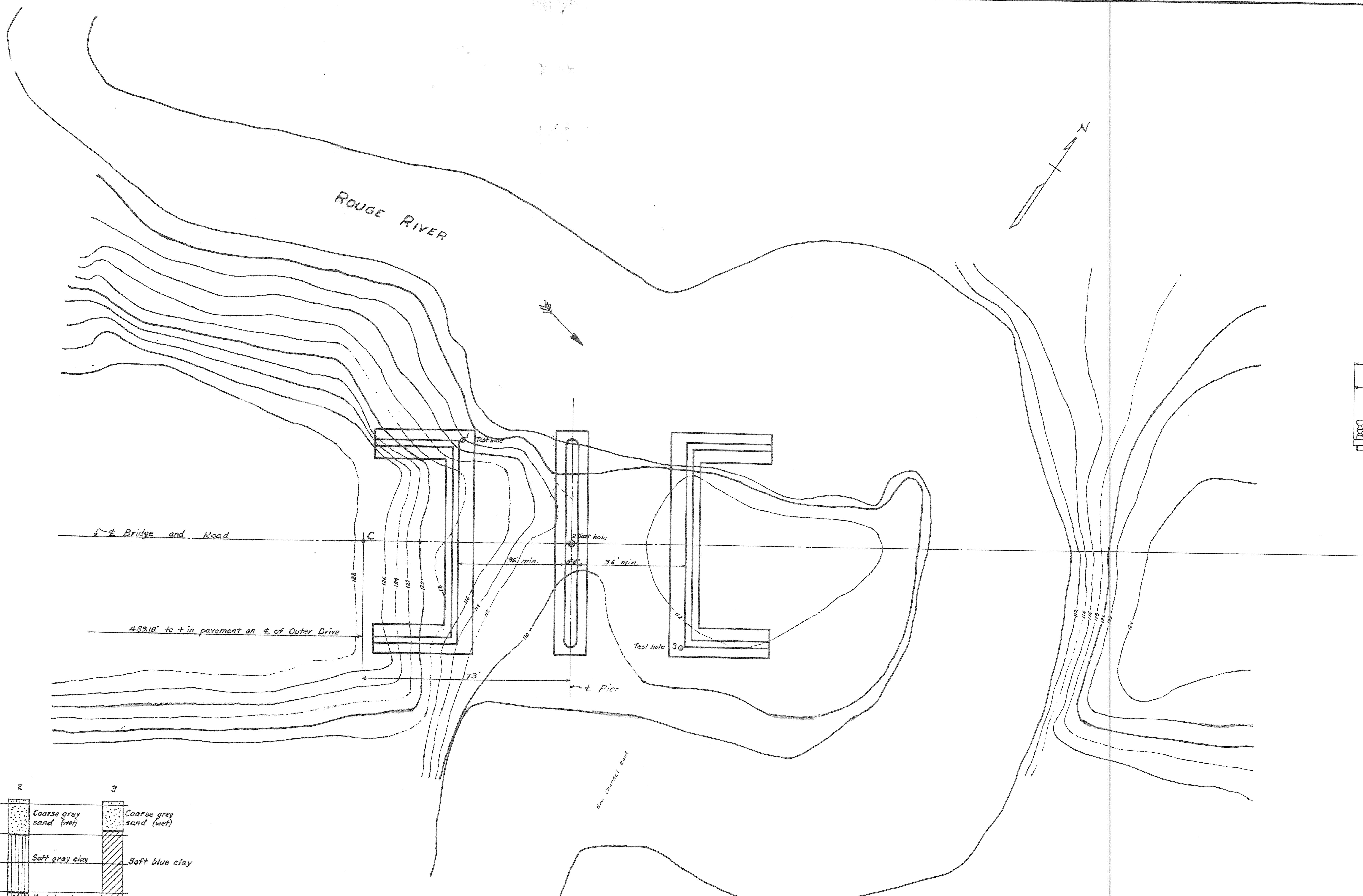
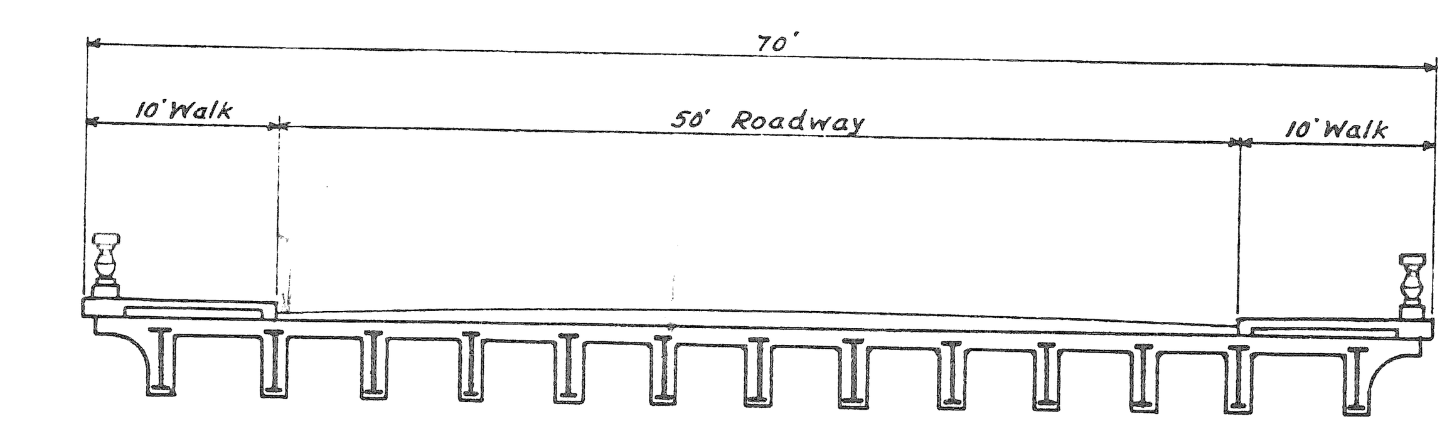


PLAN

Scale: 1"=20'

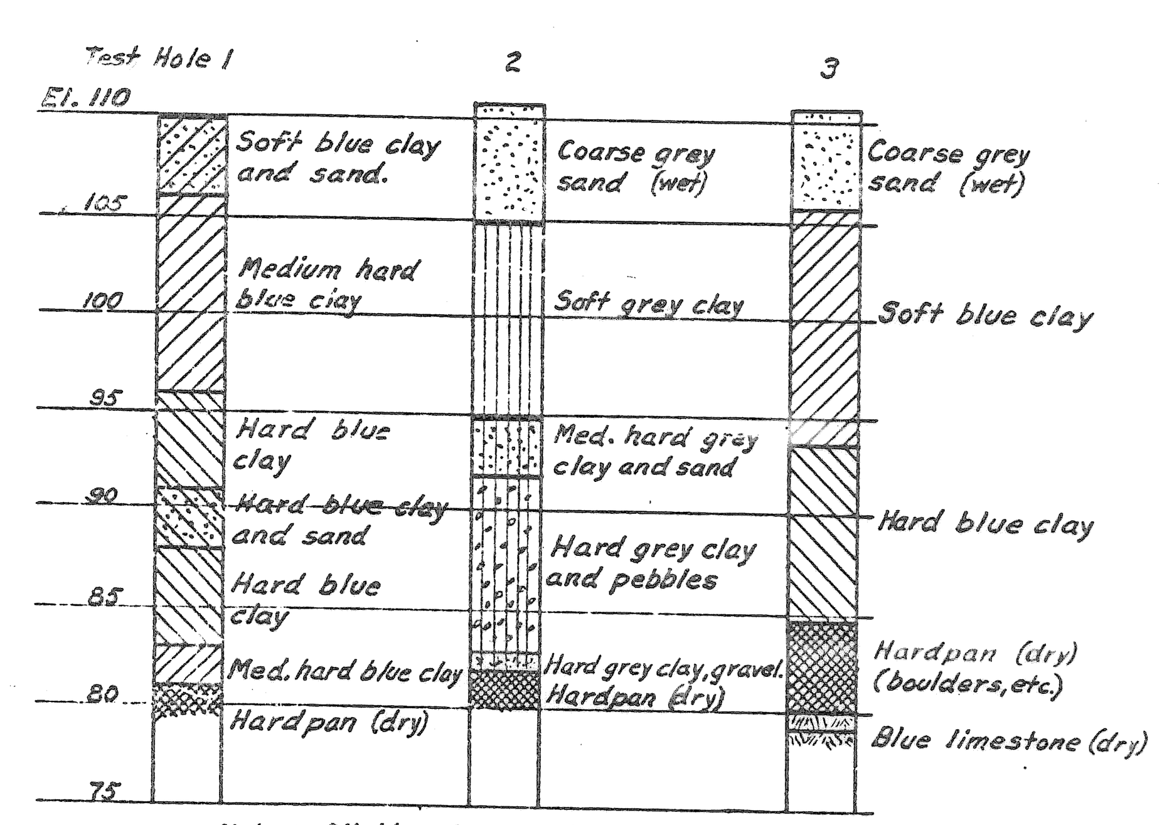


DECK CROSS-SECTION

Scale :- 1"=10'

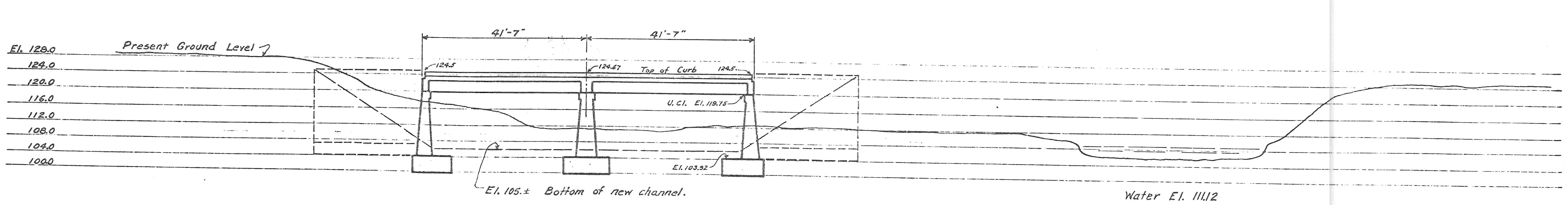
LIST OF DRAWINGS

Sheet No. 1 GENERAL PLAN.
" " 2 PILING & STRUT DETAILS.
" " 3 SUBSTRUCTURE DETAILS.
" " 4 DECK DETAILS.
" " 5 HANDRAILING DETAILS.



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

RECORD OF TEST BORINGS



PROFILE ON ℄ OF BRIDGE

Scale : 1"=20'

Approved :- Henry A. Freeman
City Engineer

[signature]
Commissioner of Parks and Blvds.

SPINOZA DRIVE BRIDGE

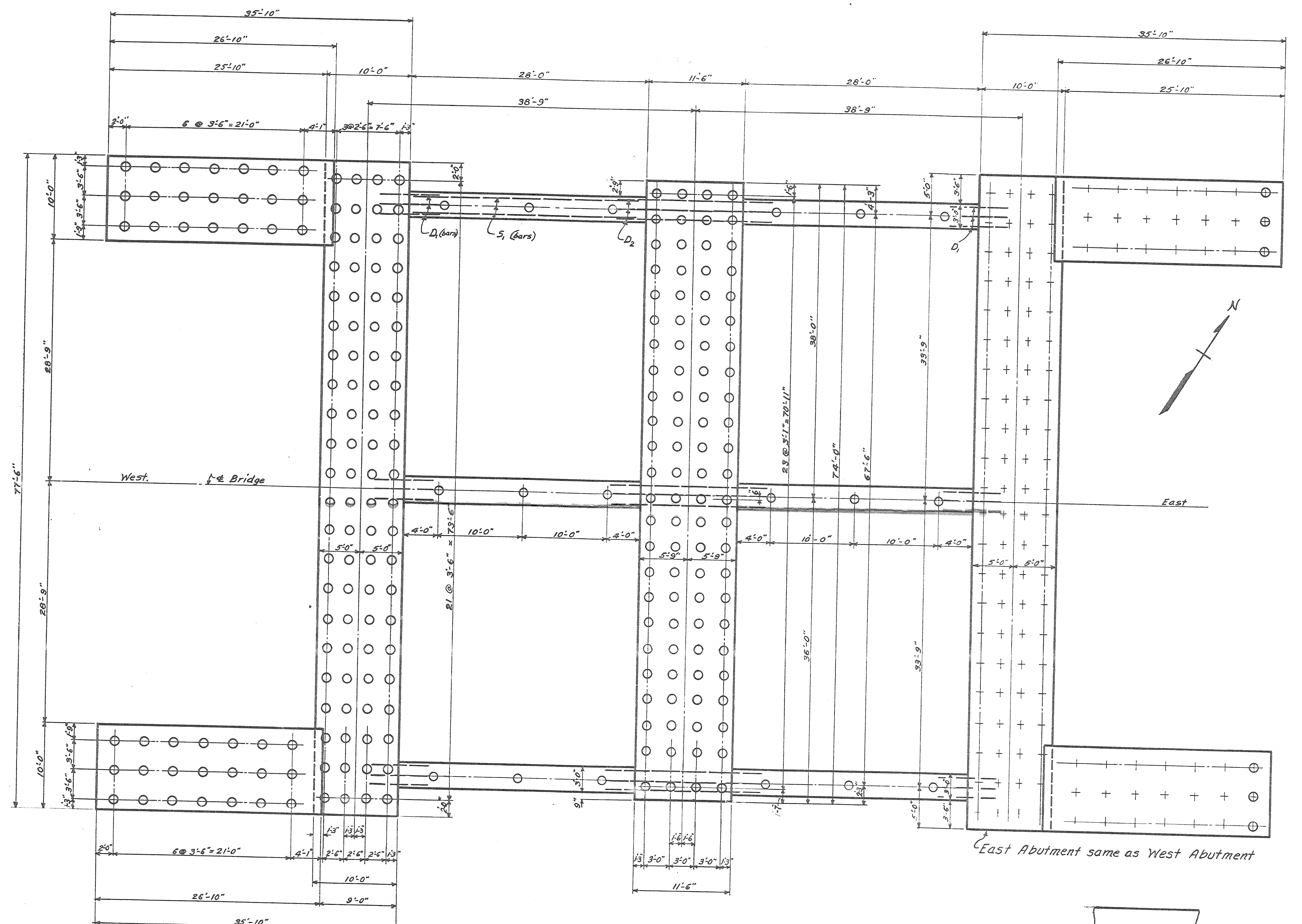
CITY OF DETROIT
DEPARTMENT OF PARKS & BOULEVARDS
OFFICE OF CITY ENGINEER

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

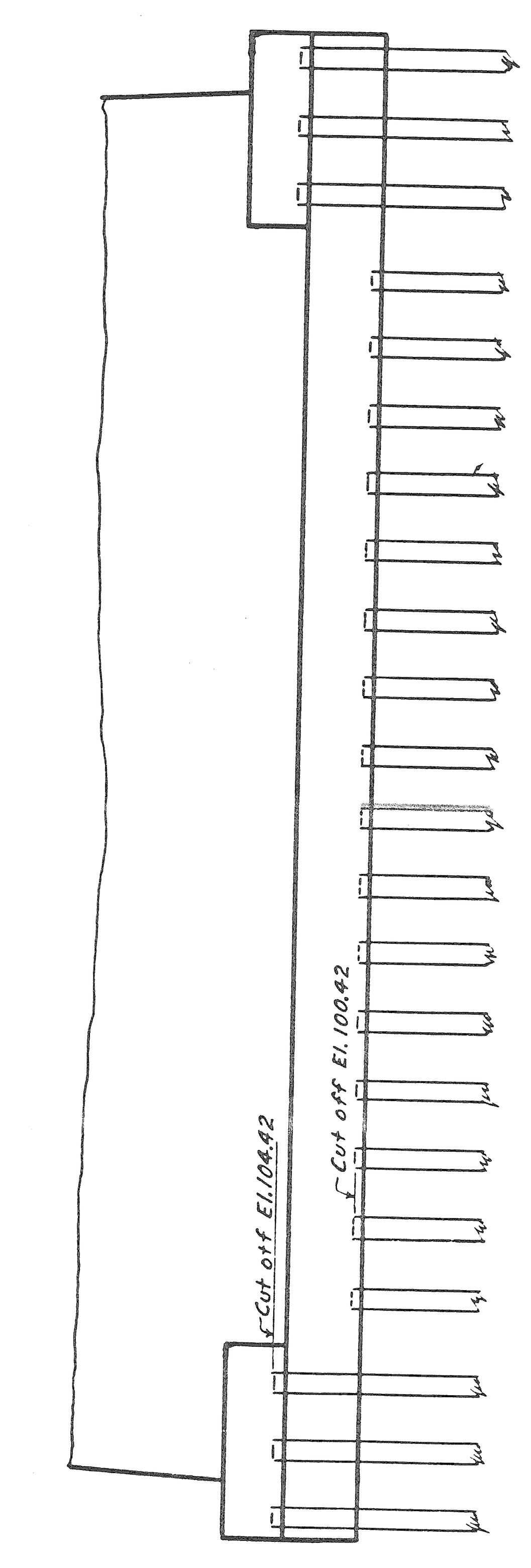
GENERAL PLAN

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

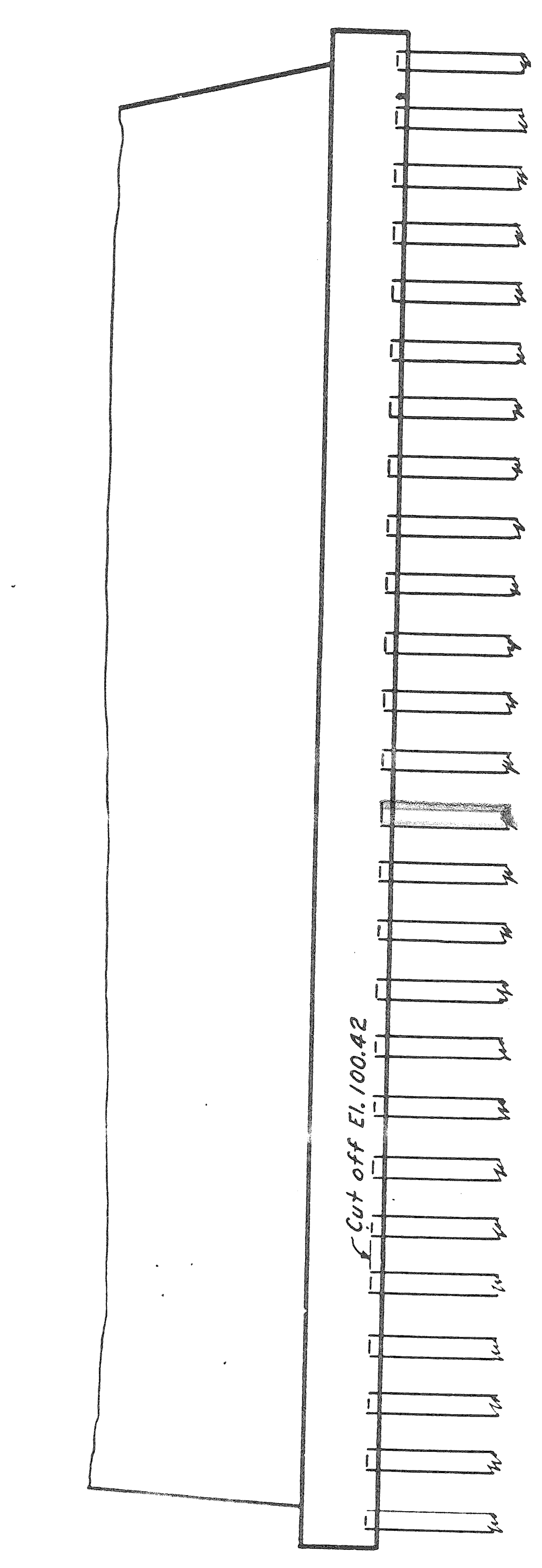
Record of test borings added 7-...
Field Book #794



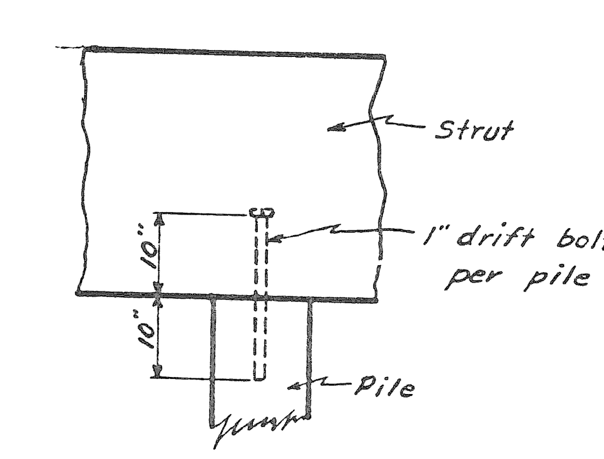
PLAN



ELEVATION ABUTMENT FOOTING

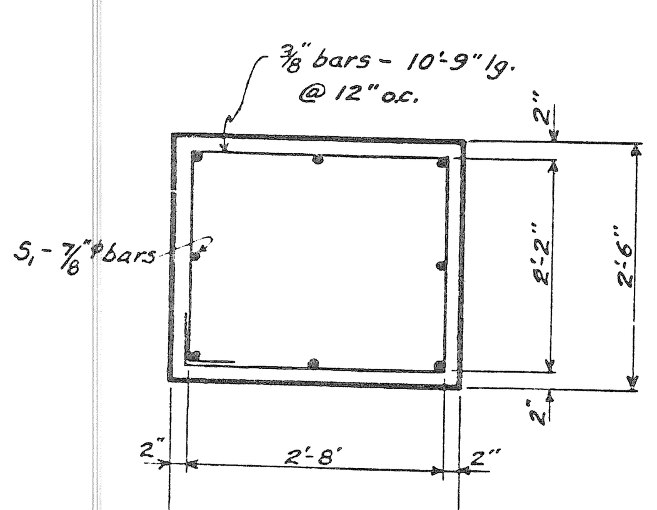


ELEVATION PIER FOOTING



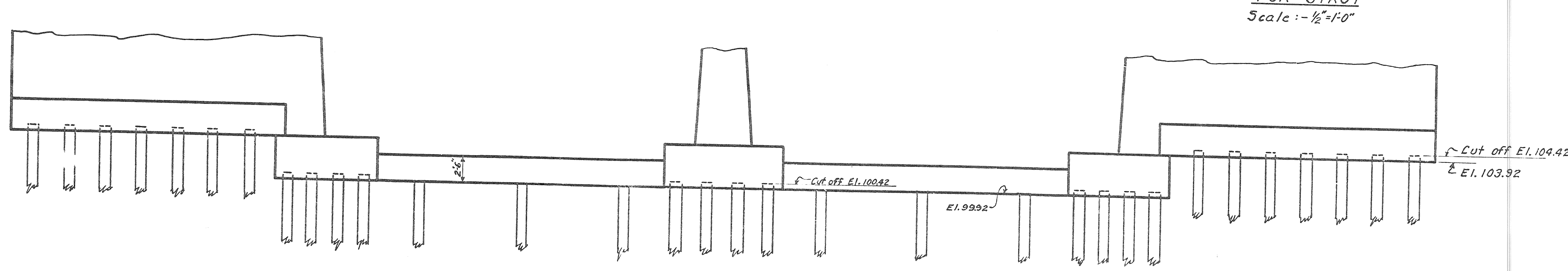
PILE CONNECTION FOR STRUT

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



STRUT CROSS-SECTION

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



STRUTS - BAR LIST

"D2" 24 - 7/8"ϕ bars @ 18'-0" lg. dowels.
"S1" 48 - 7/8"ϕ bars @ 27'-9" lg. - lengthwise.
"D1" 48 - 7/8"ϕ bars @ 7'-0" lg. - dowels.
168 - 3/8"ϕ bars @ 10'-9" lg. - ties.

STRUTS - QUANTITIES

Reinforcing Steel - 5000 pds.
Concrete - 46.7 cu.yds.
Drift Bolts.(sq.head) - 18. - 1"ϕ @ 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.

BW 270.

Approved :- Perry A. Fellows
City Engineer

[signature]
Commissioner of Parks and Blvds.

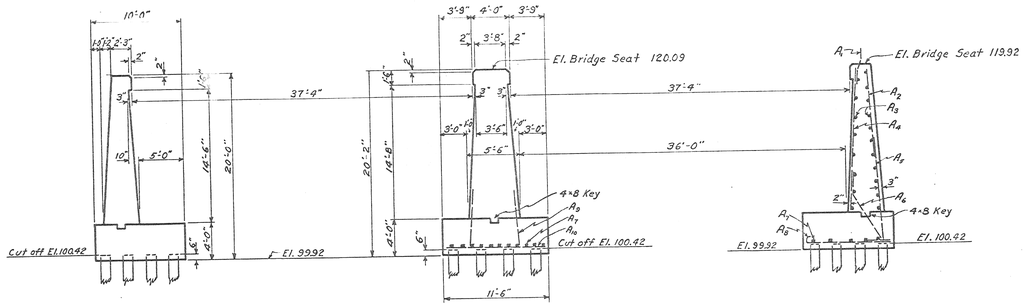
CITY OF DETROIT
DEPARTMENT OF PARKS & BOULEVARDS
OFFICE OF CITY ENGINEER

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

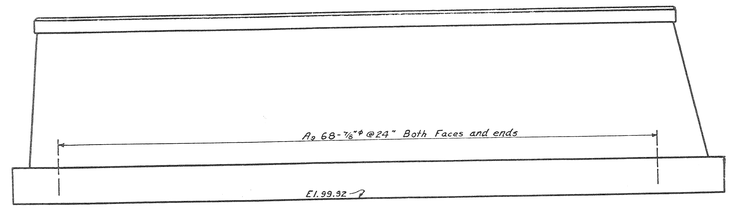
PILING & STRUT DETAILS

SCALE :- 1/8" = 1'-0", 1/2" = 1'-0" APRIL 29, 1930.
DESIGNED BY - J.T.H.
DRAWN BY - J.T.H.
CHECKED BY - R.S. 6-3-30

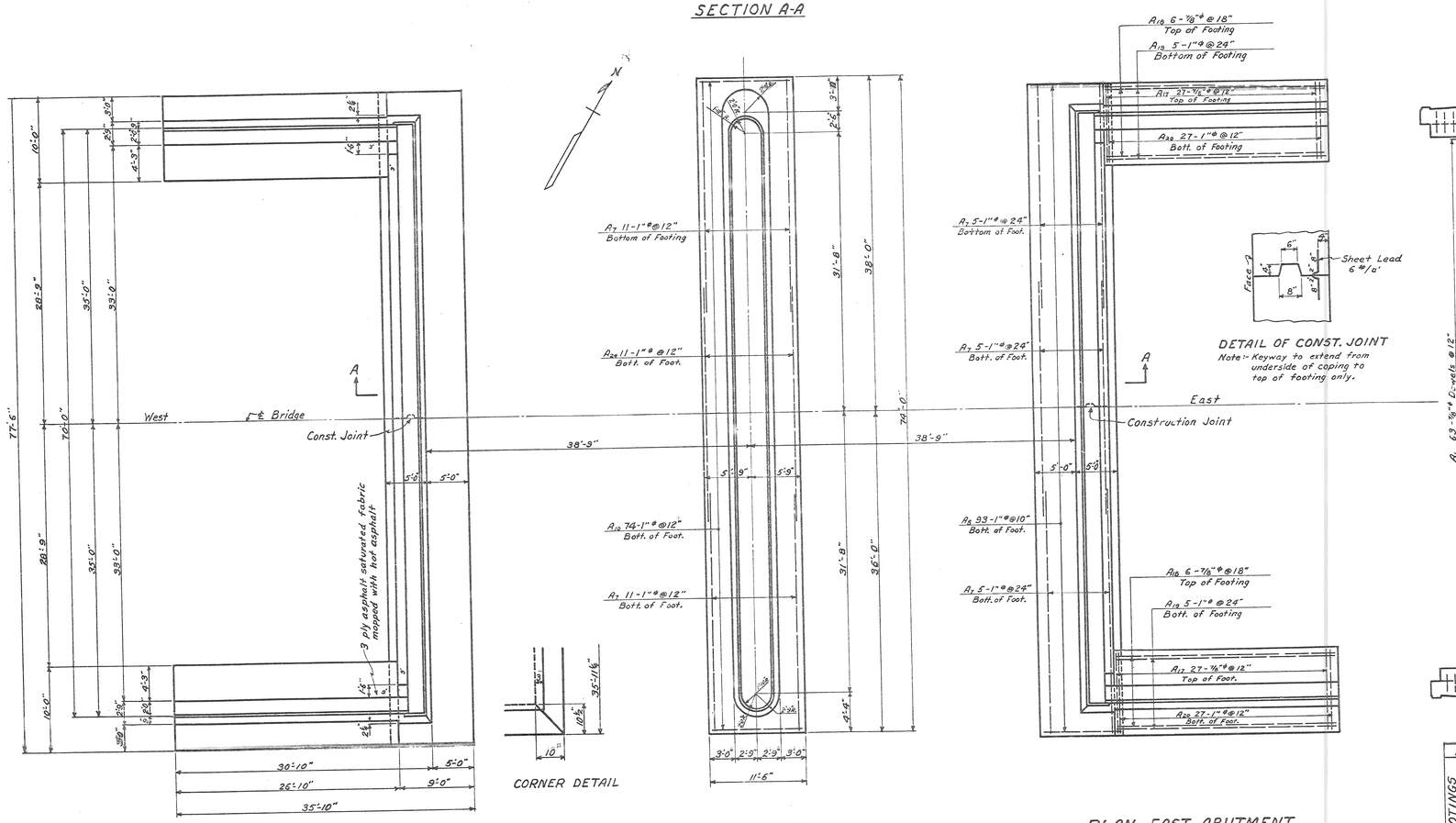
Sheet No. 2



SECTION A-A



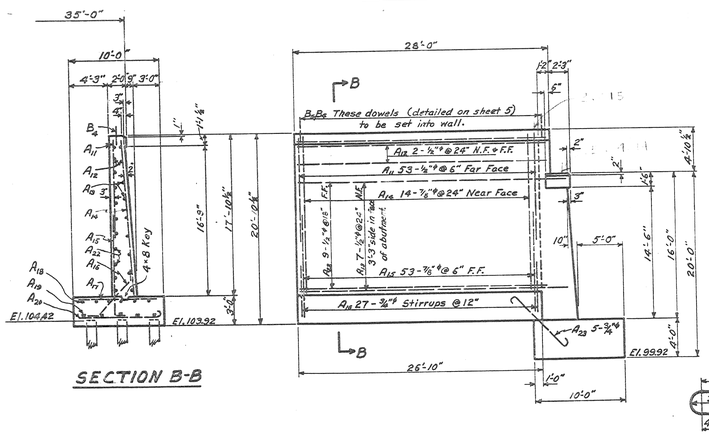
ELEVATION - PIER



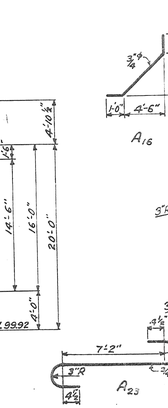
PLAN-WEST ABUTMENT

PLAN-PIER

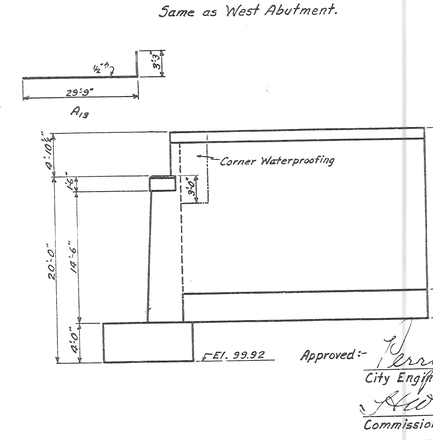
PLAN-EAST ABUTMENT
Same as West Abutment.



SECTION B-B



CORNER DETAIL



Approved:- Terry A. Fellows
City Engineer
H. W. Busch
Commissioner of Parks & Blvds.

BILL OF REINFORCING BARS

	Mark	Number	Size	Remarks	Length
ABOVE FOOTINGS	A_1	126	⅞"ϕ	Bent	3'-6"
	A_2	70	¾"ϕ	Straight	10'-6"
	A_3	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_{22}	36	½"ϕ	"	29'-6"
FOOTINGS	A_2	140	¾"ϕ	Hooked	11'-3"
	A_8	144	⅞"ϕ	Bent	8'-6"
	A_7	52	1"ϕ	Straight	28'-0"
	A_9	186	1"ϕ	Hooked	10'-4"
	A_5	68	⅞"ϕ	Straight	6'-0"
	A_{10}	74	1"ϕ	"	11'-0"
	A_{16}	212	⅞"ϕ	Hooked	12'-0"
	A_{15}	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 cu.y.	592.9	cu.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.

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

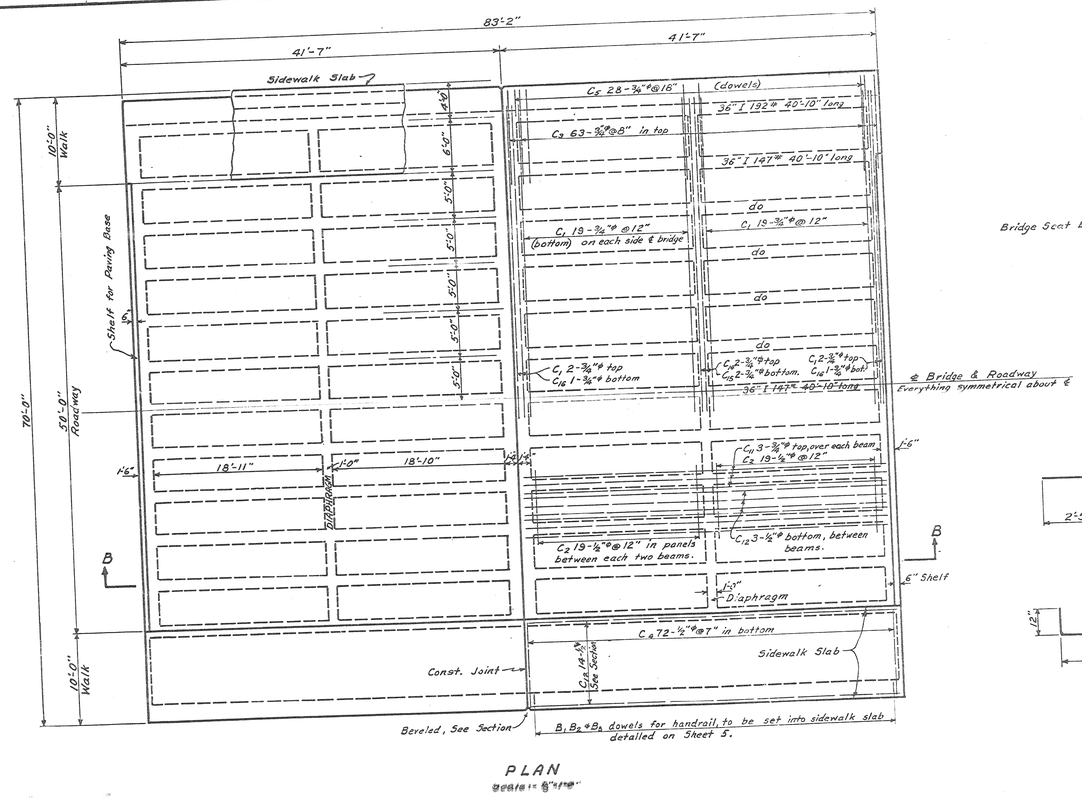
BRIDGE OVER RIVER ROUGE
(SOUTH OF PLYMOUTH ROAD)
RIVER ROUGE PARK

SUBSTRUCTURE DETAILS

SCALE :- ⅛"=1'-0"
DESIGNED BY - A.T.K
DRAWN BY - A.T.K
CHECKED BY K.S. 6/3/30

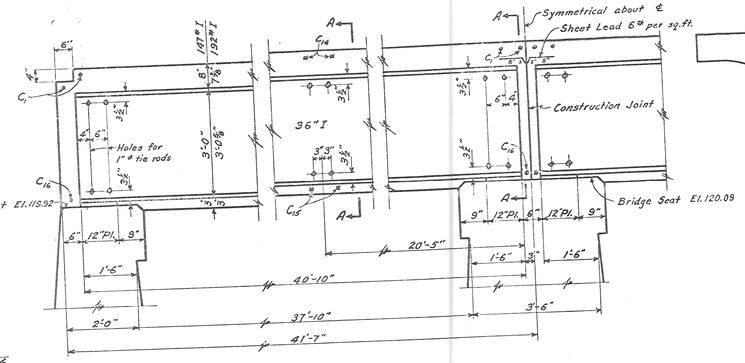
May 7, 1930

Sheet No. 3.



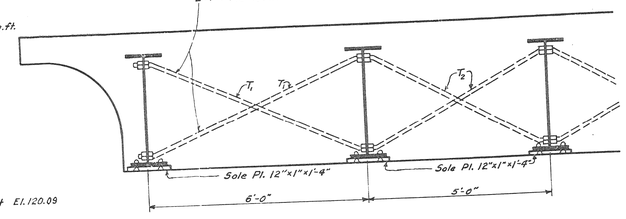
PLAN

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



PART SECTION B-B

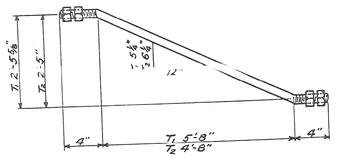
Scale :- 1/2"=1'-0"



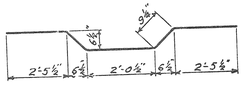
Note: Plates at Pier and abutments only.

SECTION A-A

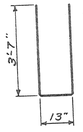
Scale:-1/2"=1'-0"



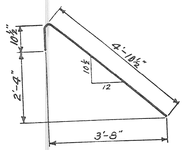
TIE ROD T_1 & T_2



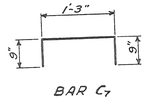
BAR C_2



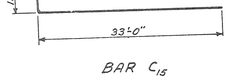
BAR C_8



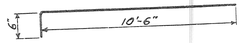
BAR C_5



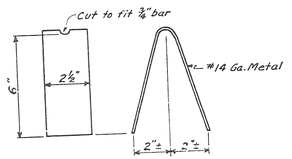
BAR C_7



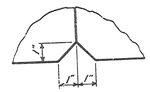
BAR C_{15}



BAR C_3

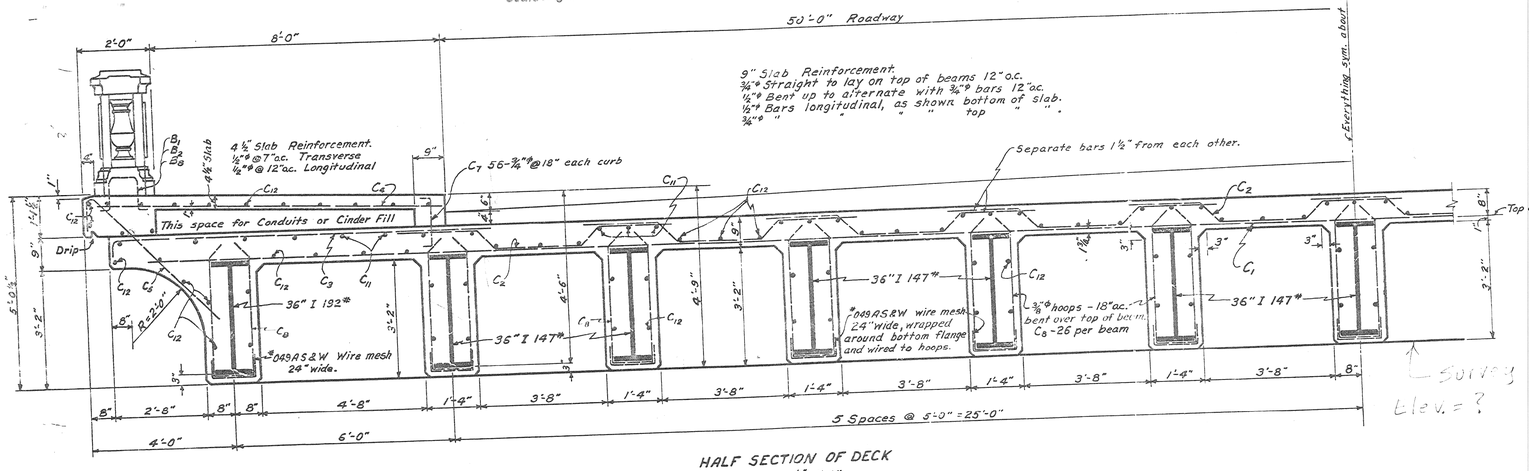


CHAIR



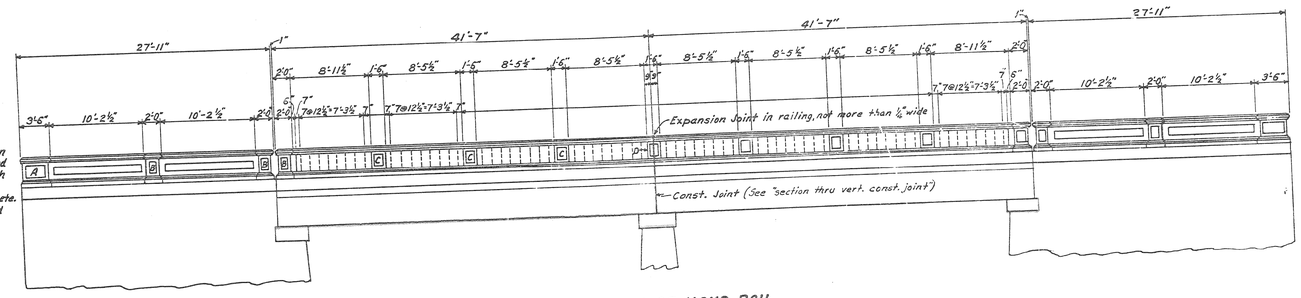
SECTION THRU VERTICAL CONSTRUCTION JOINT

BAR SCHEDULE					
Mark	Number	Size	Length	Remark	Location
9" Slab					
C_1	152	¾"ø	35'-0"	Straight	Bottom.
C_2	760	½"ø	8'-6"	Bent	
C_3	252	¾"ø	11'-0"	Hooked	Top.
C_5	112	⅜"ø	5'-9"	"	Edge - dowel.
C_{11}	86	¾"ø	41'-0"	Straight	Top.
C_{12}	84	½"ø	41'-0"	"	Bottom.
4½" Slab					
C_4	238	½"ø	9'-6"	Straight	Bottom.
C_7	112	¾"ø	2'-9"	Bent	Curb - dowel.
C_{12}	36	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 A.S.&W.	975 Lft.	24" wide		Wire Mesh	(No allowance for waste or laps)
#14 metal	400			Chair	See Detail.
C_1	16	¾"ø	35'-0"	Straight	Diaphragm.
C_{16}	8	⅜"ø	33'-3"	"	"
C_{14}	8	¾"ø	35'-0"	"	"
C_{15}	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 on Brid
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"



ELEVATION OF HAND RAIL

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

Place name plates on inside face of S.W. and N.E. End Posts 20" with face of plates flush with surfaces of concrete. Plates to be furnished by City of Detroit.

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	cuyds.
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
Geo Brasch
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

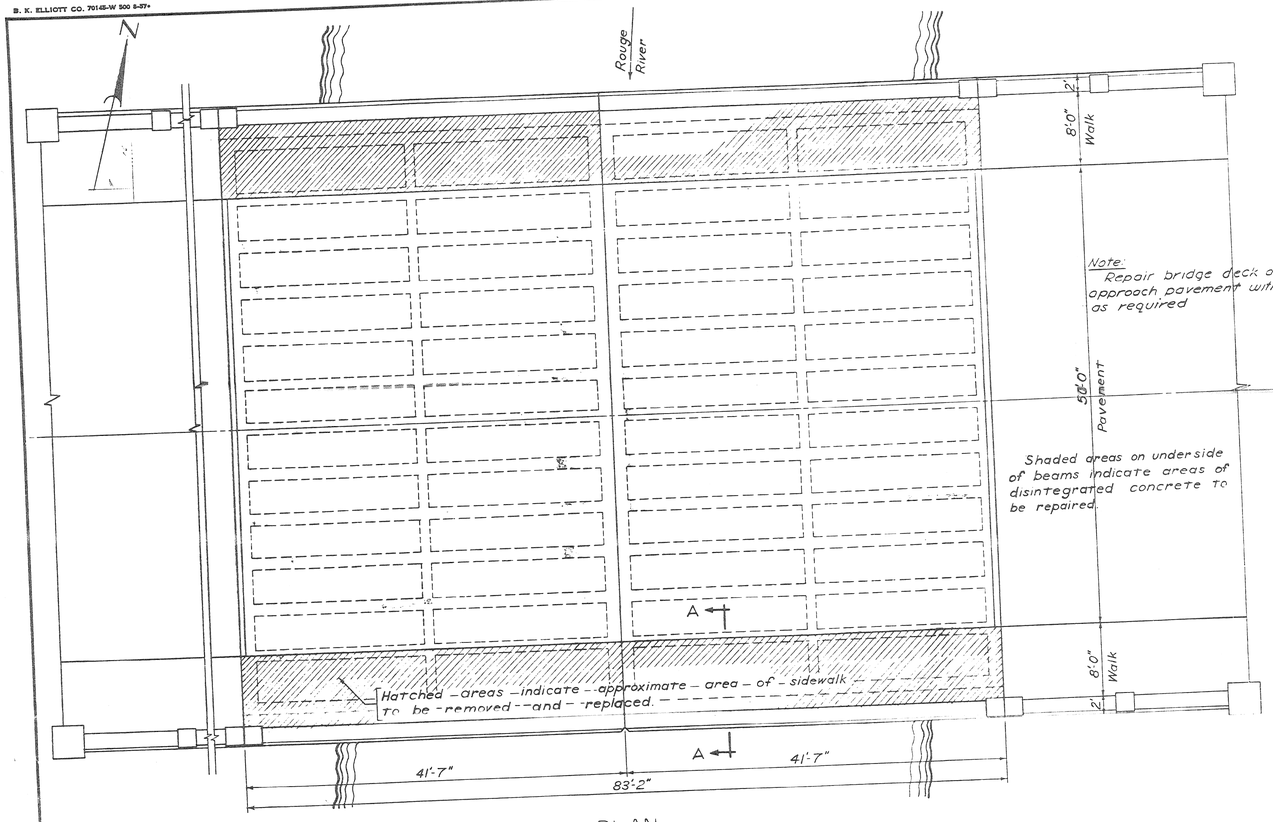
SCALE :- AS SHOWN
DESIGNED BY - J.T.K.
DRAWN BY - J.T.K.
CHECKED BY - R.S. 6-3-30

May 17, 1930

Sheet No. 4.

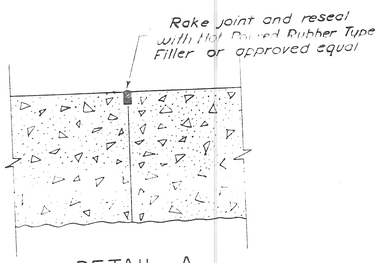
File BW 270-

B. K. ELLIOTT CO. 70145-W 500 8-57



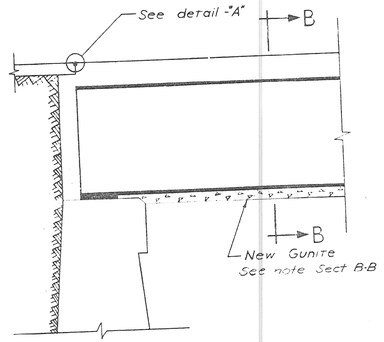
PLAN

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



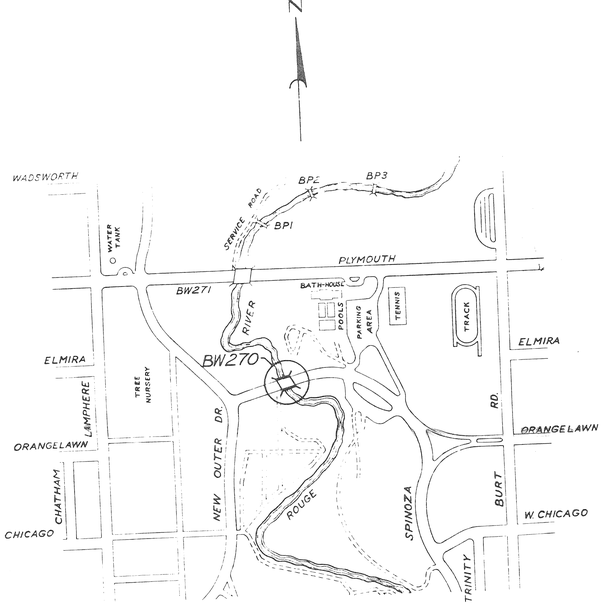
DETAIL A

SCALE 3" = 1' 0"



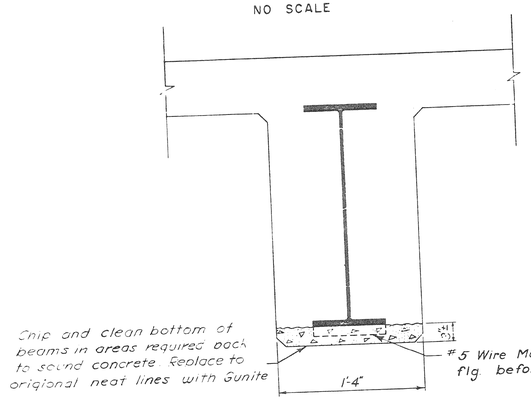
SECTION AT ABUTMENT

SCALE $\frac{1}{2}$" = 1'-0"



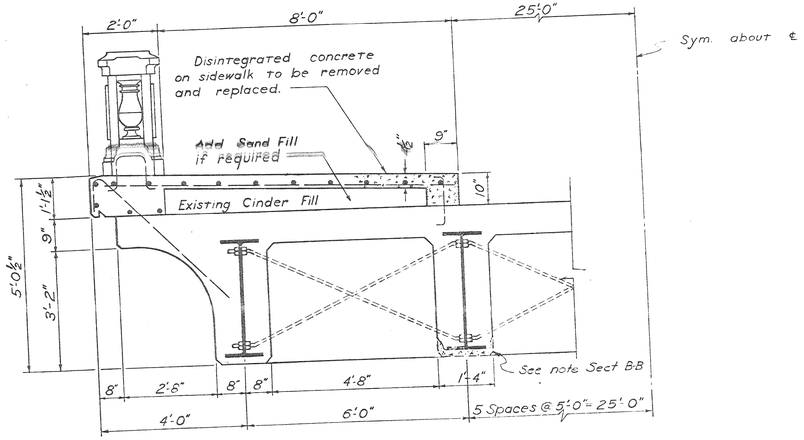
LOCATION PLAN

NO SCALE



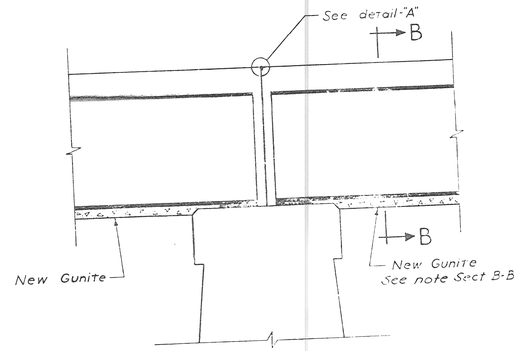
SECTION BB

SCALE 1" = 1'-0"



SECTION — AA

SCALE $\frac{1}{2}$" = 1'-0"



SECTION AT PIER

SCALE $\frac{1}{2}$" = 1'-0"

GENERAL NOTES

Existing reinforcing bars to be re-used when possible. Where replacement is necessary, lap new bars of the same size 20 diameters over sound existing steel.

Gunite shall be damp cured for at least 5 days after placing or by proper application of an approved sealing compound.

Gunite shall not be applied when the air temperature is below 50 degrees except with the permission of the engineer in charge.

ESTIMATED QUANTITIES

Sidewalk Repair	1100 Sq.ft.
Guniting	420 Sq ft
Hot Poured Rubber Type Joint Filler	220 Ln. ft.
Asphalt	as req'd

COORD	DESCRIPTION	DR'N	CK'D	AP'VD	DATE
REVISIONS LOCATED BY COORDINATES ON SHEET					

REFERENCE DRAWINGS

DESIGNED BY

DRAWN BY L.B. Jackson

TRACED BY

CHECKED BY J. Covert

APPROVED:

HIGHWAY & EXPRESSWAY ENGINEER

CITY OF DETROIT
DEPARTMENT OF PUBLIC WORKS
CITY ENGINEERS OFFICE
BUREAU OF HIGHWAYS AND EXPRESSWAYS

BRIDGE MAINTENANCE

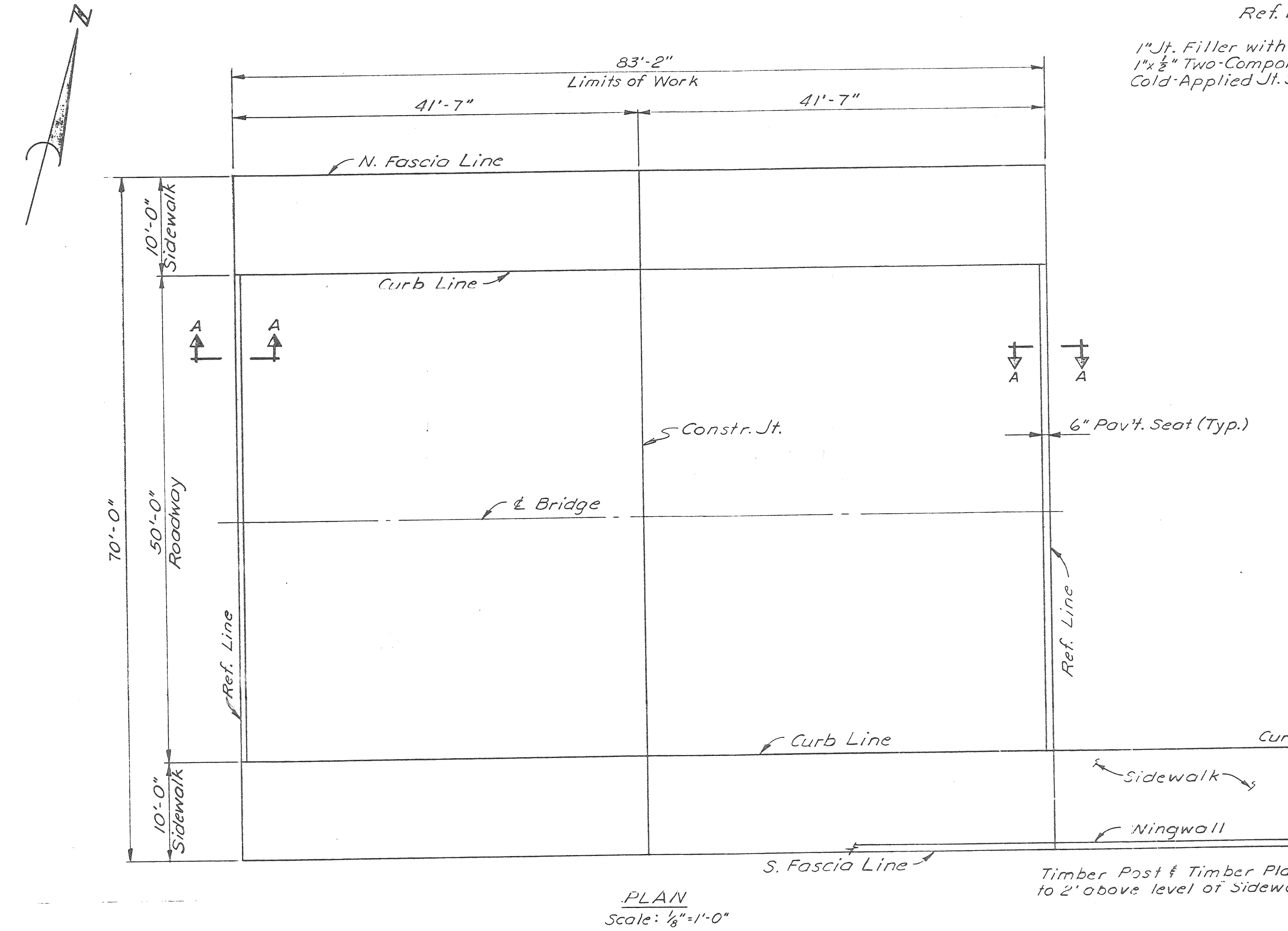
ROUGE PARK
BW270-SPINOZA DRIVE OVER ROUGE RIVER
REPAIR PLAN

SHEET 1 OF 1

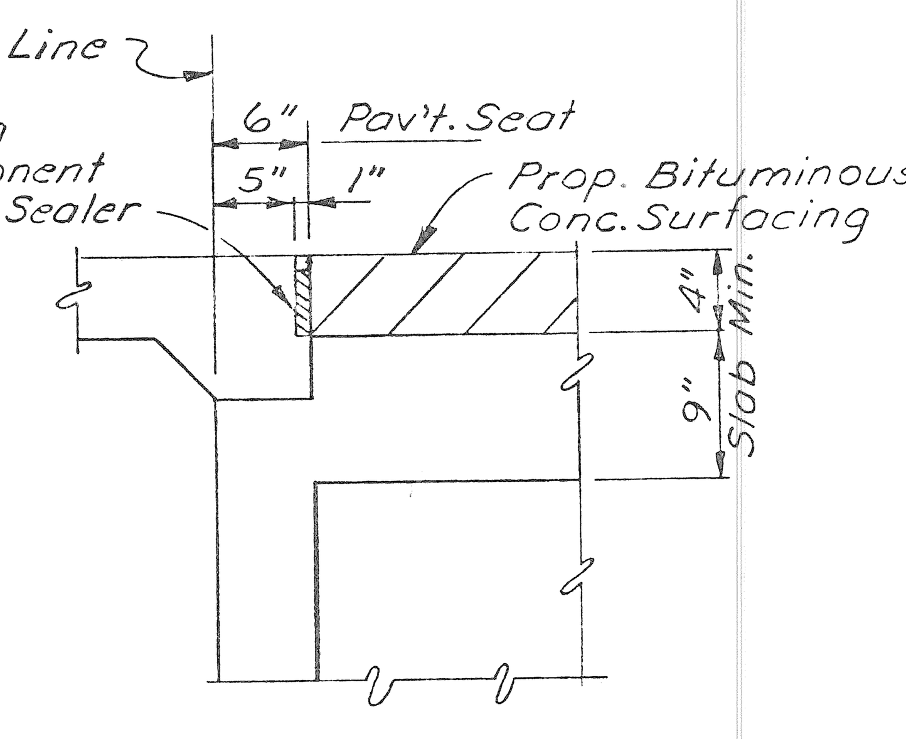
JOB No. M-BW2

DRWG No. C10

DATE JAN. 1958



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



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

NOTES

The work covered by these plans includes the resurfacing of the bridge deck within the limits shown in the plans. This work shall be done in accordance with the City of Detroit Department of Public Works Standard Specifications for Paving and Related Construction.

Traffic is to be maintained on one half of the roadway while work is being done on the other half.

Remove existing bituminous surface and bituminous concrete wearing course.

Remove spalled and deteriorated concrete from top of existing slab as directed by the Engineer.

Seal the concrete surface with rubberized coal tar emulsion.

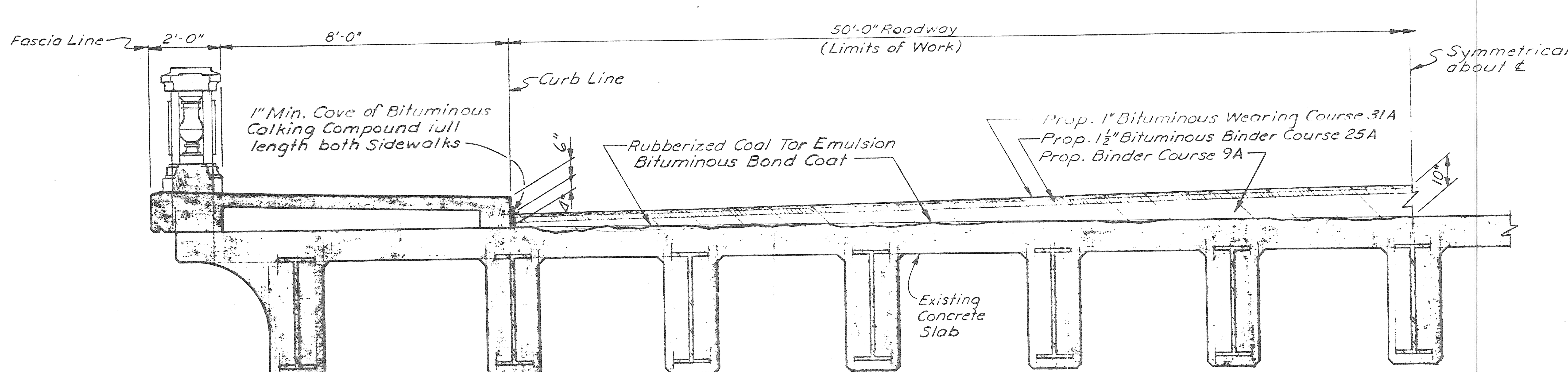
Apply bituminous bond coat and place bituminous concrete binder course and bituminous concrete wearing course.

Place 1" min. cove of bituminous calking compound full length at both curbs.

Remove existing joint filler and replace with new 1" joint filler and seal with 1"x½" two component polyurethane joint sealer.

QUANTITIES

Item	Unit	Amount
Rubberized Coal Tar Emulsion	Gals	187
Bituminous Bond Coat	Gals	69
Bituminous Binder Course 9A	Tons	138
Bituminous Binder Course 25A	Tons	38
Bituminous Binder Course 31A	Tons	25
1" Joint Filler	Sq. Ft.	92
Two Component Cold Applied Jt. Sealer	Lin. Ft.	100
Bituminous Calking	Lin. Ft.	165



HALF-SECTION
Scale: ½"=1'-0"

COOR'D	DESCRIPTION	DR'N	CK'D	AP'VD	DATE	REFERENCE DRAWINGS

REVISIONS LOCATED BY COORDINATES ON SHEET

DESIGNED BY		APPROVED:
DRAWN BY	R. Harris	STRUCTURAL ENGINEER
TRACED BY		HEAD CIVIL ENGINEER
CHECKED BY	J. McGuire	CITY ENGINEER

CITY OF DETROIT
DEPARTMENT OF PUBLIC WORKS
CITY ENGINEERS OFFICE
FOR
DEPARTMENT OF PUBLIC WORKS

SPINOZA DRIVE CROSSING ROUGE RIVER

DECK RESURFACING

SHEET 1 OF 1 SHEETS
CONTRACT NO.
DRWG No. BW12
DATE Oct. 1971

BRUNING 80731