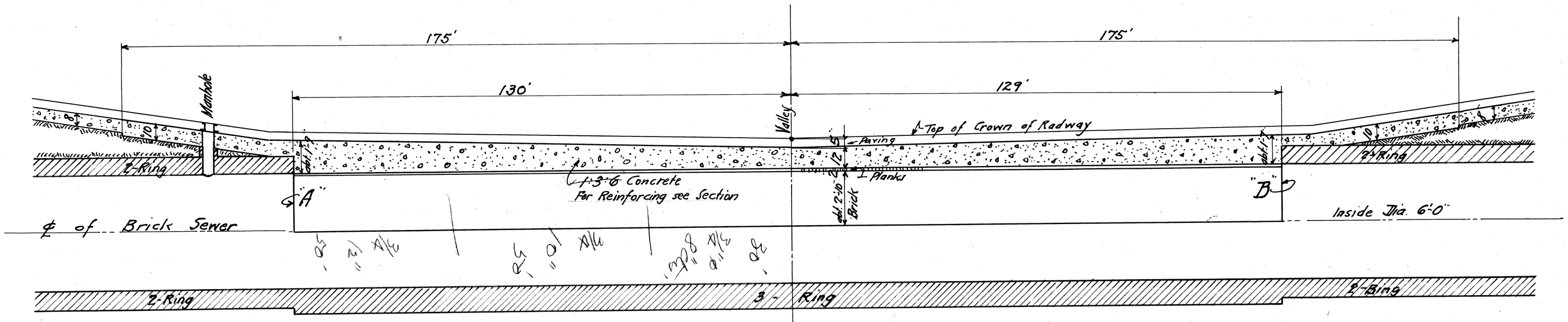
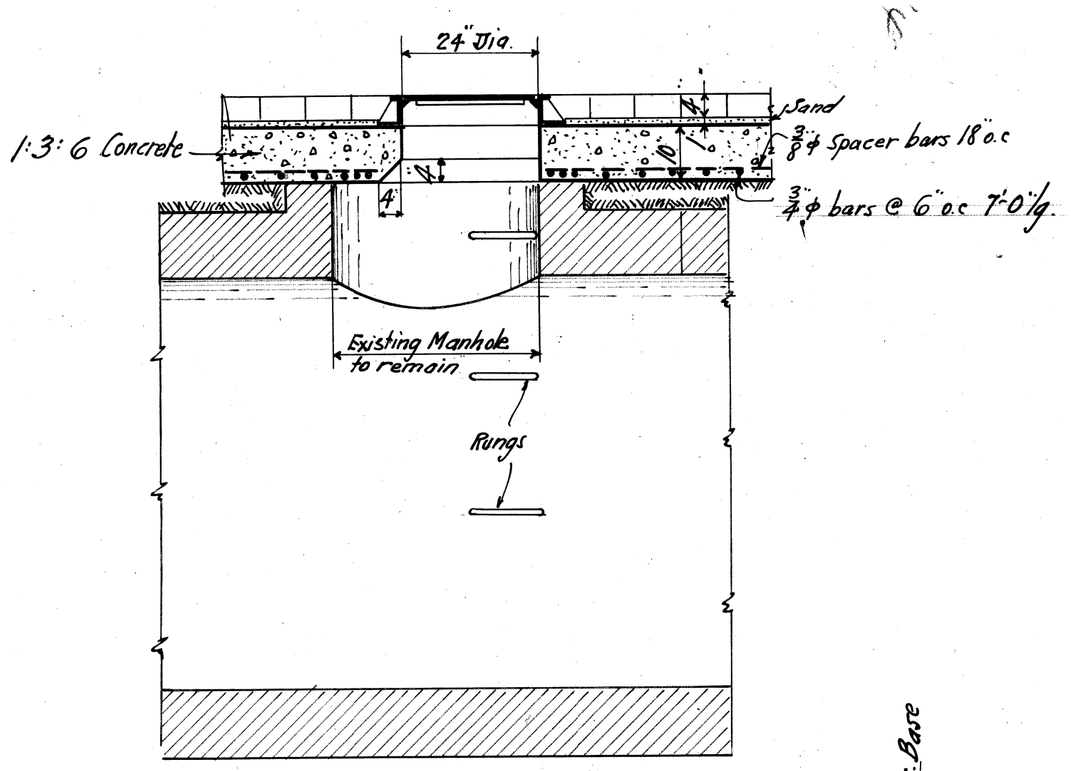
CITY OF DETROIT
DEPARTMENT OF PUBLIC WORKS
OFFICE OF CITY ENGINEER DIVISION OF GRADE SEPARATION
WATERMAN AVE.
SCALES
HOR. 1"=40', VERT. 1"=4'
OCT. 25, 1920 L.R.H.
APPROVED Oct. 30th 1924.
George Jerome
CITY ENGINEER.
CHIEF ENGINEER - M.C.R.R.
PROFILE OF WATERMAN AVE.
350' to have 10" paving base with 3/4" transverse and 3/4" longitudinal reinforcing.
6 FT. CYLINDER GRADE 0.05 per 100'
Under side of R.R. Bridge
Proposed Curb
Curb
Meet Old Curb Here.
South line of Desmond Ave.
PAVING AND SIDEWALK SECTION
SCALE 1/4" = 1'0"
Abutment Wall
Sidewalk Beam
4" Concrete
1" Sand
4" Brick
10" Concrete
3 Ring Public Sewer 6 Ft. Cylinder.
PROFILE OF DESMOND AVENUE
East Curb Line of Waterman
South Walk
South Curb
North Curb
SECTIONAL ELEVATION OF SUBWAY.
SCALE 1/8" = 1'-0"
13' Clear
PLAN OF CURB.
WATERMAN
DESMOND
I = 7°38' R = 113.0
D = 52°31'26"
T = 7.55' E = 0.25
Foot of 3% Slope Sta. 0+82.83
WATERMAN AVENUE
WABASH R.R.
NEW YORK CENTRAL R.R.
MICHIGAN CENTRAL R.R.
To M.C.R.R. Car Shop and Stock Yards
N.Y.C.R.R. Switching Track
N.Y.C.R.R. Freight Main
South Bound Joint Main N.Y.C.R.R. and M.C.R.R.
North Bound Joint Main N.Y.C.R.R. and M.C.R.R.
M.C.R.R. Switching Track
Reverse curve same as plan.
GENERAL BUILDERS SUPPLY CO.
DESMOND AVENUE
GOLDSMITH AVENUE
SINCLAIR OIL CO.
Engine Room
SINCLAIR OIL CO. 2 Story Brick
1 Story Fr. Dwelling #709
Shed
283
282
281
280
279
278
277
276
275
274
273
272
271
270
269
268
267
266
265
264

File XU 34-1

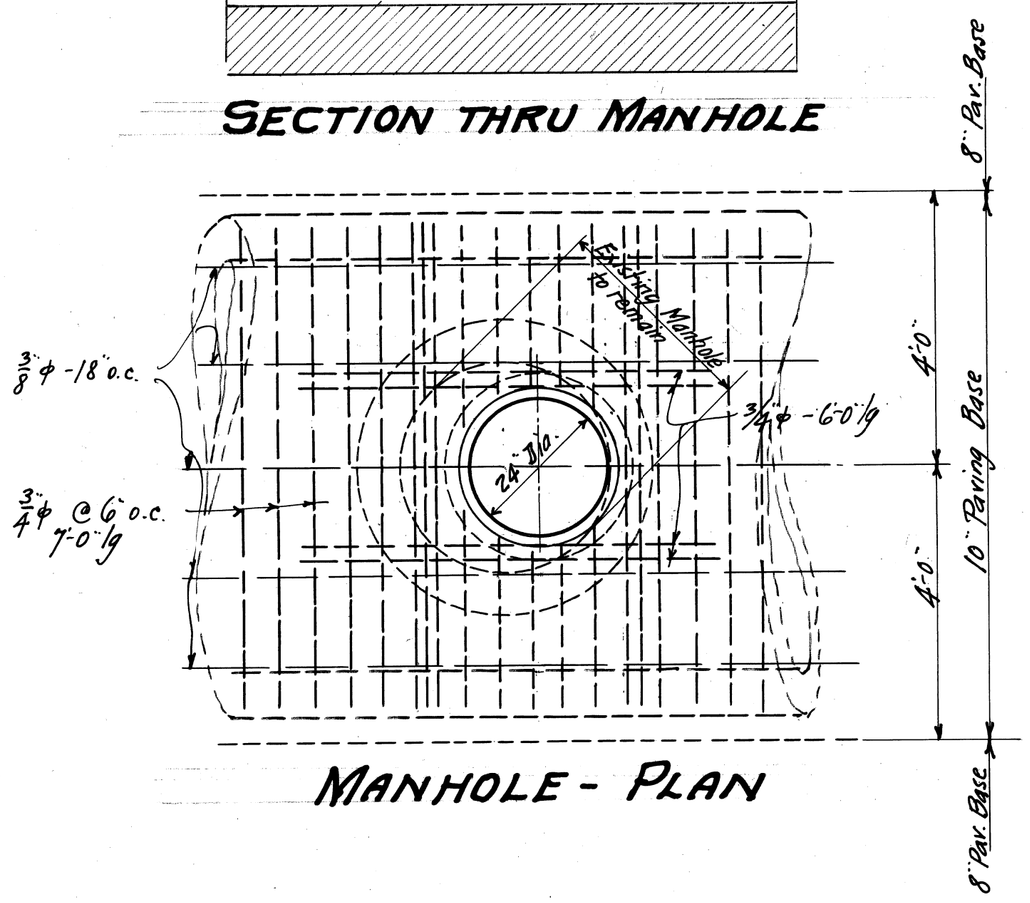


LONGITUDINAL SECTION

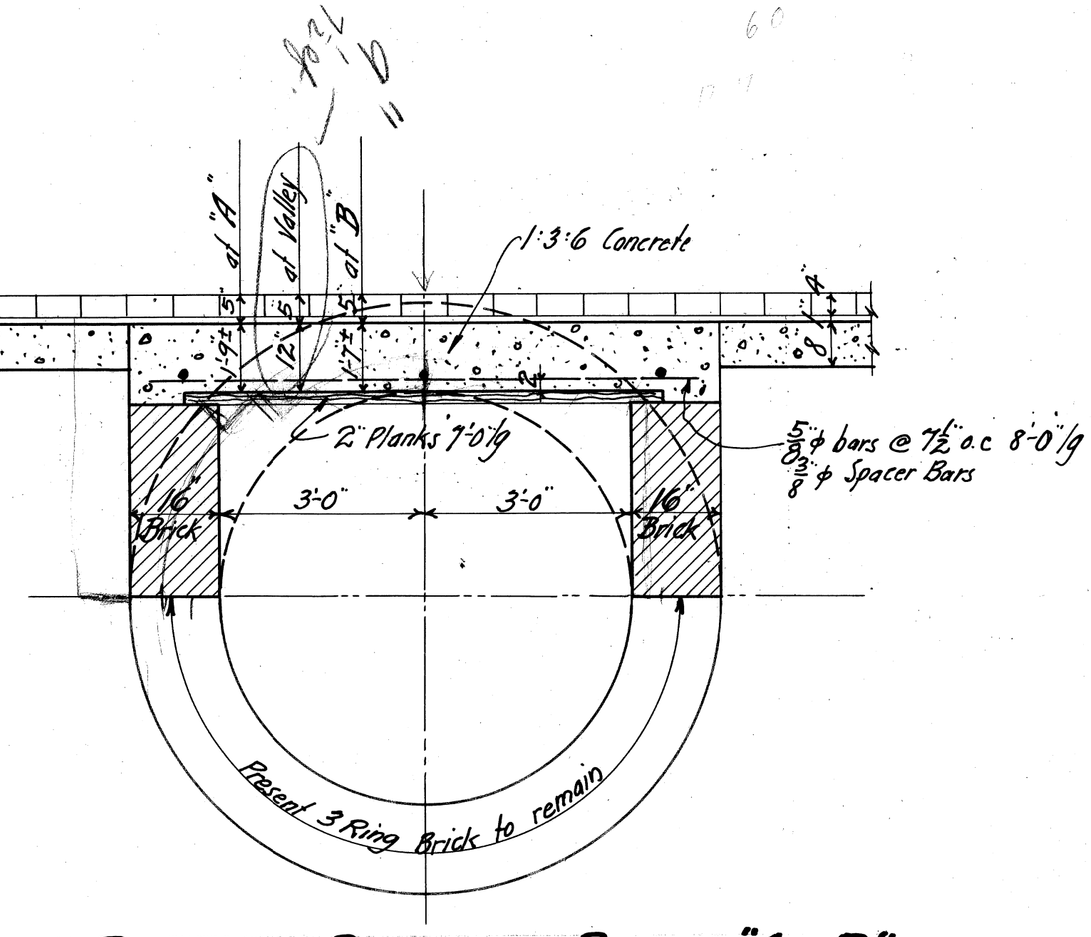
Scale: Horizontal 1"=20'
Vertical 1"=4'



SECTION THRU MANHOLE



MANHOLE - PLAN



SECTION BETWEEN POINTS "A & B"

NOTE:
This sheet shows changes to "Waterman Ave" Drawing dated Oct. 25th 1920. — Information given hereon supercedes that part of Waterman Ave. drawing in conflict therewith. —

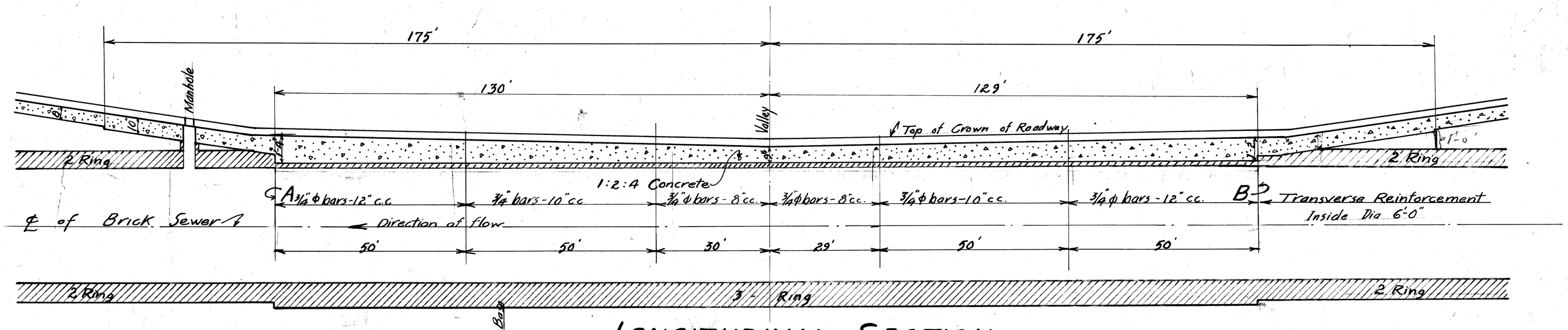
CITY OF DETROIT
DEPARTMENT OF PUBLIC WORKS
OFFICE OF CITY ENGINEER DIVISION OF GRADE SEPARATION

CHANGES TO ORIGINAL PLAN OF
WATERMAN AVE. SUBWAY

SCALES
½" = 1'
AND AS NOTED

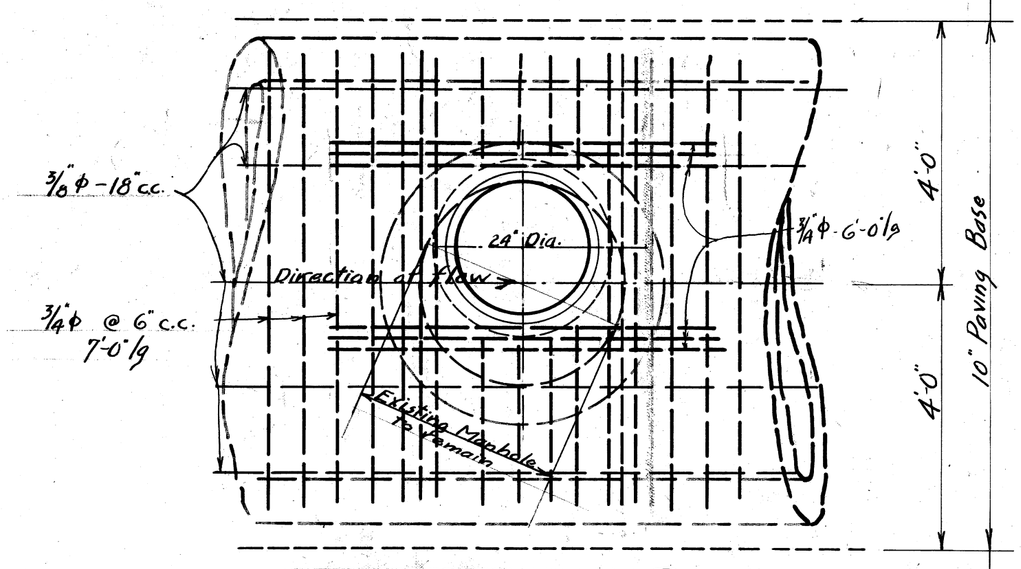
June 15th 1921.
Made by: R. S.

File XU 34-2

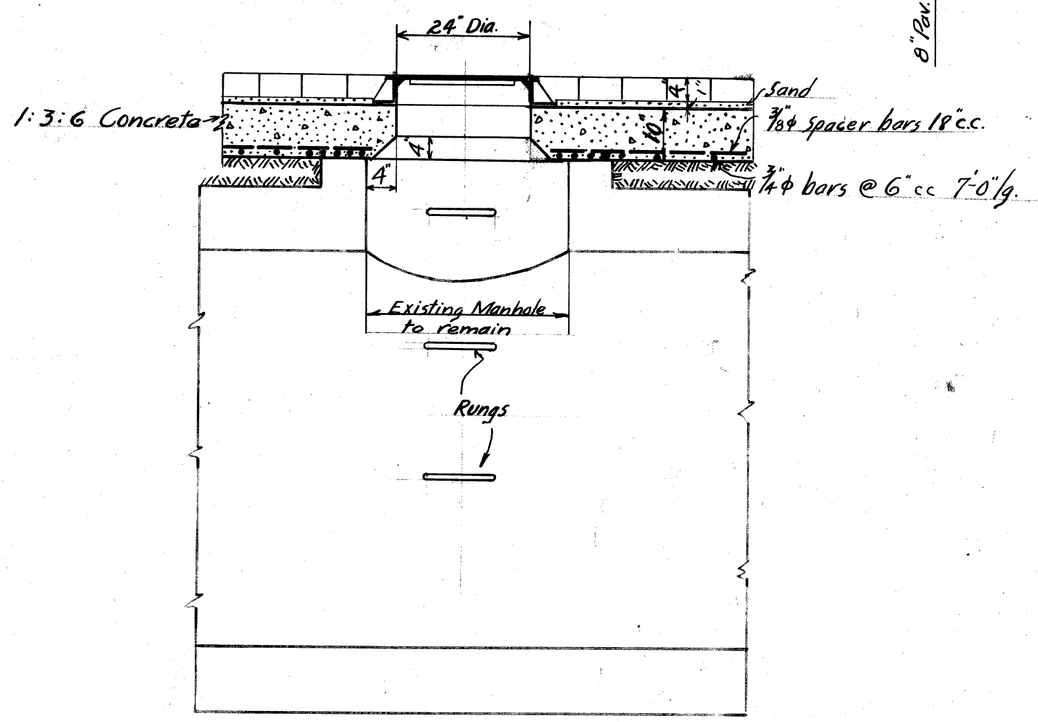


LONGITUDINAL SECTION

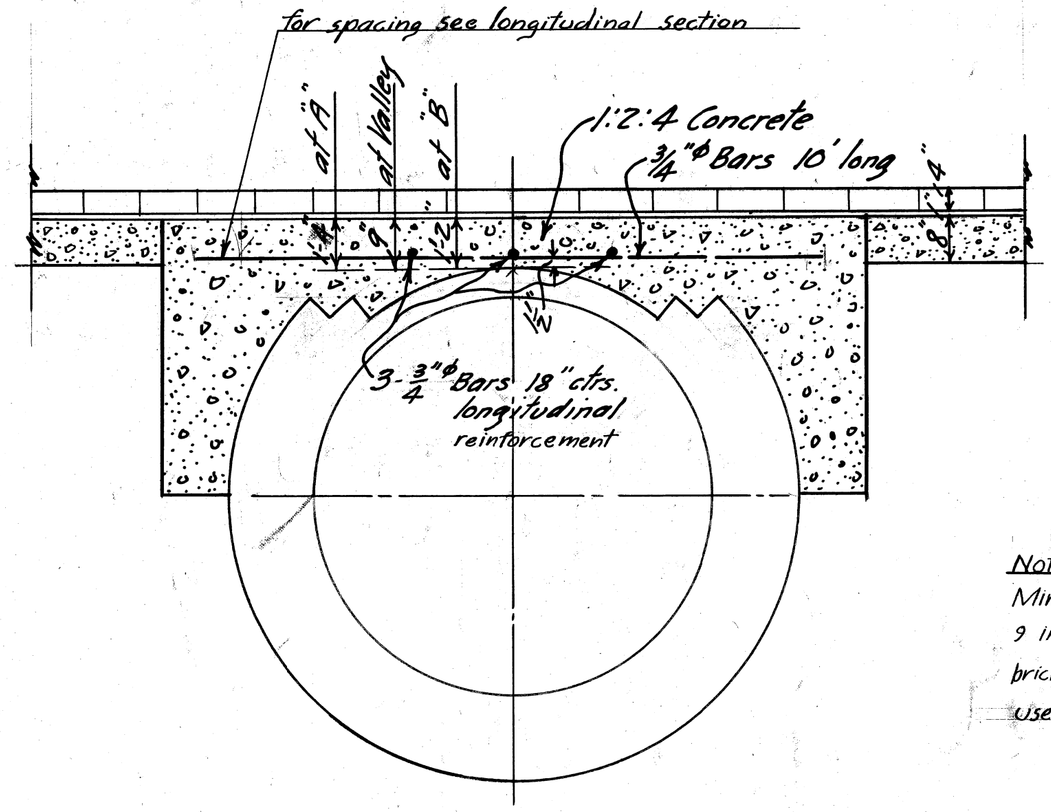
Scale: Horizontal 1" = 20'
Vertical 1" = 4'



MANHOLE - PLAN



SECTION THRU MANHOLE



SECTION BETWEEN POINTS "A & B"

Note:
This sheet shows changes to Waterman Ave drawing dated Oct. 25th 1920. Information given hereon supersedes that part of Waterman Ave. drawing in conflict therewith. —

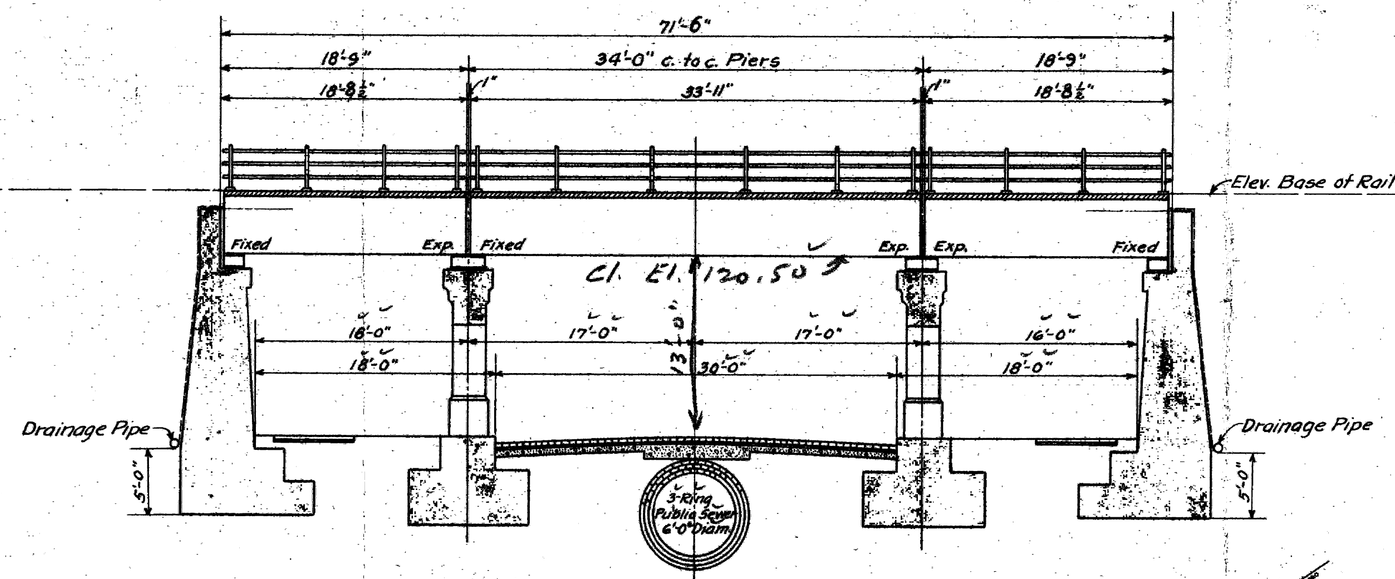
Note
Minimum permissable thickness of reinforced concrete shall be 9 inches. To accomplish this, elevation of exposed inner ring of brick must not be more than 105.70. If slab is less than 9 inches use old 80# rails.

CITY OF DETROIT
DEPARTMENT OF PUBLIC WORKS
OFFICE OF CITY ENGINEER DIVISION OF GRADE SEPARATION

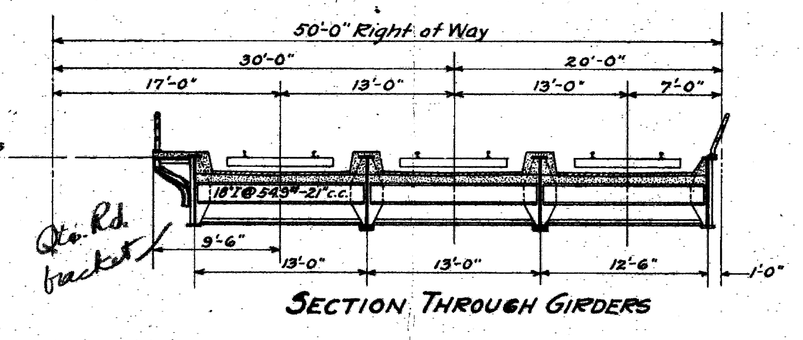
CHANGES TO ORIGINAL PLAN OF
WATERMAN AVE. SUBWAY

SCALES
1/8" = 1"
AND AS NOTED
JUNE 1921.
R.S.

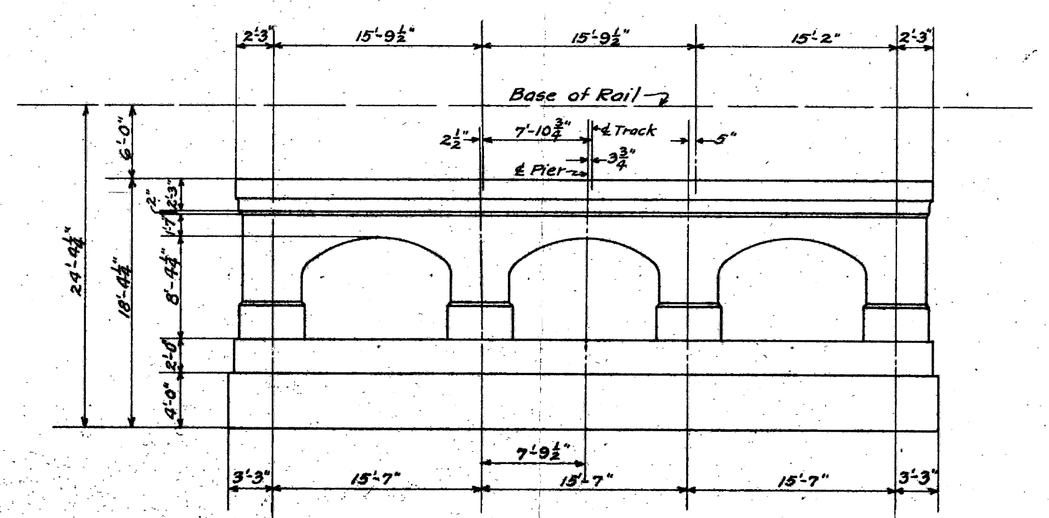
File XU34-3



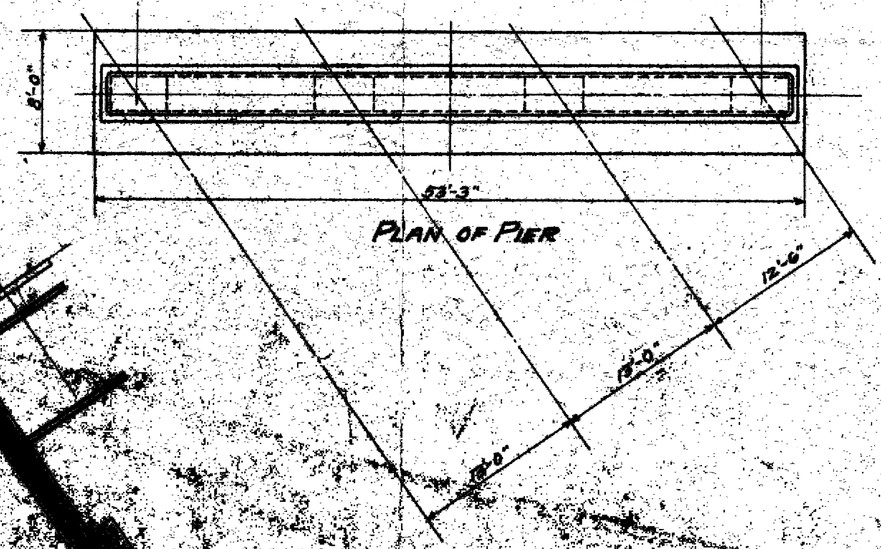
SECTION



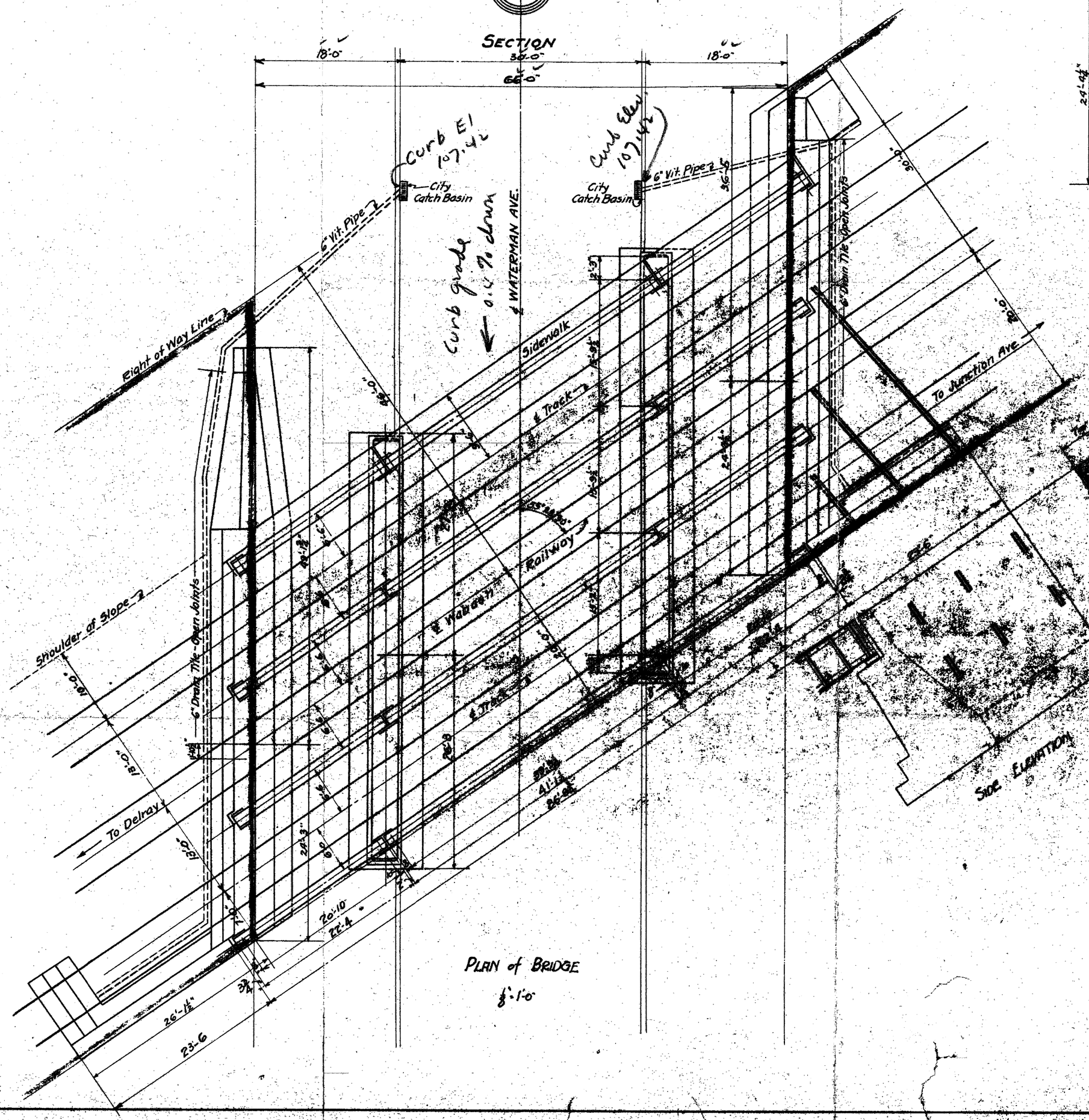
SECTION THROUGH GIRDERS



ELEVATION OF PIER



PLAN OF PIER



PLAN of BRIDGE

LIST of DRAWINGS

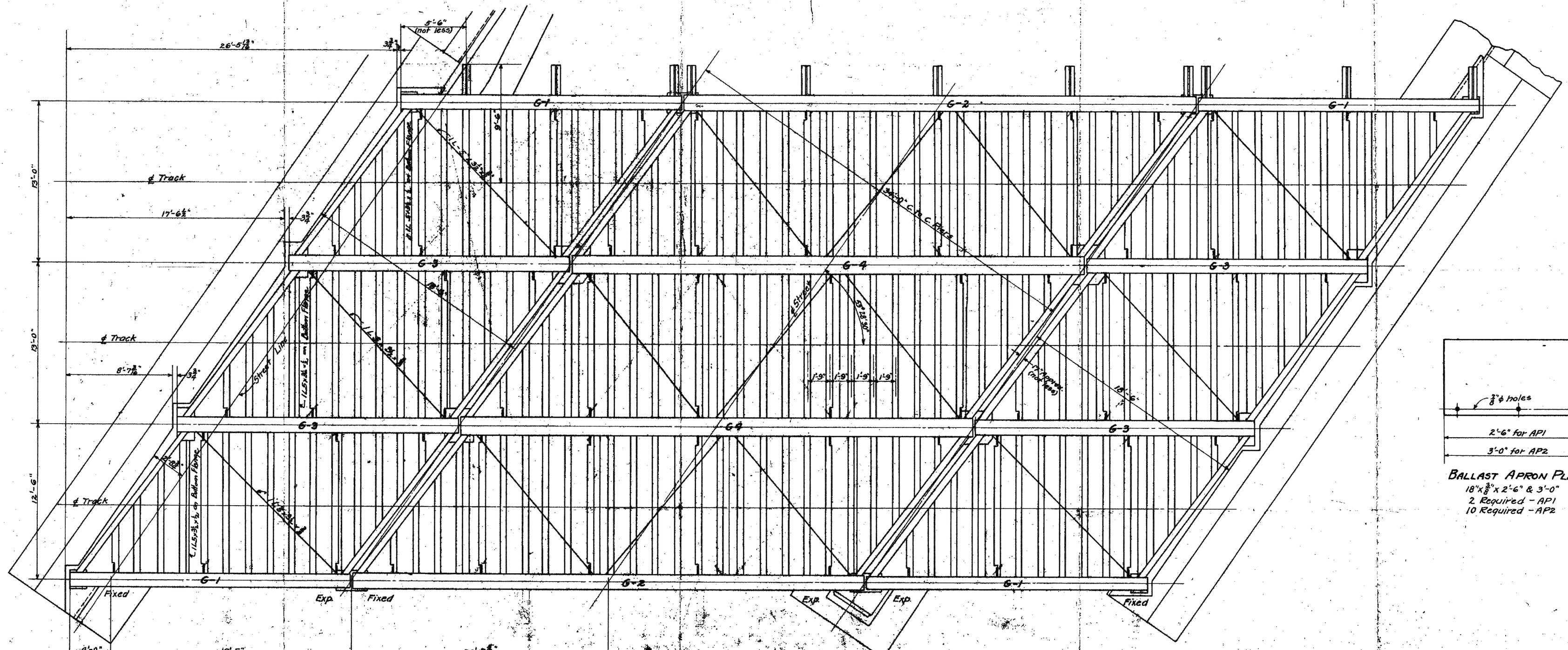
General Plan	Sheet #1.
Steel Design	" #2.
Pier Details	" #3.
North Abutment	" #4.
South Abutment	" #5.
Concrete Deck Details	" #6.

WABASH RAILWAY
DETROIT TERMINAL DIVISION
DETROIT, MICH.
GENERAL PLAN
WATERMAN AVE.
OFFICE OF THE CHIEF ENGINEER
SCALE:- 1/8" = 1'-0" FEB. 11, 1926
SHEET (1) OF (6)

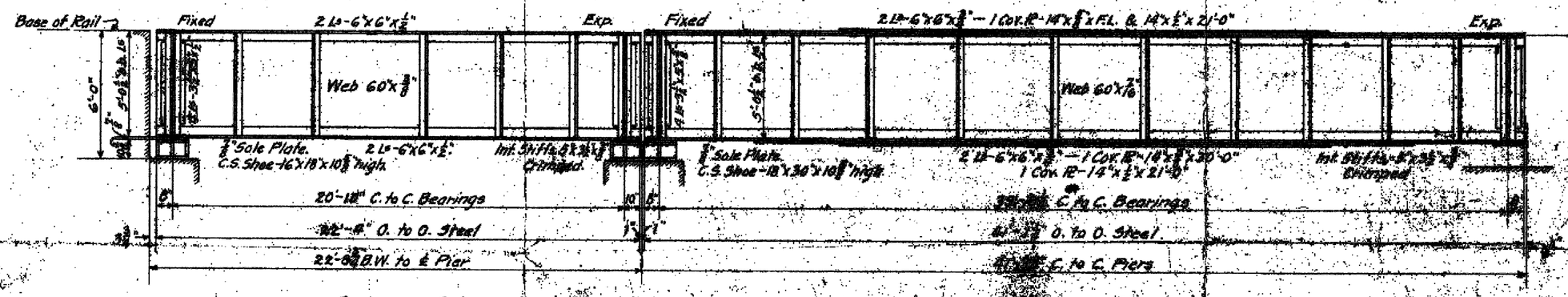
DRAWN BY	TRACED BY	CHECKED BY
S.M.S.	E.W.M.	2-23-26

File XU34-4

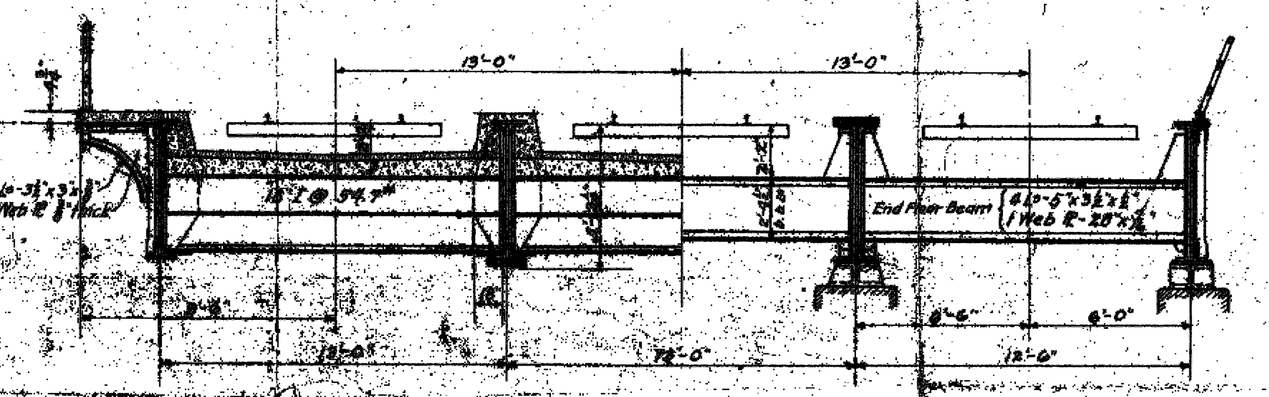
PLAN No.
CASE No.



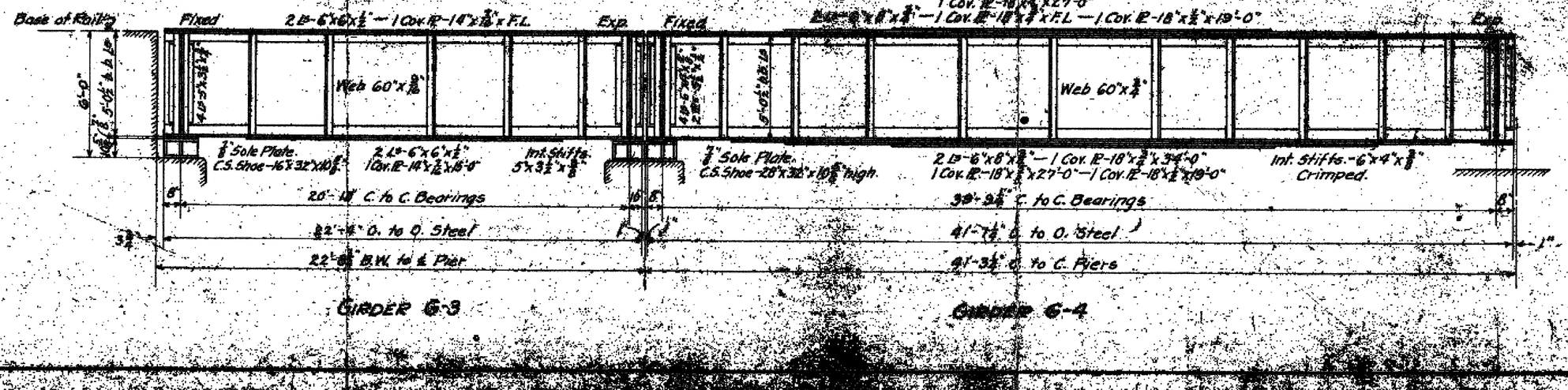
BALLAST APRON PLATES
18"x 3/8" x 2'-6" & 3'-0"
2 Required – AP1
10 Required – AP2



GIRDER G-1 GIRDER G-2



HALF MID-SECTION – CENTER SPAN HALF END VIEW (Solid Floor Not Shown)

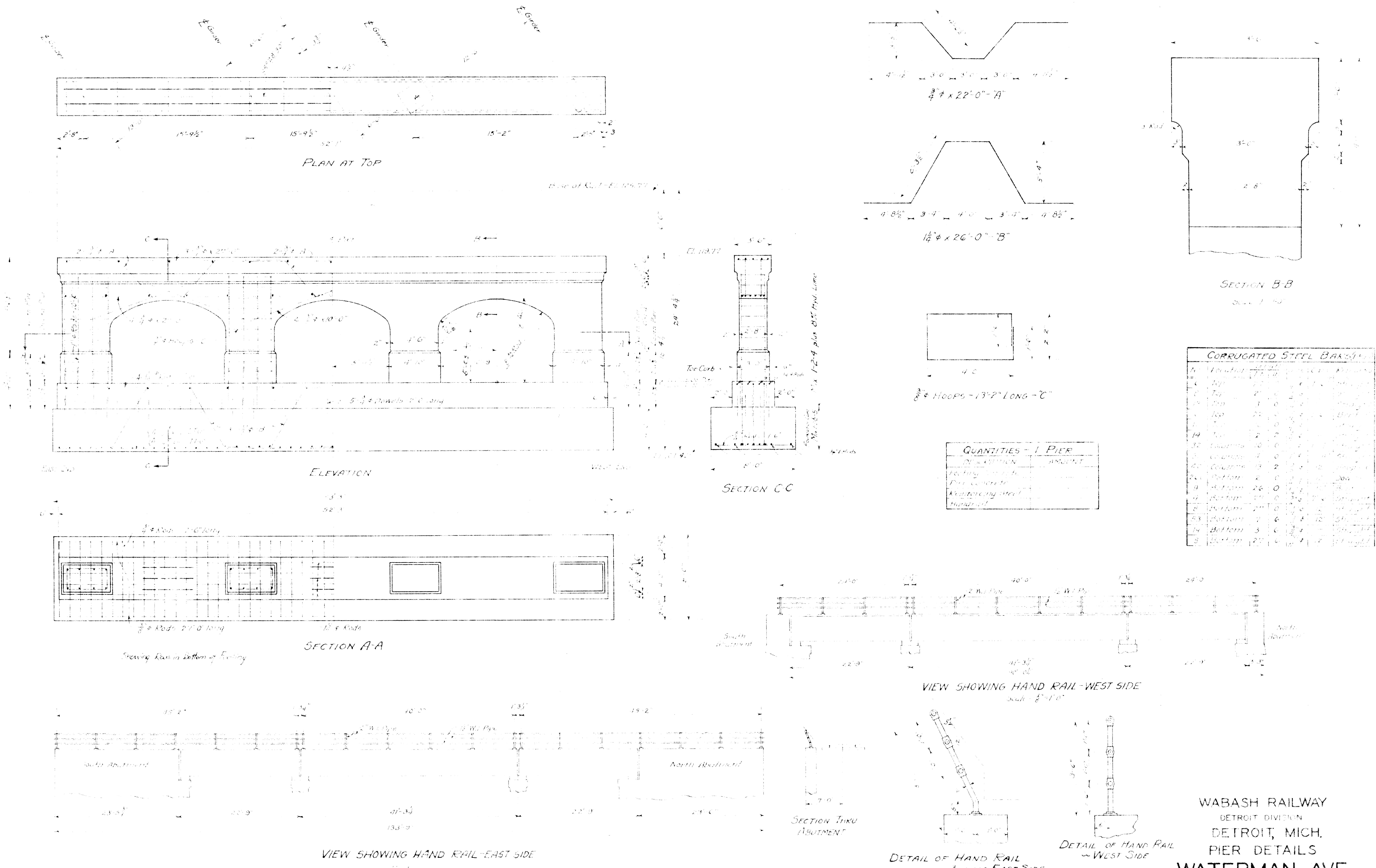


GIRDER G-3 GIRDER G-4

WABASH RAILWAY
DETROIT DIVISION
DETROIT, MICH.
STEEL DETAILS
WATERMAN AVE.
OFFICE OF THE CHIEF ENGINEER
SCALE-1/4"-1'-0" JAN. 28, 1926.
SHEET (2) OF (6)

DRAWN BY S.M.S. TRACED BY E.W.M. CHECKED BY

PLAN No.



WABASH RAILWAY

DETROIT DIVISION

DETROIT, MICH.

PIER DETAILS

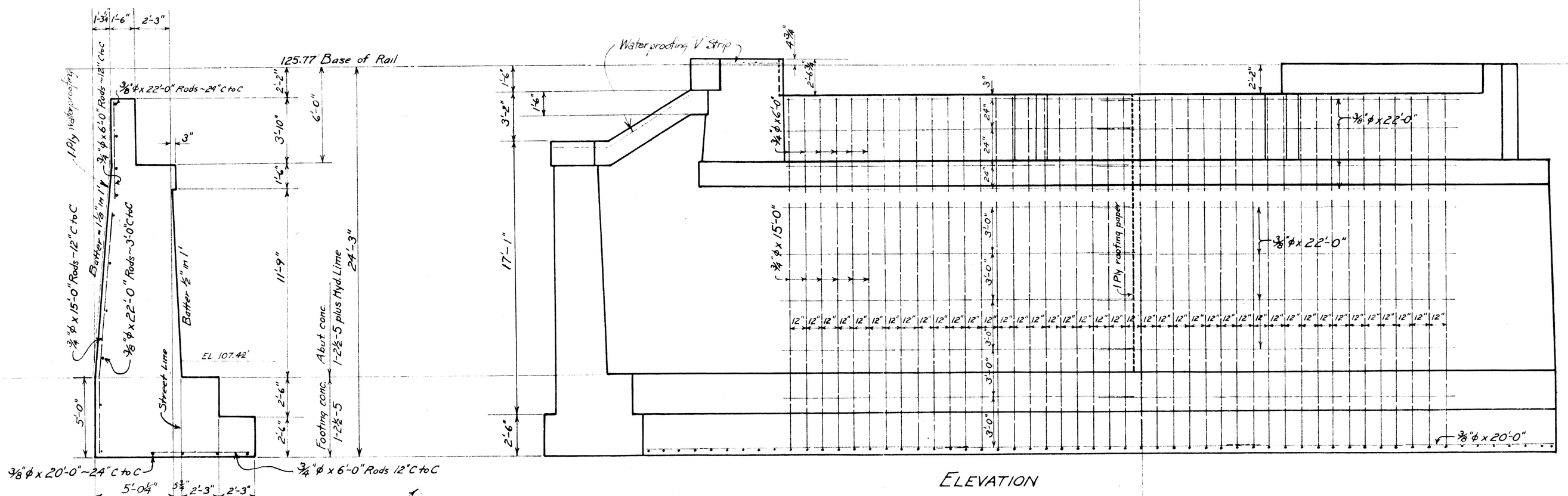
WATERMAN AVE.

OFFICE OF THE CHIEF ENGINEER

SCALE:- 1/4" = 1'-0" JAN. 29, 1926.

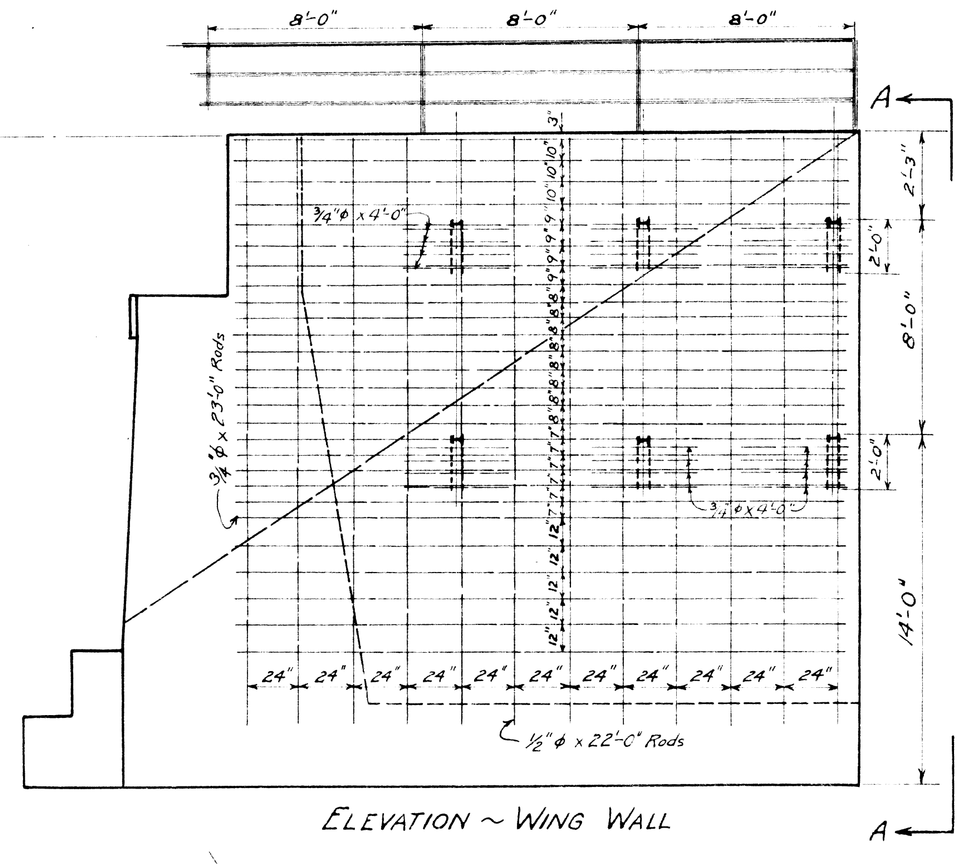
SHEET 3 OF 6

File XU34-6

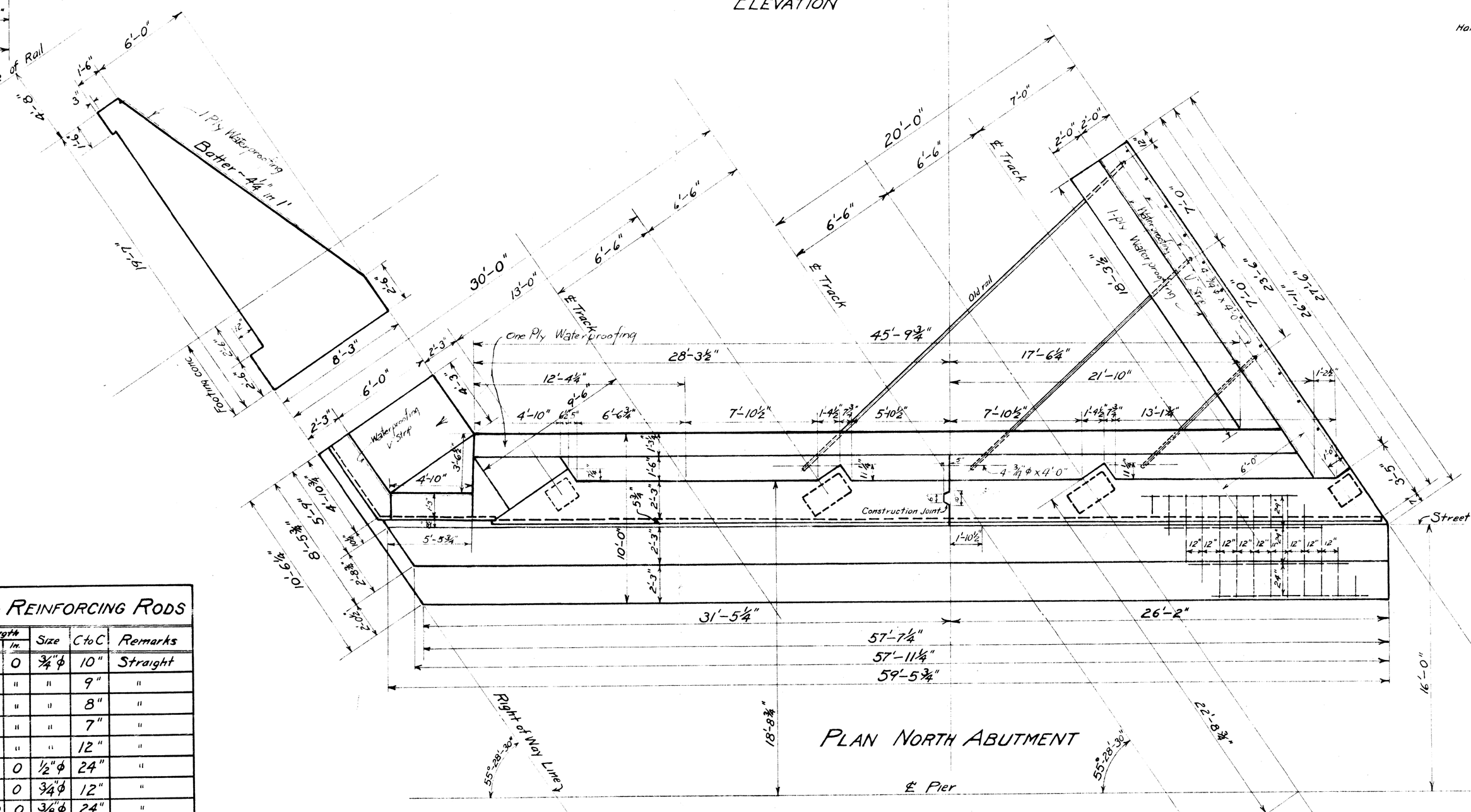


SECTION

ELEVATION



ELEVATION ~ WING WALL



PLAN NORTH ABUTMENT

CORRUGATED REINFORCING RODS							
No	Location	Length Ft	Length In	Size	C to C	Remarks
4	Wing	23	0	3/4"ϕ	10"	Straight
4	"	"	"	"	9"	"
8	"	"	"	"	8"	"
6	"	"	"	"	7"	"
5	"	"	"	"	12"	"
12	"	22	0	1/2"ϕ	24"	"
58	Footing	6	0	3/4"ϕ	12"	"
12	"	20	0	3/8"ϕ	24"	"
42	Backwall	15	0	3/4"ϕ	12"	"
42	"	6	0	3/4"ϕ	12"	"
8	"	22	0	3/8"ϕ	24"	"
12	"	22	0	3/8"ϕ	36"	"
48		4	0	3/4"ϕ	5"	"

QUANITIES	
Description	Amount
Reinforcing Steel	
Footing Concrete	
Abutment Concrete	

VIEW AA

DETAIL OF OLD RAILS

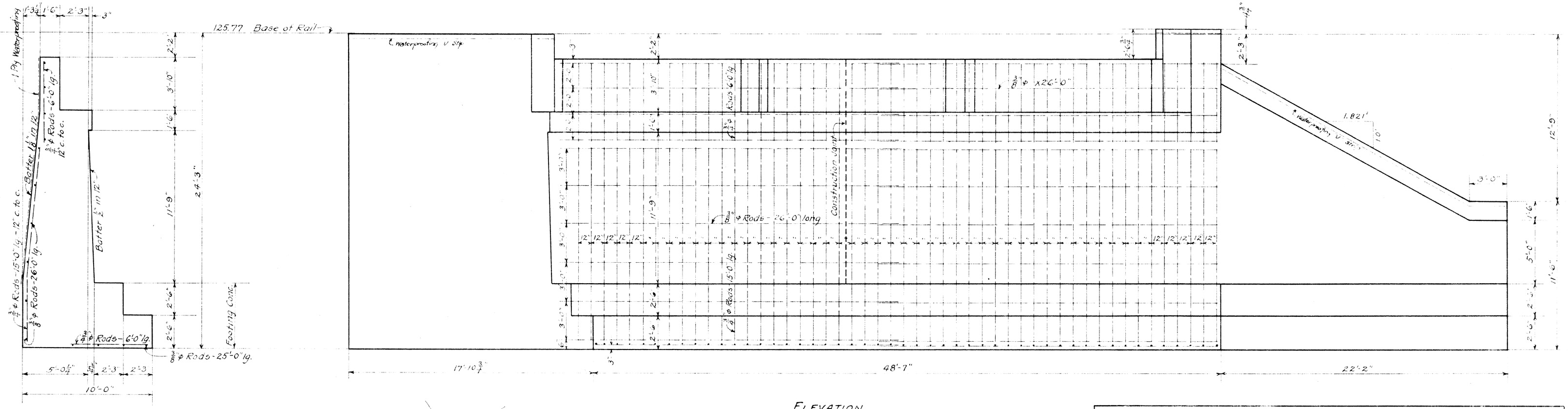
DETAIL of V STRIP for Holding Water-proofing fabric.

WABASH RAILWAY
DETROIT TERMINAL DIVISION
DETROIT, MICH.
NORTH ABUTMENT
WATERMAN AVE.
OFFICE OF THE CHIEF ENGINEER
SCALE:-1/4"=1'-0" FEB. 11, 1926.
SHEET (4) OF (6)

DRAWN BY	TRACED BY	CHECKED BY
S.M.S.	H.S.Q.	Z 2-3-26

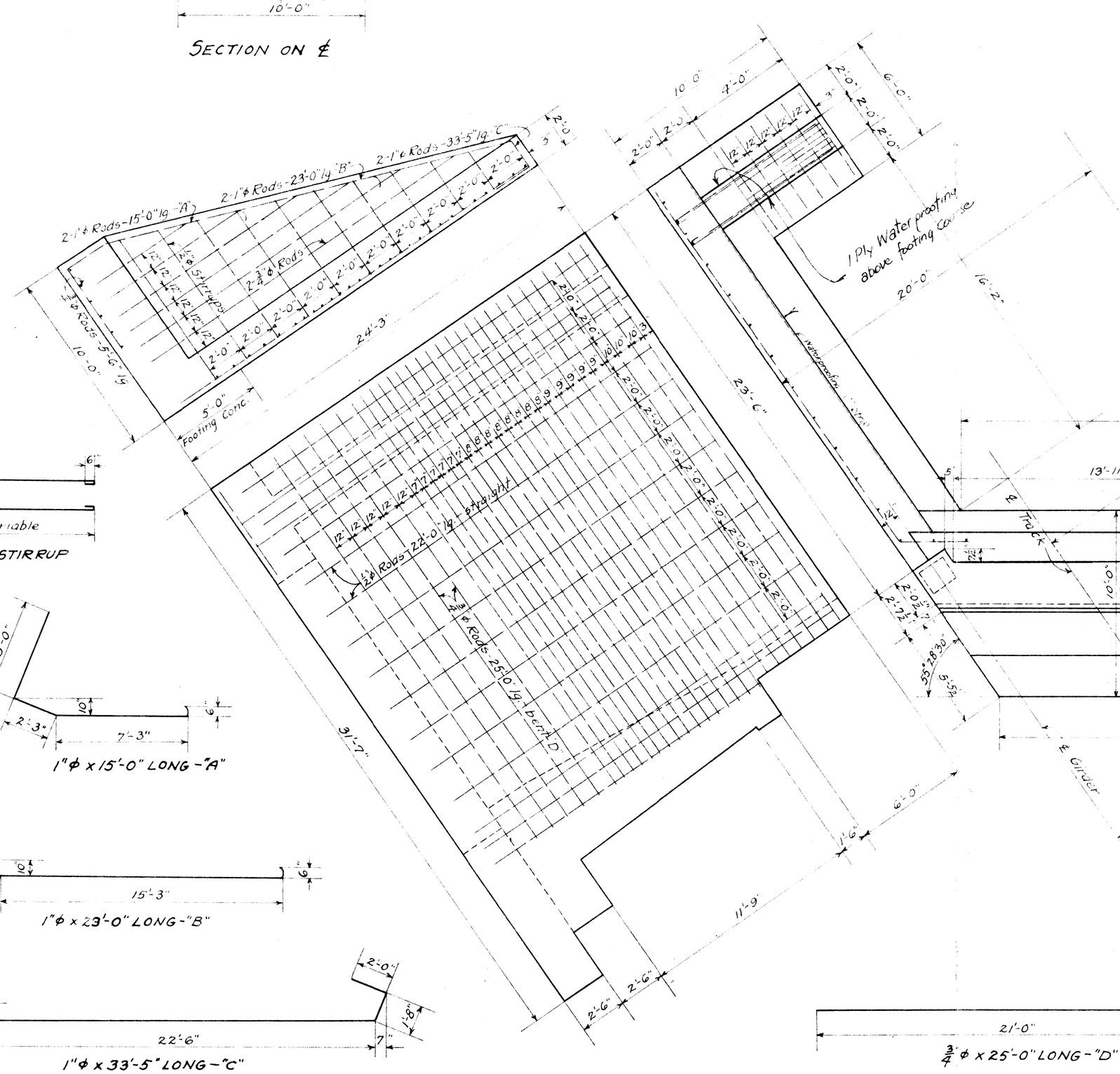
PLAN No.
CASE No.

File XU34-7



SECTION ON ℄

ELEVATION



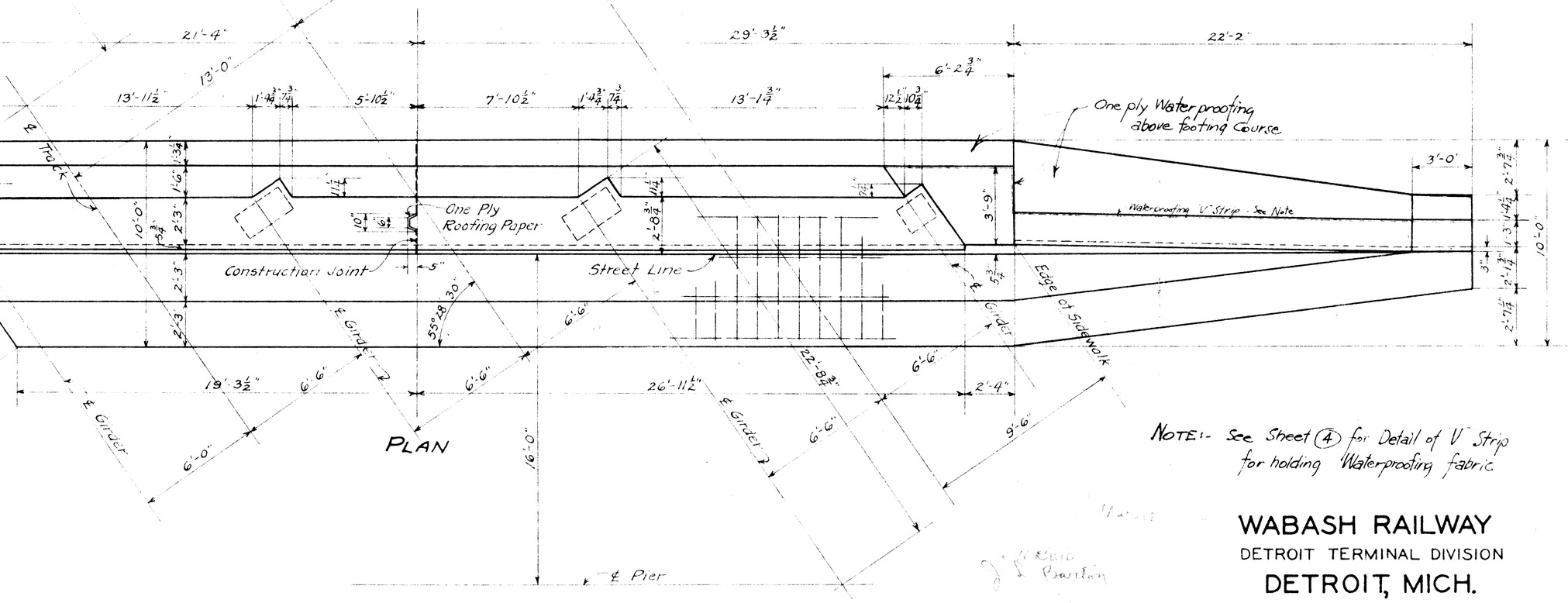
1/2" ϕ STIRRUP

1" ϕ x 15'-0" LONG - "A"

1" ϕ x 23'-0" LONG - "B"

1" ϕ x 33'-5" LONG - "C"

3/4" ϕ x 25'-0" LONG - "D"



PLAN

NOTE:- See Sheet (4) for Detail of V Strip for holding Waterproofing fabric.

~CORRUGATED REINFORCING RODS~

No	Location	Length Ft	Length In	Size	C to C	Remarks	No.	Location	Length Ft	Length In	Size	C to C	Remarks
50	Backwall	6	0	3/4 ϕ	12"	Straight	1	Counterfort	14	6	1/2 ϕ		Stirrup
8	"	26	0	3/4 ϕ	2'-0"	"	1	"	16	0	1/2 ϕ		"
12	Abutment	26	0	1 ϕ	3'-0"	"	1	"	17	6	1/2 ϕ		"
50	"	15	0	3/4 ϕ	12"	Bent	1	"	19	0	1/2 ϕ		"
49	Abut Footing	6	0	3/4 ϕ	12"	Straight	1	"	20	6	1/2 ϕ		"
8	" "	25	0	3/4 ϕ	2'-0"	"	2	"	5	6	3/4 ϕ	1'-5"	Straight
2	Counterfort	15	0	1" ϕ	3 1/2"	Bent "A"	2	"	8	6	3/4 ϕ	1'-5"	"
2	"	23	0	1" ϕ	10 1/2"	Bent "B"	2	"	11	6	3/4 ϕ	1'-5"	"
2	"	33	5	1" ϕ	1'-5"	Bent "C"	2	"	14	6	3/4 ϕ	1'-5"	"
1	"	7	0	1/2 ϕ		Stirrup	2	"	17	0	3/4 ϕ	1'-5"	"
1	"	8	6	1/2 ϕ		"	2	"	19	6	3/4 ϕ	1'-5"	"
1	"	10	0	1/2 ϕ		"	6	"	5	6	3/4 ϕ	12"	"
1	"	11	6	1/2 ϕ		"	28	Wing Wall	25	0	3/4 ϕ	Var.	Bent "D"
1	"	13	0	1/2 ϕ		"	14	" "	22	0	1/2 ϕ	2'-0"	Straight

QUANTITIES

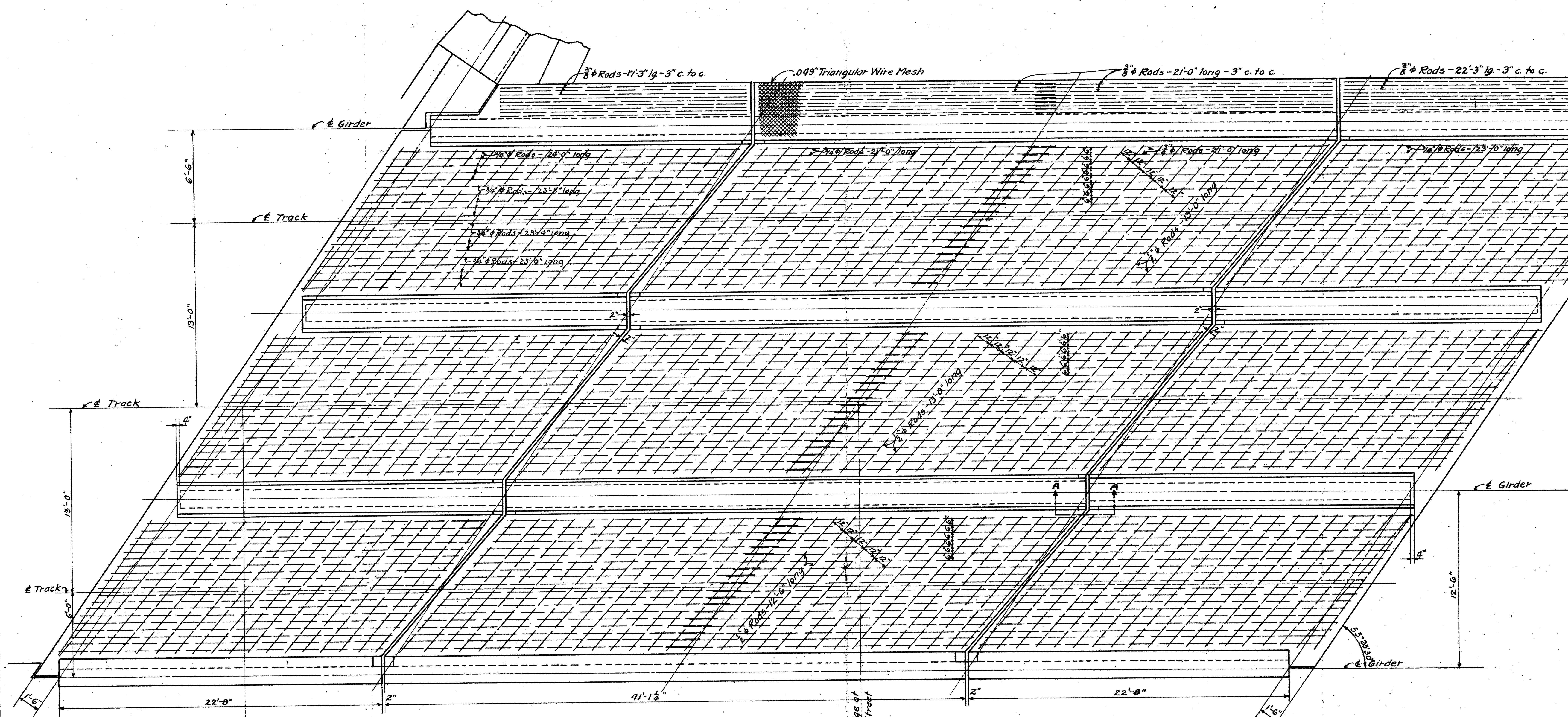
DESCRIPTION	AMOUNT
Reinforcing Rods	
Footing Concrete	
Abutment Concrete	

WABASH RAILWAY
DETROIT TERMINAL DIVISION
DETROIT, MICH.
SOUTH ABUTMENT
WATERMAN AVE.
OFFICE OF THE CHIEF ENGINEER
SCALE:- 1/4" = 1'-0" FEB. 9, 1926.
SHEET (5) OF (6)

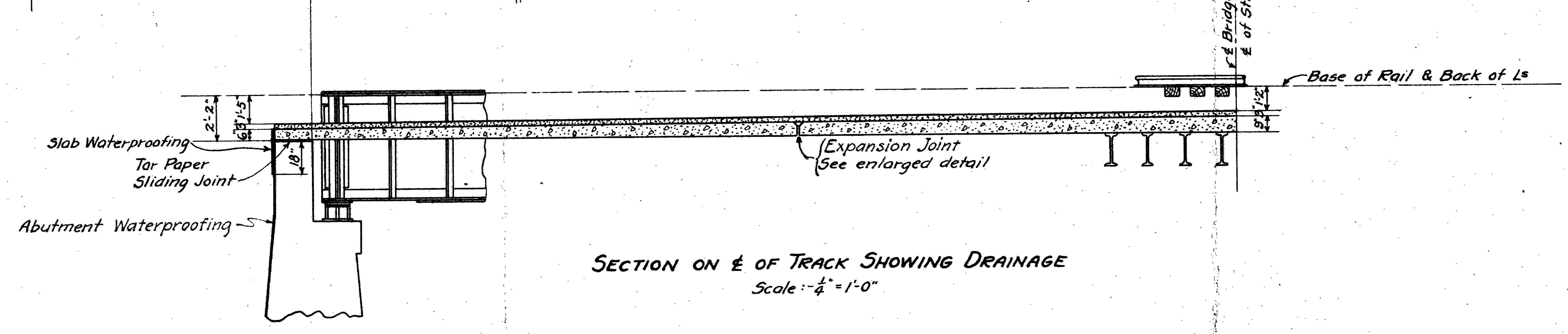
DRAWN BY S.M.S | TRACED BY E.W.M | CHECKED BY H/H

File XU 34-8

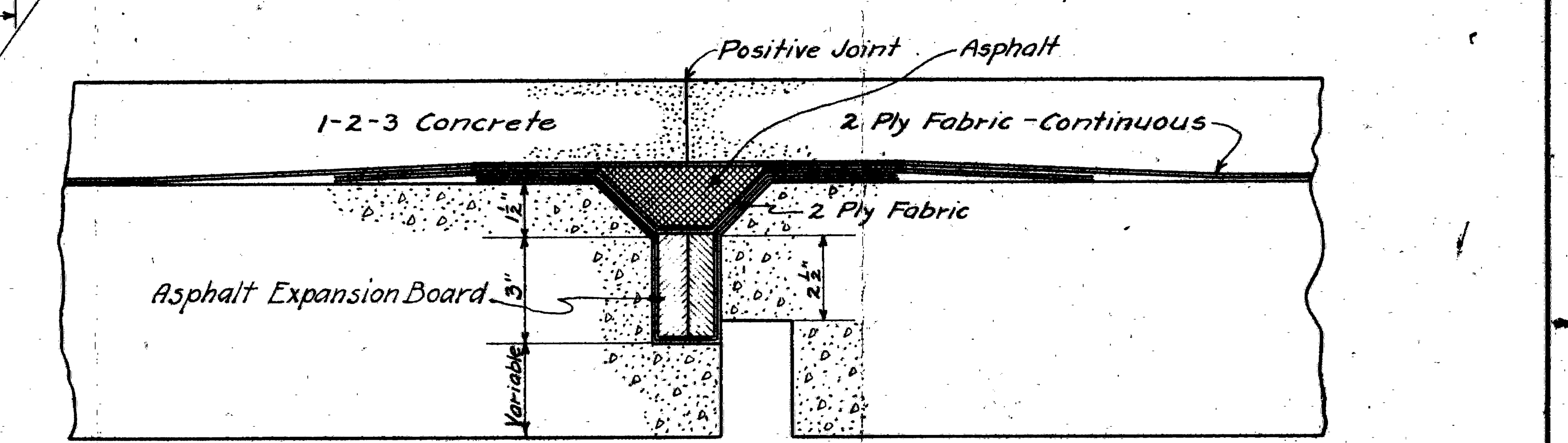
PLAN No.
CASE No.



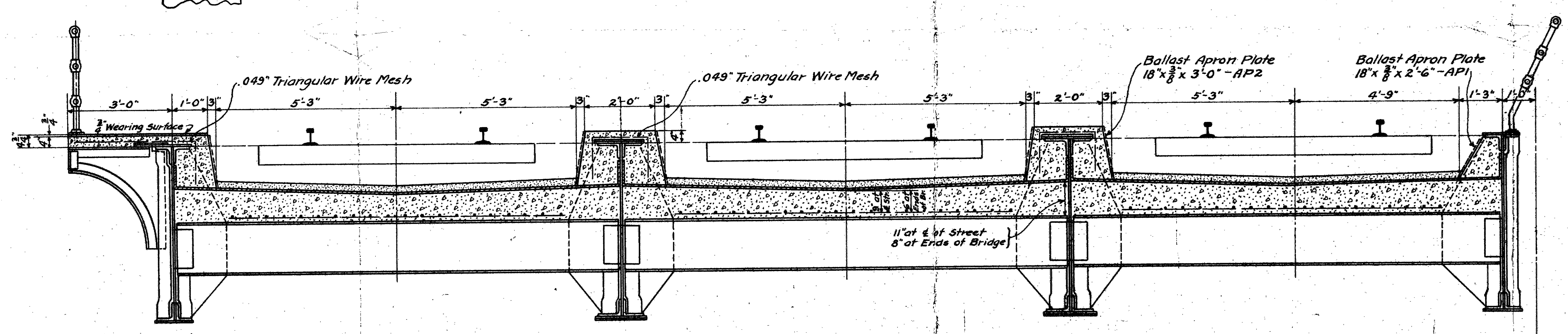
Corrugated Reinforcing Bars						
No.	Location	Length Ft.	Length In.	Size	C. to C.	Remarks
9	Sidewalk	17	3	3/8"φ	3"	
9	"	22	3	3/8"φ	3"	
18	"	21	0	3/8"φ	3"	
29	Bottom	23	0	3/4"φ	6"	Longitudinal
118	"	21	0	3/4"φ	6"	"
69	"	12	6	1/2"φ	12"	Transverse
138	"	13	0	1/2"φ	12"	"
30	"	23	4	3/4"φ	6"	Longitudinal
30	"	23	8	3/4"φ	6"	"
29	"	24	0	3/4"φ	6"	"



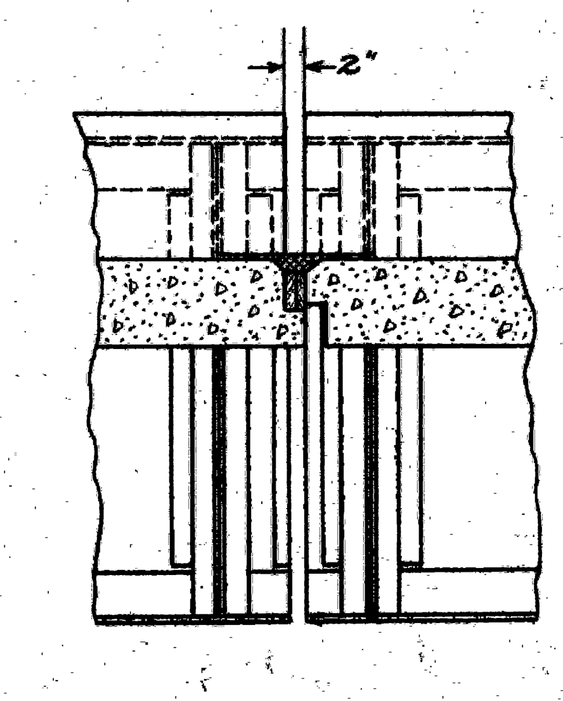
Section on ℄ of Track Showing Drainage
Scale:- 1/4" = 1'-0"



Section of Expansion Joint
Scale:- 3" = 1'-0"



Section at ℄ Street
Scale:- 1/2" = 1'-0"



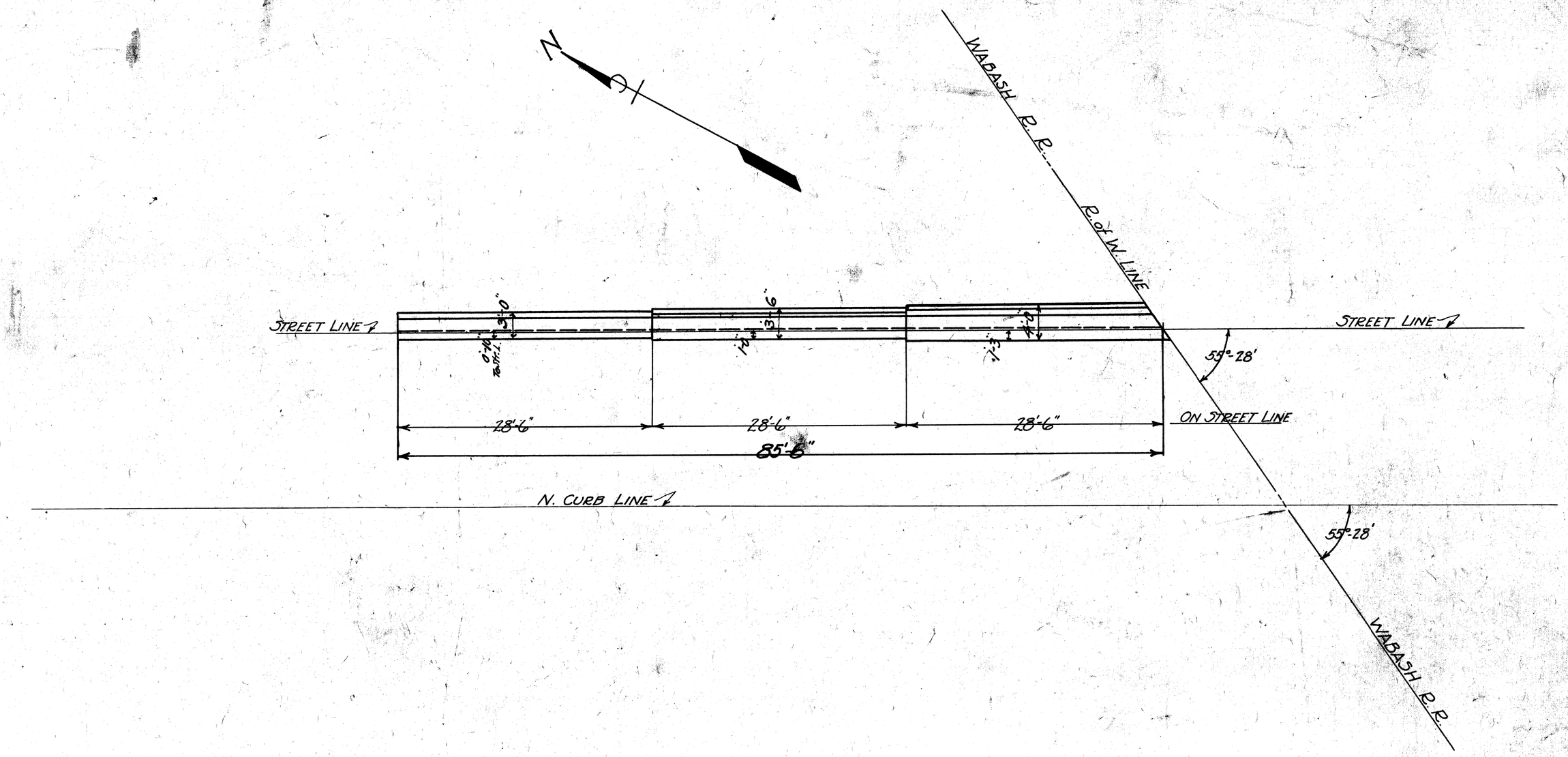
Section A-A
Ballast Plate Removed
Scale:- 1/2" = 1'-0"

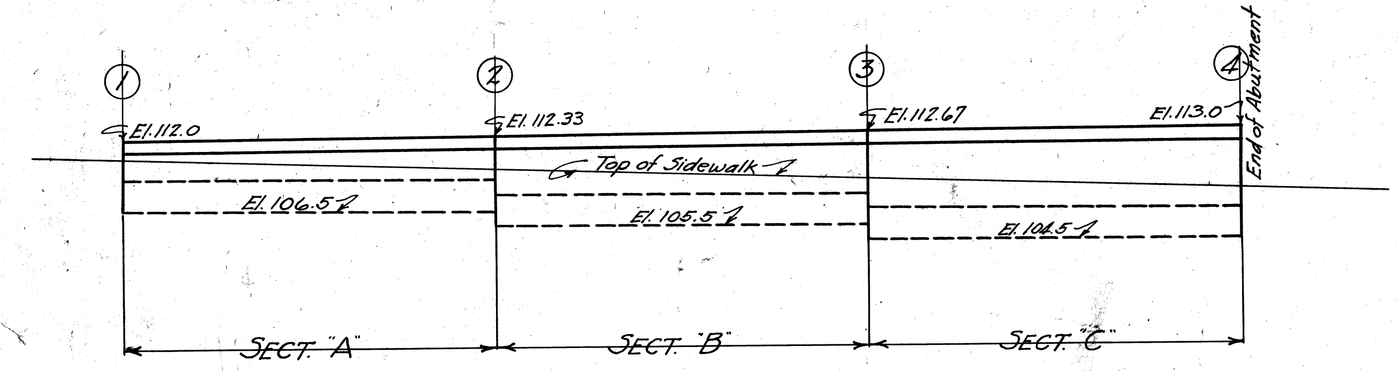
Mar 12 26

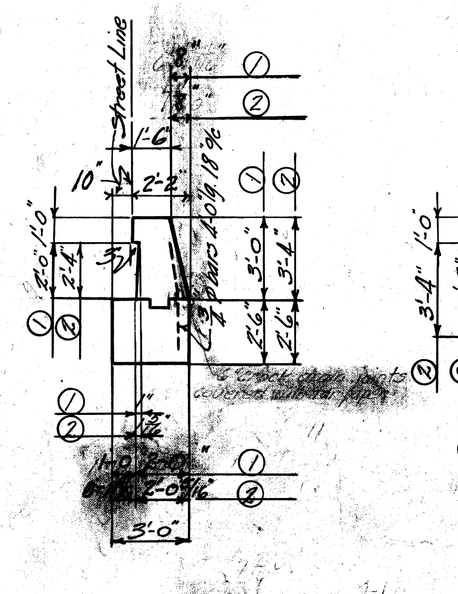
J W Reid
J. L. Barton

Wabash Railway
Detroit Terminal Division
Detroit, Mich.
Details of Concrete Deck
Waterman Ave.
Office of the Chief Engineer
Scales:- As Shown Feb. 15, 1926.
Sheet 6 of 6

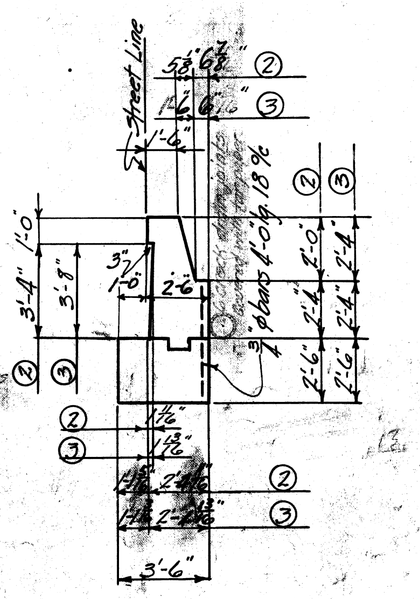
Drawn by S.M.S. | Traced by E.W.M. | Checked by R.H.S.
Plan No.
Case No.
File XU-54-9



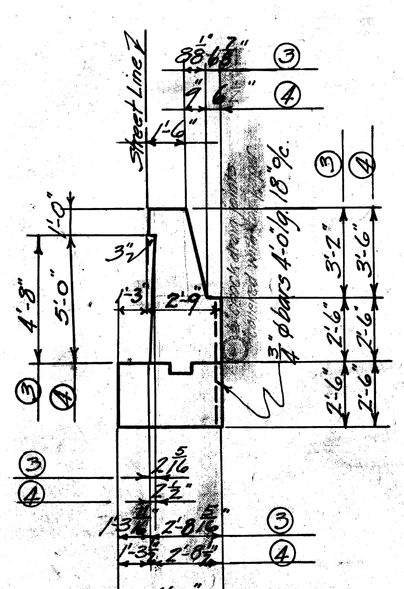




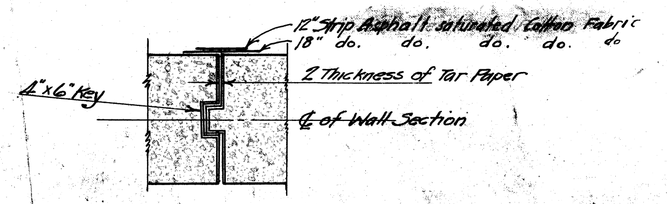
SECTION "A"



SECTION "B"



SECTION "C"



TYPICAL SECTION FOR VERTICAL KEYS AT EXP. JNTS.

NOTE: All Concrete Mix 1:2:4
backs of walls to receive two brush coats of asphalt waterproofing.

QUANTITIES

Concrete 57 cu. yds.
Reinf. Steel 350 lbs.

CITY OF DETROIT

DEPARTMENT OF PUBLIC WORKS
CITY ENGINEER'S OFFICE
DIVISION OF GRADE SEPARATION & BRIDGES

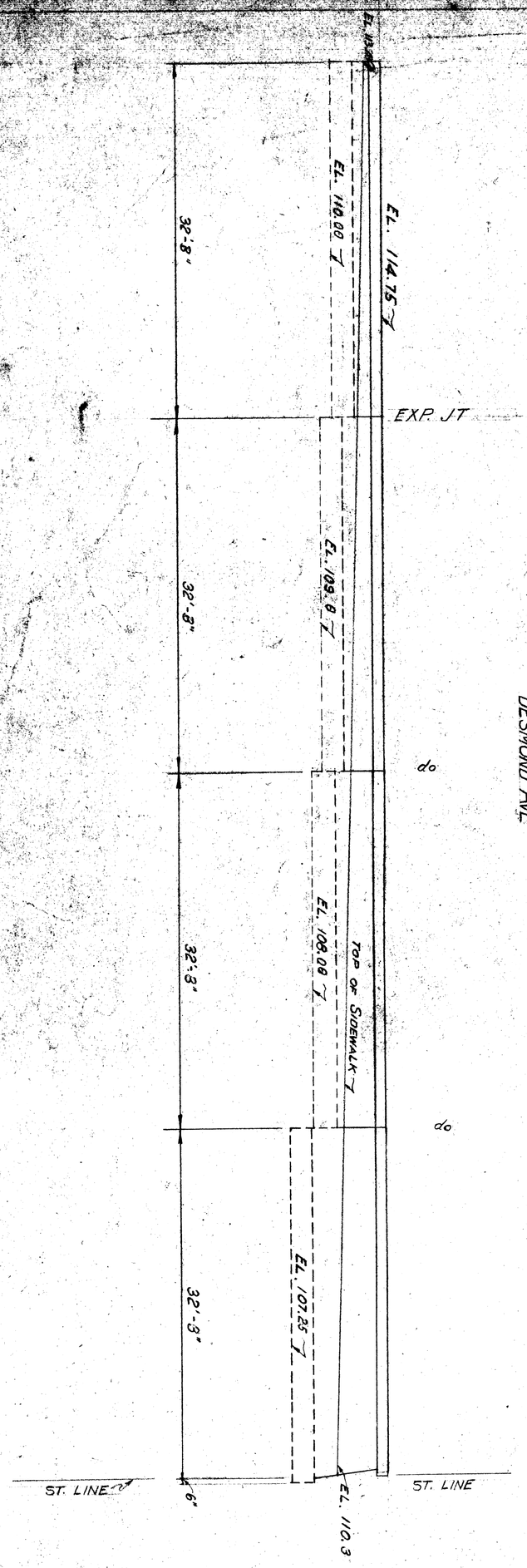
WATERMAN AVE. WALL

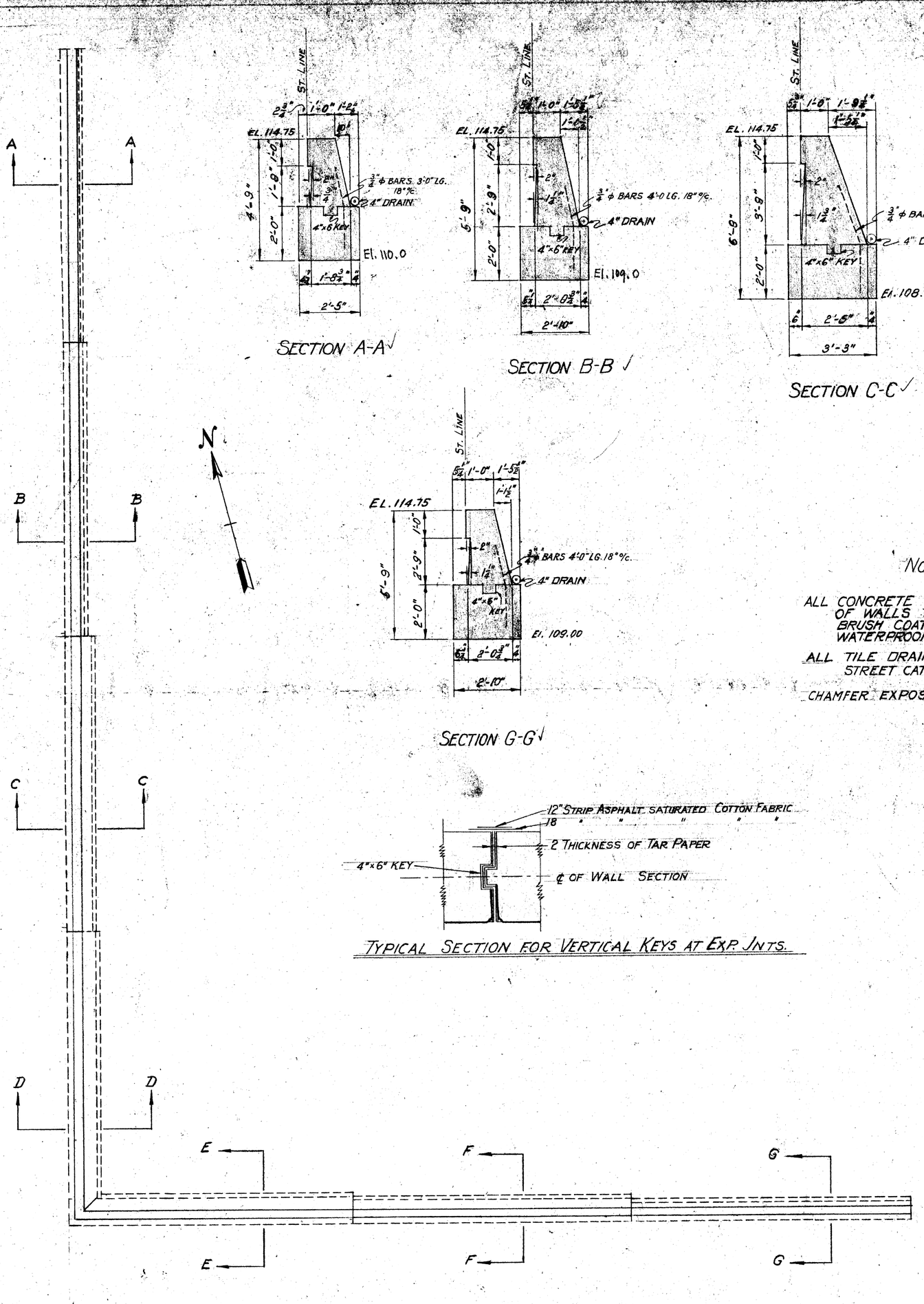
IN FRONT OF M. MITSHKUN CO. YARD

Scales
¼" = 1'-0"
1" = 1'-0"

June 7 1924

File XU34-10

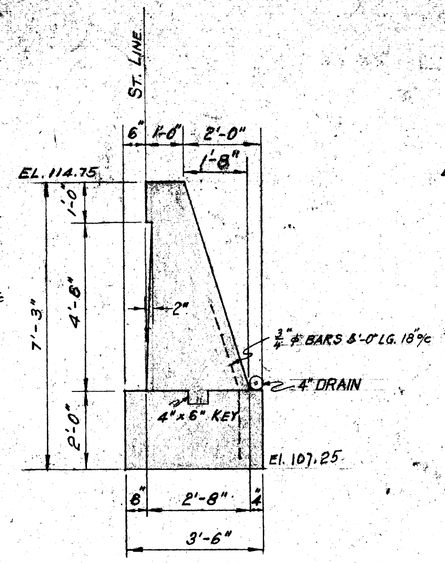




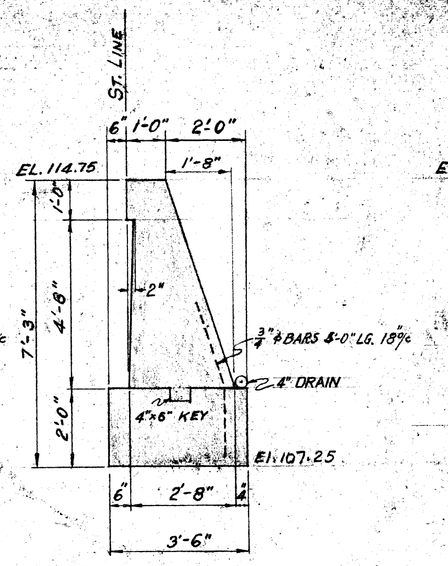
SECTION A-A

SECTION B-B

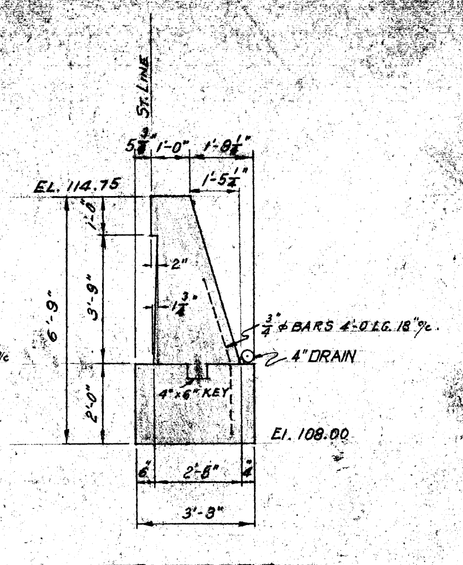
SECTION C-C



SECTION D-D



SECTION E-E



SECTION F-F

SECTION G-G

NOTE:

ALL CONCRETE MIX 1:2:4 BACKS OF WALLS TO RECEIVE TWO BRUSH COATS OF ASPHALT WATERPROOFING

ALL TILE DRAINS TO BE CONNECTED TO STREET CATCH BASINS

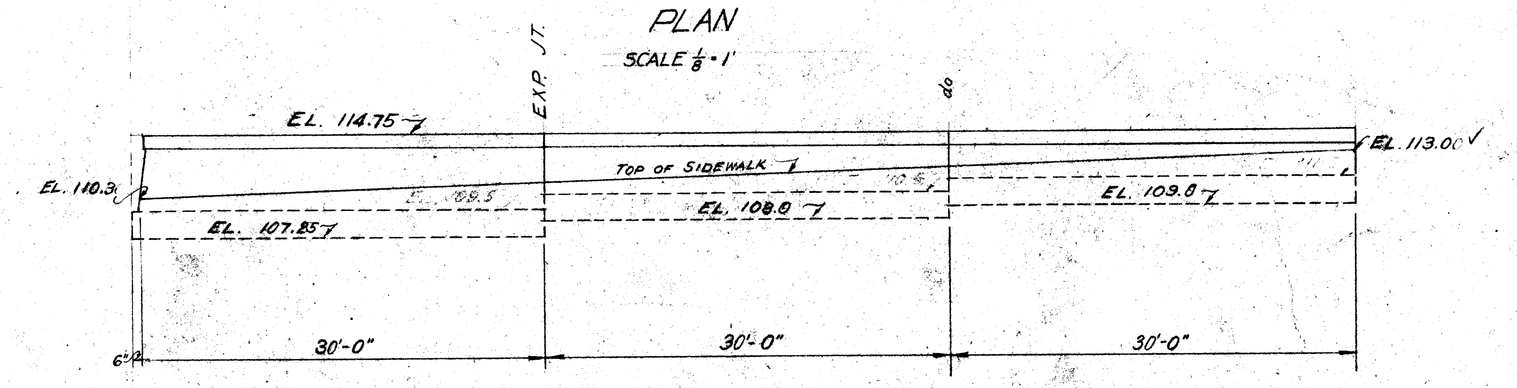
CHAMFER EXPOSED EDGES 1"

TYPICAL SECTION FOR VERTICAL KEYS AT EXP. JNTS.

WATERMAN AVE.

PLAN

SCALE 1/8" = 1'



ELEVATION

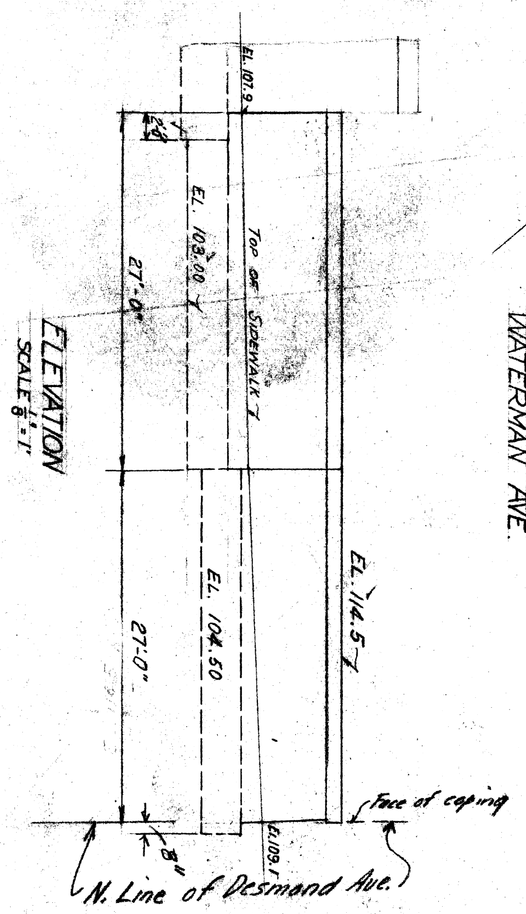
CITY OF DETROIT
DEPARTMENT OF PUBLIC WORKS
CITY ENGINEERS OFFICE
DIVISON of Grade Separation & Bridges

WATERMAN & DESMOND AVENUES
WALL IN FRONT OF R.E. HAMILTON'S SONS PROPERTY

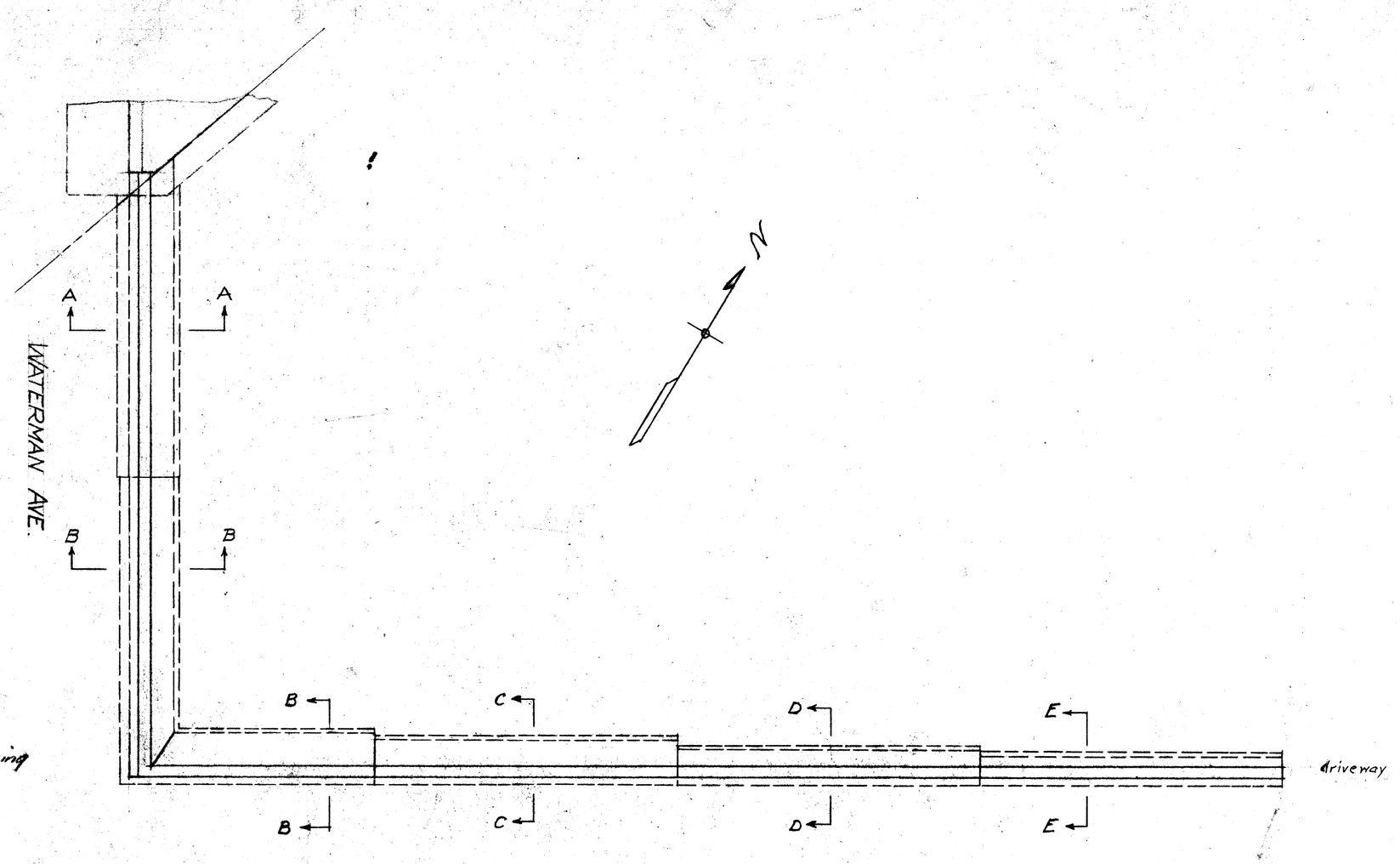
SCALE 1/8" = 1', 3/8" = 1' AUG. 15. 1928

DRAWN BY: C. J. U.
CHECKED BY: R. J. 8/16/28.

File XU34-11

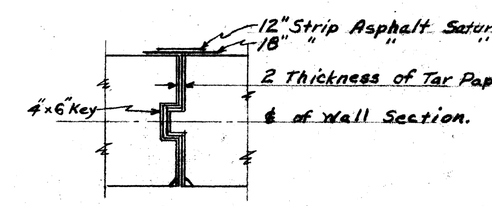


ELEVATION
SCALE 1/8" = 1'

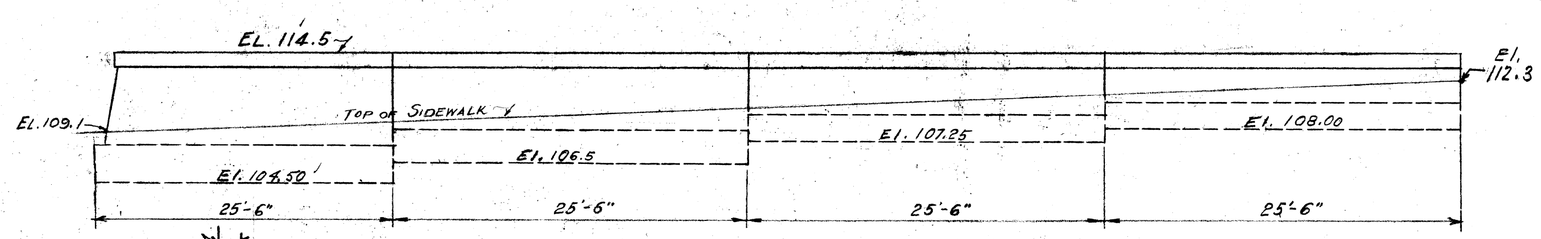


DESMOND AVE.

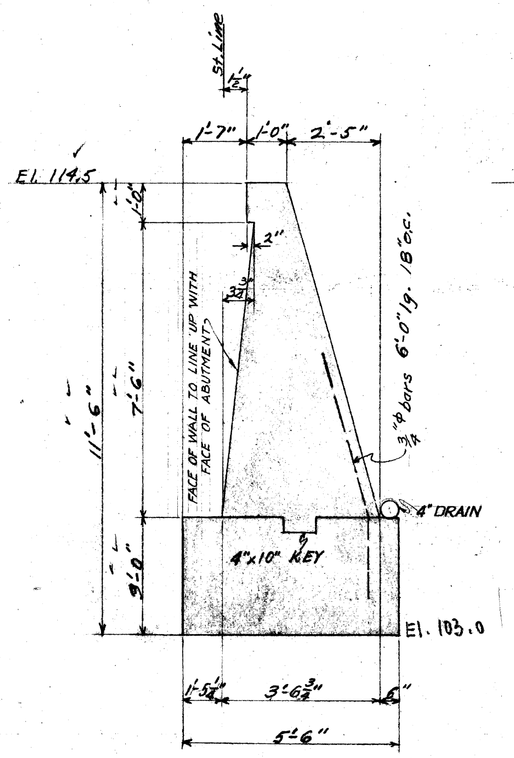
PLAN OF WALL
SCALE 1/8" = 1'



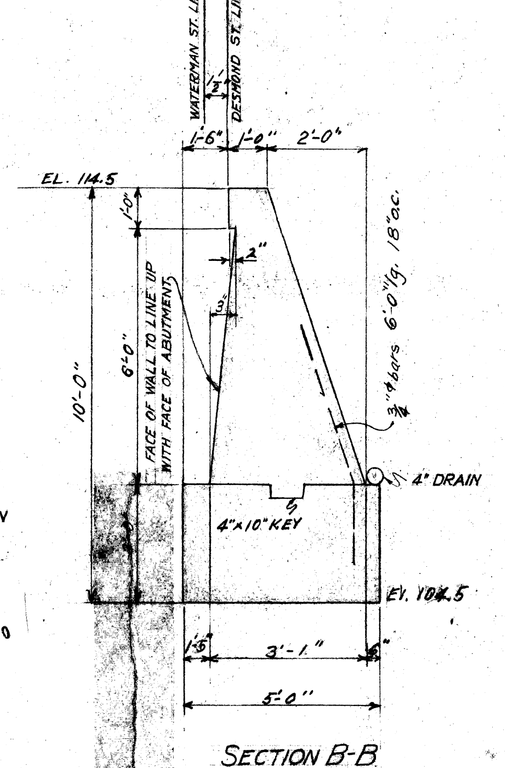
TYPICAL SECTION FOR VERTICAL KEYS AT EXP. JOINTS



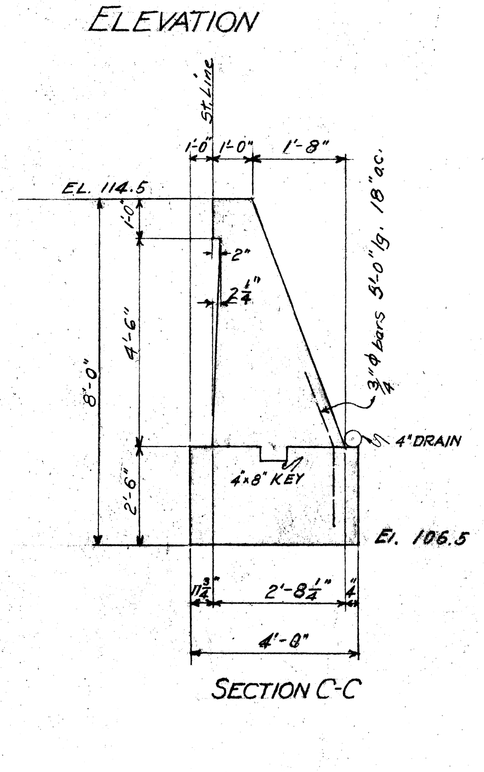
ELEVATION



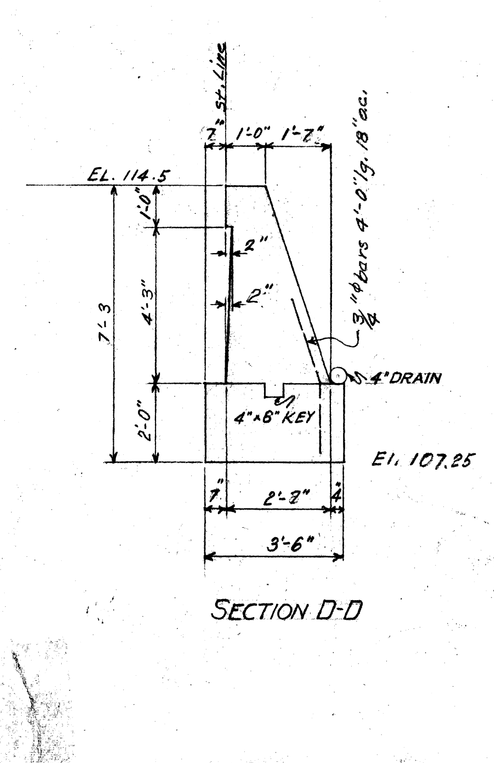
SECTION A-A



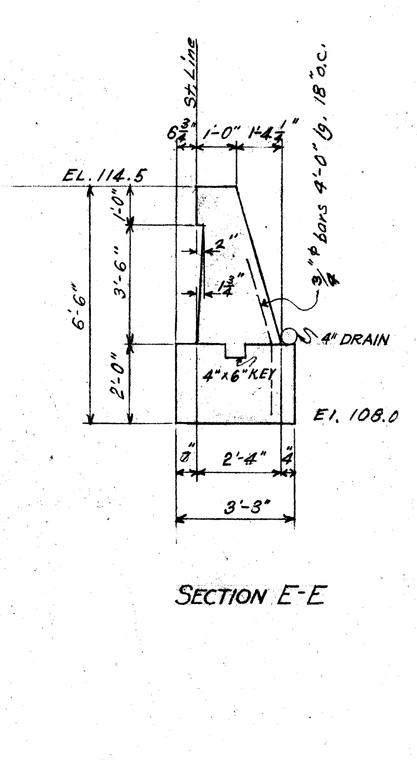
SECTION B-B



SECTION C-C



SECTION D-D



SECTION E-E

NOTE:

ALL CONCRETE MIX 1:2:4; BACKS OF WALLS TO RECEIVE TWO BRUSH COATS OF ASPHALT WATERPROOFING

ALL TILE DRAINS TO BE CONNECTED TO STREET CATCH BASINS

CHAMFER EXPOSED EDGES 1"

CITY OF DETROIT

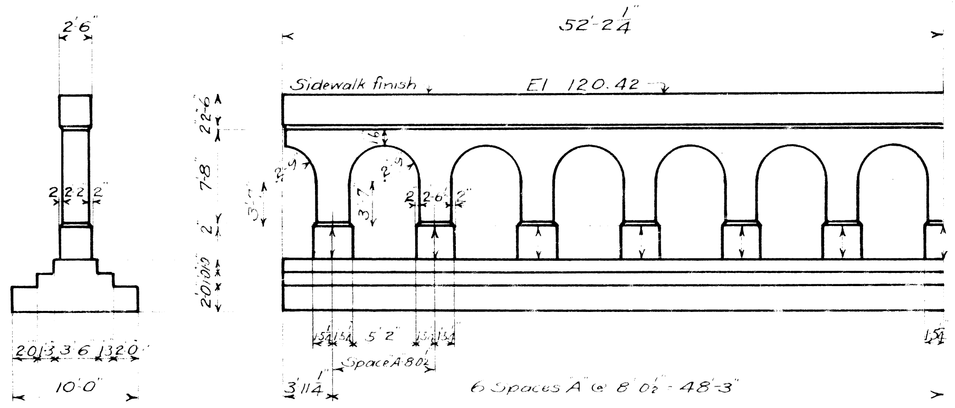
DEPARTMENT OF PUBLIC WORKS
CITY ENGINEERS OFFICE
Divison of Grade Separation & Bridges

WATERMAN & DESMOND AVENUES
WALL IN FRONT OF PENNSYLVANIA PETROLEUM CORPORATION PROPERTY

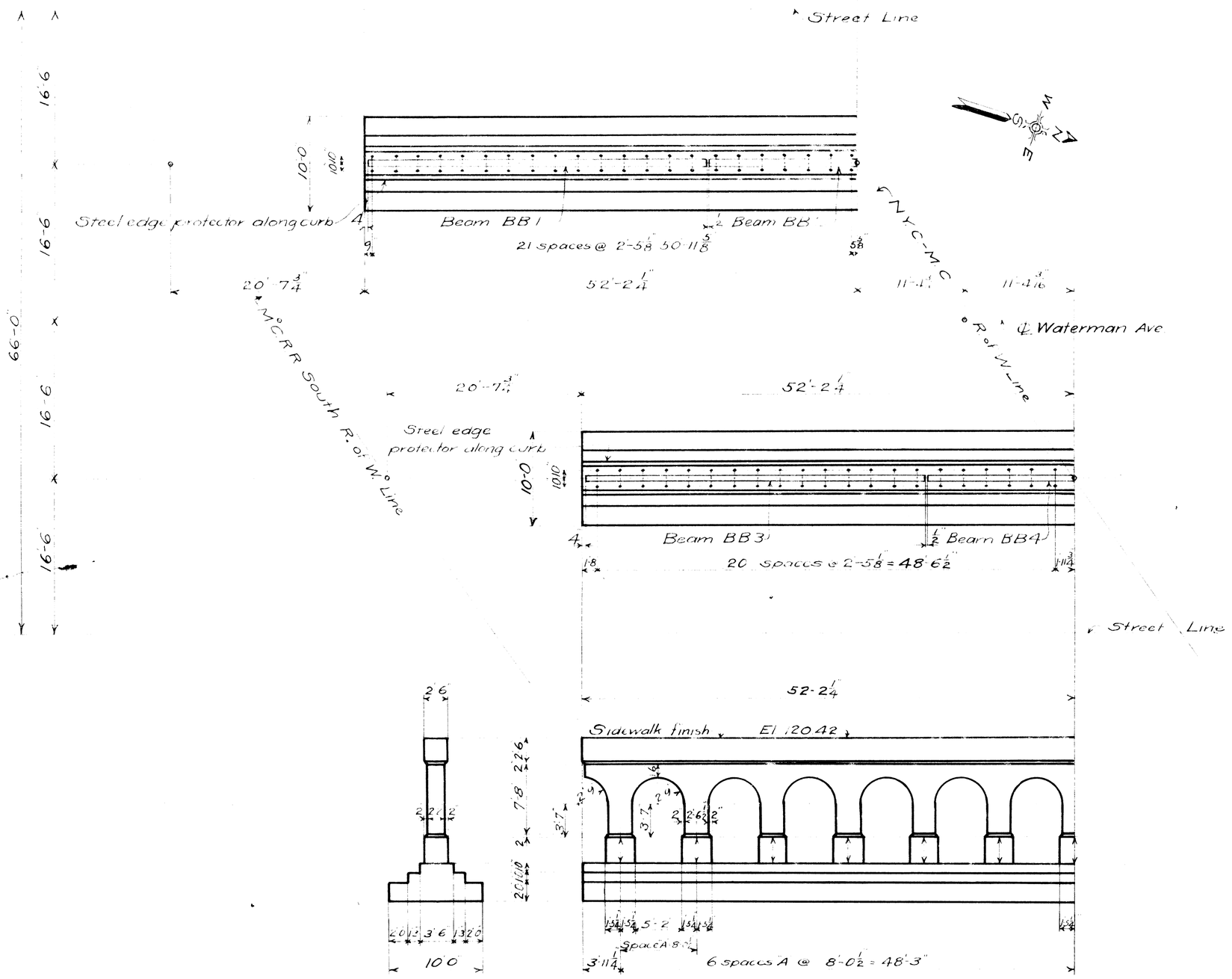
SCALE 1/8"=1', 3/8"=1" JULY 1928

DRAWN BY: J.S.H.
CHECKED BY: R.S. 8/16/28.

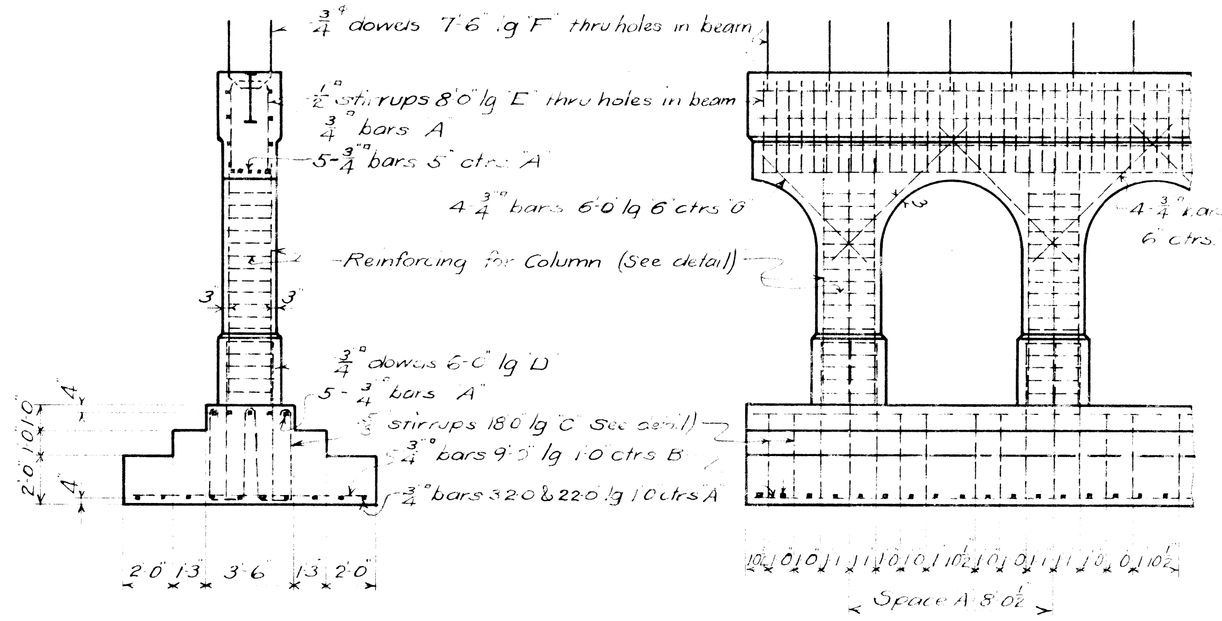
File XU34-12

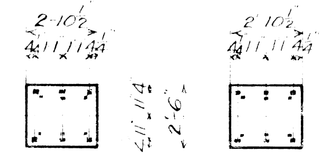


ELEVATION WEST BENT



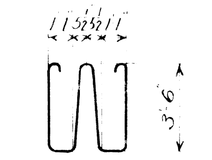
ELEVATION EAST BENT.



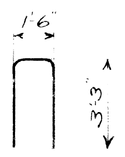


SECTION A-A
Showing Spacing of dowels

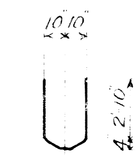
TYPICAL DETAILS SHOWING REINFORCING



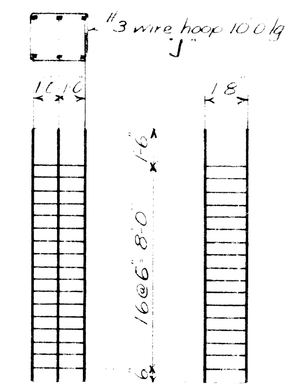
⅝" bar 18'0" lg
STIRRUP "C"



½" bar 8'0" lg
STIRRUP "E"



¾" Rod 7'6" lg
DOWEL "F"



6-¾" bars 100" lg I

REINFORCING FOR COLUMNS

No	Size	Length	Mark	Location
26	¾"	32'0"	A	Long in footing & top
26	¾"	22'0"	A	" "
105	¾"	9'0"	B	Transverse in footing
52	⅝"	18'0"	C	Stirrups
80	¾"	6'0"	D	Dowels for columns
210	½"	8'0"	E	Stirrups in top
43	¾"	7'6"	F	Dowels
8	¾"	6'0"	G	Diagonally, end arch
96	¾"	7'6"	H	" interior arches
80	¾"	100"	I	Column reinforcing
225	#3 wire	100"	J	Hoops column reinforcing
104	4½"	Steel edge protector		

NOTES

Contents West Bent cu yds
East Bent cu yds

Concrete To be porportioned 1 part Portland cement, 2 parts sand, and 4 parts crushed stone. Exposed faces to be rubbed as soon as forms are removed. There shall be no horizontal joints in footing or in part above footing. Part above footing to be poured continuously but if vertical joints are made, bars should project thru far enough to give a splice of not less than 2'6". Bevel all exposed corners ¾" except where shown differently

See that I beams in tops of piers are placed and held correctly as this type of floor will not permit the shifting of beams on account of misplaced dowels in top of pier.

Reinforcing bars shall be securely wired together at each intersection. At splices they shall lap a length of 20 diameters of the bar c ll be wired together with 20 ga. of #16

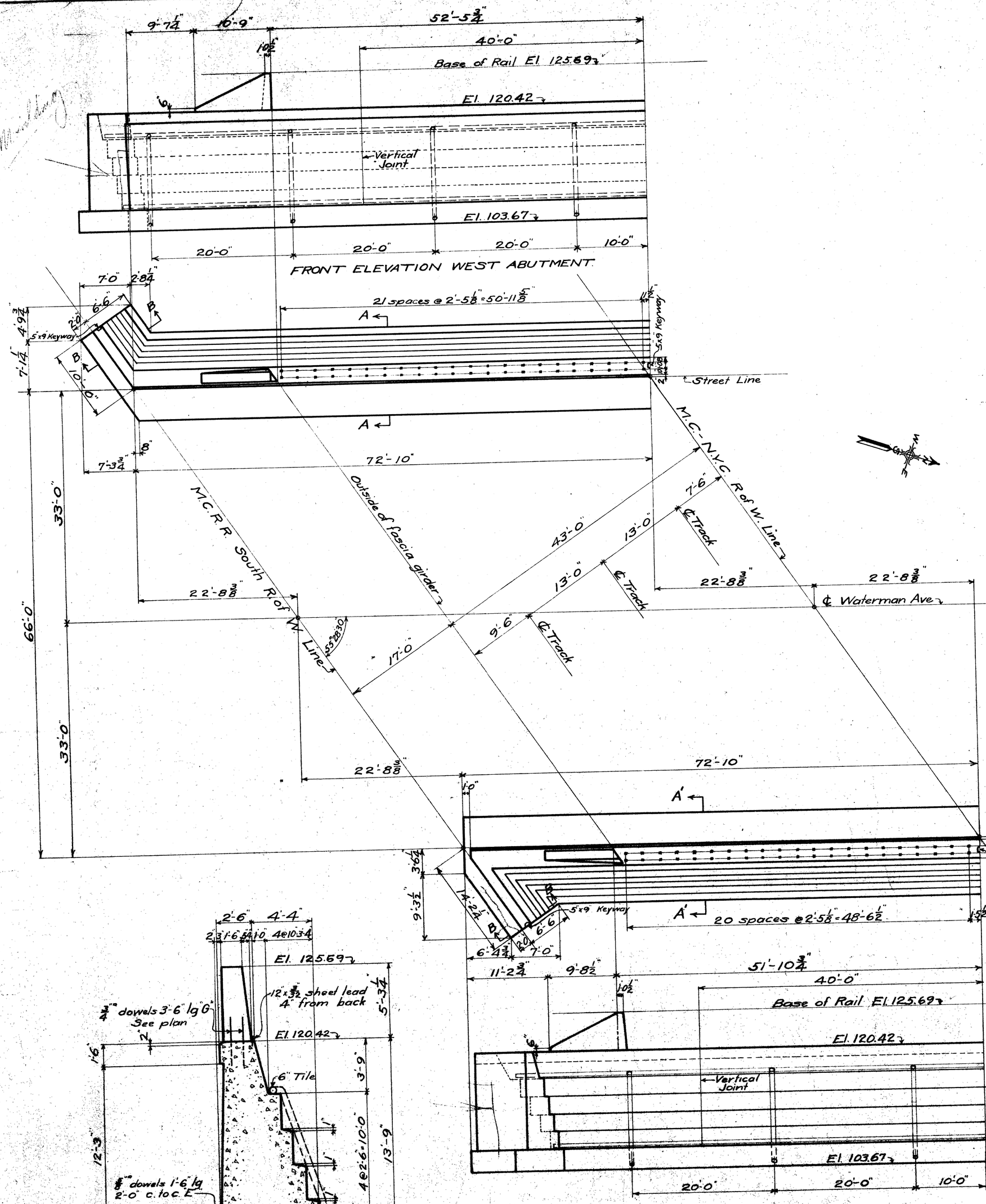
APR 1

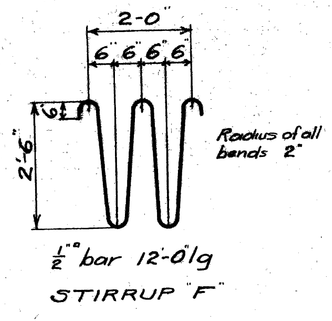
M.C.R.R.-Div.- TOLEDO
Bridge WATERMAN AVE.
DETAILS OF BENTS.

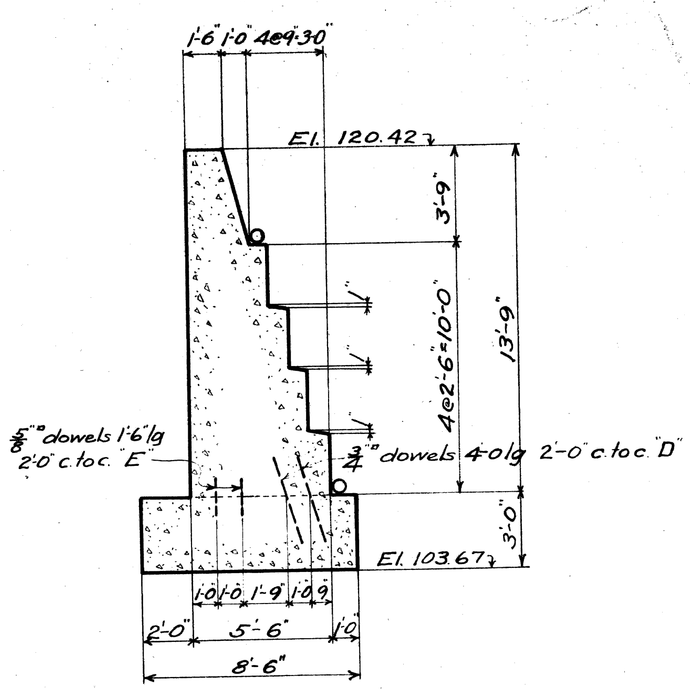
Approved: Scale in 1 Inch
Bridge Engineer. Drawn by CWC 3-29-1917
Checked by
Chief Engineer. Traced by CWC 3-29-1917
Revised

File XU34-13

Sheet W5 of

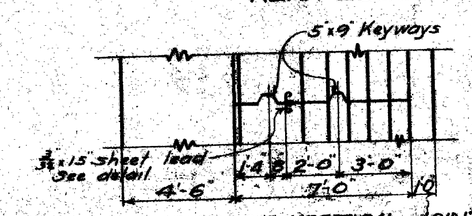




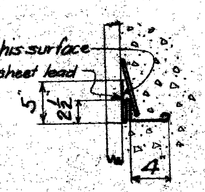


SECTION B-B

SECTION A-A
SECTION A'-A' opposite hand.

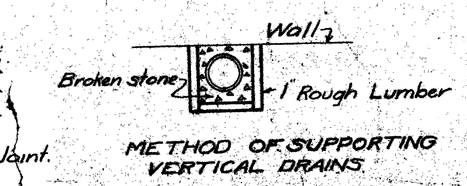


ENLARGED PLAN OF VERTICAL JOINT
Showing Method of Placing Sheet Lead



SHEET LEAD IN VERTICAL JOINT.

Finished Joint.



METHOD OF SUPPORTING VERTICAL DRAINS.

NOTES

Contents 302 cu. yds West Abutment
288 " " East "
590 " " Total "

Concrete: To be porportioned 1 part Portland cement, 2½ parts sand, and 4½ parts broken stone. Exposed tops of walls and abutments to have sidewalk finish. Exposed faces to be rubbed as soon as forms are removed. No horizontal construction joints to be made except at top of footing, under coping and bridge seat.

Reinforcing bars shall be securely wired together at each intersection. At splices they shall lap for a length of 20 diameters of the bar and shall be wired together with 20 turns of #16 wire.

Waterproofing: On back of abutments and walls I coat Sarco Primer and 1 coat Sarco "I". Drains at back of walls to be covered with crushed stone. Drains through concrete to have cemented joints and to be properly supported while concrete is poured.

BILL OF REINFORCING BARS

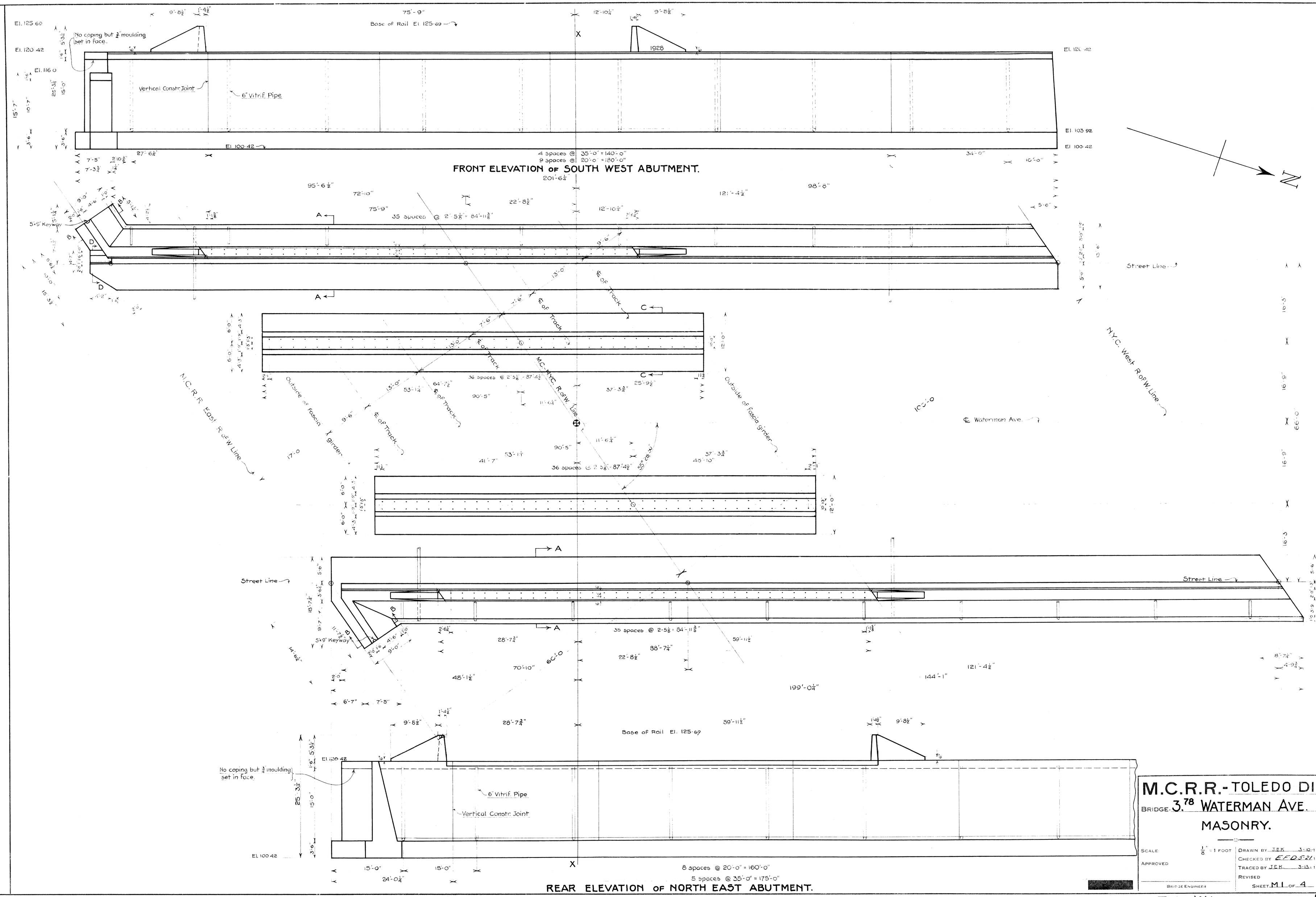
No	Size	Length	Mark	Location
146	¾" sq	6'-0	A	Tranverse in footing.
146	"	12'-0	B	" " "
48	1" sq	32'-0	C	Longitudinal " "
18	"	12'-0	C	" " "
8	"	16'-0	C	" " "
160	¾" sq	4'-0	D	Dowels " "
160	½" sq	1'-6	E	" " "
144	½" sq	12'-0	F	Stirrups " "
86	¾" sq	3'-6	G	Dowels " bridgeseat

M. C. R. R.-Div.- TOLEDO.
Bridge WATERMAN AVE.
DETAILS OF ABUTMENTS.

Approved:-
Bridge Engineer.
Chief Engineer.

Scale ____ in.-1 foot.
Drawn by CWK. 3-19 1917
Checked by WB 3-20-17
Traced by CWK. 3-17-17
Revised
Sheet W4 of

File X 1134-1



FRONT ELEVATION OF SOUTH WEST ABUTMENT.

REAR ELEVATION OF NORTH EAST ABUTMENT.

M.C.R.R.- TOLEDO DIV.

BRIDGE 3.78 WATERMAN AVE.

MASONRY.

SCALE: 1/8" = 1 FOOT

APPROVED

BRIDGE ENGINEER

DRAWN BY J.E.K. 3-10-1928

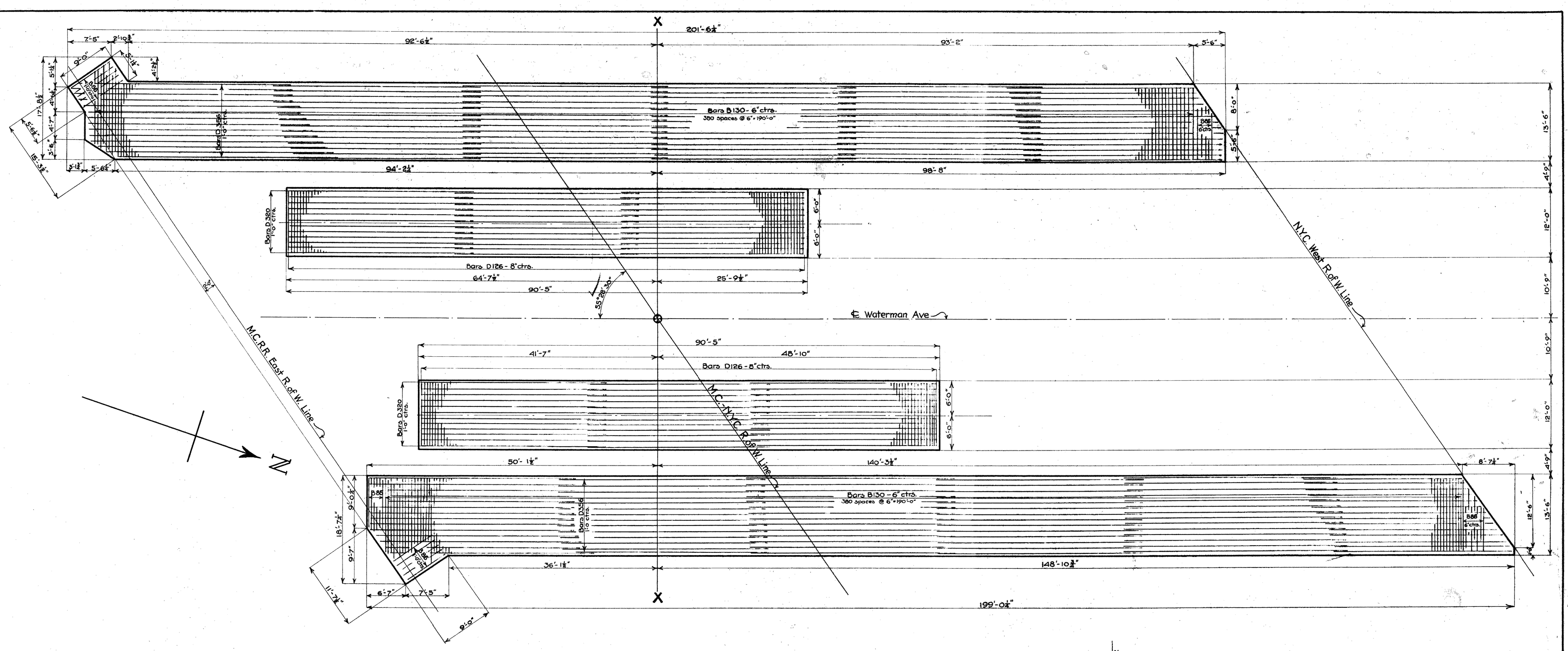
CHECKED BY E.E.D.S.2. 1928

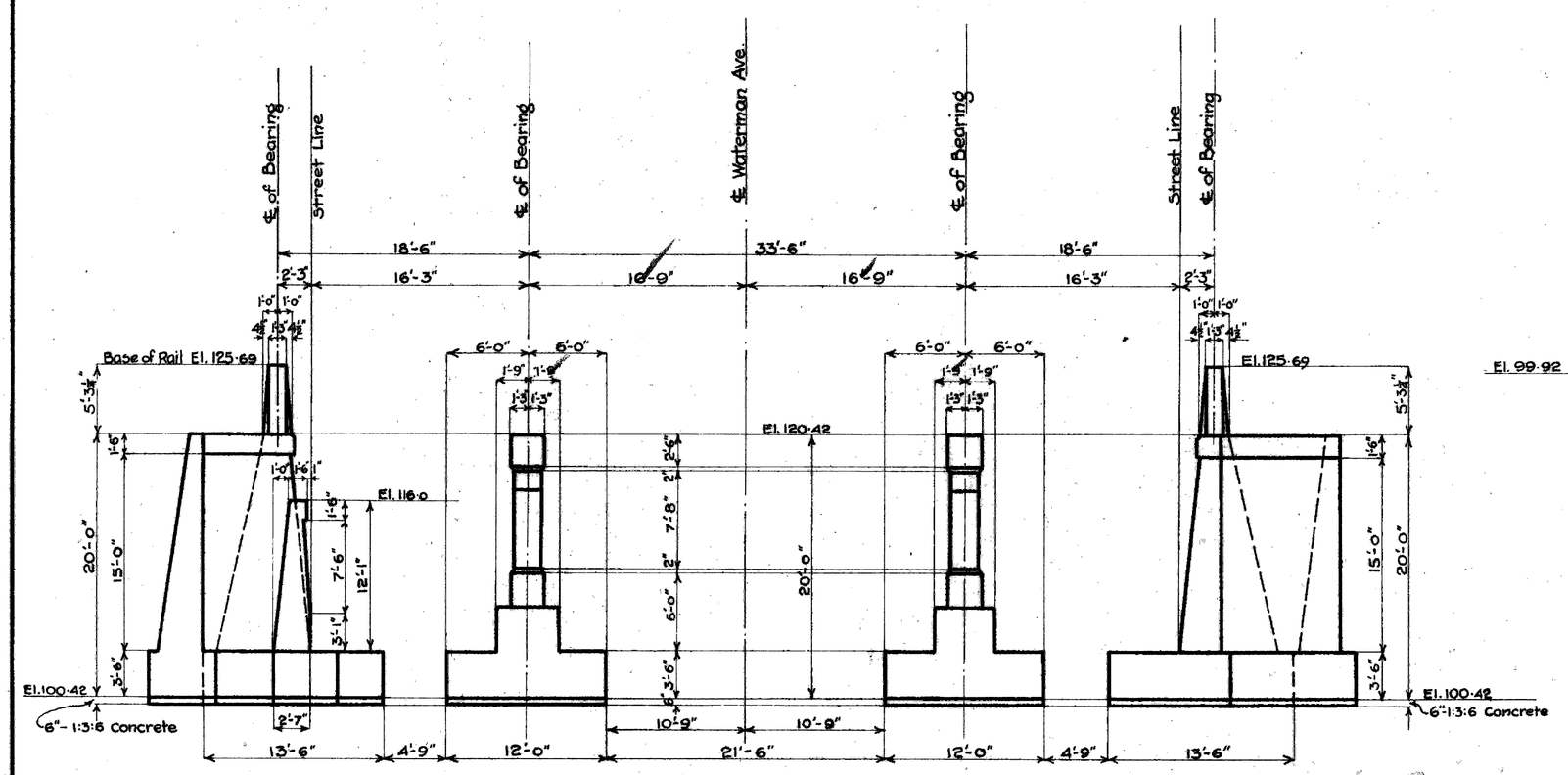
TRACED BY J.E.K. 3-13-1928

REVISED

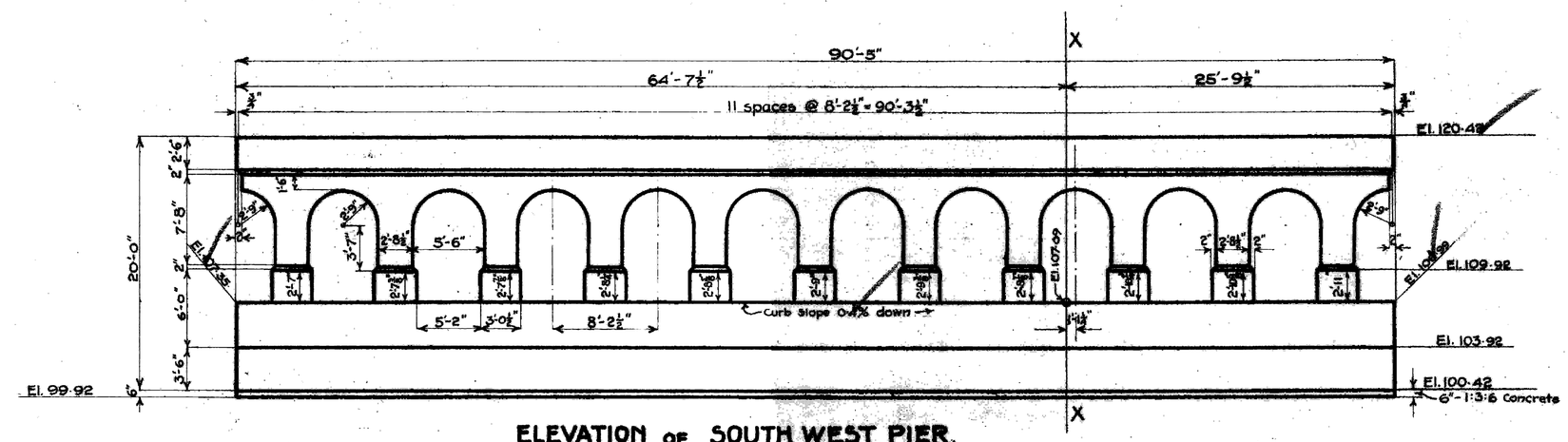
SHEET M1 OF 4

File XU 34-15

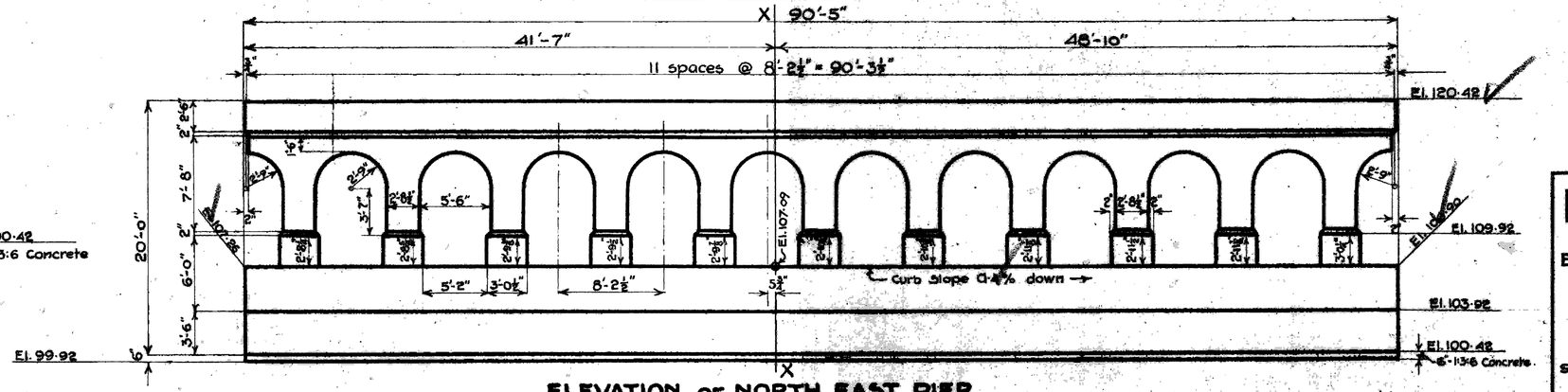




SOUTH EAST END ELEVATION.



ELEVATION OF SOUTH WEST PIER.
(Looking South West.)



ELEVATION OF NORTH EAST PIER.
(Looking South West.)

NOTE: Reinforcing shown on this plan in bottom of footing only.

M.C.R.R.- TOLEDO DIV.

BRIDGE 3.78 WATERMAN AVE.

ELEVATIONS OF PIERS & DIGGING PLAN

SCALE:- ⅛" = 1 FOOT

DRAWN BY J.E.K. 3-15-1928

CHECKED BY E.F.D. 3-21-1928

TRACED BY J.E.K. 3-15-1928

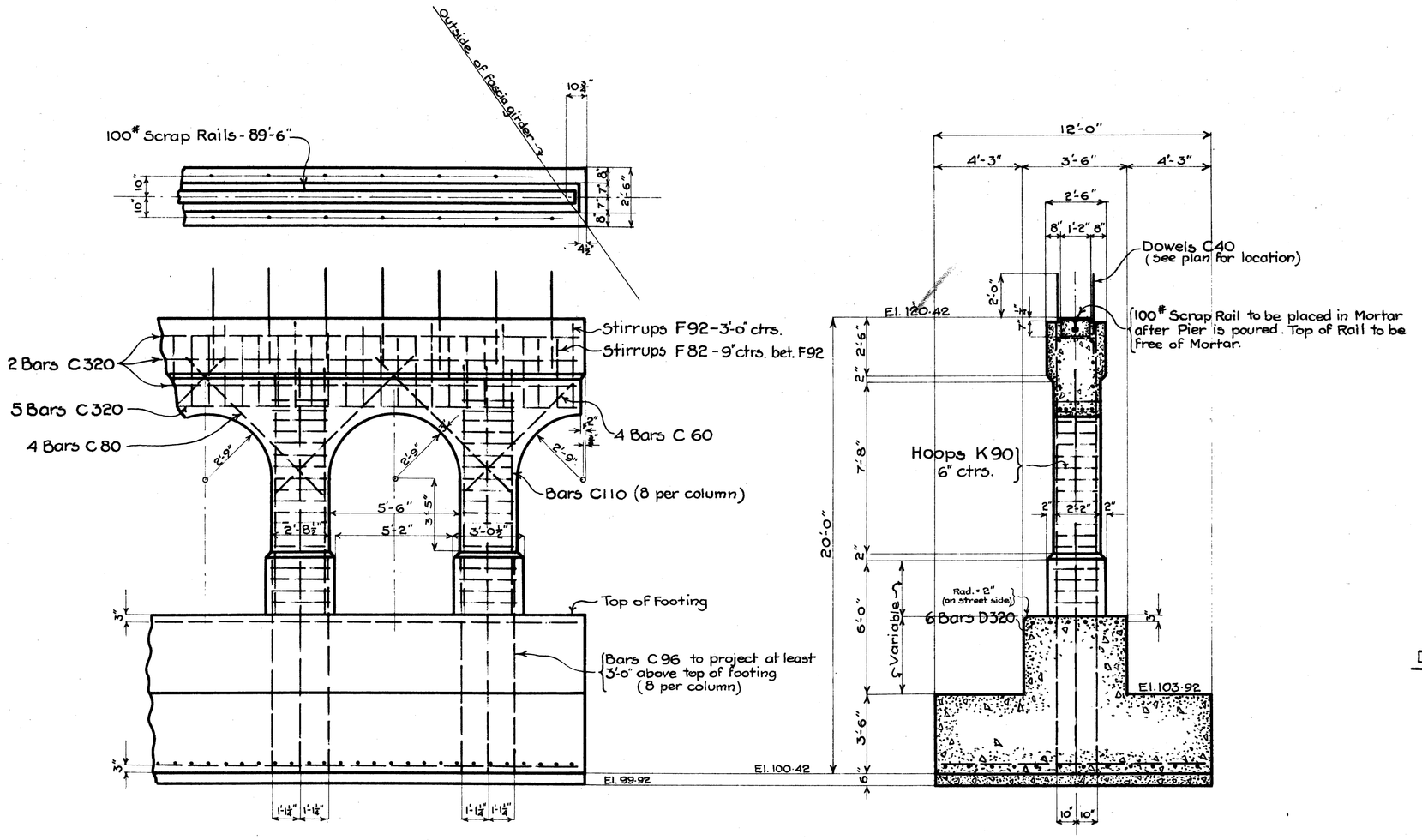
APPROVED

REVISED

BRIDGE ENGINEER

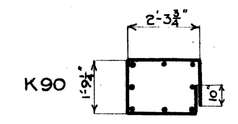
SHEET M2 OF 4

File XU 34-16

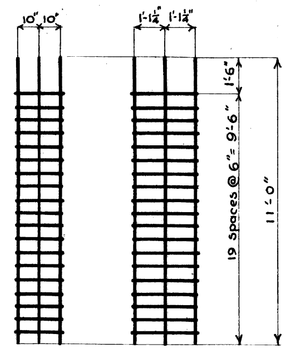


TYPICAL DETAIL ELEVATION OF PIER

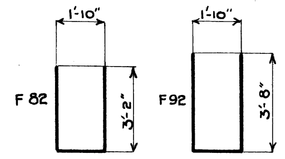
SECTION C-C.



DETAIL OF HOOP



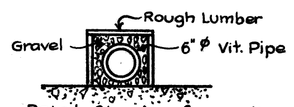
DETAIL OF COLUMN REINFORCING



DETAIL OF STIRRUPS

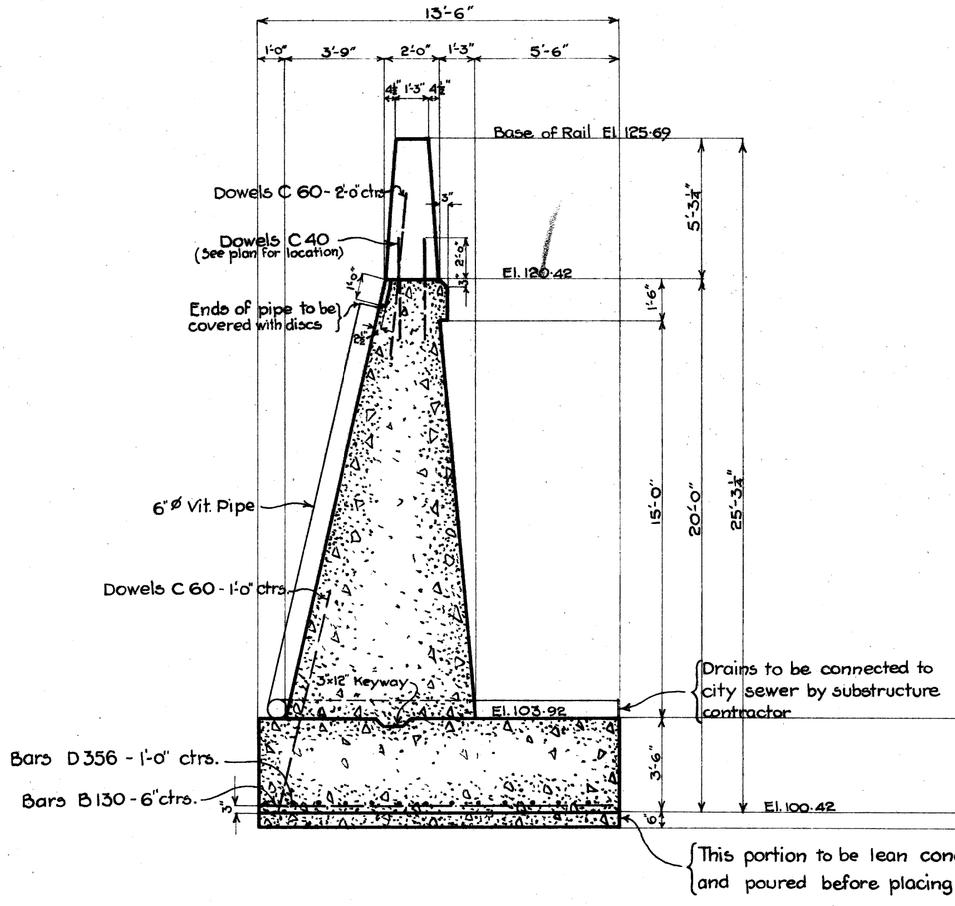
BILL OF BARS

Mark	No.	Size	Length	Location
Abutments:				
B130	762	1"ø	13'-0"	Transverse in footing. Straight
B86	28	"	8'-6"	" " " "
C60	394	⅞"ø	6'-0"	Dowels in footing "
C60	20	"	6'-0"	" in backwalls "
C40	144	"	4'-0"	" in bridge seat "
D356	168	¾"ø	35'-6"	Longitudinal in footing "
Piers:				
C320	66	⅞"ø	32'-0"	Longitudinal in top Straight
C60	16	"	6'-0"	Diagonals over half arches "
C80	160	"	8'-0"	" " arches "
C96	176	"	9'-6"	Dowels base of columns "
C110	176	"	11'-0"	Column reinforcing "
C40	146	"	4'-0"	Dowels in bridge seat "
D126	272	¾"ø	12'-6"	Transverse in footing "
D320	72	"	32'-0"	Longitudinal " " "
D320	36	"	32'-0"	" " top
F92	62	½"□	9'-2"	Stirrups in top Bent
F82	178	"	8'-2"	" " " "
K90	418	¼"ø	9'-0"	Hoops in columns "

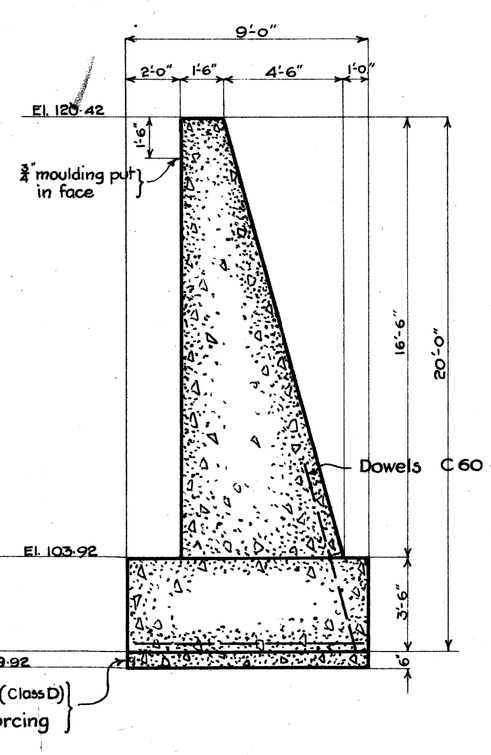


Detail Showing Support for Vertical Drains at Back of Abutments

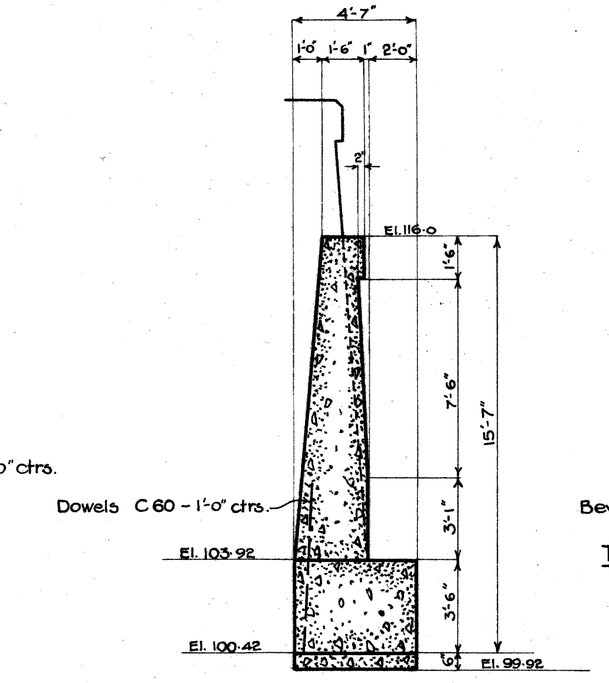
Horizontal Drains to be backfilled with 4" of Gravel.



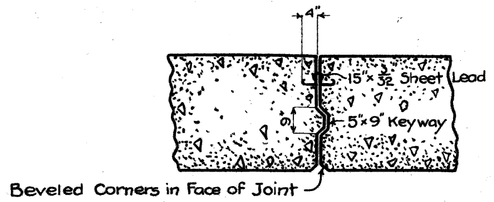
SECTION A-A.



SECTION B-B.



SECTION D-D.



TYPICAL PLAN OF VERT. CONSTR. JOINT IN ABUTMENT.

QUANTITIES:

Concrete Yardage	N.E. Abutm.	S.W. Abutm.	Two Piers	Total
Below Footing	49	50	40	139
Footing	344	347	357	1048
Above Footing	541	550	118	1209
Total	934	947	515	2396 cu. yds.

Reinforcing:	Two Abutments	42680
	Two Piers	28640
	Total	71320 lbs.
Waterproofing Area (Back of Abutments only)		6250 sq. ft.
6"ø Sewer Pipe (Vitrified)		800 lin. ft.
Tees		30
Discs		20
Sheet Lead 10 pcs.		165 lin. ft.
100# Scrap Rails		5970 lbs.

SPECIFICATIONS:

Concrete:- To be Class "C" - N.Y.C. Lines Specifications for concrete masonry, except seal coat which is to be Class "D". Bevel all exposed corners ¾" unless otherwise shown. Top surface to have sidewalk finish. There shall be no horizontal joints except at top of footing and at coping. Exposed surface to be rubbed as soon as forms are removed. No cement grout to be used in rubbing surfaces.

Reinforcing:- All bars to be deformed. They shall be securely wired together at each intersection. At splices they shall lap for a length of 40 diameters and be securely wired.

Waterproofing:- Backs of abutments shall be painted with two coats of asphaltic waterproofing.

Drains:- Drains shall be laid to drain, and be connected to city sewer by substructure contractor.

M.C.R.R.- TOLEDO DIV.

BRIDGE- 378 WATERMAN AVE.

MASONRY DETAILS.

SCALE:- 1/4" = 1 FOOT

DRAWN, BY J.E.K. 3-12-1928.

CHECKED BY E.F.D. 5-12-1928

TRACED BY J.E.K. 3-15-1928.

REVISED

APPROVED

BRIDGE ENGINEER

SHEET M3 OF 4

File XU 34-17

[redacted]

11-4

DRAINAGE DIAGRAM

Showing elevations of top of concrete. Fine lines should be level on concrete.

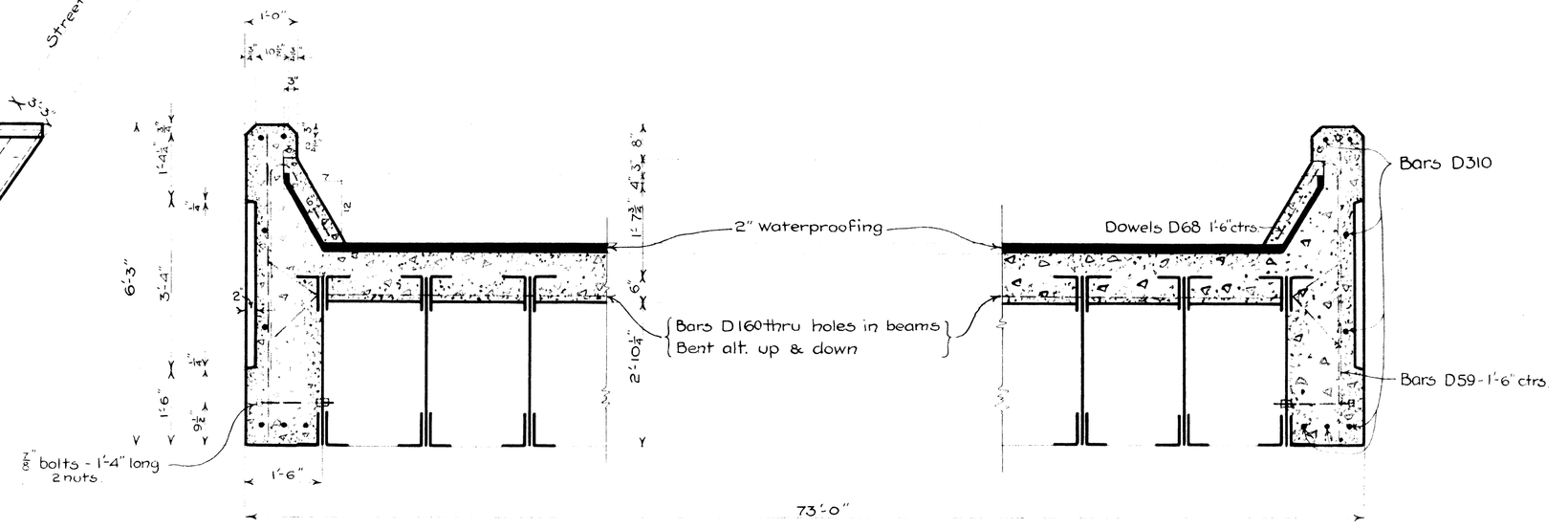
Scale $\frac{1}{20}$"=1'-0"

PLAN OF FLOOR

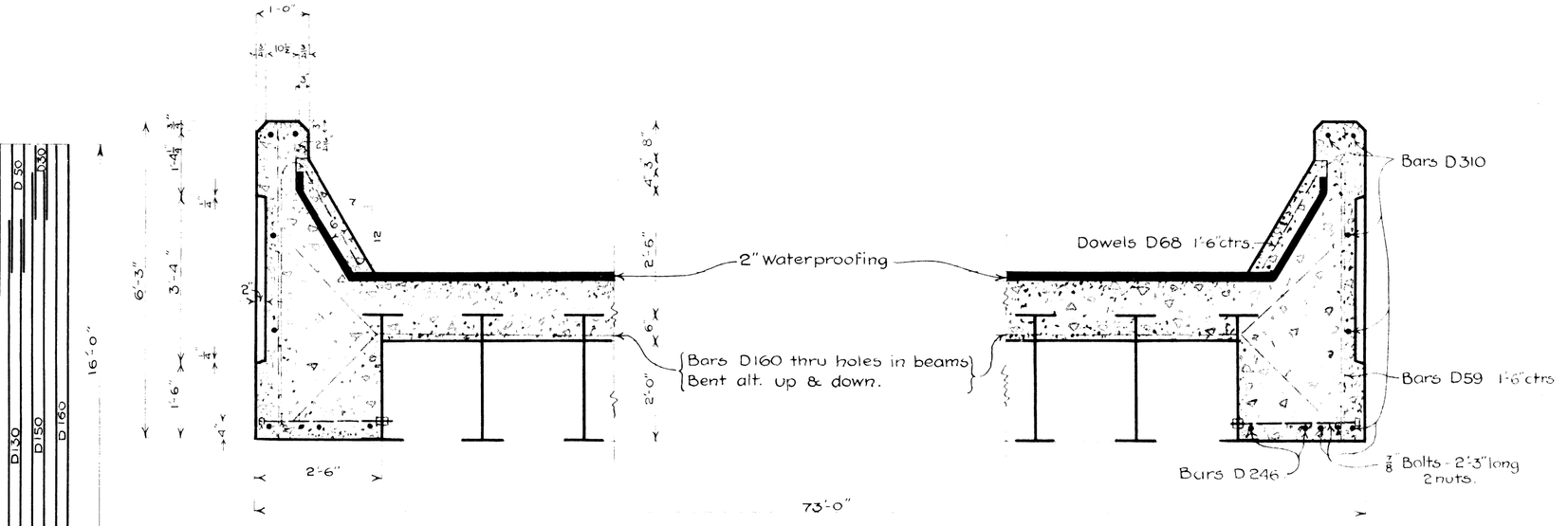
Scale: $\frac{1}{8}$"=1'-0"

GROUP (A) GROUP (B)

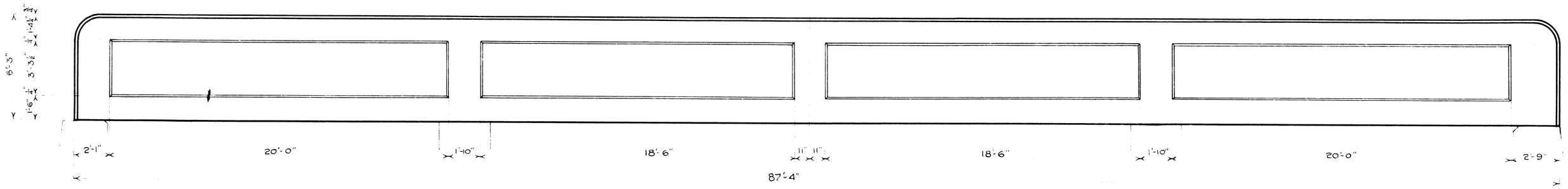
DETAILS OF GROUPS OF BARS IN FLOOR REINFORCING. Scale: $\frac{1}{4}$"=1'-0"



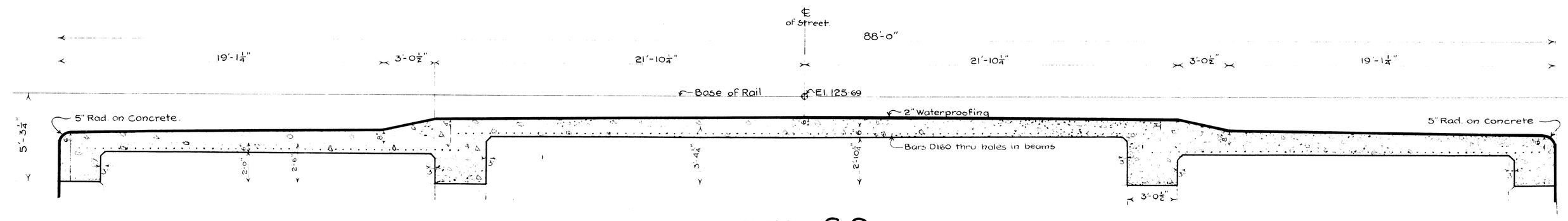
SECTION A-A. Scale: $\frac{1}{2}$"=1'-0"



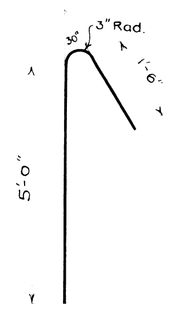
SECTION B-B Scale: $\frac{1}{2}$"=1'-0"



ELEVATION OF FASCIA Scale: $\frac{1}{4}$"=1'-0"



SECTION C-C. Scale: $\frac{1}{4}$"=1'-0"



DETAIL OF DOWEL D 72.

QUANTITIES (Floor & Fascia):

Concrete	360 cuyds.
Reinforcing	14620 lbs.
Waterproofing	7000 sq. ft.

BILL OF BARS.

Mark	No.	Size	Length	Location	
G 30	60	½" ℄	3'-0"	Floor	Straight
G 50	60	"	5'-0"	"	"
G 60	60	"	6'-0"	"	"
G 80	60	"	8'-0"	"	"
G 100	60	"	10'-0"	"	"
G 120	60	"	12'-0"	"	"
G 130	60	"	13'-0"	"	"
G 150	134	"	15'-0"	"	"
G 160	522	"	16'-0"	"	"
D 310	42	⅜" ℄	31'-0"	Longit. in Fascia	"
D 246	8	"	24'-6"	" Sidewalk Span	"
D 59	118	"	5'-9"	Vertical in Fascia	"
D 72	116	"	7'-2"	Dowels in Fascia	Bent
D 170	74	½" ℄	17'-0"	Floor	Straight

Note: All ½" ℄ Bars are plain.

M.C.R.R.- TOLEDO DIV.

BRIDGE 3.78 WATERMAN AVE.

FLOOR.

SCALE: As shown.

APPROVED

BRIDGE ENGINEER

DRAWN BY J.E.K. 3-26-1928

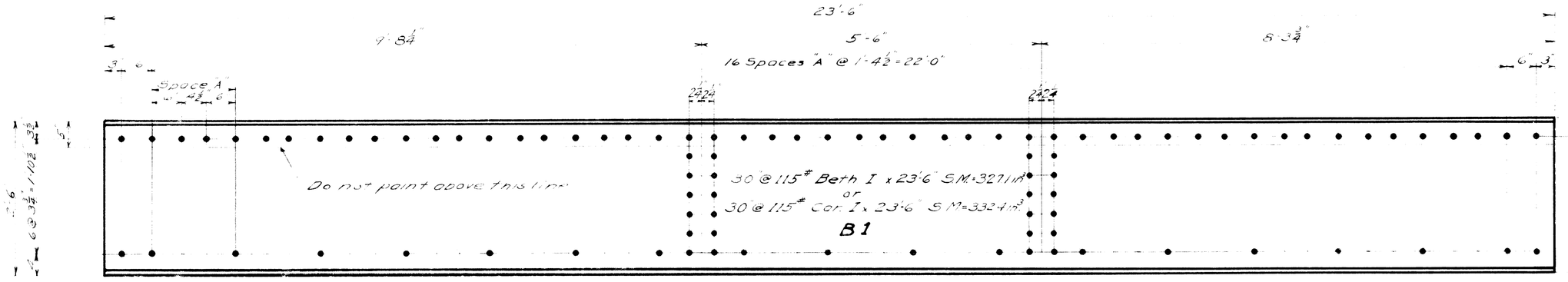
CHECKED BY E.F.D. 5-19-1928

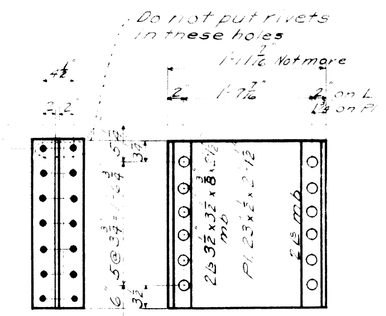
TRACED BY J.E.K. 4-1-1928

REVISED

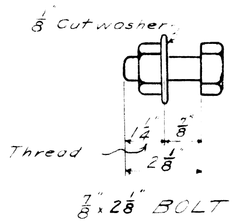
SHEET M4 OF 4

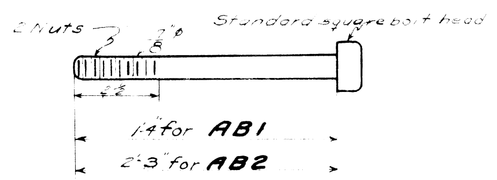
File XU 34-18



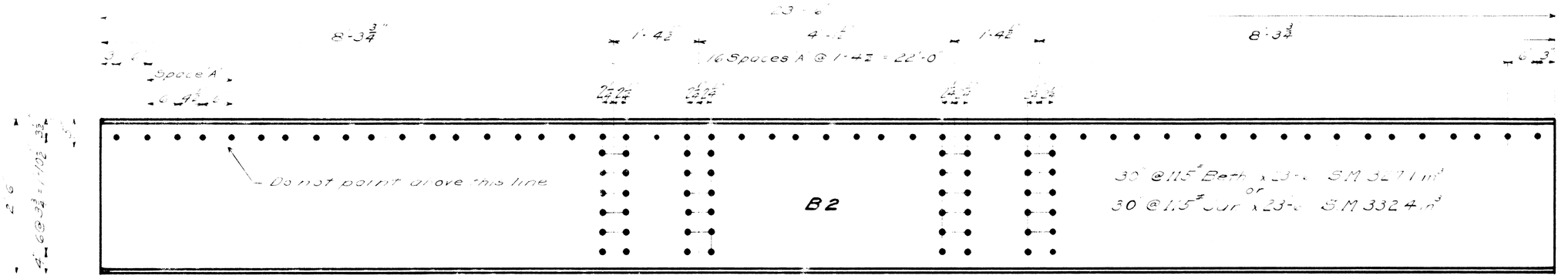


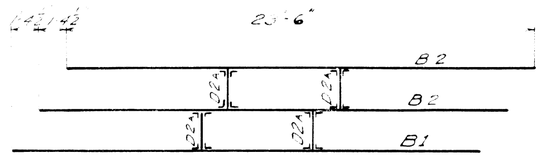
DIAPHRAGMS D2A Shop riveted in floor Sections S3, S4 & S5
DIAPHRAGMS D2 Shipped loose
D2 & D2A alike except for mark



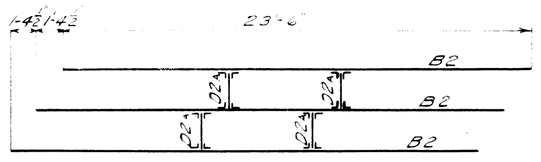


BOLTS AB1 & AB2

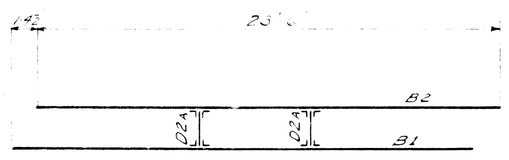




FLOOR SECTION S3



FLOOR SECTION S4



FLOOR SECTION S5

Beams B1 & B2 and Diaphragms D2A To be shop riveted in sections as indicated above.
Sections to be braced for shipment unmarked S3 S4 & S5

NOTES

NYC Lines 1917 Specifications
Open Hearth Steel
Open holes 15/16" except as noted
Shop rivets ⅞" ø
Field connection bolts ⅞" ø
Estimated weight of 1-S1 = 32 550 S2 = 32,550
" " 1-S3 = 8 720
" " 1-S4 = 8 715 S5 = 5705
" " 1-D2 = 250
" " 1-D2A = 160

Do not paint tops of girders. Other parts if accessible after erection 1 coat of red lead paint, if inaccessible 2 coats of red lead paint

REQUIRED		
2	Floor Section	S3
20	Floor Section	S4
2	Floor Section	S5
44	Diaphragms	D2
1160	⅞" x 2⅜" Bolts with Washers	
80	Bolts & 2 Nuts	AB1
85	Bolts & 2 Nuts	AB2

M.C.R.R.- TOLEDO DIV.

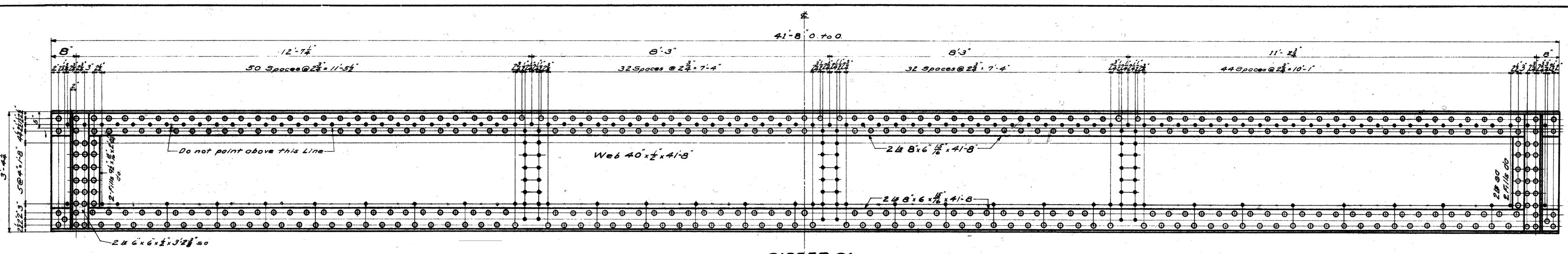
BRIDGE- 3.78 WATERMAN AVENUE

DETAILS OF STEEL BEAMS

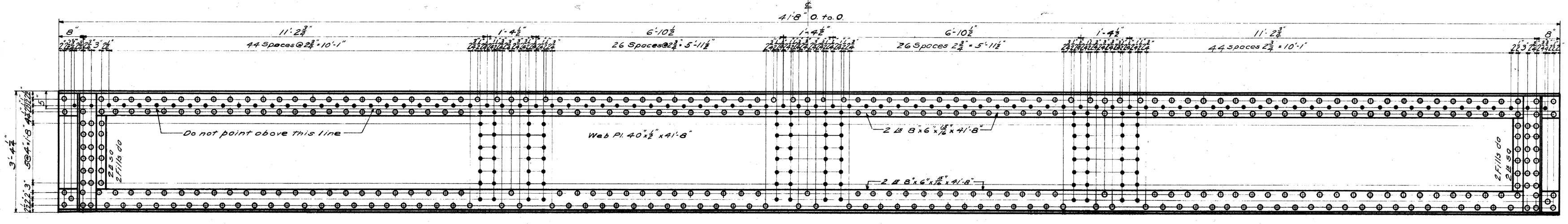
SCALE: ½" = 1 FOOT
APPROVED
BRIDGE ENGINEER

DRAWN BY C.W.C. 4-12-1928
CHECKED BY E.F.D. 4/13/1928
TRACED BY A.R. 4-13-1928
REVISED
SHEET S1 OF 2

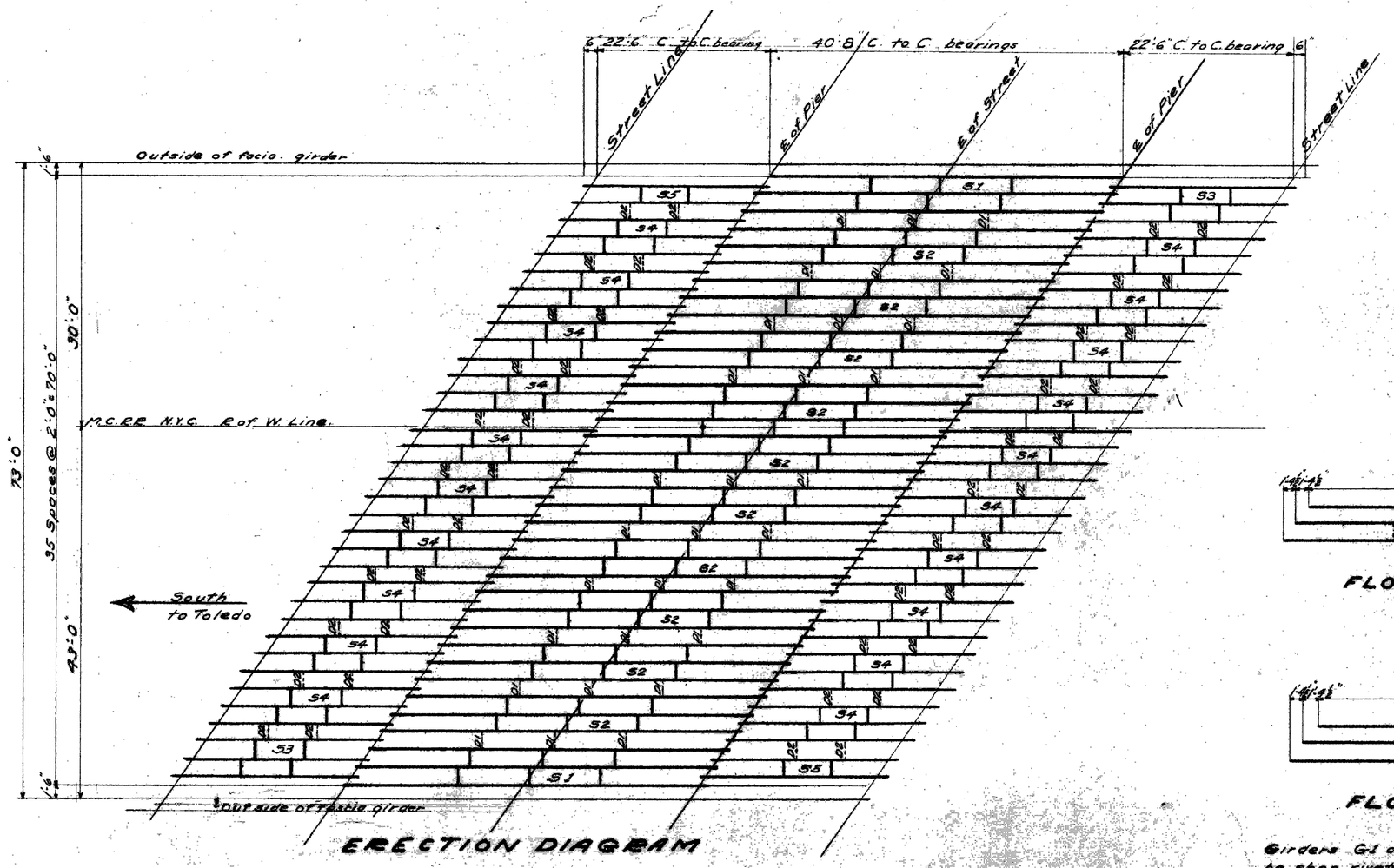
File XU34-19



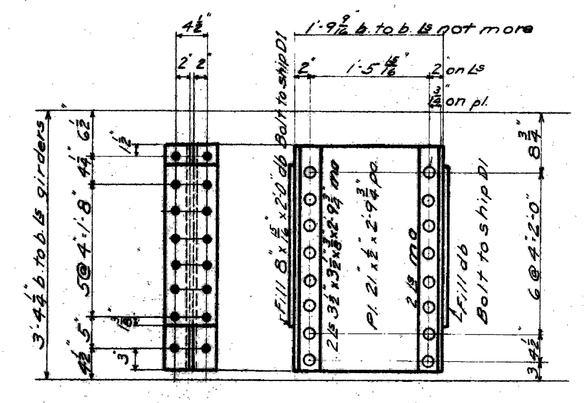
GIRDER G1



GIRDER G2



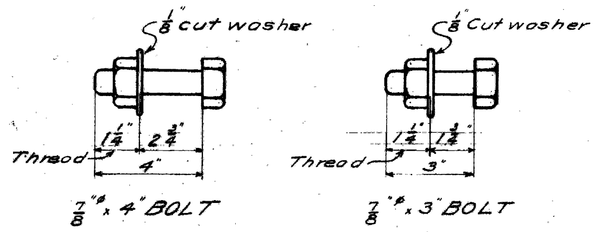
ERECTION DIAGRAM

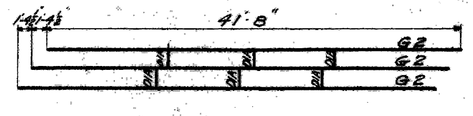


DIAPHRAGMS D1A Riveted in Floor Sections S1 & S2

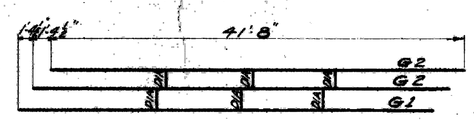
DIAPHRAGMS D1 Shipped loose with fills bolted

Diaphragms D1 and D1A alike except for mark





FLOOR SECTION S2



FLOOR SECTION S1

Girders G1 and G2 and diaphragms D1A to be shop riveted in sections as indicated above Sections to be braced for shipment and marked S1 and S2

Notes:
Holes for rivets in flange angles and end stiffeners of Girders G1 & G2 to be punched 1/16" and reamed to 13/16" with girders assembled.
Each section of girders to be efficiently braced to prevent distocation in shipping. Arrangement to be approved by Bridge Engineer
Rivets ⅞" Dia.
Open Holes 13/16" Dia.
Inspection and erection by M.C.R.R. N.Y.C Lines 1917 Specifications

Point Note.
Do not paint top 5' of girders, paint other parts if accessible after erection, 1 coat red lead paint, if inaccessible, 2 coats red Lead paint

REQUIRED		
2	Floor Sections	S1
10	Floor Sections	S2
33	Diaphragms	D1
290	⅞" x 4" Bolts with washers	
870	⅞" x 3" Bolt with washers	

M.C.R.R.-TOLEDO DIV.

BRIDGE-3.78 WATERMAN AVE

DETAILS OF GIRDERS

SCALE:- = 1 FOOT

APPROVED

BRIDGE ENGINEER

DRAWN BY C.W.C. 9-2-1918

CHECKED BY C.E.D. 9-[illegible]-18

TRACED BY A.P. 9-6-1918

REVISED

SHEET S2 OF 2

File XU 34-20 Item-10