1-B.P. 4-3-44

ROUGE RIVER

N

℄ Bridge and Road

℄ Pier

Test hole 1

Test hole 2

Test hole 3

36' min.

36' min.

73'

489.18' to + in pavement on ℄ of Outer Drive

New channel Bank

PLAN

Scale :- 1"=20'

70'

10' Walk

50' Roadway

10' Walk

DECK CROSS-SECTION

Scale :- 1"=10'

Test Hole 1	2	3
El. 110		
Soft blue clay and sand.	Coarse gray sand (wet)	Coarse grey sand (wet)
105		
Medium hard blue clay	Soft grey clay	Soft blue clay
100		
Hard blue clay	Med. hard grey clay and sand	
95		
Hard blue clay and sand	Hard grey clay and pebbles	Hard blue clay
90		
Hard blue clay		Hardpan (dry) (boulders, etc.)
85		
Med. hard blue clay	Hard grey clay, gravel	
80	Hardpan (dry)	Blue limestone (dry)
Hardpan (dry)		
75		

Note :- All the above sections are moist, except as noted.

RECORD OF TEST BORINGS

Present Ground Level

41'-7"

41'-7"

Top of Curb

U.C.L. El. 118.75

El. 103.52

El. 185.± Bottom of new channel.

Water El. 111.2
2-24-30

El. 128.0
124.0
120.0
116.0
112.0
108.0
104.0
100.0

PROFILE ON ℄ OF BRIDGE

Scale :- 1"=20'

List of Drawings

Sheet No. 1 General Plan.
" " 2 Piling & Strut Details.
" " 3 Substructure Details.
" " 4 Deck Details.
" " 5 Handrailing Details.

Approved :- Percy A. Freeman
City Engineer

Commissioner of Parks and Blvds.

CITY OF DETROIT

DEPARTMENT OF PARKS & BOULEVARDS
OFFICE OF CITY ENGINEER

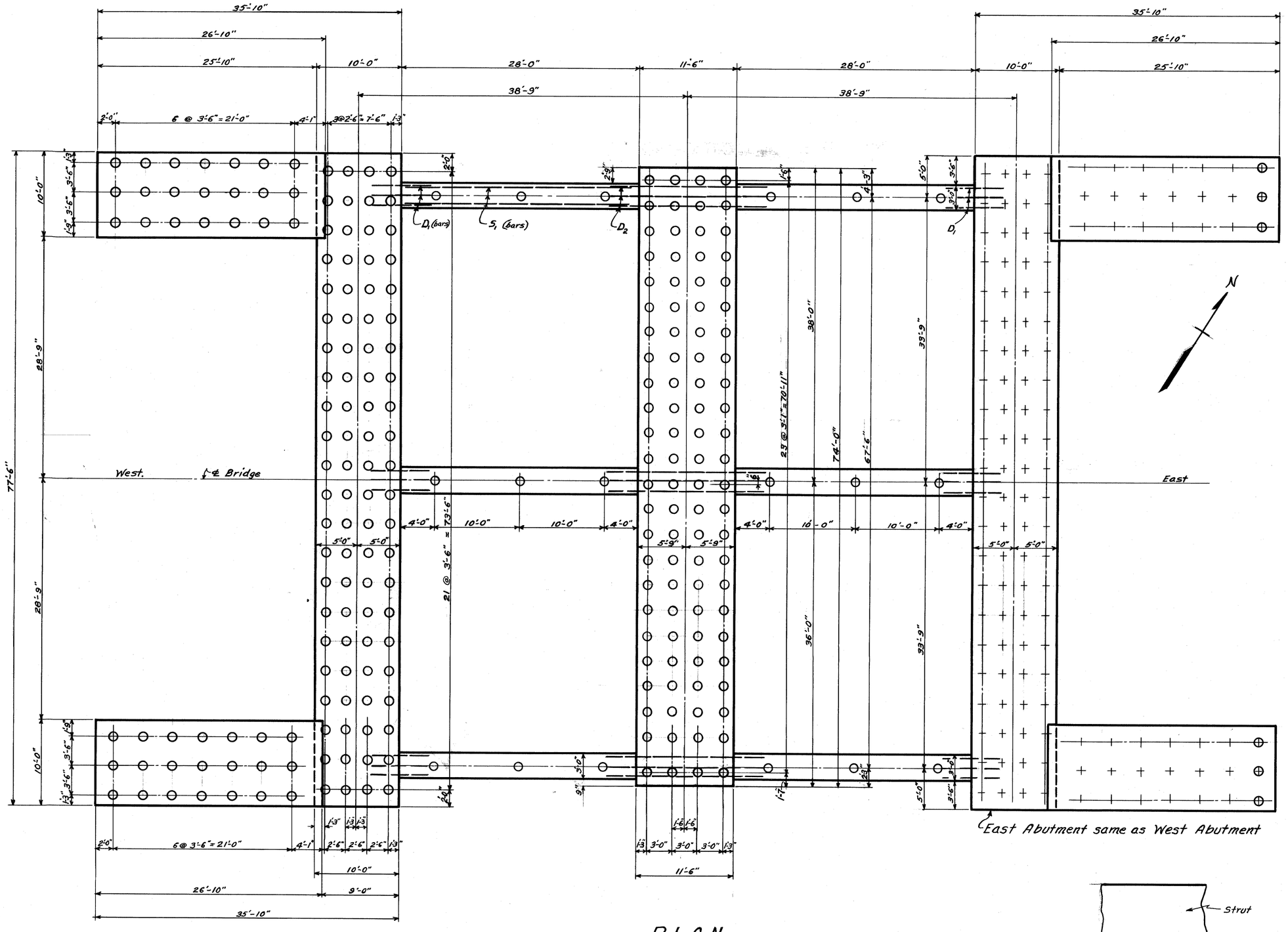
BRIDGE OVER RIVER ROUGE
(SOUTH OF PLYMOUTH ROAD)
RIVER ROUGE PARK

GENERAL PLAN

SCALE :- AS SHOWN — Apr. 23, 1930.
DESIGNED BY -
DRAWN BY - J.T.H.
CHECKED BY - R.S. 6-3-30. — Sheet No. 1
Field Book #794

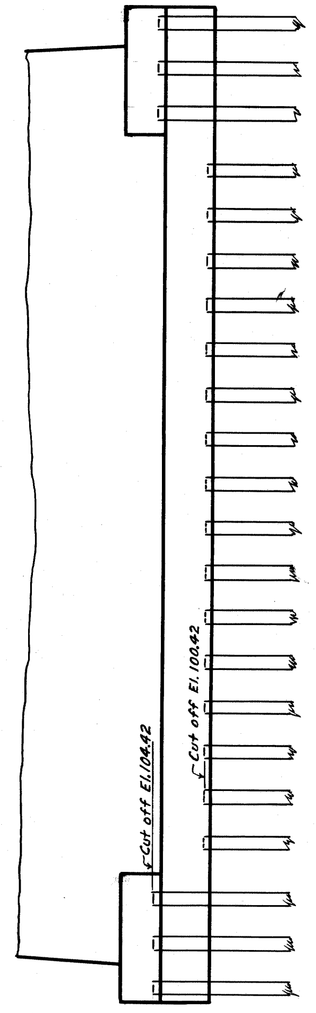
Record of test borings added 7-10-30.

File BW 27.0 - 1

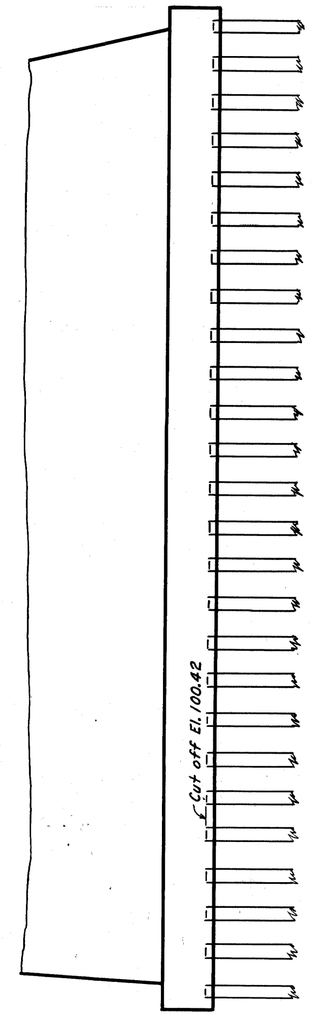


PLAN

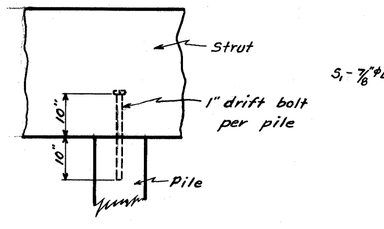
East Abutment same as West Abutment



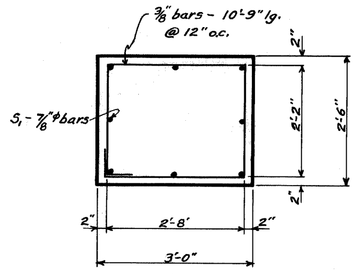
ELEVATION ABUTMENT FOOTING



ELEVATION PIER FOOTING



PILE CONNECTION FOR STRUT
Scale :- ½"=1'-0"

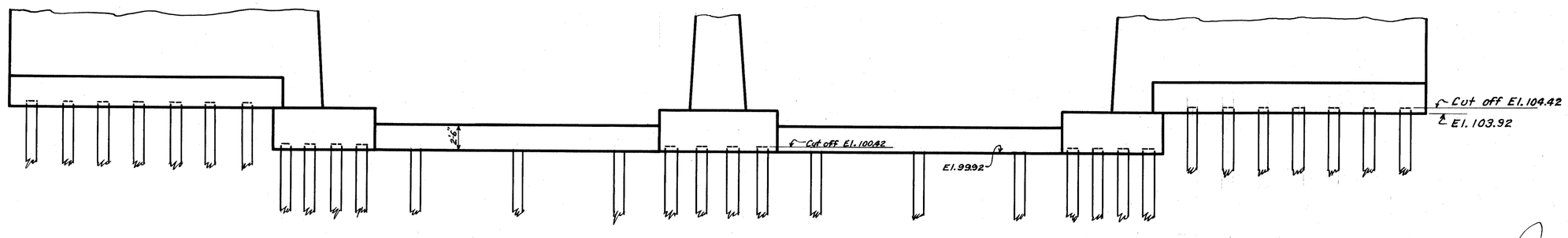


STRUT CROSS-SECTION
Scale :- ½"=1'-0"

STRUTS - BAR LIST
"D2" 24 - ⅞" bars @ 18'-0" lg. dowels.
"S," 48 - ⅞" bars @ 27'-9" lg. - lengthwise.
"D," 48 - ⅞" bars @ 7'-0" lg. - dowels.
168 - ⅞" bars @ 10'-9" lg. - ties.

STRUTS - QUANTITIES
Reinforcing Steel - 5000 #s.
Concrete - 46.7 cu. yds.
Drift Bolts. (sq. head) - 18. - 1" ø @ 20" lg.
Piles - see general notes.

GENERAL NOTES
Total number of piles - 374.
All piles driven with a steam hammer.
Length of piles to be determined by test piles, which shall develop a bearing capacity of 20 tons each, according to the following formula : $P = \frac{2wh}{s+0.1}$
P = safe bearing capacity in pounds.
w = weight of steam hammer in pounds.
h = drop of hammer in feet.
s = average penetration per blow in inches under last blow.
All piles to be cut off at elevation shown.
Allow 2 feet for cut off.
Cofferdams to be constructed of steel or Wakefield sheeting, and must be watertight.



Approved :-
Perry A. Fellows.
City Engineer
Fred Rauch
Commissioner of Parks and Blvds.

CITY OF DETROIT
DEPARTMENT OF PARKS & BOULEVARDS
OFFICE OF CITY ENGINEER

BRIDGE OVER RIVER ROUGE
(SOUTH OF PLYMOUTH ROAD)
RIVER ROUGE PARK

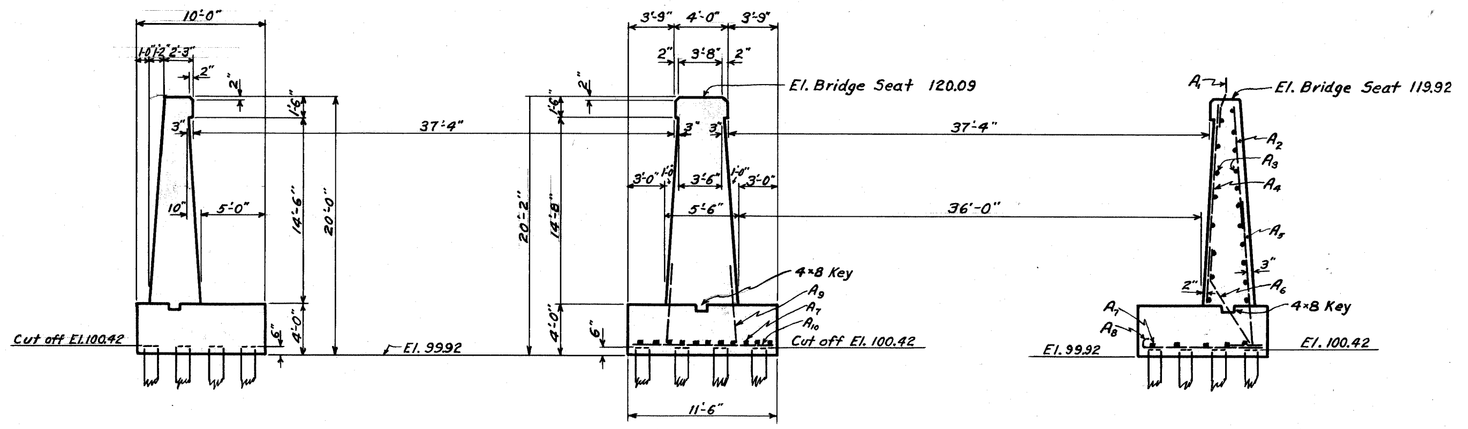
PILING & STRUT DETAILS

SCALE :- 1/8"=1'-0", 1/4"=1'-0"
DESIGNED BY - J.T.H.
DRAWN BY - J.T.H.
CHECKED BY - R.S.G. 3-30

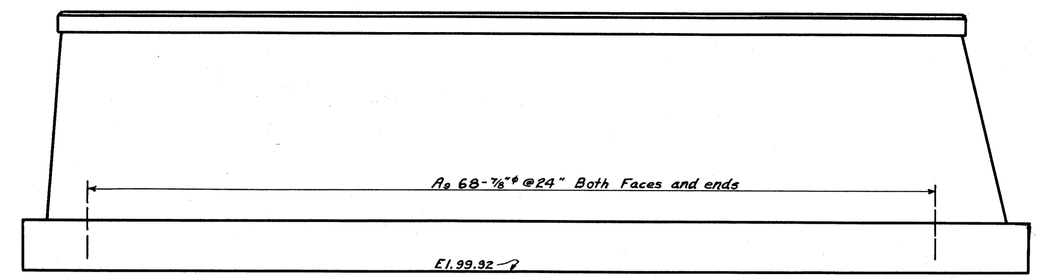
APRIL 29, 1930.

Sheet No.2

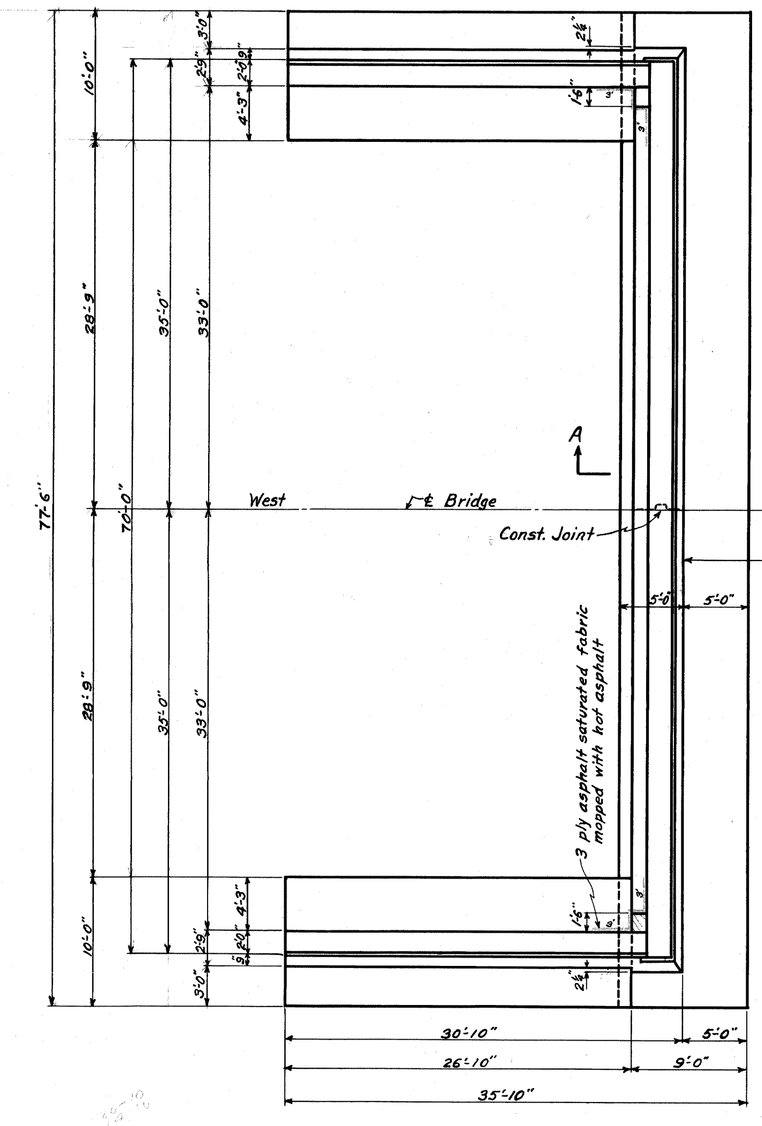
File BW 270-2



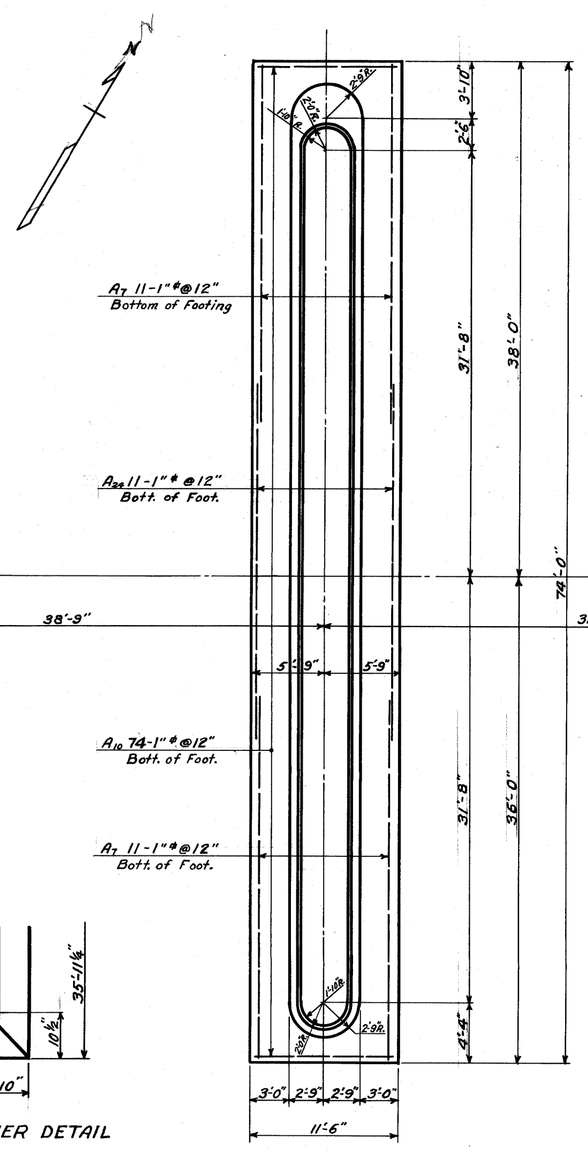
SECTION A-A



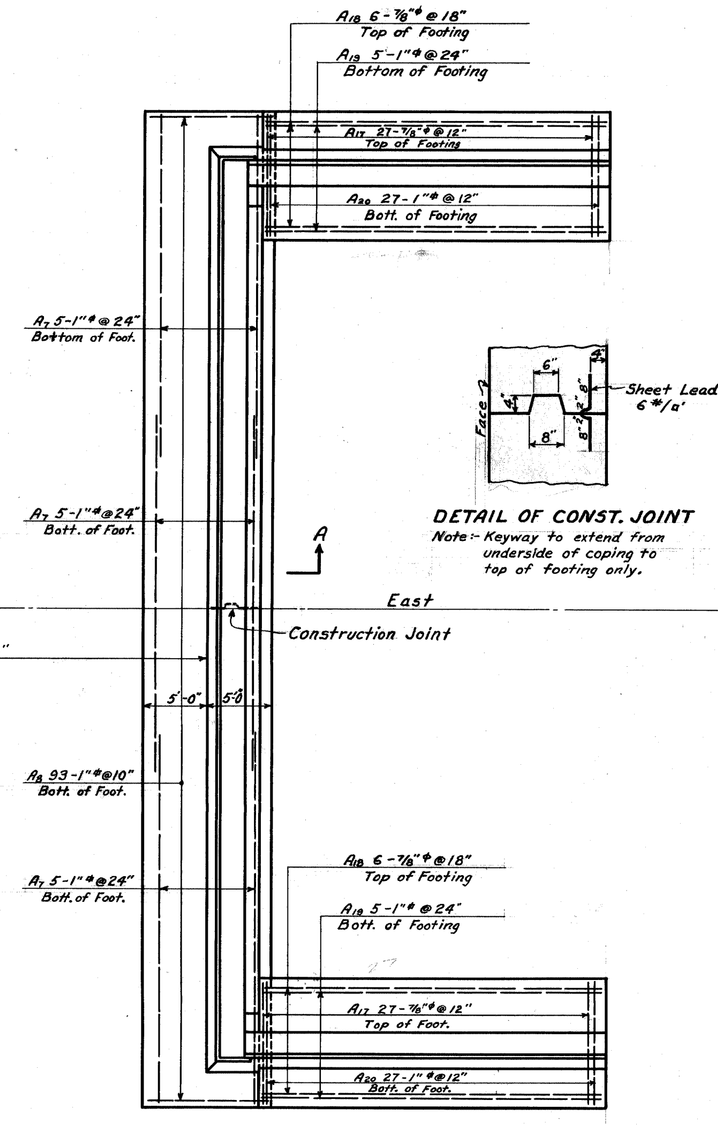
ELEVATION - PIER



PLAN - WEST ABUTMENT



PLAN - PIER

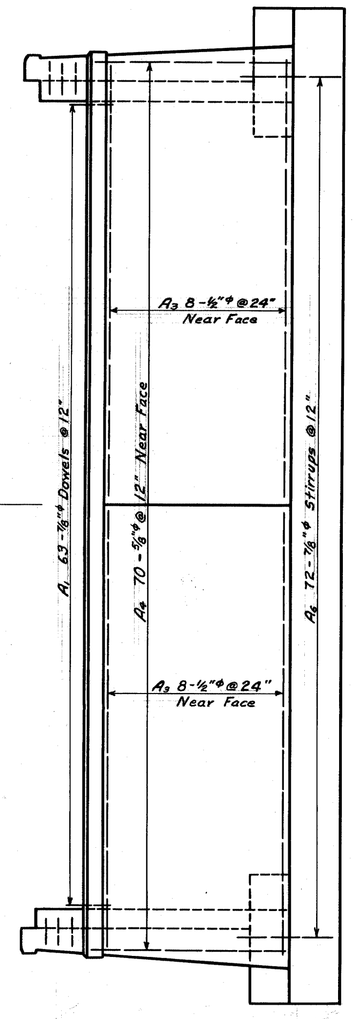


PLAN - EAST ABUTMENT

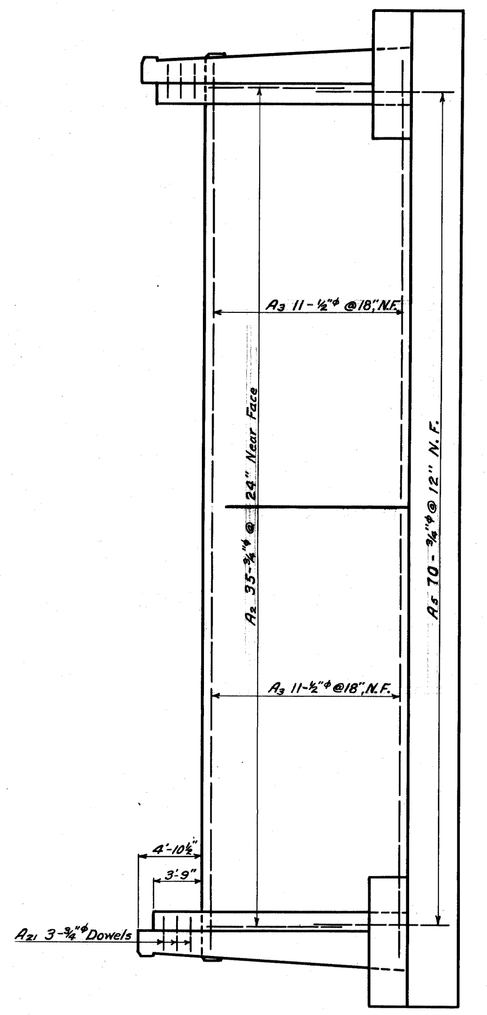
Same as West Abutment.

DETAIL OF CONST. JOINT

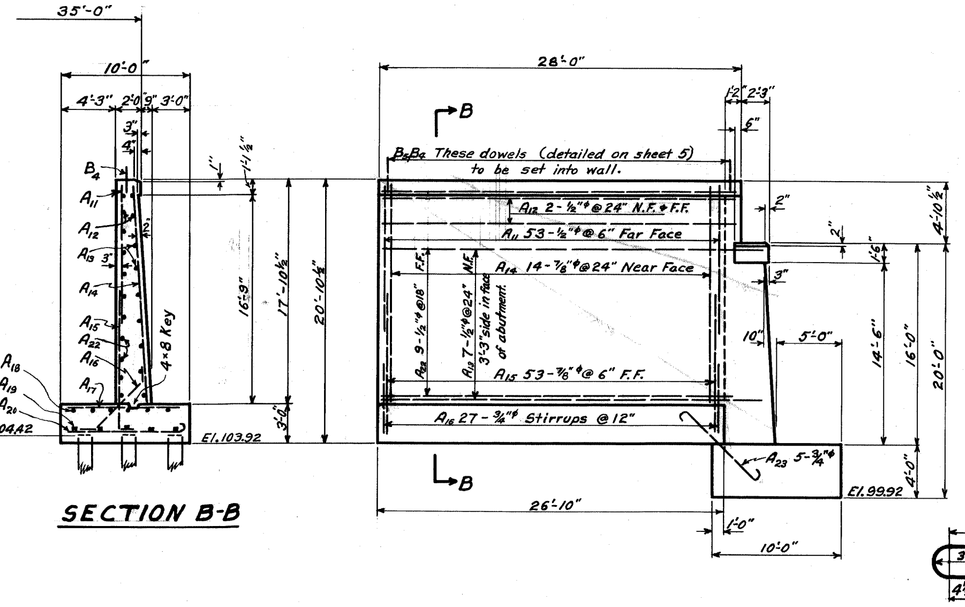
Note:- Keyway to extend from underside of coping to top of footing only.



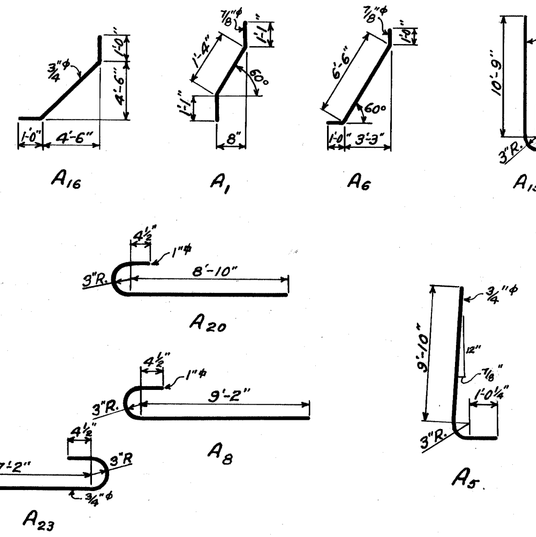
FRONT ELEVATION - WEST ABUTMENT



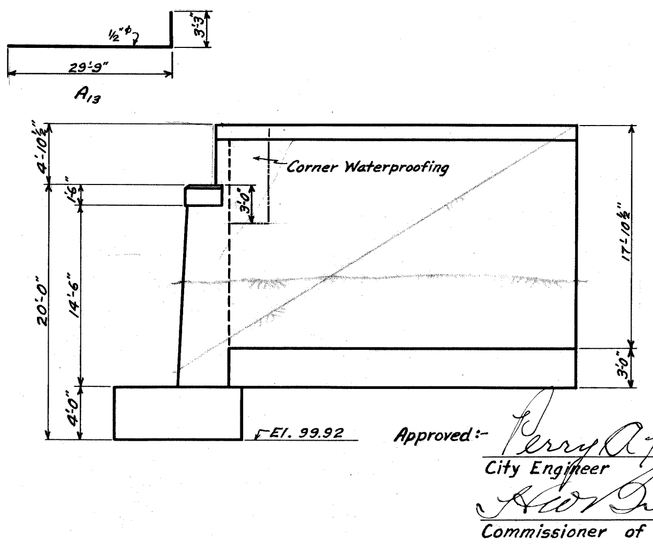
REAR ELEVATION - EAST ABUTMENT



SECTION B-B



CORNER DETAIL



BILL OF REINFORCING BARS					
	Mark	Number	Size	Remarks	Length
ABOVE FOOTINGS	A_1	126	⅞"ϕ	Bent	3'-6"
	A_8	70	¾"ϕ	Straight	10'-6"
	A_9	76	½"ϕ	"	34'-6"
	A_4	140	⅝"ϕ	"	15'-9"
	A_{11}	212	½"ϕ	"	11'-6"
	A_{12}	16	½"ϕ	"	27'-6"
	A_{13}	28	½"ϕ	Bent	33'-0"
	A_{14}	56	⅞"ϕ	Straight	17'-6"
	A_{21}	12	¾"ϕ	"	3'-0"
	A_{23}	36	½"ϕ	"	29'-6"
FOOTINGS	A_2	140	¾"ϕ	Hooked	11'-3"
	A_6	144	⅞"ϕ	Bent	8'-6"
	A_7	52	1"ϕ	Straight	28'-0"
	A_8	186	1"ϕ	Hooked	10'-4"
	A_9	68	⅞"ϕ	Straight	6'-0"
	A_{10}	74	1"ϕ	"	11'-0"
	A_{15}	212	⅞"ϕ	Hooked	12'-0"
	A_{16}	108	¾"ϕ	Bent	8'-4"
	A_{17}	108	⅞"ϕ	Straight	8'-0"
	A_{18}	24	⅞"ϕ	"	26'-0"
	A_{19}	20	1"ϕ	"	26'-0"
	A_{20}	108	1"ϕ	Hooked	10'-0"
	A_{23}	20	¾"ϕ	"	9'-6"
	A_{22}	11	1"ϕ	Straight	24'-0"

QUANTITIES

Concrete :- Footings		Above Footings	
W. Abut. -	173.0 c.y.	206.2	c.y.
E. Abut. -	173.0 "	206.2	"
Pier. -	129.1 "	180.5	"
	475.1 c.y.	592.9	c.y.

Reinforcing Steel: 48000 ±
Rubbing Concrete: 6500 sq. ft

GENERAL NOTES

Concrete mix for footings to be 1:2½:4.
Concrete mix above footings to be 1:2:3.
All coarse aggregate: 1½".
Chamfer all exposed edges 1".
Exposed concrete surfaces to be rubbed as soon as forms are removed. No cement grout to be used on rubbed surfaces. (use power grinder)
All reinforcing bars securely wired at intersections and at laps. Lap all bars 40 diameters.
Locate construction joints as shown.
No concrete shall be placed until bars to be encased are securely fastened in place.
Form lumber, for exposed surfaces, not less than 2" thick, dressed on 4 sides, and not over 8" wide.

Approved:- Perry A. Fellows
City Engineer
Leon Gusch
Commissioner of Parks & Blvds.

CITY OF DETROIT
DEPARTMENT OF PARKS & BOULEVARDS
OFFICE OF CITY ENGINEER

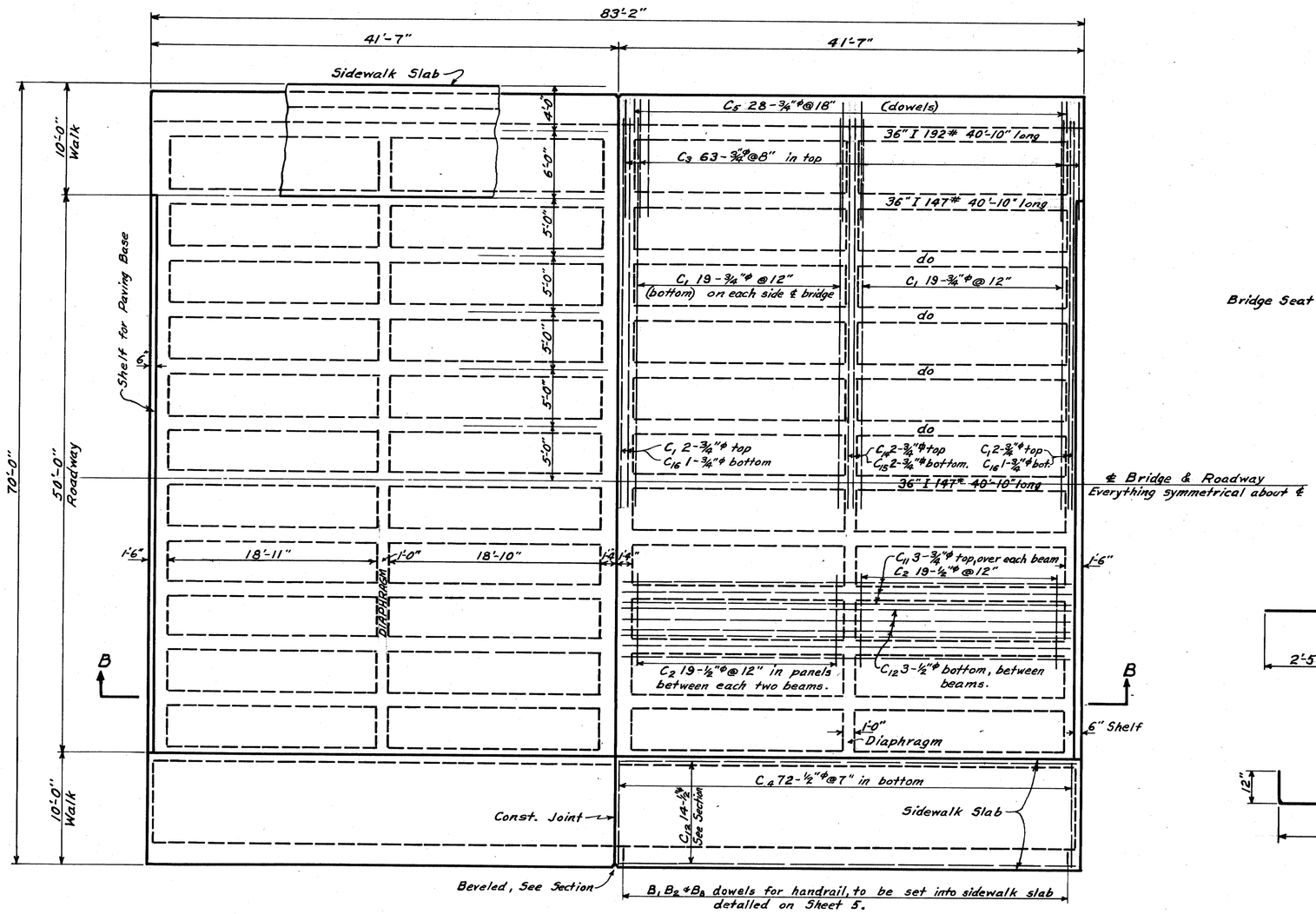
BRIDGE OVER RIVER ROUGE
(SOUTH OF PLYMOUTH ROAD)
RIVER ROUGE PARK
SUBSTRUCTURE DETAILS

SCALE :- ⅛"=1'-0" May 7, 1930

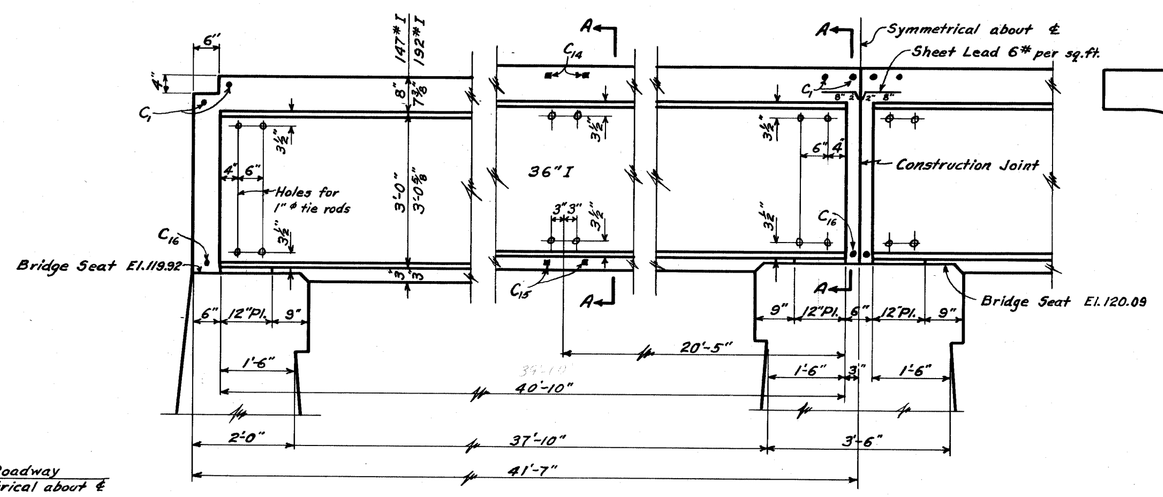
DESIGNED BY - A.T.N
DRAWN BY - A.T.N
CHECKED BY K.S. 6/3/30

Sheet No. 3.

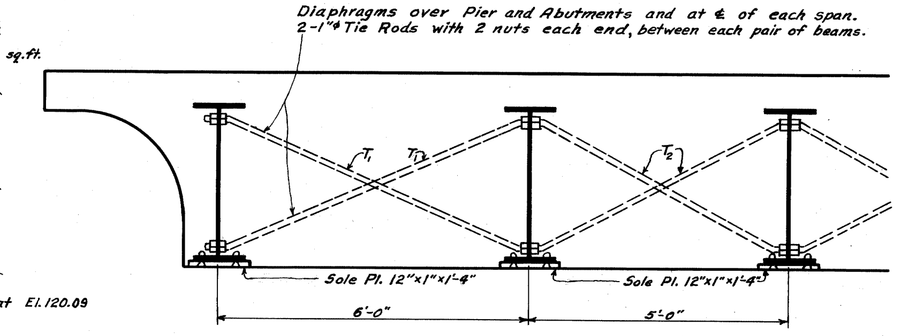
File BW 270-3



PLAN
Scale:- 1/8"=1'-0"

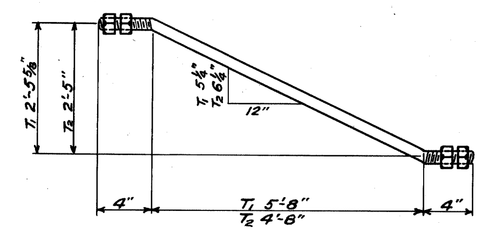


PART SECTION B-B
Scale:- 1/2"=1'-0"

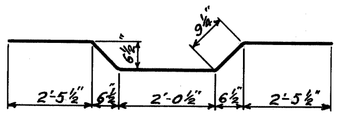


Note: Plates at Pier and abutments only.

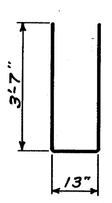
SECTION A-A
Scale:- 1/2"=1'-0"



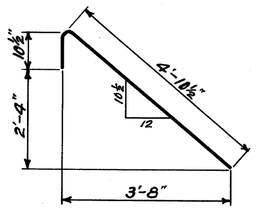
TIE ROD T1 & T2



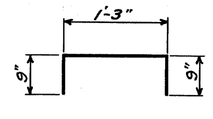
BAR C2



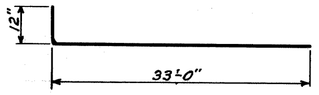
BAR C8



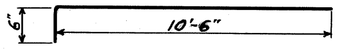
BAR C5



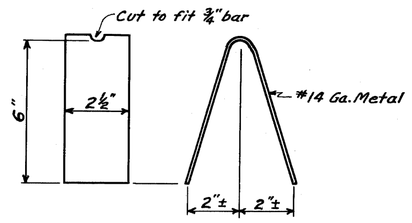
BAR C7



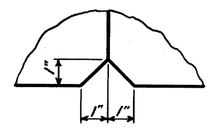
BAR C15



BAR C3

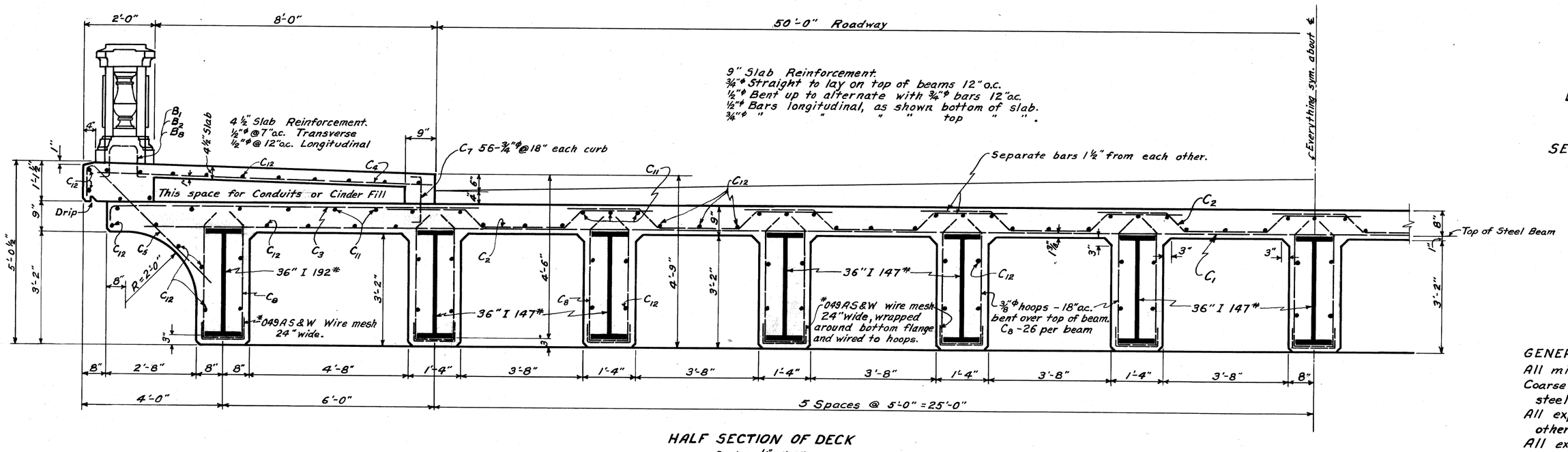


CHAIR

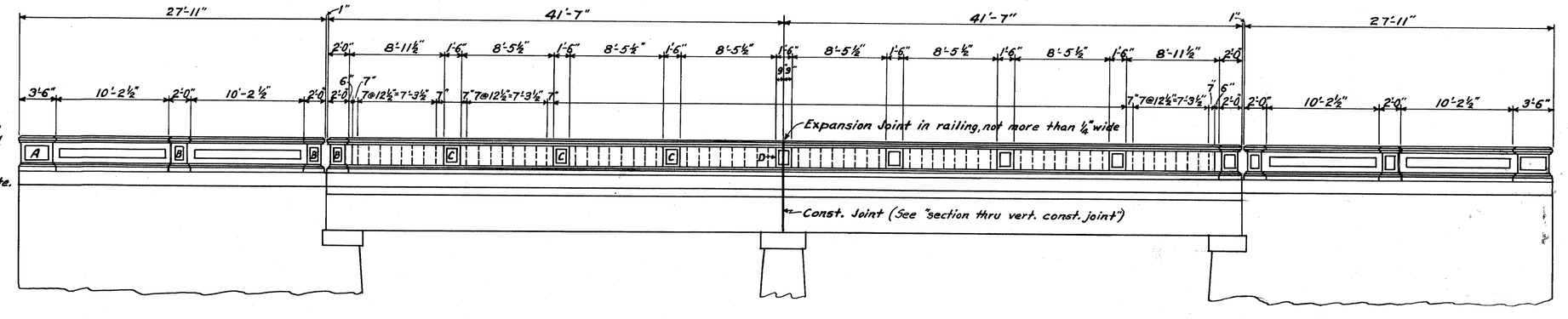


SECTION THRU VERTICAL CONSTRUCTION JOINT

BAR SCHEDULE					
Mark	Number	Size	Length	Remark	Location
9" Slab					
C_1	152	⅜"ø	35'-0"	Straight	Bottom.
C_2	760	½"ø	8'-6"	Bent	
C_3	252	⅜"ø	11'-0"	Hooked	Top.
C_5	112	⅜"ø	5'-9"	"	Edge - dowel.
C_{11}	86	⅜"ø	41'-0"	Straight	Top.
C_{12}	84	½"ø	41'-0"	"	Bottom.
4½" Slab					
C_4	288	½"ø	9'-6"	Straight	Bottom.
C_7	112	⅜"ø	2'-9"	Bent	Curb - dowel.
C_{12}	56	½"ø	41'-0"	Straight	Bottom.
Beams					
C_8	676	⅜"ø	8'-3"	Bent	Stirrups.
C_{12}	108	½"ø	41'-0"	Straight	Longitudinal.
T_1	24	1"ø	6'-10"	Bent	Diaphragm.
T_2	120	1"ø	5'-11"	"	"
#049 AS&W	975 Lft.	24" wide		Wire Mesh	(No allowance for waste or laps)
#14 mchd	400			Chair	See Detail.
C_1	16	¾"ø	35'-0"	Straight	Diaphragm.
C_{15}	8	¾"ø	33'-3"	"	"
C_{16}	8	¾"ø	35'-0"	"	"
C_{13}	8	¾"ø	34'-0"	Hooked	"
Hand Rail (Bent bars detailed on Sheet 5)					
B_1	48	½"ø	8'-3"	Bent	Posts C&D and near Posts B in Bridge
B_2	12	½"ø	8'-9"	"	At end of bridge.
B_3	128	½"ø	3'-6"	"	Spindles.
B_4	112	½"ø	9'-0"	"	Panels of Approach.
B_5	40	½"ø	9'-6"	"	Posts A and B of Approach.
B_6	72	½"ø	13'-6"	Straight	Top and bottom of Approach.
B_7	36	½"ø	41'-0"	"	" " " Bridge.
B_8	110	½"ø	2'-9"	Bent	Dowels in base on Bridge.



HALF SECTION OF DECK
Scale:- 1/2"=1'-0"



Place name plates on inside face of S.W. and N.E. End Posts "A" with face of plates flush with surfaces of concrete. Plates to be furnished by City of Detroit.

ELEVATION OF HAND RAIL
Scale:- 1/8"=1'-0"

GENERAL NOTES
All mix to be 1:2:3
Coarse aggregate, in concrete around bottom of steel beams ¾", all other to be 1½".
All exposed edges chamfered 1" unless shown otherwise.
All exposed surfaces of concrete to be rubbed as soon as forms are removed. No cement grout to be used on exposed surfaces. (use power grinder)
All reinforcing bars securely wired at intersections and at laps. Lap all bars 40 diameters.
Locate construction joints as shown. (See details for exposed vertical joints)
Place all dowels for the hand railing in sidewalk slab as shown and called for on sheet No. 5.
Form lumber, for exposed surfaces, not less than 2" thick, dressed on 4 sides, and not over 8" wide.

QUANTITIES		
Concrete	3946	cu.yds.
Reinforcing Steel	42,500	lbs.
Structural Steel	83.14	tons
Precast Spindles	128.	
Handrailing	278	lin.ft.
Rubbing Concrete	3000	sq.ft.

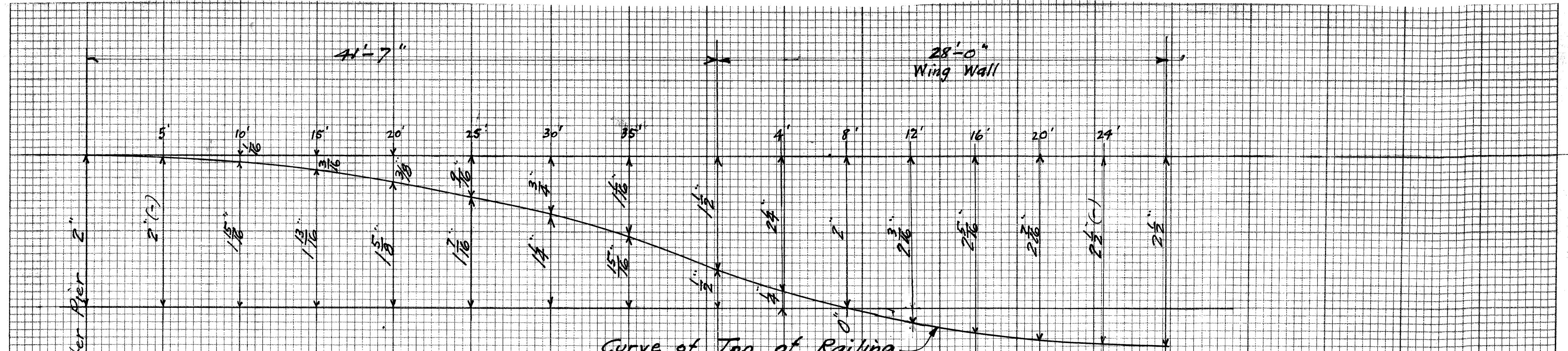
Approved:- Perry A. Fellows
City Engineer
Commissioner of Parks & Blvds.

CITY OF DETROIT
DEPARTMENT OF PARKS & BOULEVARDS
OFFICE OF CITY ENGINEER
BRIDGE OVER RIVER ROUGE
(SOUTH OF PLYMOUTH ROAD)
RIVER ROUGE PARK
DECK DETAILS

SCALE :- AS SHOWN — May 17, 1930
DESIGNED BY - J.T.X.
DRAWN BY - J.T.X.
CHECKED BY - K.S. 6-3-30

Sheet No. 4.

File BW 270-4-4



ROUGE PARK BRIDGE
(South of Plymouth Rd.)

Scale: hor. 1" = 5'
Vert 1" = 1"

Aug. 19-30
R.S.

File BW 270-5

"Reglaced" CROSS SECTION.
THIS FREDERICK POST. CO.