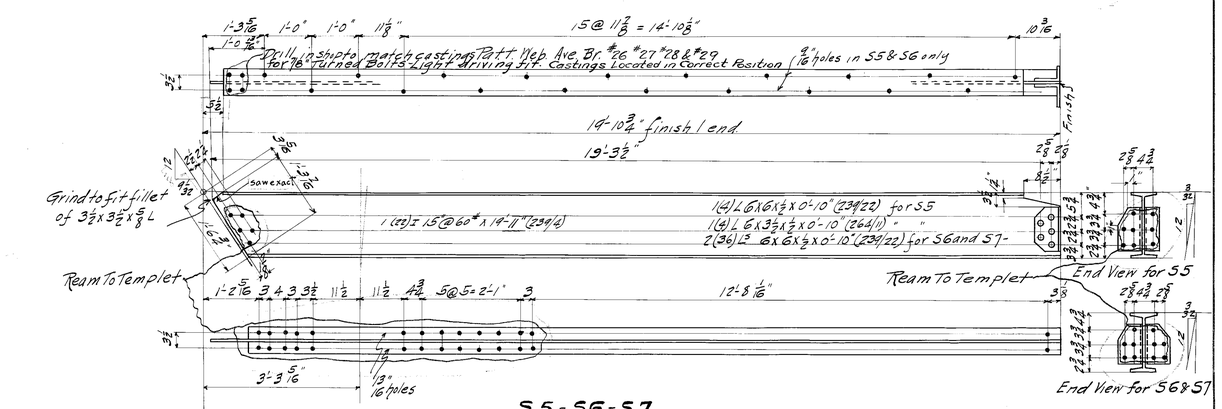


S4

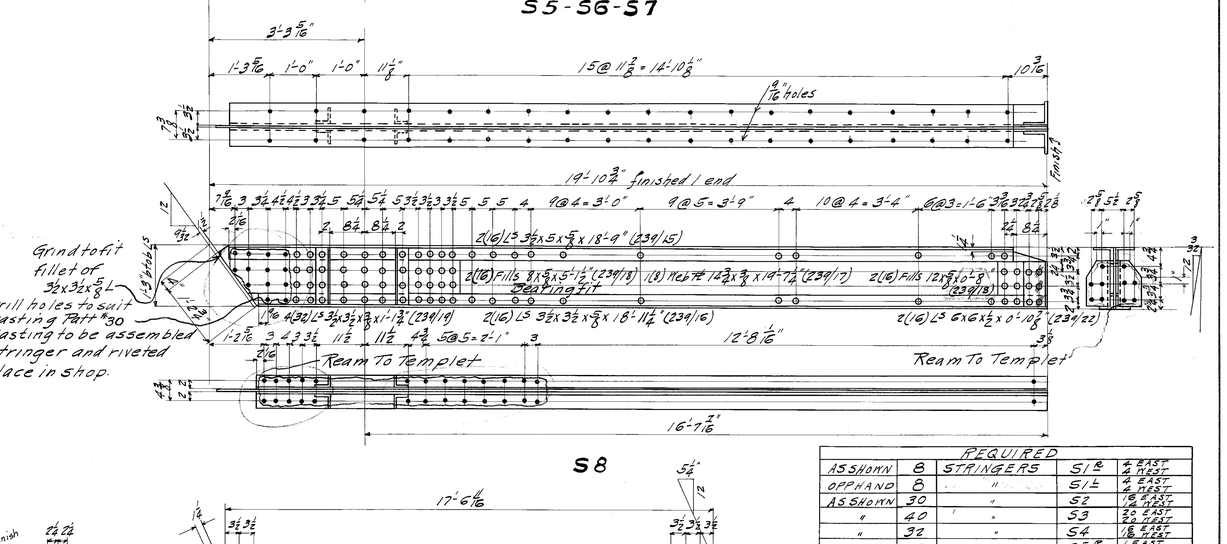




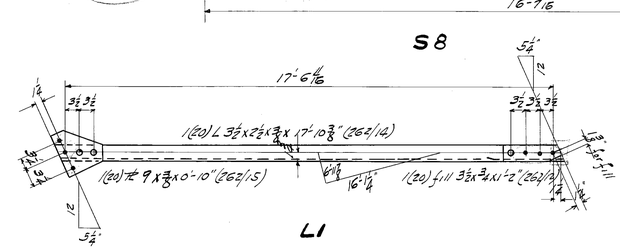
SB1, SB2, SB3, SB4, SB5



S5-S6-S7



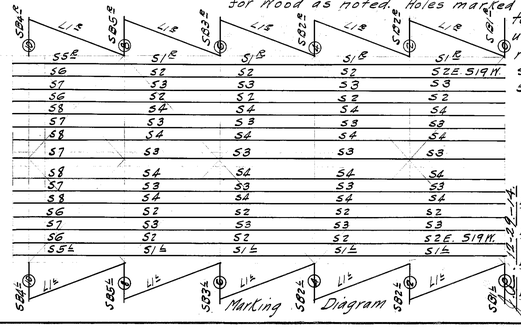
S8



L1

General Notes
Rivets 7/8" dia except as noted
Open holes 1 1/16" dia except as noted
Paint - One coat red lead & oil. Surfaces in contact one coat before assembling
Reaming - All holes sub-punched 1/4" under size and reamed to size except 9/16" dia. holes for wood as noted. Holes marked "Ream To Templet" to be sub-punched 1/4" undersize and reamed to size thru a hardened steel templet or assembled in shop, reamed and match marked.

REQUIRED				
AS SHOWN	8	STRINGERS	S1 E	4 EAST 4 WEST
OPP HAND	8	"	S1 L	4 EAST 4 WEST
AS SHOWN	30	"	S2	16 EAST 14 WEST
"	40	"	S3	20 EAST 20 WEST
"	32	"	S4	16 EAST 16 WEST
"	2	"	S5 E	1 EAST 1 WEST
OPP HAND	2	"	S5 L	1 EAST 1 WEST
AS SHOWN	8	"	S6	4 EAST 4 WEST
"	10	"	S7	5 EAST 5 WEST
"	8	"	S8	4 EAST 4 WEST
"	2	SIDEWALK BRKTS	S B1 E	1 EAST 1 WEST
OPP HAND	2	"	S B1 L	1 EAST 1 WEST
AS SHOWN	4	"	S B2 E	2 EAST 2 WEST
OPP HAND	4	"	S B2 L	2 EAST 2 WEST
AS SHOWN	2	"	S B3 E	1 EAST 1 WEST
OPP HAND	2	"	S B3 L	1 EAST 1 WEST
AS SHOWN	2	"	S B4 E	1 EAST 1 WEST
OPP HAND	2	"	S B4 L	1 EAST 1 WEST
AS SHOWN	10	LATERALS	L1 E	5 EAST 5 WEST
OPP HAND	10	"	L1 L	5 EAST 5 WEST
AS SHOWN	2	SIDEWALK BRKT	S B5 E	1 EAST 1 WEST
OPP HAND	2	"	S B5 L	1 EAST 1 WEST
AS SHOWN	2	STRINGERS	S19	2 WEST
AS SHOWN	4	SIGNAL LAMP PLATES	SLP1	2 EAST 2 WEST



Approved Nicholas von Babo ENGINEER OF BRIDGE DESIGN
Approved Thos. L. Shillestad ENGINEER OF BRIDGES AND HARBOR
Approved Robert Ericson CITY ENGINEER
Approved R. Regan COMMISSIONER OF PUBLIC WORKS

THE KETLER-ELLIOTT ERECTION CO.

WEBSTER AVE. BRIDGE

FOR THE

CITY OF CHICAGO

Dept. of Public Works :: Bureau of Engineering :: Division of Bridges and Harbor

MODERN STEEL STRUCTURAL COMPANY

STRINGERS AND SIDEWALK BRACKETS

SEE MAT. BILLS 31-32-33 SCALE 1 FT. = 1 IN.

MADE BY A.M.N. 9/14 TRACED BY B.M. 10/14/14 CH'K'D BY K.T.S. 9/22 1914

CONTRACT No. 2201/M SHEET No. 113.

DRAWING No. 3886 Comp. 11/30/14 H.B.

FILE No. 11-6C-14

1660570209

NAME DATE 10/13/14 10/22/14 11/3/14 11/14/14
J.B.M. 2 8 1 2 1 7½
H.B.

LATTICE STRUT SS17

Section E.

Sec. A-A

Sec. b-b.

Sec. c-c

Sec. d-d.

Marking Diagram for SS17

INCLINED STRUT SS2

Tapered BS

INCLINED LATERAL

REQUIRED				
As Shown	2	Lattice Struts	SS17	/ East / West
"	2	Inclined "	SS2	/ East / West
"	2	" Laterals	L2R	/ East / West
Opp. Hand	2	" "	L2L	/ East / West
As Shown	2	" "	L3R	/ East / West
Opp. Hand	2	" "	L3L	/ East / West

General Notes:-

Rivets. 7/8" ø except as noted.
Holes. 15/16" ø except as noted.
Paint. One coat of red lead and oil. Surfaces in contact one coat before assembling.
Reaming. All holes to be sub-punched 1/4" under size & reamed to size except in lacing bars. Open holes marked "Ream to Templet" to be sub-punched 1/16" and reamed to size to a hardened steel templet, or assembled in shop, reamed and match marked.

12/3	12/2	11/24	11/14	11/13	11/12	DATE / NAME
1		1	2	7	4 3/4	E.J.
2	3 1/2					H.B.

Approved Alexander von Babo ENGINEER OF BRIDGE DESIGN
Approved Thos. G. Pollock ENGINEER OF BRIDGES AND HARBOR
Approved John Ericson CITY ENGINEER
Approved Jos. Burke COMMISSIONER OF PUBLIC WORKS

J.A. 1-7-15.

THE KETLER-ELLIOTT ERECTION CO.
WEBSTER AVE. BRIDGE
FOR THE
CITY OF CHICAGO
Dept. of Public Works :: Bureau of Engineering :: Division of Bridges and Harbor
MODERN STEEL STRUCTURAL COMPANY
BRACING FOR FT. BEAM AT 10-10.
SEE MAT. BILLS. 34-35-36 SCALE 3/4" = 1 FT.
MADE BY W.L.M. 9/25/ TRACED BY E.J. 11/14/ CH'K'D BY W.T.S. 12/3/1914
CONTRACT No. 2201 M SHEET No. 114
DRAWING No. 3887 Comp. 12/3/14 H.B.
FILE No. 11-6C-15

1660570210

12/32	1/4	15/32	9/17	11/16	1/4	DATE
1/4	1/2		5 1/2	2 1/2	1	E.J.
	1/4	1/2				H.B.

39'-6" c to c Trusses

19'-9"

7'-9"

6'-0"

6'-0"

℄ Truss 2

1(2) Cov Pl. 8 x 5/8 x 37'-8 3/4" (228/7)

17@3" = 4'-3"

5 3 5 5/8 4 3/8 6 5 2 2 5 4 3/8 5 1/2 3 3/8 5 3 3/8 3 5

6@4" = 2'-0"

2 2 4 1/2 4 1/2 4 5

10@4" = 3'-4"

5 5/2"

Sym. Abt ℄ Except Stiffs. at Center

37'-6"

24 Alt@3" = 6'-0"

22 Alt@3" = 5'-6"

17@4" = 5'-8"

2(4) Pl 7 x 3 1/2 x 3/4 x 37'-8 3/4" (228/5)

1(4) Web Pl. 65 x 3/8 x 20'-6 3/4" (228/8)

2(8) Pls. 13 x 1/2 x 2'-8" (228/15)

8@6" = 4'-0"

4@5 1/2" = 1'-10 1/2"

9@6" = 4'-6"

10@6" = 5'-0"

1(4) L 3 1/2 x 7 x 3/8 x 6'-6 1/4" (228/12)

1(8) L 3 1/2 x 7 x 3/8 x 5'-8" (228/12)

1(8) L 3 1/2 x 7 x 3/8 x 5'-8 1/4" (228/12)

1(4) L 7 x 3 1/2 x 7/16 x 5'-9 3/4" N.S. (237/6)

1(4) Pl. 6 1/2 x 3/8 x 5'-9 3/4" F.S. (228/13)

18@3" = 4'-6"

11@4" = 3'-8"

2(4) Pl 7 1/4 x 7/16 (228/14)

20@3" = 5'-0"

(4) L 7 x 3 1/2 x 7/16 x 5'-8" N.S. (237/6)

(4) Pl. 6 1/2 x 3/8 x 5'-8" F.S. (228/13)

(4) L 7 x 3 1/2 x 7/16 x 5'-8 1/4" N.S. (237/6)

(4) Pl. 6 1/2 x 3/8 x 5'-8 1/4" F.S. (228/13)

1(4) Web Pl. 65 x 3/8 x 18'-9 1/2" (228/9)

10@6" = 5'-0"

1(4) L 3 1/2 x 7 x 3/8 x 5'-9 3/4" (228/12)

1L do.

1L do.

1(4) L 7 x 3 1/2 x 7/16 x 10'-11 1/4" N.S. Crimped. (228/11)

1(2) L 3 1/2 x 3 1/2 x 7/16 x 10'-11 1/4" N.S. (228/11)

2 Pls. 13 x 1/2 x 2'-8"

1(2) Pl. 6 1/2 x 7/16 x 9'-8" F.S. (231/6)

1(6) L 3 1/2 x 7 x 7/16 x 10'-11 1/4" N.S. (228/11)

1(2) L 7 x 3 1/2 x 1/2 x 36'-11 1/4" F.S. (228/9)

1(2) L 7 x 3 1/2 x 1/2 x 37'-7 1/4" N.S.

1L do. N.S. Crimped

1L do. F.S.

Remainder Spacing Same as Top Flange

Web 1 1/8

22 Alt@3" = 5'-6"

6'-7 13/16"

6'-10 1/8"

6'-0"

6'-0 5/16"

18'-10 1/8"

37'-8 1/4" B. to B℄

15@4" = 5'-0"

14@4" = 4'-8"

12@5" = 5'-0"

37'-2 5/8"

G2

℄ Trunnion

℄ Trunnion

℄ Trunnion

Template

Template

Ream to Template

Ream to Template

Ream to

13/32	13/8	15/16	1/20	1/19	1/18	DATE
1/4	1		6 1/4	2 3/4	1/2	E.J.
	3	2 1/2				H.B.

Shop Note:- Member #14A shown on sheet #101 to be shopriveted to CW1.

Cut notchip.

Holes for Turned Bolts

View A-A

View B-B.

Sect. C-C.

Sym. abt ℄ except for center stiffs & pls. as shown

℄ Bott. Chord

℄ Truss

39-6" c.c. Trusses

G6.

REQUIRED			
As shown	2	CWT PLATES	CW1R 1 East 1 West
Opp. Hand	2	"	CW1L 1 East 1 West
As shown	4	"	CW2 2 East 2 West
" "	2	"	G6 1 East 1 West

Gen. Notes:-
Rivets: 1/8 ϕ
Open Holes: 15/16 ϕ except where noted
Paint: One coat of red lead & oil Surfaces in contact, one coat before assembling
Reaming: All holes subpunched 1/16 ϕ and reamed to 15/16 ϕ except as noted.

Approved Alexander von Babo, Engineer of Bridge Design
Approved Thos. E. Pitchford, Engineer of Bridges and Harbor
Approved [illegible], City Engineer
Approved [illegible], Commissioner of Public Works

12-29-14

THE KETLER-ELLIOTT ERECTION CO.

WEBSTER AVE. BRIDGE

FOR THE

CITY OF CHICAGO

Dept. of Public Works :: Bureau of Engineering :: Division of Bridges and Harbor

MODERN STEEL STRUCTURAL COMPANY

CWT. PLATES

SEE MAT. BILL: 39-40 SCALE 3/4" = 1 FT.

MADE BY LB 9/28 TRACED BY E.J. 11/20/ CH'K'D BY W.T.S 10/12.1914

CONTRACT No. 2201 M SHEET No. 116

DRAWING No 3889 Comp. 12/5/14 H.B.

FILE No. 11-GC-17

1660570212

	1/8	1/20	1/28	1/27	1/25	1/24	Date
	3/4	1 3/4	1/4	3	1 1/2		E.J.
							H.B.

39'-6" c. to c Trusses.

B7

G3

G4

G10

G5

G9

GA1

X1

G2

Sym. about ℄ except stiffs. at Center

Sym. abt. ℄ except stiffs. at center

Cut

Ream to templet

for Balance of Spacing see member 10.15 Sheet #102

REQUIRED			
2	Cwt. Box Plates	G3	1 East 1 West
2	" " "	G4	1 East 1 West
2	" " "	G5	1 East 1 West
4	Braces	B7	2 East 2 West
16	Rods	X1	8 East 8 West
2	Cwt. Box Plates	G9	1 East 1 West
2	" " "	G10	1 East 1 West
4	ANGLES	GA1	2 EAST 2 WEST

GENERAL NOTES

Rivets: $\frac{7}{8}$"ϕ

Open Holes: $\frac{15}{16}$"ϕ

Paint: One coat red lead + oil. Surfaces in contact one coat before assembling

Reaming: All holes sub punched $\frac{11}{16}$"ϕ and reamed to $\frac{15}{16}$"ϕ. Holes marked "REAM TO TEMPLET" to be sub punched $\frac{11}{16}$"ϕ and reamed to size thru a hardened steel templet, or assembled in shop, reamed and match-marked.

Approved [illegible] ENGINEER OF BRIDGE DESIGN

Approved [illegible] ENGINEER OF BRIDGES AND HARBOR

Approved [illegible] CITY ENGINEER

Approved [illegible] COMMISSIONER OF PUBLIC WORKS

J.A. 12-22-14.

THE KETLER-ELLIOTT ERECTION CO.

WEBSTER AVE. BRIDGE

FOR THE

CITY OF CHICAGO

Dept. of Public Works :: Bureau of Engineering :: Division of Bridges and Harbor

MODERN STEEL STRUCTURAL COMPANY

BOTTOM CWT. BOX & RODS.

SEE MAT. BILLS 46&47 SCALE 3/4" = 1 FT.

MADE BY W.L.Mc. 9/28 TRACED BY E.J. 11/28 CH'K'D BY W.T.S. 10/7 1914

CONTRACT No. 2201 M SHEET No. 117

DRAWING No 3890 Corr. 12/9/14 H.B.

FILE No 11-GC-18

1660570213

| | | |

12/10 12/9 12/8 12/7 12/5 12/4 12/3 12/2 12/1 11/30 Pole Home
2E 2E 2E 2E 2E 2E 2E 1E 1E 1E E.J.
3/2 1E H.B.

REQUIRED.				
2	BRACINGS	B14R	As shown	1-East 1-West
2	"	B14L	opp. hand	1-East 1-West
2	"	B15R	As shown	1-East 1-West
2	"	B15L	opp. hand	1-East 1-West
4	"	B16R	As shown	2-East 2-West
4	"	B16L	opp. hand	2-East 2-West
2	STRUTS	SS4	As shown	1-East 1-West
4	"	SS5	"	1-East 2-West
2	"	SS6	"	1-East 1-West
2	LAT. PLATES	LP42R	"	1-East 1-West
2	"	LP42L	opp. hand	1-East 1-West
4	"	LP44	As shown	2-East 2-West
4	"	LP45	"	2-East 2-West
2	"	LP46	"	1-East 1-West
2	"	LP47	"	1-East 1-West
4	"	LP48	"	2-East 2-West
8	"	LP49	"	4-East 4-West
2	"	LP50	"	1-East 1-West
8	"	LP51	"	4-East 4-West
4	"	LP52	"	2-East 2-West
2	"	LP53R	"	1-East 1-West
2	"	LP53L	opp. hand	1-East 1-West
4	"	LP55R	As shown	2-East 2-West
4	"	LP55L	opp. hand	2-East 2-West
2	"	LP43	as shown	1-East 1-West
2	"	LP54R	" "	1-East 1-West
2	"	LP54L	opp. hand	1-East 1-West

General Notes:-
Rivets: ¾" ø in 2½" leg of bracing & struts. All others ⅞" ø
Open Holes: 15/16" ø unless noted
Paint: One coat of red lead and oil. Surfaces in contact one coat before assembling
Reaming: All holes to be punched ¼" under size and reamed to size except in lacing bars and as noted.

Approved Alexander von Babo, Engineer of Bridge Design
Approved Thos. G. Pihlfeldt, Engineer of Bridges and Harbors
Approved John Ericson, City Engineer
Approved Thos. Gleason, Commissioner of Public Works

THE KETLER-ELLIOTT ERECTION CO.

WEBSTER AVE. BRIDGE

FOR THE

CITY OF CHICAGO

Dept. of Public Works :: Bureau of Engineering :: Division of Bridges and Harbor

MODERN STEEL STRUCTURAL COMPANY

LATERALS

SEE MAT. BILLS 50-51-52-53 SCALE 3/4" = 1 FT.

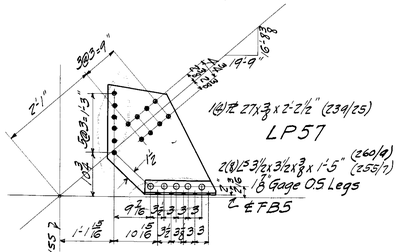
MADE BY H.B.T. 10/15/ TRACED BY E.J. 12/11/14 CH'K'D BY [illegible] 10/18/1914

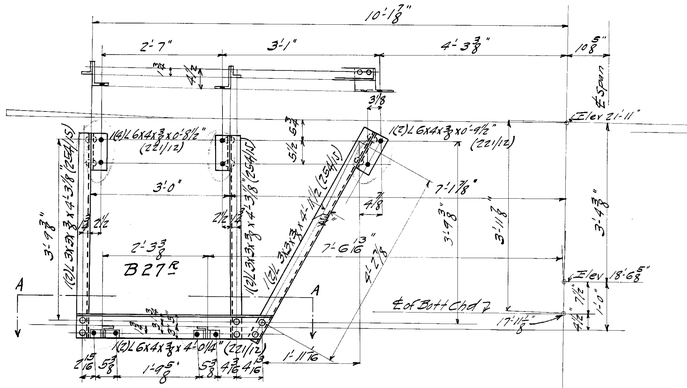
CONTRACT No. 2201 M SHEET No. 119

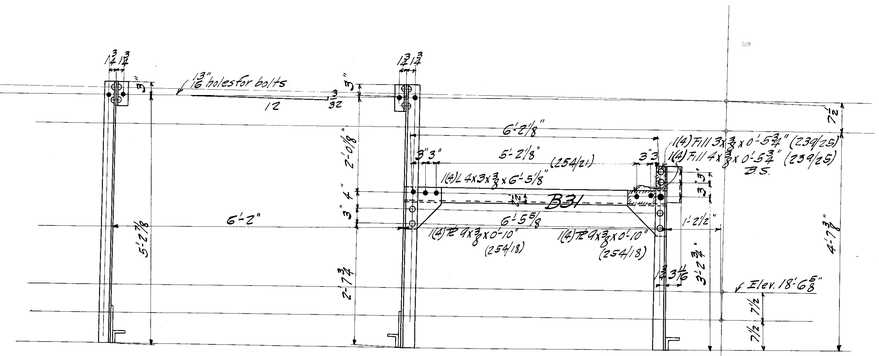
DRAWING No 3892 Comp. 12/10/14

FILE No. 11-6C-20

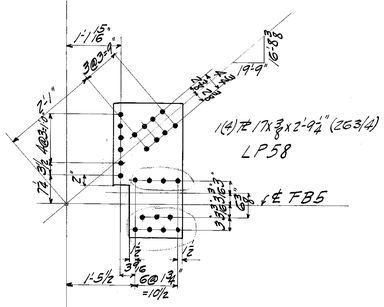
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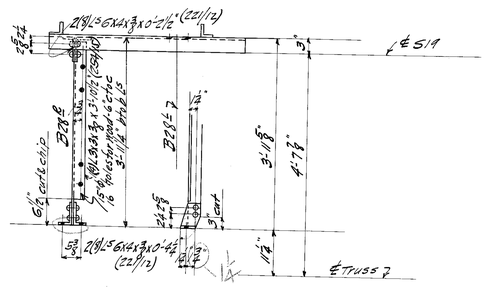




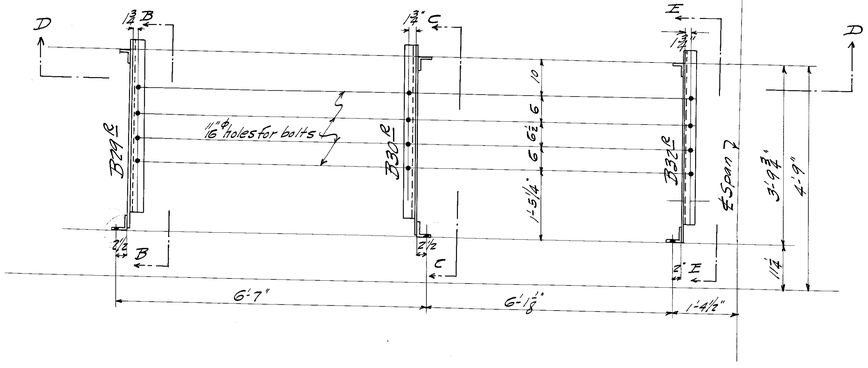


Section D-D

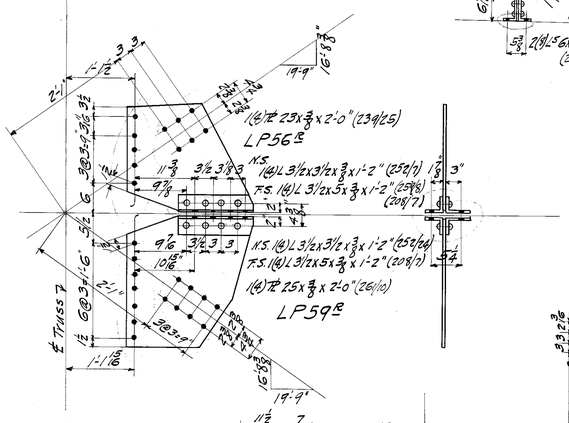


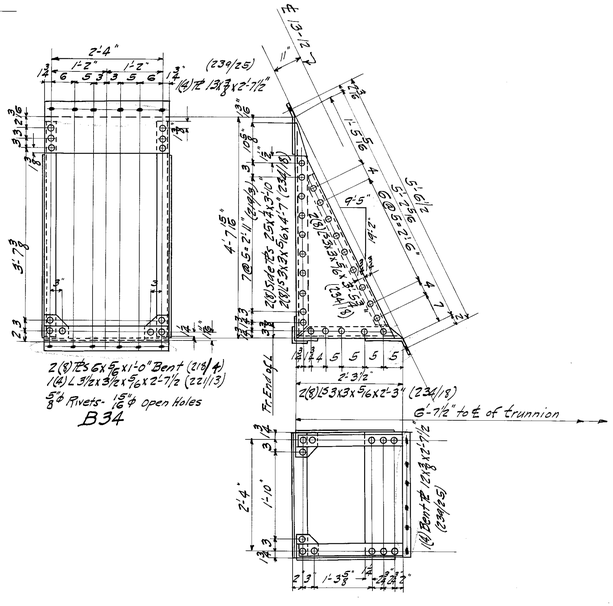


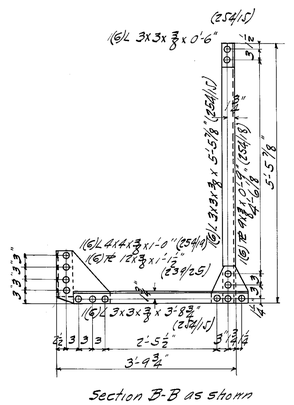
Section A-A



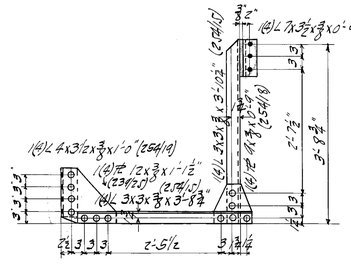
B27 - B28

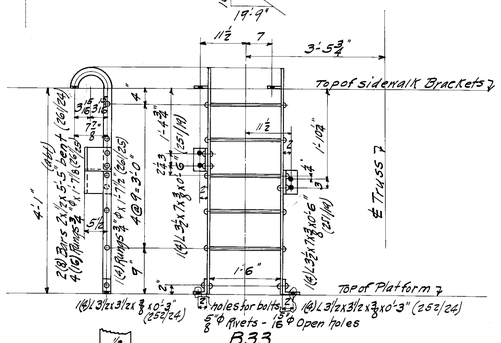


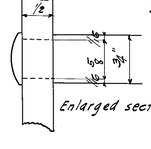




Section B-B as shown
Section C-C opp hand







Enlarged section of Rung

REQUIRED				
No	Description		Mark	
4	Lateral Plates	as shown	LP57	2-EAST 2-WEST
4	" "	" "	LP58	2-EAST 2-WEST
2	" "	" "	LP56R	1-EAST 1-WEST
2	" "	opphand	LP56L	1-EAST 1-WEST
2	" "	as shown	LP59R	1-EAST 1-WEST
2	" "	opphand	LP59L	1-EAST 1-WEST
1	Platform	as shown	B27R	WEST
1	"	opphand	B27L	"
2	"	as shown	B28R	"
2	"	opphand	B28L	"
1		as shown	B29R	"
1	"	opphand	B29L	"
2	"	as shown	B30R	1-EAST 1-WEST
2	"	opphand	B30L	1-EAST 1-WEST
4	"	as shown	B31	2-EAST 2-WEST
2	" "	" "	B32R	1-EAST 1-WEST
2	"	opphand	B32L	1-EAST 1-WEST
2	Ladders	as shown	B33R	1-EAST 1-WEST
2	"	opphand	B33L	1-EAST 1-WEST
4	Shields	as shown	B34	2-EAST 2-WEST

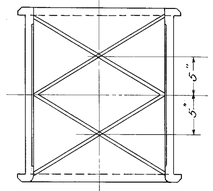
General Notes
Rivets 7/8 ℄ unless noted.
Open holes 15/16 ℄ unless noted.
Paint- One coat of red lead and oil Surfaces in contact one coat before assembling
Reaming:- Holes in LP56, 57, 58 and 59 to be punched 1/4" under size and reamed to size. Remainder not reamed.

THE KETLER-ELLIOTT ERECTION CO.
WEBSTER AVE. BRIDGE
FOR THE
CITY OF CHICAGO
Dept. of Public Works :: Bureau of Engineering :: Division of Bridges and Harbor
MODERN STEEL STRUCTURAL COMPANY
CENTER LOCK PLATFORM.
CA-55-56-57
SEE MAT. BILLS 12/4/14 SCALE 3/4" = 1 FT.
MADE BY J.D. 12/4/14 TRACED BY B.H. 12/12/14 CH'K'D BY E.T.S. 1/30, 1914
CONTRACT No. 2201M. SHEET No. 120

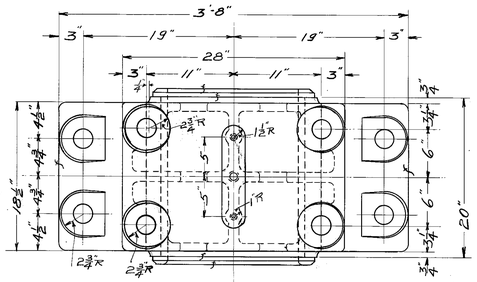
Approved Alexander von Babo ENGINEER OF BRIDGE DESIGN
Approved Thos. G. Pihlfeldt ENGINEER OF BRIDGES AND HARBOR
Approved [illegible] CITY ENGINEER
Approved [illegible] COMMISSIONER OF PUBLIC WORKS
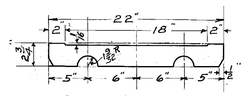
DRAWING No 3893 Comp. 12/4/14 H.B.
FILE No- 11-GC-21

1660570216



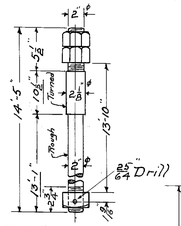
Cut oil grooves in bushings of cap and base of Rack— Pinion Shaft Bearing-Pat #41 only





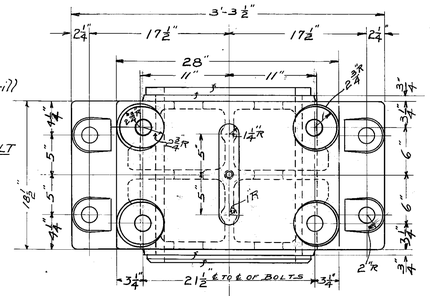
SHEET BRASS LINERS
$2\frac{3}{4}$" X $\frac{1}{2}$" X 1'-10" (8)
$2\frac{3}{4}$" X $\frac{1}{4}$" X 1'-10" (8)
$2\frac{3}{4}$" X $\frac{1}{8}$" X 1'-10" (8)
$2\frac{3}{4}$" X $\frac{1}{16}$" X 1'-10" (8)
$2\frac{3}{4}$" X $\frac{1}{32}$" X 1'-10" (16)
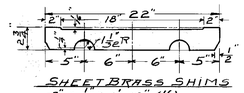
(2)



RIVET ST'L - TURNED BOLT
16 Reqd

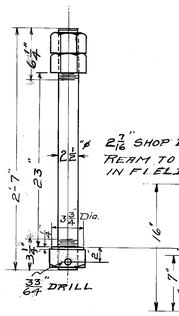
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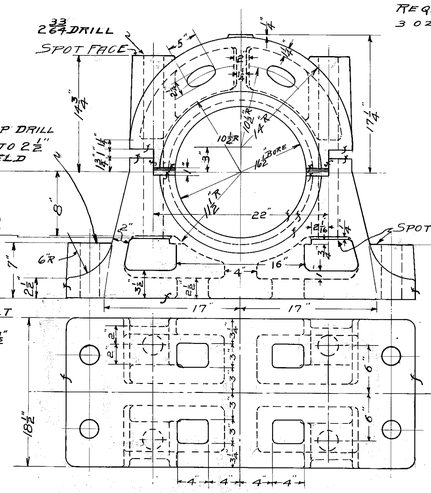
SHEET BRASS SHIMS
$2\frac{3}{4}$" X $\frac{1}{2}$" X 1'-10" (16)
$2\frac{3}{4}$" X $\frac{1}{4}$" X 1'-10" (16)
$2\frac{3}{4}$" X $\frac{1}{8}$" X 1'-10" (16)
$2\frac{3}{4}$" X $\frac{1}{16}$" X 1'-10" (16)
$2\frac{3}{4}$" X $\frac{1}{32}$" X 1'-10" (32)

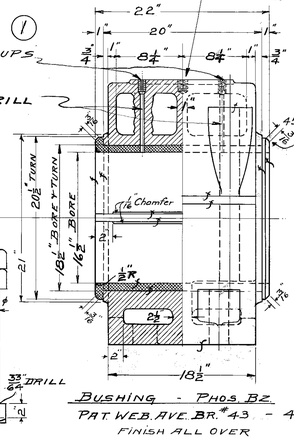
(3)



RIVET ST'L. TURNED BOLT
REQD-16 - $2\frac{1}{2}$" X 2'-7
REQD-16 - COT PIN $\frac{1}{2}$" X $4\frac{1}{2}$"

(4)

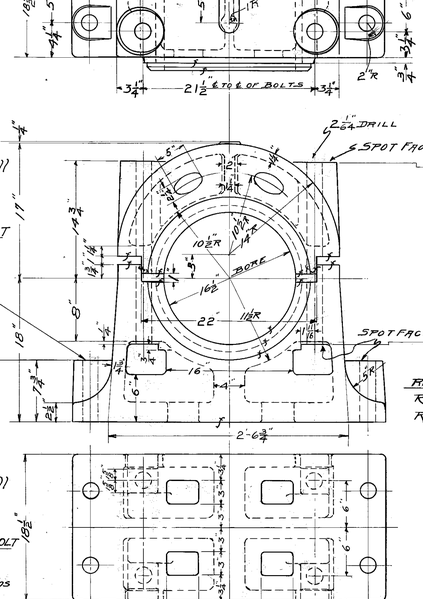




RIVET ST'L TURNED BOLT
REQD. 16 - $2\frac{1}{2}$" X 3'-$3\frac{1}{2}$"
REQD. 16 COTTER PINS $\frac{1}{2}$" X $4\frac{1}{2}$"

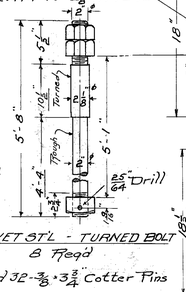
(5)

BUSHING - PHOS BZ.
PAT WEB AVE. BR. #43 - 4 REQ'D.
FINISH ALL OVER



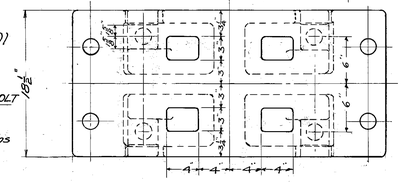
RIVET ST'L - TURNED BOLT
8 Reqd

(7)



RIVET ST'L - TURNED BOLT
8 Reqd
Reqd 32 - $\frac{3}{8}$" X $3\frac{3}{4}$" Cotter Pins

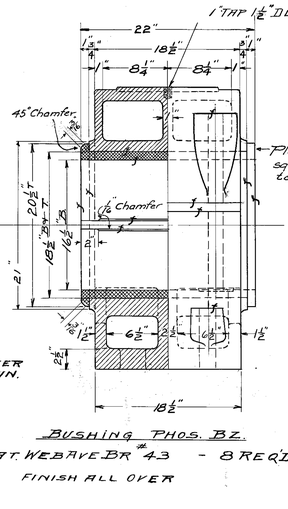
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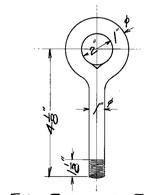


RIVET ST'L TURNED BOLT
REQD. 32 - $2\frac{1}{2}$" X $2\frac{1}{2}$" X $4\frac{1}{2}$"
REQD. 32 - $\frac{3}{8}$" X $3\frac{3}{4}$" COTTER PIN.

(9)



BUSHING PHOS. BZ.
PAT. WEB AVE. BR. #43 - 8 REQ'D.
FINISH ALL OVER



EYE BOLT - FORGE STEEL
12 REQ'D.

(10)

RACK PINION SHAFT BEARING - CAST STEEL
BASE - PAT. WEB AVE. BR. #41 - 4 REQ'D.
CAP - PAT. WEB AVE. BR. 42 - 4 REQ'D.
(B2)

TRUNNION BEARING - CAST STEEL
BASE - PAT. WEB AVE. BR. #45" - 8 REQ'D.
CAP - PAT. WEB AVE. BR. #42 - 8 REQ'D.
(B1)

PATTERNS

ALL PATTERNS FOR CASTINGS SHALL BE SUBJECT TO INSPECTION AND APPROVAL BEFORE CASTINGS ARE MADE FROM THEM AND AGAIN ON FINAL DELIVERY TO THE CITY.

PATTERNS FOR CASTINGS SHALL BE MADE OF THOROUGHLY SEASONED, FIRST CLASS PATTERN LUMBER, AND SHALL BE WELL PUT TOGETHER TO STAND REPEATED USE AND LONG TIME STORAGE WITHOUT DAMAGE. THEY SHALL BE FINISHED TO GIVE A NEAT APPEARANCE TO CASTINGS. THE OUTER UNFINISHED EDGES OF ALL RIBS, BASES, ETC., SHALL BE ROUNDED OFF TO A RADIUS OF ONE-FOURTH THE THICKNESS OF THE RIB, AND INSIDE CORNERS SHALL BE FITTED WITH WOOD OR LEATHER FILLETS WELL FASTENED AND ROUNDED OUT TO A RADIUS OF AT LEAST ONE-HALF THE THICKNESS OF THE THINNEST RIB FORMING THE CORNER.

ALL PATTERNS SHALL BE FITTED WITH LIFTING AND RAPPING PLATES AND EACH ONE, IF LARGE ENOUGH, SHALL HAVE SET FLUSH WITH ITS SURFACE A METAL PLATE BEARING THE LETTERS "WEB AVE. BR." IN SHARP FACED GOTHIC STYLE, AT LEAST THREE-QUARTERS INCH HIGH. EACH PATTERN SHALL HAVE A DESIGNATING LETTER AND NUMBER SITUATED SO AS TO BE VISIBLE WHEN THE CASTING IS IN POSITION IN THE STRUCTURE.

PATTERNS FOR IRON AND STEEL CASTINGS SHALL BE STAINED BLACK ON SURFACES UNFINISHED ON CASTINGS, RED ON SURFACES TOOL FINISHED, AND YELLOW OR CLEAR SHELLAC ON CORE PRINTS. THE STAIN SHALL BE MIXED WITH THE SHELLAC. THE PATTERNS SHALL BE THOROUGHLY VARNISHED BEFORE USE WITH FIRST-CLASS PATTERN SHELLAC DISSOLVED IN GRAIN ALCOHOL AND AFTER FINAL USE SHALL BE THOROUGHLY REPAIRED, CLEANED AND VARNISHED AGAIN BEFORE DELIVERY TO THE CITY.

BOLTS, NUTS AND WASHERS

TURNED BOLTS SHALL BE TRUE TO FORM AND SIZE, THE BODY SHALL BE LONG ENOUGH FOR AMPLE BEARING IN HOLE, THICK WASHERS BEING USED WHERE NECESSARY, THE AXIS OF THREAD SHALL COINCIDE WITH THAT OF THE BOLT BODY, THE THREAD SHALL BE LATHE-CUT AND LONG ENOUGH FOR FULL BEARING IN NUT, SHALL FIT SNUGLY AND BE CHAMFERED AT END. IN GENERAL, BOLTS SHALL HAVE SQUARE HEADS AND HEX NUTS.

ALL NUTS USED ON MACHINERY PARTS SHALL BE SEMI-FINISHED AND BEARING SURFACES SHALL BE FACED SQUARE WITH AXIS OF THREAD, WHERE TWO NUTS ARE USED ON A BOLT FOR LOCKING, THEY SHALL BOTH BE STANDARD THICKNESS. BEVEL WASHERS SHALL BE USED WHEREVER NUTS OR BOLT HEADS WOULD OTHERWISE COME AGAINST THE SLANT SURFACE OF AN I-BEAM OR CHANNEL FLANGE.

NUT LOCKS AND SPRING COTTERS

BOLTS FOR JOURNAL BLOCK SHALL BE PROVIDED WITH DOUBLE NUTS WHEREVER SHOWN ON THE ACCOMPANYING PLANS. BOTH NUTS SHALL BE FULL THICKNESS. ALL OTHER BOLTS HOLDING MACHINERY PARTS, INCLUDING FOUNDATION RODS, SHALL BE PROVIDED WITH NUT LOCKS APPROVED BY THE COMMISSIONER OF PUBLIC WORKS. WHERE SHEET METAL NUT LOCKS ARE USED THEY SHALL BE PAINTED BEFORE USE.

TRUNNION BEARINGS

THE JOURNAL BLOCKS SHALL BE BORED SO THAT ITS SURFACE WILL BE CONCENTRIC WITH THE SHAFT SURFACE WHEN IN PLACE, AND THE BUSHING SHALL BE TURNED AND BORED TO FIT, TO GOOD BEARING, THE JOURNAL BLOCK AND SHAFT RESPECTIVELY. PROPER ALLOWANCE FOR FREE MOVEMENT AND LUBRICATION SHALL BE MADE BETWEEN THE TRUNNION JOURNAL AND THE BUSHING DIAMETERS.

ALL JOURNAL BLOCKS TO BE PROVIDED WITH 3 OZ. GREASE CUPS UNLESS OTHERWISE NOTED. FOR GENERAL REQUIREMENTS OF MATERIAL AND WORKMANSHIP SEE SPECIFICATIONS.

THE HOLES FOR BASE BOLTS IN THE JOURNAL BLOCKS SHALL BE DRILLED WITH AN ALLOWANCE FOR REAMING AND AFTER THE ENTIRE MACHINERY HAS BEEN ERECTED AND CAREFULLY ADJUSTED IN THE FIELD THEY SHALL BE REAMED TO THE REQUIRED SIZE, WITH CASTING IN THEIR PROPER PLACES.

Approved Alexander von Babo 1-10-14
ENGINEER OF BRIDGE DESIGN
Approved Jno. G. Sullivan
ENGINEER OF BRIDGES AND HARBOR
Approved [illegible]
CITY ENGINEER
Approved [illegible]
COMMISSIONER OF PUBLIC WORKS

THE KETLER-ELLIOTT ERECTION CO.
WEBSTER AVE. BRIDGE
FOR THE
CITY OF CHICAGO
Dept. of Public Works :: Bureau of Engineering :: Division of Bridges and Harbor
MODERN STEEL STRUCTURAL COMPANY
MAIN DRIVE SHAFT + TRUNNION BEARINGS
SEE MAT. BILLS # 201 & 202 SCALE 1" = 1 FT.
MADE BY L.M.K. TRACED BY G.W.F. CH'K'D BY [illegible] 1914
CONTRACT No. 2201A SHEET No. 201
DRAWING No. 3894
FILE No 11-GC-22

1660570217

G2 15T. 7½" C.P.

REQ'D - 8-2⅝" × 3½" × 18" ST'D KEYS. (75)

REQ'D 8-2½" × 3½" × 18" ST'D KEYS. (75)

℄ OF MACHINERY GIRDER

G3 - 54T. ¾" D.P.

6'-6"

2'-5½" 2'-5½" 1'-8" 4'-10"

A B

8" 16½" 16½" 16½" 10½" 10½" 8"

2⅞" BORE

⅜" RAD.

¼" CHAMFER

3⅛" 12" 18" 18" 12" ¾"

10¾" 13½" 19" 9½" 22" 19½" 12¾"

12'-6½"

SHAFT - ANNEALED CARBON STEEL.
4 REQ'D - MARK S-2
FINISH ALL OVER.
3'-5½"

SECTIONS A-A AND B-B OF SHAFT S-2

SECTION C-C

G5 75T. 1¼ D.P.

G4 15T. ¾" D.P.

REQ'D 8-1¾" × 2⅝" × 14" ST'D KEYS. (76)

REQ'D 8 1⅝" × 2½" × 9¼" TAPER HEADLESS KEYS. (77)

1'-8" 3'-11" 11"

C D

8" 10" 10⅜" 11" 10⅜" 9⅞" 8"

DRIVE KEY.

¼" CHAMFER ⅜" RAD. ¾" 12" 12¾" 6½" 13" 14" 2" 10" 12¾"

SHAFT. ANNEALED CARBON STL.
4 REQ'D - MARK S3
FINISH ALL OVER.
2'-9½"
7'-7½"

SECTION D-D

36"

G7 76 T - 2 D.P.

8" 4'-11" 11" 10"

54" BRAKE WHEEL.

REQ'D 8-1⅛" × 1½" × 5¼" TAPERED FIXED KEYS. (78)

REQ'D 4-1⅛" × 1½" × 9½" TAPERED FIXED KEYS (79)

IN E-E AND F-F

IN E-E ONLY.

G6 15 T-1½ D.P.

REQ'D-8-1⅛"-1½"-8" ST'D KEYS. (80)

E F

10" 6" 4'-3¾" 8'-1⅛" 10¼" 10" 8½"

SECTIONS E-E & F-F

⅜" CHAMFER.

23"

CHAMFER 3/16

SHAFT. ANNEALED CARBON STEEL.
4 REQ'D - MARK S4 - FINISH ALL OVER.

REQ'D 4-1⅛"-1⅛"-5¼" PARALLEL DEPTH KEYS (82)

1-½" × 6⅞" PARALLEL DEPTH KEY. (83)

⅛" R. Fillet

9⅛" 1'-7⅛" 9⅛" 2" 11⅛" 10"

For Split Collar

REQ'D-4-¾"-1⅛"-5⅞" ST'D KEYS. (81)

G8 167 - 2 D.P.

8¼" 8" 10" 6" 3⅛" 6⅝" 10⅜"

7'-11"

SHAFT-ANNEALED CARBON STEEL.
2 REQ'D. MARK S5. FINISH ALL OVER.
4'-3⅛"

SEC. H-H

27" BRAKE WHEEL

MOTOR PINIONS AND GEARS TO BE FURNISHED BY CONTRACTOR FOR ELECTRICAL EQUIPMENT.

6⅝" 10" 6" 1-½" × 6⅞" PARALLEL DEPTH KEY 4'-3⅛" 1'-7⅛" 9⅛" 2" 11⅛" 10⅜"

⅛" R. Fillet For Split Collar

SHAFT. ANNEALED CARBON STEEL.
2 REQ'D. MARK S6.
FINISH ALL OVER.

H = DEPTH AT DEEP END OF HUB. AT SHALLOW END OF HUB

12 T NOT LESS WHEN DRAWN. ANGLE TO SUIT LOCATION. NOT MORE THAN ¼". TAPER ⅜" IN 12".

SINGLE KEY PROPORTIONS.
D = DIAMETER OF SHAFT.
W = D/4 TO (D/4 + ⅛").
T = .6W TO .7W AT THIN END.
WHERE NOT OTHERWISE SPECIFIED MAKE KEY AS SHOWN ABOVE. MAKE HEADLESS KEY SIMILAR EXCEPT AS TO HEAD. FOR 2 KEYS MAKE EACH .67 TO 1.0 TIMES THE DIMENSIONS OF A SINGLE KEY.

2" RING - FORGED ST'L. FIN. ALL OVER. 4 REQ'D. (84)

Cast Steel — Shrunk on.

SPLIT COLLAR FOR MOTOR SHAFTS S-5 AND S-6. Finished all over. — 4 REQ'D. — PAT. WEB. AVE. BR. #145
Scale 4" to 1 ft.

⅞" × 1⅛" × 5⅞" KEY (81)

2'-5½" 2'-5½" 23" 3'-1" 20¼" 2'-5½" 23"

1" 22" 5 11/16" 2 11/16" 2 11/16" 5 11/16" 22" 1"

¼" CHAMFER ½" RAD. DRILL

2⅜" 2⅜" 6⅝" DEEP - R.H. TH'D 22½" 2'-1" 2'-9" 6'-11" SEE DETAILS OF KEYS BELOW. 22½" 2'-1"

KEY FORGED ST'L. 8 REQ'D. FINISH ALL OVER. (85)

2⅜" 2⅜" 1¼" 4⅜" 7¼" 12"

TRUNNION. ANNEALED CARBON STEEL. 4 REQ'D. FINISH ALL OVER. MARK S1

1" 7¼" 16½" 1½" RAD. 4¾" 2⅜" 18" 16½"

LEAF LOWERED

RIVER. ¼" CHAMFER. 7⅛" 6⅝" 8½" J 9° 2½" 2½" 9°-28' TAP FOR ½" PIPE. TAP FOR ⅜" MACH. SCREW.

END VIEW. OTHER END SIMILAR.

KEY FORGED ST'L. 8 REQ'D. FINISH ALL OVER. (86)

5½" 6⅞" 6" ⅞" 12"

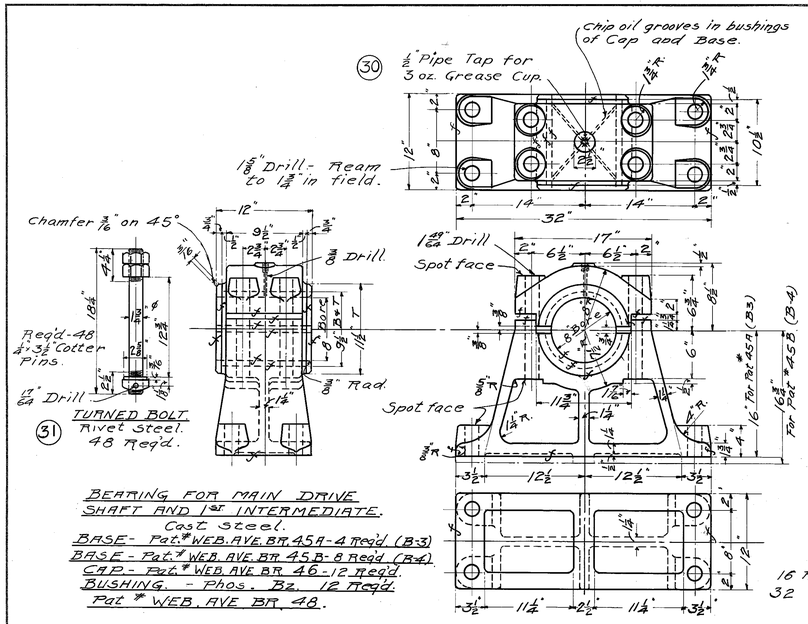
16.42" 19½" 9⅜" 18" BORE - PUSH FIT. 20¼" BORE. FIT. 16¾" PUSH 38°-41' 5½" 7⅛" 9⅜" 15/16" 5 11/16" 3¾" J

COLLAR. CAST STEEL.
PAT No. WEB AVE BR 53
4 REQ'D RIGHT HAND.
4 REQ'D LEFT HAND.

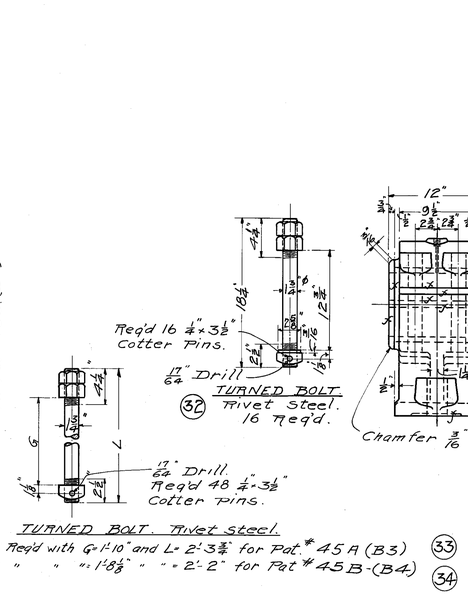
(87) ½" TO ¼" STD PIPE REDUCER 24 REQ'D.

(88) ½" × 1" CAP SCREW 24 REQ'D.

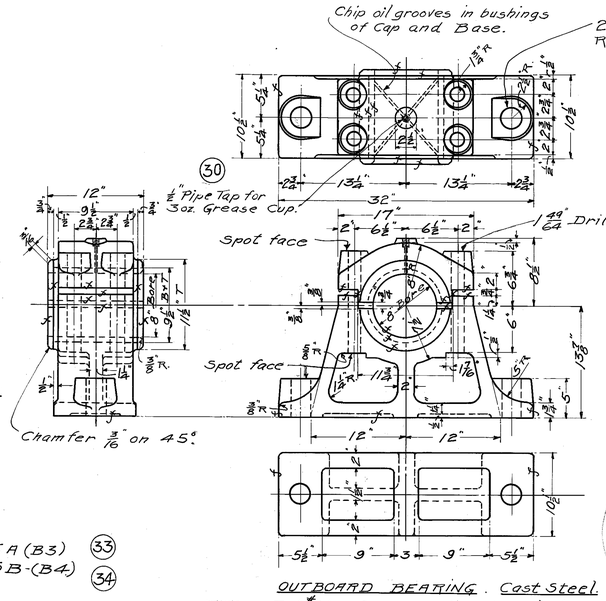
DRILL 5/16 PIPE TAP. 1¼" 3¾" 5" 12" 34" 5⅛" 1⅝" 1⅛" 1" 1⅛" 1⅝" 1¼" 1⅛" 1⅝" 1¼" 1⅛" 1⅝" 1¼



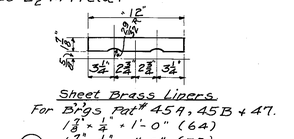
BEARING FOR MAIN DRIVE SHAFT AND 1ST INTERMEDIATE.
Cast Steel.
BASE - Pat.# WEB. AVE. BR. 45A - 4 Req'd. (B3)
BASE - Pat.# WEB. AVE. BR. 45B - 8 Req'd. (B4)
CAP - Pat.# WEB. AVE. BR. 46 - 12 Req'd.
BUSHING - Phos. Bz. 12 Req'd.
Pat.# WEB. AVE. BR. 48.

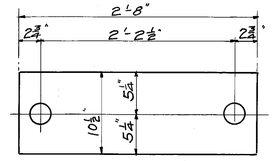


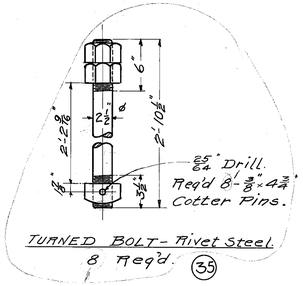
TURNED BOLT. Rivet steel.
16 Req'd with G = 1'-10" and L = 2'-3¾" for Pat.# 45A (B3)
32 " " " = 1'-8⅛" " " = 2'-2" for Pat.# 45B-(B4)



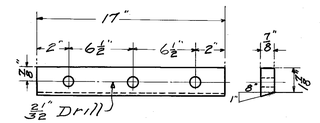
OUTBOARD BEARING. Cast Steel
BASE. Pat.# WEB. AVE. BR. 47 - 4 Req'd (B5)
CAP Pat.# WEB. AVE. BR. 46 - 4 Req'd.
BUSHING Phos. Bz. 4 Req'd.
Pat.# WEB. AVE. BR. 48.

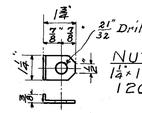


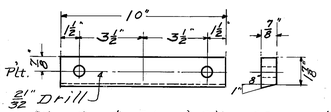




TURNED BOLT - Rivet Steel
8 Req'd.

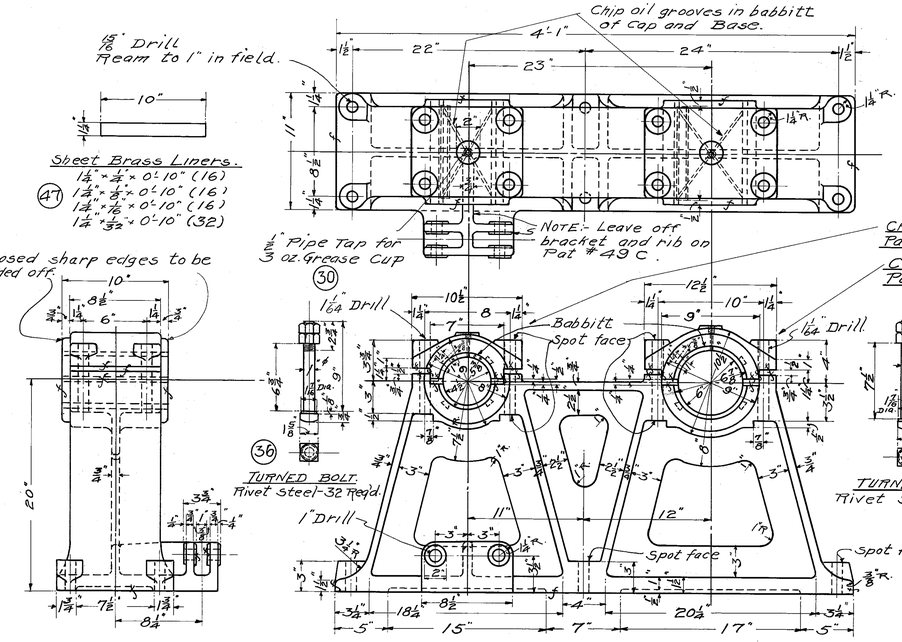




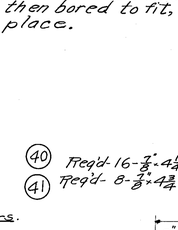


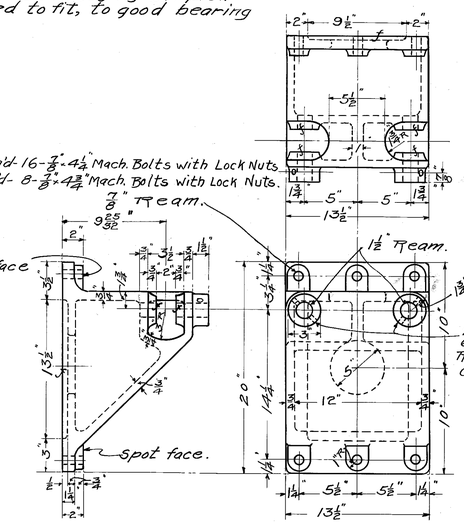
SHAFT BEARINGS.
All journal blocks shall be of cast steel, annealed, lined with phosphor bronze or babbitt, as indicated on the accompanying plans. Where phosphor bronze bushings are used, the journal block shall be bored so that its surface will be concentric with the shaft surface when in place, and the bushing shall be turned and bored to fit, to good bearing, the journal block and shaft respectively.
Where babbitt is used it shall be thoroughly ballpien hammered in place and then bored to fit, to good bearing on the shaft when in place.

PAINTING.
Before shipment from the machine shop, all castings shall have all molding and casting irregularities chipped down smooth, have all molding sand and loose annealing scale removed, and have applied to them a suitable priming coat and then a coat of filler well brushed in and rubbed down, and be given one coat of carbonaceous paint, of the quality specified for structural steel, on unfinished surfaces. Unfinished parts of forgings shall be similarly treated. Finished surfaces of fixed joints shall have a coat of the same paint. All finished working surfaces shall be coated with white lead and tallow.



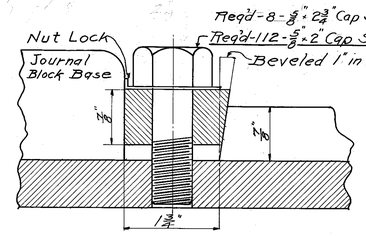
DOUBLE STAND 2 Req'd as shown.
Cast Steel. Pat.# WEB. AVE. BR. 49 A.
DOUBLE STAND. 2 Req'd opp. hand.
Cast Steel. Pat.# WEB. AVE. BR. 49 B.
DOUBLE STAND. 4 Req'd without Bracket.
Cast Steel. Pat.# WEB. AVE. BR. 49 C.





BRAKE BRACKET Cast Steel.
Pat.# WEB. AVE. BR. 52. 4 Req'd.

B9.



JOURNAL BLOCK GIBS.

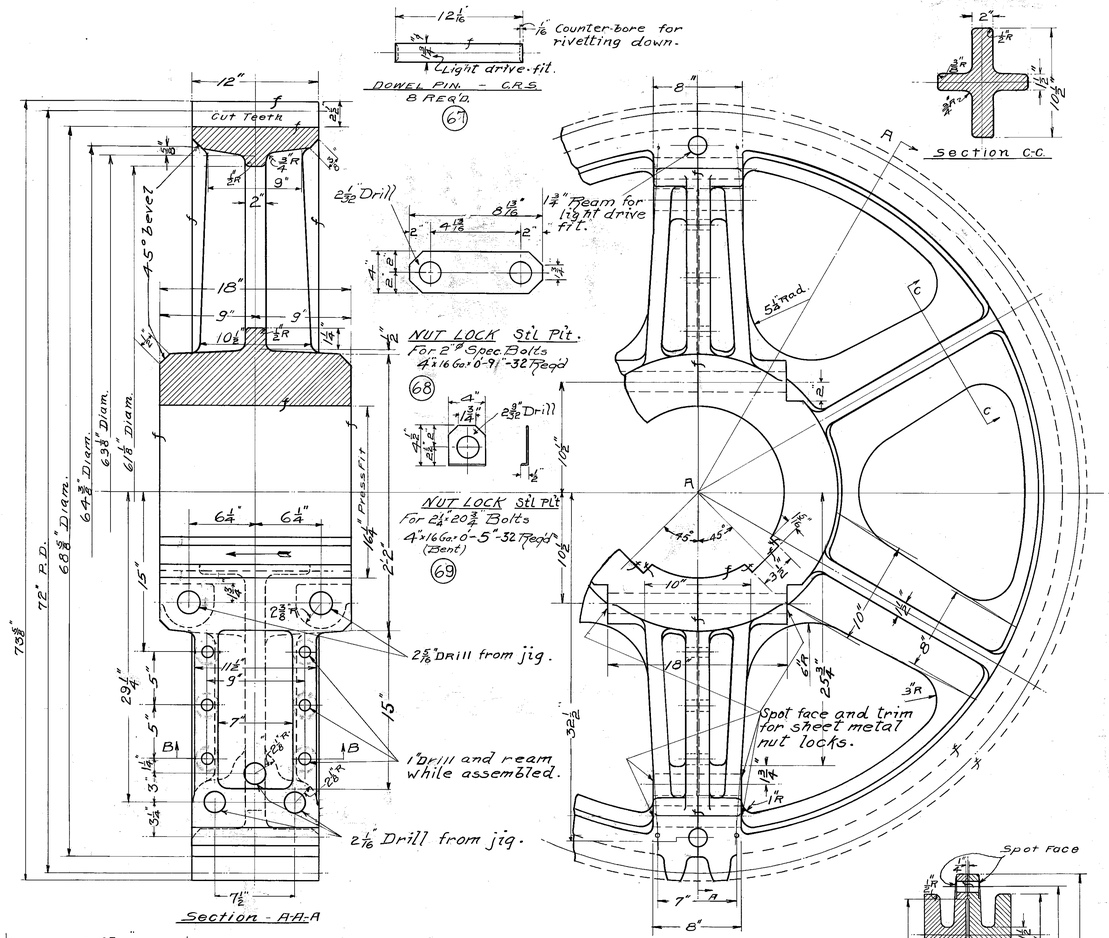
NOTE- All shear plates to have edges planed as shown in sketch.

NOTE- See Dwg No. 201 for general notes concerning patterns, turned bolts, ect.

Approved [signature] Engineer of Bridge Design
Approved [signature] Engineer of Bridges and Harbor
Approved [signature] City Engineer
Approved [signature] Commissioner of Public Works
J.E.B. 11-30-14.

THE KETLER-ELLIOTT ERECTION CO.
WEBSTER AVE. BRIDGE
FOR THE
CITY OF CHICAGO
Dept. of Public Works :: Bureau of Engineering :: Division of Bridges and Harbor
MODERN STEEL STRUCTURAL COMPANY
DETAIL OF BEARINGS.
SEE MAT. BILLS 204-205 & 206 SCALE 1½"=2" = 1 FT.
MADE BY L.M.K. TRACED BY L.M.K. CH'K'D BY J.E.B. 12-1-1914
CONTRACT No. 2201 A SHEET No. 203
DRAWING No. 3896
FILE No. 11-GC-24

1660570219



GEARS.

See drawing 201 for pattern construction.

All gears shall be of cast or forged steel. All gear teeth, except those of the racks and main pinions, shall be accurately cut to Brown & Sharpe standard involute pattern, except where shown otherwise on the accompanying plans.

The pitch lines shall be plainly marked on both sides of the gears. The gears shall be bored true and have a light driving fit on the shafts, to which they shall be securely keyed.

Sub contractor machining gears must bore all gears and pinions to press fit on shafts.

Depths of keyways are for deep ends.

See drawing 202 for instructions regarding keys and key seating, and drawing 203 for castings and painting.

Approved [illegible] ENGINEER OF BRIDGE DESIGN
Approved [illegible] ENGINEER OF BRIDGES AND HARBOR
Approved [illegible] CITY ENGINEER
Approved [illegible] COMMISSIONER OF PUBLIC WORKS

THE KETLER-ELLIOTT ERECTION CO.

WEBSTER AVE. BRIDGE

FOR THE

CITY OF CHICAGO

Dept. of Public Works :: Bureau of Engineering :: Division of Bridges and Harbor

MODERN STEEL STRUCTURAL COMPANY

DETAIL OF GEARING.

SEE MAT. BILLS 207 SCALE 2"=1" 1 FT.

MADE BY G.W.F. TRACED BY G.W.F. CK'D BY [illegible] 24 1914

CONTRACT No. 2201A SHEET No. 204

1660570220

Keyways in 42 and 47 changed - 12-22-14.

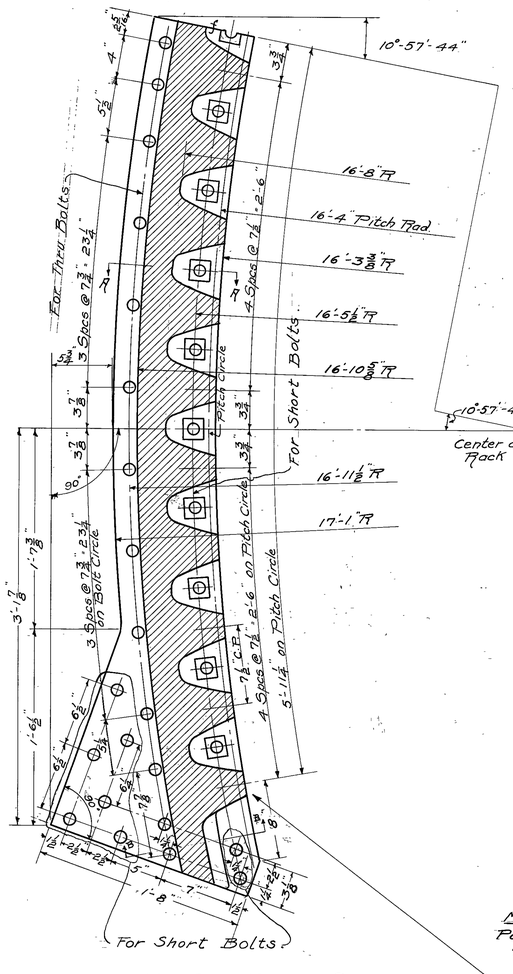
DRAWING No 3897

FILE No 11-6C-25

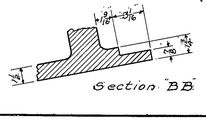
for general notes concerning patterns etc. see Sheet *201.

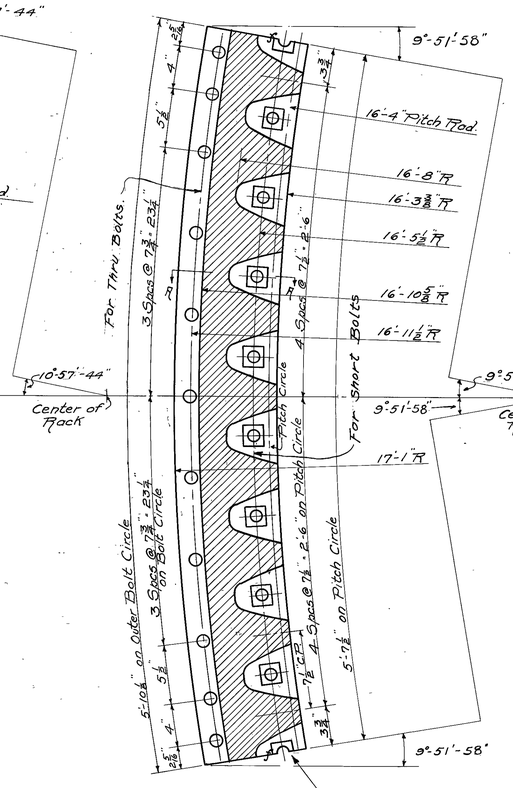
RACKS :- The patterns shall have their teeth conform accurately with the outline indicated upon the accompanying plans, without more than $\frac{1}{32}$ inch variation of pitch. Ample allowance for planing shall be made wherever a finished surface is required. The rack sections shall be cast with their teeth downward in the mold. The rack sections shall be checked over, after being annealed, as to the accuracy of the pitch surface and the circular pitch of the teeth. The pitch radii of the assembled racks shall not vary more than $\frac{1}{8}$ inch in circles above or below that specified. The teeth shall mesh accurately with those of the main operating pinion, and they shall be trimmed to templets, which conform to the tooth profiles, where irregularities extend above required surfaces of tooth, and to insure a bearing over the middle third of their faces.

RACK PINIONS :- The patterns shall have their teeth conform accurately with the outline indicated upon the accompanying plans without more than $\frac{1}{32}$ inch variation of pitch. The molding draft shall be as small as possible to insure satisfactory molds. The rack pinions shall be checked over, after being annealed, as to the accuracy of the pitch surface and the circular pitch of the teeth. The pitch radii shall not vary more than $\frac{1}{8}$ inch in circles above or below that specified. The teeth shall mesh accurately with those of the operating racks, and they shall be trimmed to templets, which conform to the tooth profiles, where irregularities extend above required surfaces of tooth, and to insure a bearing over the middle third of their faces.

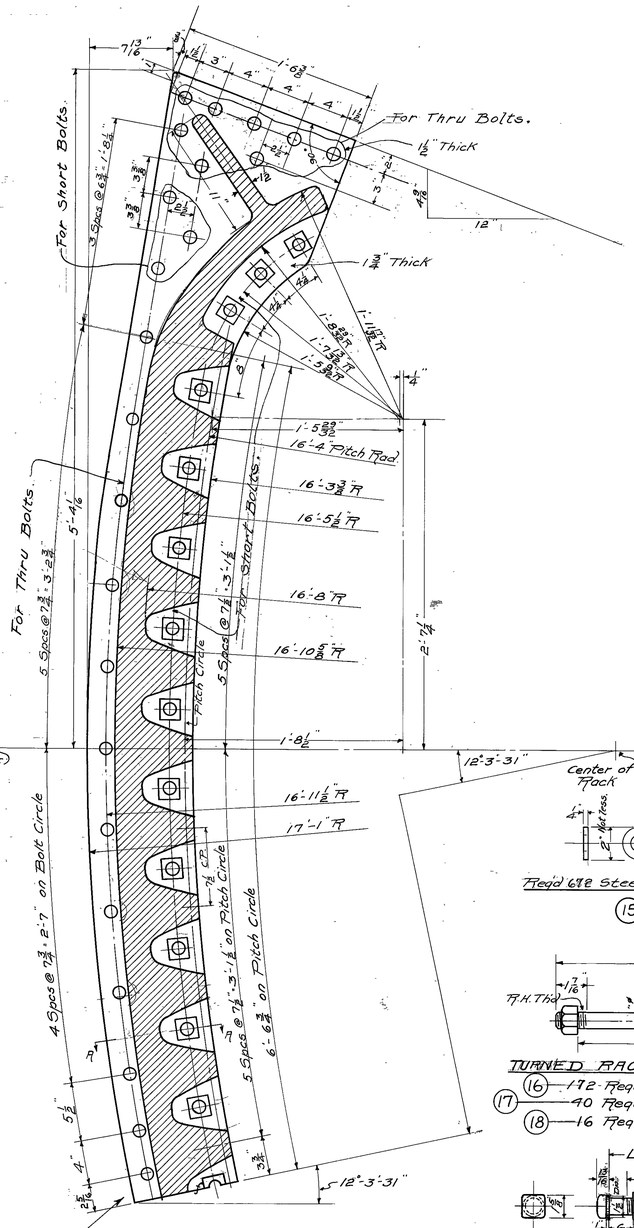


LOWER SECTION OF RACK
Pat.# WEB. AVE. BR. 61 - Cast Steel
7 1/2 C.P. 4 Req'd



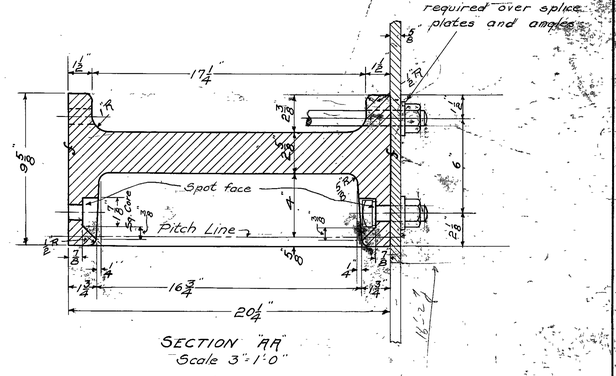


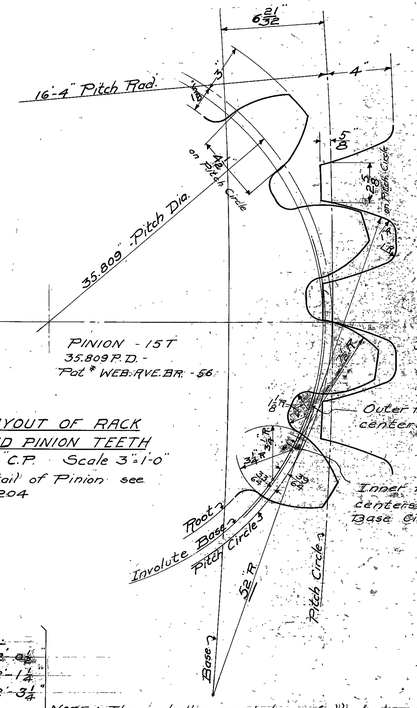
MIDDLE SECTIONS OF RACK
Pat.# WEB. AVE. BR. 62 - Cast Steel
7 1/2" C.P. 8 Req'd

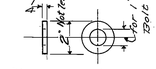


UPPER SECTION OF RACK
Pat.# WEB. AVE. BR. 63 Cast Steel
7 1/2 C.P. 4 Req'd

NOTE :- All bolt holes will be drilled and reamed in shop for 1" turned bolts when assembling Trusses, care being taken to have Racks concentric with and correct distance from the Trunnions.
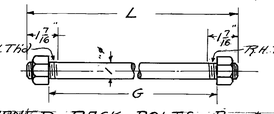






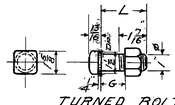
Req'd 618 Steel Washers
(15)

LAYOUT OF RACK AND PINION TEETH
7 1/2 C.P. Scale 3"=1'-0"
for detail of Pinion see Dwg.# 204



TURNED RACK BOLTS.- Rivet Steel.
(16) 172 Req'd with G = 1 7/16" and L = 2-4 1/2"
(17) 90 Req'd with G = 1 13/16" and L = 2-1 1/4"
(18) 16 Req'd with G = 2" and L = 2-3 1/4"

NOTE : These bolts must have full body bearing in plates next to racks Bolts to be a light drive fit.



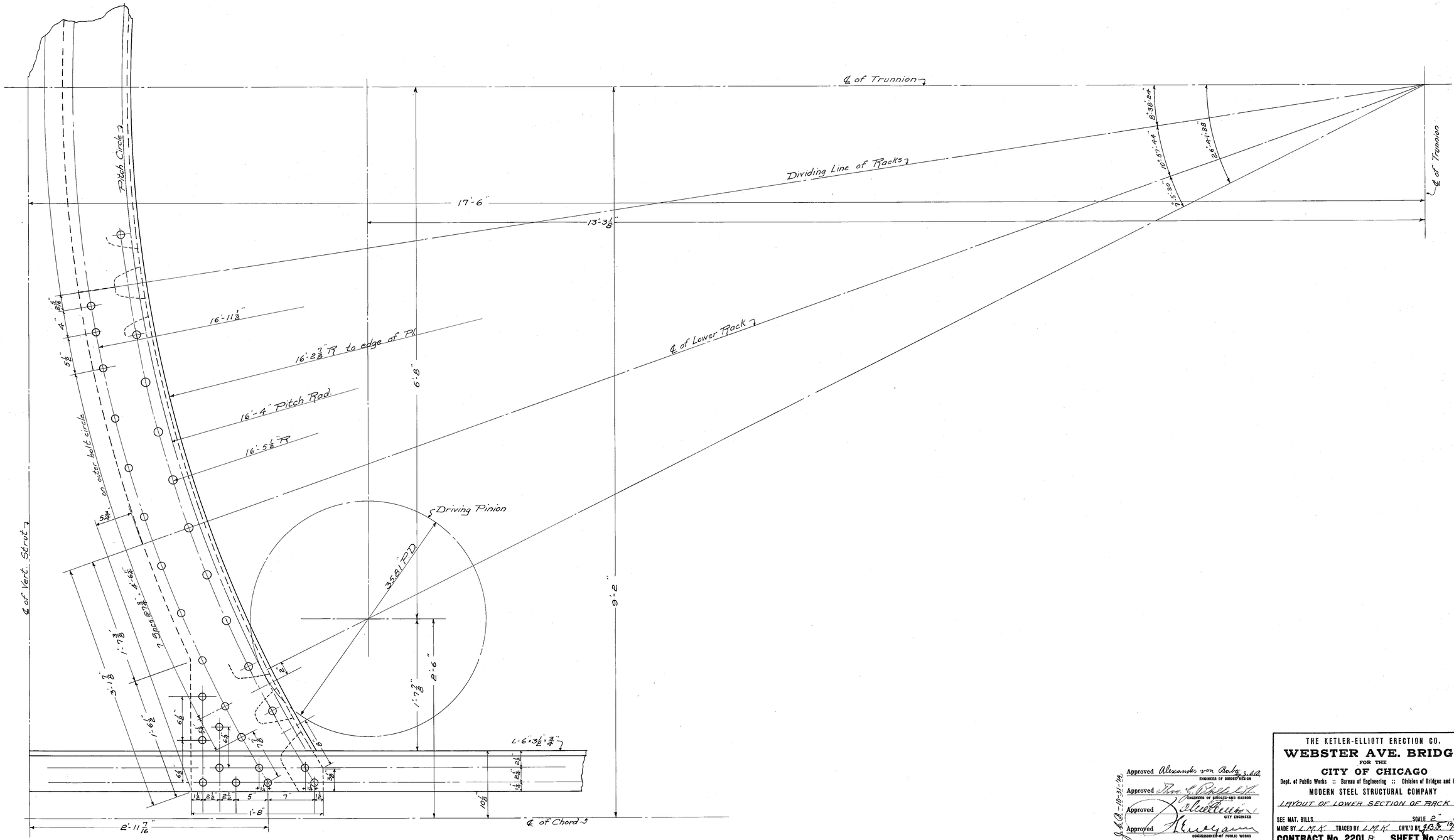
TURNED BOLTS-Rivet Steel.
(19) 30-Req'd with G = 1 3/4" and L = 3"
(20) 16-Req'd with G = 2 3/4" and L = 3 3/4"
(21) 16-Req'd with G = 3" and L = 4 3/4"
(22) 24-Req'd with G = 3 3/4" and L = 5"
(23) 40-Req'd with G = 2 1/2" and L = 3 3/4"

J.A.B. 11-24-14

Approved Alexander von Babo ENGINEER OF BRIDGE DESIGN
Approved Thos. G. Elliott ENGINEER OF BRIDGES AND HARBOR
Approved John Ericson CITY ENGINEER
Approved S. G. McGowan COMMISSIONER OF PUBLIC WORKS

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WEBSTER AVE. BRIDGE
FOR THE
CITY OF CHICAGO
Dept. of Public Works :: Bureau of Engineering :: Division of Bridges and Harbor
MODERN STEEL STRUCTURAL COMPANY
DETAIL OF RACKS.
SEE MAT. BILLS. No. 205 SCALE 3" = 1 FT.
MADE BY L.M.F. TRACED BY L.M.F. CHK'D BY [illegible] 12/1914
CONTRACT No. 2201 A SHEET No. 205
DRAWING No. 3898
FILE No. 11-66-26

1660570221



Approved Alexander von Babo, Jr. 6.6.12
ENGINEER OF BRIDGE DESIGN

Approved Thos. G. Pihlfeldt 6.6.12
ENGINEER OF BRIDGES AND HARBOR

Approved [illegible]
CITY ENGINEER

Approved [illegible]
COMMISSIONER OF PUBLIC WORKS

J.A.C.B. 10-31-12

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LAYOUT OF LOWER SECTION OF RACK

SEE MAT. BILLS SCALE 2" = 1 FT.

MADE BY L.M.K. TRACED BY L.M.K. CH'K'D BY J.S.E. 10/1/1914

CONTRACT No. 2201 R **SHEET No. 205-R**

1660570222

DRAWING No 3899

FILE No 11-GC-27

℄ of Strut ⅂

17'-3⅛" to ℄ of Trunnion

12"

A 9/16

1'-6⅝"

4 @ 4" = 1'-4"

11/16"

3 @ 4" = 1'-0"

7/8"

10⅝"

L-3½"×5"×⅜"

1'-8 23/32" R

1'-5⅜" R

1'-7⅛" R

3 Spaces @ 2¼" = 6¾"

2 Spaces @ 2¼" = 4½"

90°

9 1/4"×1"

5 Spaces @ 2¼" = 11¼"

35° 22'

40.2°

1'-8⅛"

16'-11⅛" R

16'-4" Pitch Rad.

16'-5½" Rad.

16'-2⅞" to edge of Pl.

4 Spaces @ 2¼" = 9"

5½"

4"

2½"

2½"

4"

5½"

Pitch Line ⅂

9'-25'-33"

12°-3'-31"

19°-43'-56"

11°-5'-32"

Total L of Opening = 79°

52°-18'-32"

9'-5"

Horiz. ℄ of Trunnion ⅂

℄ of Upper Section of Rock ⅂

Dividing Line of Rocks ⅂

11'-8 15/16"

Dividing Line of Rocks ⅂

Approved Alexander von Babo
ENGINEER OF BRIDGE DESIGN

Approved
ENGINEER OF BRIDGES AND HARBOR

Approved
CITY ENGINEER

Approved
COMMISSIONER OF PUBLIC WORKS

THE KETLER-ELLIOTT ERECTION CO.

WEBSTER AVE. BRIDGE

FOR THE

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Dept. of Public Works :: Bureau of Engineering :: Division of Bridges and Harbor

MODERN STEEL STRUCTURAL COMPANY

LAYOUT OF UPPER SECTION OF RACK

SEE MAT. BILLS SCALE 2" = 1 FT.

MADE BY L.M.K TRACED BY L.M.K CH'K'D BY [illegible] 10/7/1914

CONTRACT No. 2201 R **SHEET No. 205 B**

1660570223

DRAWING No. 3900

FILE No. 11-6C-28

VIEW BB

LARGE BRAKE / SMALL BRAKE

℄ OPERATORS HOUSE

℄ NORTH TRUSS

℄ BRIDGE

℄ SOUTH TRUSS

BOX GIRDER

PLATE GIRDER

MACHINERY GIRDER

℄ LARGE BRAKE

℄ SMALL BRAKE

℄ RACK PINION

℄ PINION - ELEV + 9'-2"

ELEV + 15'-10" ℄ TRUNNION

ELEV + 33'-9"

ELEV + 22'-9"

ELEV + 21'-7⅛"

FRONT LINE OPERATORS ROOM

SINGLE STROKE TWO CYLINDERS

BRG - LARGE BRAKE

BRS SMALL BRAKE

℄ ANCHOR COLUMN

ELEV. + 20'-6 13/16" AT ℄ ANCHOR COLUMN

REVISED - 4-28-15

Approved 5-13-15 — ENGINEER OF BRIDGE DESIGN

Approved — ENGINEER OF BRIDGES AND HARBOR

Approved — CITY ENGINEER

Approved — COMMISSIONER OF PUBLIC WORKS

THE KETLER-ELLIOTT ERECTION CO.

WEBSTER AVE. BRIDGE

FOR THE

CITY OF CHICAGO

Dept. of Public Works :: Bureau of Engineering :: Division of Bridges and Harbor

MODERN STEEL STRUCTURAL COMPANY

GENERAL ARRANGEMENT OF HAND BRAKES.

SEE MAT. BILLS. SCALE 3/8" = 1 FT.

MADE BY J.B.F. TRACED BY J.B.F. CH'K'D BY [illegible] 1914

CONTRACT No. 2201-A SHEET No. 206

1660570224

DRAWING No 3901

FILE No. 11-6C-29

NOTE: The face and sides of the brake wheel rims shall be turned smooth, and the wheels shall be balanced after turning. The brake shoes shall be made of bass wood for the smaller and oak wood for the larger brake, with grain parallel to motion, finished to fit accurately the brake shoes and be trimmed to fit accurately the wheel rims when assembled.

FIRST LARGE BRAKE SHOE - Cast Steel
Pat.* WEB. AVE. BR. 64 — 4 Req'd

SECOND LARGE BRAKE SHOE - Cast Steel
Pat.* WEB. AVE. BR. 65 — 4 Req'd

LARGE BRAKE WHEEL - Cast Steel
Pat.* WEB. AVE. BR. -73 — 4 Req'd

FIRST SMALL BRAKE SHOE - Cast Steel
Pat.* WEB. AVE. BR. 66 — 4 Req'd

SECOND SMALL BRAKE SHOE - Cast Steel
Pat.* WEB. AVE. BR. 67 — 4 Req'd

TRUNNION - Cast Steel
Pat.* 70 — 4 Req'd

TRUNNION - Cast Steel
Pat.* 71 — 4 Req'd

WASHER - Cast Iron
Pat.* 75 — 8 Req'd

LARGE BRAKE LEVER - Cast Steel
Pat.* WEB. AVE. BR. 69 — 4 Req'd

SMALL BRAKE LEVER - Cast Steel
Pat.* WEB. AVE. BR. 68 — 4 Req'd

EYE BOLT - Forged Steel - 4 Req'd

EYE BOLT - Forged Steel - 8 Req'd

EYE BOLT SPRING - Steel Spring
Wire - 1/4" O.D. - 25 Coils - Flat ends — 4 Req'd

EYE BOLT SPRING - Steel
Spring Wire - 20 Coils - Flat ends
2 1/8" O.D. — 4 Req'd

EYE BOLT PIN - C.R.S.
8 Req'd

PIN - Rivet Steel - 4 Req'd
For Brake Lever — Finish all over

PIN - Rivet Steel - 4 Req'd
For upper end of Brake Shoe — Finish all over

PIN - Rivet Steel - 4 Req'd - f all over
For small brake lever

PIN - Rivet Steel - 4 Req'd - f all over
For upper end of small brake shoe

TURNED BOLT - Rivet Steel
For Trunnion Link — 8 Req'd

TURNED BOLT - Rivet Steel
For Trunnion Plate — 8 Req'd

EYE BOLT PIN - Rivet Steel
8 - Req'd. — f all over

DETAILS OF LARGE BRAKE
4 REQ'D - COMPLETE

DETAILS OF SMALL BRAKE
4 REQ'D - COMPLETE

See Dwg.* 201 for general notes concerning patterns turned bolts etc., * 203 for castings, painting, ect. See Dwg.* 217 for details of brake support.

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Dept. of Public Works :: Bureau of Engineering :: Division of Bridges and Harbor

MODERN STEEL STRUCTURAL COMPANY

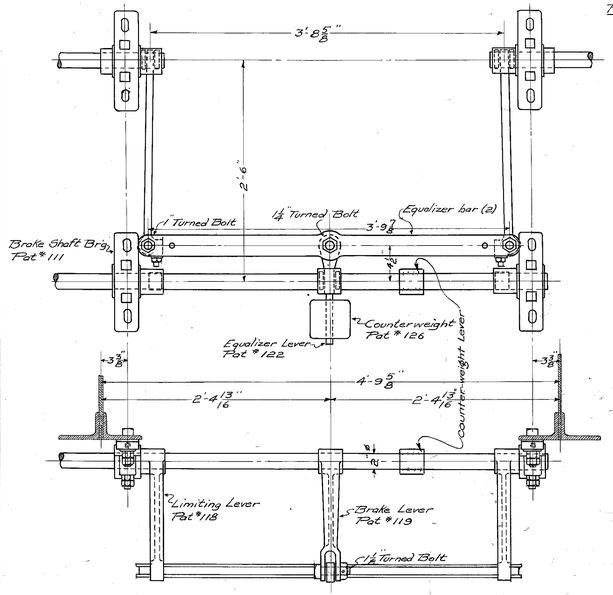
DETAIL OF BRAKES

SEE MAT. BILLS 208 & 209. SCALE 2" = 1 FT.
MADE BY CMK TRACED BY CMK CH'K'D BY RAH 10/11 1914
CONTRACT No. 2201 A SHEET No. 207

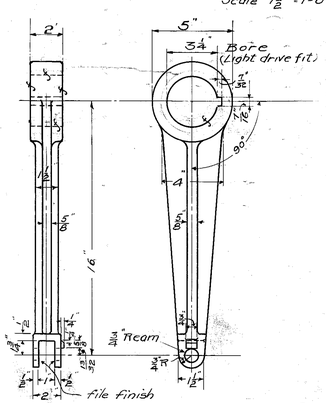
Approved Alexander von Babo, ENGINEER OF BRIDGES AND HARBOR
Approved Wm. E. Schuyler, CITY ENGINEER
Approved [illegible], COMMISSIONER OF PUBLIC WORKS
Jul 8-12-30-14

1660570225

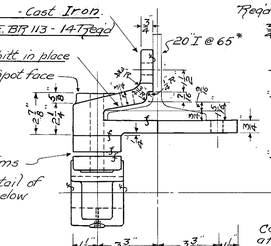
DRAWING No 3902
FILE No. 11-6C-30

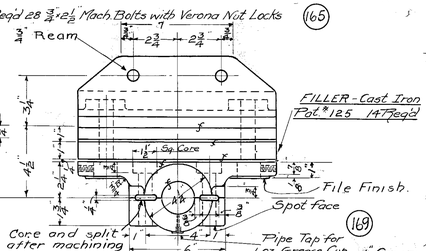


ASSEMBLY OF EQUALIZER
Scale 1½" = 1'-0"

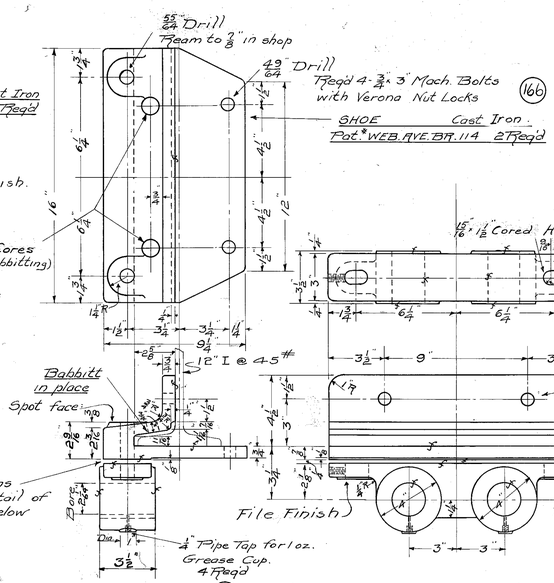


BRAKE LEVER Cast Steel
Pat.* WEB. AVE. BR. 124 4 Req'd
(L7)

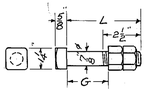




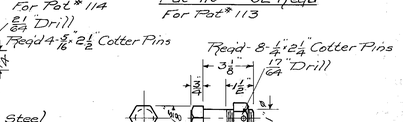
BRAKE SHAFT BEARING - Cast Iron.
Pat.* WEB. AVE. BR. 111 50 Req'd (B21)



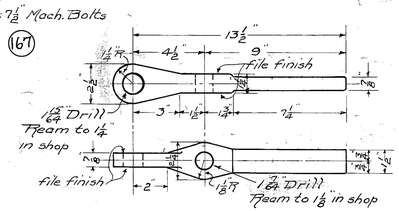
BRAKE LEVER BEARING - Cast Iron.
Pat.* WEB. AVE. BR. 112 4 Req'd
(B10)



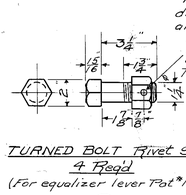
TURNED BOLT - Rivet Steel
(170) 28 Req'd with G = 5⅛" and L = 7" for Base of Brake Shaft Bearing (fastens to 20 I)
(171) 72 Req'd with G = 1 1/16" and L = 3½" for Base of Brake Shaft Bearing (fastens to ⅜" B)
(172) 100 Req'd with G = 3¼" and L = 5¼" for Cap of Brake Shaft Bearing
(173) 4 Req'd with G = 3 13/16" and L = 5⅝" for Brake Lever Bearing



BRAKE SUPPORT - Cast Steel
Pat.* WEB. AVE. BR. 120 - 2 Req'd
(B12)

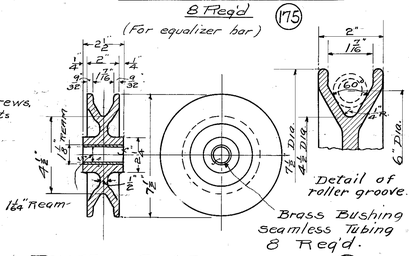


EQUALIZER LEVER Cast Steel
Pat.* 122 4 Req'd

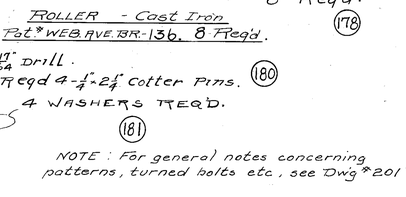


TURNED BOLT Rivet Steel
4 Req'd
(For equalizer lever Pat.* 122)
(174)

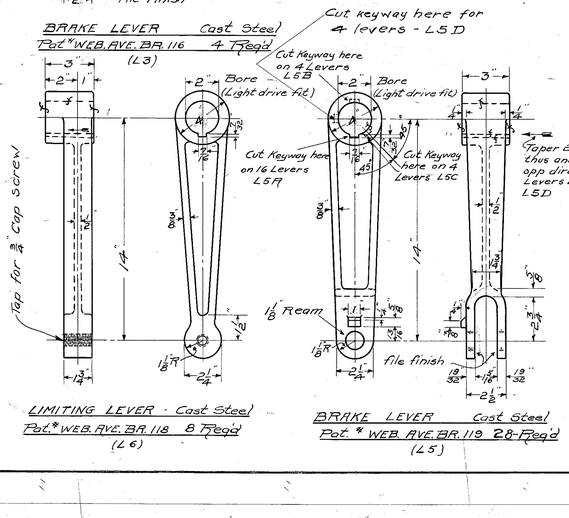
TURNED BOLT Rivet Steel
8 Req'd
(For equalizer bar)
(175)



ROLLER - Cast Iron
Pat.* WEB. AVE. BR. 136. 8 Req'd.
(180)



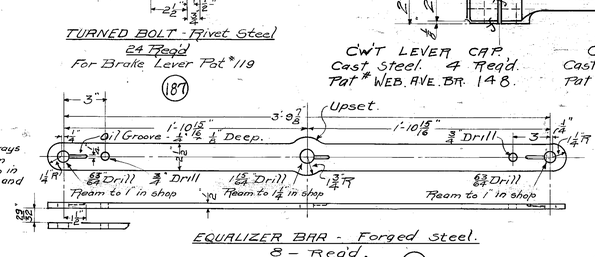
NOTE: For general notes concerning patterns, turned bolts etc., see Dwg.* 201



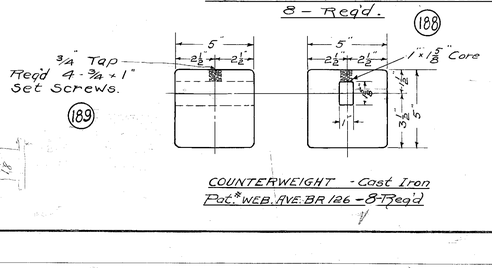
LIMITING LEVER - Cast Steel
Pat.* WEB. AVE. BR. 118 8 Req'd
(L6)

BRAKE LEVER Cast Steel
Pat.* WEB. AVE. BR. 116 4 Req'd
(L3)

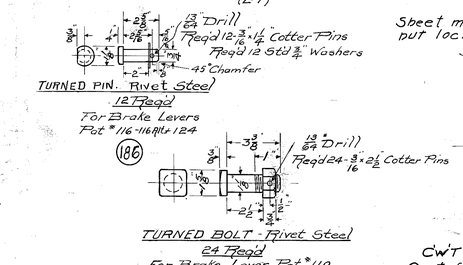
BRAKE LEVER Cast Steel
Pat.* WEB. AVE. BR. 119 28 Req'd
(L5)

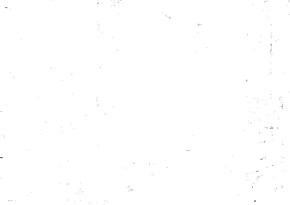


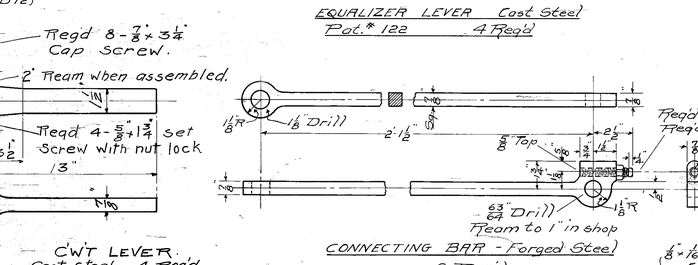
EQUALIZER BAR - Forged Steel.
8 - Req'd.
(188)

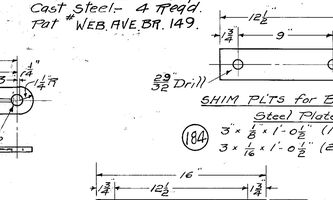


COUNTERWEIGHT - Cast Iron
Pat.* WEB. AVE. BR. 126 - 8 Req'd









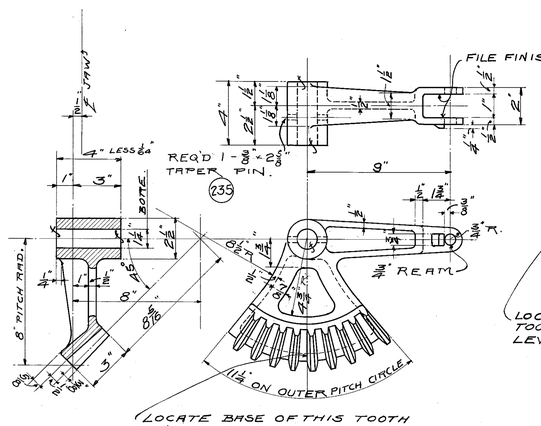
REVISED. APRIL-12-1915.

THE KETLER-ELLIOTT ERECTION CO.
WEBSTER AVE. BRIDGE
FOR THE
CITY OF CHICAGO
Dept. of Public Works :: Bureau of Engineering :: Division of Bridges and Harbor
MODERN STEEL STRUCTURAL COMPANY
DETAIL OF BRAKE LEVERS AND SUPPORTS

Approved Alexander von Babo, ENGINEER OF BRIDGE DESIGN
Approved Thos. G. Pihlfeldt, ENGINEER OF BRIDGES AND HARBOR
Approved [illegible], CITY ENGINEER
Approved [illegible], COMMISSIONER OF PUBLIC WORKS

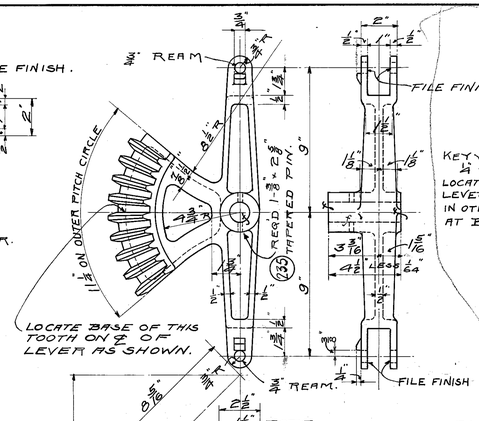
SEE MAT. BILLS 216, 217 & 218. SCALE 2" = 1 FT.
MADE BY DMK TRACED BY DMK CH'K'D BY J.G.B.S. 1914
CONTRACT No. 2201 A SHEET No. 208

1660570226
DRAWING No. 3903
FILE No. 11-6C-31



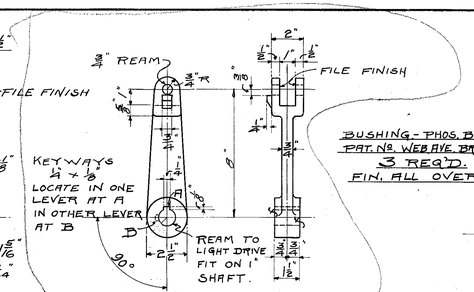
GEARED LEVER. 9 TEETH - 2½ D. P.
CAST STEEL - PAT. Nº WEB. AVE. BR. 76.
1 REQ'D. CAST TEETH.
(L 11)

TEETH FILE TRIMMED TO CLOSE WORKING FIT.

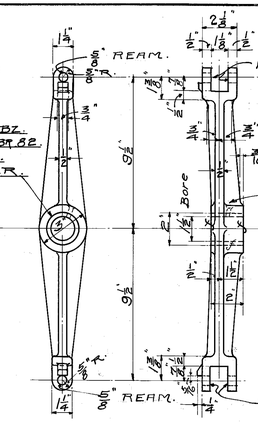


GEARED LEVER. 9 TEETH - 2½ DP.
CAST STEEL - PAT. Nº WEB. AVE. BR. 76 ALT.
1 REQ'D. CAST TEETH.
(L-12)

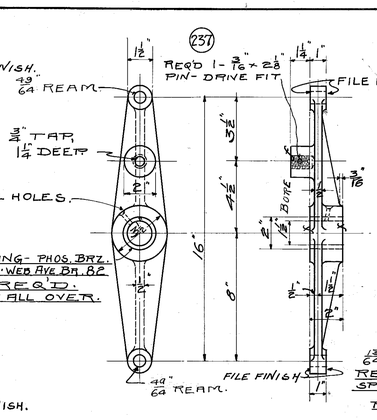
TEETH FILE TRIMMED TO CLOSE WORKING FIT.



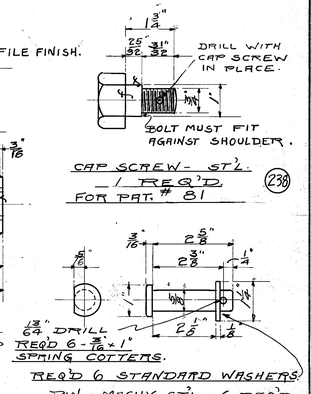
LEVER. CAST STEEL.
PAT. Nº. WEB AVE BR 78.
2 REQ'D
(L 13)

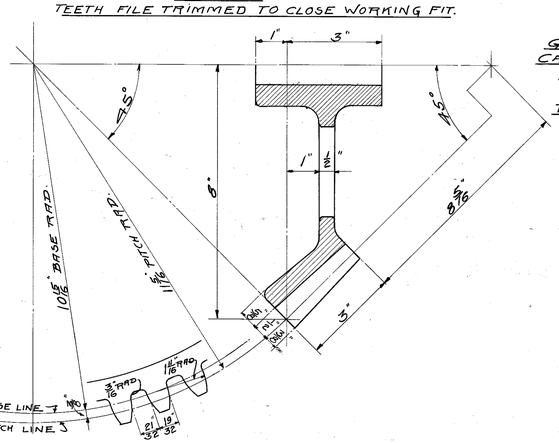


LEVER CAST STEEL.
PAT. Nº. WEB. AVE. BR. 80
3 REQ'D
(L9)

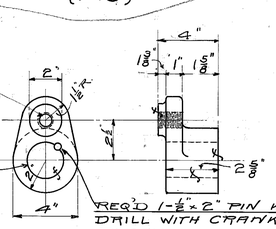


LEVER. CAST ST'L
PAT. Nº. WEB. AVE. BR. 81.
1 REQ'D.
(L 8)

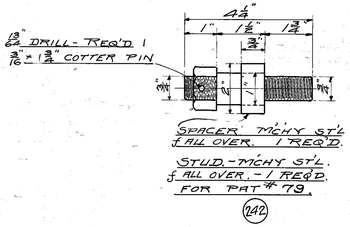


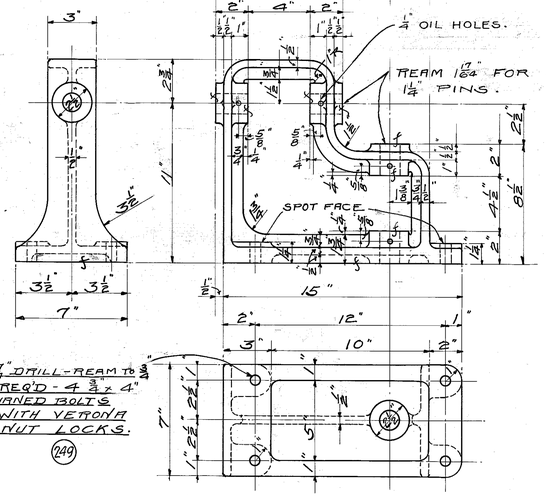


LAYOUT OF TEETH OF GEARED LEVERS, PAT. Nº 76 AND 76 ALT.
9 TEETH. 2½ D.P. 1.257" C.P.
SCALE 6" = 1 FT.

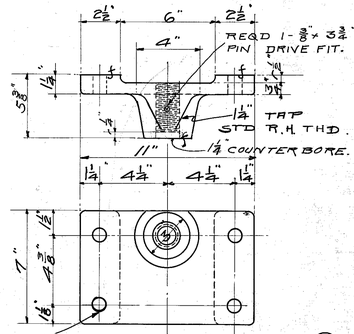


CRANK CAST STEEL.
PAT. Nº. WEB. AVE. BR. 79.
1 REQ'D. (H)

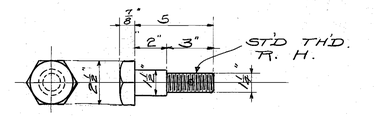




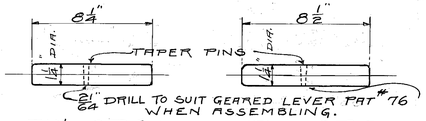
DOUBLE BRACKET CAST STEEL.
PAT. Nº. WEB. AVE. BR. 86.
1 REQ'D (B 13)



BRACKET CAST STEEL
PAT. Nº. WEB. AVE. BR. 87.
4 REQ'D. (B 14)



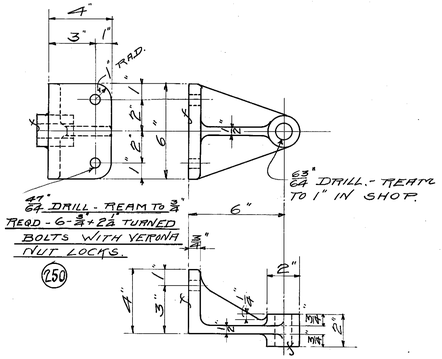
STUD FOR BRACKET # 87.
M'CHY ST'L. 4 REQ'D.
FIN. ALL OVER.
243



PIN - C.R.S.
1 - REQ'D
244

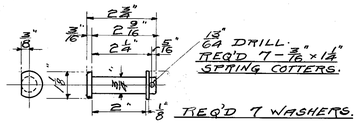
PIN - C.R.S.
1 - REQ'D.
245

SEE DWG. Nº 201 FOR GENERAL NOTES REGARDING PATTERNS, BOLTS, ECT.



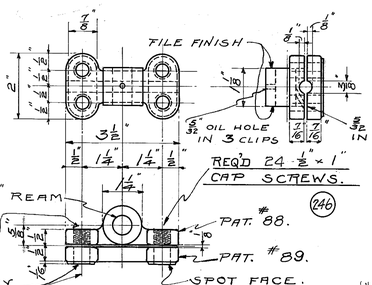
REQ'D - 6 - 3/4" x 2 1/2 TURNED BOLTS WITH VERONA NUT LOCKS.
250

BRACKET. - CAST STEEL.
PAT. WEB. AVE. BR. 83.
3 REQ'D. (B 16).

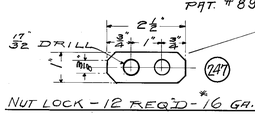


REQ'D 7 WASHERS.

PIN - M'CHY ST'L.
FIN. ALL OVER.
1 REQ'D FOR LEVER PAT. Nº 76.
2 " " " " " 76 ALT.
2 " " " " " 78.
240



ROPE CLIP. - MAL. IRON.
6 REQ'D.
EYE PAT. Nº. W.A.B. 88.
CLAMP PAT. Nº. W.A.B. 89.



NUT LOCK - 12 REQ'D - 16 GA. PLATE.

Approved Alexander von Babo ENGINEER OF BRIDGE DESIGN
Approved Thos. G. Pitcher ENGINEER OF BRIDGES AND HARBOR
Approved Karl Kreeger CITY ENGINEER
Approved Edward Burke COMMISSIONER OF PUBLIC WORKS
X 10-2-2-165

THE KETLER-ELLIOTT ERECTION CO.

WEBSTER AVE. BRIDGE

FOR THE

CITY OF CHICAGO

Dept. of Public Works :: Bureau of Engineering :: Division of Bridges and Harbor

MODERN STEEL STRUCTURAL COMPANY

DETAILS OF LOCK INDICATOR.

SEE MAT. BILLS. SCALE 3" = 1 FT.

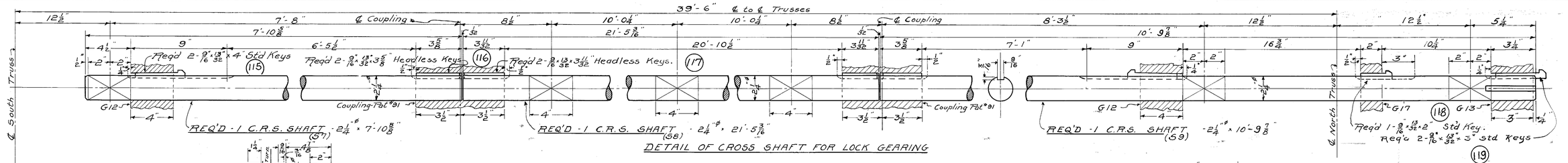
MADE BY J.B.F. TRACED BY J.B.F. CH'K'D BY DMK 2/4/1914

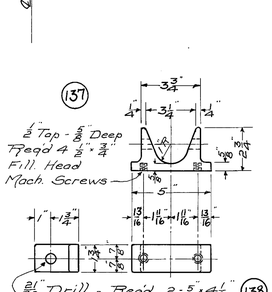
CONTRACT No. 2201 A **SHEET No. 209**

1660570227

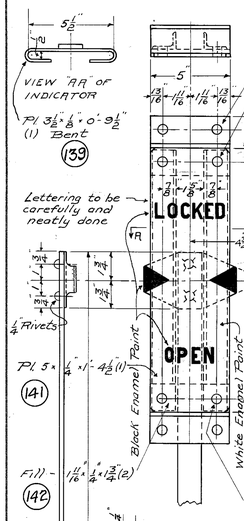
DRAWING No. 3904

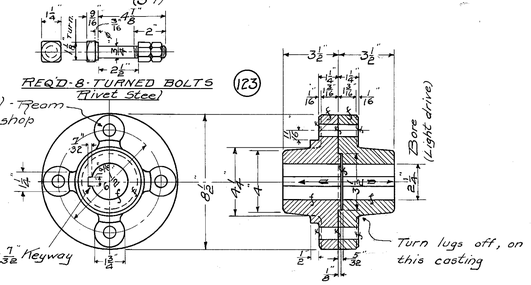
FILE No. 11-6C-32



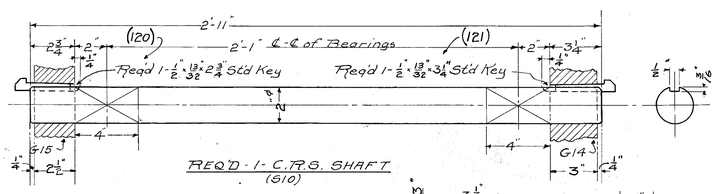


INDICATOR BRACKET - Brass
Pat.° WEB. AVE. BR. 90 2 Reqd

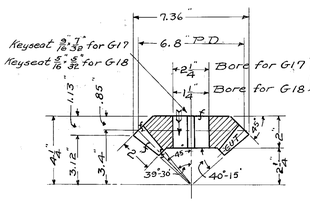




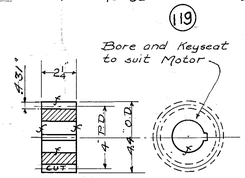
COUPLING Cast Steel
Pat.° WEB AVE. BR. 91 - 4 Halves Reqd



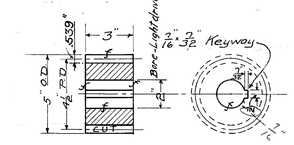
REQ'D - 1 - C.R.S. SHAFT
(S10)



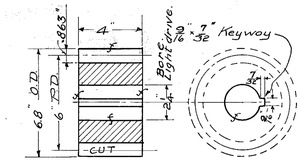
BEVEL GEAR - 17T - 2½ D.P. - 6.8" P.D.
Forged Steel
1 - Reqd as noted - MK G17
1 - Reqd as noted - MK G18



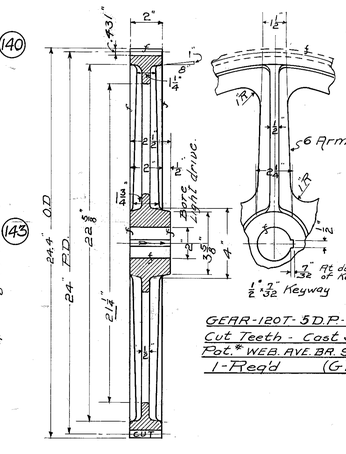
PINION - 20T - 5 D.P. - 4" P.D.
Forged Steel 1 - Reqd
(G16)
NOTE : Send this Pinion to Motor Contractor who will bore and fit to Motor Shaft.



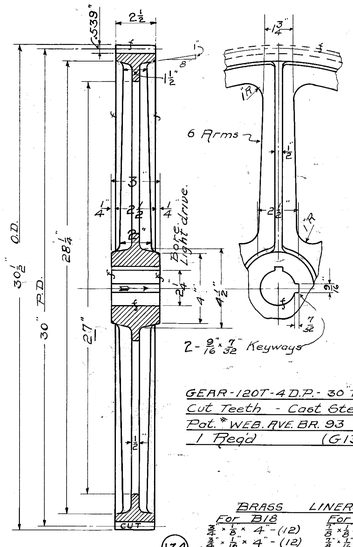
PINION - 18T - 4 D.P. - 4½" P.D.
Forged Steel 1 - Reqd
(G14)



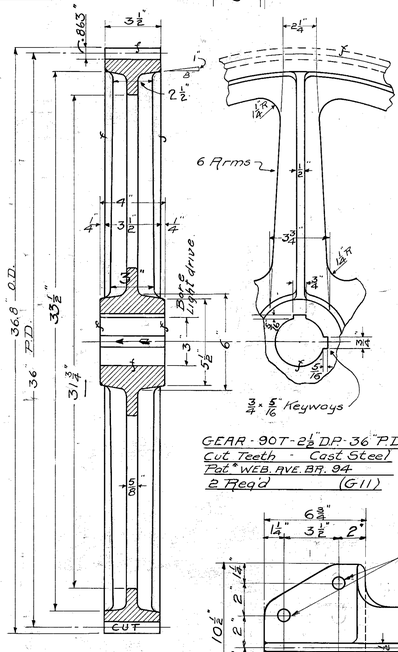
PINION - 15T - 2½ D.P. - 6" P.D.
Forged Steel 2 - Reqd
(G12)



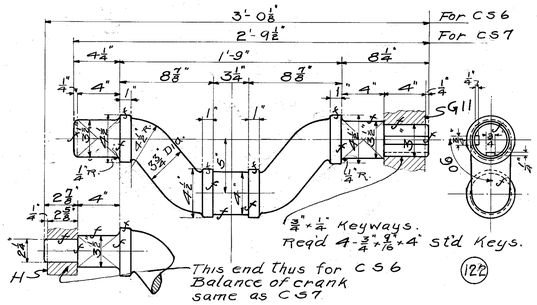
GEAR - 120T - 5 D.P. - 24" P.D.
Cut Teeth - Cast Steel
Pat.° WEB. AVE. BR. 92
1 - Reqd (G15)



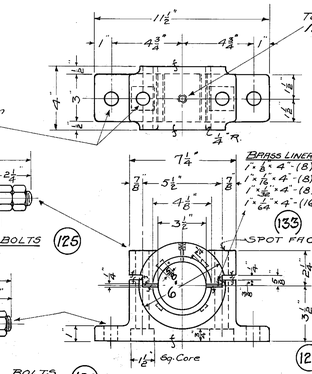
GEAR - 120T - 4 D.P. - 30" P.D.
Cut Teeth - Cast Steel
Pat.° WEB. AVE. BR. 93
1 Reqd (G13)



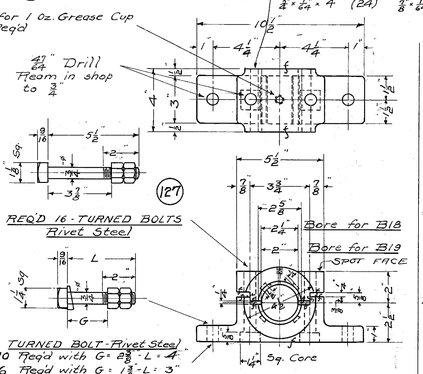
GEAR - 90T - 2½ D.P. - 36" P.D
Cut Teeth - Cast Steel
Pat.° WEB. AVE. BR. 94
2 Reqd (G11)



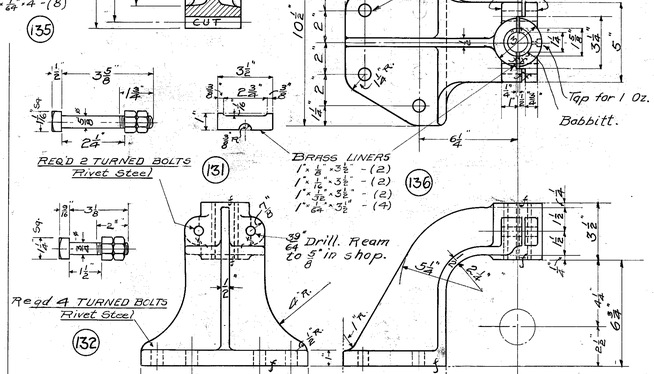
CRANK SHAFT. CAST STEEL.
1 Reqd. - Pat.° WEB. AVE. BR. 137. (CS6)
1 " - " " " " " 137 ALTERED. (CS7)



BEARING - Cast Steel
BASE - Pat.° WEB. AVE. BR. 95
CAP - Pat.° WEB. AVE. BR. 96
4 Reqd (B20)



BEARING Cast Steel
BASE Pat.° WEB. AVE. BR. 97
CAP Pat.° WEB. AVE. BR. 98
6 Reqd as noted - B18
2 Reqd'd as noted - B19
(130)



DOUBLE BEARING - Cast Steel 1 - Reqd (B15)
BASE - Pat.° WEB. AVE. BR. 99
CAP - Pat.° WEB. AVE. BR. 100

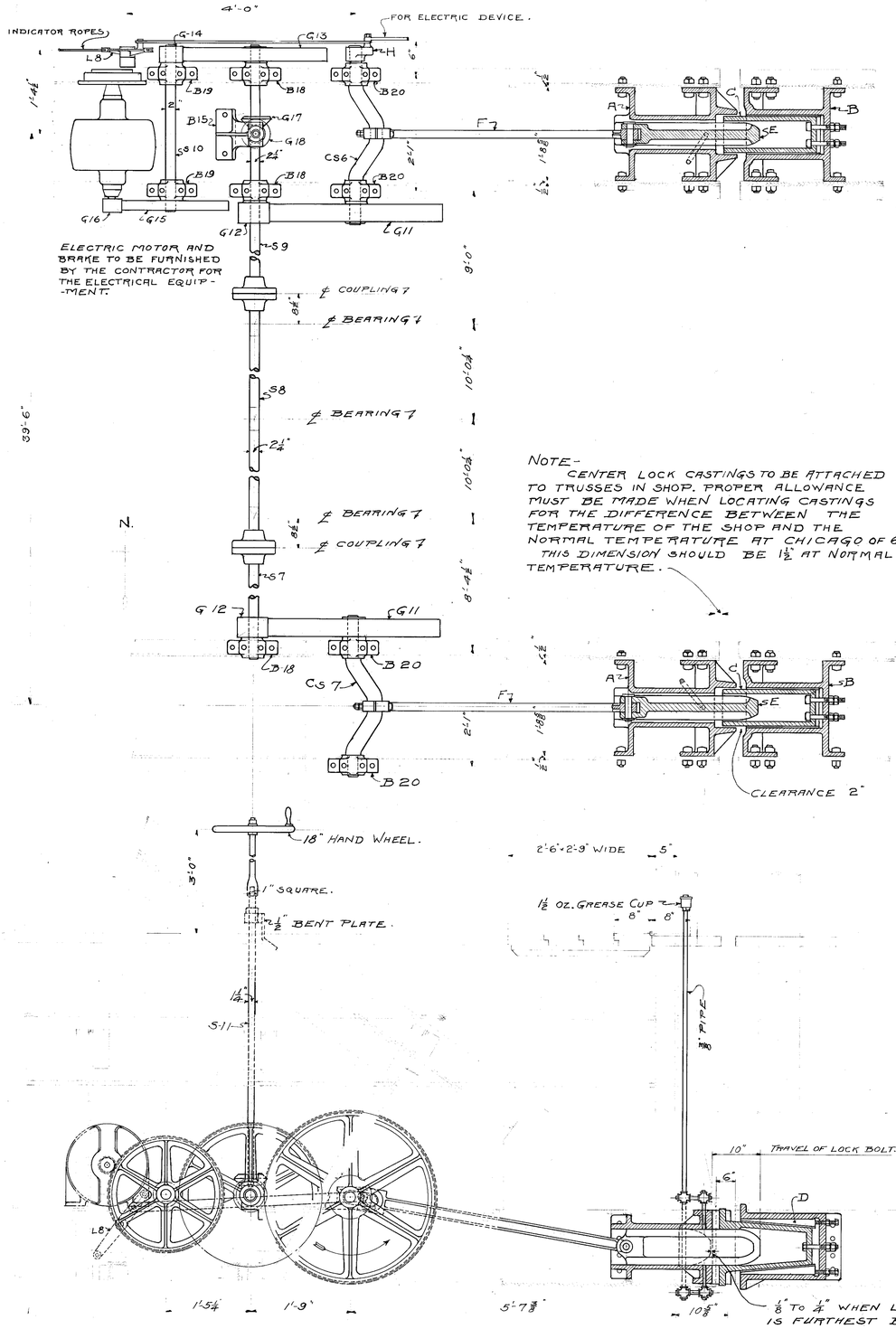
For specifications on Patterns, castings and Turned Bolts, See Dwg. No. 201.
" " " Shafts & Keys, " " " 202.
" " " Shop Painting, " " " 203.

Approved [signature] ENGINEER OF BRIDGE DESIGN
Approved [signature] ENGINEER OF BRIDGES AND HARBOR
Approved [signature] CITY ENGINEER
Approved [signature] COMMISSIONER OF PUBLIC WORKS
Dec 12-30-14

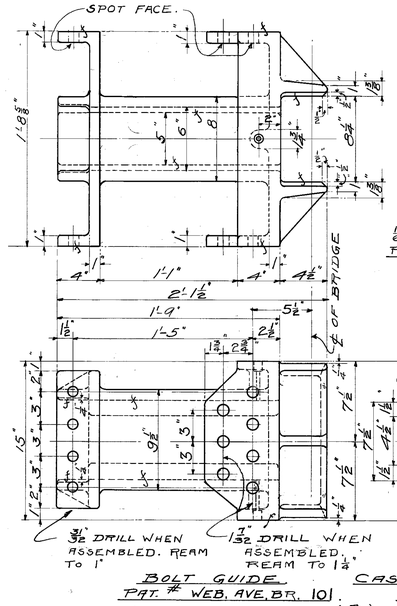
THE KETLER-ELLIOTT ERECTION CO.
WEBSTER AVE. BRIDGE
FOR THE
CITY OF CHICAGO
Dept. of Public Works :: Bureau of Engineering :: Division of Bridges and Harbor
MODERN STEEL STRUCTURAL COMPANY
DETAILS OF LOCK GEARING AND BEARINGS
SEE MAT. BILLS 211, 212 & 213 SCALE 3 =1 FT.
MADE BY J. B. F. TRACED BY [illegible] CH'K'D BY [illegible] 1914
CONTRACT No. 2201 R **SHEET No. 210**

1660570228

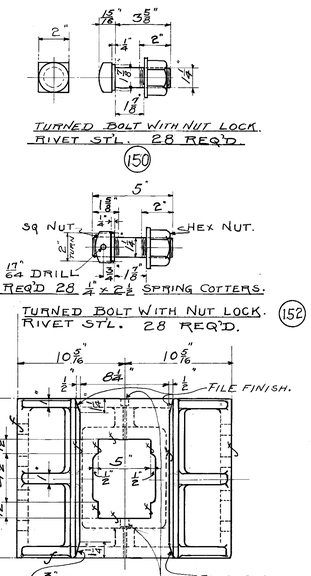
DRAWING No. 3905
FILE No. 11-6C-33

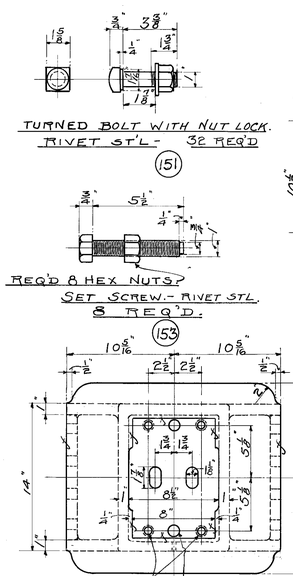


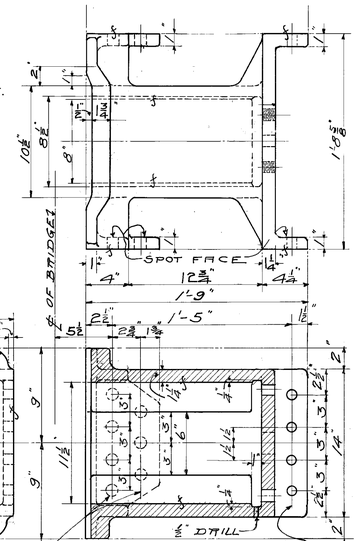
NOTE-
CENTER LOCK CASTINGS TO BE ATTACHED TO TRUSSES IN SHOP. PROPER ALLOWANCE MUST BE MADE WHEN LOCATING CASTINGS FOR THE DIFFERENCE BETWEEN THE TEMPERATURE OF THE SHOP AND THE NORMAL TEMPERATURE AT CHICAGO OF 60° F. THIS DIMENSION SHOULD BE 1½" AT NORMAL TEMPERATURE.



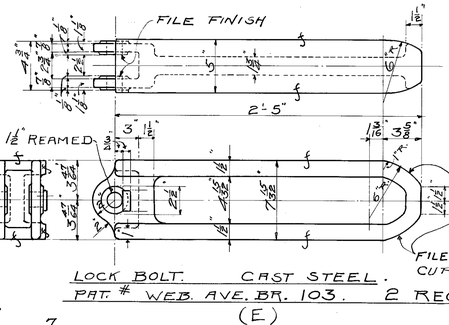
BOLT GUIDE. CAST STEEL.
PAT. # WEB. AVE. BR. 101. 2 REQ'D.
(A)

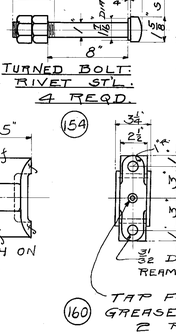


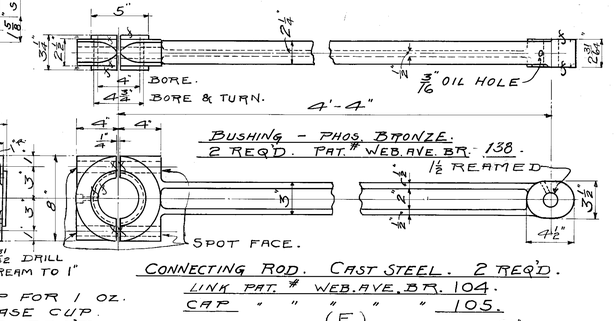




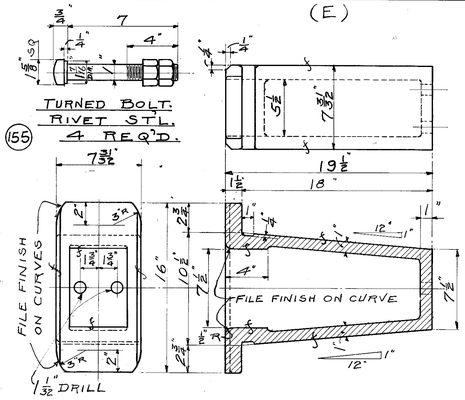
SOCKET HOLDER. CAST STEEL.
PAT # WEB. AVE. BR. 102 - 2 REQ'D.
(B)



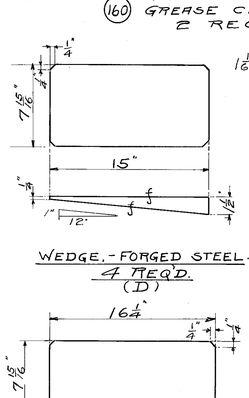


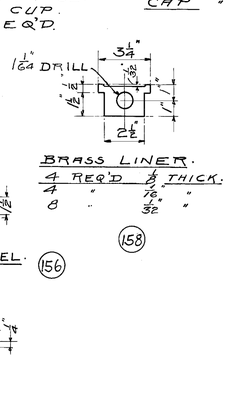


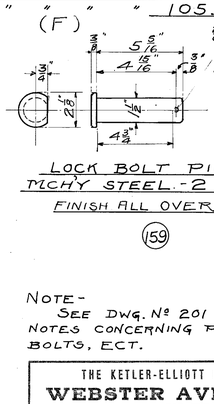
CONNECTING ROD. CAST STEEL. 2 REQ'D.
LINK PAT. # WEB. AVE. BR. 104.
CAP " " " " 105.
(F)



SOCKET. CAST STEEL.
PAT. # WEB. AVE. BR. 106.
2 REQ'D.
(C)







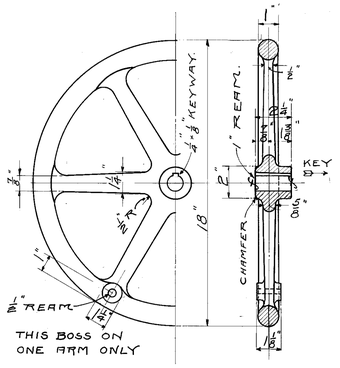
NOTE-
SEE DWG. Nº 201 FOR GENERAL NOTES CONCERNING PATTERNS, BOLTS, ECT.

Approved [signature] ENGINEER OF BRIDGE DESIGN
Approved [signature] ENGINEER OF BRIDGES AND HARBOR
Approved [signature] CITY ENGINEER
Approved [signature] COMMISSIONER OF PUBLIC WORKS

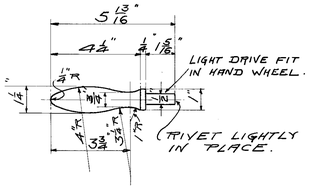
THE KETLER-ELLIOTT ERECTION CO.
WEBSTER AVE. BRIDGE
FOR THE
CITY OF CHICAGO
Dept. of Public Works :: Bureau of Engineering :: Division of Bridges and Harbor
MODERN STEEL STRUCTURAL COMPANY
CENTER LOCK MACHINERY.

SEE MAT. BILLS 214 x 215 SCALE 1" & 2" = 1 FT.
MADE BY J.B.F. TRACED BY F. CH'K'D BY [signature] 1914
CONTRACT No. 2201 A SHEET No. 211
DRAWING No. 3906
FILE No. 11-6C-34

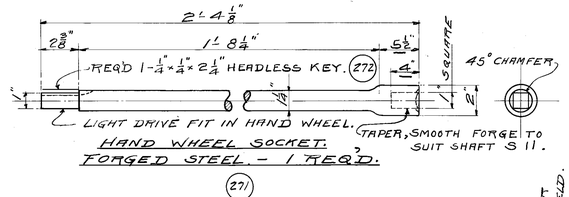
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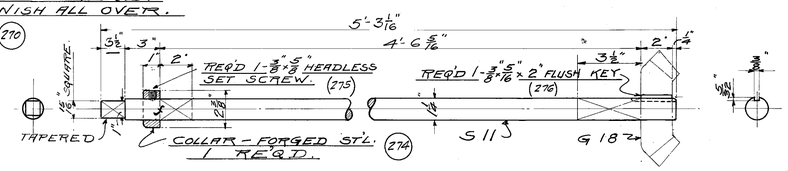
HAND WHEEL. – CAST STEEL.
PAT. Nº. WEB. AVE. BR. 107.
1 REQ'D.



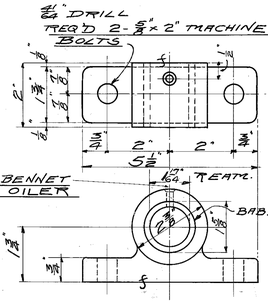
HANDLE - RIVET STEEL.
ONE REQ'D.
FINISH ALL OVER.
(270)



HAND WHEEL SOCKET.
FORGED STEEL. – 1 REQ'D.
(271)

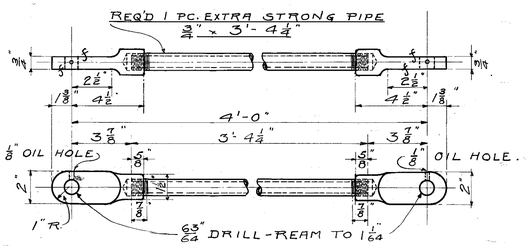


HAND WHEEL SHAFT - COLD ROLLED STEEL
1 REQ'D.
(273)



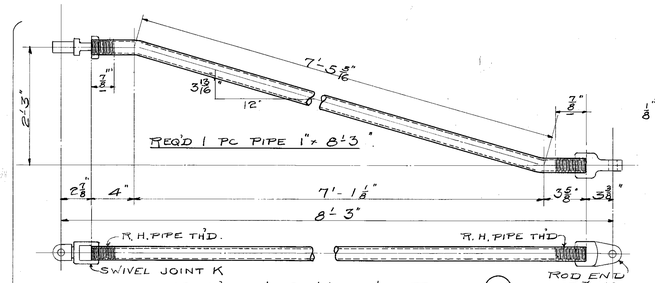
REQ'D 1 BENNET SPRING OILER
(279)

HAND WHEEL SHAFT BEARING
PAT. Nº. WEB. AVE. BR. 108
CAST STEEL. – 1 REQ'D
(280)

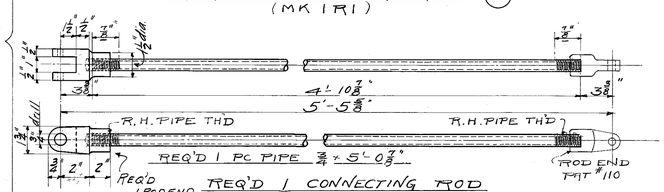


CONNECTING ROD. FORGED ST'L ENDS.
1 REQ'D.
(285)

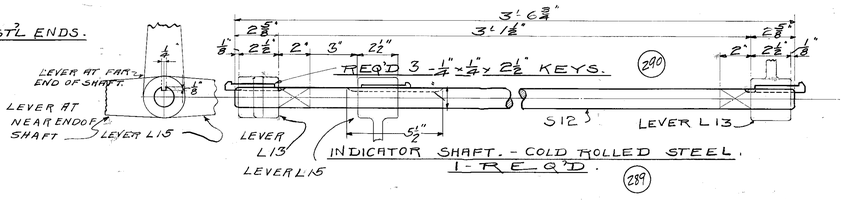
NOTE - PIPES ARE CALLED FOR LONGEST THAN FIGURED LENGTHS. CUT TO SUIT IN FIELD.



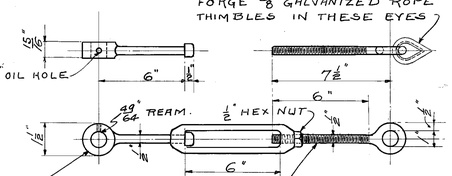
REQ'D 1 CONNECTING ROD.
(MK 1R1)
(286)



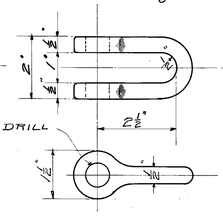
REQ'D 1 INDICATOR ROD. (1R3)



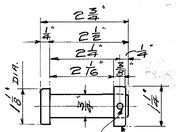
NOTE -
FORGE ⅜ GALVANIZED ROPE THIMBLES IN THESE EYES



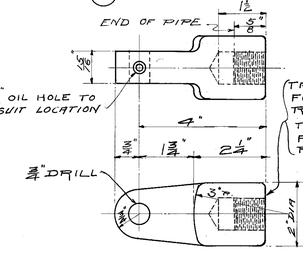
REQ'D 2 PCS ⅜" GALVANIZED WIRE ROPE, EACH 80'-0" LG.
REQ'D 8 - ⅜" GALVANIZED WIRE ROPE CLIPS.
REQ'D 4 - ⅜" GALVINIZED WIRE ROPE THIMBLES.
(293)



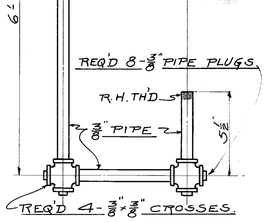
ROPE SHACKLE.
FORGED ST'L. 2 REQ'D
(296)



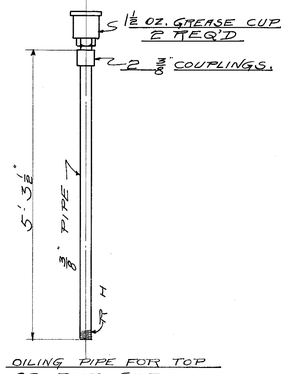
SHACKLE PIN.
MCH'Y STL - 2 REQ'D.
FIN ALL OVER.
(297)



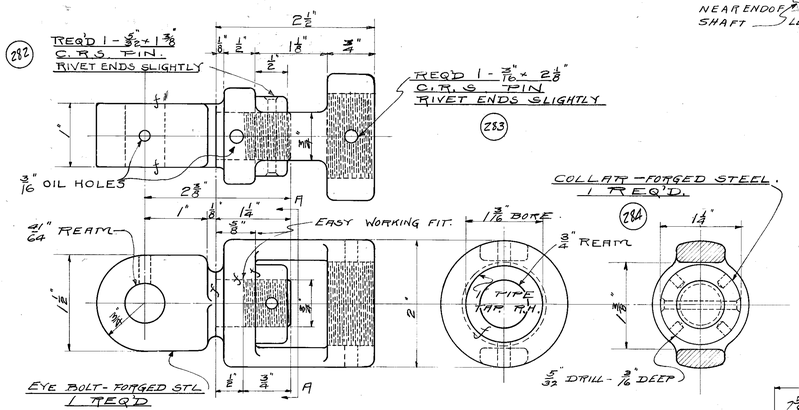
ROD END. CAST STEEL.
PAT. Nº. WEB. AVE. BR. 110
3 REQ'D.



OILING PIPE FOR BOTTOM OF BOLT GUIDE.
2 REQ'D COMPLETE.
(277)



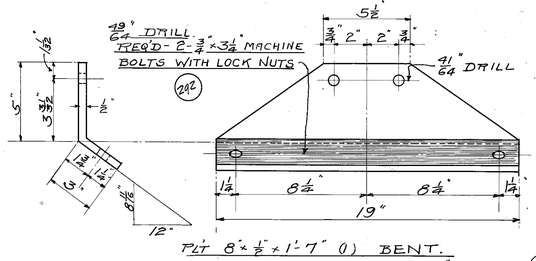
OILING PIPE FOR TOP OF BOLT GUIDE.
2 REQ'D COMPLETE.
(278)



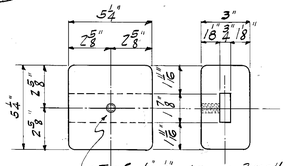
COLLAR - FORGED STEEL.
1 REQ'D.
(284)

SHACKLE. PHOS BRONZE.
PAT. Nº. WEB. AVE. BR. 109. – 1 REQ'D.

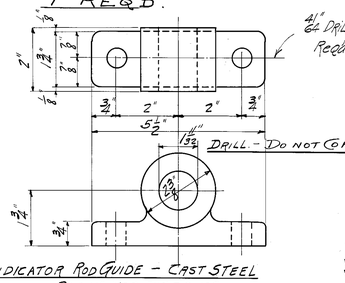
REQ'D 1 SWIVEL JOINT COMPLETE.
(282)



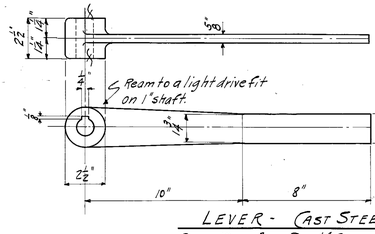
PLT 8"×½"×1'-7" O) BENT.
SUPPORT FOR BEARING PAT. # 108.
1 REQ'D.
(291)



COUNTERWEIGHT - CAST IRON
PATT WEB AVE BR 147.
2 REQ'D
(292)



INDICATOR ROD GUIDE - CAST STEEL
PAT Nº WEB AVE BR 108
2 REQ'D



LEVER - CAST STEEL
PATT WEB AVE BR 146
2 REQ'D (L15)

NOTE -
SEE DWG Nº 201 FOR GENERAL NOTES CONCERNING PATTERNS, BOLTS, ECT.

Revised - 5/28/15

Approved [illegible] 12-4-15
ENGINEER OF BRIDGE DESIGN
Approved [illegible] 3-24-15
ENGINEER OF BRIDGE AND HARBOR
Approved [illegible]
CITY ENGINEER
Approved [illegible]
COMMISSIONER OF PUBLIC WORKS

THE KETLER-ELLIOTT ERECTION CO.
WEBSTER AVE. BRIDGE
FOR THE
CITY OF CHICAGO
Dept. of Public Works :: Bureau of Engineering :: Division of Bridges and Harbor
MODERN STEEL STRUCTURAL COMPANY
DETAILS OF LOCK AND LOCK INDICATOR.
SEE MAT. BILLS SCALE 3"=1 FT.
MADE BY J.B.F. TRACED BY CH'K'D BY 1914
CONTRACT No. 2201A SHEET No. 212

1660570230

DRAWING No. 3907
FILE No 11-GC-35

SHAFT - C.R.S. 2 Req'd (Large brake) (517) 190

SHAFT - C.R.S. 2 Req'd (Large brake) (522) 191

SHAFT - C.R.S. 2 Req'd (Large brake) (523) 192

SHAFT - C.R.S. - 2 Req'd (Small brake) (518) 193

SHAFT - C.R.S. - 2 Req'd (Small brake) (524) 194

SHAFT C.R.S. 2 Req'd (Large brake) (519) 195

SHAFT - C.R.S. 2 Req'd (Small brake) (520) 196

SHAFT - C.R.S. 2 Req'd (Small brake) (521) 197

SHAFT - C.R.S. 2 Req'd (Large brake) (515) 198

SHAFT - C.R.S. 2 Req'd (Small brake) (516) 199

SHAFT - C.R.S. - 2 Req'd (Small brake) (514) 200

SHAFT - C.R.S. - 2 Req'd (Large brake) (513) 201

EXTRA STRONG GALV. PIPE
4 Pcs - 10-0¼" long, Req'd (Large Brake) (BR8) 210

EXTRA STRONG GALV. PIPE
4 Pcs 10-3" long Req'd (Small brake) (BR9) 213

COLLAR - Cast Steel
Pat.* 127 8 Req'd 215

BUSHING - Brass
Mandrel drawn tubing
4 Req'd 216

COUPLING Cast Steel
Pat.* WEB. AVE. BR 91 8 Halves Req'd

ROD END Cast Steel
Pat.* 130 4 Req'd

QUADRANT - 1½" x ⅜" Sq. Bar
4 Req'd (Bend to suit Pat.* 133)
4 Req'd (Bend to suit Pat.* 133 A/L)
See detail of notches below 225

Full Size detail of notches in Quadrant

LATCH SPRING - ⅜" Steel
Spring Wire - 1/16" O.D
Flat ends 4 Req'd 230

TURNED BOLT - Rivet Steel
For coupling 16 Req'd 217

TURNED BOLT Rivet Steel
For Cap of Pat.* 133 - 133 A/L 8 Req'd 221

BRAKE LEVER STAND - Cast Iron
Pat.* WEB. AVE. BR. 133 2 Req'd
Pat.* WEB. AVE. BR. 133 A/L. 2 Req'd 229

CAP - Cast Iron
Pat.* 134 4 Req'd

Section AA
File finish smooth

GRIP - Brass
Pat.* 132 4 Req'd

ROD END Cast Steel
Pat.* 128 12 Req'd 218

ROD END Cast Steel
Pat.* 129 4 Req'd 219

TURNED BOLT Rivet Steel
16 Req'd where G-1¼" + L-1 9/16"
for Grip and Guide Castgs
4 Req'd where G-1⅜" + L-2"
for Steel Dog

ROD END Cast Steel
Pat.* 110 12 Req'd

LATCH ROD Forged Steel
4 Req'd 227

EYE - Forged Steel
4 Req'd 226

DOG - Forged Steel
Finish all over 8 Req'd 228

TURNED BOLT Rivet Steel
For Steel Dog 4 Req'd 222

GUIDE Brass
Pat.* 131 4 Req'd

TURNED STUD C.R. Steel
Separator for Steel Dogs 4 Req'd 223

HAND LEVER - Smooth Forged Steel
2 Req'd where L-5'-4" (for small brake) (L1) 231
2 Req'd where L-5'-0" (for large brake) (L2) 232

NOTE ON HAND BRAKE LEVER AND STAND:
All parts of Lever and Stand above floor to be of neat and workmanlike appearance, outer corners rounded and bolts trimmed to a neat length.

NOTE: For general notes concerning patterns, turned bolts etc see Dwg.* 201

Revised 4/29/15

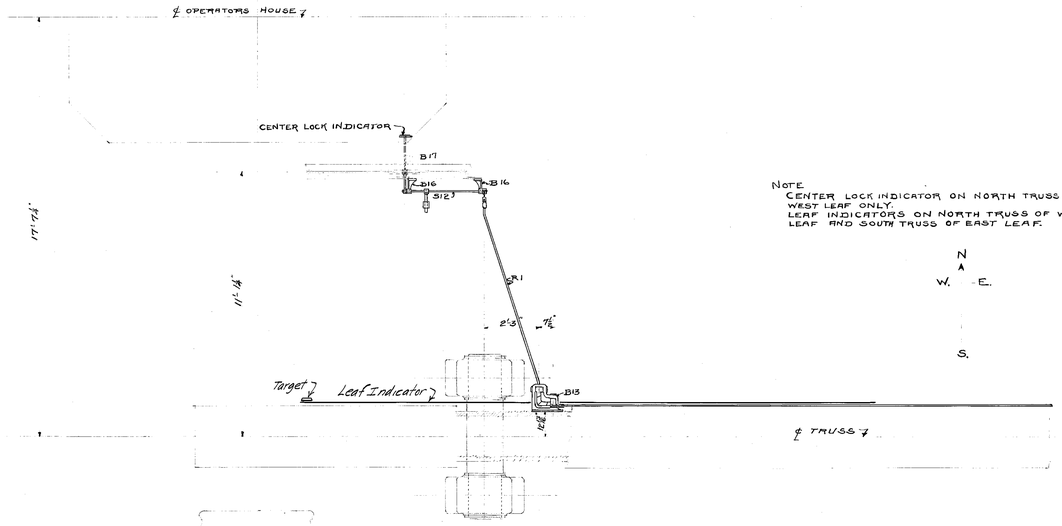
THE KETLER-ELLIOTT ERECTION CO.
WEBSTER AVE. BRIDGE
FOR THE
CITY OF CHICAGO
Dept. of Public Works :: Bureau of Engineering :: Division of Bridges and Harbor
MODERN STEEL STRUCTURAL COMPANY
DETAIL OF BRAKE SHAFTS AND LEVER

Approved Alexander von Babo ENGINEER OF BRIDGE DESIGN
Approved ENGINEER OF BRIDGES AND HARBOR
Approved CITY ENGINEER
Approved COMMISSIONER OF PUBLIC WORKS
Jan 30-36

SEE MAT. BILLS 219, 220 & 221 SCALE 2 3/16" = 1 FT.
MADE BY Ben K TRACED BY Clark CH'K'D BY JGE DATE 1914
CONTRACT No. 2201 A SHEET No. 213

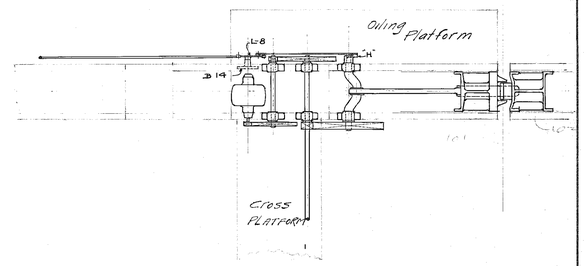
1660570231

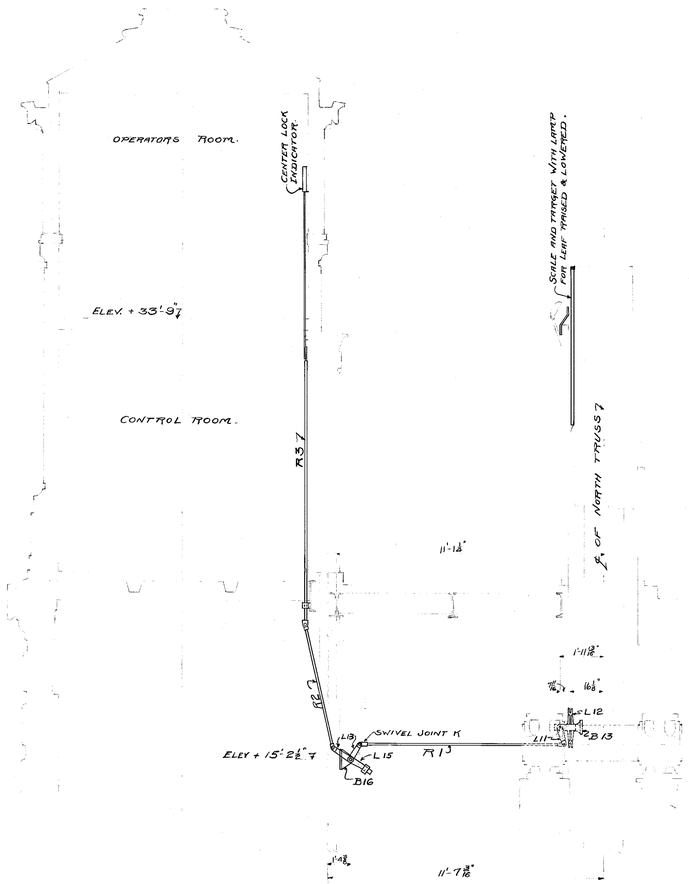
DRAWING No. 3908
FILE No. 11-60-36

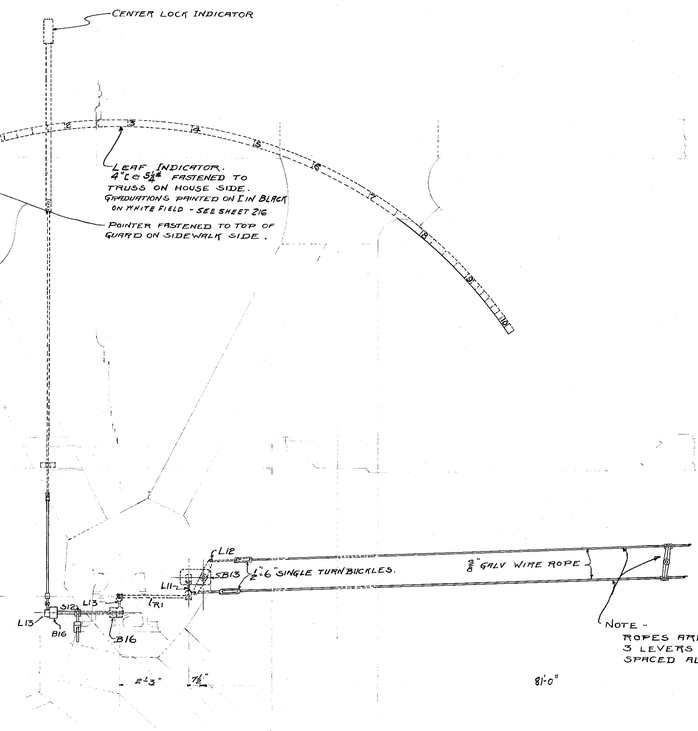


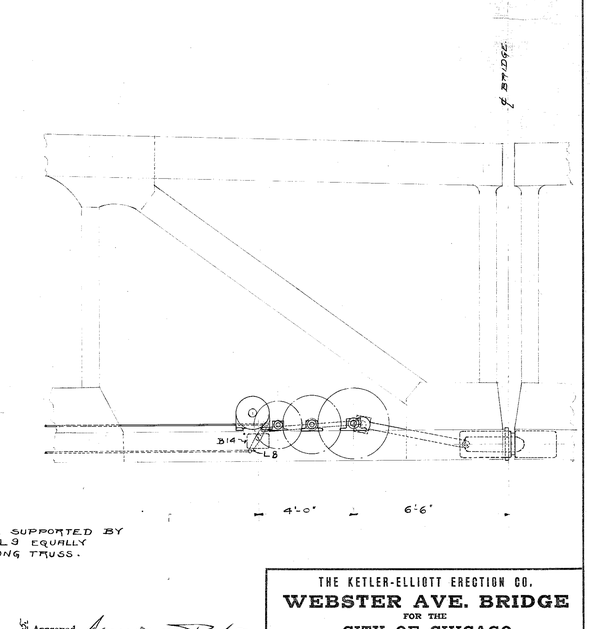
NOTE
CENTER LOCK INDICATOR ON NORTH TRUSS OF WEST LEAF ONLY.
LEAF INDICATORS ON NORTH TRUSS OF WEST LEAF AND SOUTH TRUSS OF EAST LEAF.

N
W. E.
S.









Approved Engineer of Bridge Design
Approved Engineer of Bridges and Harbor
Approved City Engineer
Approved Commissioner of Public Works

THE KETLER-ELLIOTT ERECTION CO.

WEBSTER AVE. BRIDGE

FOR THE

CITY OF CHICAGO

Dept. of Public Works :: Bureau of Engineering :: Division of Bridges and Harbor

MODERN STEEL STRUCTURAL COMPANY

GENERAL ARRANGEMENT OF INDICATORS.

SEE MAT. BILLS SCALE =1 FT.

MADE BY J.B.F. TRACED BY F CH'K'D BY [illegible] 1914

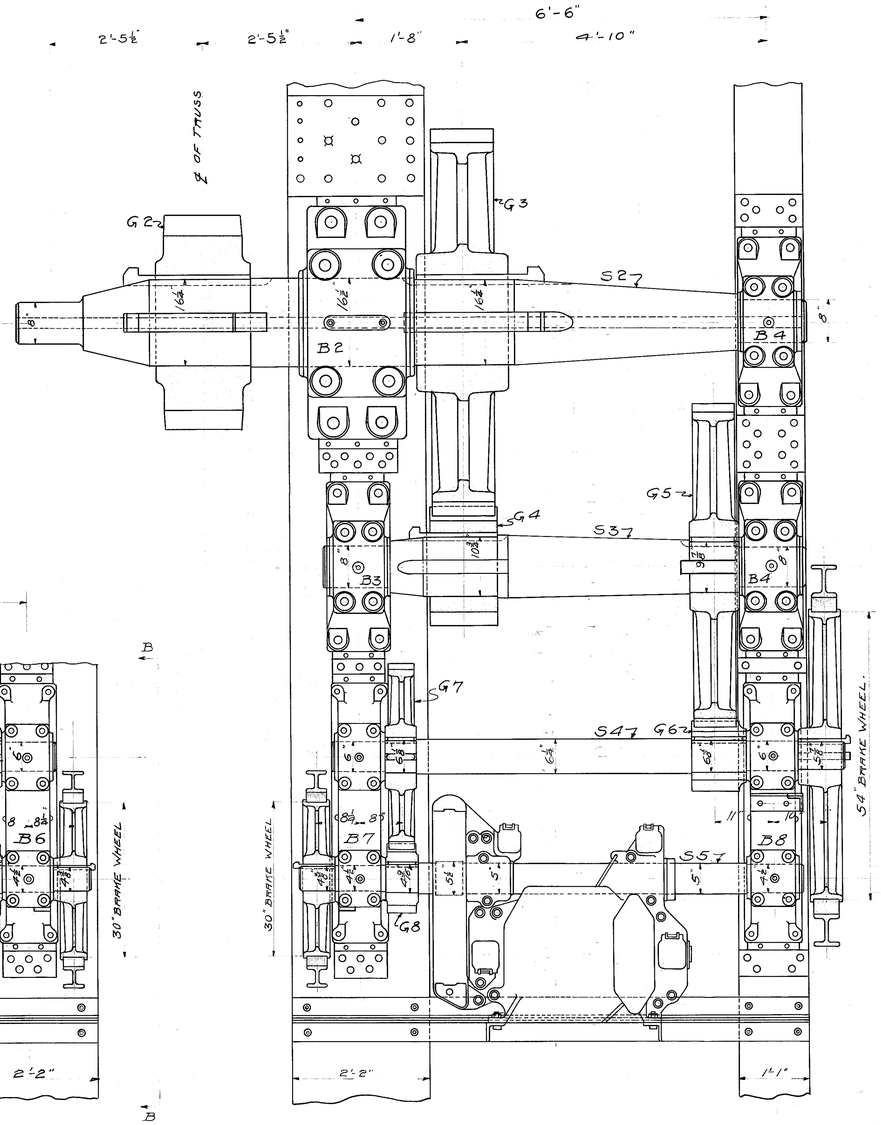
CONTRACT No. 2201 A SHEET No. 214

1660570232

DRAWING No. 3909
FILE No 11-6C-37

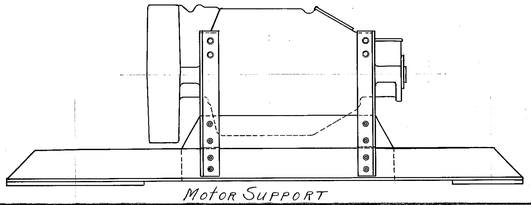
LIST OF MACHINERY DRAWINGS.

Dwg. No.	TITLE.
201	MAIN DRIVE SHAFT AND TRUNNION BEARINGS.
202	DETAILS OF TRUNNION AND SHAFTS.
203	DETAILS OF INTERMEDIATE SHAFT BEARINGS.
204	DETAILS OF GEARING.
205	DETAILS OF RACKS.
205-A	LAYOUT OF RACKS.
205B	LAYOUT OF RACKS.
206	GENERAL ARRANGEMENT OF HAND BRAKES.
207	DETAILS OF HAND BRAKES.
208	DETAILS OF BRAKE LEVERS AND SUPPORTS.
209	DETAILS OF LOCK INDICATOR.
210	DETAILS OF LOCK GEARING AND BEARINGS.
211	CENTER LOCK MACHINERY.
212	DETAILS OF LOCK AND LOCK INDICATOR.
213	DETAILS OF BRAKE SHAFTS AND LEVERS.
214	GENERAL ARRANGEMENT OF INDICATORS.
215	GEAR TRAIN.
216	DETAILS OF LEAF INDICATOR.
217	DETAILS OF BRAKE SUPPORTS.

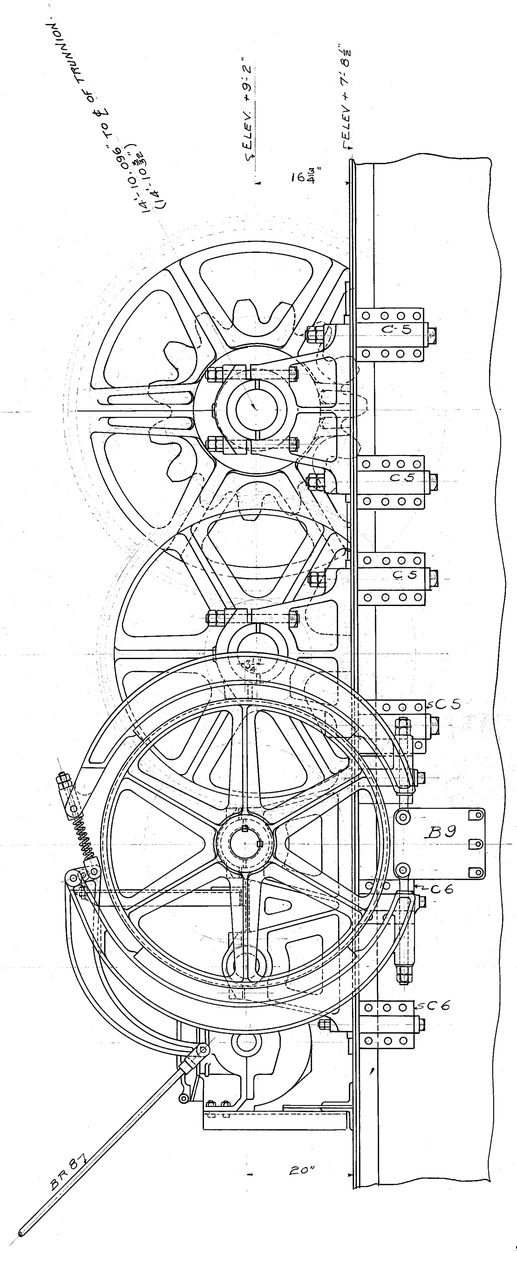


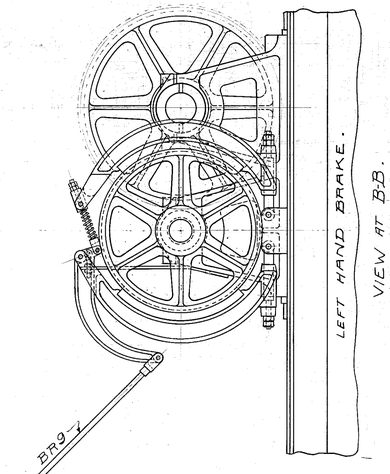
TOP VIEW OF GEAR TRAIN.
LEFT HAND.
FOR NORTH WEST AND SOUTH EAST CORNERS OF BRIDGE.
- DETAILS NOT SHOWN ARE OPPOSITE HAND FROM RIGHT HAND GEAR TRAIN.

TOP VIEW OF GEAR TRAIN.
RIGHT HAND.
FOR SOUTH WEST AND NORTH EAST CORNERS OF BRIDGE.



MOTOR SUPPORT





Approved _____ ENGINEER OF BRIDGE DESIGN
Approved _____ ENGINEER OF BRIDGES AND HARBOR
Approved _____ CITY ENGINEER
Approved _____ COMMISSIONER OF PUBLIC WORKS

THE KETLER-ELLIOTT ERECTION CO.

WEBSTER AVE. BRIDGE

FOR THE

CITY OF CHICAGO

Dept. of Public Works :: Bureau of Engineering :: Division of Bridges and Harbor

MODERN STEEL STRUCTURAL COMPANY

GEAR TRAIN.

SEE MAT. BILLS — SCALE 1" = 1 FT.

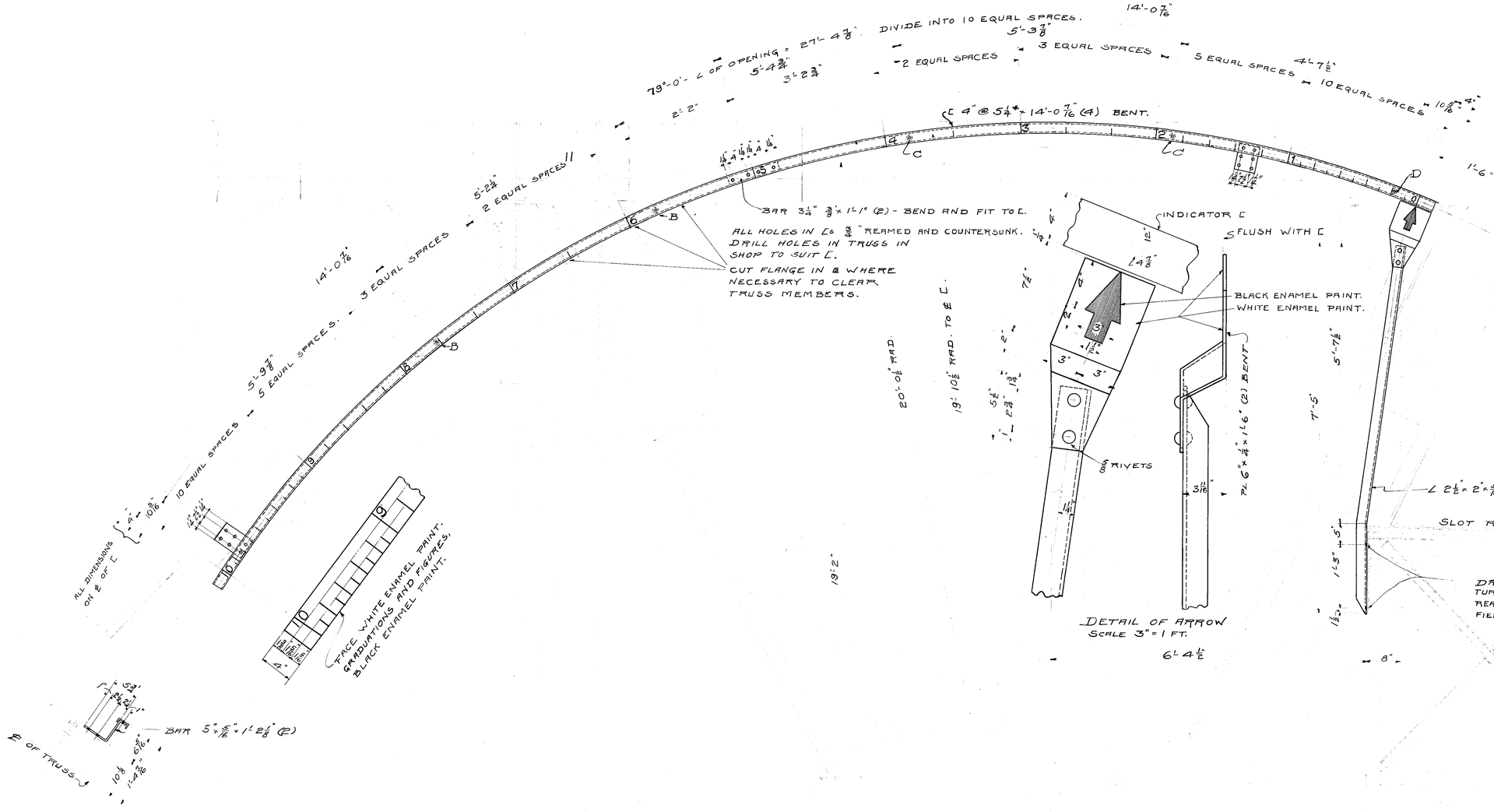
MADE BY J.B.F. TRACED BY J.B.F. CH'K'D BY [illegible] 1914

CONTRACT No. 2201 A **SHEET No. 215**

1660570233

DRAWING No. 3910

FILE No. 11-6C-38



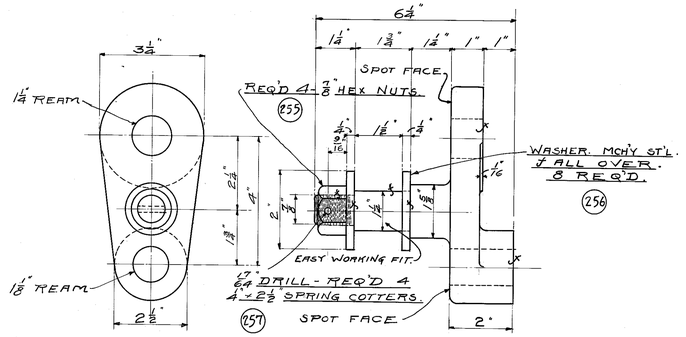
TURNED BOLT. RIVET STEEL.
4 REQ'D AS NOTED B.
4 " " " C.
2 " " " D.

NOTE-
GRADUATIONS TO BE CAREFULLY AND NEATLY PAINTED ON ∠ IN BLACK ON WHITE FIELD. INDICATORS TO BE PLACED ON NORTH SIDE OF NORTH TRUSS OF WEST LEAF AND ON SOUTH SIDE OF SOUTH TRUSS OF EAST LEAF.

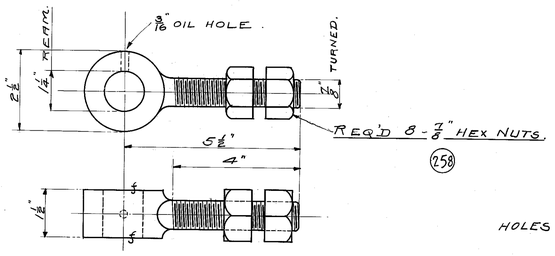
Approved [signature] ENGINEER OF BRIDGE DESIGN
Approved [signature] ENGINEER OF DRAINAGE AND HARBOR
Approved [signature] CITY ENGINEER
Approved [signature] COMMISSIONER OF PUBLIC WORKS
J.C.B.-7-24-15

THE KETLER-ELLIOTT ERECTION CO.
WEBSTER AVE. BRIDGE
FOR THE
CITY OF CHICAGO
Dept. of Public Works :: Bureau of Engineering :: Division of Bridges and Harbor
MODERN STEEL STRUCTURAL COMPANY
LEAF INDICATOR.
SEE MAT. BILLS SCALE 1" = 1 FT.
MADE BY J.B.F. TRACED BY J.B.F. CH'K'D BY [illegible] 1914
CONTRACT No. 2201 A SHEET No. 216.
DRAWING No. 3911
FILE No. 11-GC-39

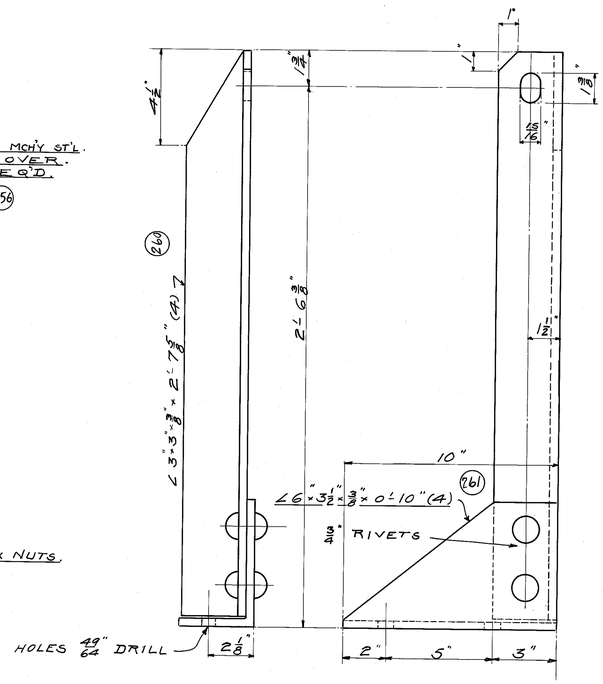
1660570234



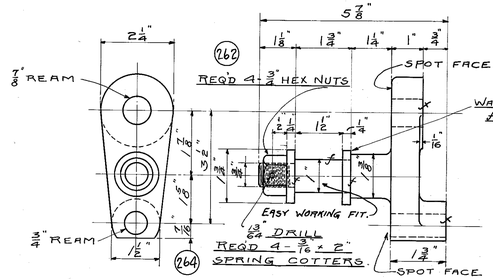
SUPPORT LEVER. - CAST STEEL.
PAT. Nº. WEB. AVE. BR. 143
4 REQ'D.



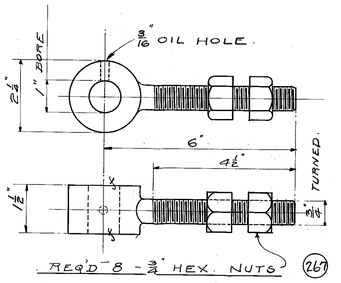
EYE BOLT. FORGED STEEL.
4 REQ'D.
259



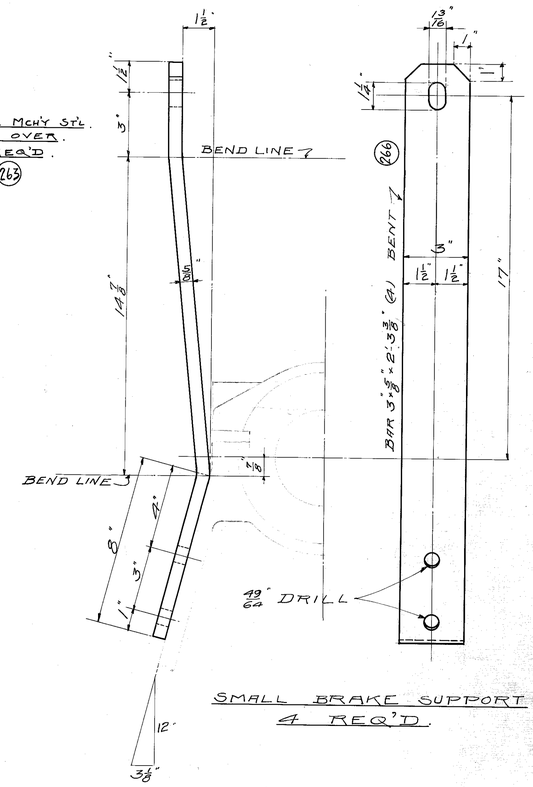
LARGE BRAKE SUPPORT.
2 REQ'D AS SHOWN.
2 REQ'D OPPOSITE HAND.



SUPPORT LEVER. - CAST STEEL.
PAT. Nº. WEB. AVE. BR. 144.
4 REQ'D.



EYE BOLT. FORGED STEEL.
4 REQ'D.
265



SMALL BRAKE SUPPORT
4 REQ'D.

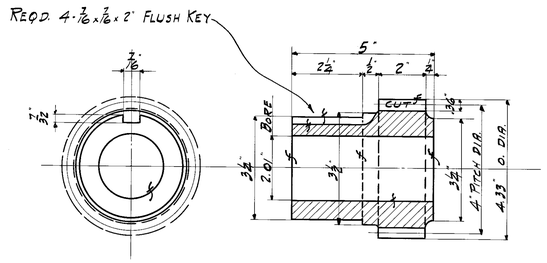
SEE DWG # 201 FOR GENERAL NOTES CONCERNING PATTERNS, TURNED BOLTS, ECT.; # 203 FOR CASTINGS, PAINTING, ECT.
SEE DWG # 207 FOR DETAILS OF BRAKES.

Approved Alexander von Babo, ENGINEER OF BRIDGE DESIGN
Approved Thos. G. Pihlfeldt, ENGINEER OF BRIDGES AND HARBOR
Approved [illegible], CITY ENGINEER
Approved [illegible], COMMISSIONER OF PUBLIC WORKS

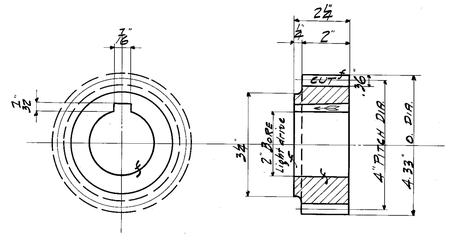
THE KETLER-ELLIOTT ERECTION CO.
WEBSTER AVE. BRIDGE
FOR THE
CITY OF CHICAGO
Dept. of Public Works :: Bureau of Engineering :: Division of Bridges and Harbor
MODERN STEEL STRUCTURAL COMPANY
BRAKE SUPPORTS.

SEE MAT. BILLS 224 SCALE 4"=1 FT.
MADE BY J.B.F. TRACED BY F. CH'K'D BY [illegible] 1914
CONTRACT No. 2201 A SHEET No. 217.

1660570235
DRAWING No. 3912
FILE No. 11-6C-40



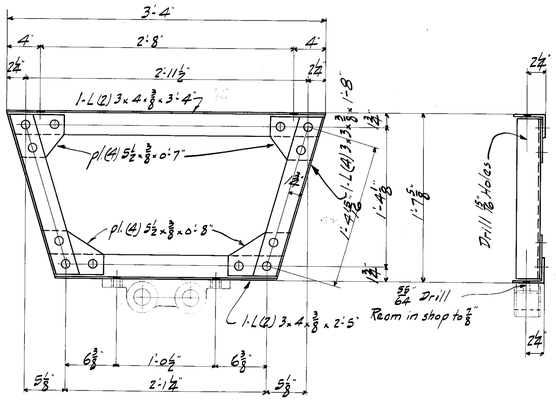
PINION - 24 T - 6 DP - 4" PITCH DIA.
FORGED STEEL 4. REQD.
(G20)



PINION 24 T - 6 DP - 4" PITCH DIA.
FORGED STEEL 4. REQD.
(G21)

NOTE
The following extra material
regd. for brakes. See drawings
for details.

No	NAME	MATL.	PAT. OR PC. No	DWG.
6	Collars	C.S.	127	213
6	Set Screws	5/8 x 2½"	215	"
2	Bearings	C.I.	112	208
4	Set Screws	½" x 1 3/8"	168	"
4	Grease Cups	#1 OZ	169	"
4	Turned Bolts	7/8 x 3½"	171	"



BEARING HANGER 2. REQD.
Rivets ¾" Dia.

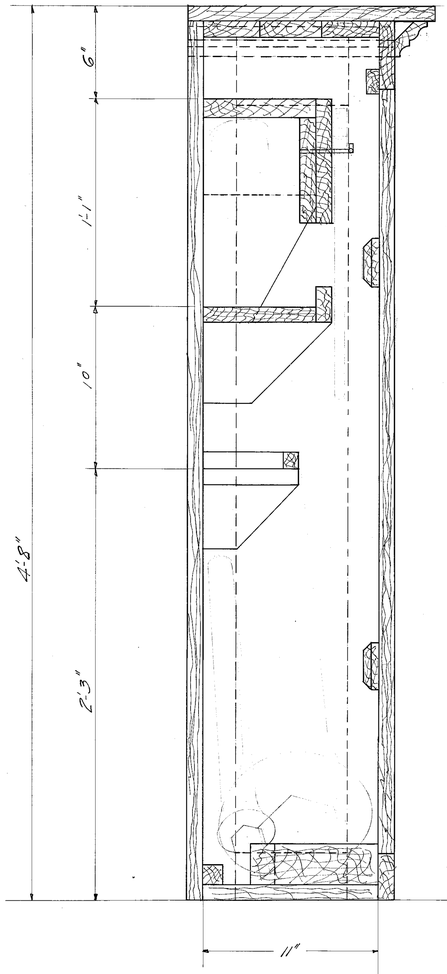
NOTE -
These details are extra parts required
by change in design of brake mechanism.

Approved [signature] ENGINEER OF BRIDGE DESIGN
Approved [signature] ENGINEER OF TUNNELS AND HARBOR
Approved [signature] CITY ENGINEER
Approved [signature] COMMISSIONER OF PUBLIC WORKS

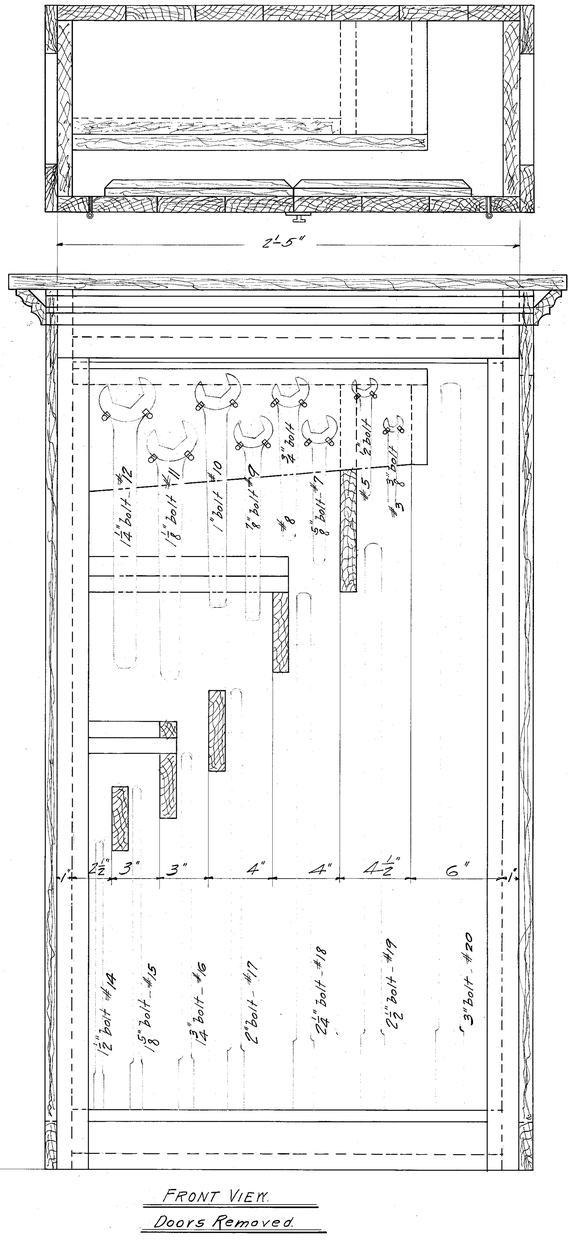
THE KETLER-ELLIOTT ERECTION CO.
WEBSTER AVE. BRIDGE
FOR THE
CITY OF CHICAGO
Dept. of Public Works :: Bureau of Engineering :: Division of Bridges and Harbor
MODERN STEEL STRUCTURAL COMPANY
DETAILS OF HAND BRAKES
SEE MAT. BILLS SCALE 1½" = 1 FT.
MADE BY I.B.F TRACED BY L.G.M CH'K'D BY [illegible] 1914
CONTRACT No. 2201 A Ex. SHEET No. 218

1660570236

DRAWING No. 3913
FILE No. 11-GC-41.



VERTICAL SECTION



FRONT VIEW.
Doors Removed.

HORIZONTAL SECTION

DIA BOLT	WRENCH No	No. WRENCHES
3/8"	3	2
1/2"	5	"
5/8"	7	"
3/4"	8	"
7/8"	9	"
1"	10	"
1 1/8"	11	"
1 1/4"	12	"
1 3/8"	14	"
1 5/8"	15	"
1 3/4"	16	"
2"	17	"
2 1/4"	18	"
2 1/2"	19	"
3"	20	"

Wrenches to be Whitman & Barnes Mfg Co. make, 15° Angle, Semi-finished.

Cabinet to be made of straight-grained Georgia Pine - S4S and free from knots. Provide brass hinges and lock. Cabinet to receive 2 coats of varnish - natural-color finish.

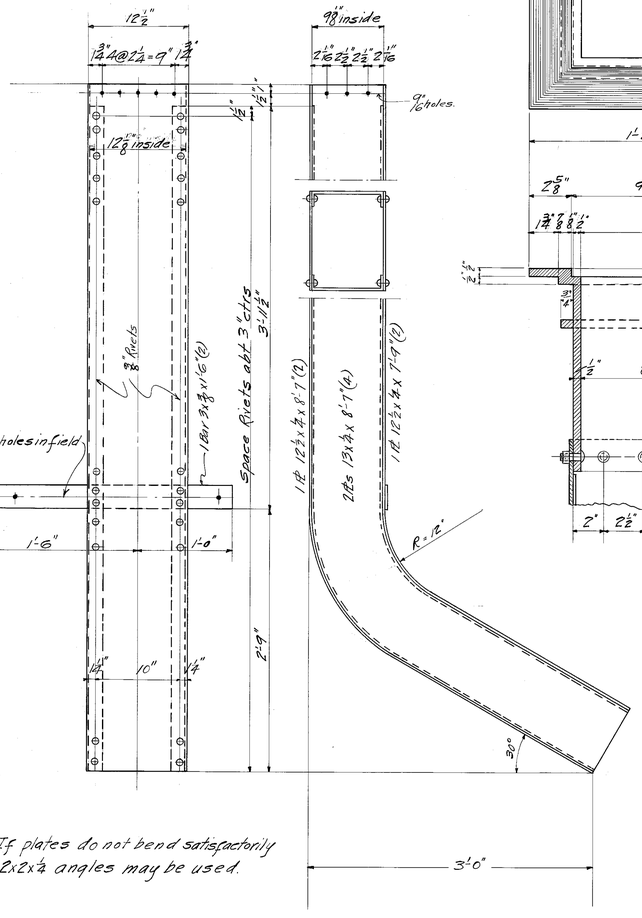
MAKE 1 CABINET AS SHOWN FOR EAST SIDE OF BRIDGE
" 1 " " " " WEST " " " .

7 Jan 26 Clark 3:27
K E Co

Approved Hugh E. Young
ENGINEER OF BRIDGE DESIGN
Approved Thos. E. Philbrook
ENGINEER OF BRIDGES AND HARBOR
Approved [illegible]
CITY ENGINEER
Approved [illegible]
COMMISSIONER OF PUBLIC WORKS

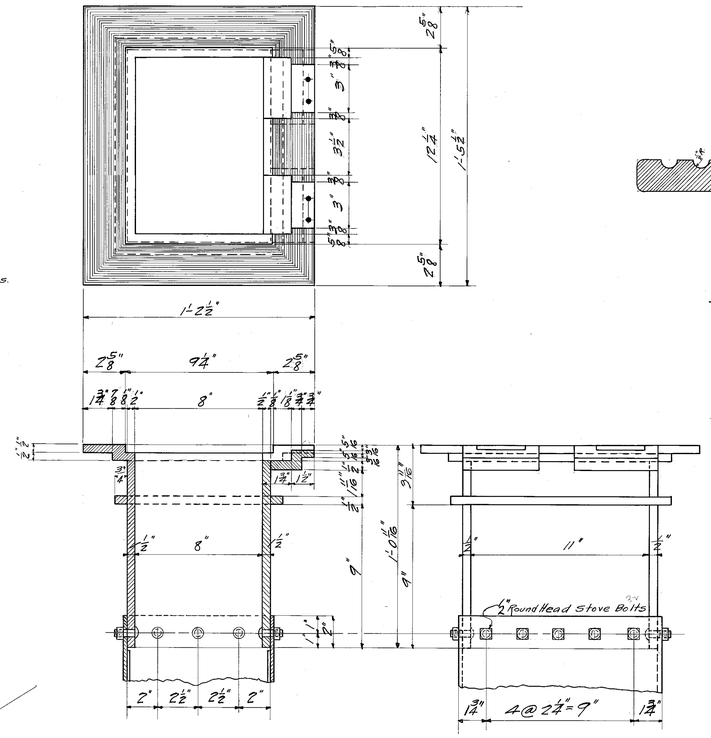
THE KETLER-ELLIOTT ERECTION CO.
WEBSTER AVE. BRIDGE
FOR THE
CITY OF CHICAGO
Dept. of Public Works :: Bureau of Engineering :: Division of Bridges and Harbor
MODERN STEEL STRUCTURAL COMPANY
WRENCH CABINETS.
SEE MAT. BILLS. SCALE 3" = 1 FT.
MADE BY Wheeler TRACED BY I.B.N. CH'K'D BY 1914
CONTRACT No. 2201-A **SHEET No. 219**
DRAWING No. 3914
FILE No. 11-6C-42

1660570237

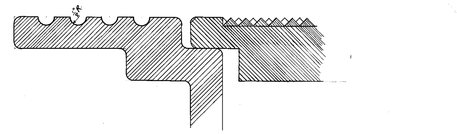


If plates do not bend satisfactorily 2x2x¼ angles may be used.

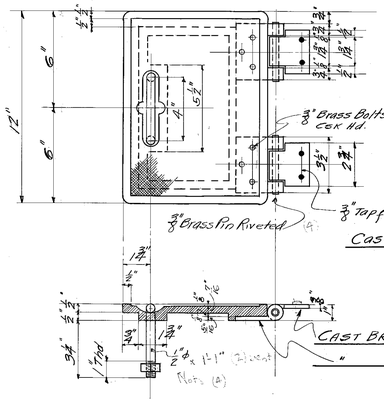
COAL CHUTE Scale 1½" = 1Ft.



Cast Iron Frame PATT WEB. AVE. BR # 145



Full Size detail showing rib and checker



Cast Iron Cover PATT WEB. AVE. Br. # 146

CAST BRASS HINGE PATT WEB. AVE. Br # 147

" " " " " " " # 148

MAKE 1 FRAME & CHUTE COMPLETE FOR EAST SIDE OF BRIDGE.

" 1 " " " " " WEST " " " .

SCALE - 3" = 1 Ft.

Approved [illegible] ENGINEER OF BRIDGE DESIGN

Approved [illegible] ENGINEER OF BRIDGES AND HARBORS

Approved [illegible] CITY ENGINEER

Approved [illegible] COMMISSIONER OF PUBLIC WORKS

J. A. 12-30-15

THE KETLER-ELLIOTT ERECTION CO.

WEBSTER AVE. BRIDGE

FOR THE

CITY OF CHICAGO

Dept. of Public Works :: Bureau of Engineering :: Division of Bridges and Harbor

MODERN STEEL STRUCTURAL COMPANY

COAL FRAME & CHUTE

SEE MAT. BILLS 12/15 SCALE 3"&1½" = 1 FT.

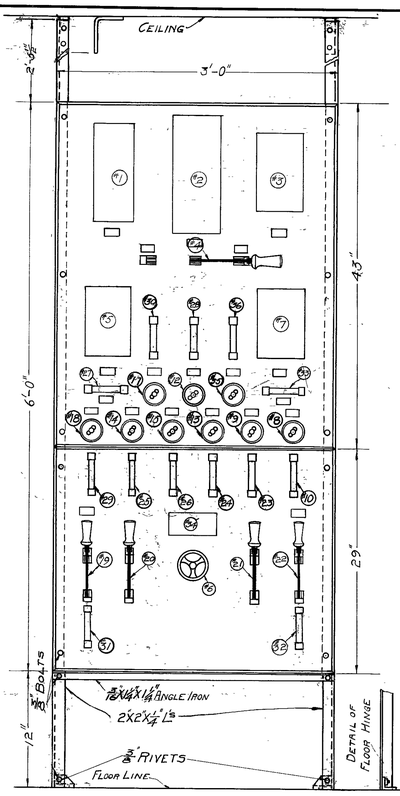
MADE BY B.Y. 7/15 TRACED BY CH'K'D BY 1914

CONTRACT No. 2201 A SHEET No. 220.

DRAWING No. 3915

FILE No. 11-6C-43.

1660570239



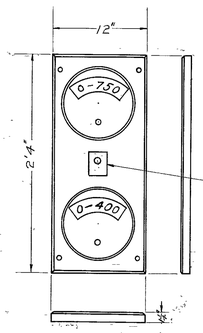
WEST SIDE – 1-WANTED

List of Apparatus

#1 – Solenoid Switch for Center Lock Motor, Back Connected.
#2 – Solenoid Switch for Main Operating Motors, Back Connected
#3 – Overload Relay for Main Operating Motors, Back Connected.
#4 – Main Switch
#5 – Overload Relay for Main Operating Motor #1, Back Connected.
#6 – Starting Rheostat for Pump Motor
#7 – Overload Relay for Main Operating Motor #2, Back Connected.
#8 – Snap Switch for Machine Lights
#9 – Same as #8
#10 – Same as #23
#11 – Blank Switch.
#12 – Snap Switch for Basement and Indicator Lights
#13 – Snap Switch for passageway Lights
#14 – Snap Switch for Bridge Lights
#15 – Snap Switch for Pier Lights
#16 – Blank Snap Switch.
#17 – Snap Switch for Basement Lights
#18 – Snap Switch for Operator's Room Lights
#19 – Switch for Center Lock Motor
#20 – Switch for Main Operating Motor #1
#21 – Switch for Main Operating Motor #2
#22 – Switch for Pump Motor
#23 – Fuse for Machine Lights
#24 – Fuse for Passageway Lights
#25 – Fuse for Bridge Lights.
#26 – Fuse for Pier Lights
#27 – Fuse for Roadway Signal
#28 – Fuse for Basement Lights
#29 – Fuse for Operator's Room Lights
#30 – Fuse for Basement and Indicator Lights
#31 – Fuse for Center Lock Motor
#32 – Fuse for Pump Motor
#33 – Blank Fuse.
#34 – Name Plate
#35 – Snap Switch for Shunt Coil of Contactor
#36 – Fuse for Shunt Coil of Contactor.

Switchboard

Material – 1½" Black Monson Slate (⅛" Bevel)
Frame – 2X2X¼" Angle Iron
Switches – 600 V. Q.B. Polished Knife Switches Trumbull Type 'A'.
H+H. S.P. 600V. No 250 Snap Switches
H-H. Two Circuit 600 V No 257 Snap Switches
Fuses – N.E.C. Enclosed 600 Volt
Mounted on Front of Board



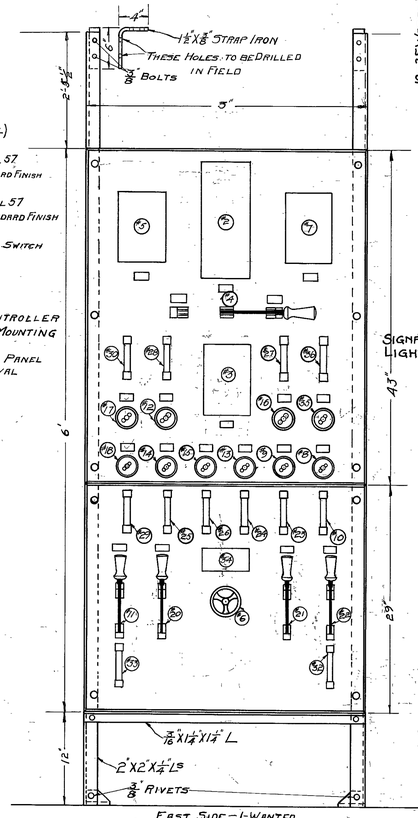
Instrument Panel

Material – 1½" Black Monson Slate (⅛" Bevel)
Supports – 2X⅛" Iron
Instruments – Weston Elect. Inst. Co's Model 57
0-750 Back Connected Standard Finish Voltmeter
Weston Elect. Inst. Co's Model 57
0-400 Back Connected Standard Finish Ammeter
Switch – C.H. Manf'g Co's Push Button Switch Bulletin No. 8645

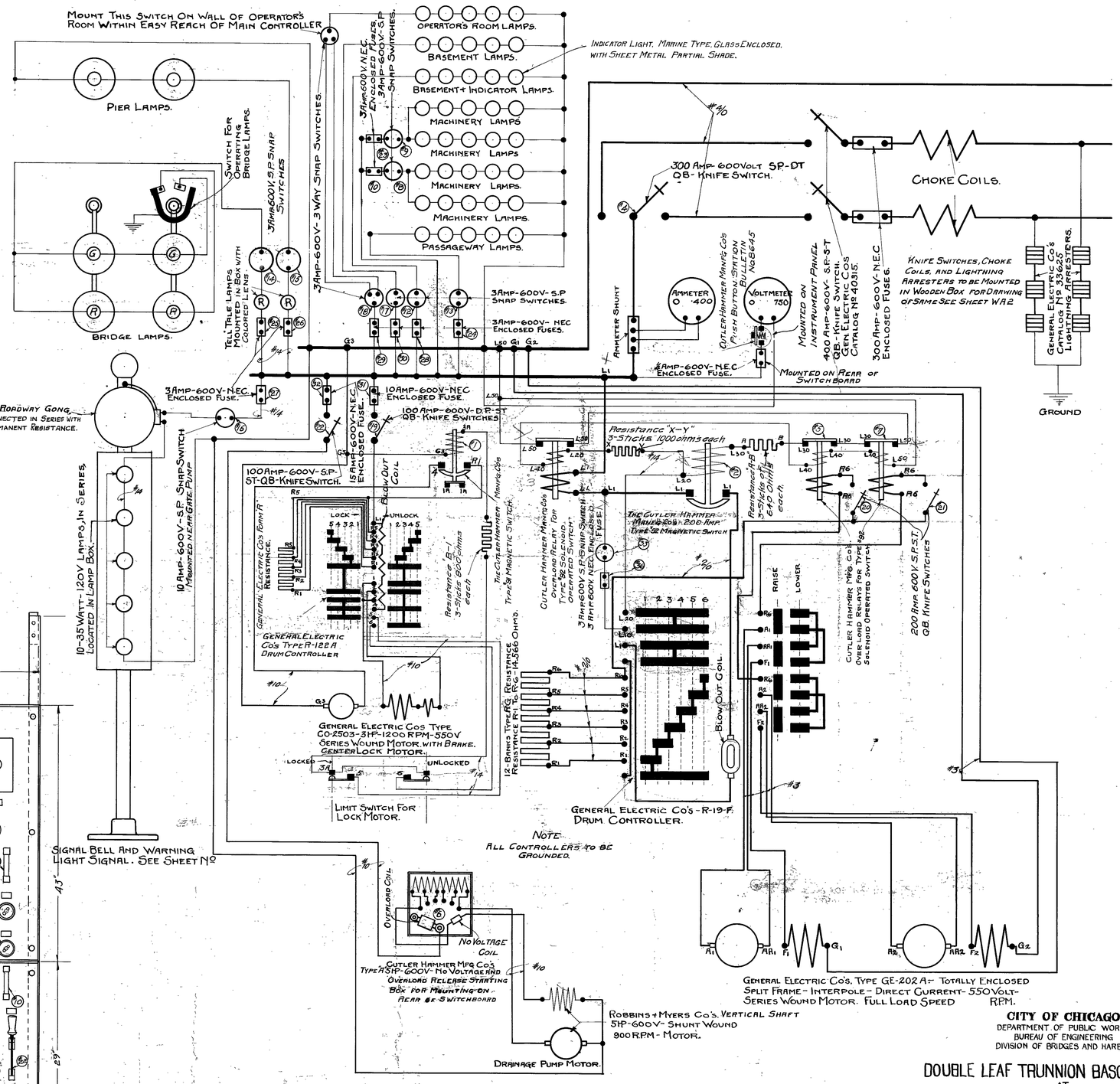
2 Wanted

To be mounted in front of Main Controller Suitable Supports to be Provided for Mounting Same.

Sketch of Fastening of Instrument Panel to Wall to be Submitted for Approval Before Panel is Installed.



EAST SIDE – 1-WANTED



CITY OF CHICAGO.
DEPARTMENT OF PUBLIC WORKS
BUREAU OF ENGINEERING
DIVISION OF BRIDGES AND HARBOR

DOUBLE LEAF TRUNNION BASCULE BRIDGE AT WEBSTER AVENUE OVER NORTH BRANCH OF THE CHICAGO RIVER

Diagram Of Electrical Connections

C.H. NORWOOD
CONTRACTING ENGINEER
CHICAGO

Approved ..... Engineer of Bridge Design.
Approved ..... Engineer Of Bridges And Harbor
Approved ..... City Engineer
Approved ..... Commissioner Of Public Works.

Drawn by J.E.M.
Traced by J.E.M.
Checked by
Dec.-1914.
DRAWING No 3916
FILE No. 11-GC-44

W-A
1

1660570239

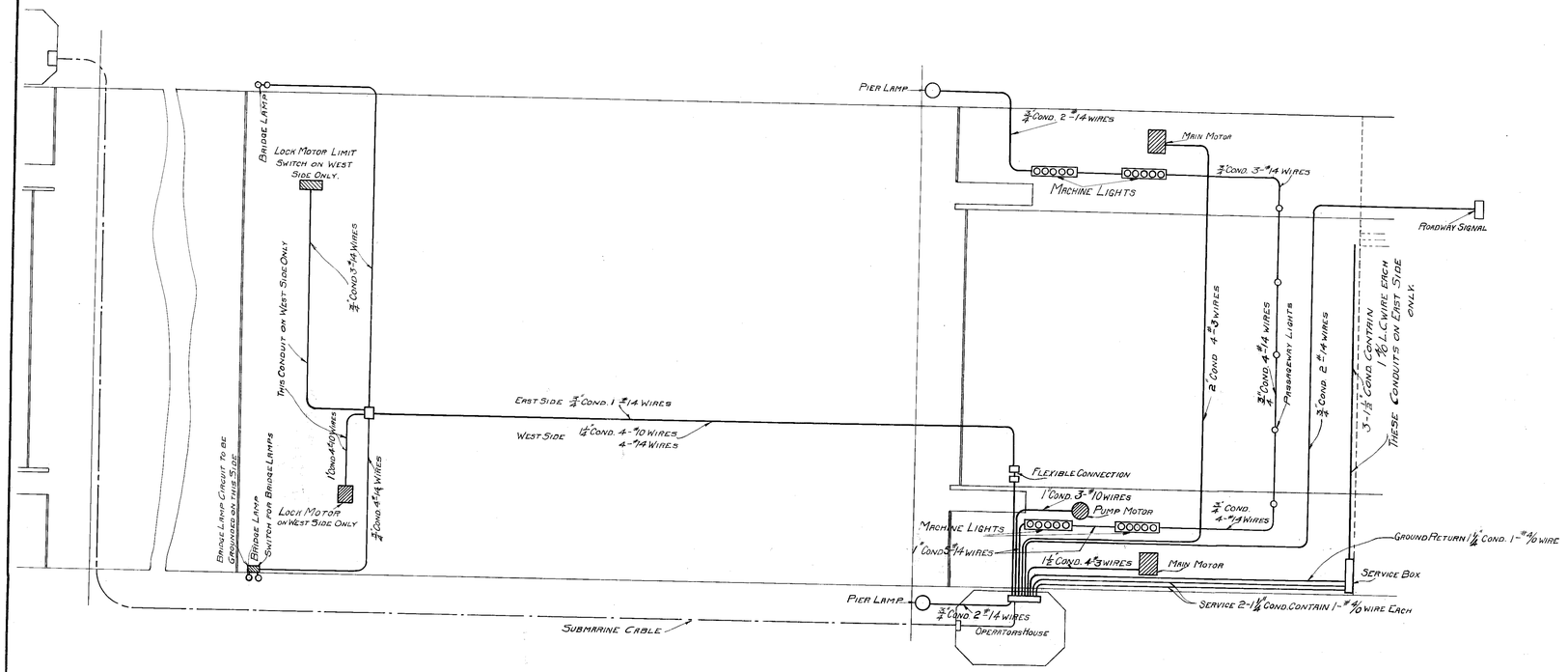
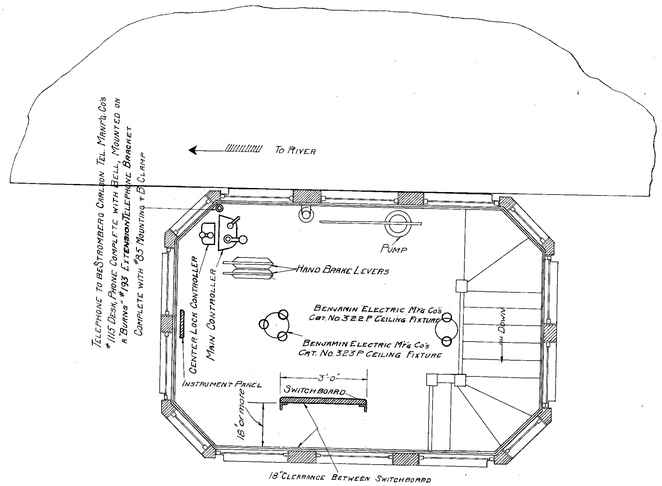
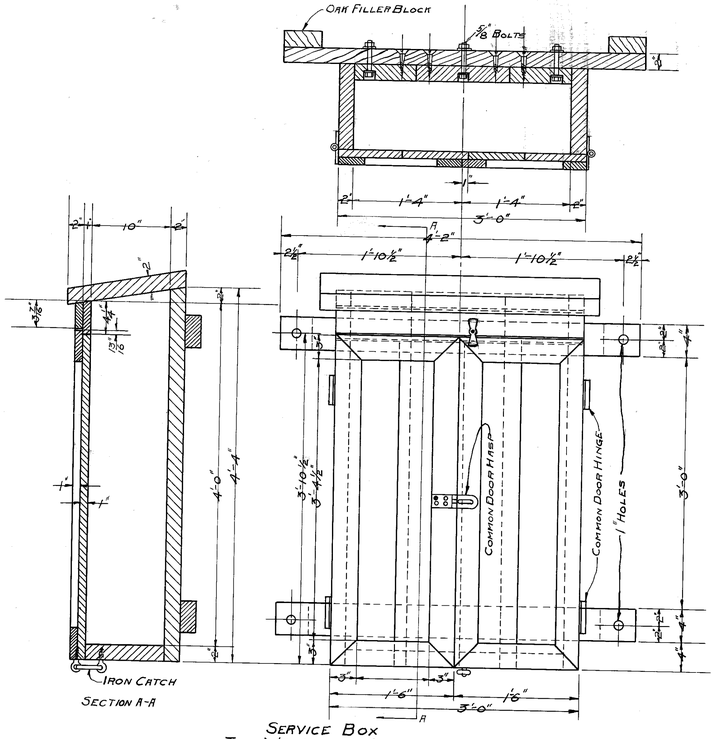


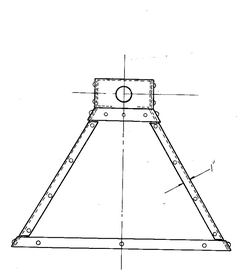
Diagram of Conduit Connections
West Side
East Side the Same Except as Noted
All Conduit to be Sprague "Greenfield Duct"

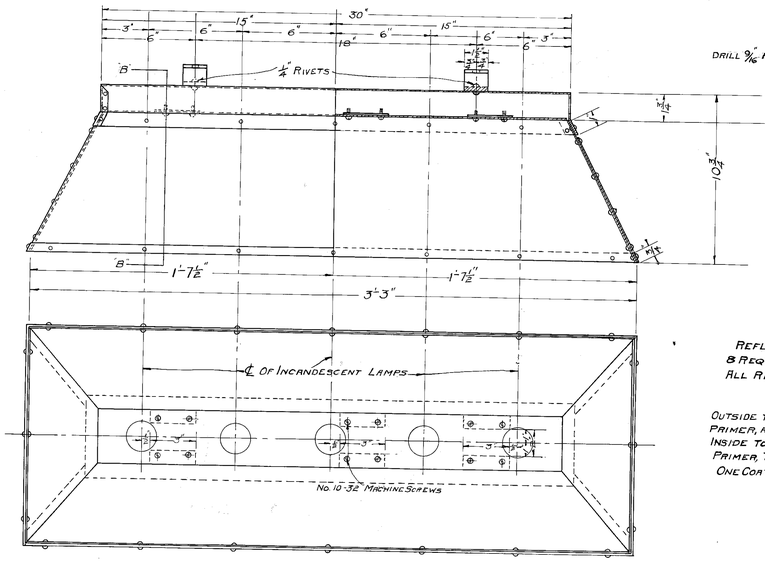


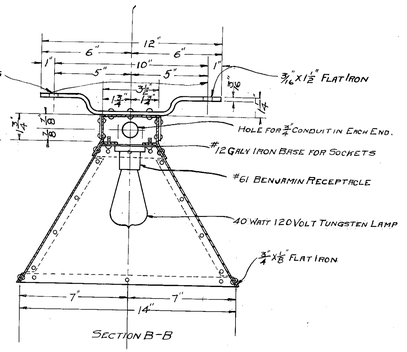
General Arrangement of Operator's Room
West Side
East Side the Same with Exception of Lock Motor Controller which is on West Side only



Service Box
Two Wanted - Oak
Box Is To Receive One Coat Of Black Paint In Shop And One Coat Of Black Paint After It is in Place







Reflector for Pan Lights
8 Req'd #16 Galv. Iron
All Rivets ⅛" except as noted

Outside to Receive One Coat of Galv. Iron Primer, and Two Coats of Green Paint.
Inside to Receive one Coat of Galv. Iron Primer, Two Coats of Flat White Paint, and One Coat of White Enamel.

CITY OF CHICAGO
DEPARTMENT OF PUBLIC WORKS
BUREAU OF ENGINEERING
DIVISION OF BRIDGES AND HARBOR

DOUBLE LEAF TRUNNION BASCULE BRIDGE
AT
WEBSTER AVENUE
OVER
NORTH BRANCH OF THE CHICAGO RIVER
DIAGRAM OF CONDUIT CONNECTIONS AND MISC. DETAILS

C.H. NORWOOD
CONTRACTING ENGINEER
CHICAGO

DRAWING No. 3917
FILE No. 11-GC-45

W-A. 2

C.H.-Z-23-15 4.48

Approved: Alexander von Babo, Engineer of Bridge Design
Approved: Thos. G. Pihlfeldt, Engineer of Bridges and Harbor
Approved: John Ericson, City Engineer
Approved: W. R. Mookhouse, Commissioner of Public Works

1660570240

Robbins & Myers Co's Frame #4 5 HP. 900 R.P.M. 550 V. D.C. Vertical type motor

Motor shaft 1" Dia.

1" to 1 15/16" jaw coupling

Ball bearing thrust

Elev 7'-8½"

Elev 1'-6½"

5"x3½"x⅜" L BS3

City Datum Elev. 0.00'

West side wall

PS1

Elev -1.33'

PC 1½

East side wall

BS2

Elev -3.42'

PC1

Elev -11.0'

Gyrady Mfg. Co. Centrifugal pump 200 G.P.M. 240 R.P.M. Discharge 11½ pump has 3 feet 2½" lift

1⅞" shaft

1 15/16" to 1⅞" jaw coupling

Saw off 1⅞" shaft at this point to suit after pump is set

¾"x6" Mach. bolts with expansion shields

Elev -16.0'

¾"x6" Mach. bolts leaded in concrete cut threaded portion of bolt off

¾" Discharge pipe

¾" pump shaft

Drill 2 holes ⅞" Ø for ⅝" Lag screws 1⅛" U.H.

Drill 2 holes ⅞" Ø for ¾" bolts

5"x3"x⅜" ANGLE
2 Req'd MK BS3

Drill ¾" Ø for 7/16" cap screws

BALL BEARING CAGE CAST IRON
2 Req'd. MK B8C.

Full size section of Chicago Pulley & Shafting Co's High speed ball bearing, maximum load 800 Lbs. as shown in catalogue C "Page 189

Out side brass band

2½" Dia. and 1⅝" Ø shafts

Counter-bore for 1" and 1⅛" shafts

2 Req'd. 1" bore with ¼"x¼" key

2 " 1⅛" " " ⅜"x⅜" "

4 " 1¼" " " ⅜"x⅜" "

NOTE:- Larger shaft to project ⅛" into same size counter bore in opposite jaw hub

DETAIL OF JAW COUPLING
Fit in pairs in shop and match mark

Steel Collar shrunk on
Collar Finished all over.

⅛" Chamfer

⅛" Ø taper pin

C.R. STEEL SHAFT
TWO REQ'D. MK PS1

C.R. STEEL SHAFT
TWO REQ'D MK PS2

13/16" cored holes for ⅞" bolts 3" U.H. Base bolts 4½" U.H. with expansion shields

Pipe Strap Cast Iron
MK PC1 2 Req'd

Drill all holes 1⅜" Ø

Pipe Strap support One Req'd
⅜"x4" Mild Steel

25/32" for ¾" bolts

⅞" for ⅝" bolts 2½" U.H.

¾" bolts

1-½" steel shim
2-⅛" " "
2-1/16" " "
ship bolted

Forge truly flat and in line

4"x½" STEEL BAR
2 REQ'D MK BS1

4"x½" STEEL BAR
2 REQ'D. MK BS2

¼" pipe Tap for grease cup Cover

Holding down bolts ⅝" Ø provide 2 Hex. nuts each 2½" U.H.

DETAIL OF VERTICAL BEARING

CITY OF CHICAGO.
DEPARTMENT OF PUBLIC WORKS
BUREAU OF ENGINEERING
DIVISION OF BRIDGES AND HARBOR

DOUBLE LEAF TRUNNION BASCULE BRIDGE

WEBSTER AVENUE
OVER
NORTH BRANCH OF THE CHICAGO RIVER
General Drawing of Drainage Pump
C.H. NORWOOD
CONTRACTING ENGINEER
CHICAGO

Approved Alexander Loch Ch
Engineer of Bridge Design

Approved Jno. J. Duffy
Engineer of Bridges and Harbor

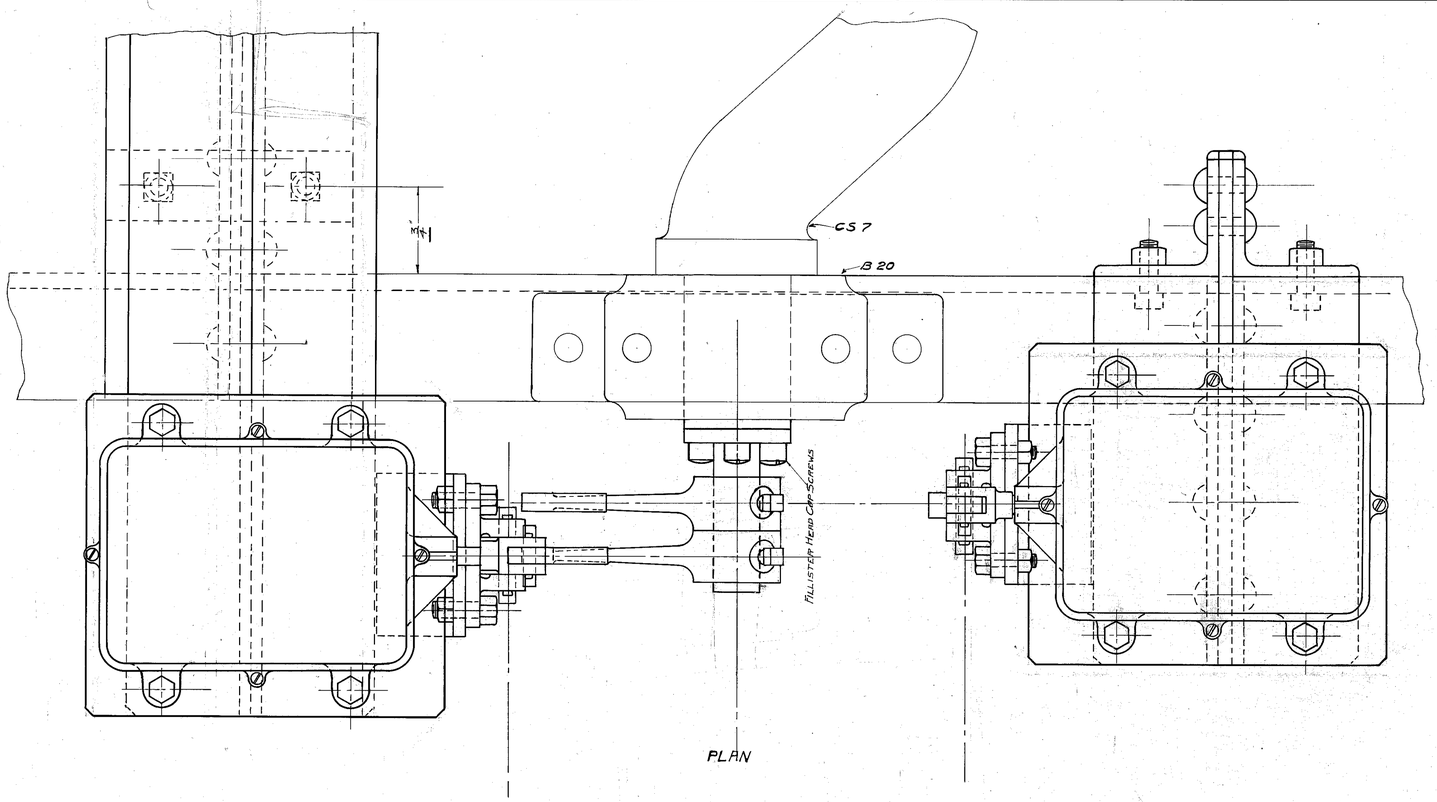
Approved John Ericson
City Engineer

Approved W.K. Mortimer
Commissioner of Public Works

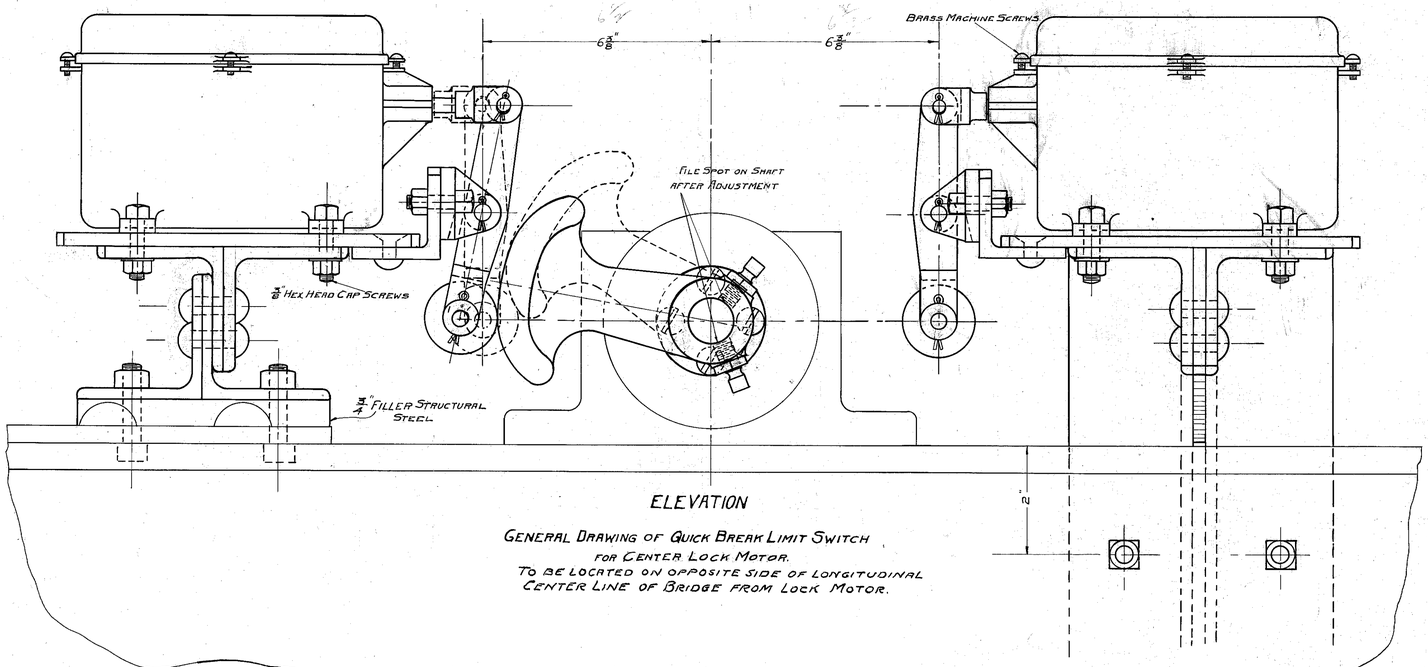
Drawn by:- L.A.R.
Traced by:- L.A.R. May: 20 1915
Checked by:-
DRAWING No. 3918
FILE No. 11-GC-46

WA 3

1660570241

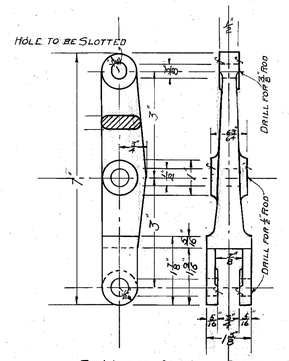


PLAN

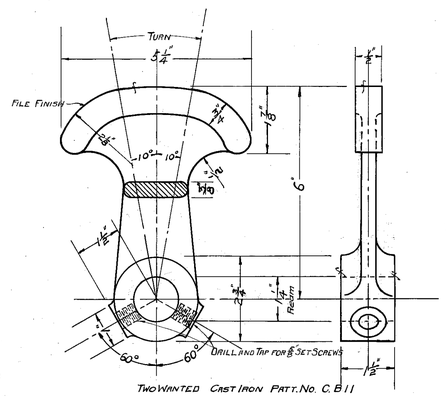


ELEVATION

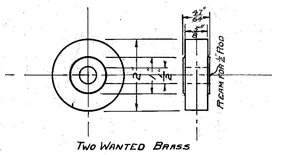
General Drawing of Quick Break Limit Switch for Center Lock Motor.
To be located on opposite side of longitudinal center line of bridge from Lock Motor.



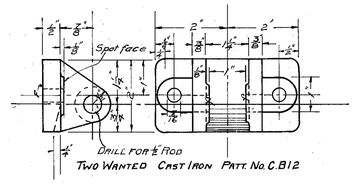
Two Wanted Cast Iron Patt. No. C.B10



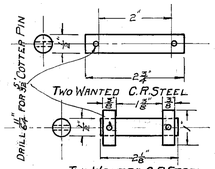
Two Wanted Cast Iron Patt. No. C.B11



Two Wanted Brass

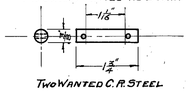


Two Wanted Cast Iron Patt. No. C.B12

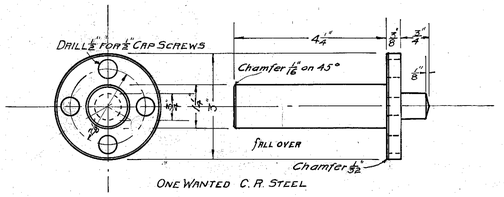


Two Wanted C.R. Steel

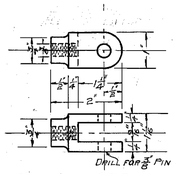
Two Wanted C.R. Steel
Two Collars Wanted As Shown



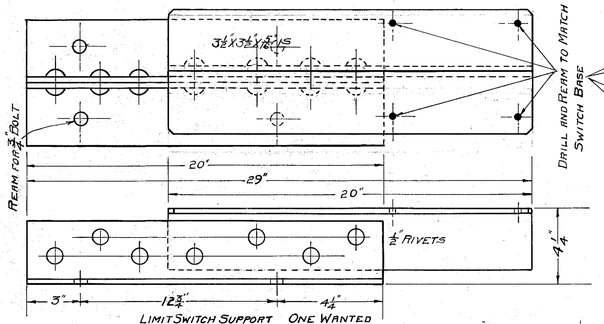
Two Wanted C.R. Steel



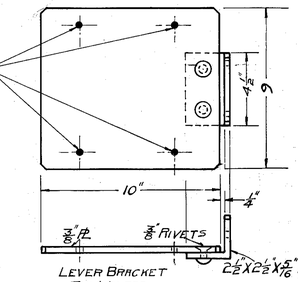
One Wanted C.R. Steel



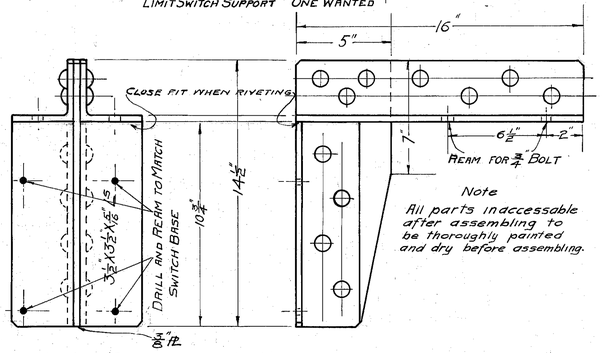
Two Wanted C.R. Steel



Limit Switch Support One Wanted



Lever Bracket
Two Wanted



Limit Switch Support One Wanted
Note
All exposed corners chamfered.

Note
All parts inaccessable after assembling to be thoroughly painted and dry before assembling.

Approved ... Engineer of Bridge Design.
Approved ... Engineer of Bridges & Harbor.
Approved ... City Engineer.
Approved ... Commissioner of Public Works.

C.F.H.—7-23-15—1650 A & B

CITY OF CHICAGO
DEPARTMENT OF PUBLIC WORKS
BUREAU OF ENGINEERING
DIVISION OF BRIDGES AND HARBOR

GENERAL DRAWING AND DETAIL OF LIMIT SWITCH FOR CENTER LOCK MOTOR
WEBSTER AVE. BRIDGE
OVER N. BRANCH CHICAGO RIVER.

R.S.
R.S.
J.E.V. June 1915 WA-4

1660570249

DRAWING No. 3919
FILE No. 11-6C-47

Drill & tap for ⅝" cap screws

4 Drilled holes

5½" B.C.

Threaded for 6"

Cast Iron Shield

F.

F

1'-5"

4½"

2½" close nipple

Rubber gasket

std. 2½" pipe flange Galv.

Str Steel

Electrical Conduit

⅝" turned bolts

2-3"B-5.5# - 5'-10¼"

Cast Iron 2 Req'd.
Part # L-M1.

Approved Hugh E. Young
Engineer of Bridge design

Approved Thos. H. Patterson
Engineer of Bridges & Harbor

Approved Thos. Ericson
City Engineer

Approved W. R. Mooreside
Commissioner of Public Works

6-6-8-2-18-1916.

CITY
DEPARTMENT
BU
DIVISION

DETAIL

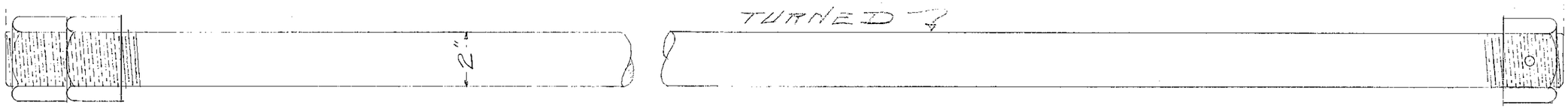
FOR City
AT Webste

DRAWN BY L.A.
TRACED BY
CHECKED BY

1660570243

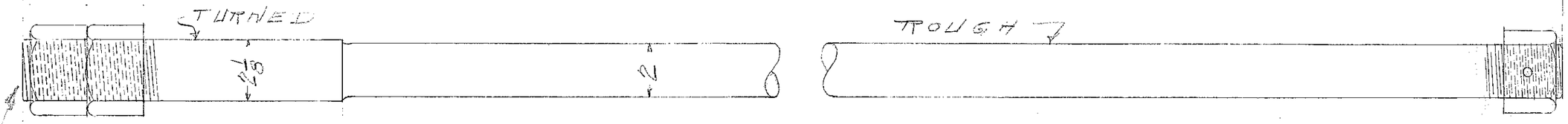
DRAWI
FILE

{ 8 REQ'D - 5'-8" LONG
{ 8 REQ'D - 6'-9" LONG
{ 16 REQ'D - 14'-5" LONG



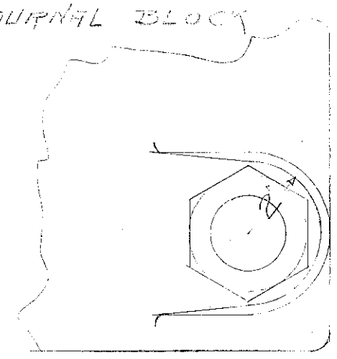
BOLT DETAIL AS SHOWN ON ENGINEERS DRAWINGS

{ 8 REQD - 5'-8" LONG
{ 8 " 6'-9" "
{ 16 " 14'-5" "



THIS END OF BOLT THROUGH JOURNAL BLOCK

BOLT DETAIL AS PROPOSED BY CONTRACTOR.



LAYOUT SHOWING 2 1/8" NUT AND BOSS ON TRUNNION BEARING

REFERENCES

ENGINEERS' DRAWING	#	796
"	"	800
"	"	811
MOD. STL STR. © DWG		201

BOLTS FOR MAIN TRUNNION BEARINGS

FORM 20-100-11-18

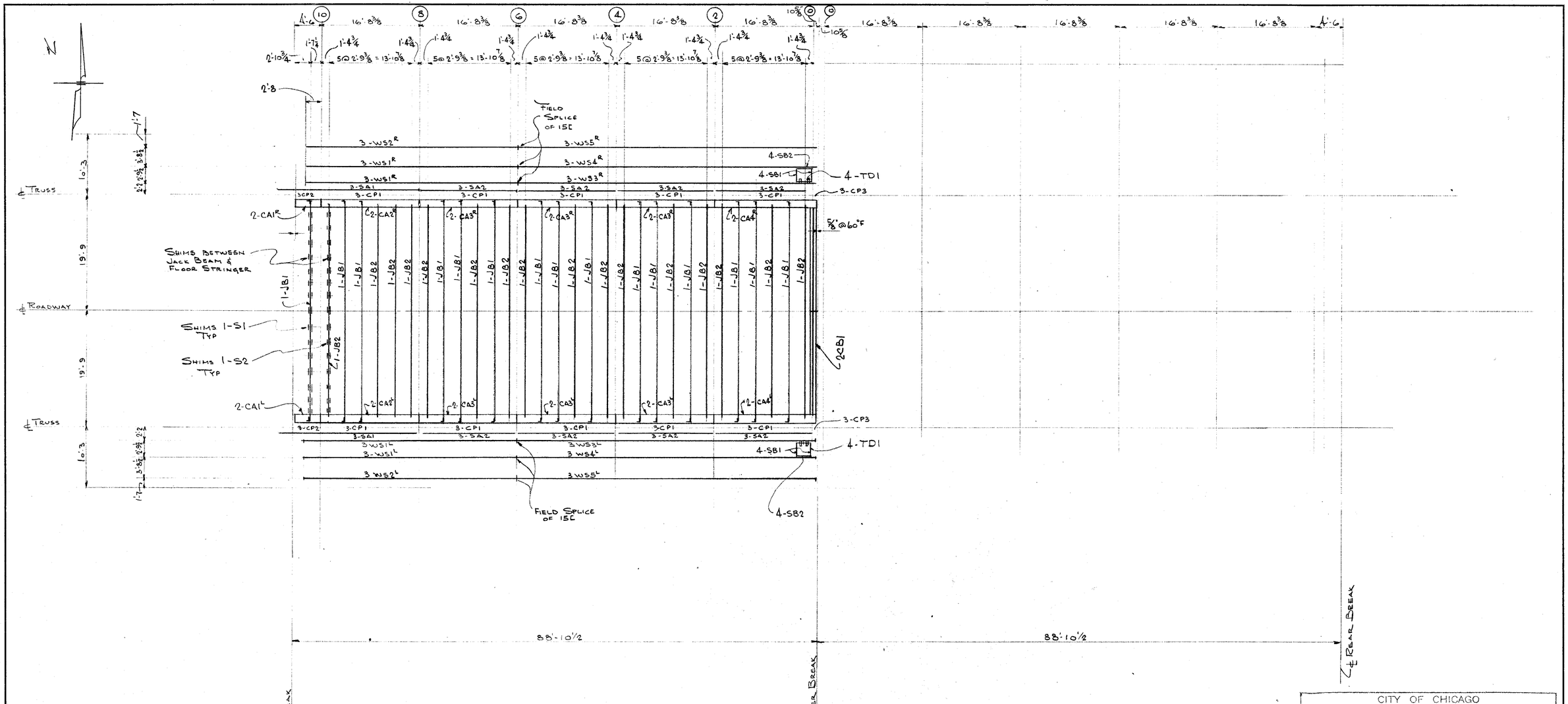
MODERN STEEL STRUCTURAL CO.

CUSTOMER
STRUCTURE WEBSTER AVE BRIDGE
REAM'G. SCALE 3 =1 FT.
RIVETS HOLES EXCEPT AS NOTED
PAINT SHOP FIELD
SEE MAT. BILLS SHIP BILLS
FIELD CONNECTIONS MADE WITH
MADE TRACED CHK'D 1914
CONTRACT NO. 2201 SH'T NO. 201 A

1660570244

DRAWING № 3921
FILE № 35-D2-129.

11"X17"



ERECTION PLAN VIEW

NOTE
ERECTION BY GENERAL CONTRACTOR

CITY OF CHICAGO
DEPARTMENT OF PUBLIC WORKS
BUREAU OF ENGINEERING
DIVISION OF BRIDGES & VIADUCTS

REPAIR OF WEBSTER AVE BRIDGE
OVER NO. BRANCH OF CHICAGO RIVER

PATHMAN CONST - GEN. CONTRACTOR - SUBCONTRACTORS

FRANKS ARCH. IRON - FABRICATORS

ERECTION PLAN

MADE BY	TRACED BY	CHECKED BY
O.I.L		N.S.

ORDER CONTRACT 28610 — SCALE:
OR DWG. NO. — SHEET
CITY DWG. NO. — FILE NO.

SHOP DRAWING
CORRECT _____ DATE _____
RECOM. BY _____
SEC. HEAD ASST. CHIEF
APPROVED AS TO GEN. ARRANGEMENT & DESIGN
DATE _____ DIVISION OF BRIDGES & VIADUCTS
CHIEF BRIDGE ENGINEER

1660570245

SCALE:	APPROVED BY:	DRAWN BY
DATE: 10-2-67		REVISED

FRANK'S ARCHITECTURAL IRON WK'S
4020 W. TAYLOR CHICAGO, ILL

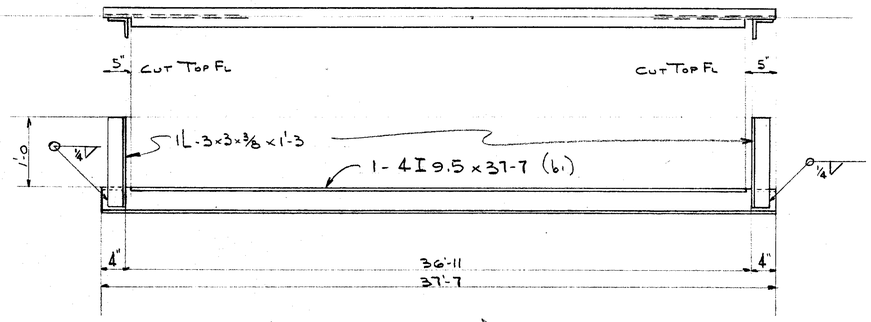
DRAWING NUMBER E1

DRWG. 47863

FILE NO. 25-E30-63

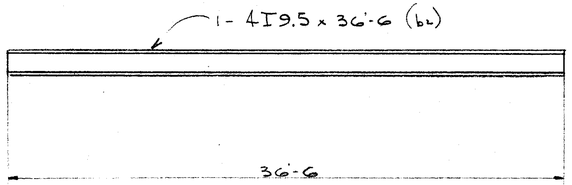
6

8XX84 PRINTED ON NO. 1000H CLEARPRINT



JACK BEAM - MK 1-JB1

30 - REQUIRED



JACK BEAM - MK 1-JB2

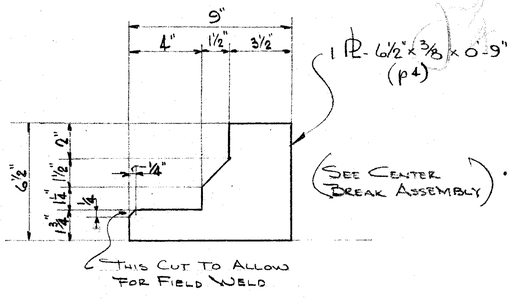
32 - REQUIRED

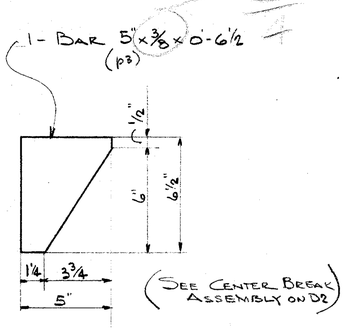
SHIMS - MK 1-S1

30 - REQUIRED

SHIMS - MK 1-S2

30 - REQUIRED



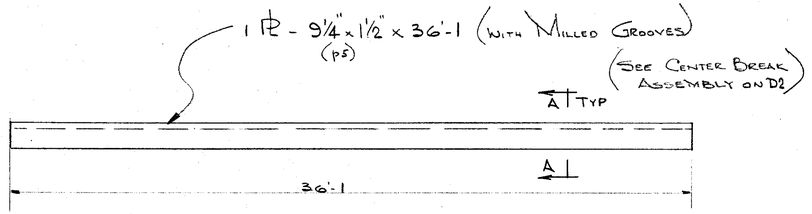


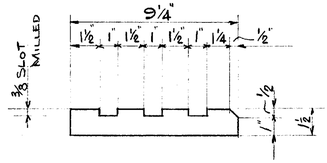
DIAPHRAGMS FOR CENTER BREAK MK 1-D1

68 - REQUIRED

DIAPHRAGMS FOR CENTER BREAK MK 1-D2

68 - REQUIRED

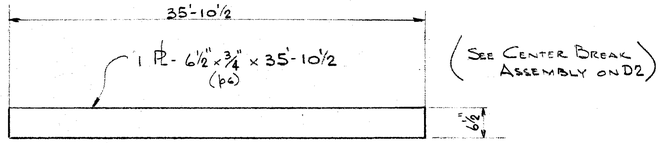




SECTION A-A
TYP.

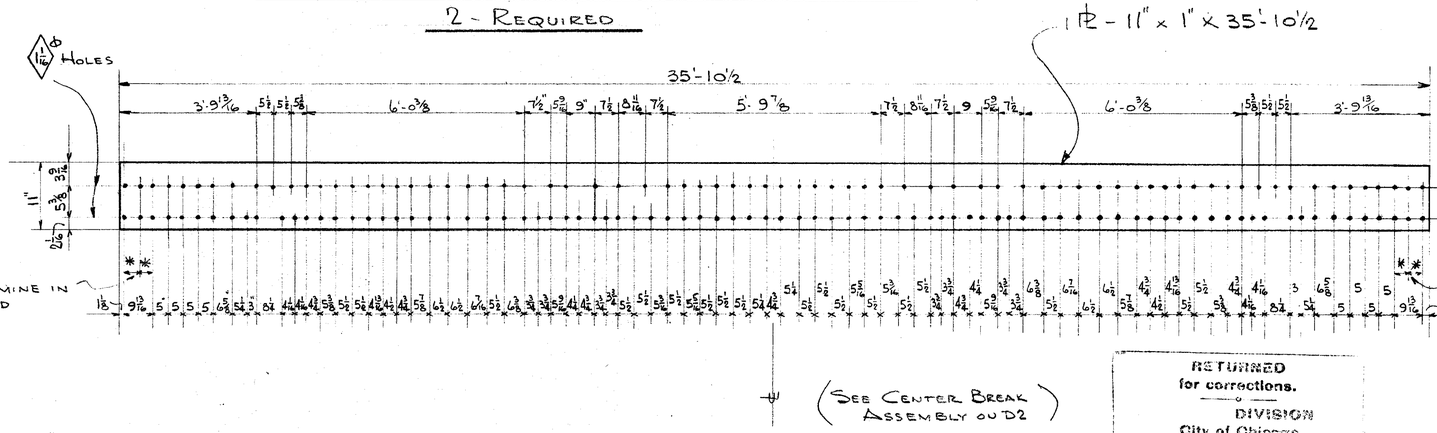
TOP PL FOR CENTER BREAK MK 1-P1

2 - REQUIRED



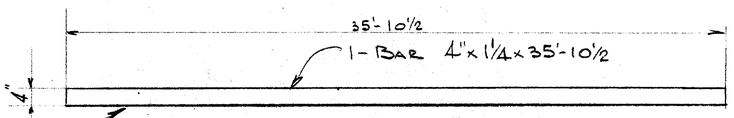
VERTICAL SUPPORT BAR MK 1-P2

2 - REQUIRED



BOTTON PL FOR CENTER BREAK MK 1-P3

2 - REQUIRED



GRATING SUPPORT BAR FOR CTR BREAK MK 1-B1

2 - REQUIRED

NOTE: THIS SUPPORT BAR MUST BE INSTALLED & FIELD WELDED TO CENTER BREAK AFTER CENTER BREAK IS BOLTED IN POSITION

NOTE
ERECTION BY GENERAL CONTRACTOR

RETURNED
for corrections.
DIVISION
City of Chicago
By.....
Date.....

SHOP DRAWING
CORRECT _____ DATE _____
RECOM. BY _____
SEC. HEAD ASST. CHIEF
APPROVED AS TO GEN. ARRANGEMENT & DESIGN
DATE _____ DIVISION OF BRIDGES & VIADUCTS
CHIEF BRIDGE ENGINEER

CITY OF CHICAGO
DEPARTMENT OF PUBLIC WORKS
BUREAU OF ENGINEERING
DIVISION OF BRIDGES & VIADUCTS

REPAIR OF WEBSTER AVE. BRIDGE
OVER NO. BRANCH OF CHICAGO RIVER

PATHMAN CONST. - GEN. CONTRACTOR
- SUBCONTRACTORS
FRANKS ARCH IRON - FABRICATORS

JACK BEAMS AND CENTER BREAK DETAILS

MADE BY	TRACED BY	CHECKED BY
O.I.L.		N.S

ORDER CONTRACT 28610 SCALE:
OR DWG. NO. SHEET
CITY DWG. NO. FILE NO.

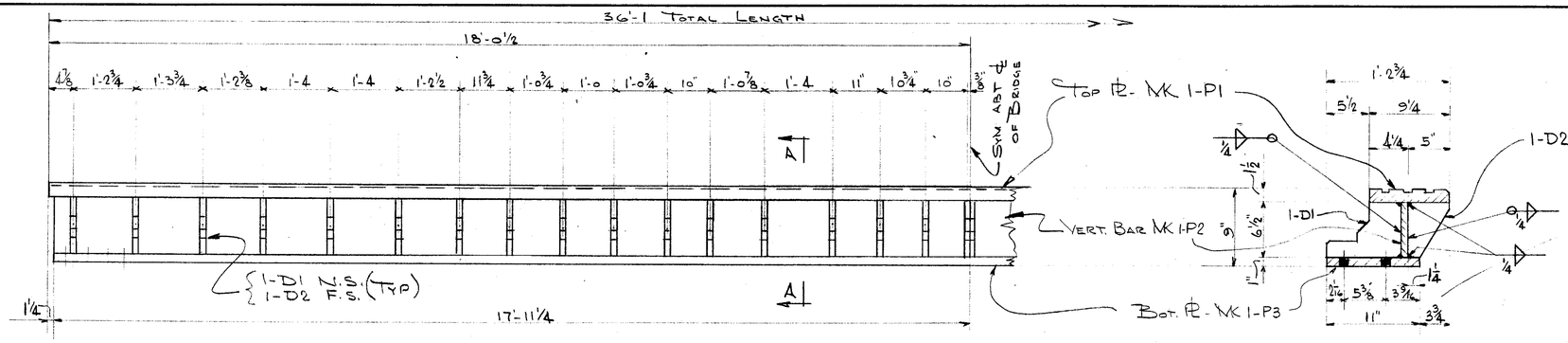
SCALE:	APPROVED BY:	DRAWN BY
DATE: 10-2-67		REVISED

FRANK'S ARCHITECTURAL IRON WK'S
4020 W. TAYLOR CHICAGO, ILL

1660570246 DRAWING NUMBER D1

22X34 PRINTED ON NO. 1000H CLEARPRINT

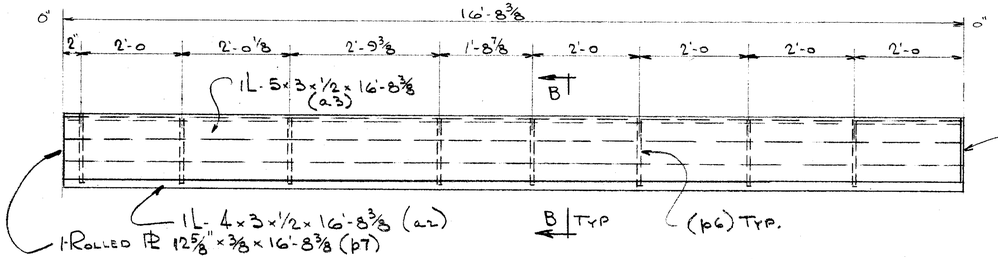
DRWG. 47864 FILE NO. 25-E30-64 (6)



SECTION A-A

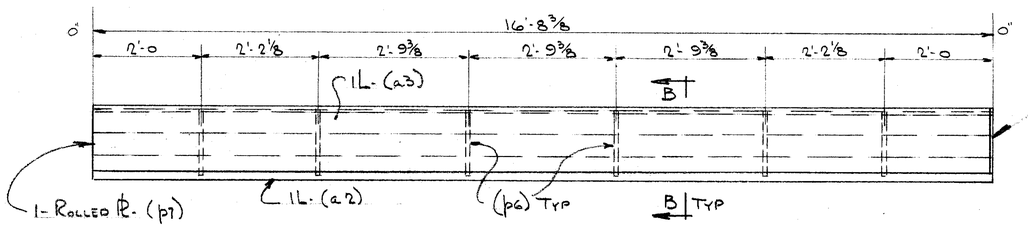
CENTER BREAK ASSEMBLY MK 2-CB1

2 - REQUIRED



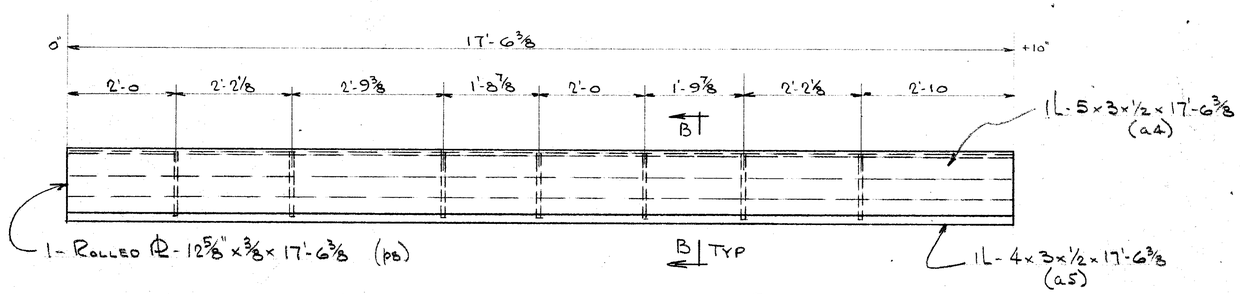
2 - CURB ASSEMBLIES MK-2-CA2^{R} AS SHOWN

2 - CURB ASSEMBLIES MK-2-CA2^{L} OPPOSITE HAND



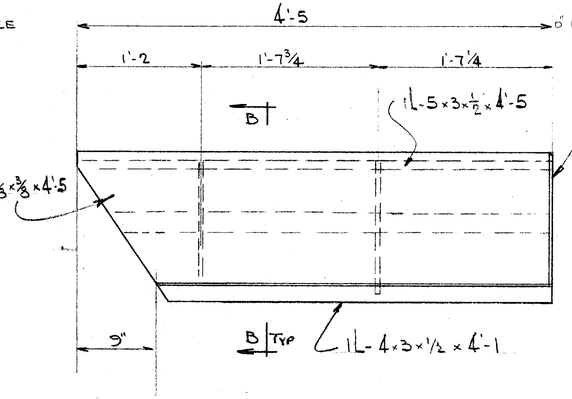
6 - CURB ASSEMBLIES MK 2-CA3^{R} AS SHOWN

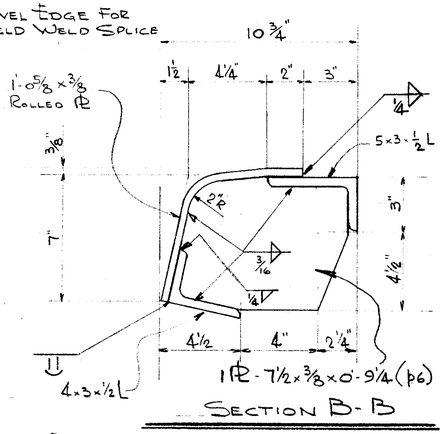
6 - CURB ASSEMBLIES MK 2-CA3^{L} OPPOSITE HAND



2 - CURB ASSEMBLIES MK 2-CA4^{R} AS SHOWN

2 - CURB ASSEMBLIES MK 2-CA4^{L} OPPOSITE HAND





SECTION B-B

2 - CURB ASSEMBLIES MK 2-CA1^{R} AS SHOWN

2 - CURB ASSEMBLIES MK 2-CA1^{L} OPPOSITE HAND

NOTE
ERECTION BY GENERAL CONTRACTOR

SHOP DRAWING
CORRECT ____ DATE ____
RECOM. BY ____
SEC. HEAD ____ ASST. CHIEF
APPROVED AS TO GEN. ARRANGEMENT & DESIGN
DATE ____ DIVISION OF BRIDGES & VIADUCTS
CHIEF BRIDGE ENGINEER

CITY OF CHICAGO
DEPARTMENT OF PUBLIC WORKS
BUREAU OF ENGINEERING
DIVISION OF BRIDGES & VIADUCTS
REPAIR OF WEBSTER AVE. BRIDGE
OVER NO. BRANCH OF CHICAGO RIVER
PATHMAN CONST - GEN CONTRACTOR - SUBCONTRACTORS
FRANK'S ARCH. IRON - FABRICATORS
CURB ASSEMBLY DETAILS

MADE BY	TRACED BY	CHKD BY
D.L.L.		N.S.

ORDER CONTRACT OR DWG. NO. 28610
CITY DWG. NO.
SCALE:
SHEET
FILE NO.

SCALE:	APPROVED BY:	DRAWN BY
DATE: 10-2-67		REVISED

FRANK'S ARCHITECTURAL IRON WKS
4020 W. TAYLOR CHICAGO, ILL.
1660570247
DRAWING NUMBER D2

8X34 PRINTED ON NO. 1000H CLEARPRINT

DRWG. 47865

FILE. NO. 25-E30-65 (6)

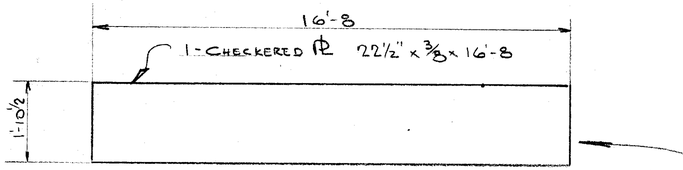
FIELD FABRICATE TO CLEAR TRUSS MEMBERS (4" LEG MUST BE COPED)

1L - 6×4×½ × 24'-0 — FOR 3-SA1 (FURNISHED LONG)

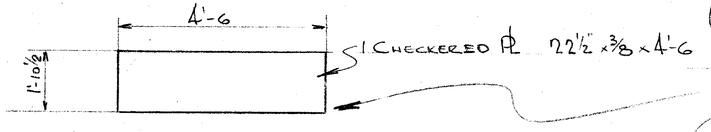
1L - 6×4×½ × 16'-8⅜ — FOR 3-SA2

4 - SUPPORTING ANGLE - MK 3-SA1

16 - SUPPORTING ANGLE - MK 3-SA2

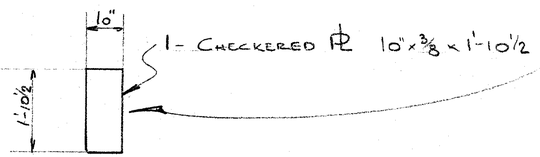


20 - COVER PLS MK 3-CP1

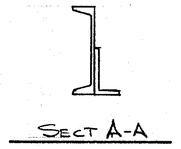


NOTE: FIELD FABRICATE COVER PLS TO CLEAR TRUSS MEMBERS

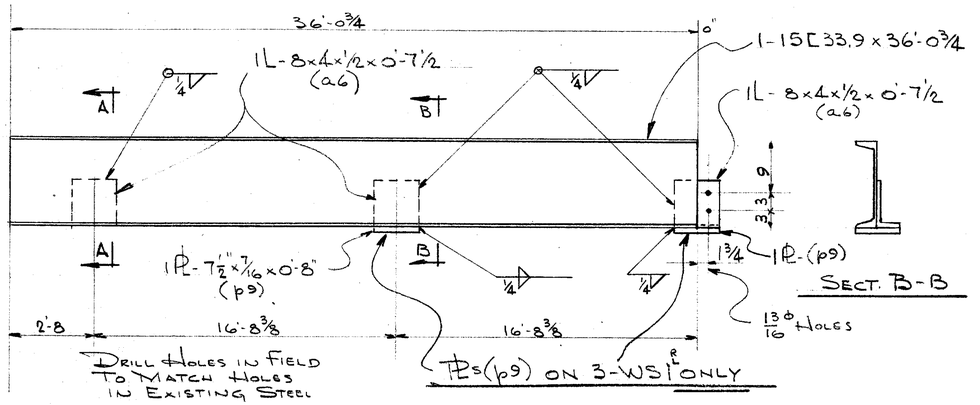
4 - COVER PLS MK 3-CP2



4 CHECKERED PLS MK 3-CP3



SECT A-A

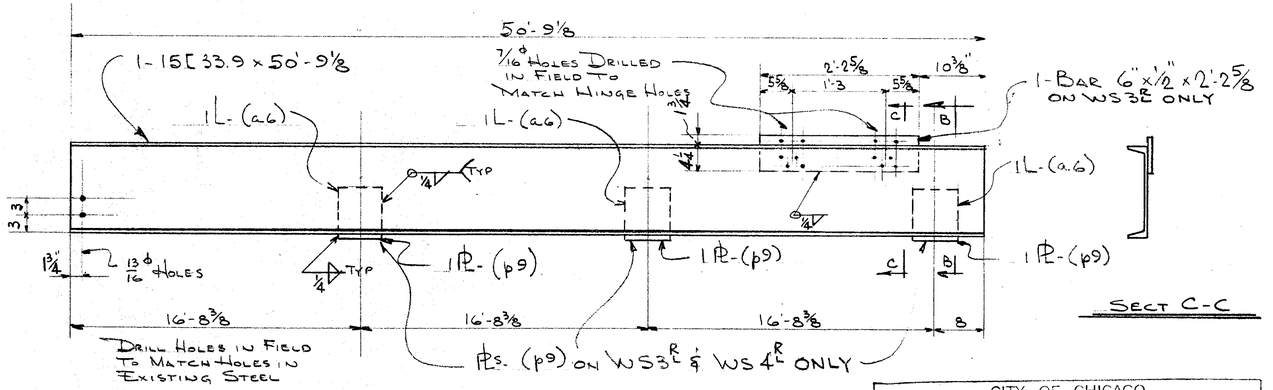


4 - WALKWAY STRINGER MK 3-WS1R AS SHOWN

4 - WALKWAY STRINGER MK 3-WS1L OPPOSITE HAND

2 - WALKWAY STRINGER MK 3-WS2R AS SHOWN

2 - WALKWAY STRINGER MK 3-WS2L OPPOSITE HAND



SECT C-C

2 - WALKWAY STRINGERS MK 3-WS3R AS SHOWN & NOTED

2 - WALKWAY STRINGERS MK 3-WS3L OPPOSITE HAND

2 - WALKWAY STRINGERS MK 3-WS4R AS SHOWN & NOTED

2 - WALKWAY STRINGERS MK 3-WS4L OPPOSITE HAND

2 - WALKWAY STRINGERS MK 3-WS5R AS SHOWN & NOTED

2 - WALKWAY STRINGERS MK 3-WS5L OPPOSITE HAND

24 - ¾Φ × 2" MACH. BOLTS WITH ONE WASHER & ONE HEX NUT

NOTE
ERECTION BY GENERAL CONTRACTOR

SHOP DRAWING
CORRECT _____ DATE _____
RECOM. BY _____
SEC. HEAD ASST. CHIEF
APPROVED AS TO GEN. ARRANGEMENT & DESIGN
DATE _____ DIVISION OF BRIDGES & VIADUCTS
CHIEF BRIDGE ENGINEER

CITY OF CHICAGO
DEPARTMENT OF PUBLIC WORKS
BUREAU OF ENGINEERING
DIVISION OF BRIDGES & VIADUCTS

REPAIR OF WEBSTER AVE BRIDGE
OVER NO. BRANCH OF CHICAGO RIVER

PATHMAN CONST - GEN. CONTRACTOR - SUBCONTRACTORS

FRANK'S ARCH. IRON - FABRICATORS

WALKWAY STRINGERS AND COVER PLATE DETAILS

MADE BY	TRACED BY	CHECKED BY
O.I.L		N.S

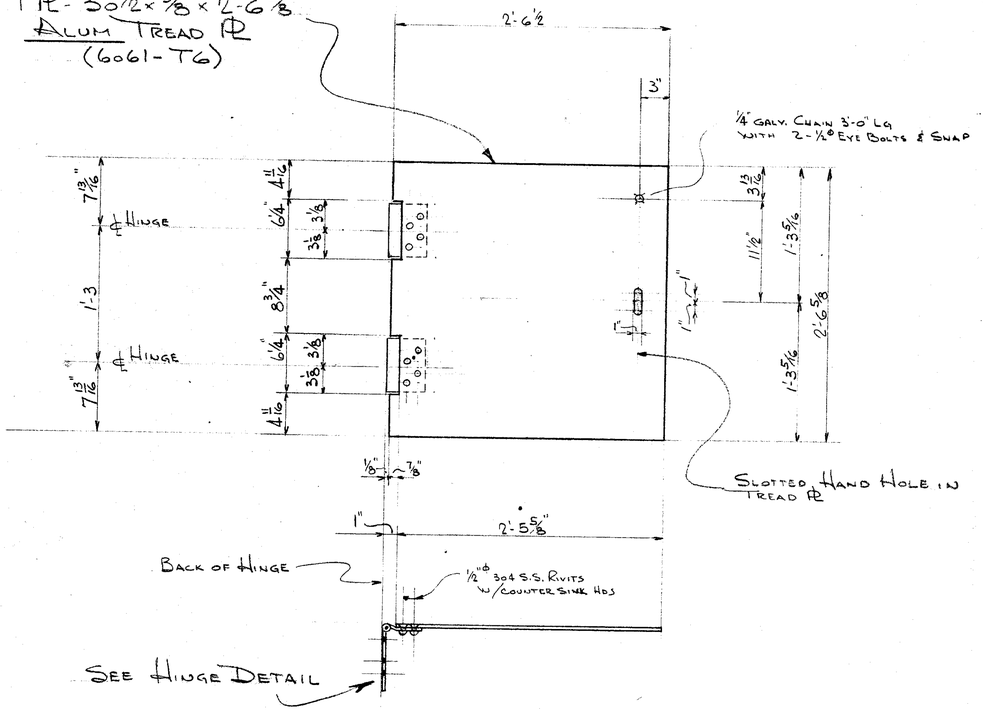
ORDER CONTRACT OR DWG. NO. 28610
CITY DWG. NO.
SCALE:
SHEET
FILE NO.

SCALE: | APPROVED BY: | DRAWN BY
DATE: 10-2-67 | REVISED
FRANK'S ARCHITECTURAL IRON WK'S
4020 W. TAYLOR CHICAGO, ILL
1660570248 | DRAWING NUMBER D3

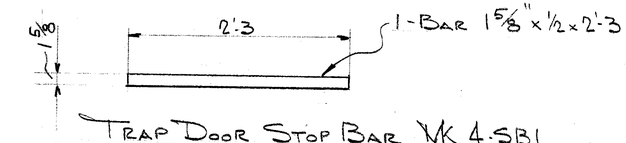
DRWG. 47866

FILE NO. 25-E30-66

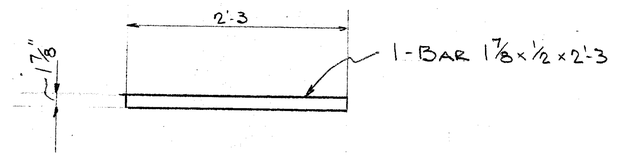
8X8-4 PRINTED ON NO. 1000H CLEARPRINT



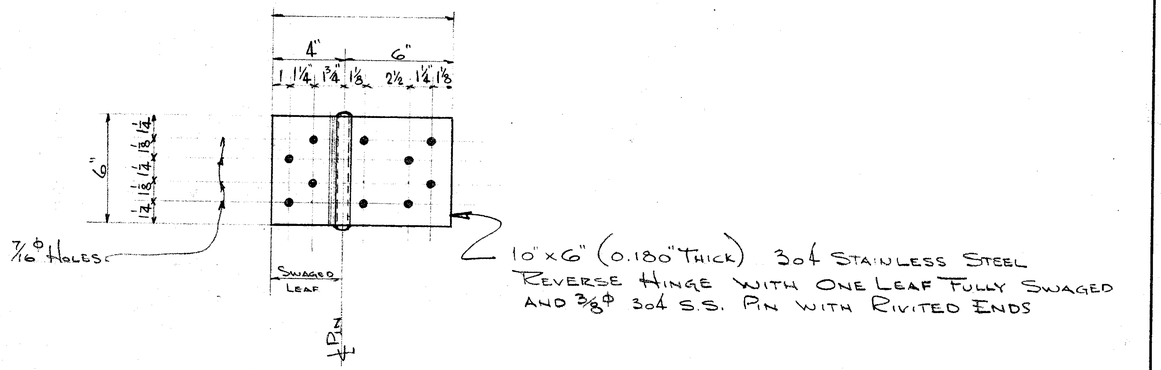
TRAP DOOR ASSEMBLY MK 4-TD1
4 - REQUIRED



TRAP DOOR STOP BAR MK 4-SB1
8 - REQUIRED



TRAP DOOR STOP BAR MK 4-SB2
4 - REQUIRED



HINGE DETAIL

304 S.S. BOLTS FOR HINGES
32 - ⅜ø x 1¾" LG WITH SPLIT LOCK WASHER & HEX NUT
16 - ⅜ø x 1⅜ LG WITH SPLIT LOCK WASHER & HEX NUT

NOTE
ERECTION BY GENERAL CONTRACTOR

SHOP DRAWING
CORRECT _____ DATE _____
RECOM. BY _____
SEC. HEAD ASST. CHIEF
APPROVED AS TO GEN. ARRANGEMENT & DESIGN
DATE _____ DIVISION OF BRIDGES & VIADUCTS
CHIEF BRIDGE ENGINEER

CITY OF CHICAGO
DEPARTMENT OF PUBLIC WORKS
BUREAU OF ENGINEERING
DIVISION OF BRIDGES & VIADUCTS
REPAIR OF WEBSTER AVE BRIDGE
OVER NO. BRANCH OF CHICAGO RIVER
PATHMAN CONST - GEN. CONTRACTOR - SUBCONTRACTORS
FRANK'S ARCH IRON - FABRICATORS
TRAP DOOR ASSEMBLY DETAILS

DESIGNED BY	TRACED BY	CHECKED BY
O.I.L.		N.S.
ORDER CONTRACT OR DWG. NO.	28610	SCALE:
		SHEET
CITY DWG. NO.		FILE NO.

SCALE:	APPROVED BY:	DRAWN BY
DATE: 10-2-67		REVISED

FRANK'S ARCHITECTURAL IRON WK'S
4020 W TAYLOR CHICAGO, ILL
1660570249 — DRAWING NUMBER D4

8X34 PRINTED ON NO. 1000H CLEARPRINT

DRWG. 47867 FILE NO. 25 - E30 - 67

℄ REAR BREAK

88'-10½"
86'-1½"

℄ CENTER BREAK

88'-10½"
86'-1½"

℄ REAR BREAK

11" 9'-6½" 25'-0½" 25'-0⅝" 26'-5⅞" 10" 26'-5⅞" 25'-0⅝" 25'-0½" 9'-6½" 11"

3/8 1/4 1/4 1/4 1/4 3/8 3/8 1/4 1/4 1/4 1/4 3/8

℄ ROADWAY

36'-1"
18'-3"
18'-3"
5'-9"
6'-3"
6'-3"
6'-3"
5'-9"

CONC. FILLED (BY OTHERS)

8 8 6 6 6 6 7 7 6 6 6 6 8 8

SEE "DETAIL A"

2 3 3 4 4 3 3 2

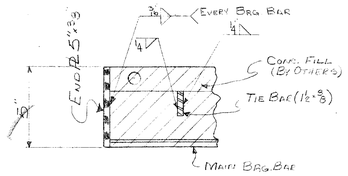
CONC. FILLED (BY OTHERS)

5 5 5 5

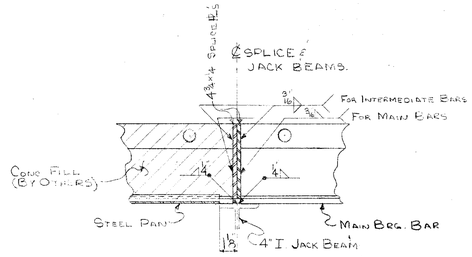
4½" 1½" 1½" 1½" 3¾" 3¾" 1½" 1½" 4½"

6½" 2'-10½" 2'-7⅞" 2'-7⅞" PAN DIM. PAN DIM. 2'-7⅞" 2'-7⅞" 2'-10⅝" 6½"

SECTION "1"

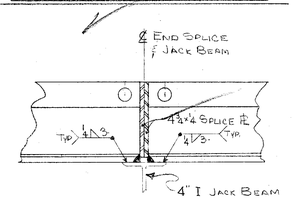


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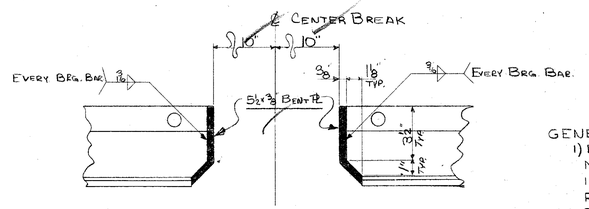


ONE AREA REQ'D

SECTION "3"



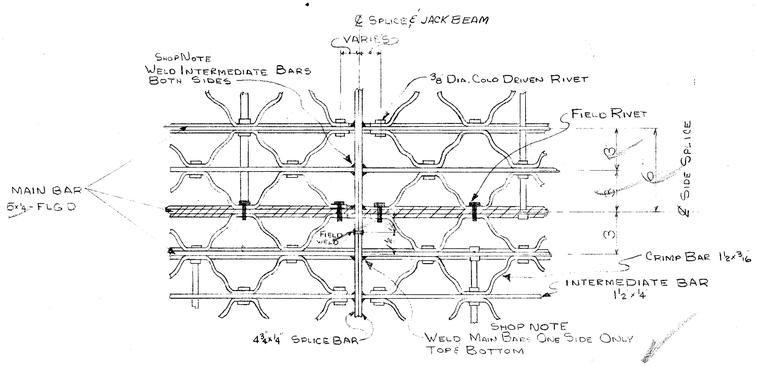
SECTION "4-4"



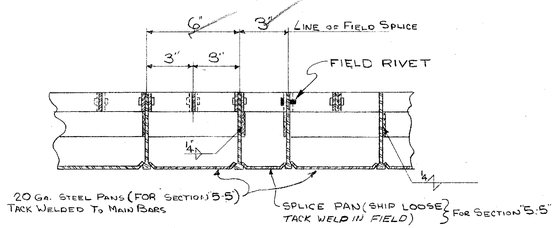
GENERAL NOTES

1) ROADWAY DECKING TYPE-#RH-204-F RIV-DEXTEEL MAIN BEARING BARS-5"x¼" FLANGED SECT. ON 6" CENTERS INTERMEDIATE BAR-1½"x¼" ON ALTERN. 6" CENTERS RETICULINE BAR-1½"x⅜" RIVETED ⅞" DIA. RIVETS ON 6" CENTERS- TRANSVERSE BARS-1½"x⅜" ON 12" CENTERS EXTENDING THRU & WELDED TO MAIN FLANGED SECTIONS.
2) MATERIAL TO BE- ASTM-A36, COPPER BEARING STL.
3) SEE SPECS. FOR METAL MARKING TAGS
4) FINISH- PER. SPECS. -INSIDE OF CONC. FILLED AREAS NOT TO BE PAINTED.
5) ═══ INDICATES 4¾"x¼" SPLICE BAR. (PER. SECT. "3")
6) ━━━ INDICATES 5½"x⅜" BENT PL. (PER. SECT. "4-4")
7) ═══ INDICATES 5"x⅜" DAM BAR (PER. SECT. "1")
8) ─┼─ INDICATES DIRECTION OF MAIN BRG. BARS - ALSO FLOW OF TRAFFIC.
9) ▨ INDICATES CONC. FILL (BY OTHERS)

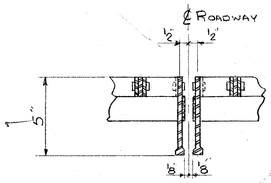
DETAIL "A"



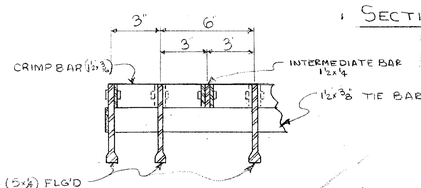
SECTION "5-5" (AS NOTED)



SECTION "7-7"



SECTION "6-6"



SECTION "8-8"

No.	DATE	REV. DESCRIPTION	BY	APP'D

CITY OF CHICAGO
DEPARTMENT OF PUBLIC WORKS
BUREAU OF ENGINEERS
DIVISION OF BRIDGES & VIADUCTS
WEST WEBESTER AVENUE BRIDGE

CONTRACTORS

SUB-CONTRACTORS

FABRICATOR KLEMP CORPORATION

SUBJECT DETAILS OF #RH-204-F ROADWAY STEEL DECKING

MADE BY R.J. DATE 10-31-67 | CHECKED BY DATE

CONTRACT No. 3773-RD | SHEET No 1 OF 2

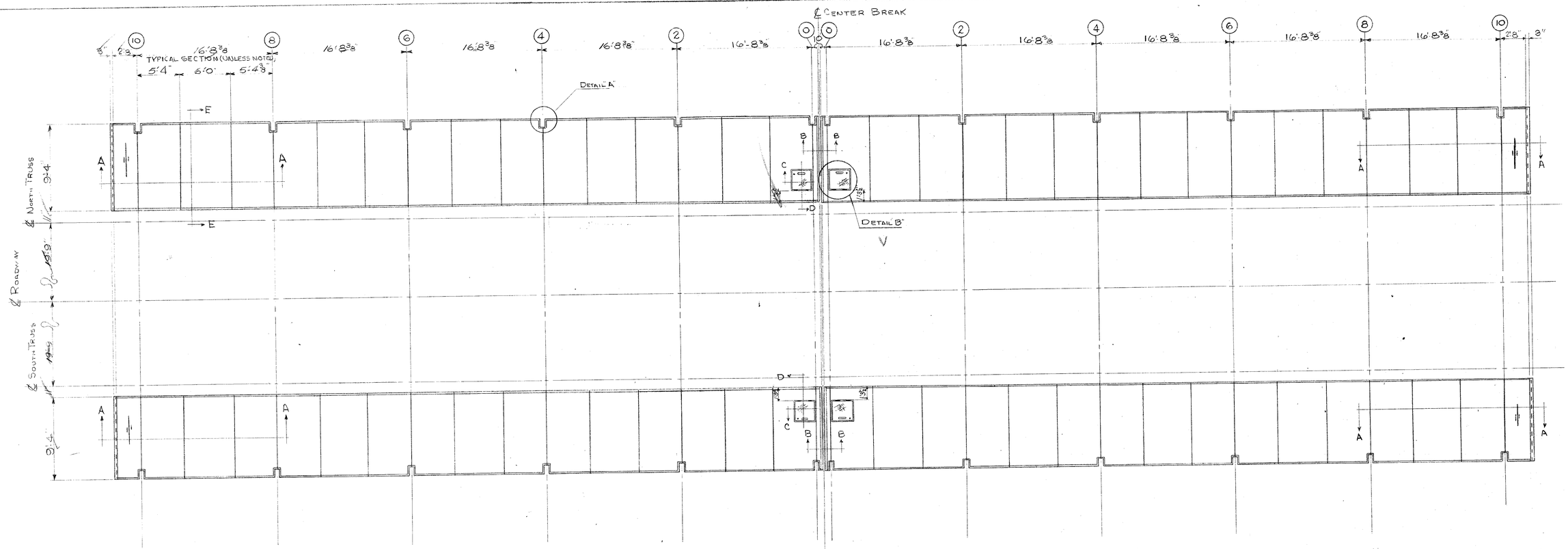
CITY DWG. No. 30230 & 30231

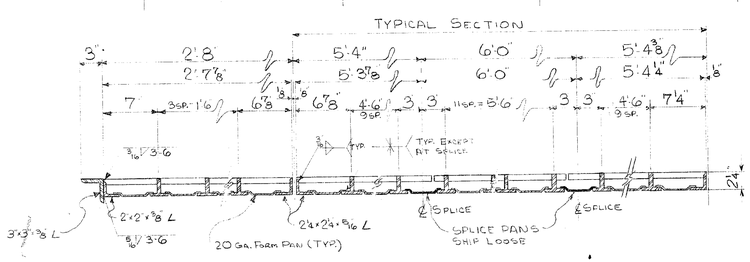
APPROVAL STAMP

CONCUR:
PASSED BY:
APPROVED:
DATE:

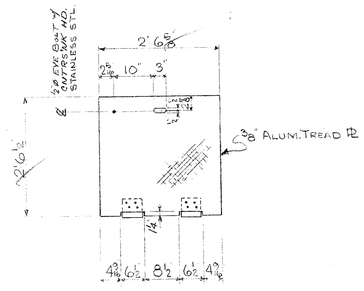
1660570250

DRWG. 47868 FILE NO. 21-E30-68



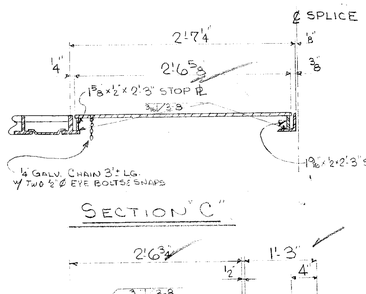


SECTION "A-A"

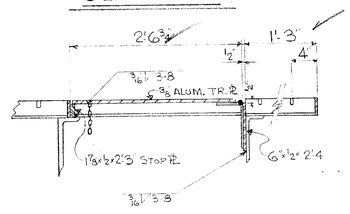


DETAIL "B"

2 REQ'D (AS SHOWN)
2 REQ'D (OPP. HD.)

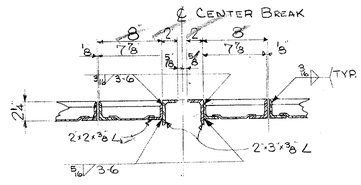


SECTION "C"

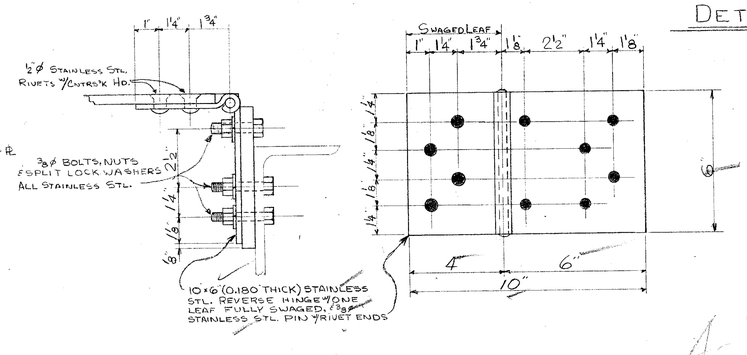


SECTION "D"

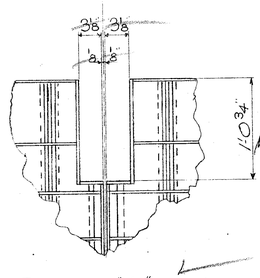
ONE AREA REQ'D



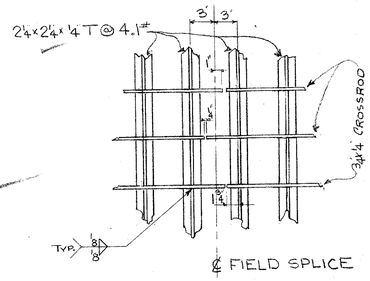
SECTION "B-B"



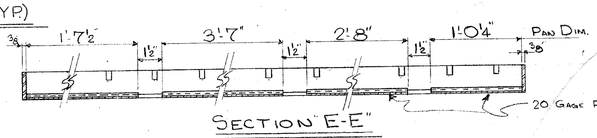
TRAP DOOR HINGE DETAIL



DETAIL "A" (TYP.)



TYPICAL FIELD SPLICE



SECTION "E-E"

NOTES:
1) SIDEWALK DECKING TYPE "KT-2 1/4" TEE-PAN DECK" MAIN BEARING SUPPORTS STR. TEES 2 1/4 x 2 1/4 x 1/4 @ 4.1" - CROSS BAR 3/4 x 4" y 20 GA. STRIP PANS, FORMED.
2) MATERIAL - M-1020
3) FINISH - ONE SHOP COAT ALKYD RED LEAD DO NOT PAINT INNER AREAS TO BE CONC. FILLED.
4) ═══ INDICATES 2 1/4 x 3/8 CLOSURE ℞
5) ═ ═ INDICATES DIRECTION OF BEARING BARS

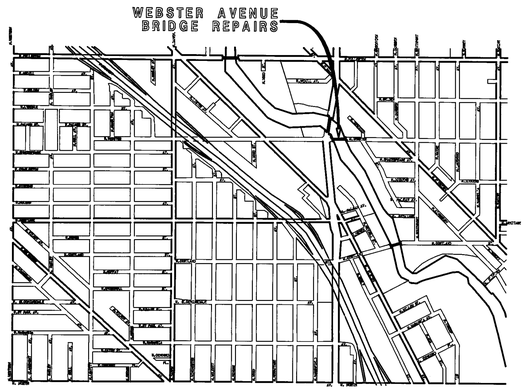
APPROVAL STAMP

No.	DATE	REV. DESCRIPTION	BY	APP'D

CITY OF CHICAGO
DEPARTMENT OF PUBLIC WORKS
BUREAU OF ENGINEERS
DIVISION OF BRIDGES & VIADUCTS
WEST WEBESTER AVENUE BRIDGE

CONTRACTORS
SUB-CONTRACTORS
FABRICATOR KLEMP CORPORATION
SUBJECT DETAILS OF KT-2 1/4 SIDEWALK DECKING
MADE BY R.J. DATE 10-4-67
CHECKED BY DATE
CONTRACT NO. 3773-RD
SHEET NO 2 OF 2
CITY DWG. NO. 30230
1660570251

DRWG. 47869
FILE NO. 21 - E30 - 69



PROJECT MAP

CITY OF CHICAGO

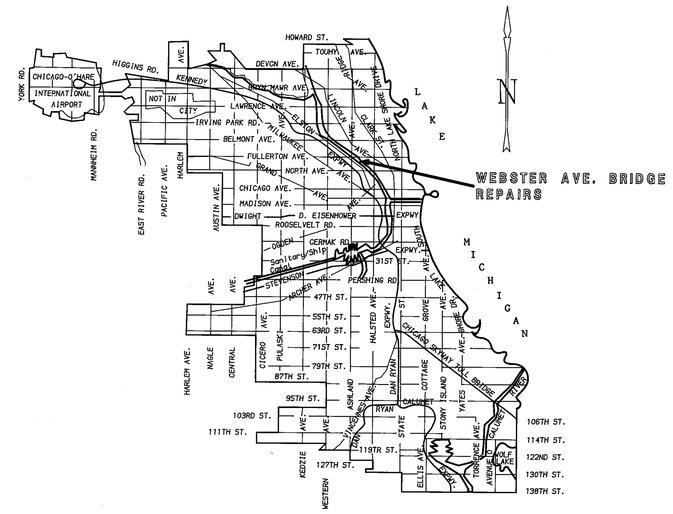
RICHARD M. DALEY

MAYOR

DEPARTMENT OF TRANSPORTATION

J. F. BOYLE, Jr., Commissioner

BUREAU OF BRIDGES



PROJECT LOCATION

FORCE ACCOUNT PLANS
FOR
WEBSTER AVENUE BRIDGE REPAIRS

1992 G.O. BOND PROGRAM

STATE OF ILLINOIS
GEORGE MALKOS
81-4522
CHICAGO, ILLINOIS
LICENSED STRUCTURAL ENGINEER

CITY OF CHICAGO
DEPARTMENT OF TRANSPORTATION
BUREAU OF BRIDGES

DATE: December 22, 1992

APPROVED: _____ PROJECT MANAGER

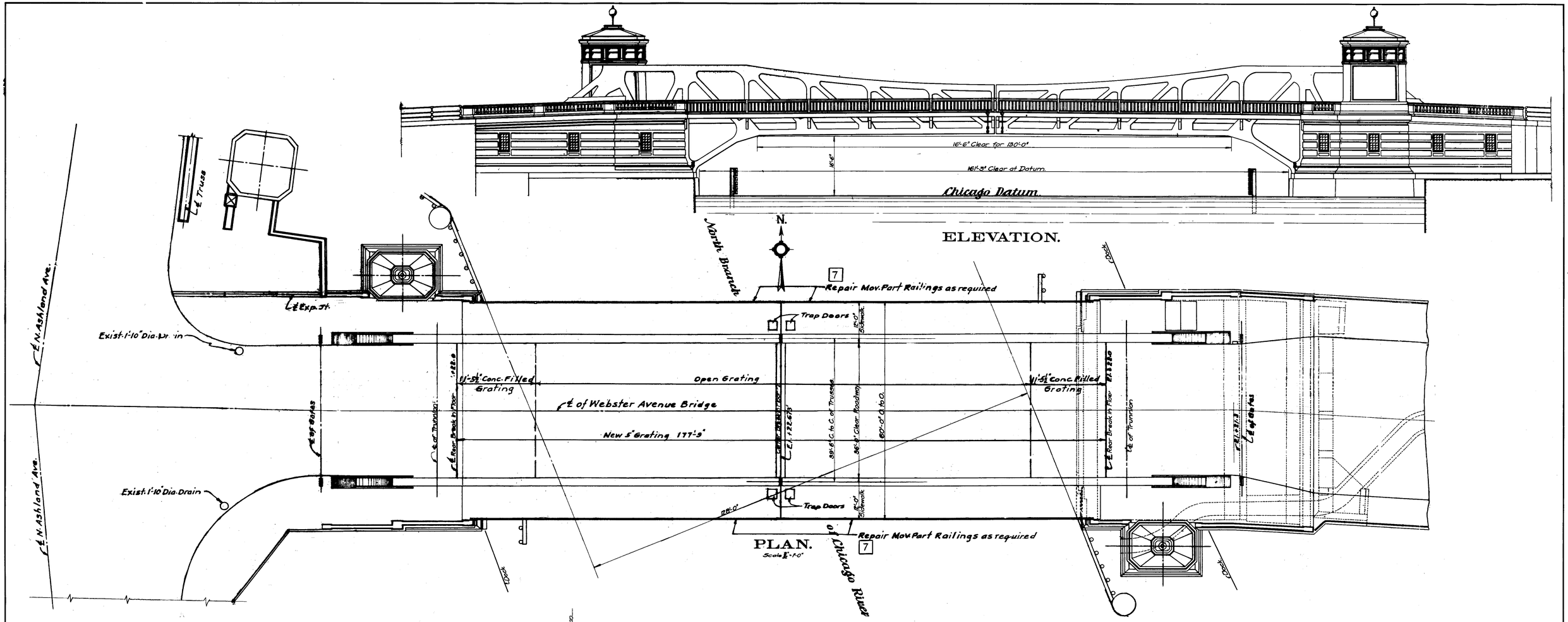
APPROVED: _____ PROJECT COORDINATOR

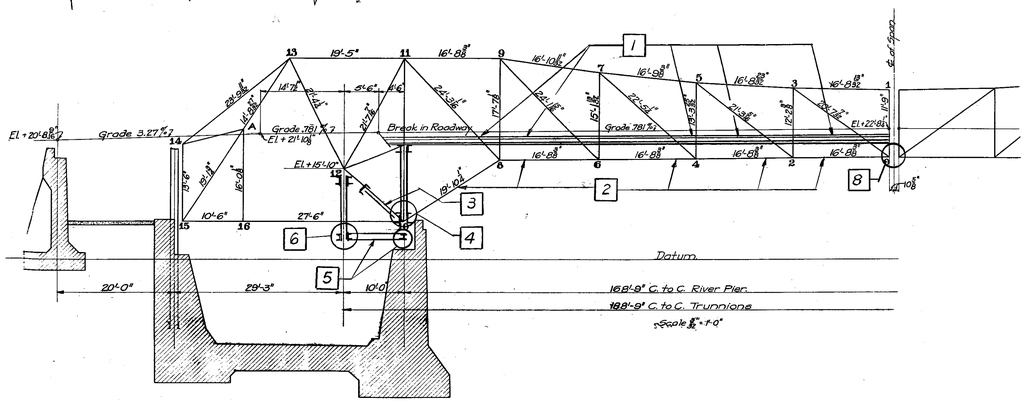
APPROVED: _____ CHIEF ENGINEER/BRIDGES

APPROVED: _____ DEPUTY COMMISSIONER

APPROVED: _____ COMMISSIONER

1660570257 DRWG. NO. FILE NO.





ELEVATION - REPAIR ITEMS

NOTE: ITEMS 1 THRU 6 APPLY TO BOTH EAST & WEST LEAVES.
ITEMS 7 AND 8 APPLY TO NORTH AND SOUTH SIDE TRUSSES.
ALL REPLACEMENT STEEL SHALL CONFORM TO ASTM A36.
ALL BOLTS OR RIVETS REMOVED SHALL BE REPLACED WITH ASTM A325 HIGH STRENGTH BOLTS.
REPLACEMENT STEEL SHALL BE SHOP PAINTED WITH ONE COAT OF INORGANIC ZINC.

REPAIR ITEM NUMBER	DESCRIPTION	REFERENCES			
		CONTRACT SHEET NO.	SHOP DRAWINGS		
			ERECTION DRWG. FILE NO.	PARTS	PART FILE NO.
1	REMOVE AND DISPOSE OF EXISTING 5"GRATING, 4"JACK BEAMS AND 15" ROADWAY STRINGERS. REPLACE WITH NEW 18" ROADWAY STRINGERS AND NEW 5"GRATING. SEE CONTRACT SHEET S3 FOR MODIFICATIONS.	S3	11-6C-1	S1, S2, S3, S19, S4, S5, S6, S7, S8	11-6C-14
2	REPLACE, IN KIND, ALL LOWER CHORD TRUSS BRACING MEMBERS AND THEIR GUSSET PLATES.		11-6C-1	SS2, L2 R/L, L3 R/L, SS4, SS5, SS6, B14R, B15R/L, B16R/L, LP42, LP43, LP44, LP45, LP47, LP49, LP53R/L, LP54, LP52, LP55 R/L, LP46, LP48, LP56, LP57, LP58, LP59 R/L.	11-6C-15, 11-6C-20, 11-6C-21
3	REMOVE AND REPLACE IN KIND ALL DETERIORATED LATTICE TRUSS MEMBERS AND LATTICE TRUSS GUSSET PLATES. DETERMINATION TO BE MADE IN FIELD.			SS17	11-6C-15
4	REMOVE AND REPLACE IN KIND LOWER CHORD OF FLOOR BEAM 10. SEE CONTRACT SHEET S4 FOR TEMPORARY SHORING.	S4		SS1	11-6C-13
5	REMOVE AND REPLACE IN KIND RIVERSIDE CHORD OF HORIZONTAL TRUNNION TRUSS BRACING, DIAGONALS AND GUSSET PLATES. NOTE: ORIGINAL DIAGONALS HAVE BEEN REPLACED WITH SOLID ROLLED SECTIONS WITH NO RECORD OF THE CHANGE. REPLACEMENT CAN BE MADE WITH EITHER THE ORIGINAL LACED SECTION OR EXISTING ROLLED SECTION.			B20, SS8, LP40, LP41	11-6B-31
6	REMOVE AND REPLACE IN KIND LOWER CHORD OF VERTICAL TRUNNION TRUSS BRACING. SEE CONTRACT SHEET S5 FOR TEMPORARY SUPPORT OF TRUSS.	S5		VB1	11-6B-32
7	REPAIR MOVABLE PART RAILING AS REQUIRED				
8	REPAIR CENTER LOCKS.				

NO.	BY	DATE	DESCRIPTION

REVISIONS

WEBSTER AVENUE
BASCULE BRIDGE
REPAIRS

PLAN AND
REPAIR ITEMS

CONSULTANT
IN-HOUSE

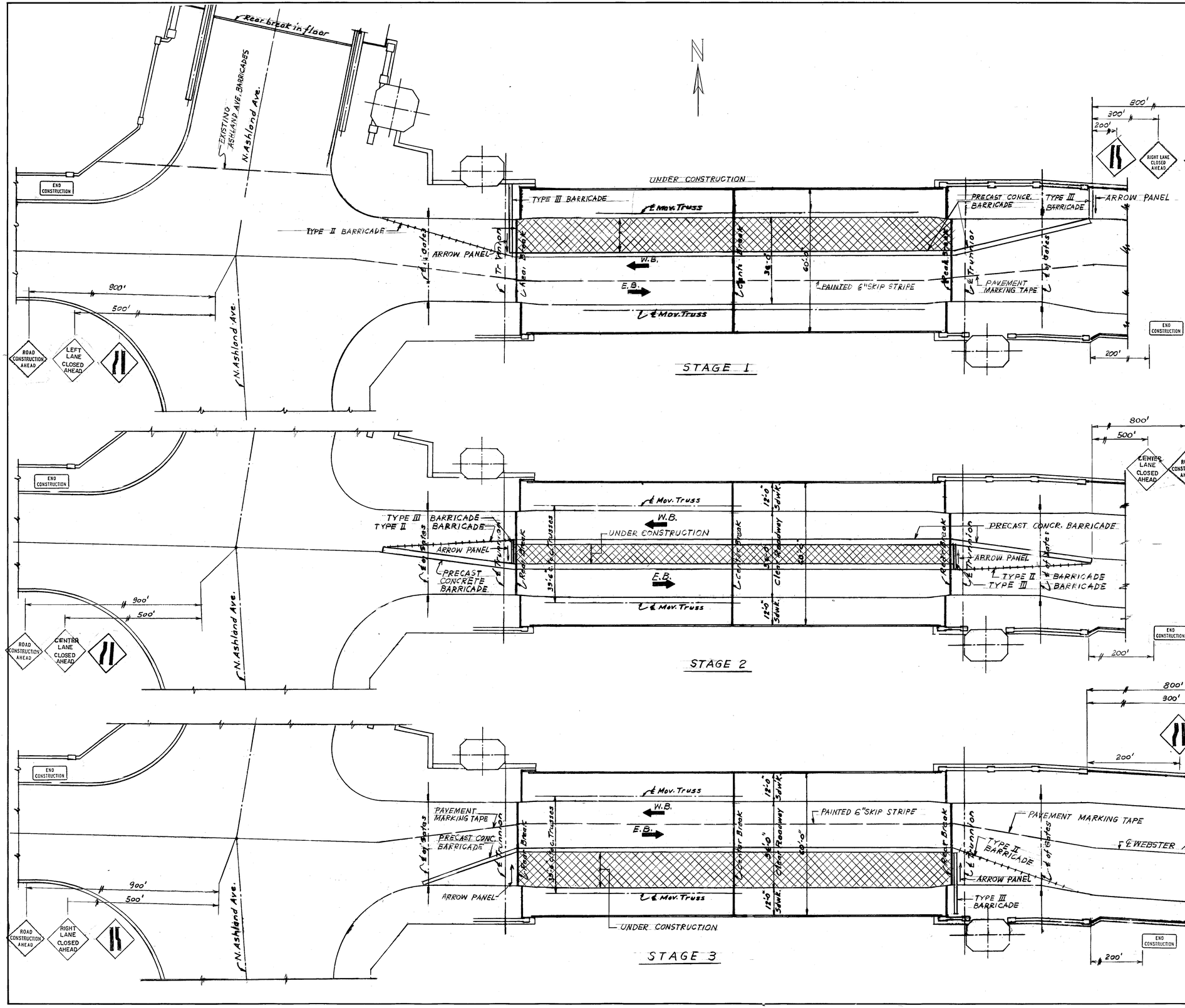
CITY OF CHICAGO

DEPARTMENT OF TRANSPORTATION
BUREAU OF BRIDGES

DRAWN REPRO	SHEET NO.
CHECKED RMC	S1
APPROVED	
DATE Dec 22	
SCALE AS SHOWN	
CONTRACT NO.	PROJECT NO.

1660570258

DRWG. No. FILE No.



ROADWAY DECK CONSTRUCTION

Stage 1

Paint 6" stripe divider between temporary eastbound and westbound lanes at south side of bridge roadway. Install concrete barriers and fences. Open Stage 1 lanes to traffic. Remove Stage 1 grating and jack beams. Remove existing stringers and replace with new stringers. (one stringer line at a time-6 lines thus) Install new Stage 1 grating.

Stage 2

Install concrete barriers on south edge of Stage 1 redecking. Route westbound traffic to this new portion. Shift barriers installed in Stage 1 to the south. Remove existing grating, jack beams, and stringers one truss panel at a time and replace with new stringers and gratings. Start at the center of the bridge and move outward.

Stage 3

Shift concrete barriers installed in Stage 2 to the south edge of Stage 2 redecking. Paint 6" stripe divider between temporary eastbound and westbound lanes at north side of bridge. Open Stage 3 lanes to traffic. Remove concrete barriers installed in Stage 2. Remove Stage 3 grating and jack beams. Remove existing stringers and replace with new stringers. (one stringer line at a time-6 lines thus)

NOTE:
THREE DAYS PRIOR TO CONSTRUCTION CALL LEON DORN OR MIKE BUTLER @ 744-0330 TO ADVISE OF TRAFFIC CHANGES.
THREE WEEKS PRIOR TO CONSTRUCTION CALL RON PINKOWSKI @ 744-4686 TO OBTAIN PERMIT FOR LANE CLOSURES.
SIGNAGE TO BE DETERMINATED BY BUREAU OF TRAFFIC.

NO.	BY	DATE	DESCRIPTION

REVISIONS

WEBSTER AVENUE
BASCULE BRIDGE
REPAIRS

TRAFFIC AND CONSTRUCTION STAGING

CONSULTANT
IN-HOUSE

CITY OF CHICAGO
DEPARTMENT OF TRANSPORTATION
BUREAU OF BRIDGES

DRAWN	R.P.J. & K.P.
CHECKED	R.M.G.
APPROVED	
DATE	Dec. 22, '92
SCALE	
CONTRACT NO.	

SHEET NO. S2

PROJECT NO.

1660570259

DRWG. No.

FILE No.

S1

S2, S3 & S19

S4

S5-S6-S7

S8

ENLARGEMENT 'A'

EXISTING TYPICAL SECTION

REVISED TYPICAL SECTION

SECTION B-B

SECTION C-C

SECTION A-A

NOTE:
THIS SHEET IS A COMPOSITE OF ORIGINAL SHOP DRAWING FILE NO. 11-6C-14 PLUS ADDED DETAILS TO ASSIST THE FABRICATOR. CHANGES TO ORIGINAL DRAWING OR ANY ADDED DETAILS ARE MARKED THUS: 1992 XXX

FOR ERECTION DRWG. SEE CONTRACT SHT. S-4 OR FILE NO. 11-6C-1.
VERIFY EXISTING CONDITIONS PRIOR TO FABRICATION.
ALL STRINGERS (S1R/L, S2, S3, S4, S5R/L, S6, S7, S8, S19) TO BE REPLACED WITH W 18×50.

NO.	BY	DATE	DESCRIPTION

REVISIONS

WEBSTER AVENUE
BASCULE BRIDGE
REPAIRS

REPAIR ITEM 1
BRIDGE DECK REPAIR

CONSULTANT
IN-HOUSE

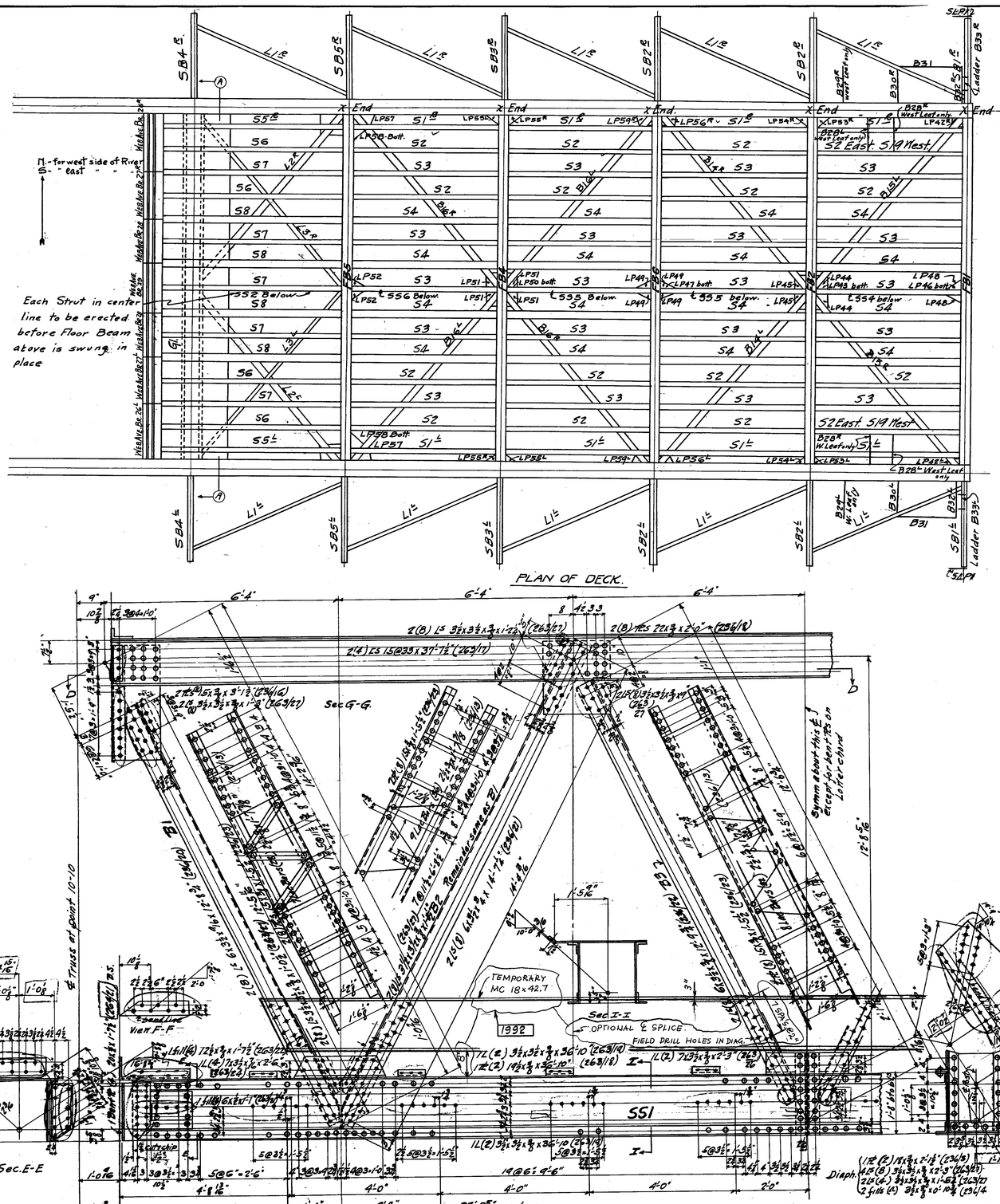
CITY OF CHICAGO
DEPARTMENT OF TRANSPORTATION
BUREAU OF BRIDGES

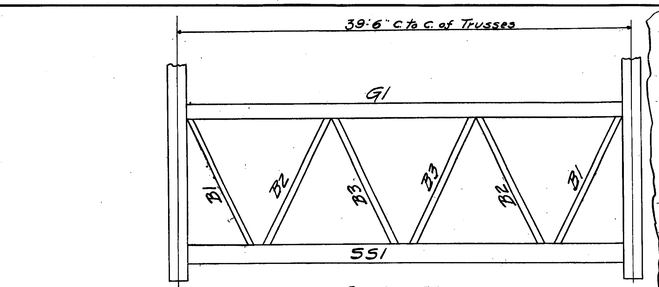
DRAWN	REPRO + K.P.
CHECKED	R.M.G.
APPROVED	G.M.
DATE	DEC. 18, 1992
SCALE	
CONTRACT NO.	
SHEET NO.	S3
PROJECT NO.	

1660570260

DRWG. No.

FILE No.



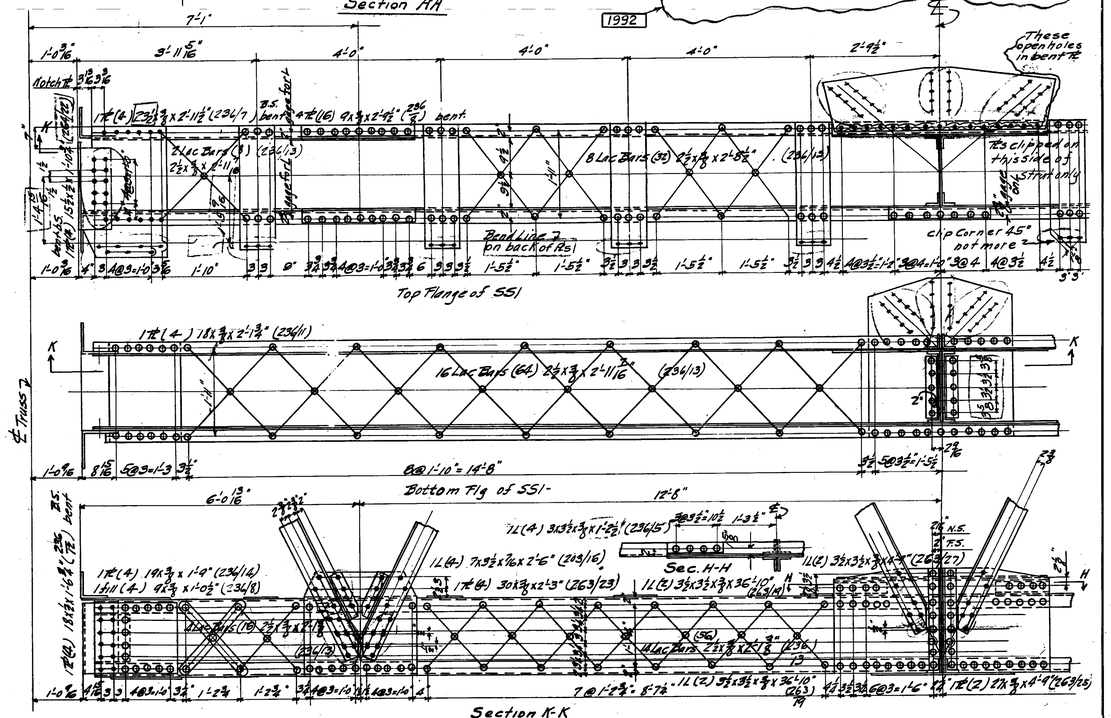


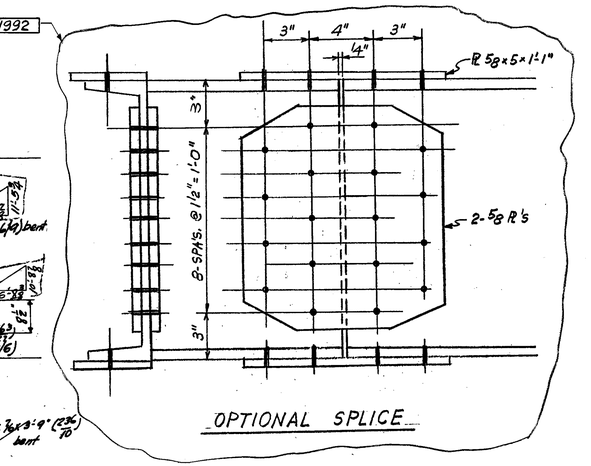
NOTE:

THIS SHEET IS A COMPOSITE OF ORIGINAL SHOP DRAWINGS, FILE NUMBERS 11-6C-1 AND 11-6G13 PLUS ADDED DETAILS TO INDICATE TEMPORARY SUPPORT OF FLOOR BM. TO(MARK SS1) DURING REPLACEMENT OF THE LOWER CHORD. CHANGES TO THE ORIGINAL DRAWING OR ANY ADDED DETAILS ARE MARKED THUS: 1992 ××××

PROCEDURE:

A) INSTALL TEMPORARY MC 18 TO ONE SIDE OF CHORD.
B) REMOVE PORTION OF CHORD ON SAME SIDE OF TEMP. MC 18.
C) REPLACE IN KIND WITH NEW PORTION OF CHORD.
D) REMOVE TEMPORARY MC 18, PLUG ABANDONED HOLES W/ BOLTS.
E) REPEAT STEPS A), B), C), D) ON OTHER SIDE OF CHORD.





NO.	BY	DATE	DESCRIPTION

REVISIONS

WEBSTER AVENUE
BASCULE BRIDGE
REPAIRS

REPAIR ITEM 4
LOWER CHORD REPLACEMENT
OF FLOOR BEAM TO (SS 1)

CONSULTANT
IN-HOUSE

CITY OF CHICAGO

DEPARTMENT OF TRANSPORTATION
BUREAU OF BRIDGES

DRAWN REPRO + K.P.	SHEET NO.
CHECKED R.M.C.	S4
APPROVED G.M.	
DATE DEC. 18, 1932	
SCALE	
CONTRACT NO.	PROJECT NO.

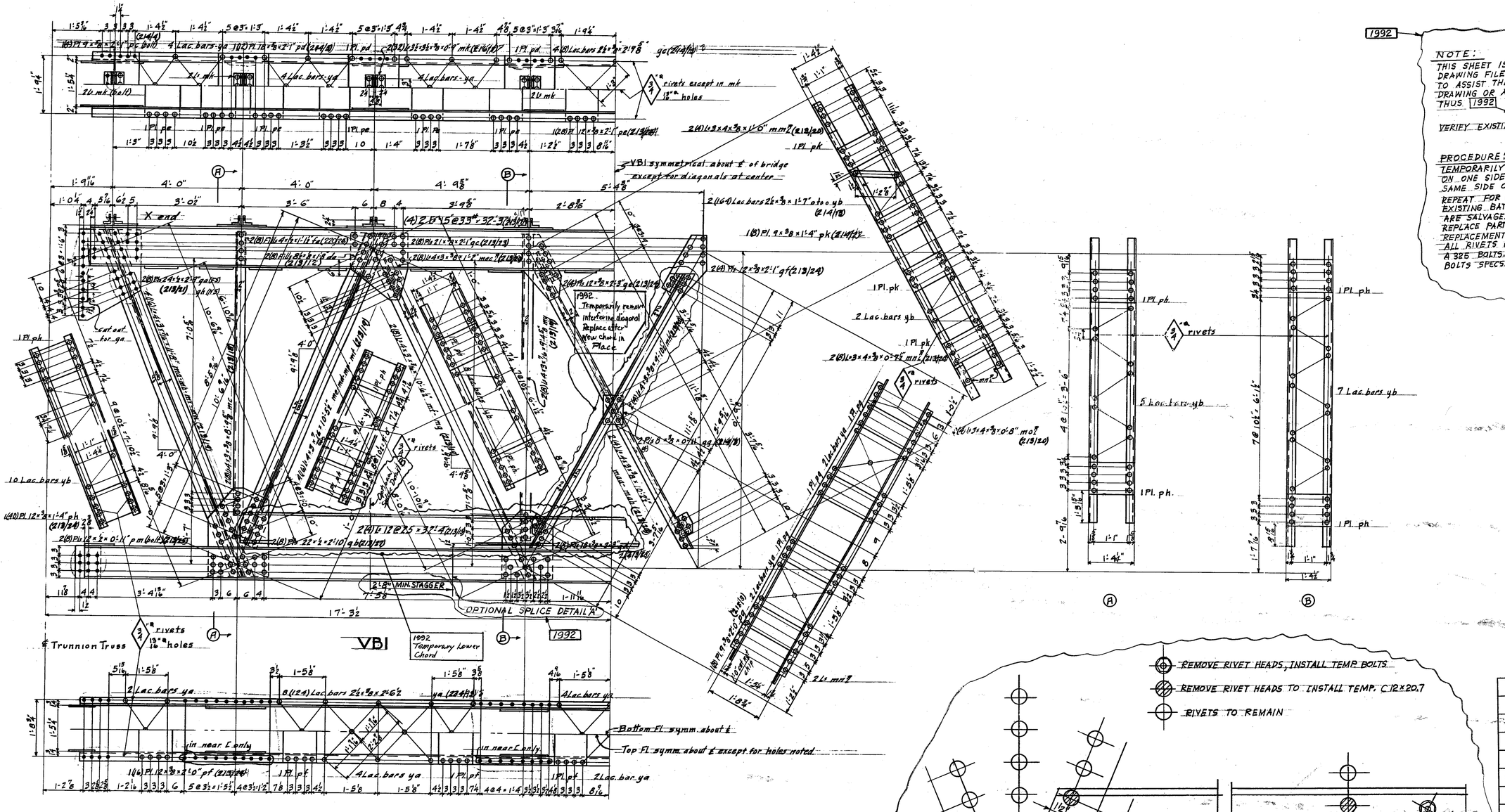
1660570261 DRWG. No. FILE No.

1992

NOTE:
THIS SHEET IS A COMPOSITE OF ORIGINAL SHOP DRAWING FILE NO. 11-6B-32 PLUS ADDED DETAILS TO ASSIST THE FABRICATOR CHANGES TO THE ORIGINAL DRAWING OR ANY ADDED DETAILS ARE MARKED THUS 1992

VERIFY EXISTING CONDITIONS PRIOR TO FABRICATION.

PROCEDURE:
TEMPORARILY ATTACH NEW C12×25 LOWER CHORD ON ONE SIDE ONLY. REMOVE AND REPLACE WITH NEW SAME SIDE OF LOWER CHORD OF VBI.
REPEAT FOR OPPOSITE SIDE OF CHORD, RECONNECT ALL EXISTING BATTEN PLATES AND LACING BARS IF THEY ARE SALVAGEABLE.
REPLACE PARTS IF THEY SHOW SIGNIFICANT DETERIORATION.
REPLACEMENT STEEL SHALL CONFORM TO ASTM A36.
ALL RIVETS REMOVED SHALL BE REPLACED WITH ASTM A 325 BOLTS. BOLTS SHALL BE TORQUED TO FRICTION BOLTS SPECS.



WILLIAM HALE THOMPSON
MAYOR

JOHN ERICSON
CITY ENGINEER

WM. R. MOORHOUSE
COMMISSIONER OF PUBLIC WORKS

THOS. G. PIHLFELDT
ENGINEER OF BRIDGES AND HARBOR

WM. BURKHARDT
DEPUTY COMMISSIONER OF PUBLIC WORKS

ALEX. von BABO
ENGINEER OF BRIDGE DESIGN

SUBSTRUCTURE BUILT BY
GREAT LAKES DREDGE AND DOCK CO.
CHICAGO, ILL.

SUPERSTRUCTURE BUILT BY
THE KETLER-ELLIOTT ERECTION CO.
CHICAGO, ILL.

ELECTRICAL EQUIPMENT INSTALLED BY
C. H. NORWOOD
CHICAGO, ILL.

1916

Polished Surface

Sand blast Finish

Height of Letters. Top surface polished

Edge of Concrete

Edge of Concrete

SECTION "A"-"A"
FULL SIZE.

Rosette

Rib

Rib

¾" dia soft steel bolt

Washer.

NOTES:

Material:
The metal to be used for these plates shall be strongite (alloy of nickel) or a metal equally as good.

Workmanship:
The straight surfaces of the frame or border shall be polished unless otherwise noted.
The letters shall be raised one-eighth (⅛) of an inch and their upper surface shall be polished.
The surfaces of the visible parts of the name plate shall be neatly treated.
The thickness of the metal shall not in any case be less than three-sixteenths (3/16) of an inch thick

2 NAME PLATES REQUIRED

void superseded by Drawing No. 1796

Correct Alexander von Babo
Engineer of Bridge Design.

Approved Thos. G. Pihlfeldt
Engineer of Bridges and Harbor

Approved John Ericson
City Engineer.

Approved
Commissioner of Public Works.

CITY OF CHICAGO
DEPARTMENT OF PUBLIC WORKS
BUREAU OF ENGINEERING
DIVISION OF BRIDGES AND HARBOR

WEBSTER AVE. BRIDGE.
NAME PLATE
Scale: Full Size. Oct. 19. 1915

Drawn By T.F.M.
Traced By.
Checked By. J.A.

Drawing No. 1785
FILE No. 35-6A-55

9960570058