

BAR	DIMENSIONS							SIZE	LENGTH	NO. REQ'D	TOTAL WT.
	a	b	c	d	e	f	g				
A 1								#6	8'-6"	47	600
A 2								#7	6'-6"	33	438
A 3								#6	5'-0"	84	631
A 4								#6	29'-0"	22	958
A 5								#6	4'-6"	28	189
A 6								#6	19'-6"	29	849
A 7								#6	6'-6"	204	1992
A 8								#6	3'-6"	9	47
A 9								#6	8'-0"	7	84
A 10								#6	22'-0"	5	165
A 11								#6	9'-0"	6	81
A 12								#8	6'-6"	36	625
A 13								#6	10'-3"	68	1047
A 14								#6	5'-6"	44	364
A 15								#4	27'-6"	20	367
A 16								#4	35'-0"	2	47
A 17								#6	19'-6"	102	1329
A 18								#6	7'-6"	25	282
A 19								#6	13'-0"	68	1328
A 20								#6	10'-3"	28	431
A 21								#7	8'-0"	21	343
A 22								#4	21'-0"	76	1066
A 23								#4	10'-0"	6	40
A 24								#6	19'-3"	4	116
A 25								#6	20'-6"	8	246
A 26								#6	16'-6"	98	2429
A 27								#7	12'-6"	63	1610
A 28								#8	8'-6"	31	704
A 29								#4	19'-3"	68	875
A 30								#4	18'-0"	2	24
A 31								#6	13'-6"	15	304
A 32								#6	21'-3"	24	766
A 33								#6	7'-0"	12	126
A 34								#9	8'-6"	15	434
A 35								#9	13'-6"	14	643
A 36								#6	4'-0"	56	338
A 37								#6	10'-6"	28	442
A 38								#6	12'-6"	56	1051
A 39								#6	12'-0"	13	234
A 40								#7	7'-6"	13	199
A 41								#10	7'-6"	31	1000
A 42								#6	6'-0"	16	144
A 43								#6	30'-9"	4	185
A 44								#6	28'-0"	4	168
A 45								#6	18'-6"	69	1917
A 46								#6	17'-6"	20	526
A 47								#6	18'-9"	8	225
A 48								#4	15'-6"	32	331
A 49								#6	23'-0"	18	622
A 50								#6	30'-6"	32	1466
A 51								#6	25'-3"	4	152
A 52								#6	11'-0"	21	347
A 53								#7	19'-6"	16	638
A 54								#7	16'-9"	13	445
A 55								#7	9'-0"	15	276
A 56								#7	9'-6"	20	388
A 57								#9	9'-0"	55	1683
A 58								#9	10'-9"	110	4021
A 59								#10	10'-9"	13	601
A 60								#10	11'-6"	16	792

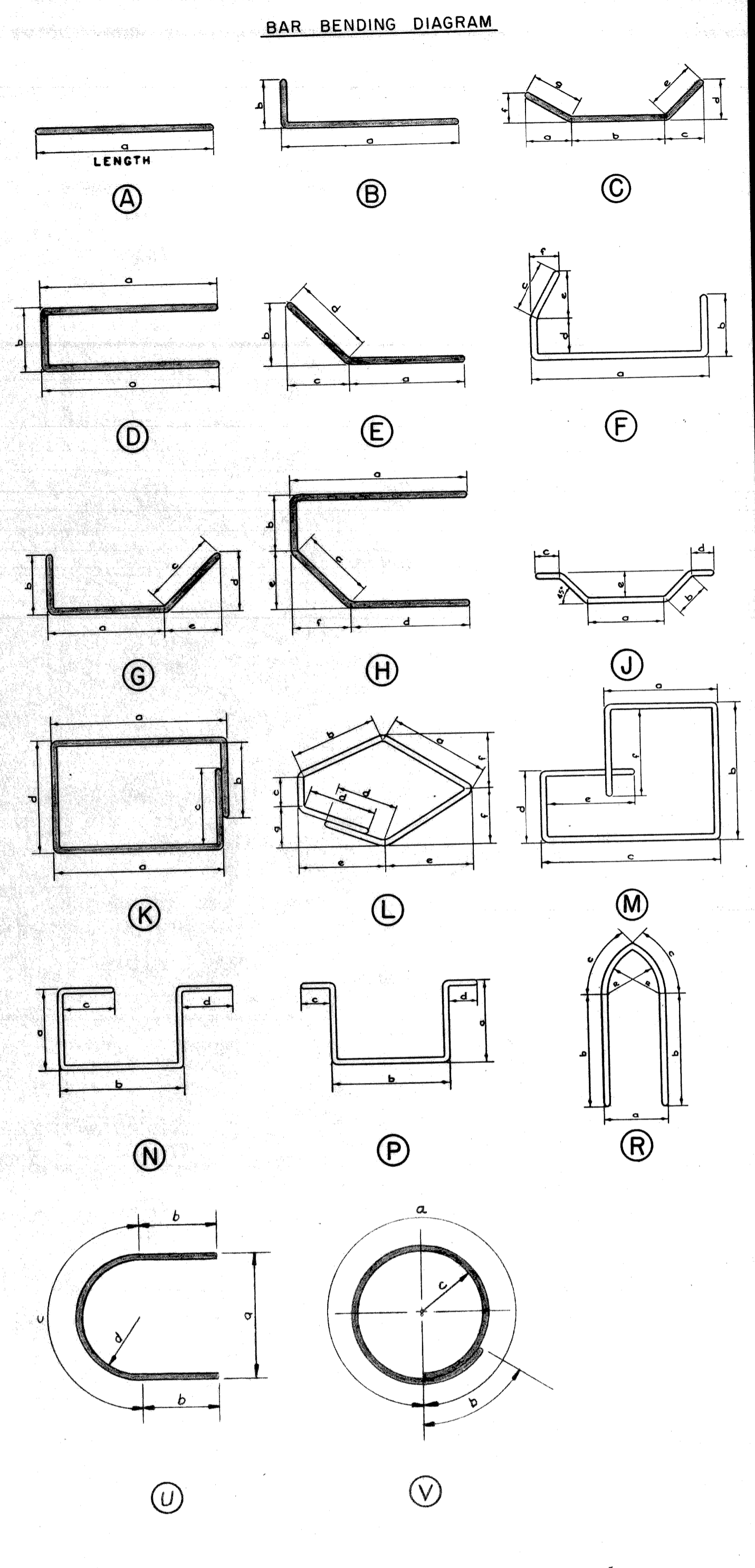
ABUTMENT TOTAL 41,905 #

BAR	DIMENSIONS							SIZE	LENGTH	NO. REQ'D	TOTAL WT.
	a	b	c	d	e	f	g				
B 1	3'-0"	2'-0"						#4	5'-0"	6	20
C 1	0'-6"	3'-0"	0'-6"	1'-6"	1'-6"	1'-6"	1'-6"	#6	6'-0"	6	54
C 2	0'-6"	3'-6"	0'-6"	1'-6"	1'-6"	1'-6"	1'-6"	#6	6'-6"	12	117
D 1	2'-10 1/2"	0'-7 1/2"						#6	6'-3"	132	1239
E 1	2'-0"	1'-1"	1'-8"	2'-0"				#4	4'-0"	12	32
G 1	1'-0"	3'-0"	1'-6 1/2"	1'-6"	1'-0"			#4	5'-6"	6	22
G	1'-0"	4'-0 1/2"	4'-0"	3'-4"	2'-3"			#4	9'-0"	12	72
H 1	2'-2"	0'-5"	1'-4 1/2"	1'-0"	0'-9"	1'-2"		#4	4'-11"	4	13
K 1	0'-10 3/4"	0'-6 1/2"	0'-6"	0'-8 1/2"				#4	3'-5"	248	567

BAR	DIMENSIONS							SIZE	LENGTH	NO. REQ'D	TOTAL WT.
	a	b	c	d	e	f	g				
A 101	5'-3"							#9	5'-3"	48	857
A 102	9'-9"							#6	9'-9"	45	659
A 103	23'-3"							#6	23'-3"	20	698
A 104	20'-9"							#6	20'-9"	10	312
A 105	16'-9"							#9	16'-9"	48	2734
A 106	21'-3"							#9	21'-3"	6	434
A 107	24'-3"							#9	24'-3"	12	989
A 108	27'-3"							#9	27'-3"	6	556
A 109	18'-6"							#4	18'-6"	4	49
A 110	25'-9"							#6	25'-9"	10	387
A 111	23'-6"							#6	23'-6"	4	141
A 112	7'-9"							#6	7'-9"	4	47
A 113	9'-9"							#7	9'-9"	45	897
D 101	2'-3"	3'-1 1/2"						#6	7'-6"	4	45
D 102	1'-1"	2'-5"						#4	4'-6"	13	39
K 101	5'-2 3/8"	1'-5"	1'-4 3/8"	1'-6 3/8"				#5	10'-9"	54	605
U 101	2'-3"	1'-3"	3'-6 1/2"	1'-1 1/8"				#6	6'-0 1/2"	6	54
V 101	6'-0 1/2"	0'-11 1/2"	0'-11 1/2"					#4	7'-0"	52	243

PIER TOTAL 9,746 #

Note:-
All right angle bends in Reinforcing Steel to be made about a pin of the minimum diameter allowed by the Standard Specifications. See Sheet 22 for Notes and Grand Total Steel Reinforcement



PLANS PREPARED BY
CITY OF DETROIT
DEPARTMENT OF PUBLIC WORKS
CITY ENGINEERS OFFICE
BUREAU OF HIGHWAYS AND EXPRESSWAYS
APPROVED: [Signature] STRUCTURAL ENGINEER
JOB No. PW9902

MICHIGAN STATE HIGHWAY DEPARTMENT

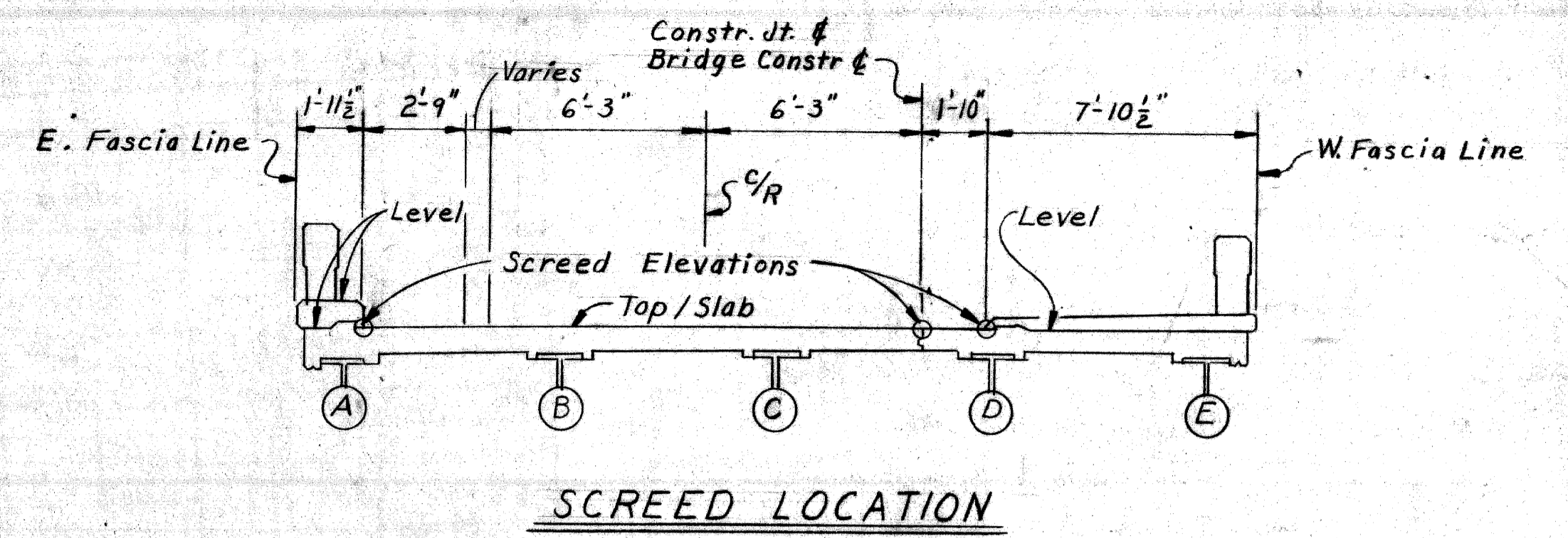
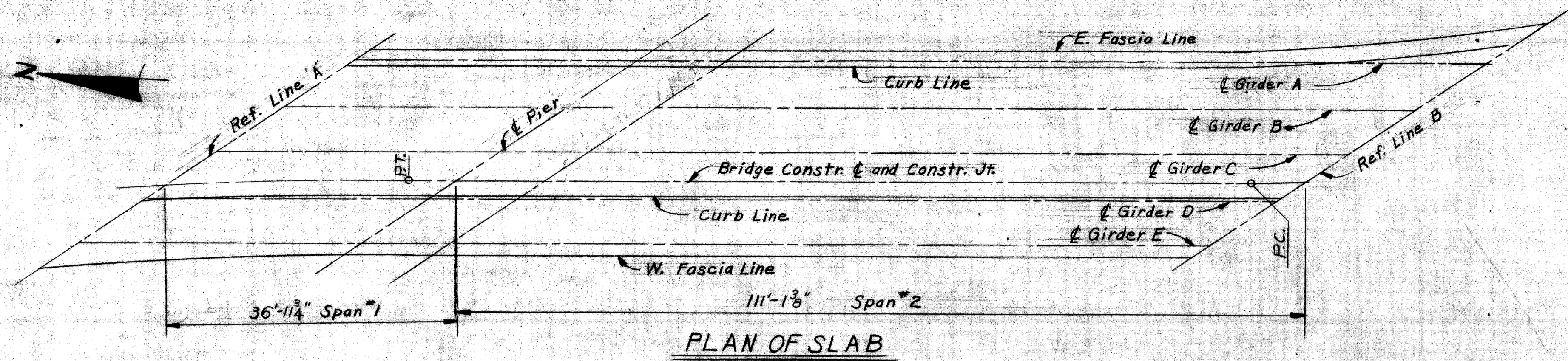
STEEL REINFORCEMENT DETAILS

CITY OF DETROIT

SQUAD BOSS: [Signature]
DRAWN BY: R. Rosik 10/68
CHECKED BY: FWJ 10/68
SHEET 21 OF 22

NO. DESCRIPTION DATE BY

548 of 82123K



Ref. Line A

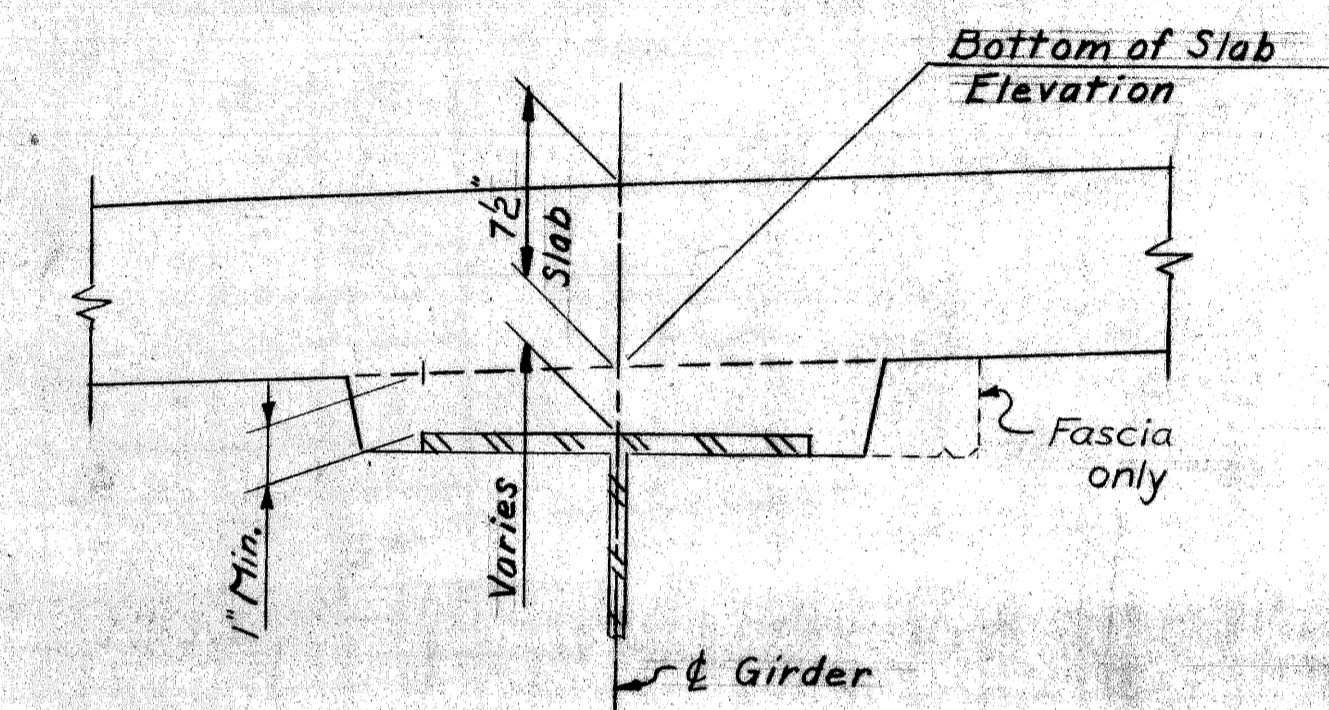
4 Eq. Spaces Span #1				6'-6"	12 Eq. Spaces Span #2												Ref. Line B	
139.96	139.35	139.31	139.26	139.18	139.13	139.07	139.00	138.92	138.82	138.70	138.56	138.41	138.23	138.03	137.79	137.55	137.30	on E. Curb Line
138.82	138.85	138.89	138.92	138.95	138.97	139.02	139.06	139.08	139.08	139.05	139.00	138.92	138.82	138.69	138.54	138.38	138.19	on Constr. Jt.
138.71	138.75	138.79	138.84	138.88	138.90	138.96	139.01	139.04	139.05	139.04	139.00	138.94	138.84	138.73	138.59	138.43	138.25	on W. Curb Line

SCREED ELEVATIONS

Ref. Line A

4 Eq. Spaces Span #1				6'-6"	Met'l. Exp. Jt.	12 Eq. Spaces Span #2												Ref. Line B
138.74	138.72	138.68	138.63	138.55	138.49	138.45	138.39	138.32	138.24	138.13	138.01	137.85	137.68	137.48	137.26	137.03	136.82	on Girder A
138.62	138.62	138.62	138.60	138.57	138.54	138.53	138.50	138.46	138.40	138.32	138.22	138.09	137.93	137.76	137.57	137.37	137.16	on Girder B
138.41	138.42	138.44	138.46	138.46	138.50	138.51	138.51	138.49	138.44	138.38	138.27	138.15	137.99	137.82	137.64	137.44	137.24	on Girder C
138.12	138.13	138.17	138.21	138.25	138.27	138.35	138.41	138.45	138.49	138.47	138.44	138.37	138.27	138.14	137.99	137.82	137.63	on Girder D
138.05	138.09	138.13	138.17	138.21	138.24	138.33	138.40	138.46	138.49	138.50	138.48	138.42	138.33	138.22	138.09	137.93	137.76	on Girder E

BOTTOM OF SLAB ELEVATIONS (CASE I)



TYPICAL SECTION AT EACH GIRDER

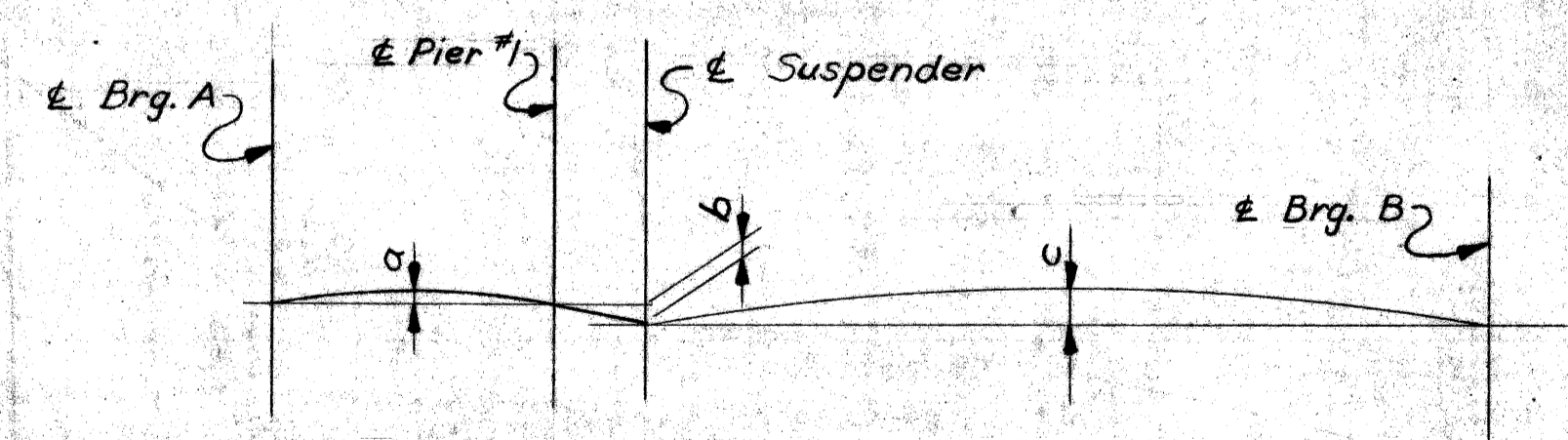
GENERAL NOTES

Transverse strike-off finishing machine is to be used in placing deck concrete. Screeds affected by loads in other spans are to be set to the elevations shown before casting any concrete. Concrete in the suspended span is to be cast before the concrete in the anchor span.

Bottom of slab elevations and cambers shown include allowances for deflection due to the weight of the structural steel, welding of shear developers, weight of forms, steel reinforcement, slab concrete, sidewalk, and railing as indicated in the following load cases.

Case I All structural steel erected and no other loads applied.
 Case II Shear developers, forms and steel reinforcement in place on structural steel and no other loads applied.
 Case III Slab, shoulder, Brush Block and Parapet concrete in place on structural steel.

Screed elevations are based on the condition that no slab concrete has been cast and that formwork, steel reinforcement and shear developers are in place. The elevations are based on a slab thickness of 7 1/2" and variable haunch depth. After the screeds are set, if a check indicates that less than the minimum slab and haunch will be obtained, adjust the screeds accordingly.



CAMBER DIAGRAM For Loading Cases Shown in Table

CAMBER DIMENSION

GIRDER	SPAN 1-a			SUSPENDER-b			SPAN 2-c		
	I	II	III	I	II	III	I	II	III
A	0	0	0	0	0	1/8"	4 1/2"	4"	1 3/8"
B	0	0	0	0	0	0	4 1/2"	3 3/4"	1 3/4"
C	0	0	0	0	0	0	5 1/2"	4 1/2"	2 1/2"
D	0	0	0	0	0	0	5 3/4"	5"	2 5/8"
E	0	0	0	0	0	0	5 3/4"	5"	2 5/8"

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

APPROVED: *H. Cant*
 STRUCTURAL ENGINEER

JOB No.
 PW990(2)

MICHIGAN DEPARTMENT OF STATE HIGHWAYS

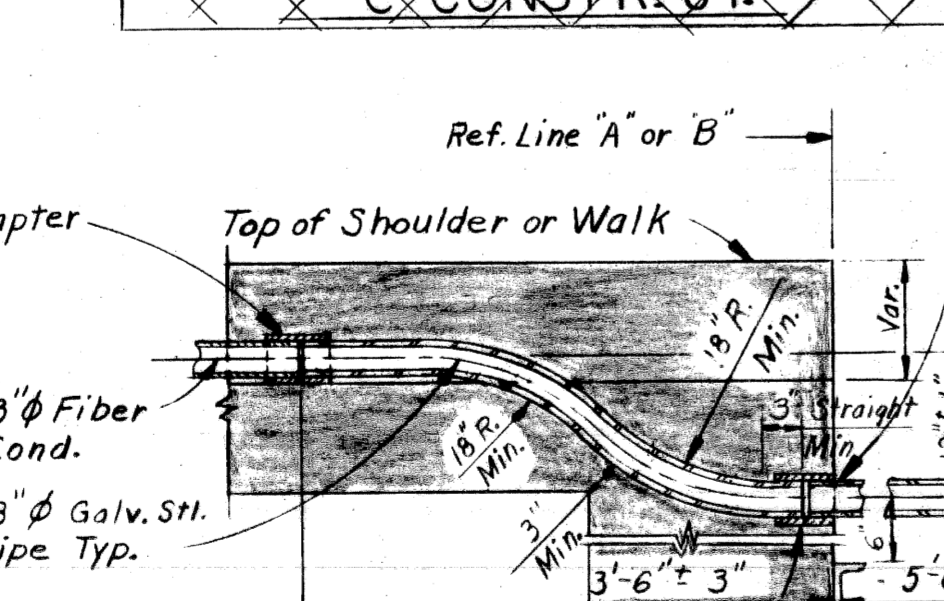
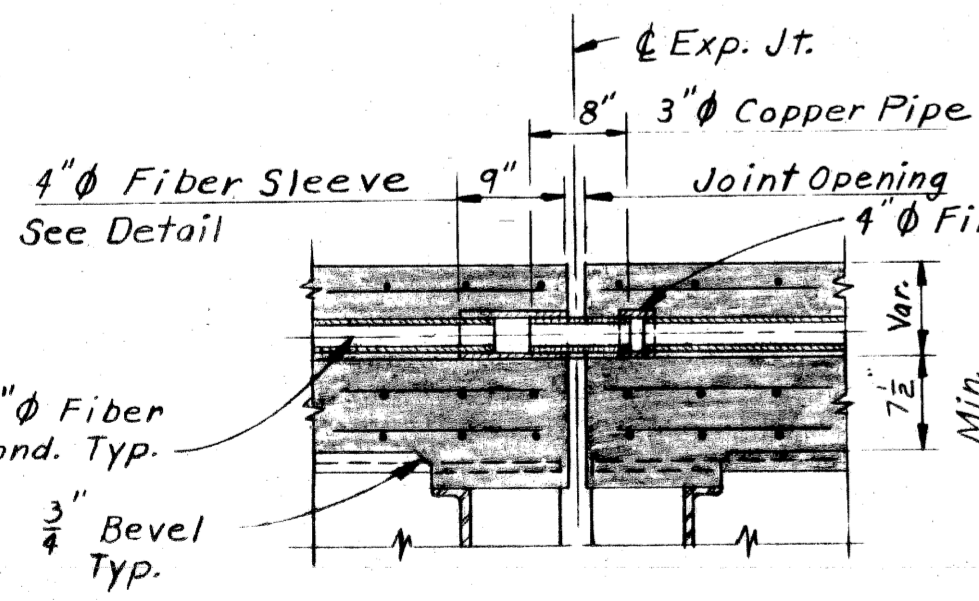
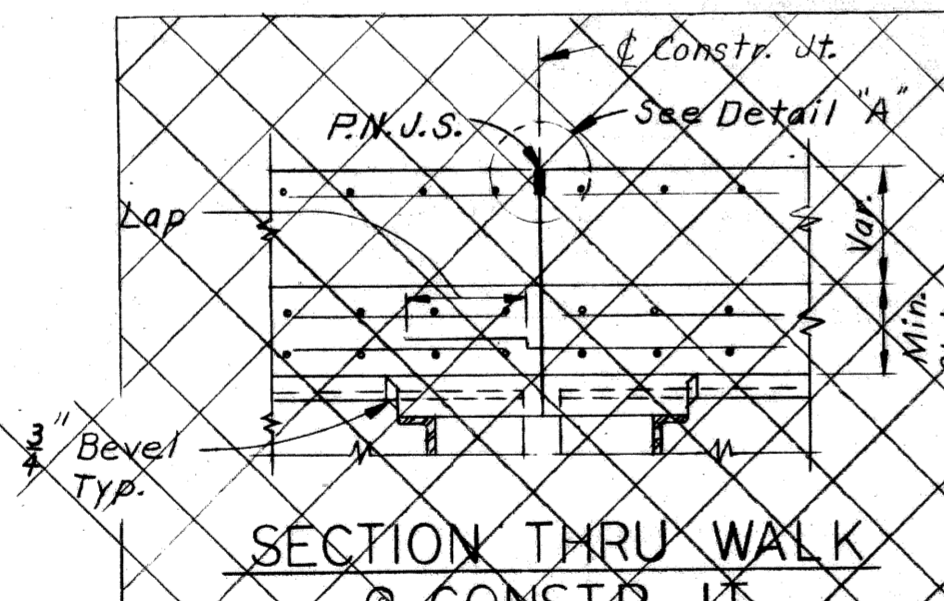
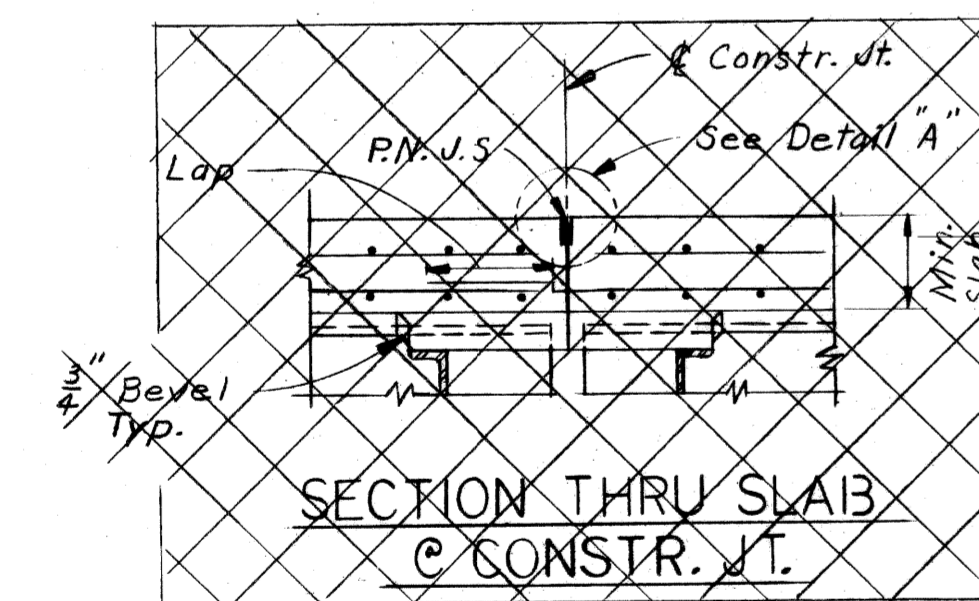
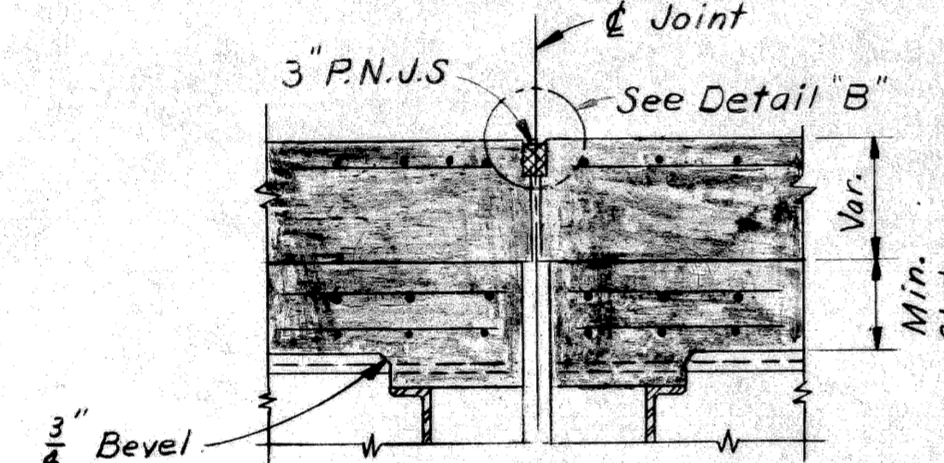
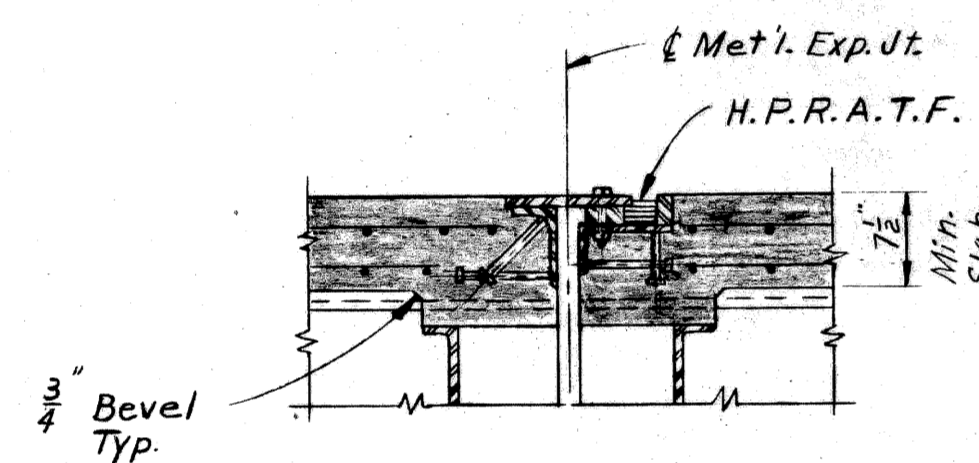
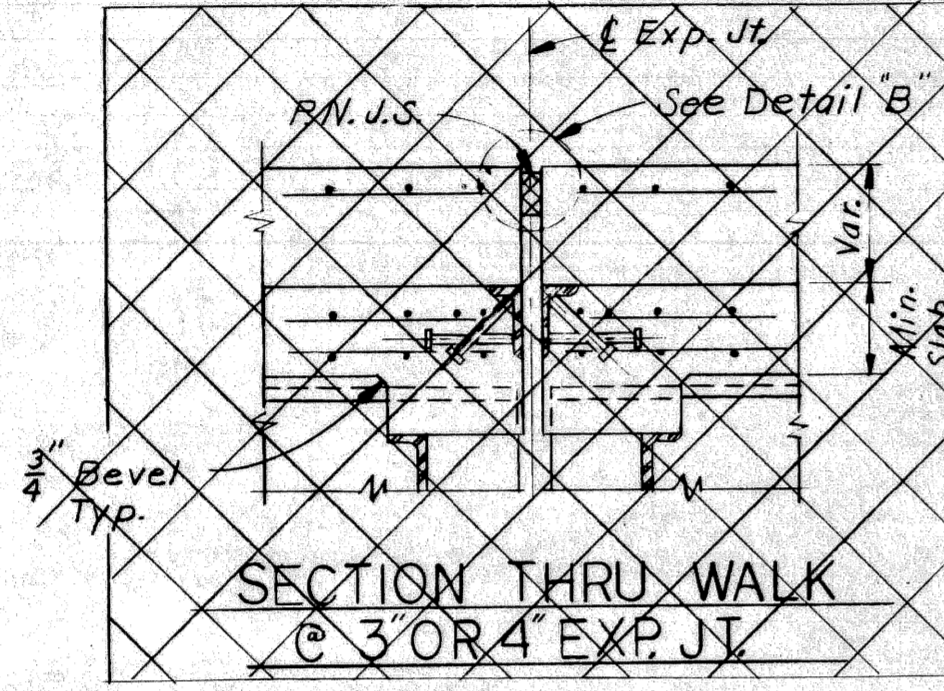
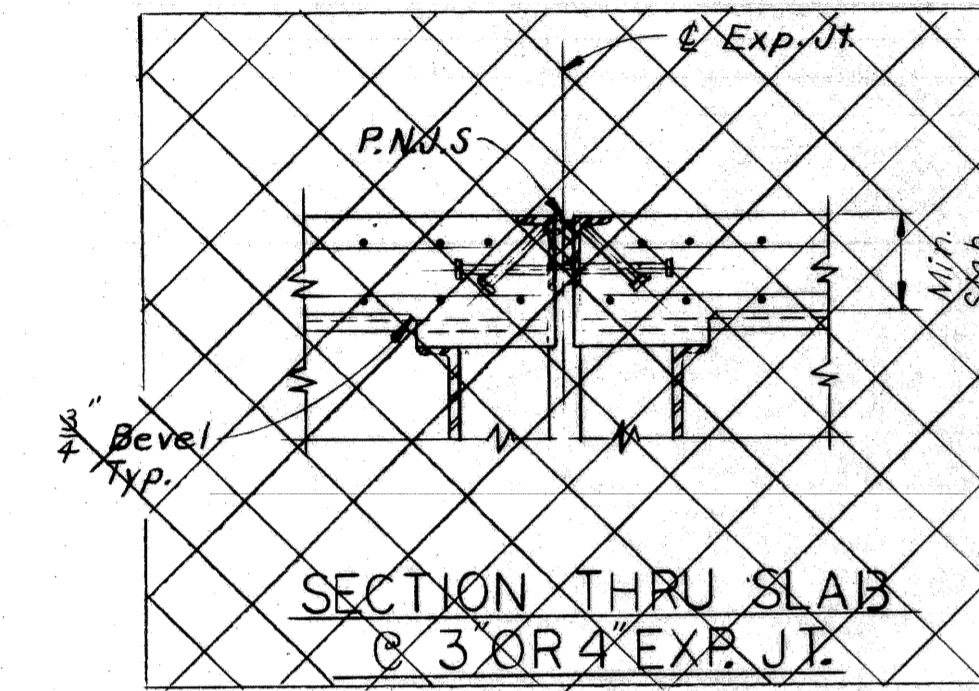
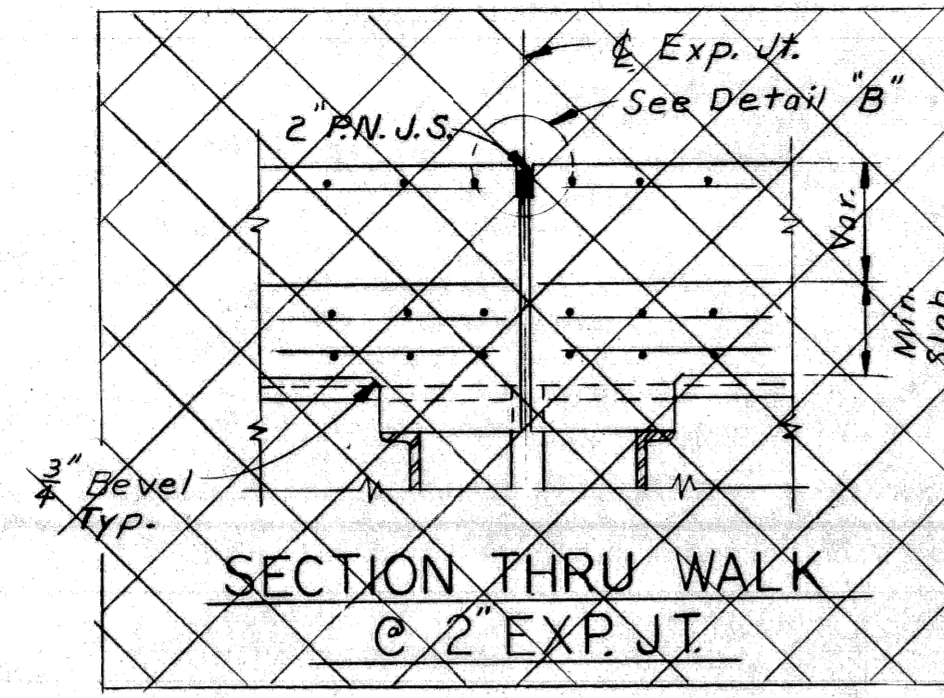
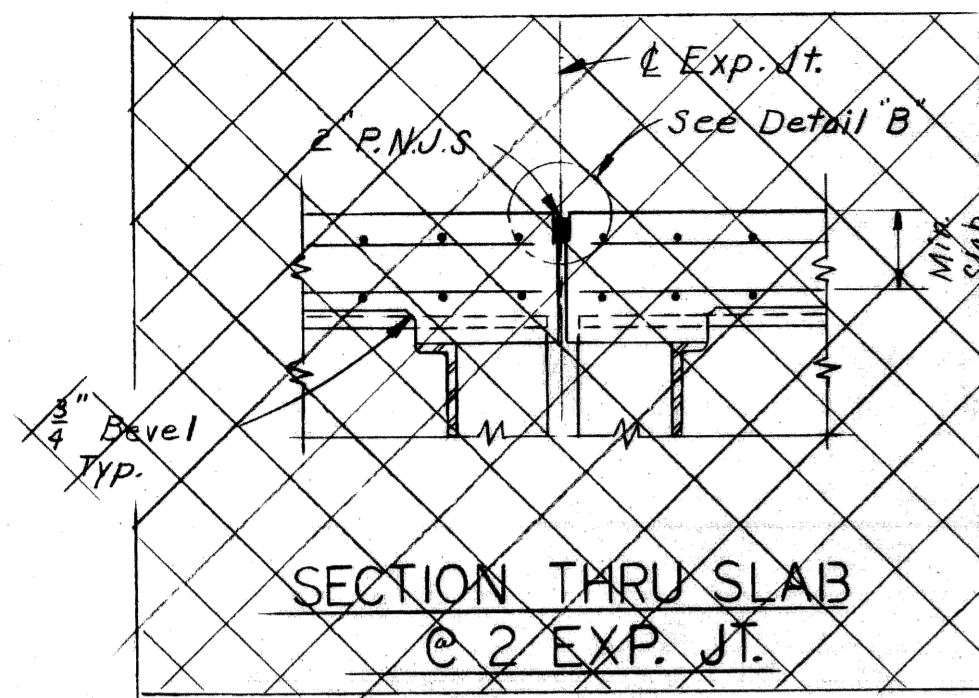
JEFFRIES-FORD INTERCHANGE
 WARREN AVE. EXIT RAMP IN DETROIT

SUPERSTRUCTURE DETAILS

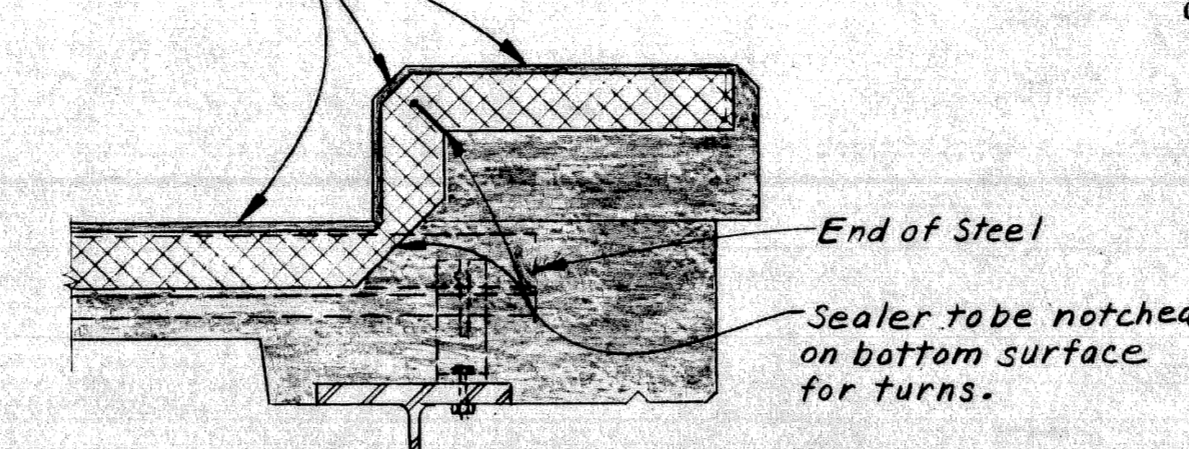
CITY OF DETROIT

DESIGNED BY: *Watts*
 DRAWN BY: *R. Reisk* 10-68
 CHECKED BY: *J.E.S.* 10-68
 SHEET 20 OF 22

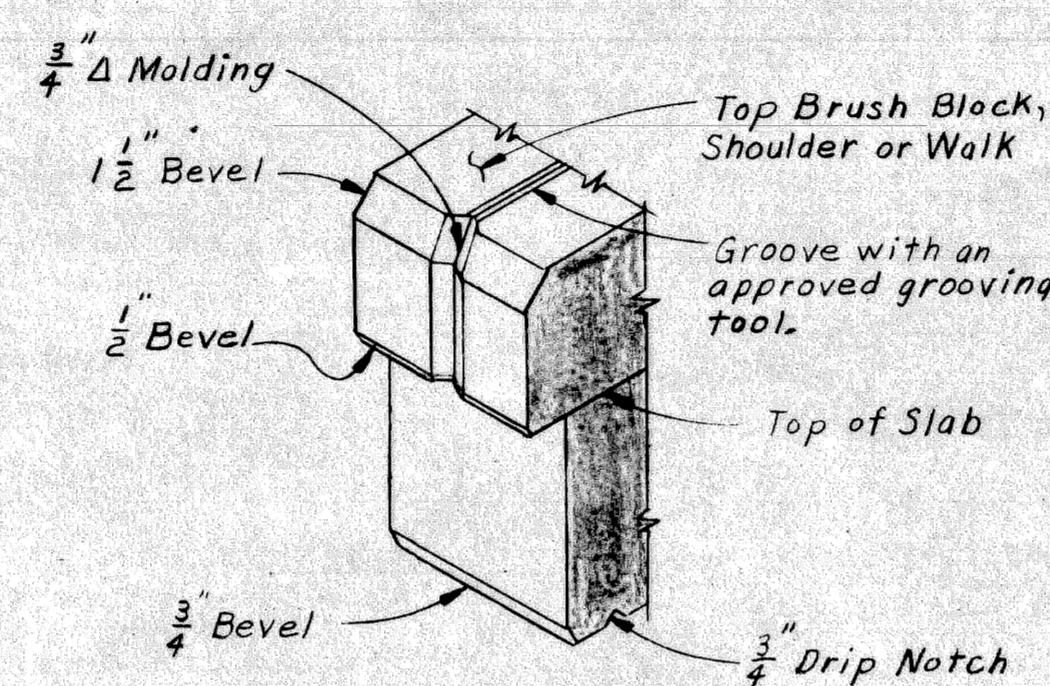
S48 of 82123K



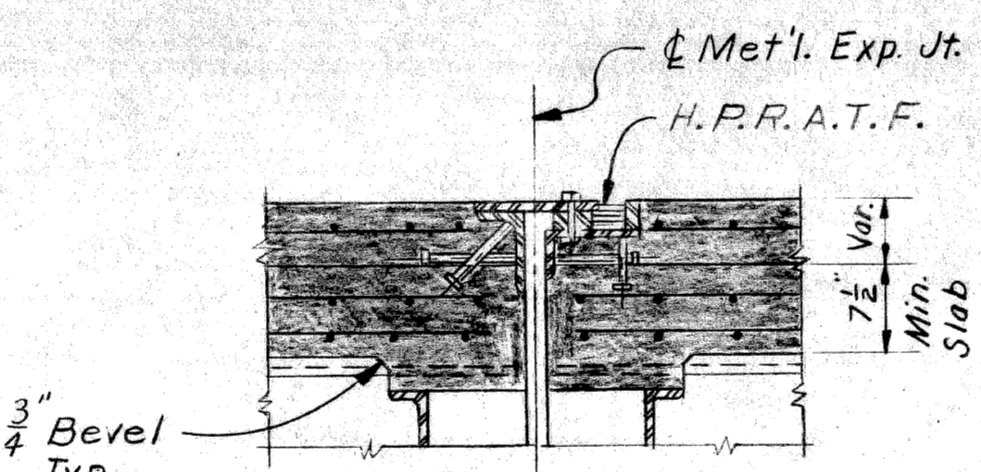
Joint in top of deck slab and top of walk or shoulder to be made by sawing. Joint in curb face may be made by forming. Saw cut deck slab before placing walk or shoulder.



EXPAN. JT. @ CURBS
(SHOWN @ BRUSHBLOCK SIMILAR @ WALK)

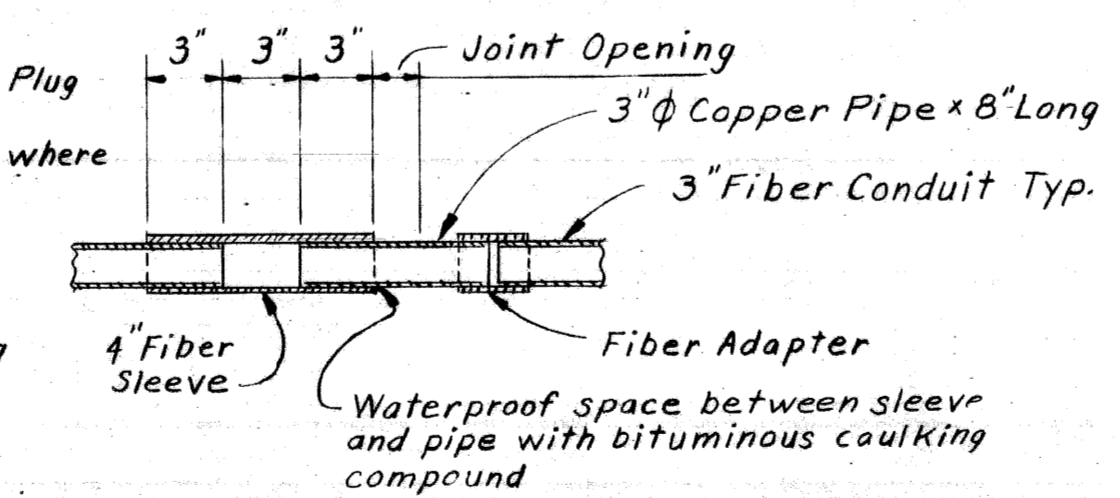


FASCIA MOLDING DETAIL



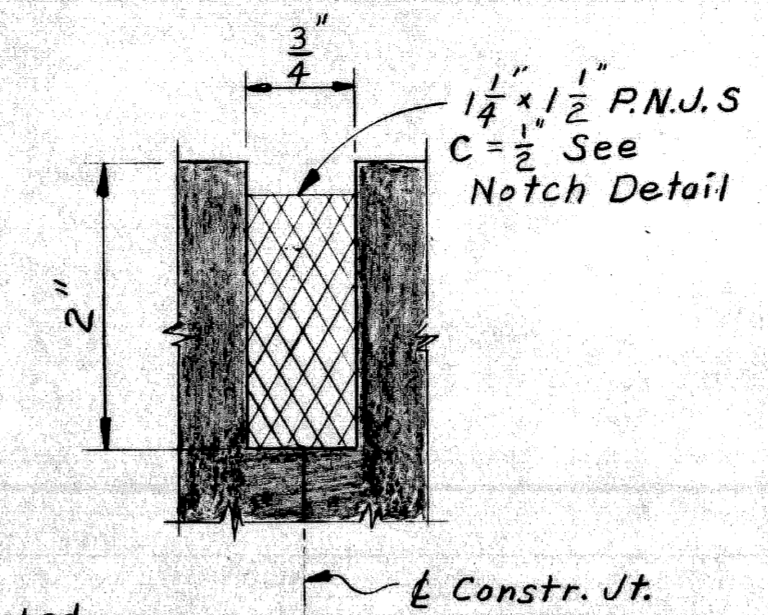
SECTION THRU SHOULDER @ METAL EXP. JT.

NOTE:
Use Plastic Plug for Future Installation where Applicable

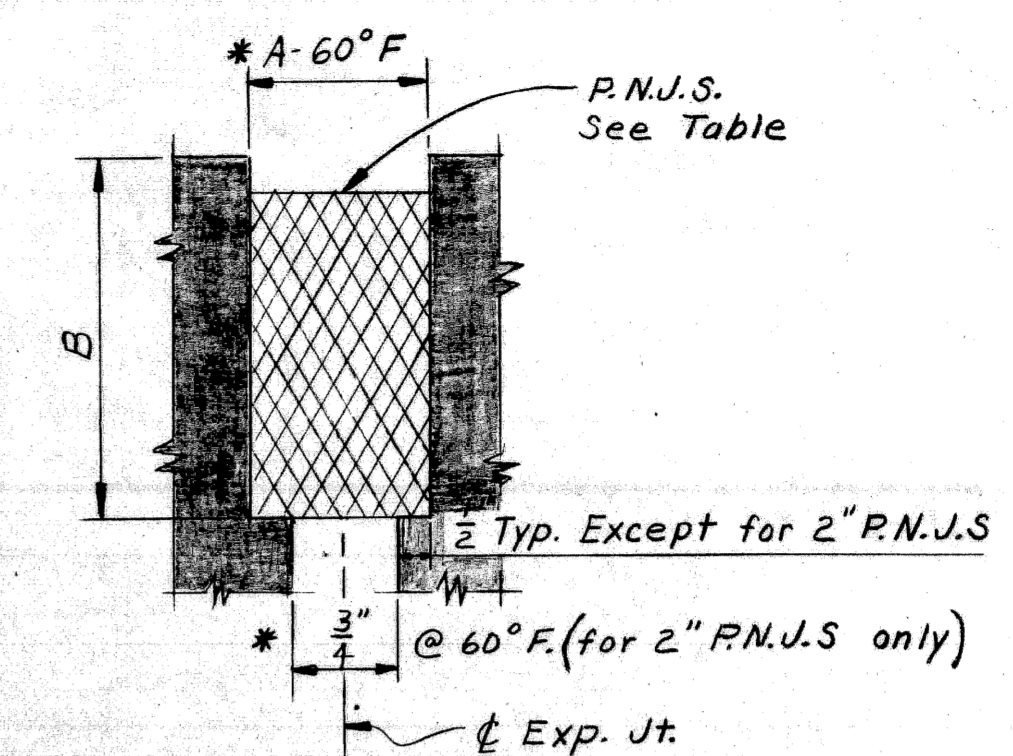


SLEEVE DETAIL

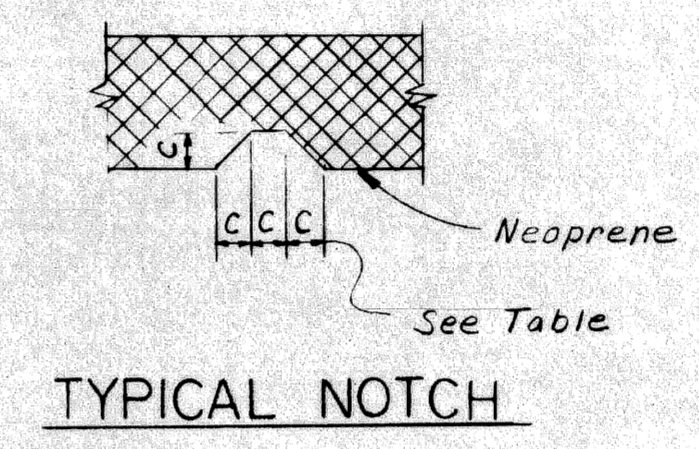
NOTE:
The contractor will furnish and place all the materials. Sleeves, copper pipe, adapters, couplings, galvanized steel conduit, bushings, plug, and waterproofing are incidental to the item 3" Fiber conduit.



DETAIL A



DETAIL B



TYPICAL NOTCH

Joint Dimensions				
Sealer Size	Joint Size	Notch		
Wd.	Dpth.	A	B	C
2"	2"	1 1/4" ± 1/16"	2 3/4"	1"
3"	3 1/2"	2 1/8" ± 1/16"	4 3/8"	1 1/2"
4"	4 3/32"	2 1/8" ± 1/16"	5 3/4"	1 1/2"

* Increase by 1/16" for each 10° of beam temperature below 60°F. for each 70' of slab length or decrease by 1/16" for each 10° of beam temperature above 60°F. for each 70' of slab length (slab length is measured at right angles to joint.)

GENERAL NOTES

P.L.C. denotes Public Lighting Commission. J.W.P. denotes Joint Waterproofing. N.F. denotes near face. E.F. denotes each face. F.F. denotes far face. H.P.R.A.T.F. denotes Hot Poured Rubber Asphalt Type Filler. For Bevel, Molding, and Railing details see M.D.S.H. Standard sheet R11 or R12. Sidewalk pours shall not be cast until slab concrete has attained at least 50% of its design strength as determined in Section 5.01.05 of the Standard Specifications. Edge and Groove denotes Edging and Grooving with an approved tool. P.N.J.S. denotes Preformed Neoprene Joint Sealer. For location of nameplate and mounting details, see General Plan of Structure Sheet and Sheets R11 or R12. The contractor is to provide a sawed joint 1/2" deep by 1/8" wide (min.) in the top of slab over and parallel to the center of piers. The sawed joint where called for on the plan is to be sawed before casting of shoulder or brush block and is to be filled with H.P.R.A.T.F. The sawing and H.P.R.A.T.F. are incidental to concrete. Bridge Parapet shall conform to the details shown on Railing Standard R11 or R12 unless otherwise noted on plan. The metal railing posts and anchor bolts are to be omitted. Alphabetical designation of pours is not to be construed as a pour sequence. T denotes Top and B or Bot. denotes Bottom.

MICHIGAN DEPARTMENT OF STATE HIGHWAYS

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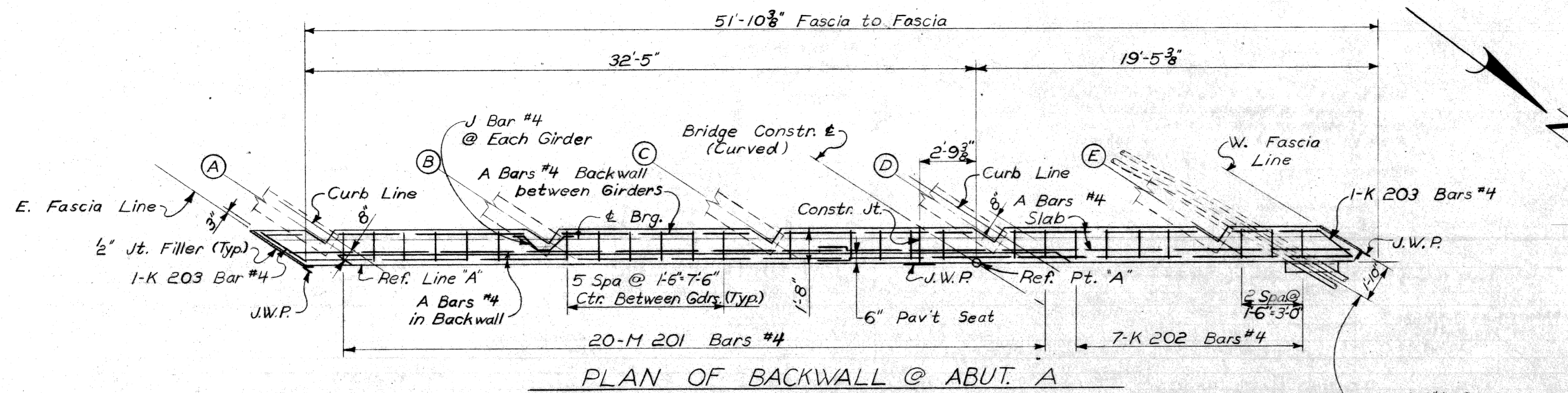
APPROVED: *H. C. ...*
CITY ENGINEER

FOR NO. *PW990(2)*

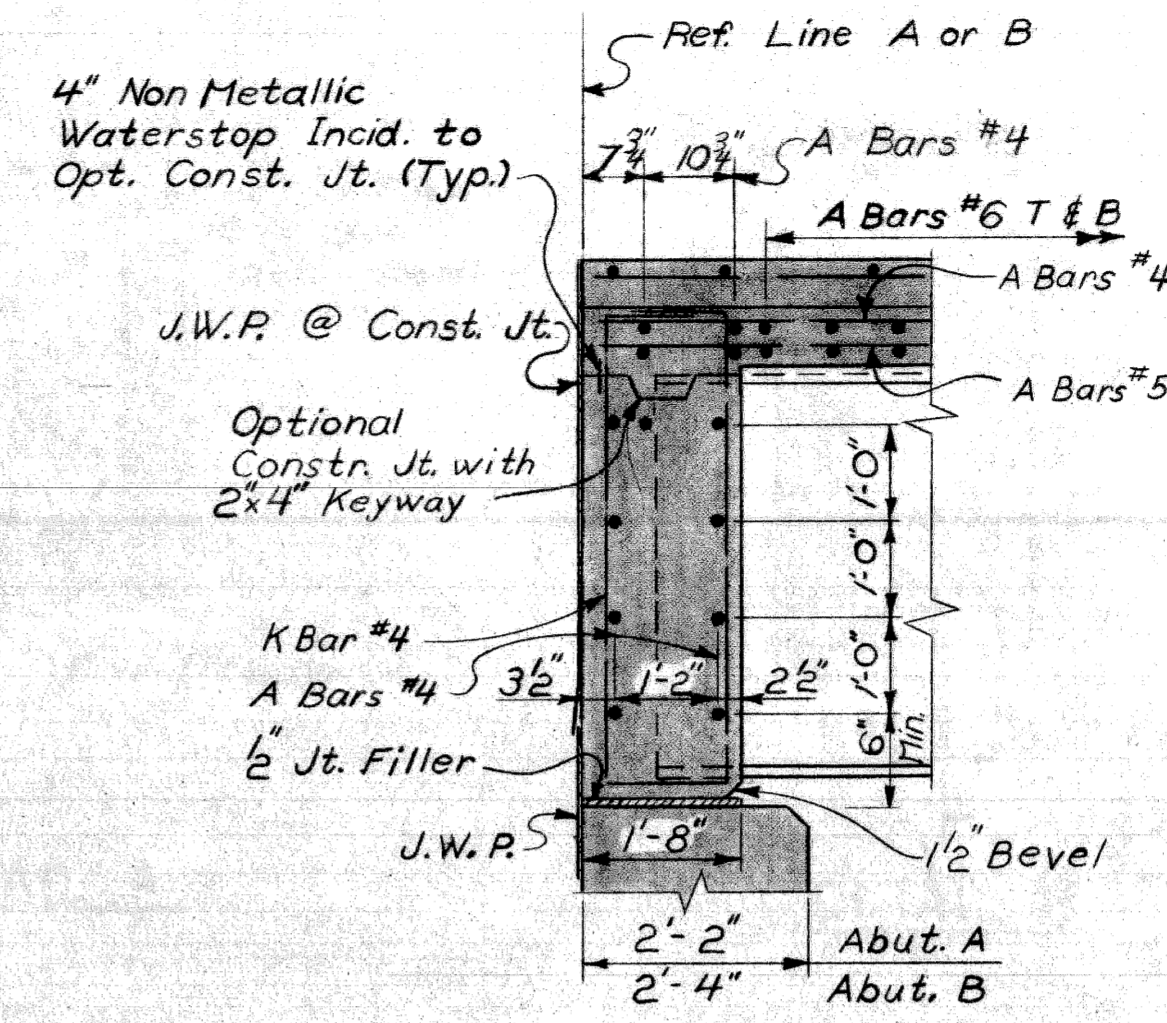
SUPERSTRUCTURE DETAILS

NO.	REVISIONS	DATE	BY

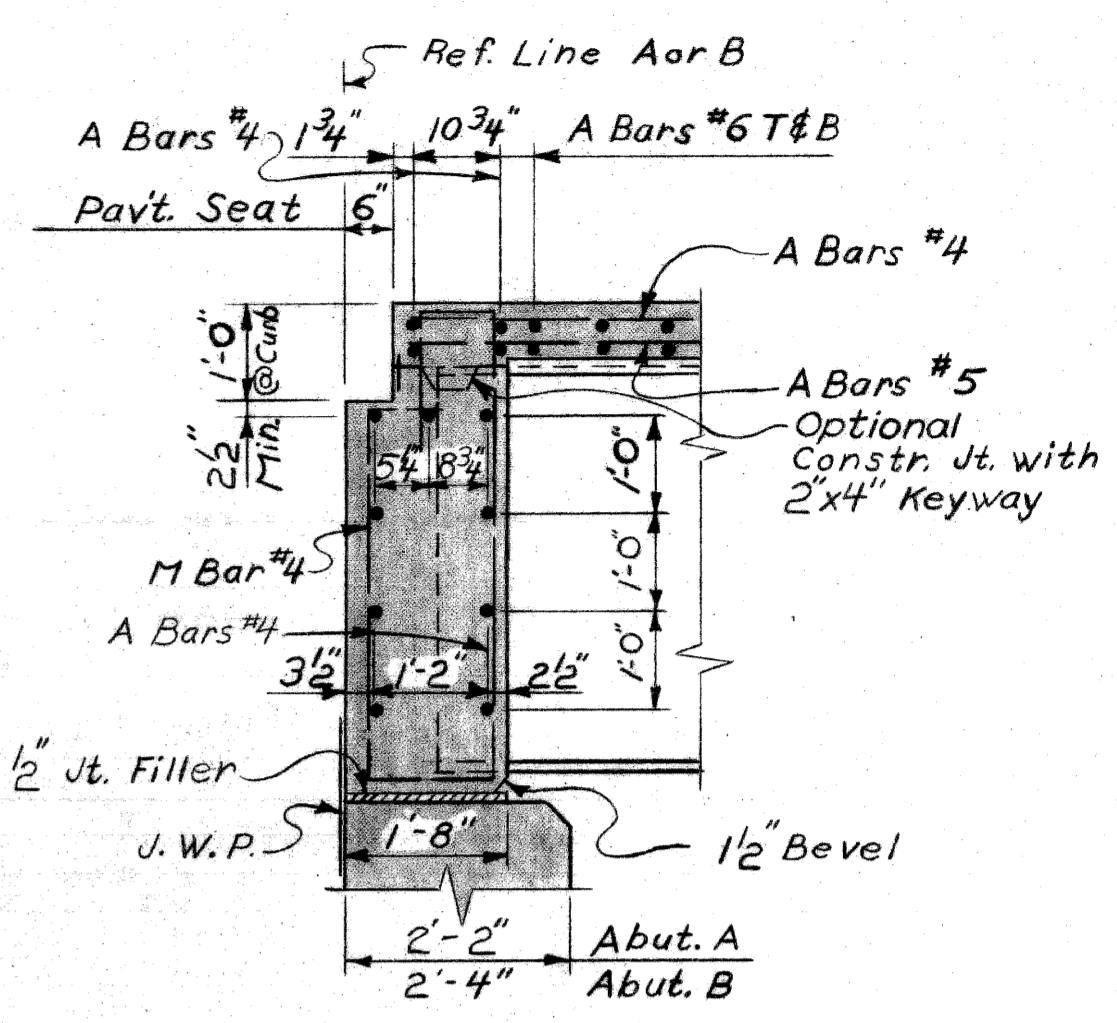
SQUAD BOSS *WOTTS*
DRAWN BY *R. ROSIK* 9-63
CHECKED BY *J. J.* 10-68
SHEET 19 OF 22
548 of 82123K



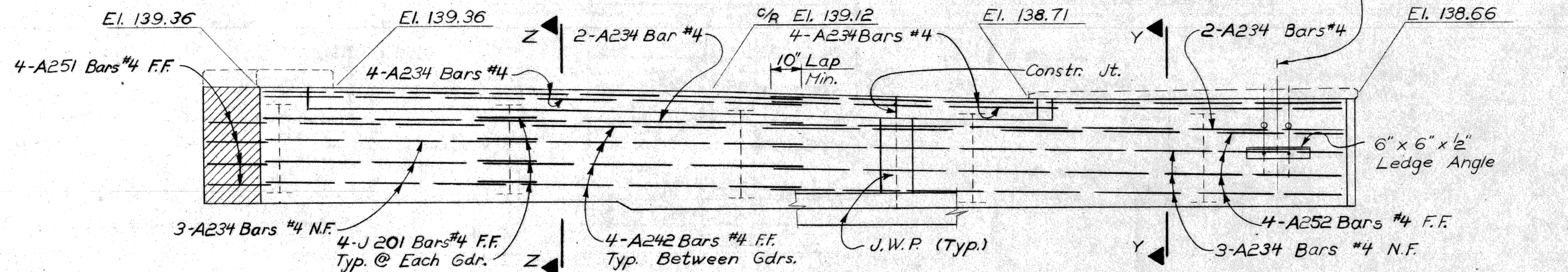
PLAN OF BACKWALL @ ABUT. A



SECTION Y-Y



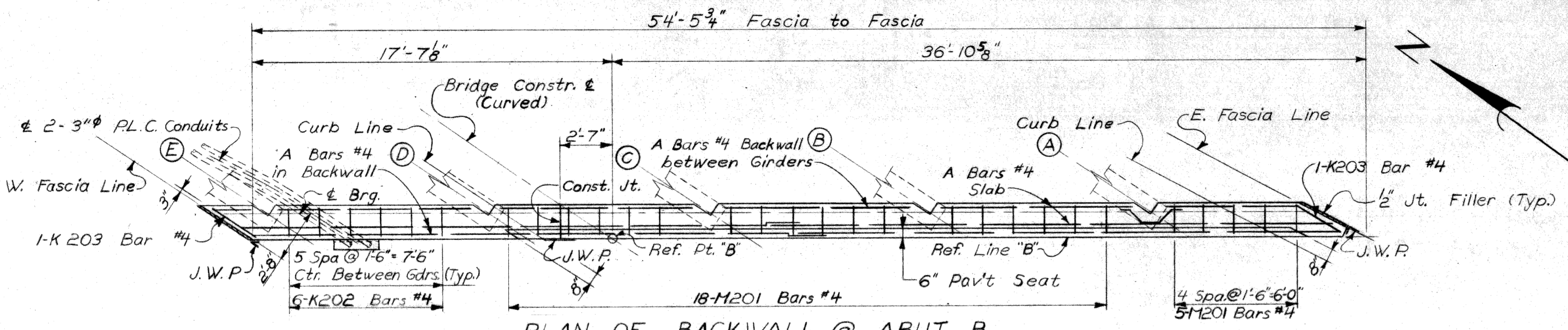
SECTION Z-Z



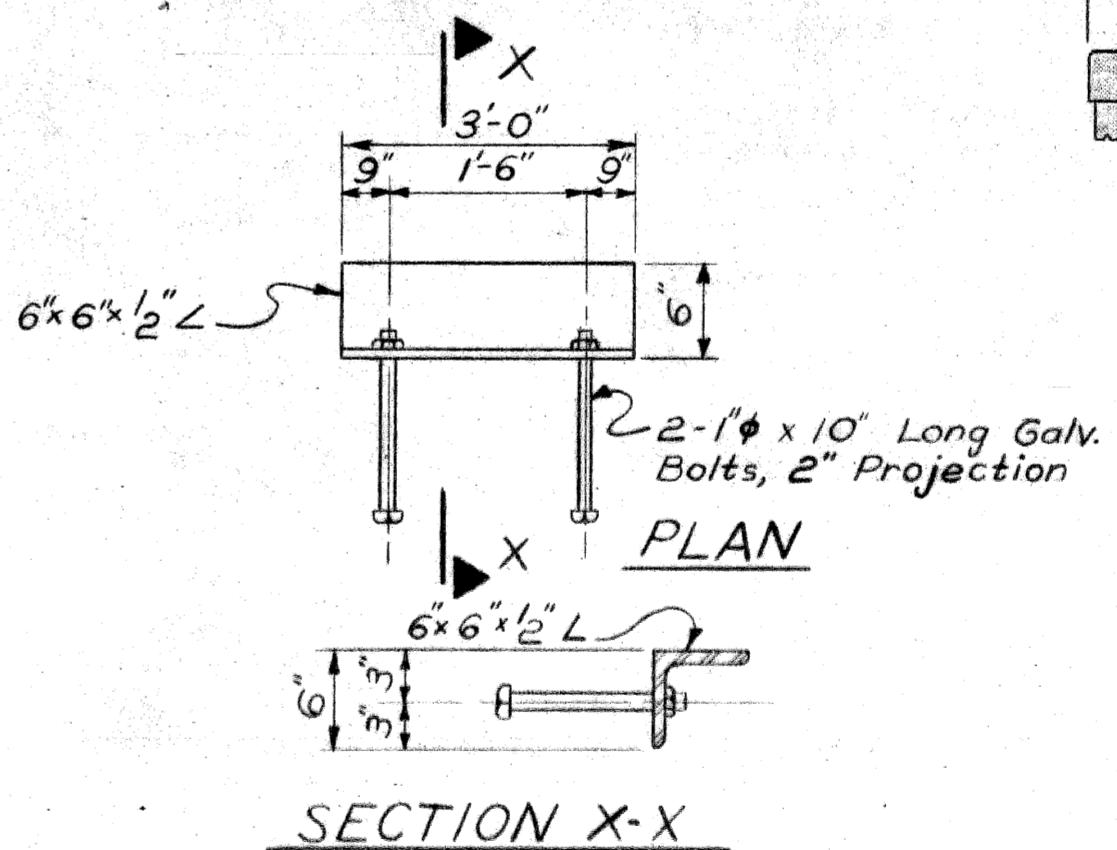
ELEVATION OF BACKWALL @ ABUT. A

CONCRETE QUANTITIES			
Pour	Location	Span #1 + Cantilever	Span #2 Suspended
A	Slab	26.9	55.9
B	Slab	16.3	30.1
C	Brush Block	2.3	6.1
D	Shoulder	5.5	12.8
Total Cu. Yds. Gr. A6AA =		155.9 Cu. Yds.	

NOTE:
Parapet Concrete Quantity = 16.3 Cu. Yds.
Incidental to Bridge Parapet.



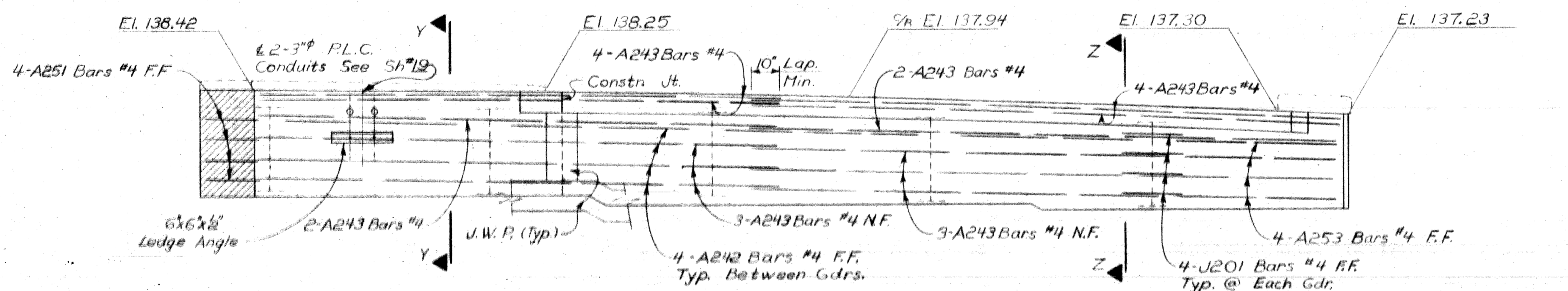
PLAN OF BACKWALL @ ABUT. B



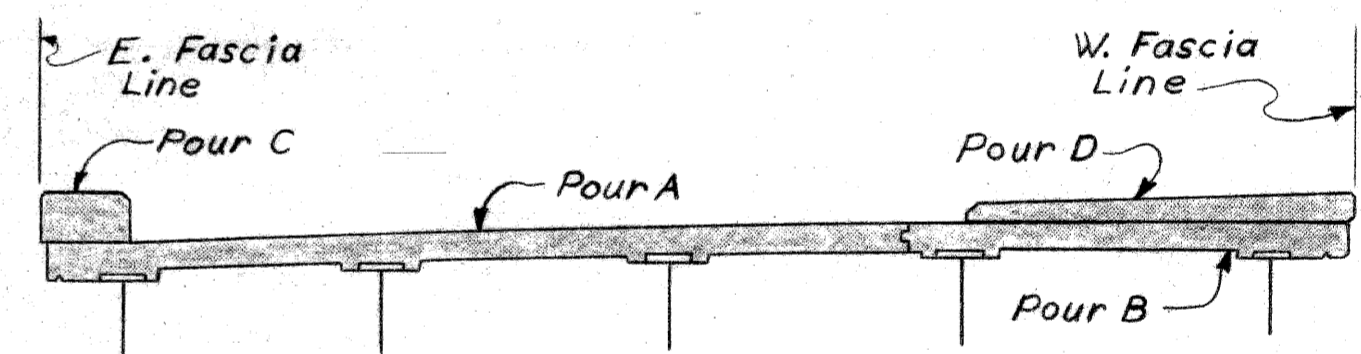
SECTION X-X

NOTE:
Bolts & angles included in
Struct. Steel Weight.

LEDGE ANGLE DETAILS



ELEVATION OF BACKWALL @ ABUT. B



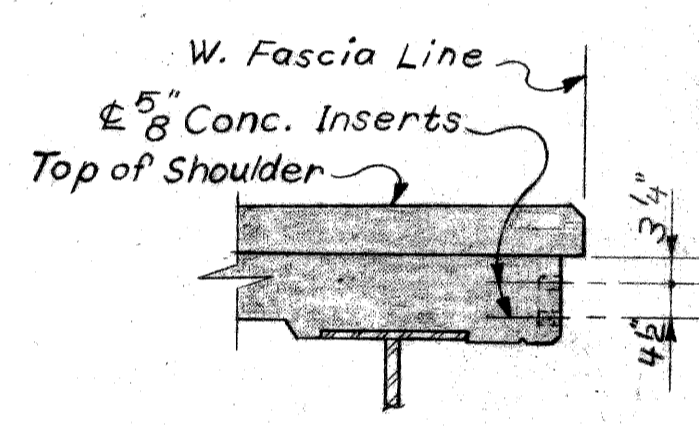
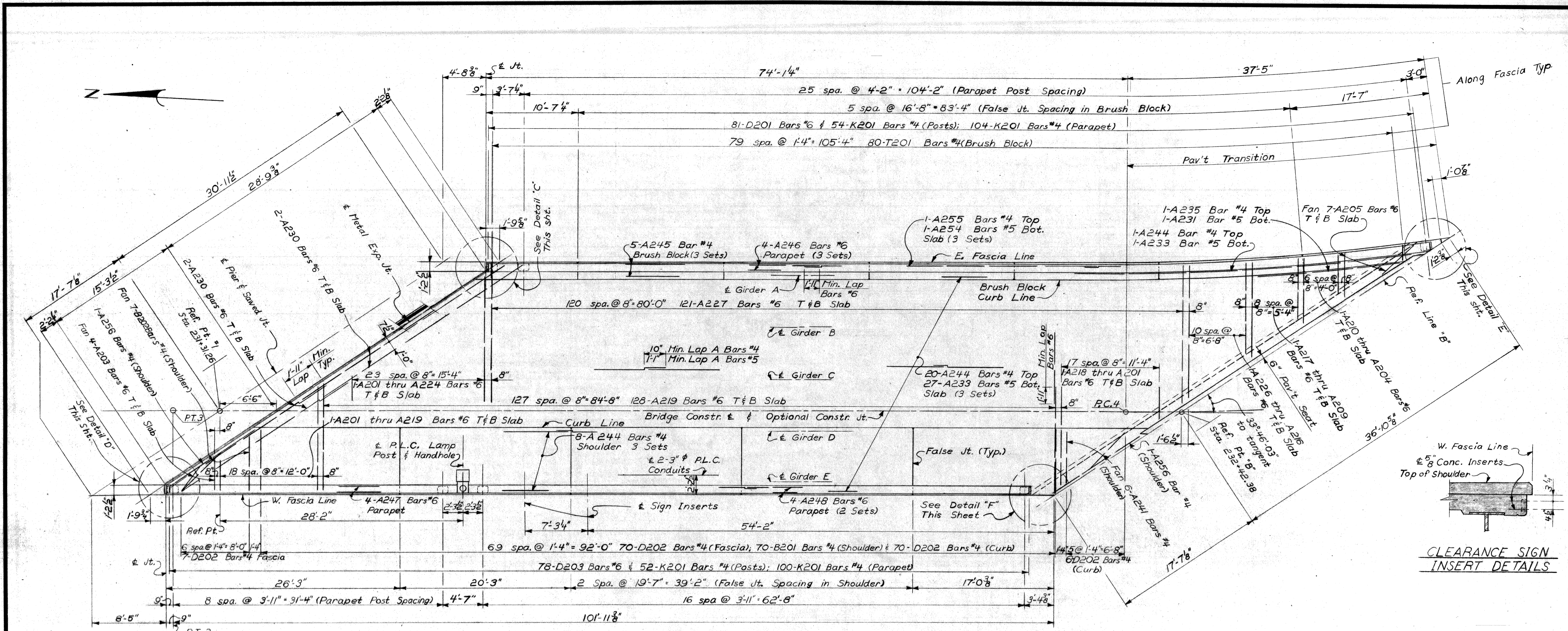
Note: Alphabetical designation of pours is not to be construed as a pour sequence.

MISCELLANEOUS QUANTITIES		
Item	Amount	Unit
1/2" Jt. Filler	84	Sq. Ft.
Water Reducing - Retarding Admixture	18	Gal.
3" Preformed Neoprene Joint Sealer	3	Lin. Ft.
H.P.R.A.T.F.	44	Lin. Ft.
Joint Waterproofing	133	Sq. Ft.
Bridge Parapet	2894	Lin. Ft.
3" Fiber Conduit	290	Lin. Ft.
Protective Treatment for Bridge Decks	4020	Sq. Ft.
Handhole Frame & Cover	1	Each

PLANS PREPARED BY
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DEPARTMENT OF PUBLIC WORKS
CITY ENGINEERS OFFICE
BUREAU OF HIGHWAYS AND EXPRESSWAYS

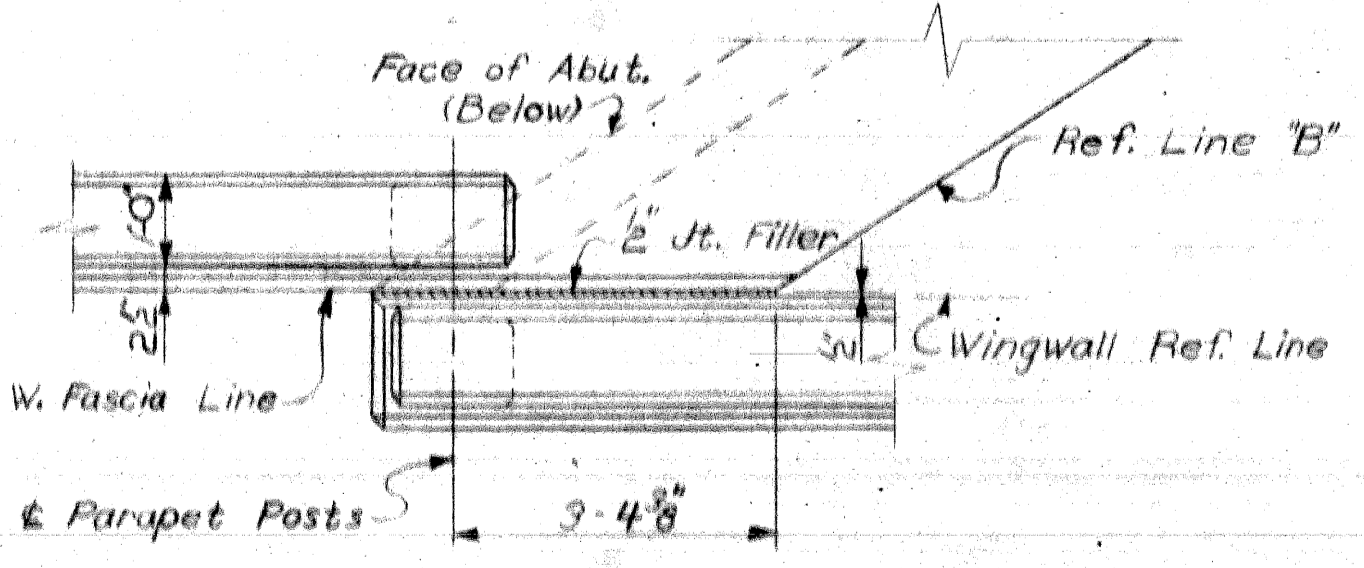
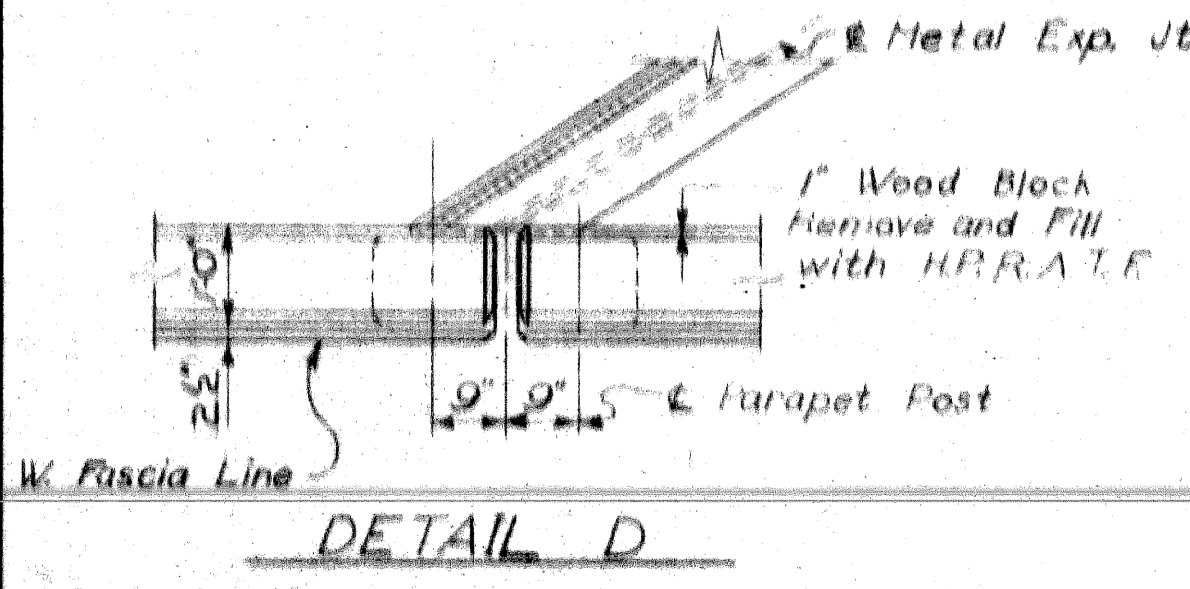
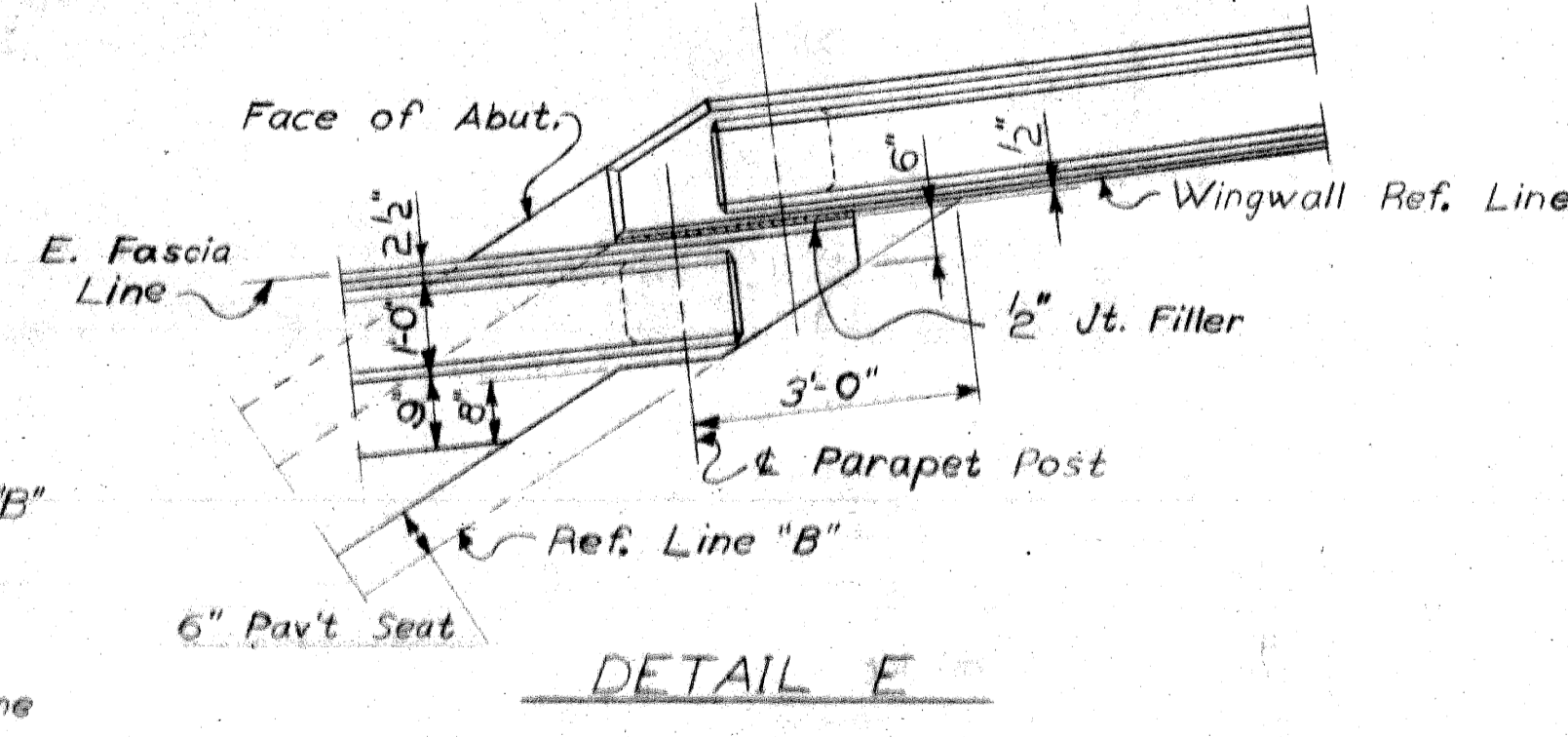
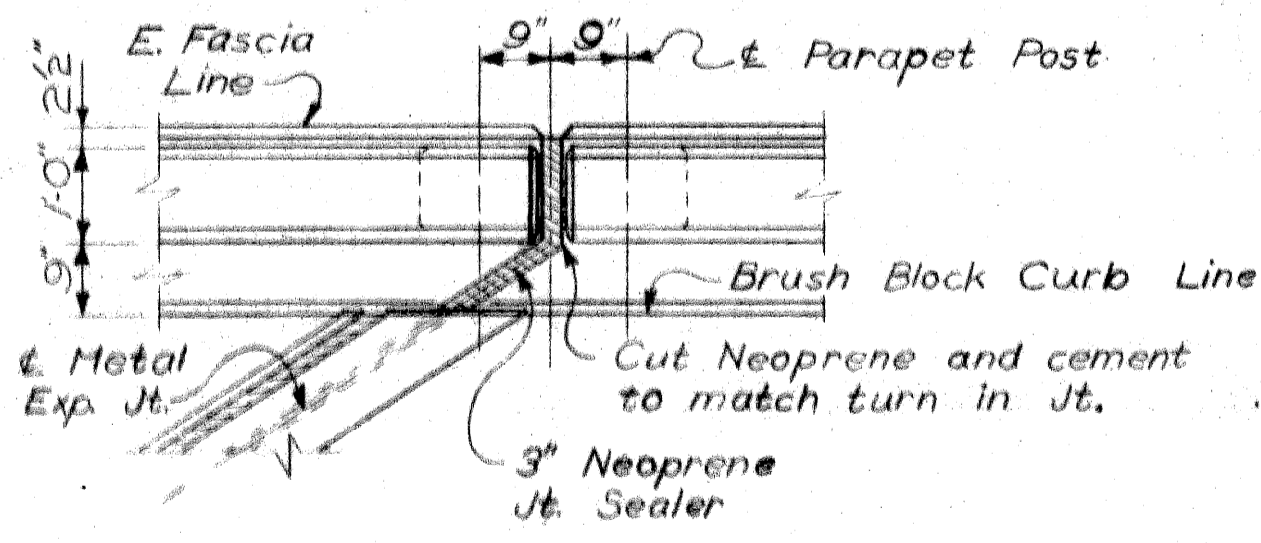
SUPERSTRUCTURE DETAILS			
REVISIONS			
NO.	DESCRIPTION	DATE	BY

CITY OF DETROIT
SQUAD BOSS: *W. L. S.*
DRAWN BY: *Van N. H. H.*
CHECKED BY: *E. W.*
DATE: 10-68
SHEET 18 OF 22
S48 of 82123K



NOTES:

Transverse reinforcing steel is normal to Bridge Constr. & Tangent.
 Inserts for Clearance Sign are to be 5/8" Truscon threaded inserts or approved equal and are to be provided with a suitable setting plug.
 Furnishing and placing concrete inserts is incidental to Superstructure concrete.



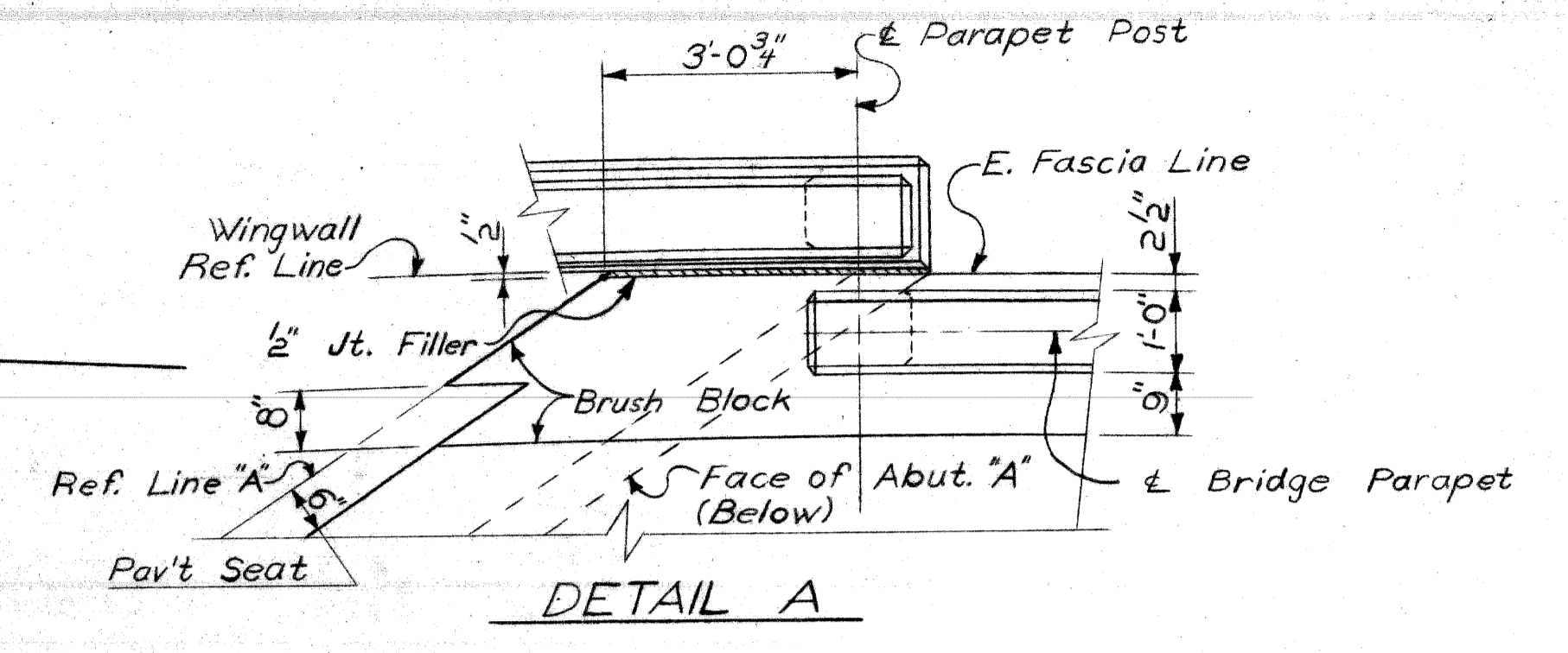
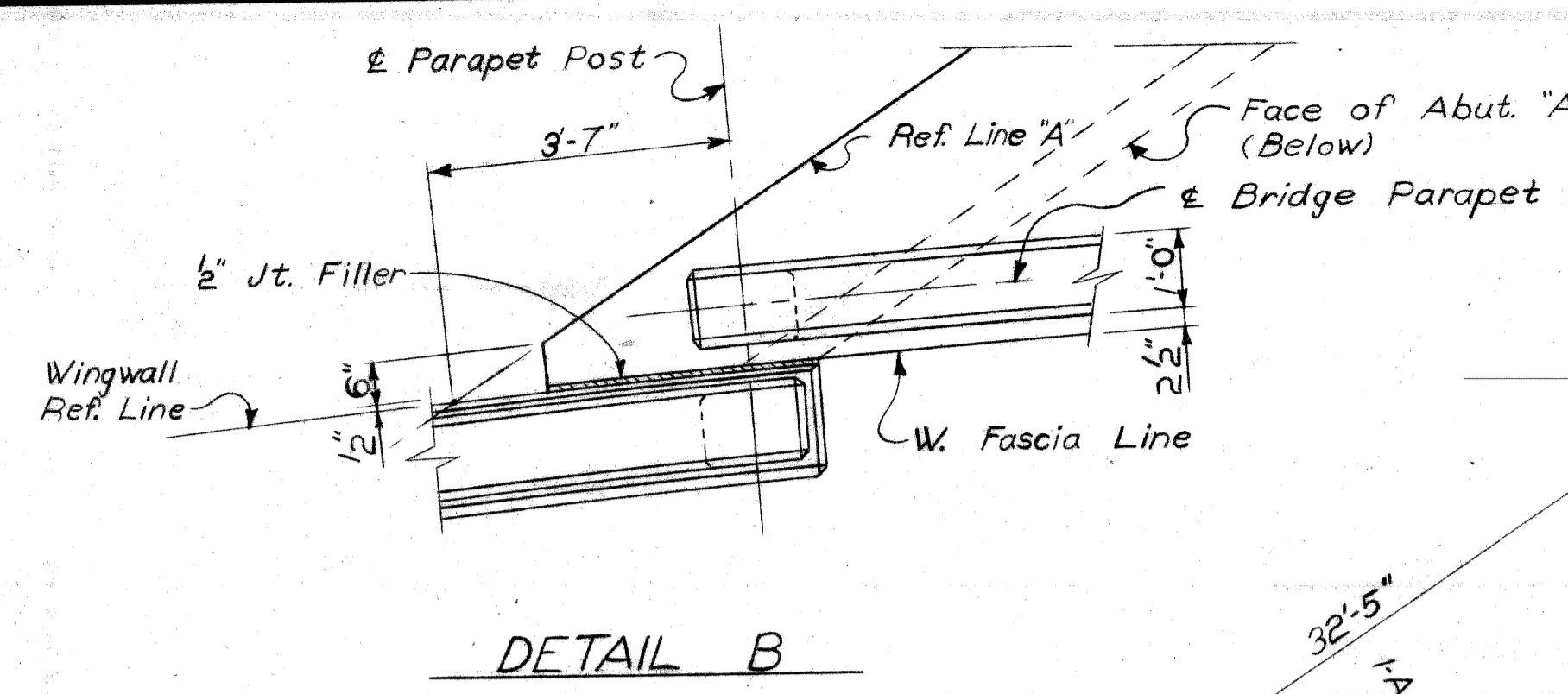
PLANS PREPARED BY
CITY OF DETROIT
 DEPARTMENT OF PUBLIC WORKS
 CITY ENGINEERS OFFICE
 BUREAU OF HIGHWAYS AND EXPRESSWAYS

APPROVED: *[Signature]*
 STRUCTURAL ENGINEER

JOB No. PW99021

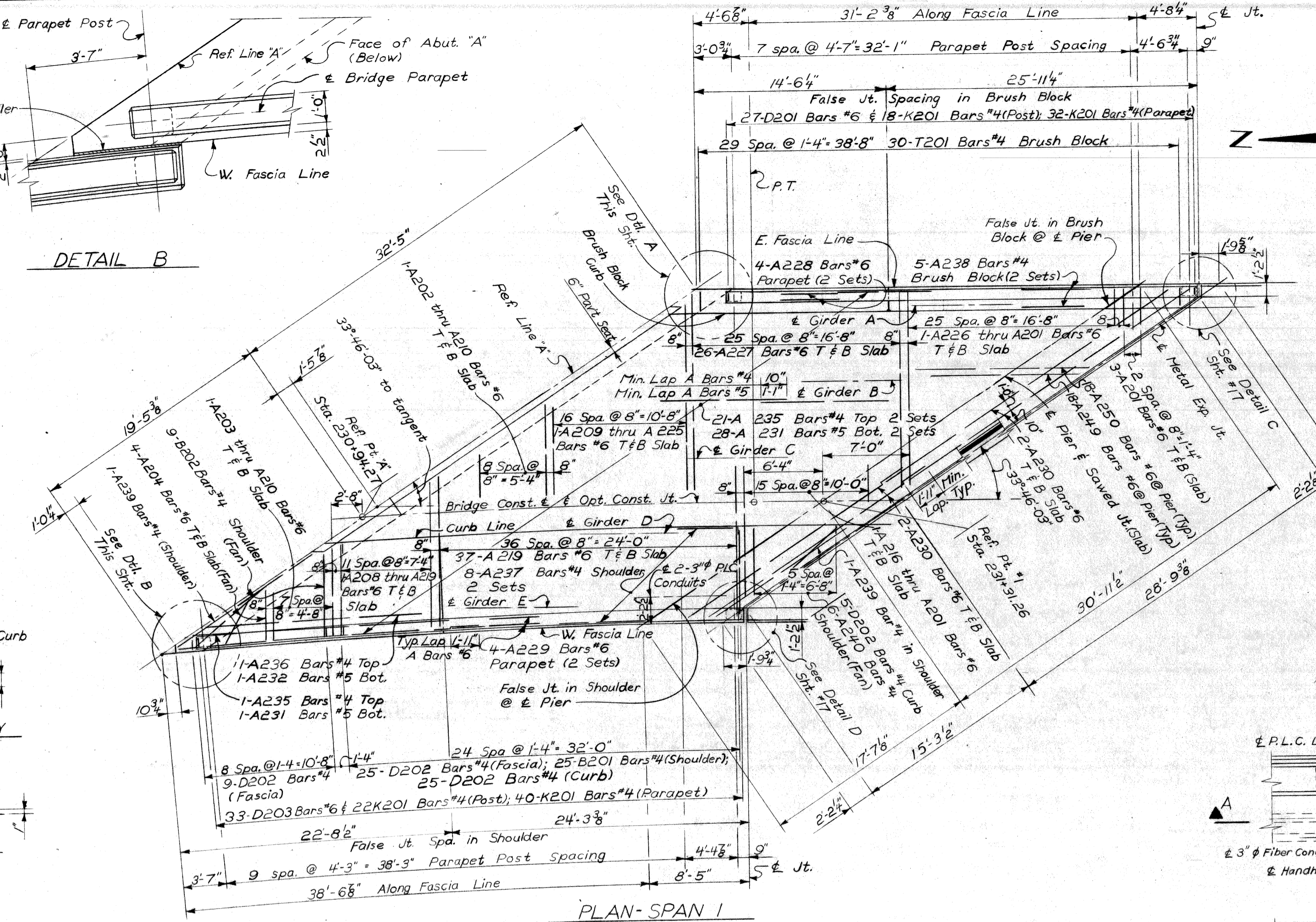
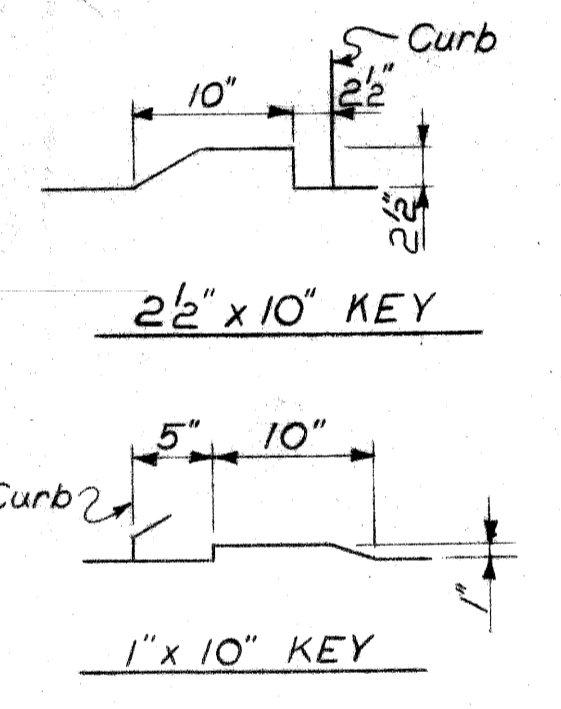
MICHIGAN DEPARTMENT OF STATE HIGHWAYS			
SUPERSTRUCTURE DETAILS			
REVISIONS			
NO.	DESCRIPTION	DATE	BY

DRAWN BY: *[Signature]*
 CHECKED BY: *[Signature]*
 SHEET 17 OF 22
S48 of 82123K

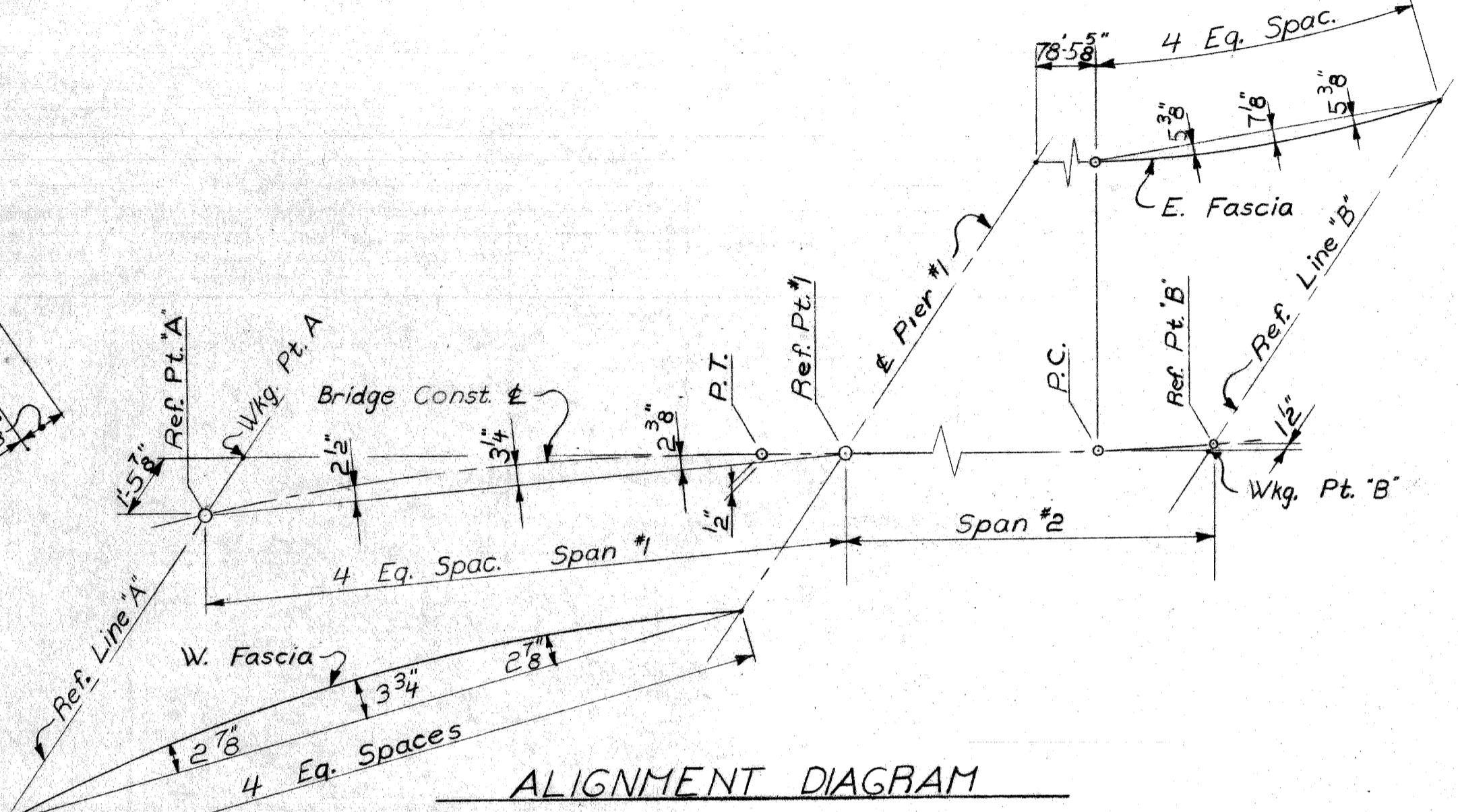


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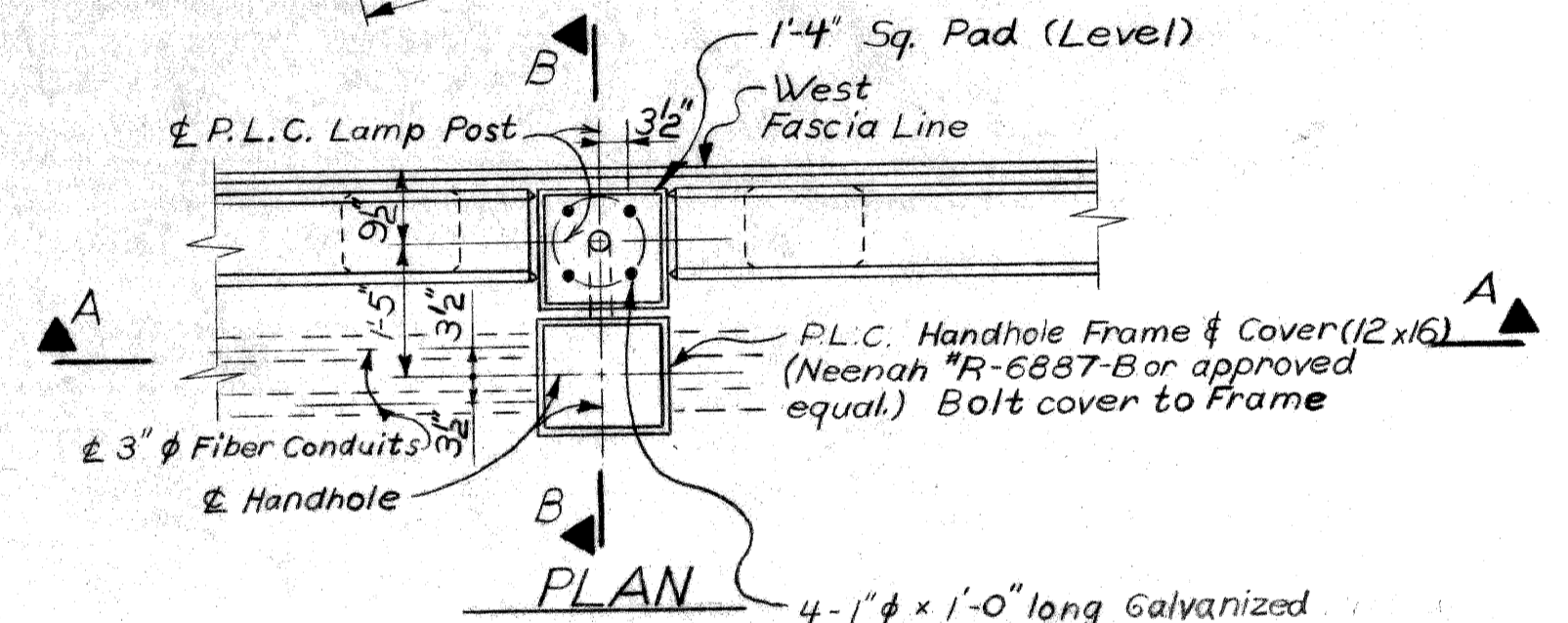
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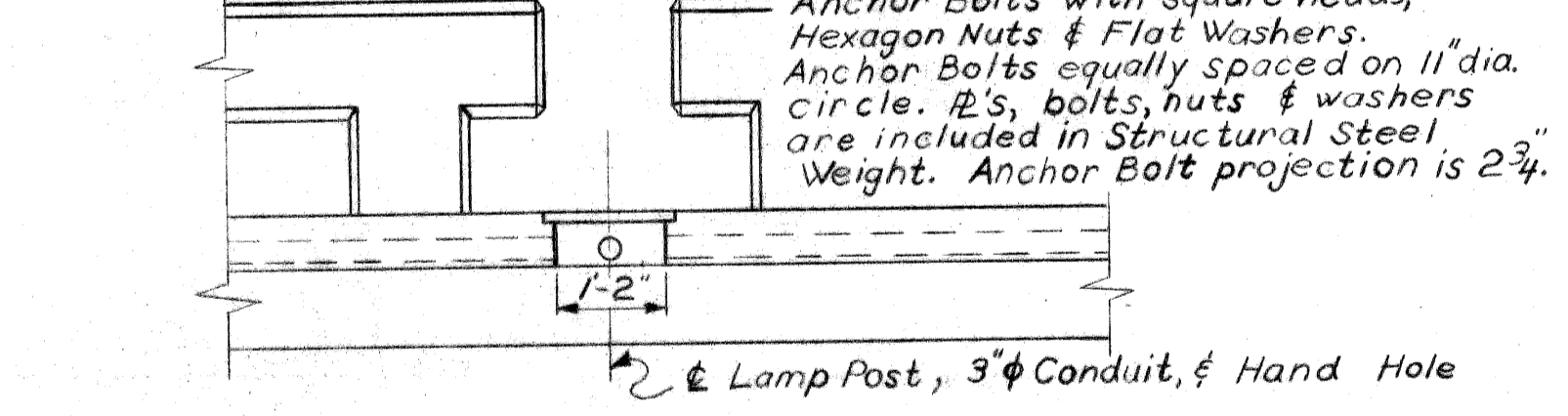
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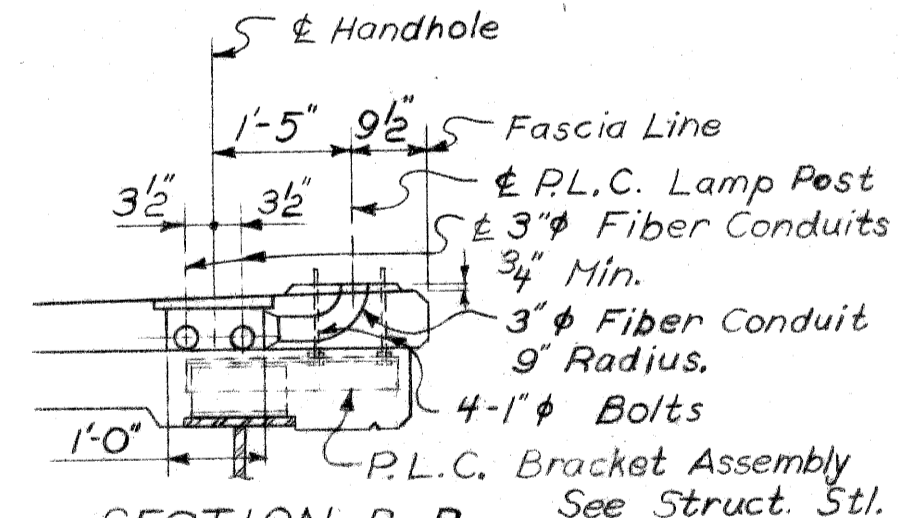
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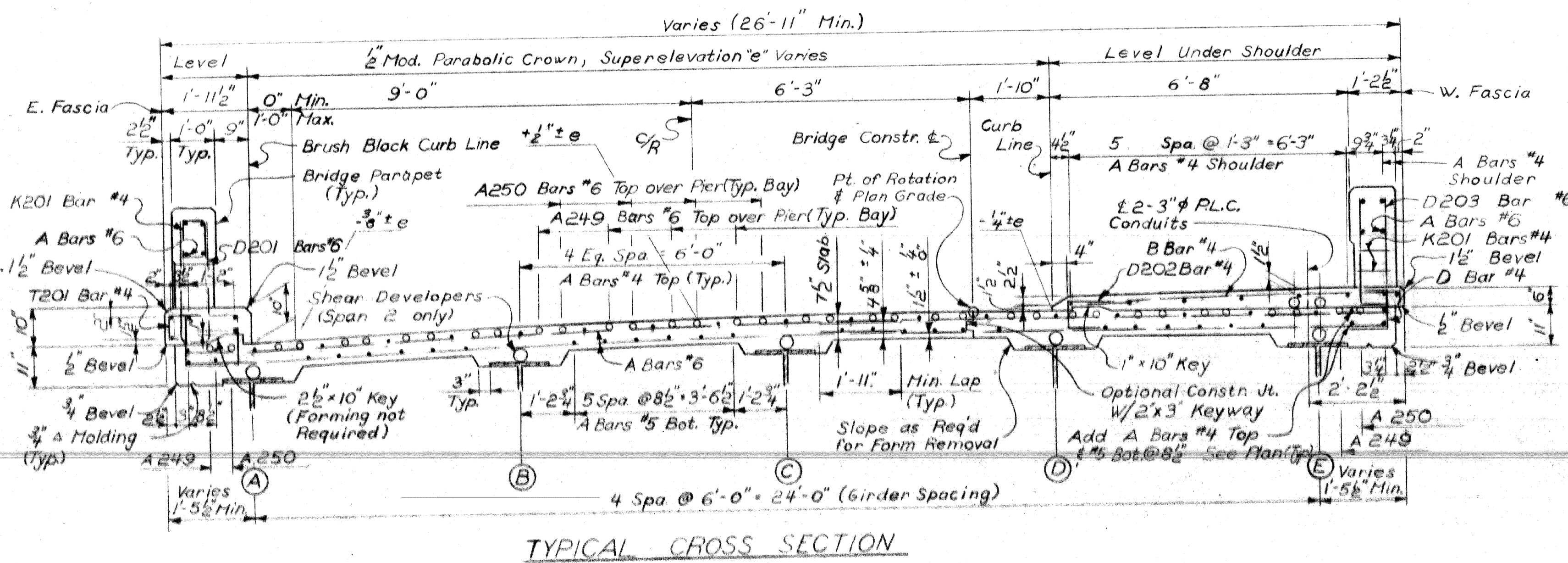
PLAN



SECTION A-A



SECTION B-B



TYPICAL CROSS SECTION

MICHIGAN DEPARTMENT OF STATE HIGHWAYS

SUPERSTRUCTURE DETAILS

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

APPROVED: *J. J. Carroll*
 STRUCTURAL ENGINEER

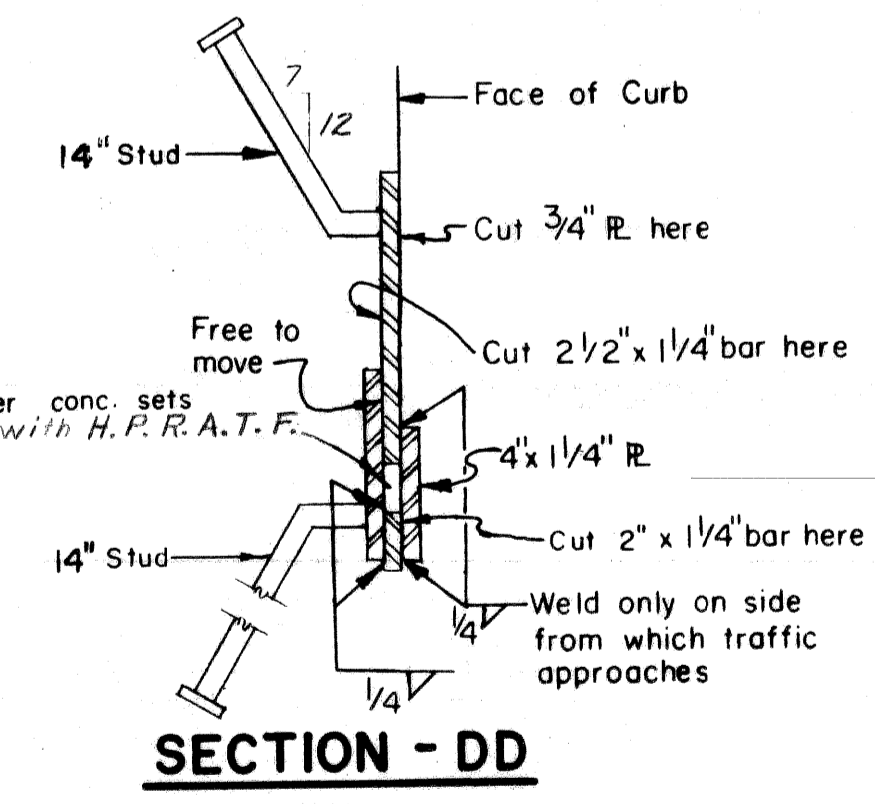
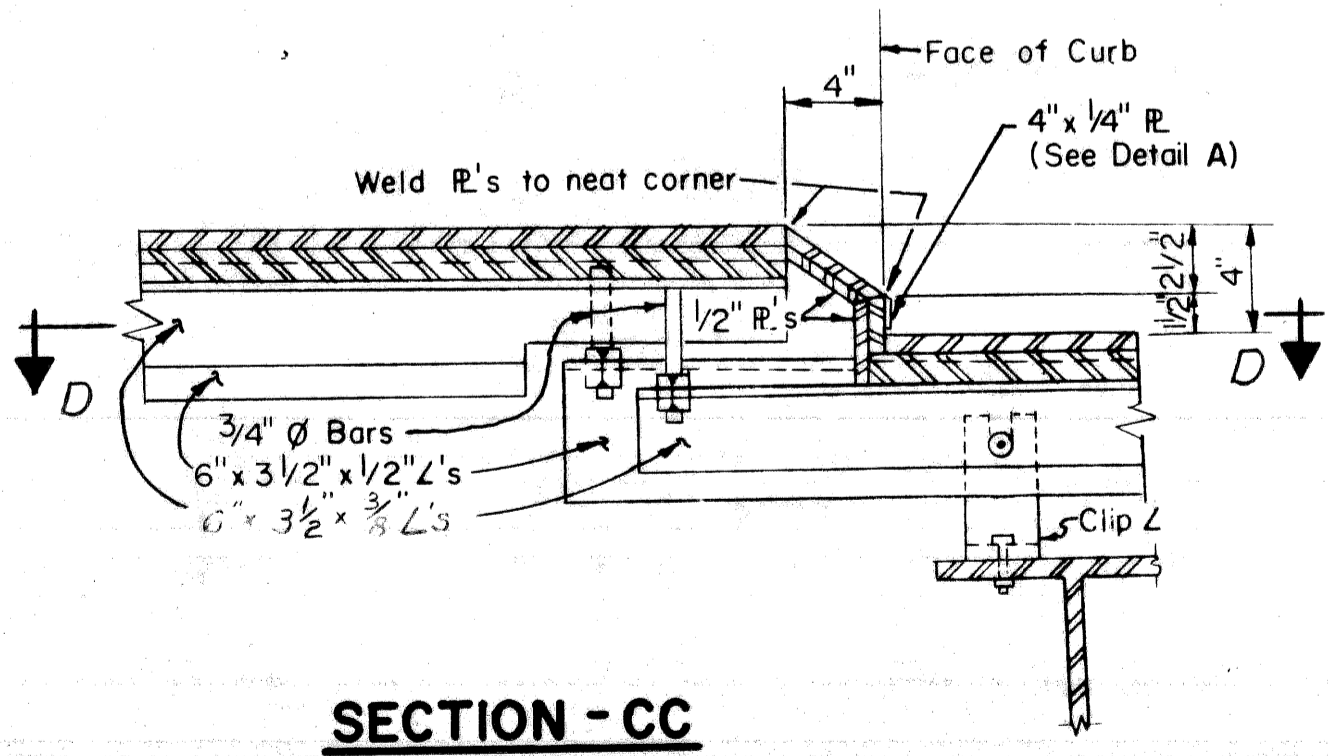
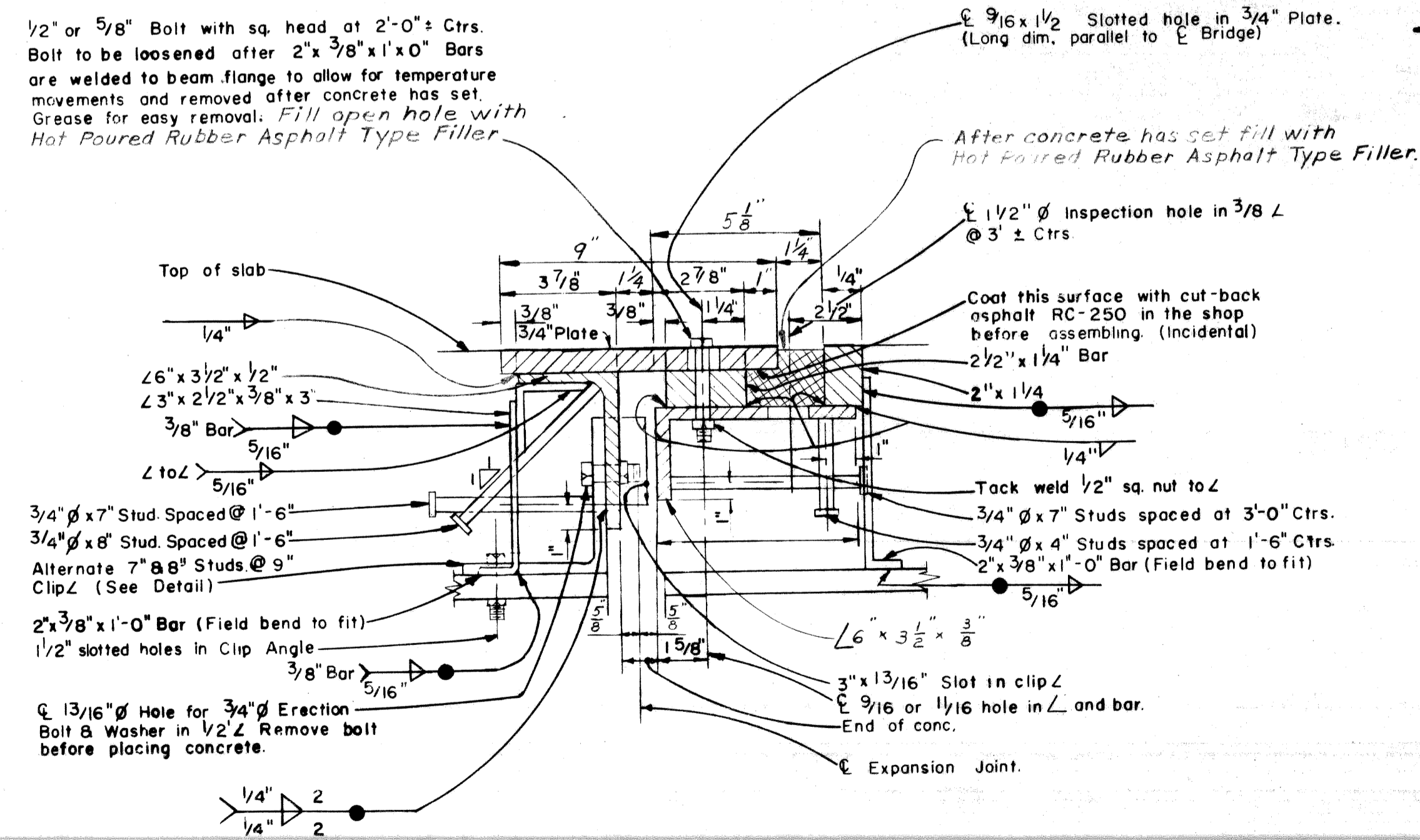
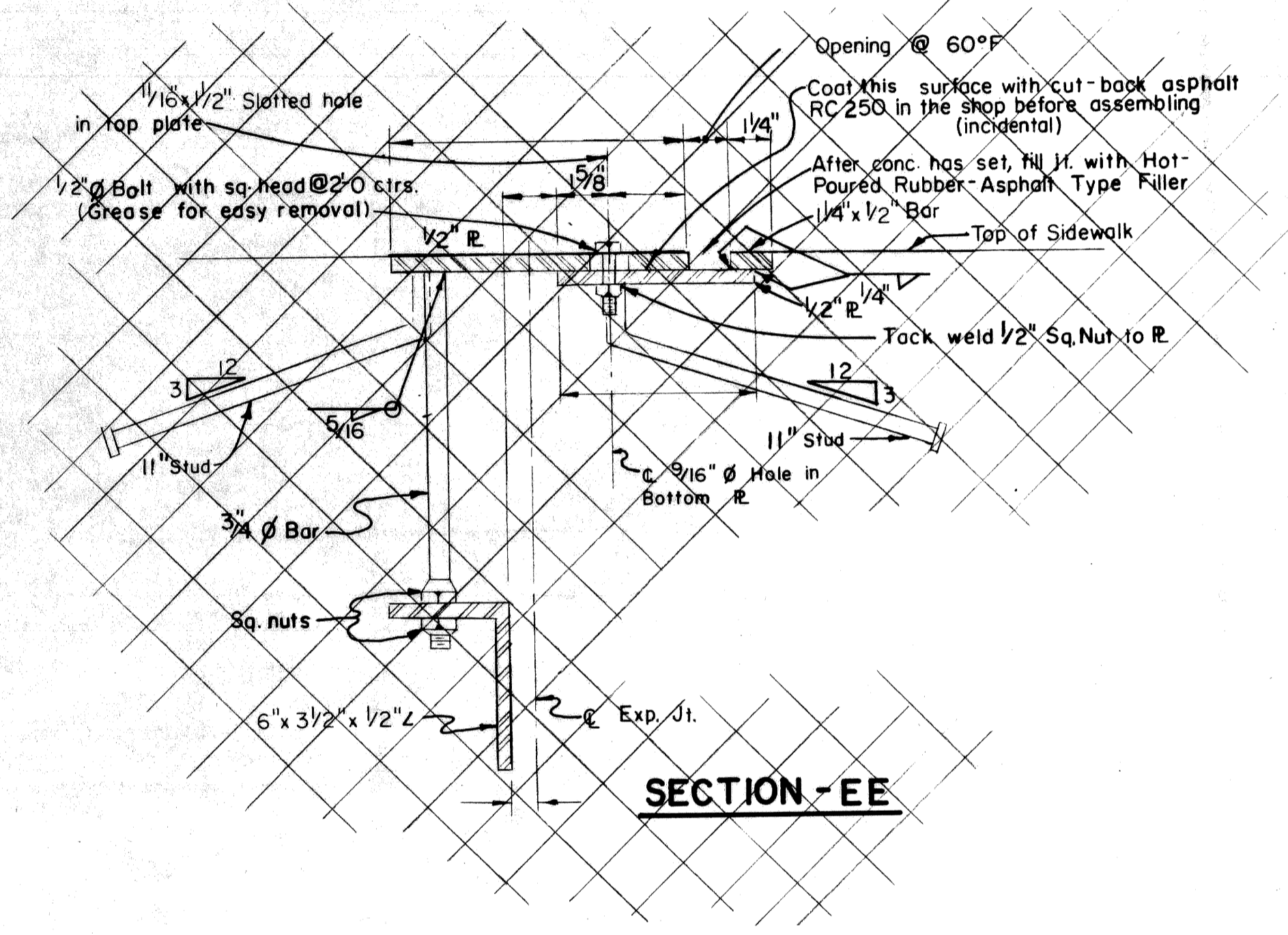
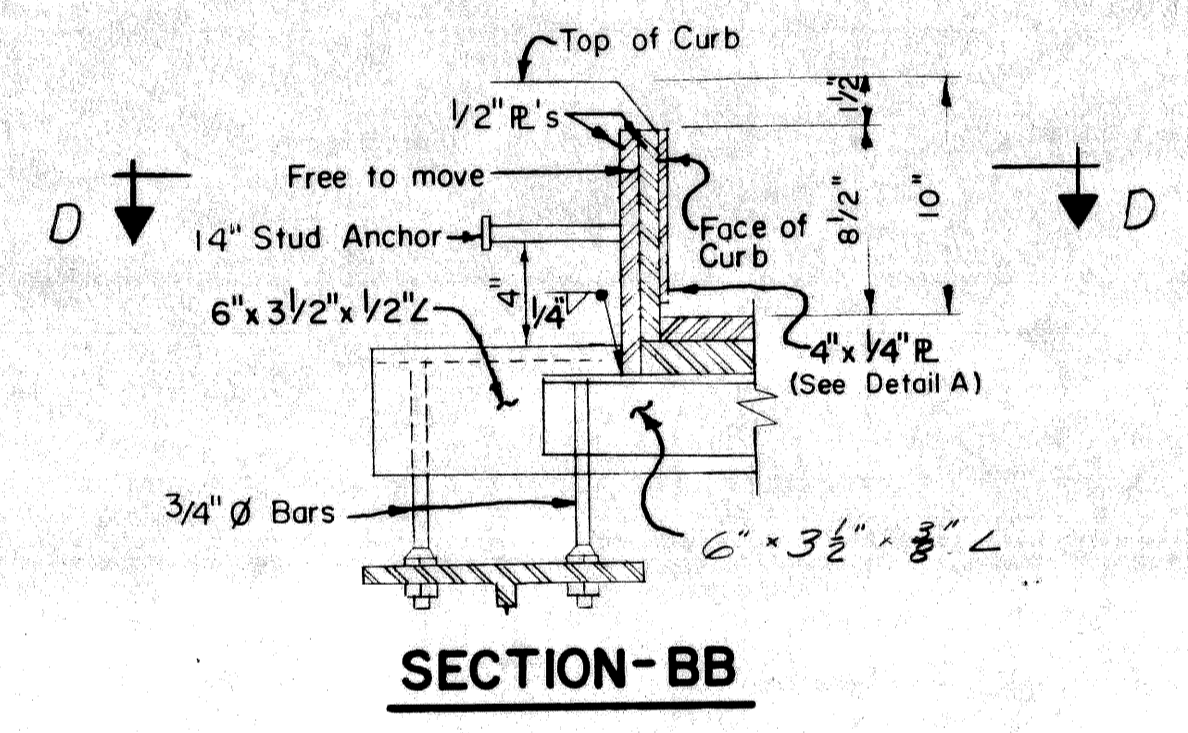
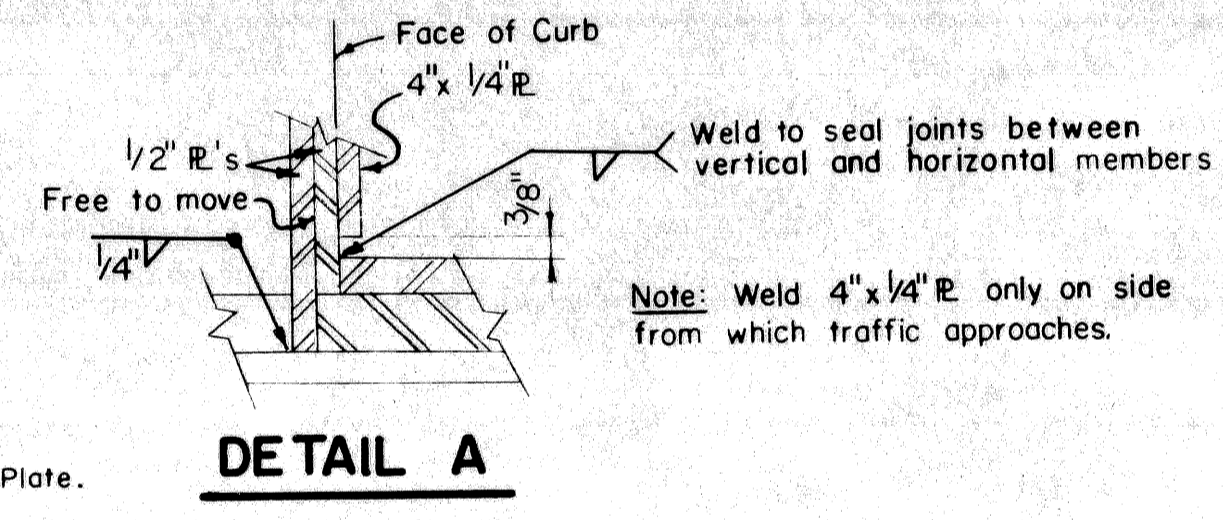
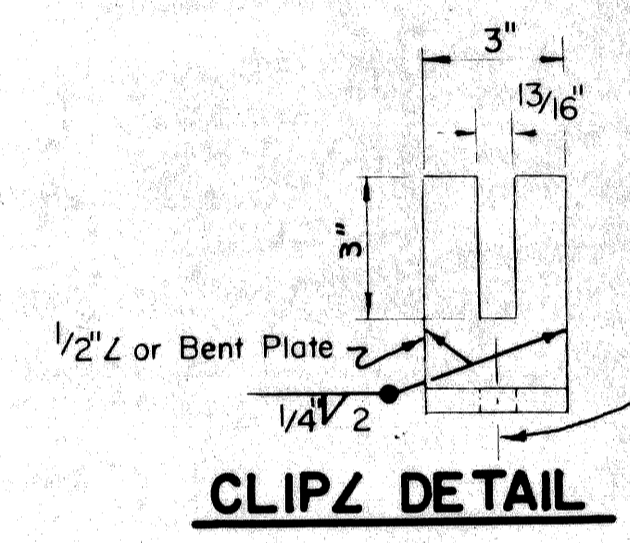
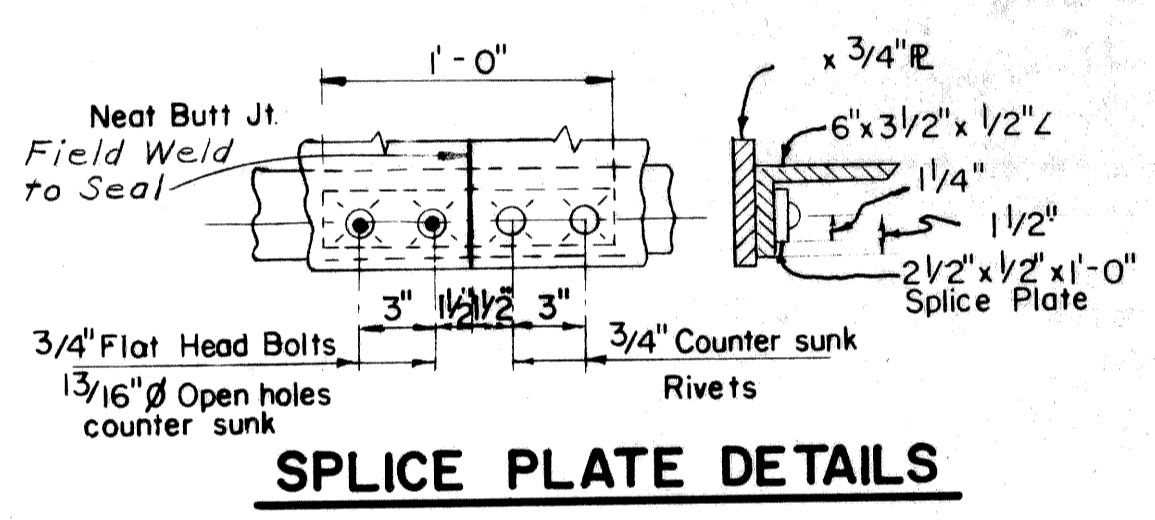
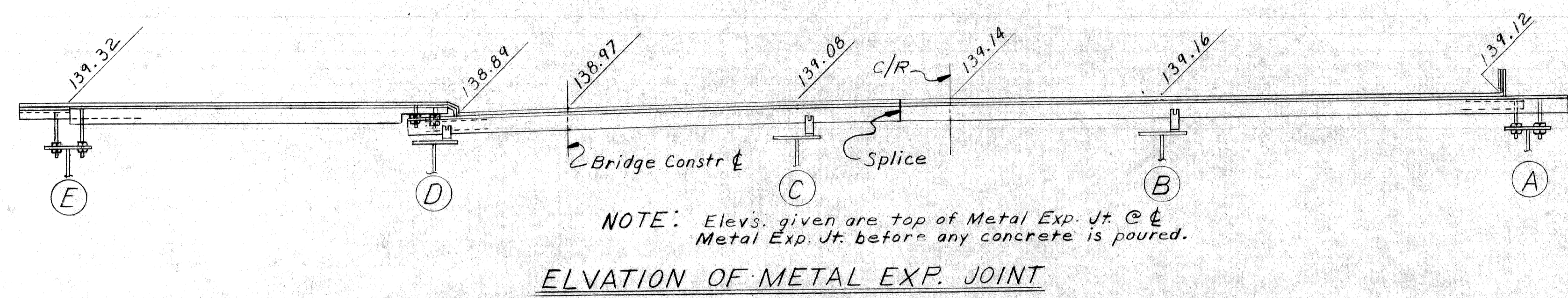
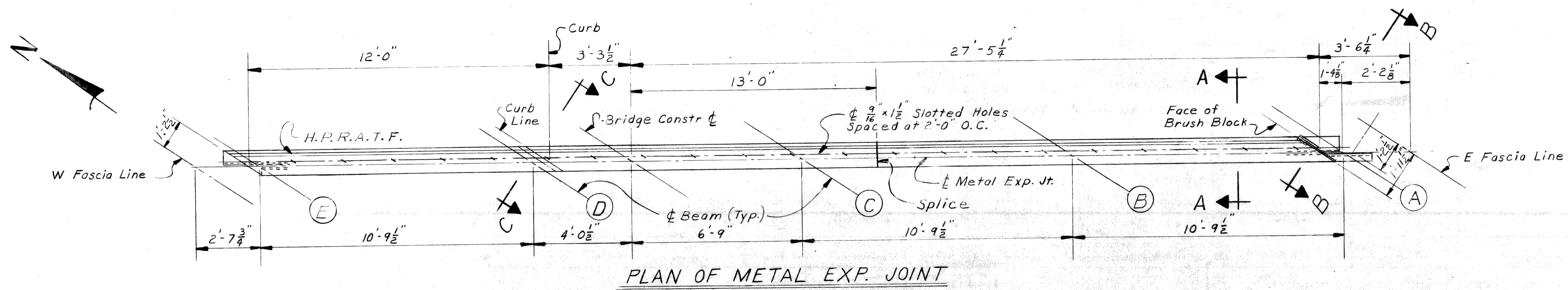
JOB No.
 PW990(2)

NO.	DESCRIPTION	DATE	BY

CITY OF DETROIT

SQUAD BOSS
 DRAWN BY: *W. J. [unclear]* 10-58
 TRACED BY: *E. W. [unclear]*
 CHECKED BY: *E. W. [unclear]*
 SHEET 16 OF 22

S48 of 82123K



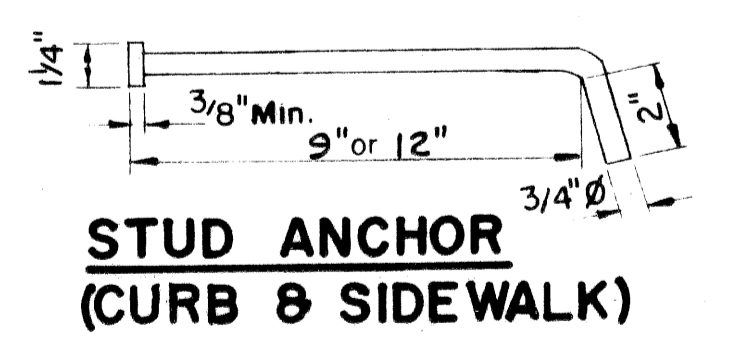
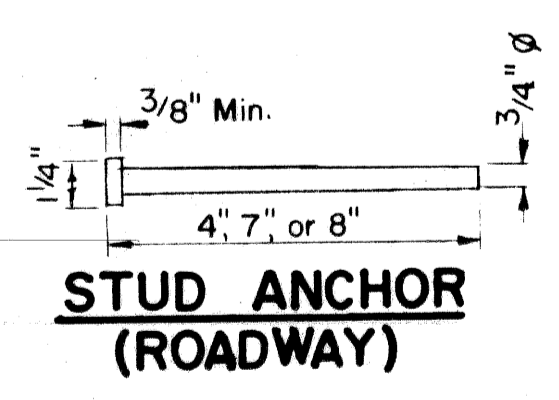
NOTES:

The Metal Expansion Joint shall be bent in the shop to conform with the contour of the top of roadway slab.

H.P.R.A.T.F. is included in the Superstructure Quantities on sheet # 18.

Weight of Metal Expansion Joints 3,232 lbs.

Weight of Metal Expansion Joint is included in Structural Steel weight on sheet # 13.



MICHIGAN DEPARTMENT OF STATE HIGHWAYS

METAL EXPANSION JOINT DETAILS

REVISIONS

NO.	DESCRIPTION	DATE	BY

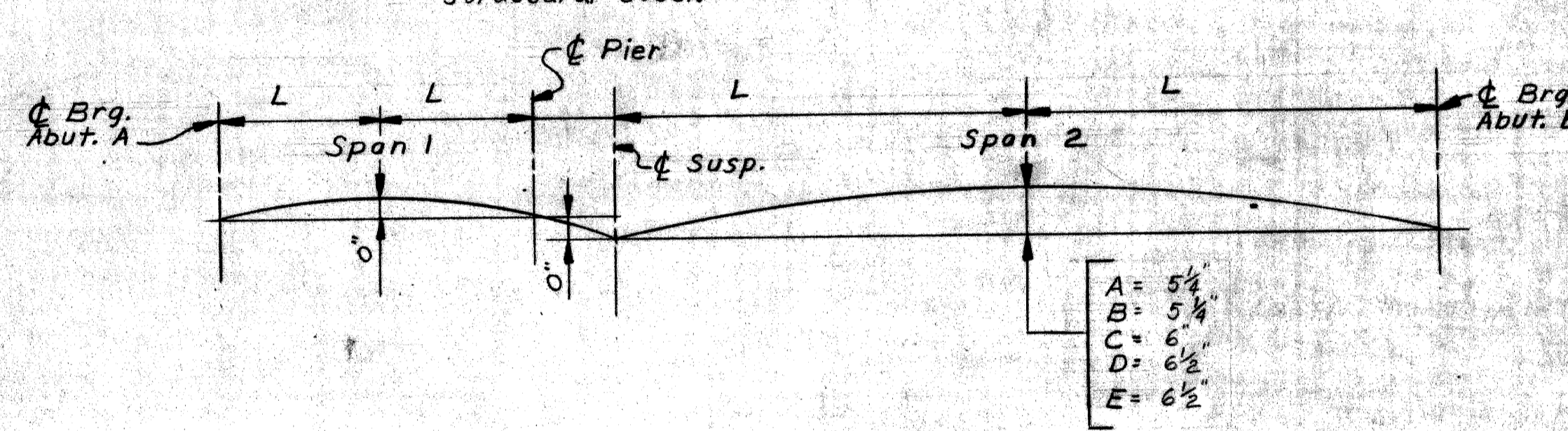
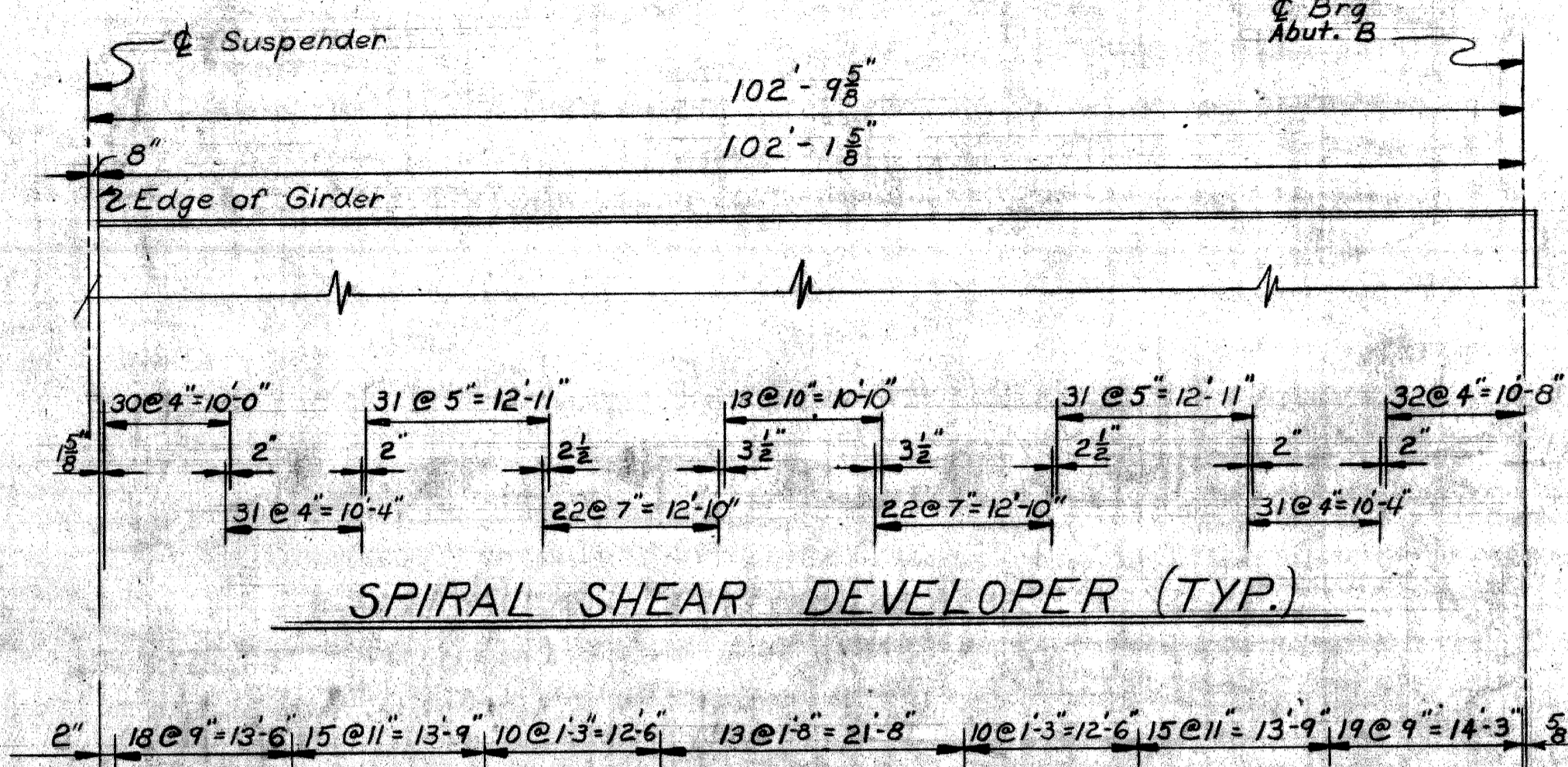
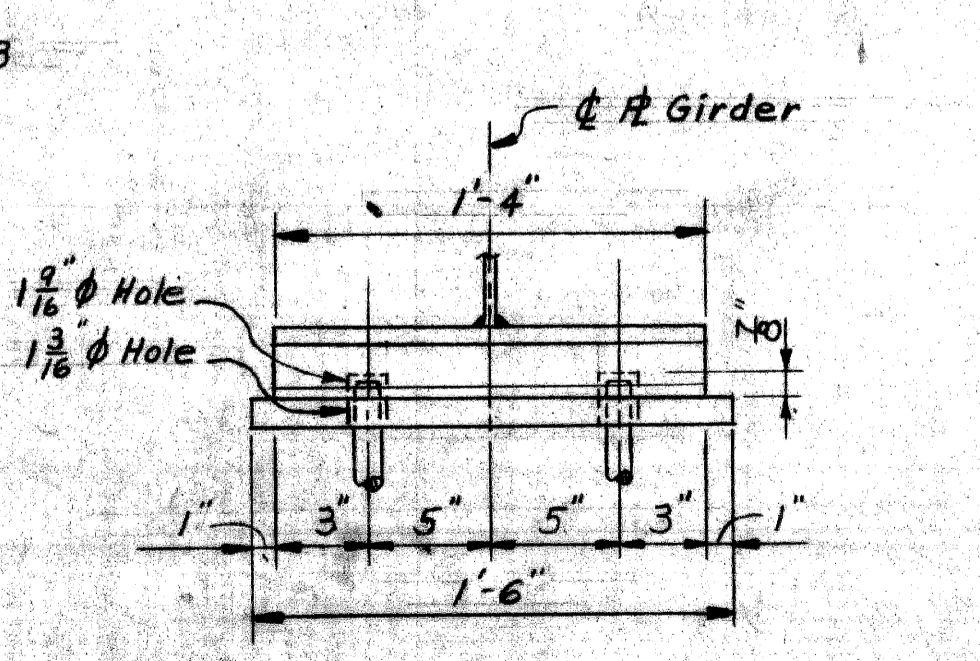
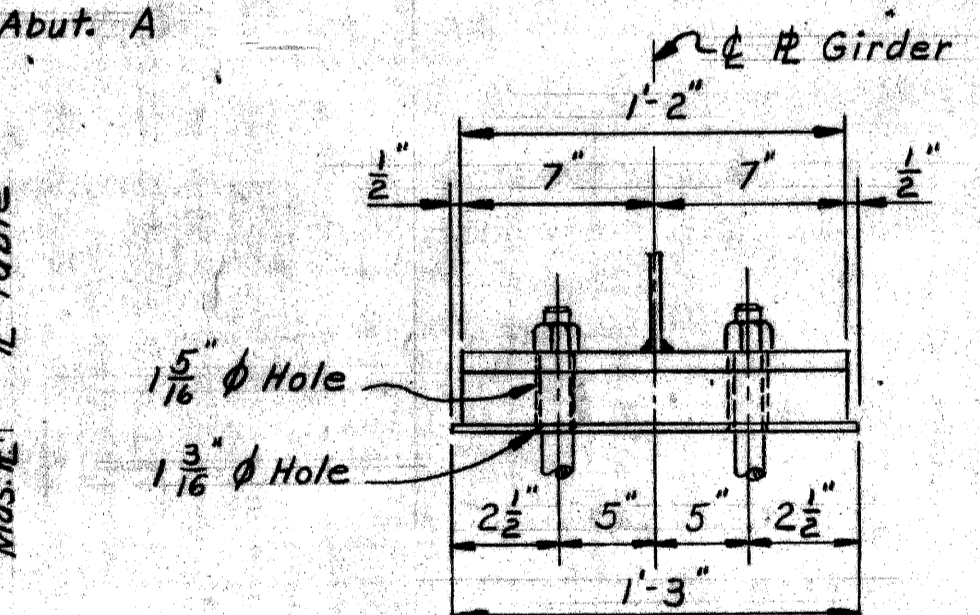
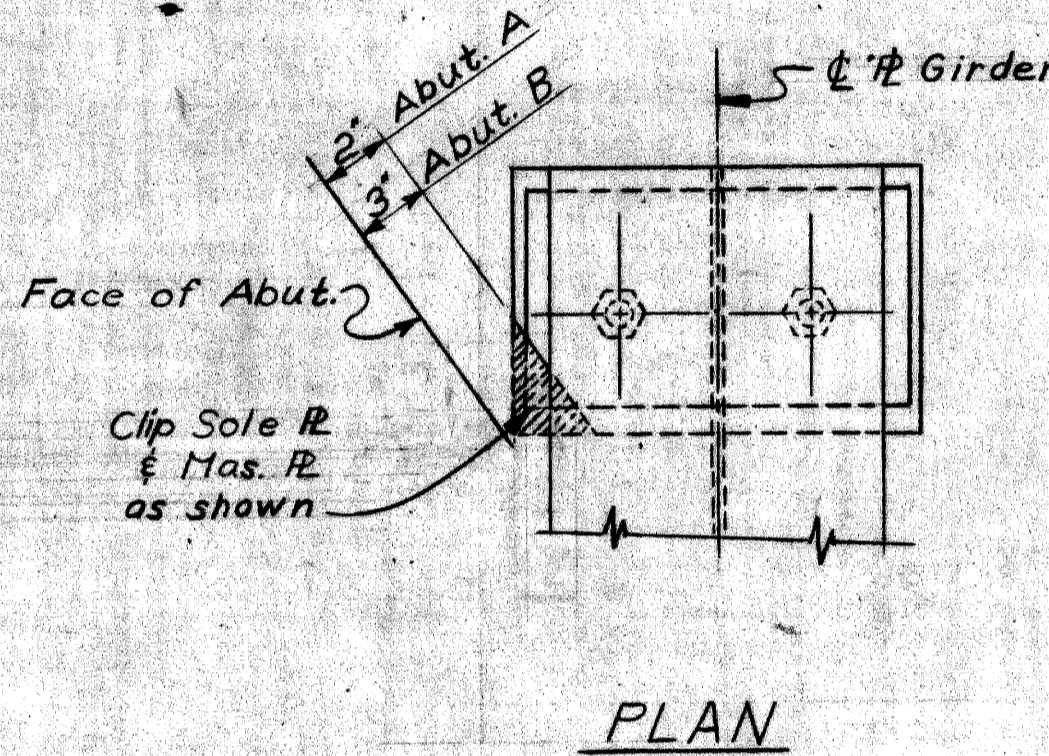
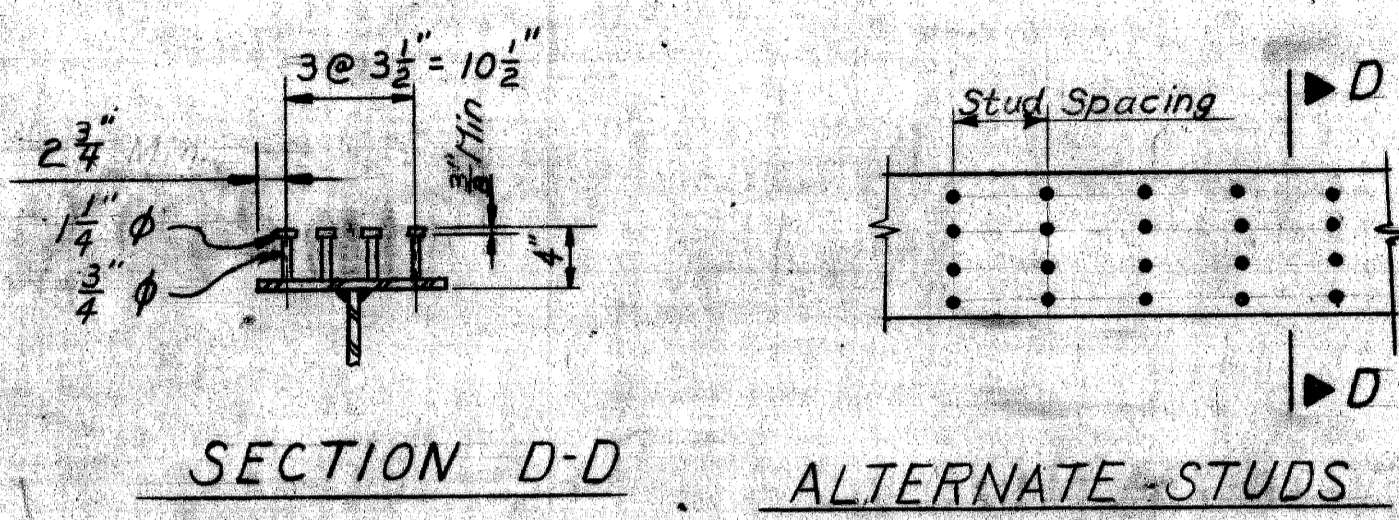
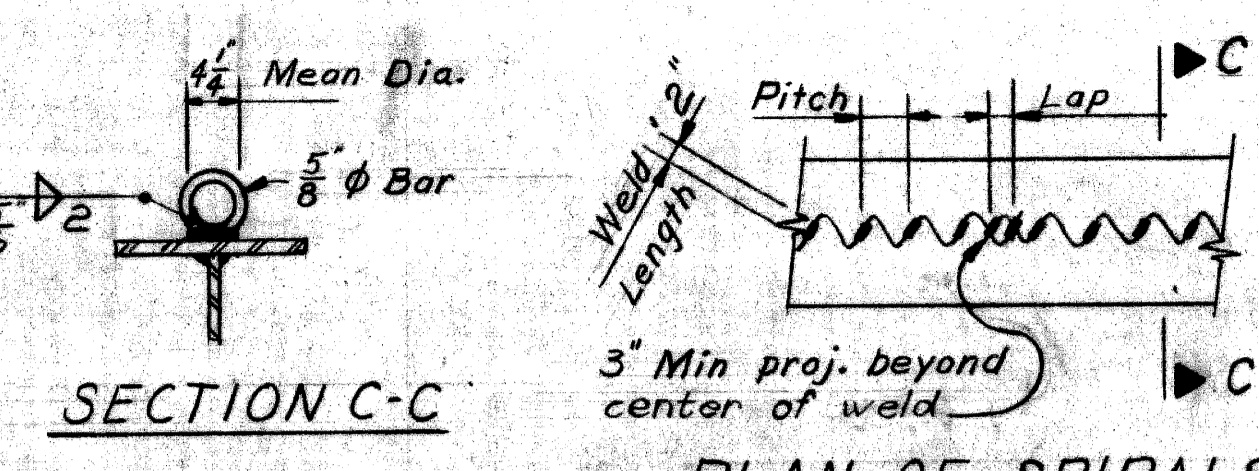
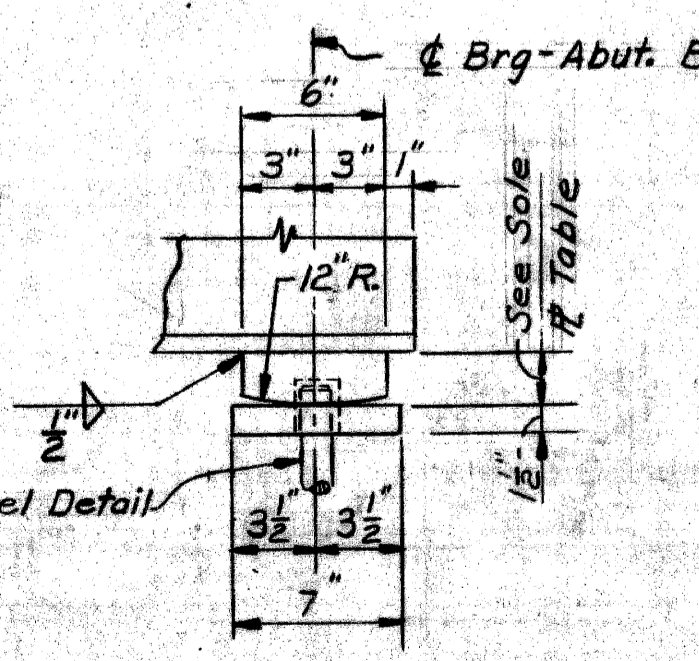
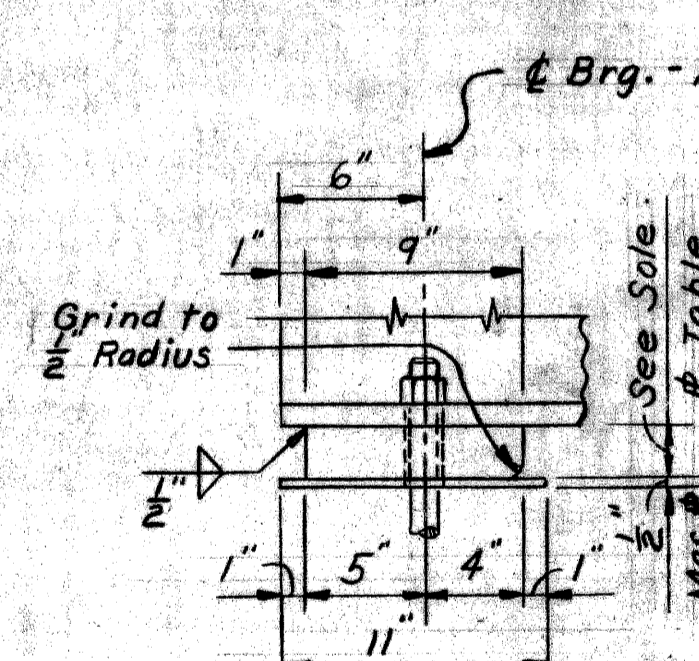
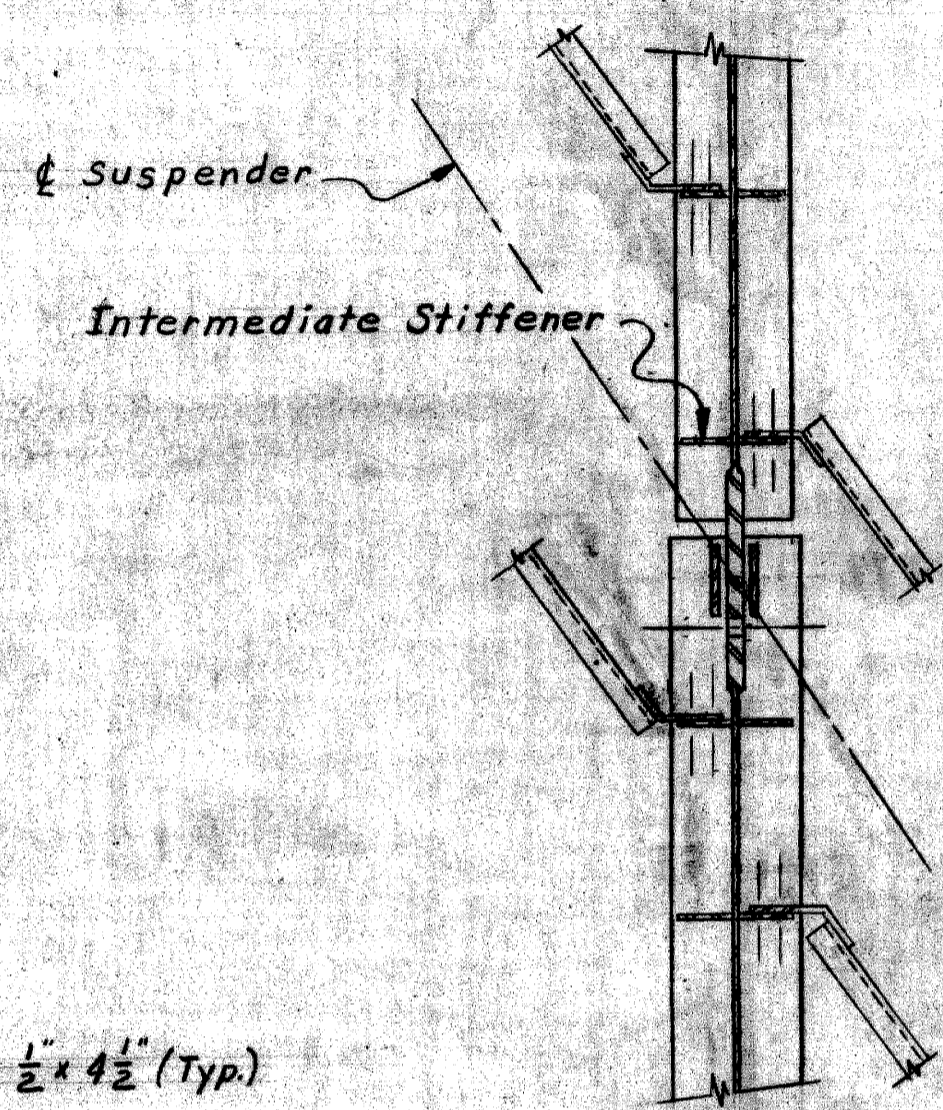
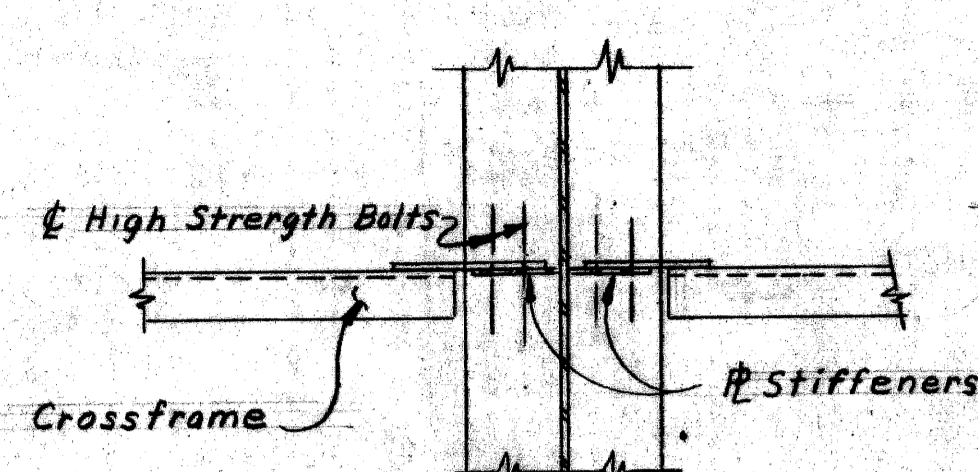
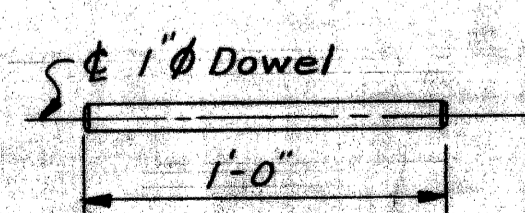
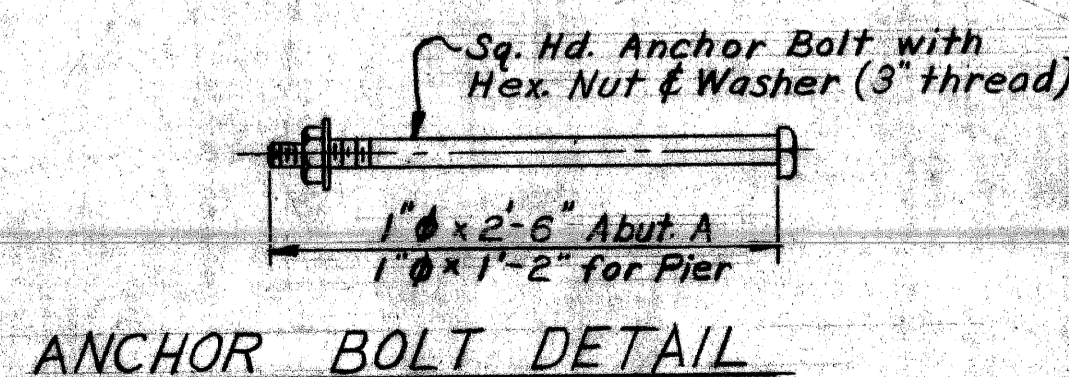
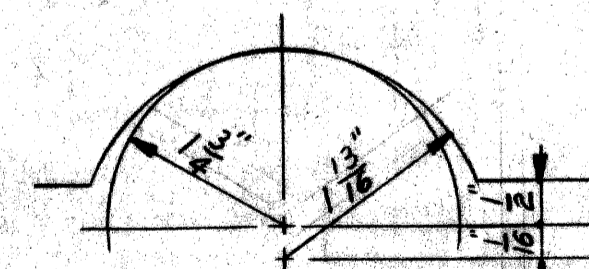
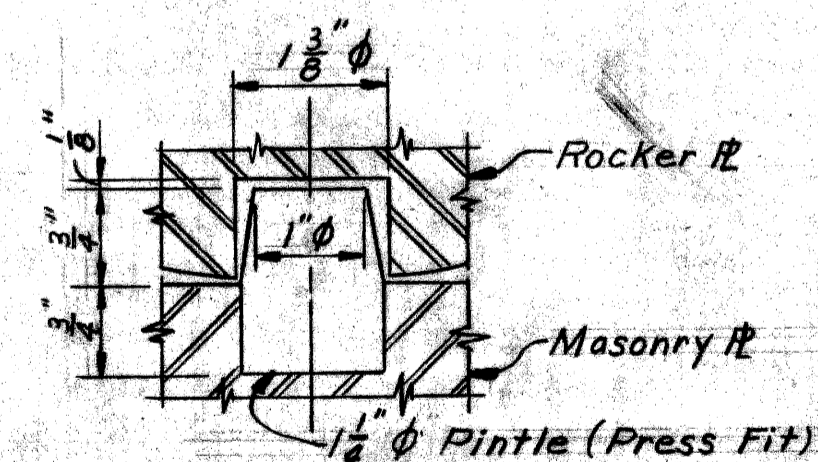
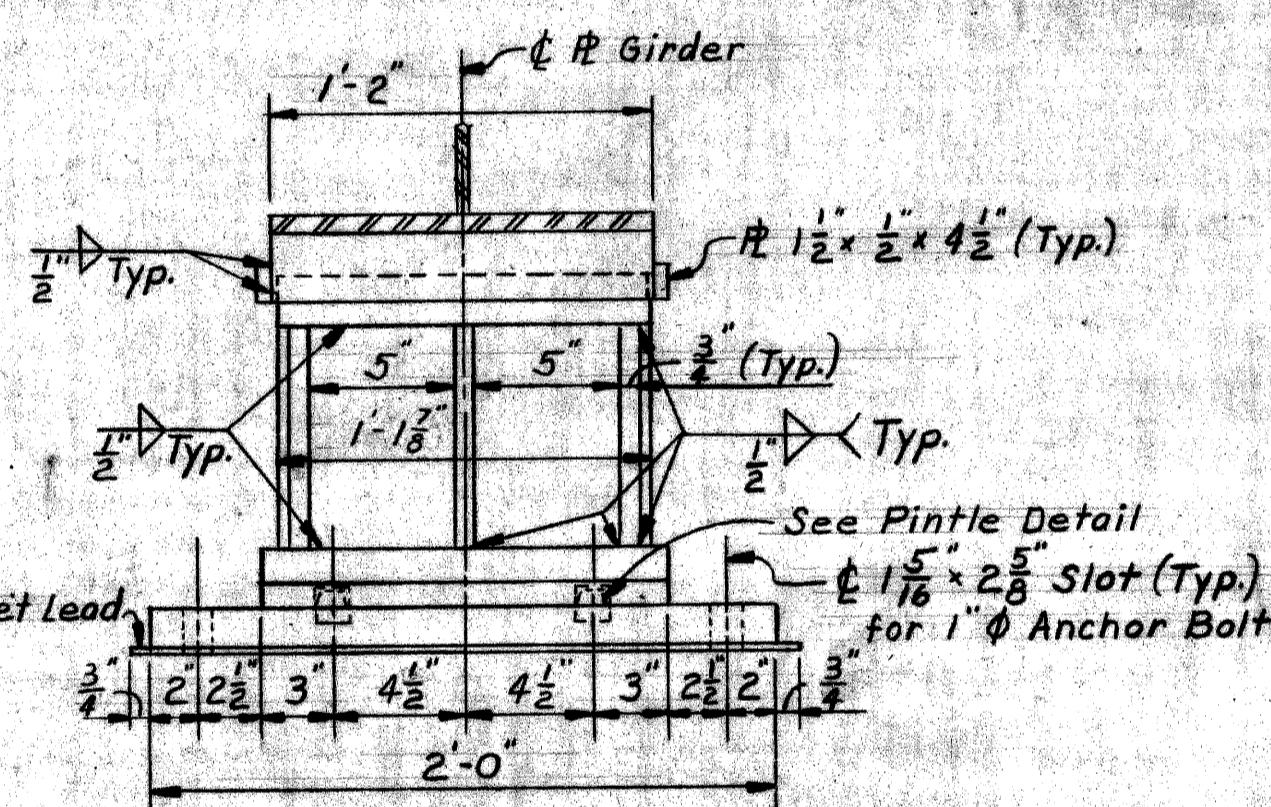
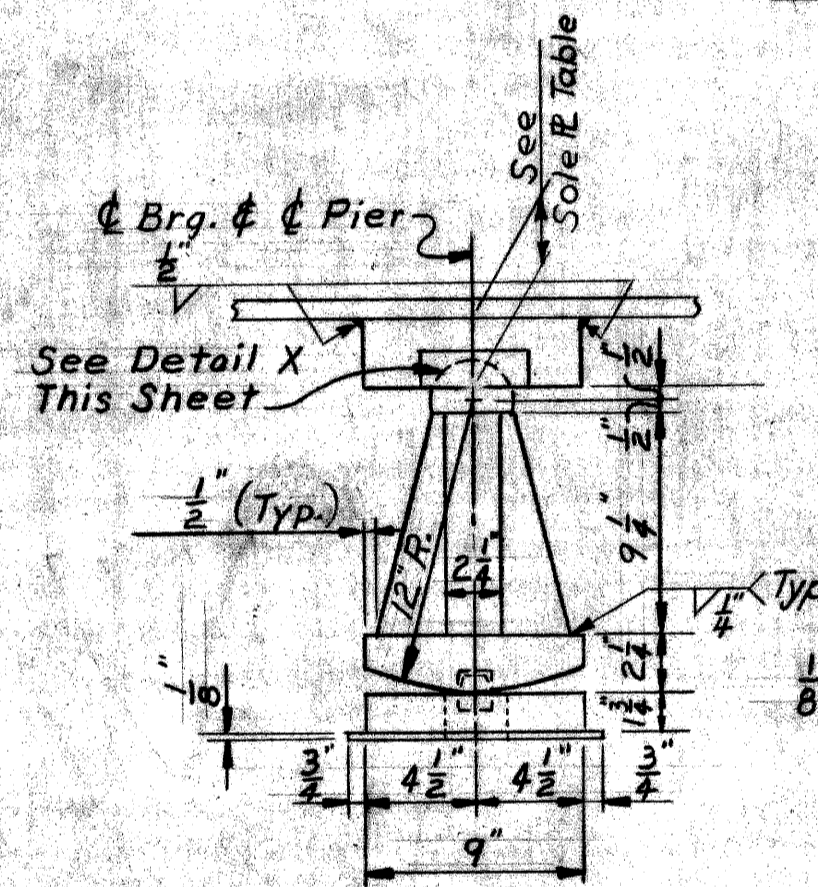
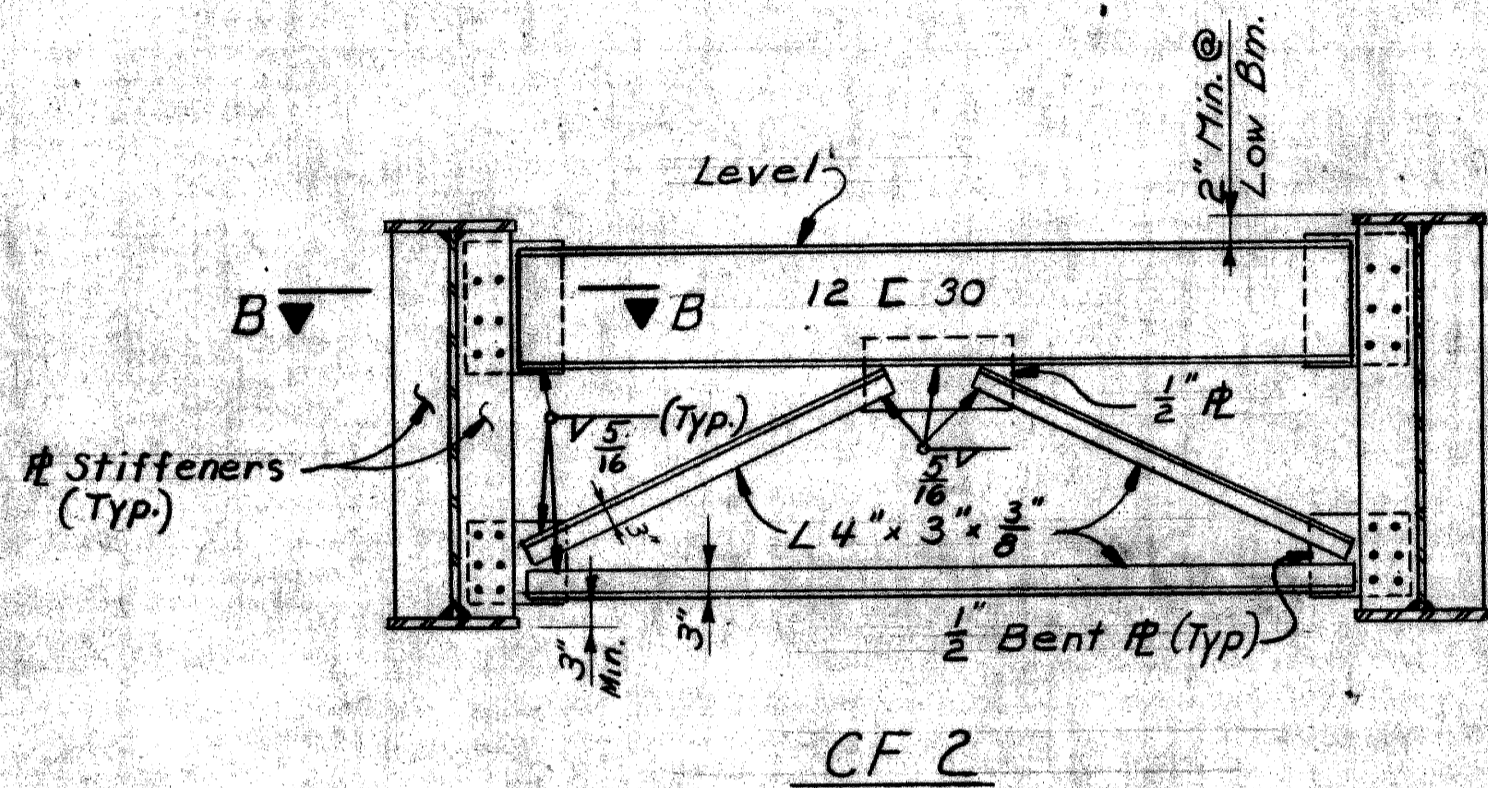
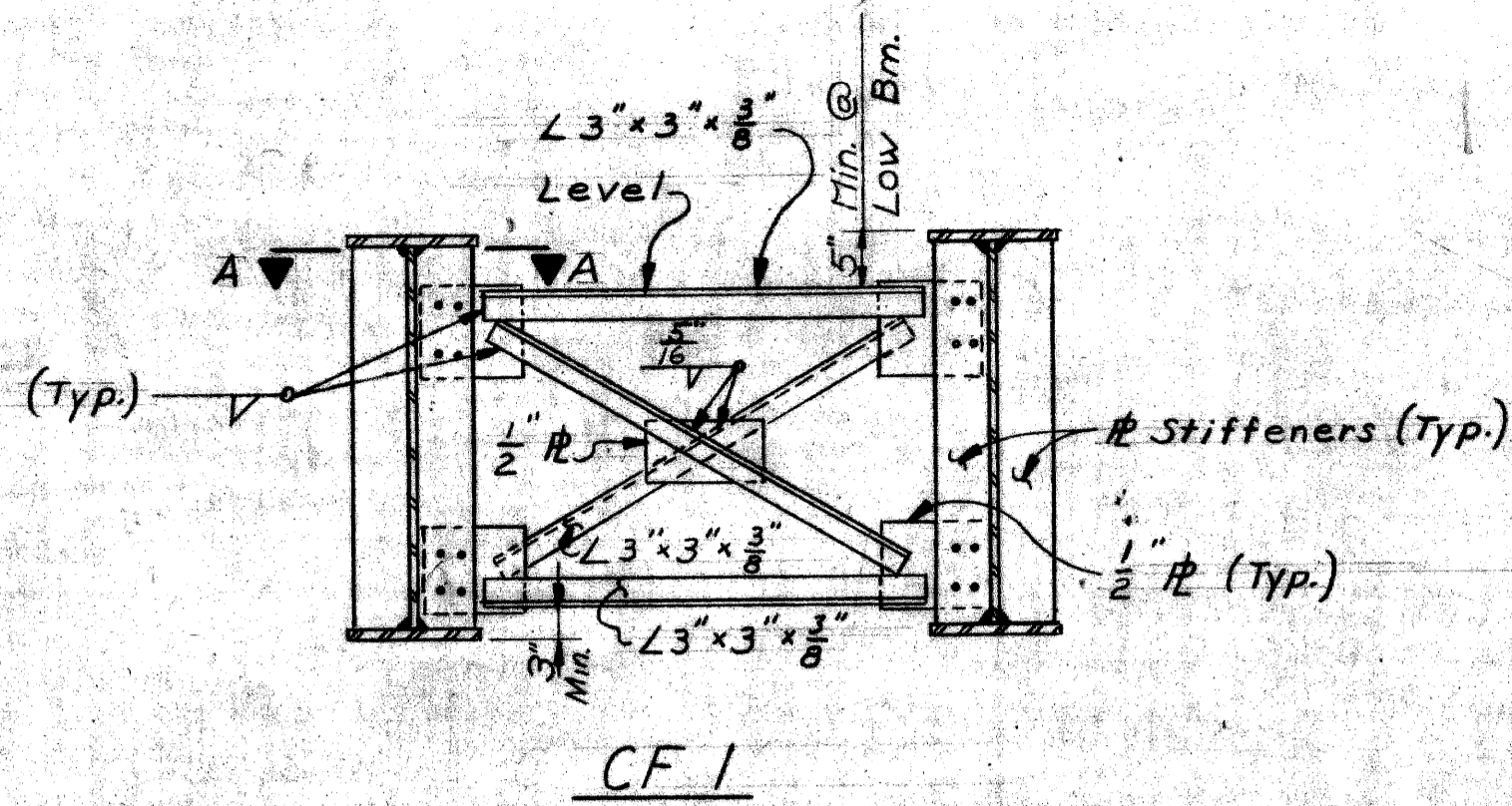
DESIGNED BY: A Hopkins
 DRAWN BY: J. G. Smith
 CHECKED BY: J. G. Smith
 SHEET 15 OF 22

548 of 82123K

PLANS PREPARED BY
CITY OF DETROIT
 DEPARTMENT OF PUBLIC WORKS
 CIVIL ENGINEERING DEPARTMENT
 BUREAU OF DESIGN AND CONSTRUCTION

APPROVED: [Signature]
 STRUCTURAL ENGINEER

FW9902



DEAD LOAD DEFLECTION STEEL ONLY

Mid Span Span 1	Brig. Abut. A	Mid Span Span 2
0	0	3/4

SOLE PLATE TABLE

Gdr.	Abut. A	Pier	Abut. B
A	5 3/4	3 1/4	2
B	4 1/2	3 1/2	2
C	5 3/4	5 3/4	5 1/2
D	2 1/2	3 1/2	2
E	2	3	3 1/2

NOTE: Sole Plate Thicknesses are given in inches at Bearing

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 BUREAU OF HIGHWAYS AND EXPRESSWAYS

APPROVED: *[Signature]*
 STRUCTURAL ENGINEER

JOB No.
 PW 990(2)

MICHIGAN DEPARTMENT OF STATE HIGHWAYS

STRUCTURAL STEEL DETAILS

CITY OF DETROIT

SQUAD BOSS: *Walt*

DRAWN BY: *R. Rosik* 8/28

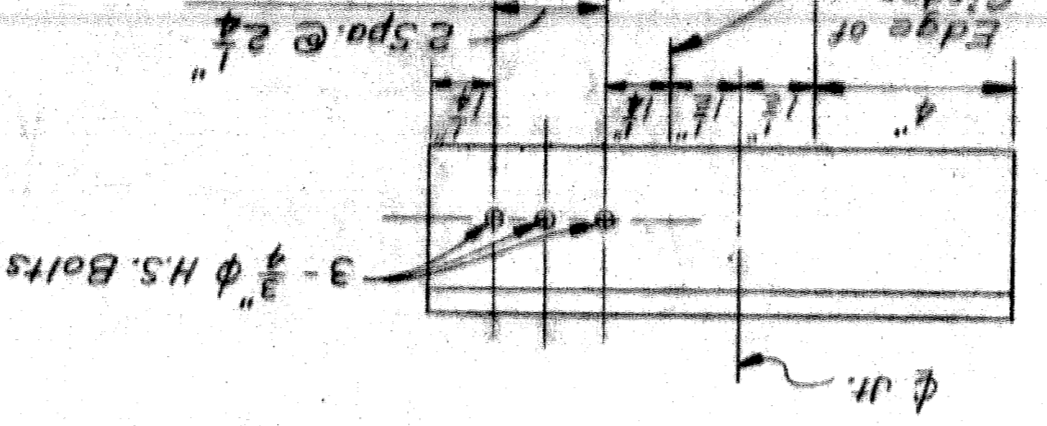
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CHECKED BY: *M.C.* 10/28

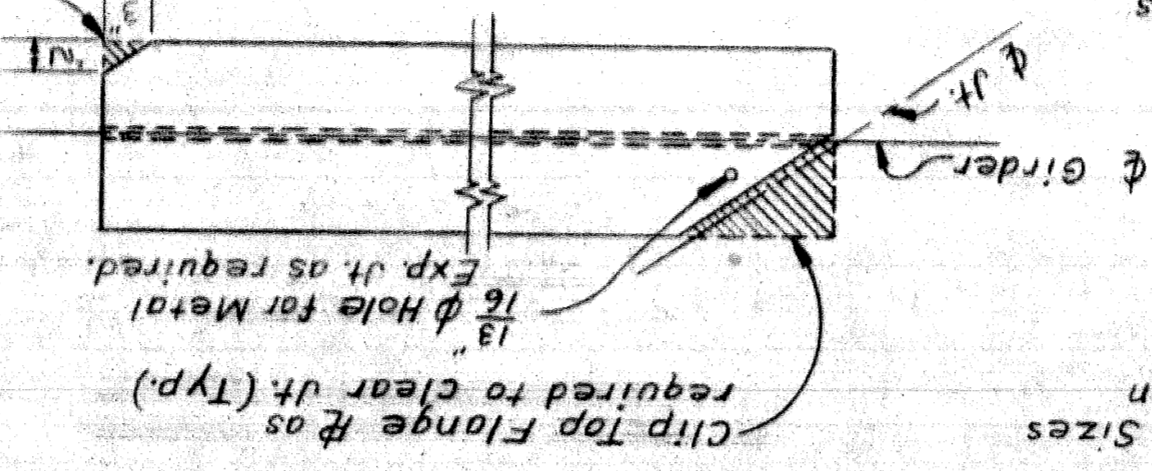
SHEET 14 OF 22

848 of 82123K

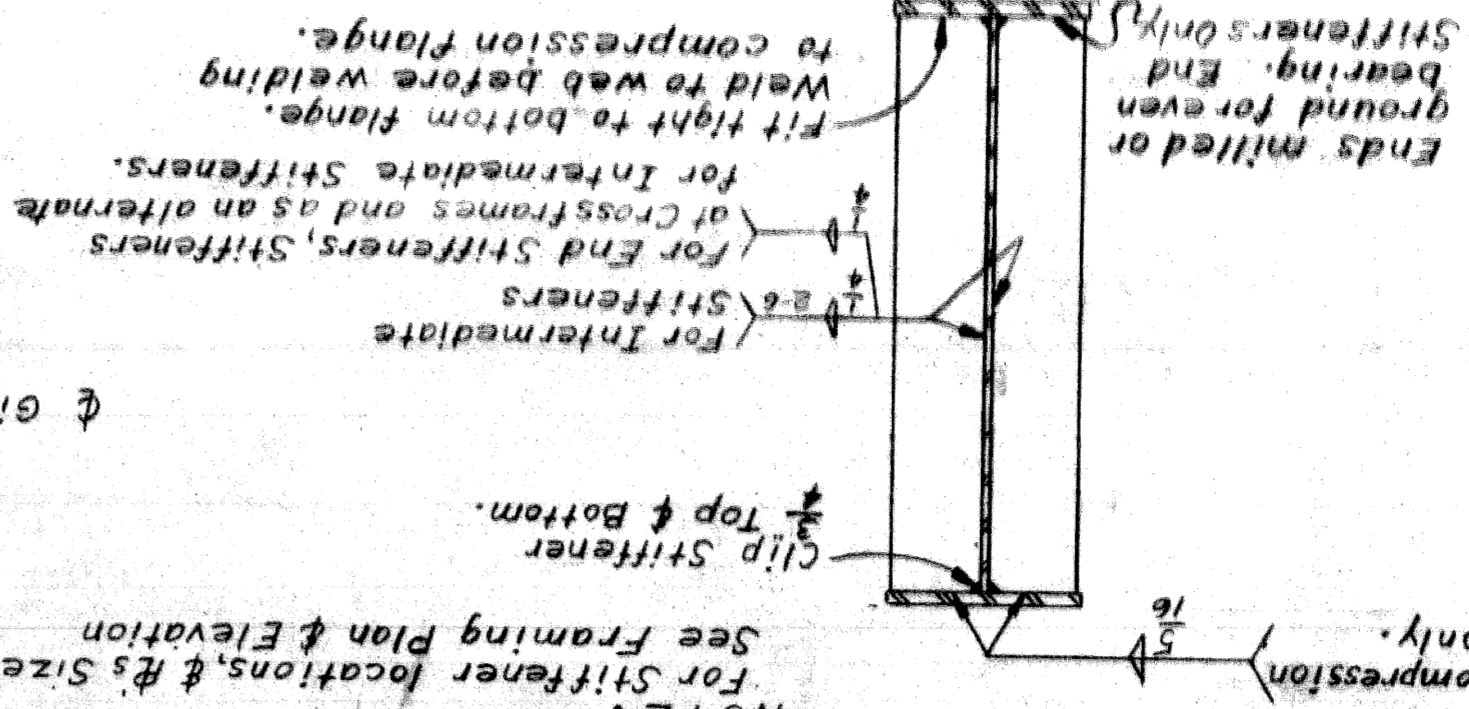
SHEAR LOCK ANGLE DETAIL (Fascia Only)



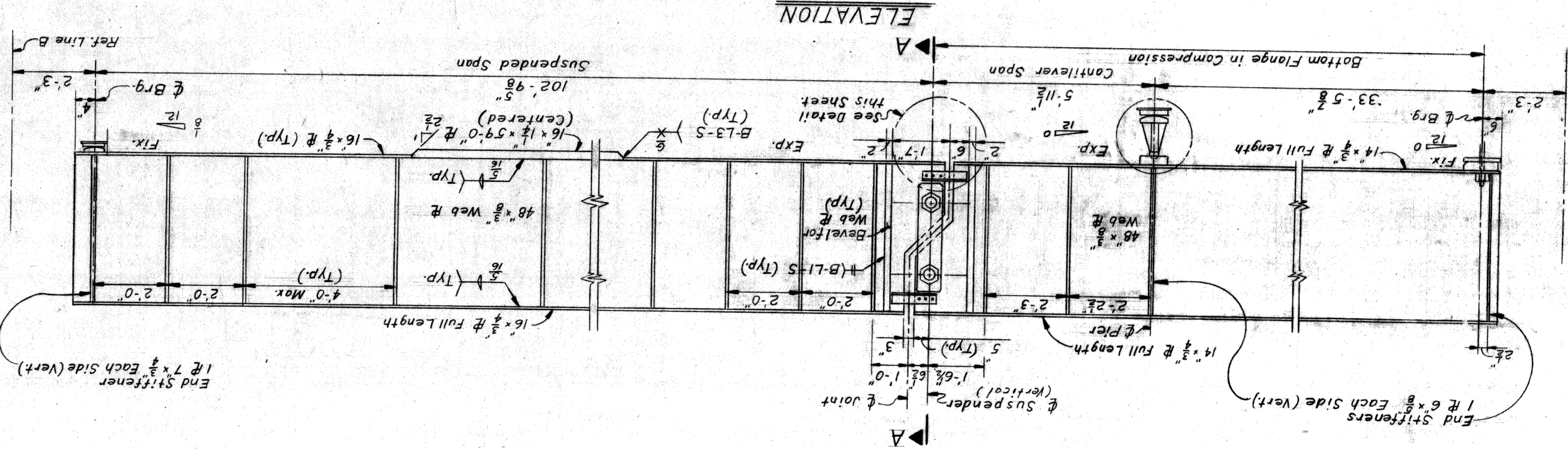
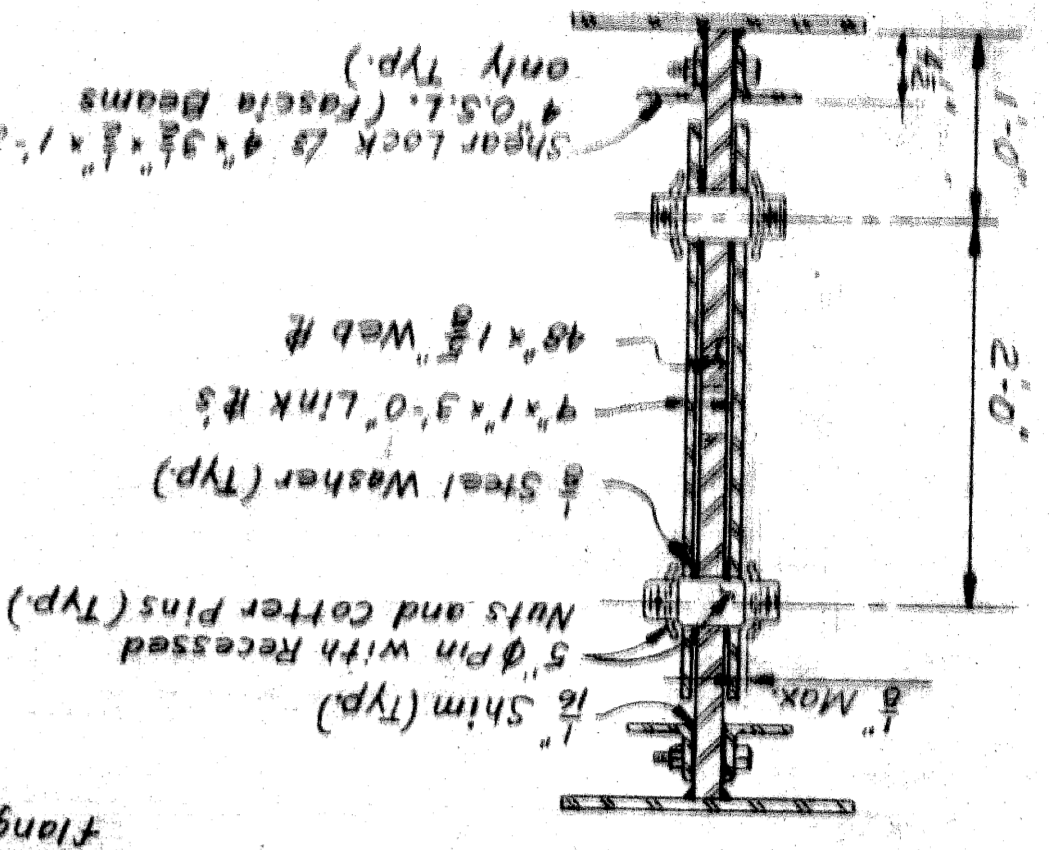
TOP FLANGE DETAIL



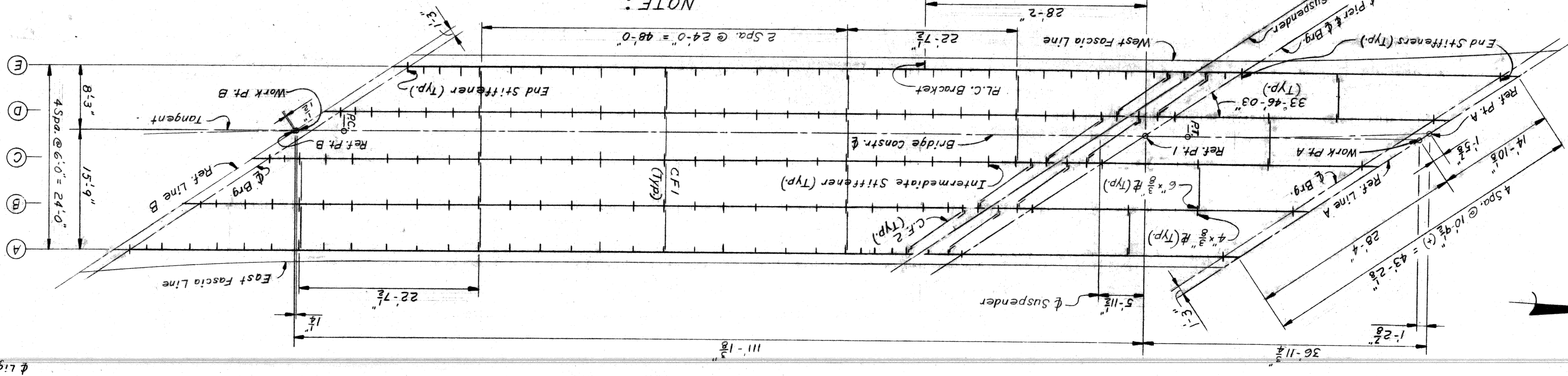
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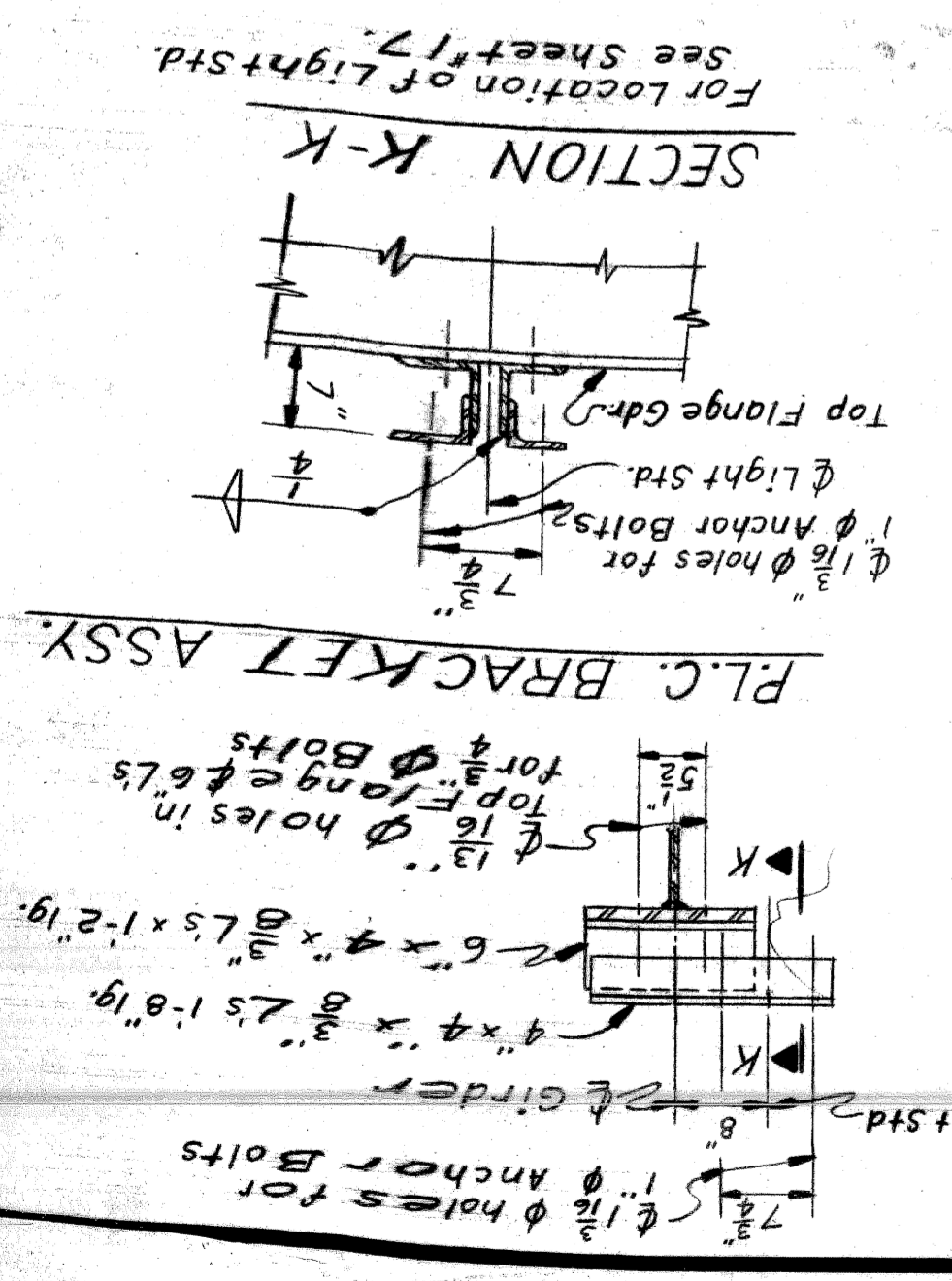
SECTION A-A

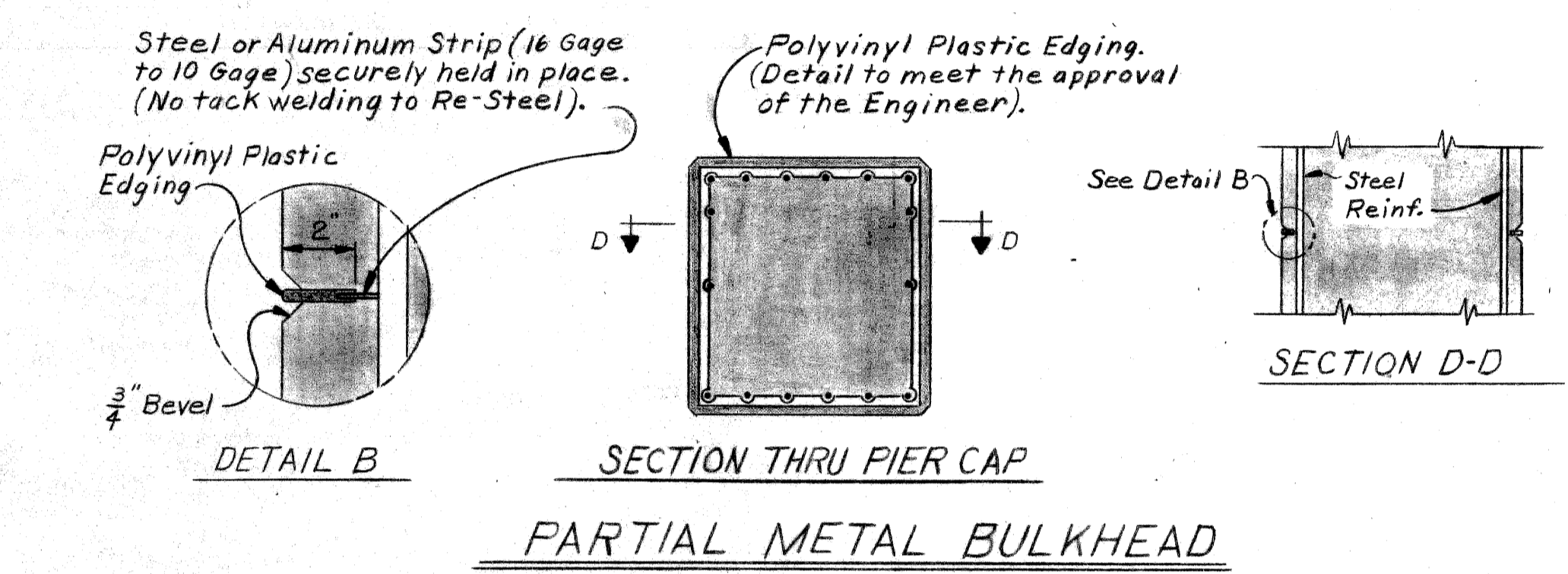
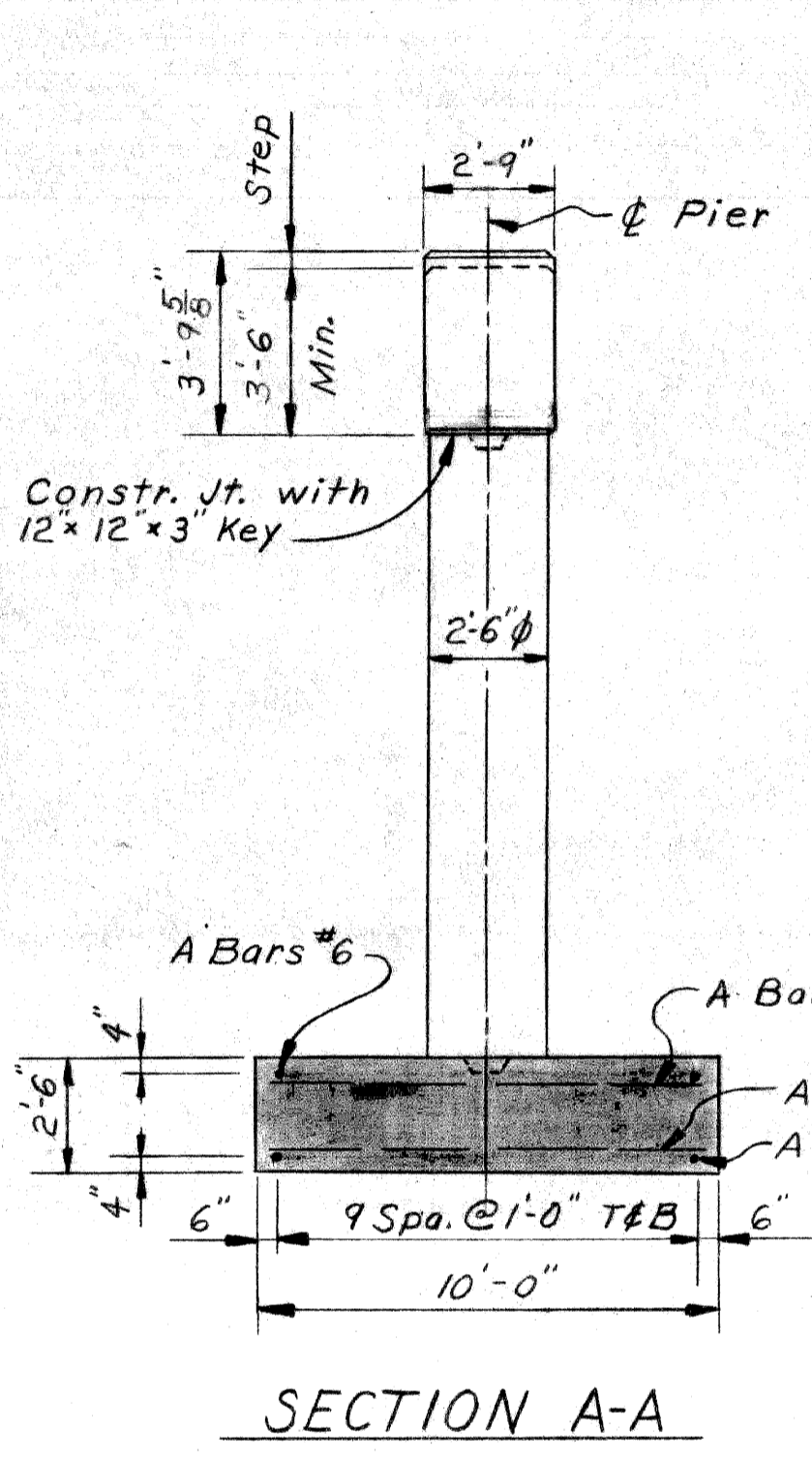
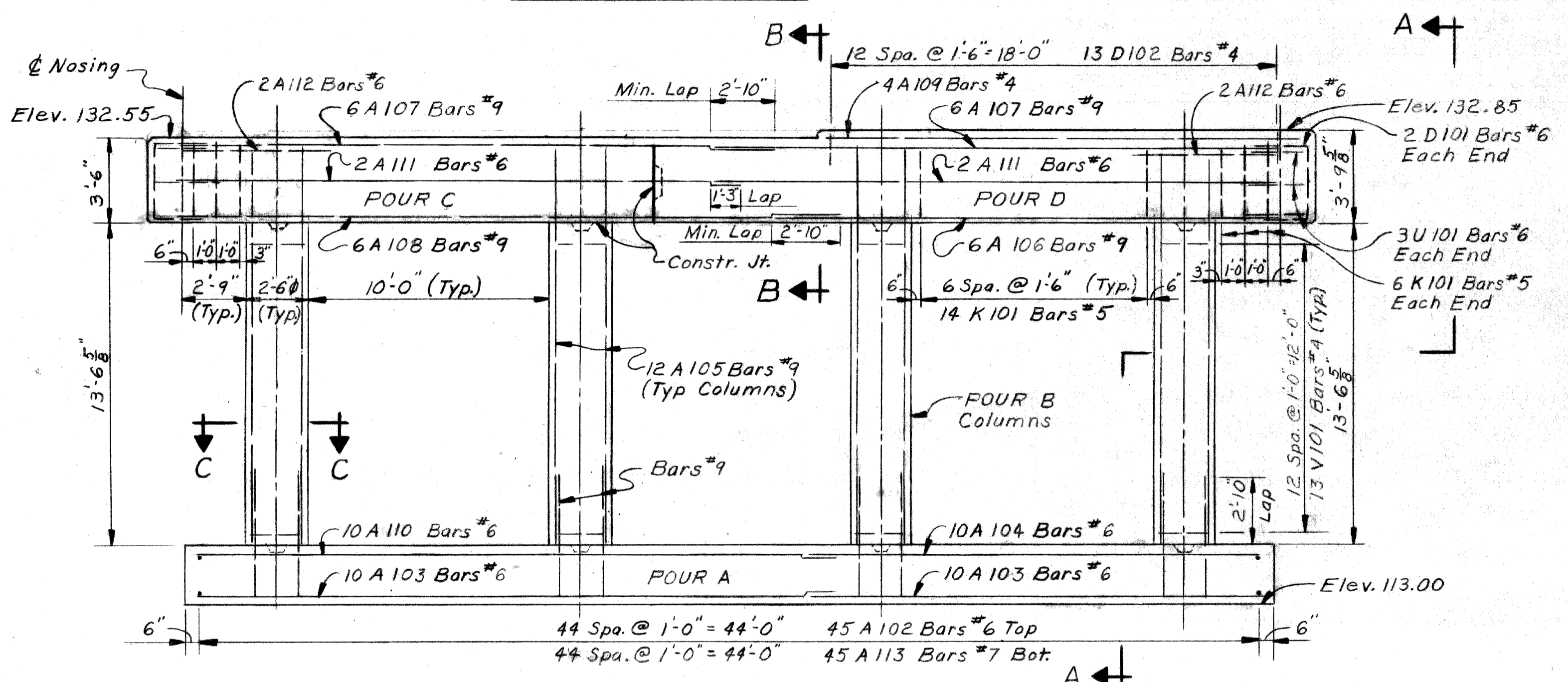
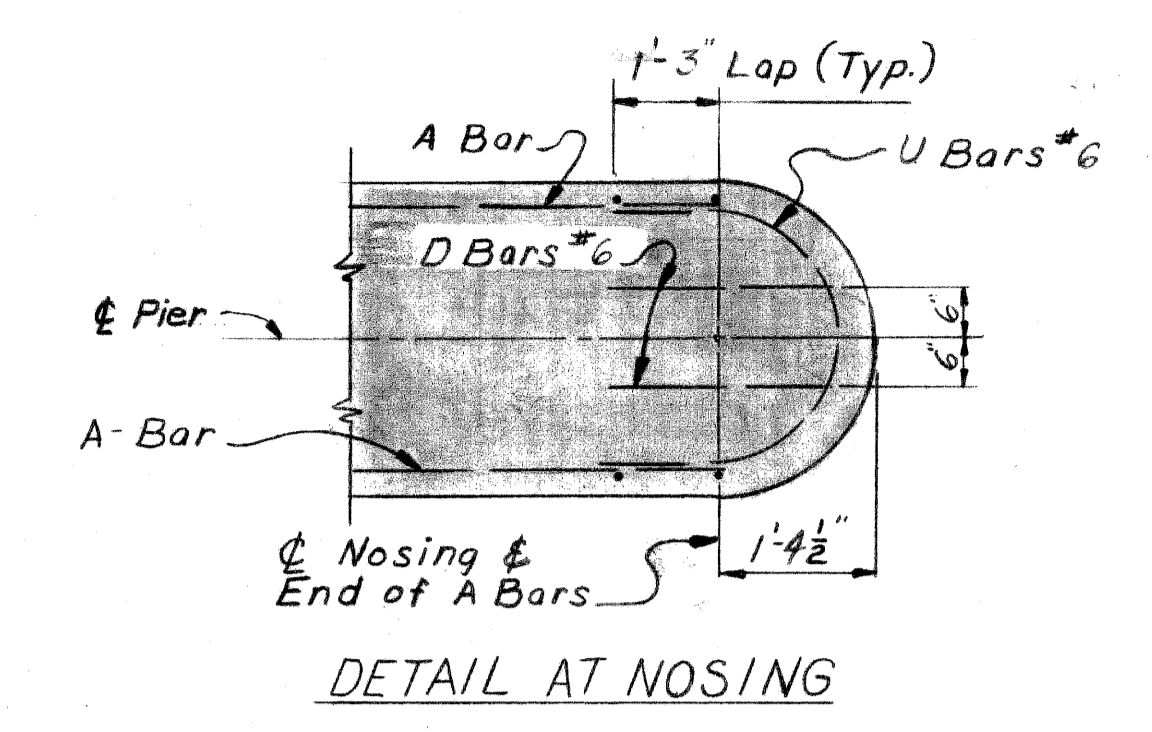
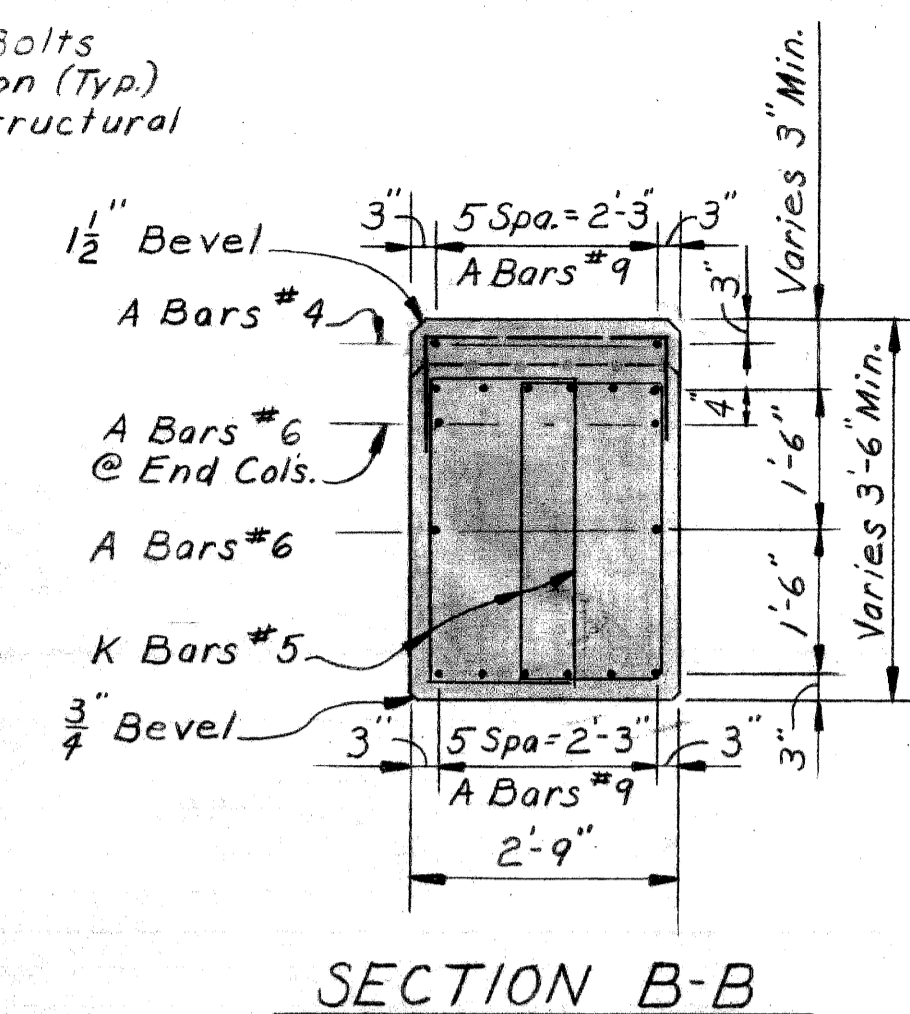
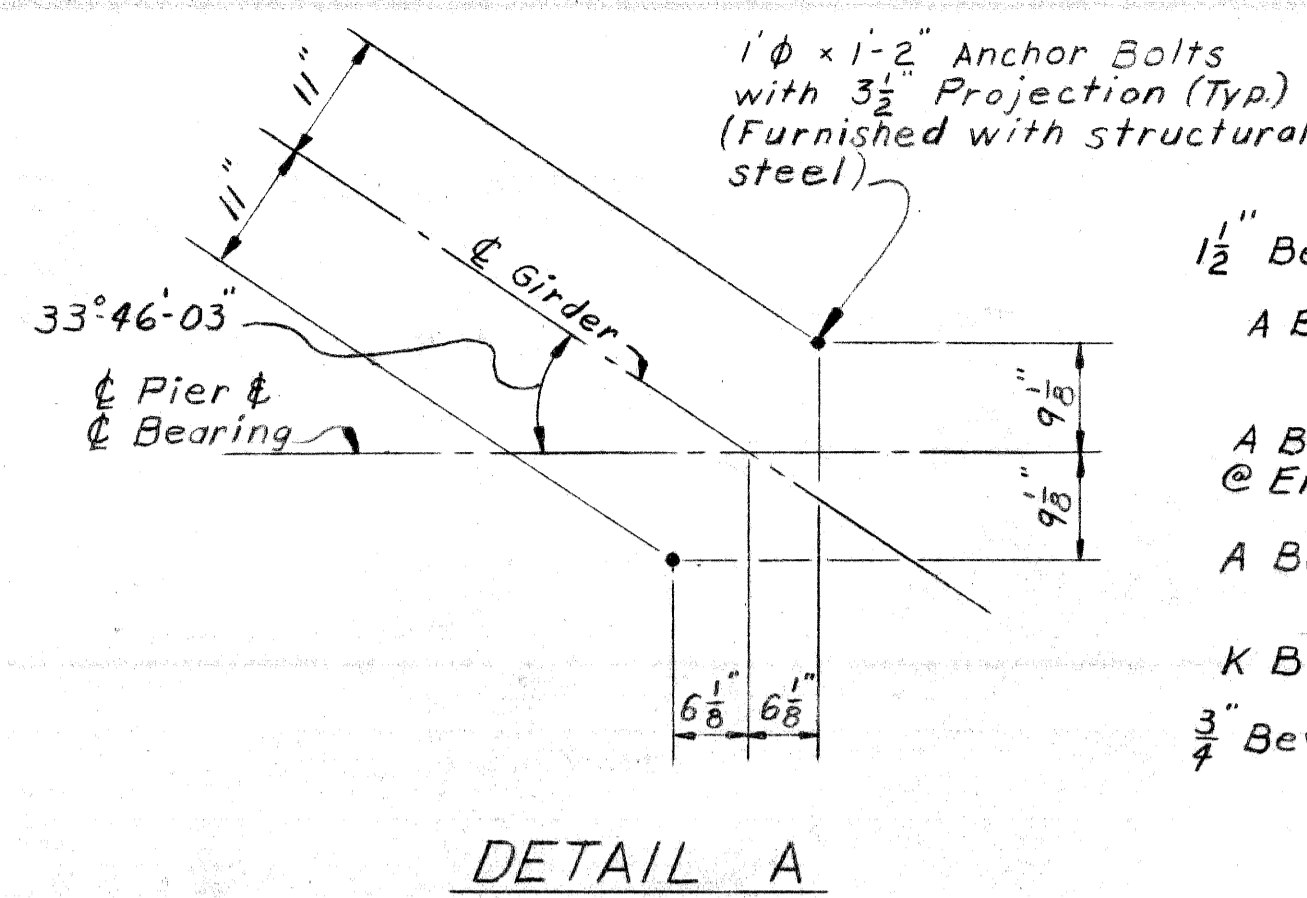
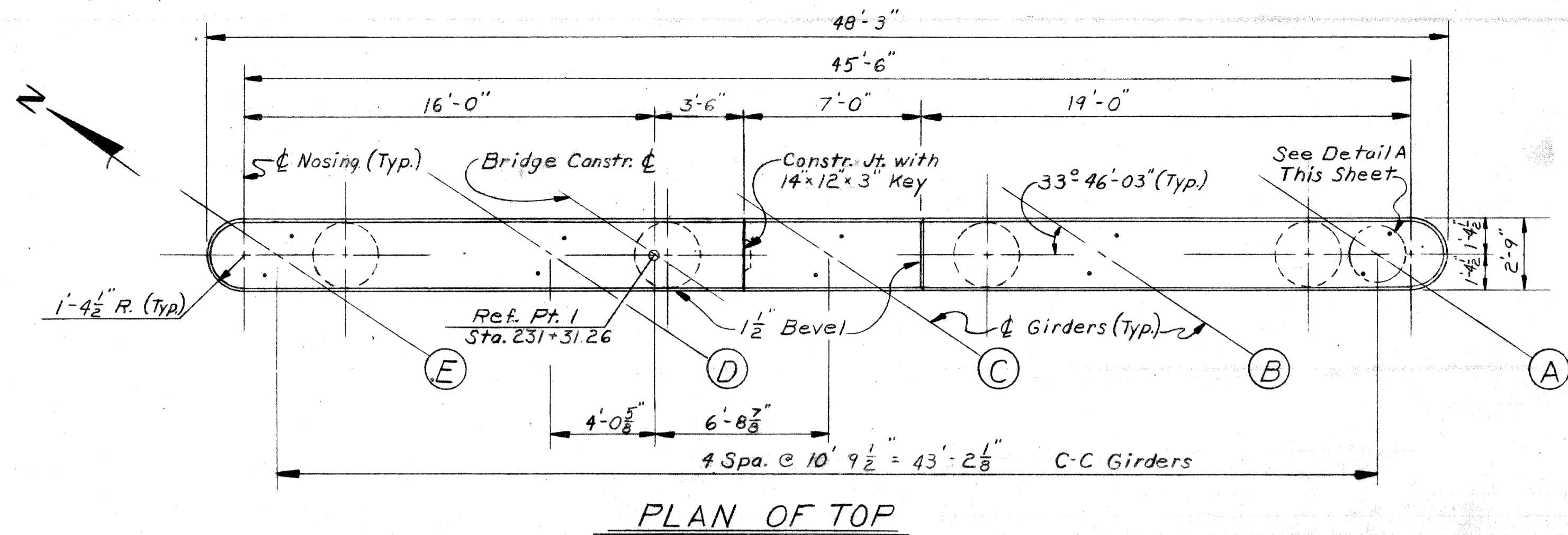


FRAMING PLAN



STRUCTURAL STEEL NOTES

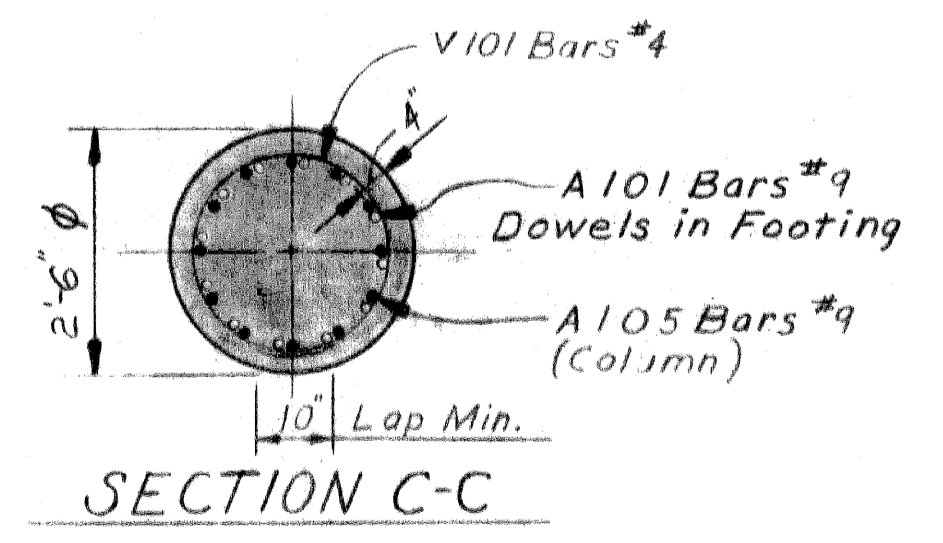
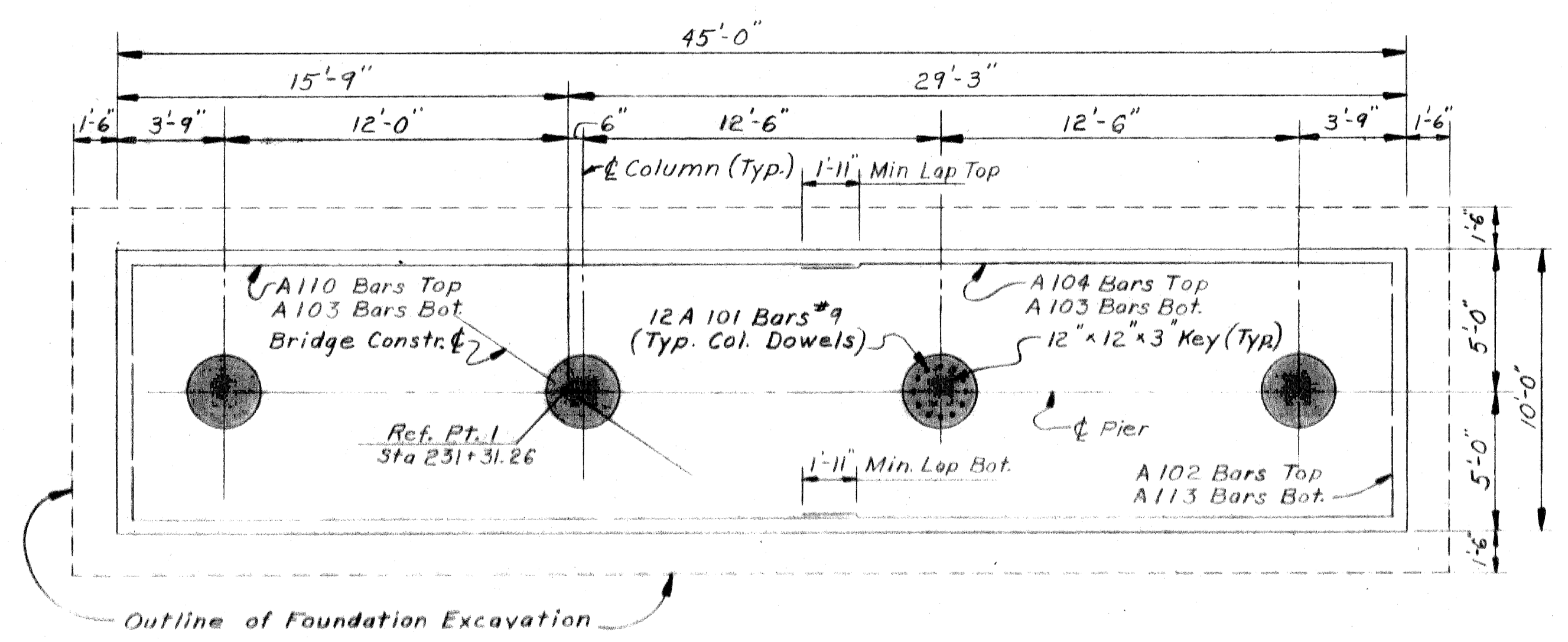




NOTES:
 Partial metal bulkhead may be used as alternate construction joint at contractor's expense.
 Care is to be used in casting concrete around bulkhead to prevent dislocation or misalignment of the bulkhead.
 Notch metal strip to fit around reinforcing steel.

CONCRETE QUANTITIES (Cu.Yds.)			
POUR	LOCATION	Grade A6A	Grade A6AA
A	Footing	41.7	
B	Columns		9.9
C	Beam		7.3
D	Beam		10.3
TOTAL		41.7	27.5

MISCELLANEOUS QUANTITIES		
ITEM	UNITS	AMT.
Unclassified Excavation	Cu.Yds.	200
Low Temperature Protection	Cu.Yds.	69.2



GENERAL NOTES:
 For bevel and molding details see Std. Sh. R-11.
 Anchor bolts shall be set accurately to a template.
 The Project Engineer shall adjust the spacing of the reinforcing steel as required to permit placing of the anchor bolts.
 Max. average foundation pressure DL only 2150 P.S.F.
 Max. foundation pressure DL + LL 2900 P.S.F.

MICHIGAN DEPARTMENT OF STATE HIGHWAYS

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 CIVIL ENGINEERS OFFICE
 BUREAU OF HIGHWAYS AND EXPRESSWAYS

APPROVED: _____
 STRUCTURAL ENGINEER

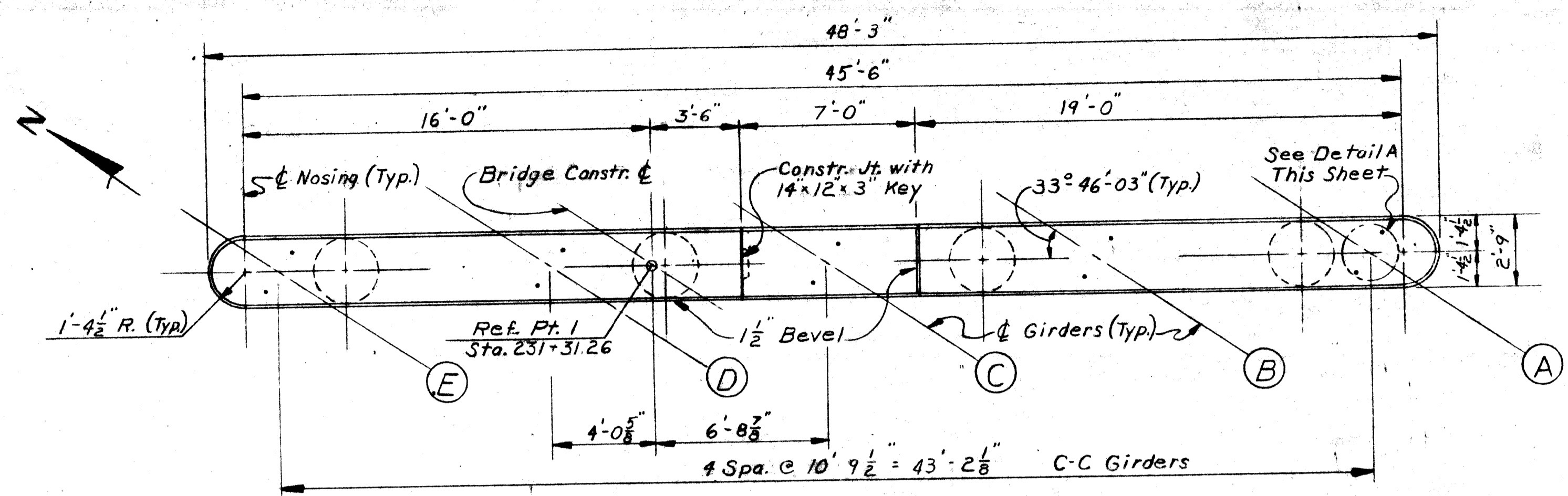
PIER DETAILS

CITY OF DETROIT

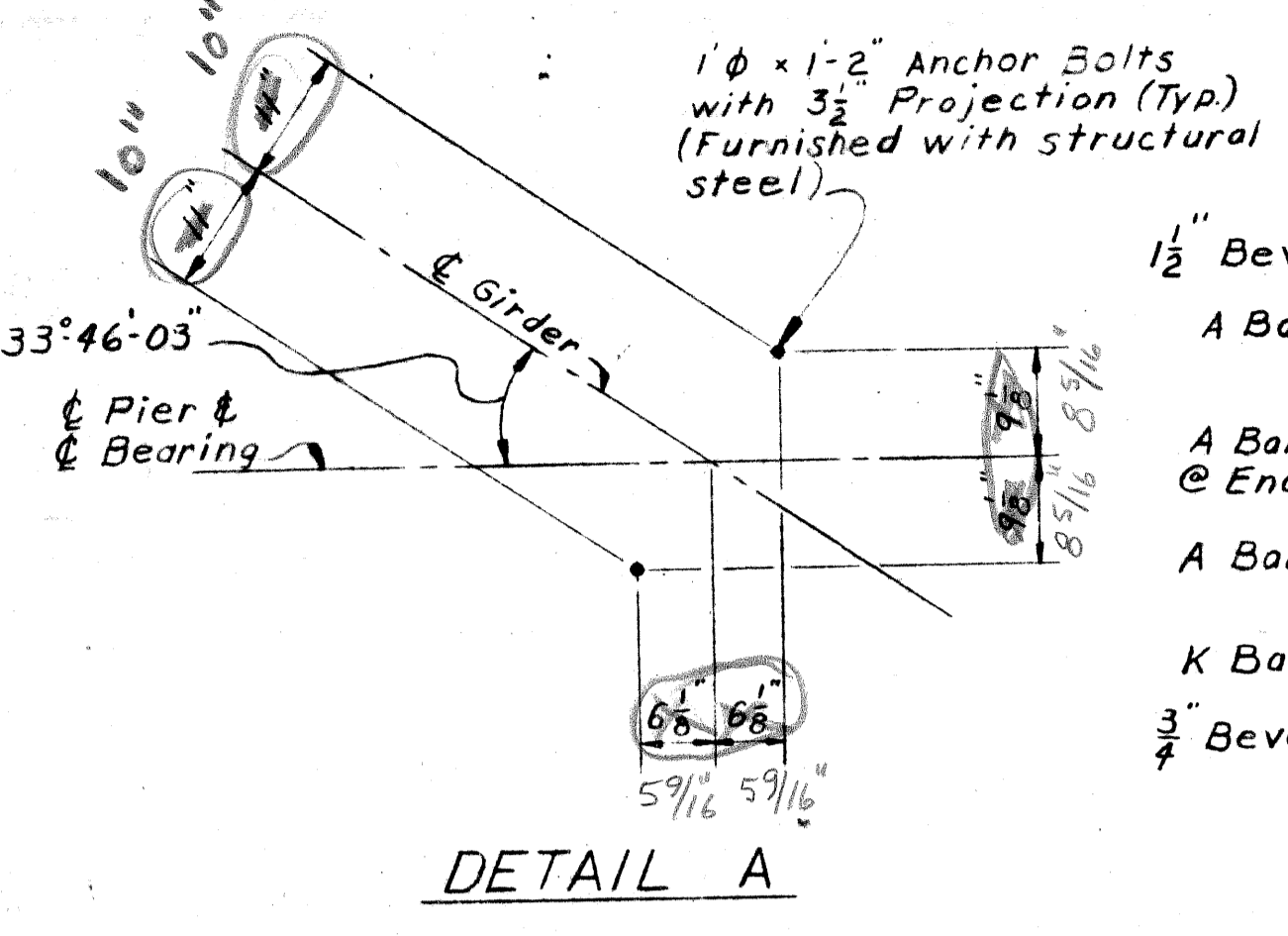
DRAWN BY: J. H. REAR
 CHECKED BY: J. H. REAR
 DATE: 8/68

SHEET 12 OF 22

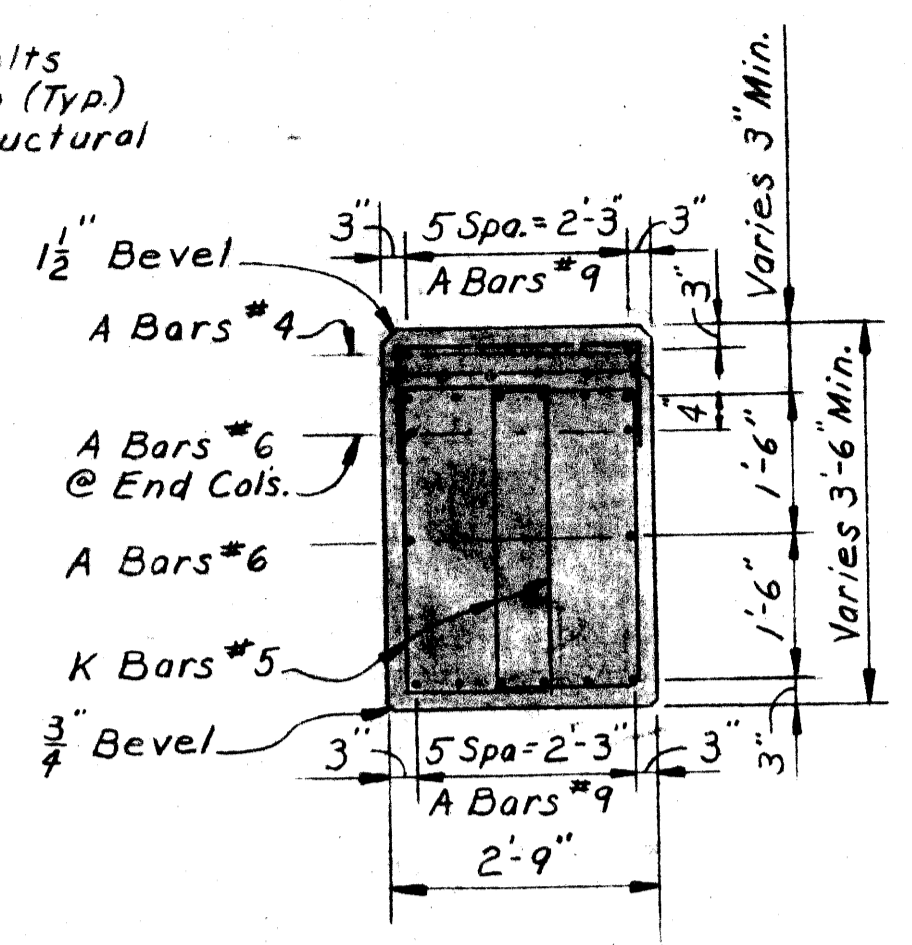
S48 of 82123K



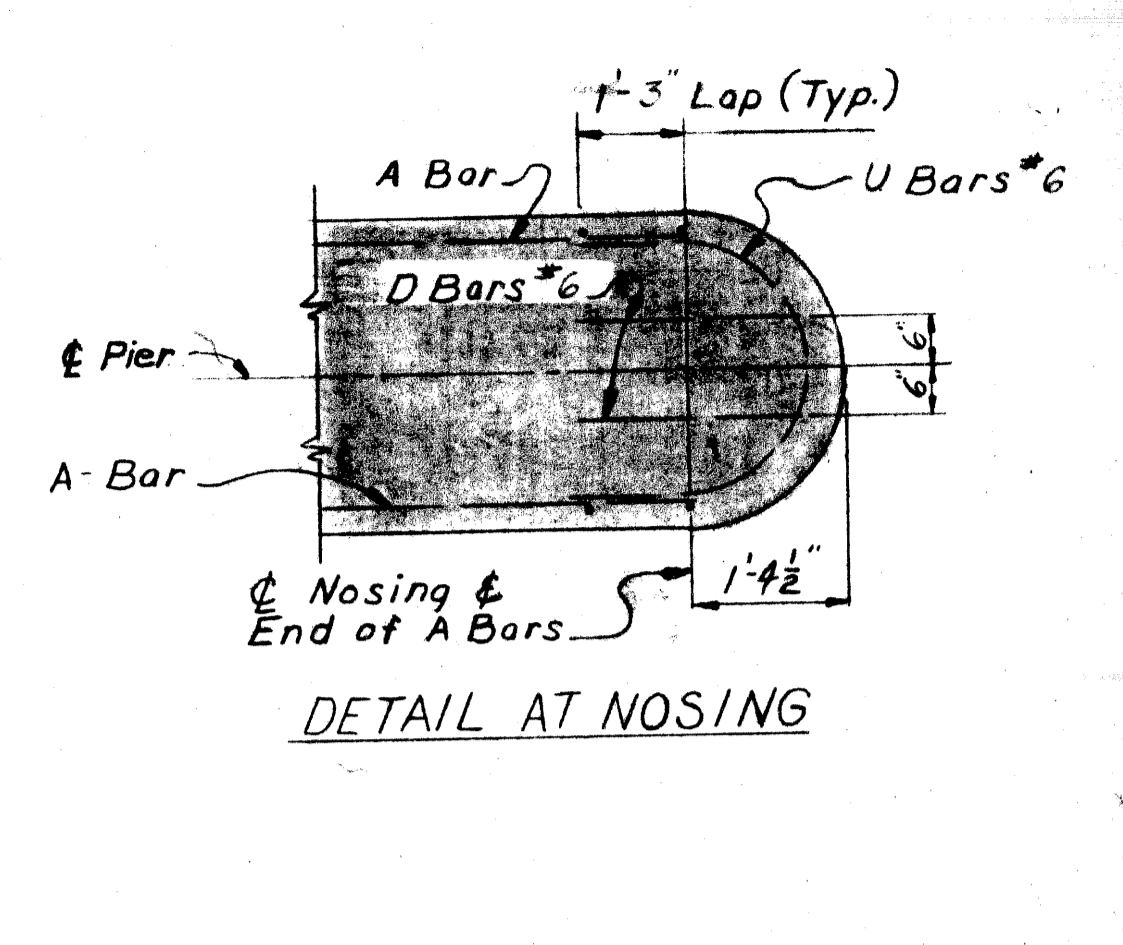
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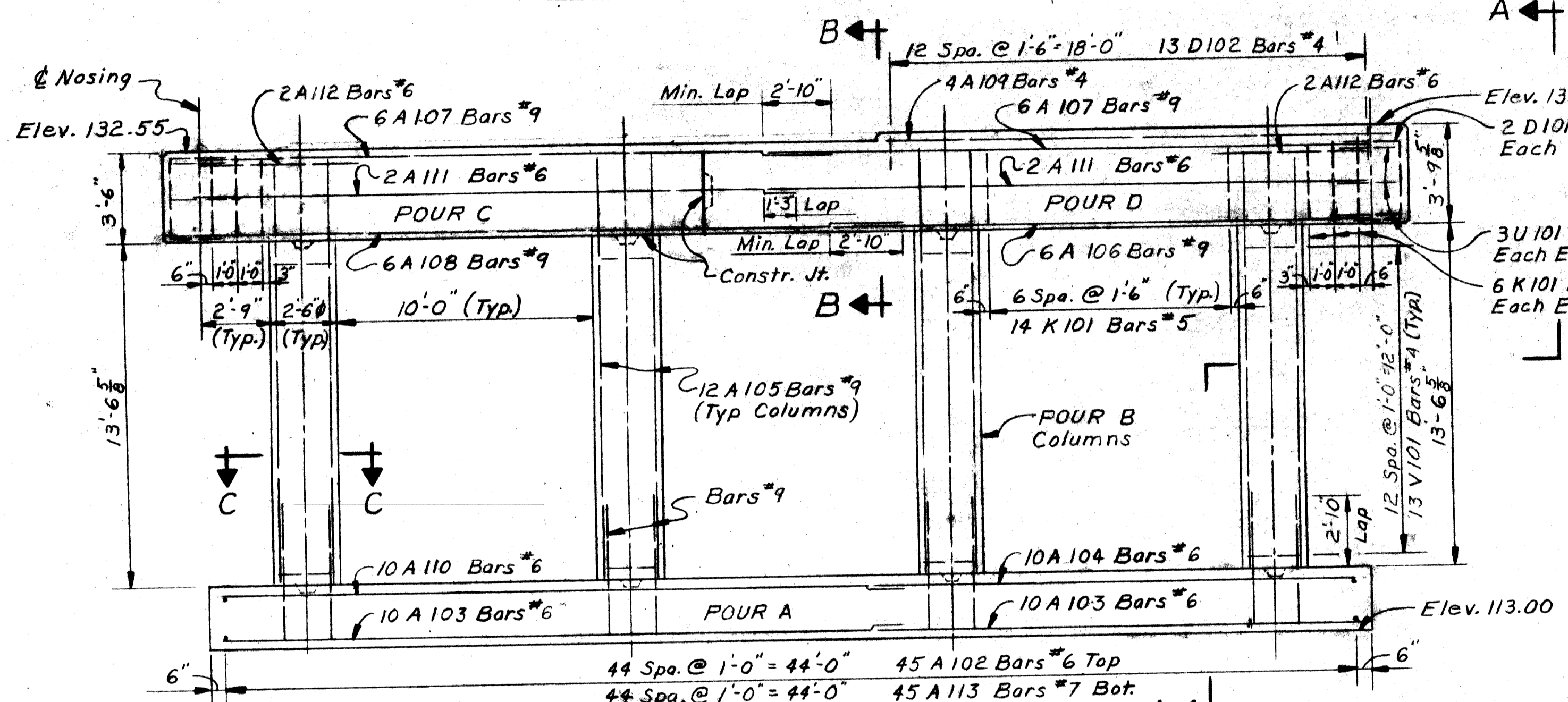
DETAIL A



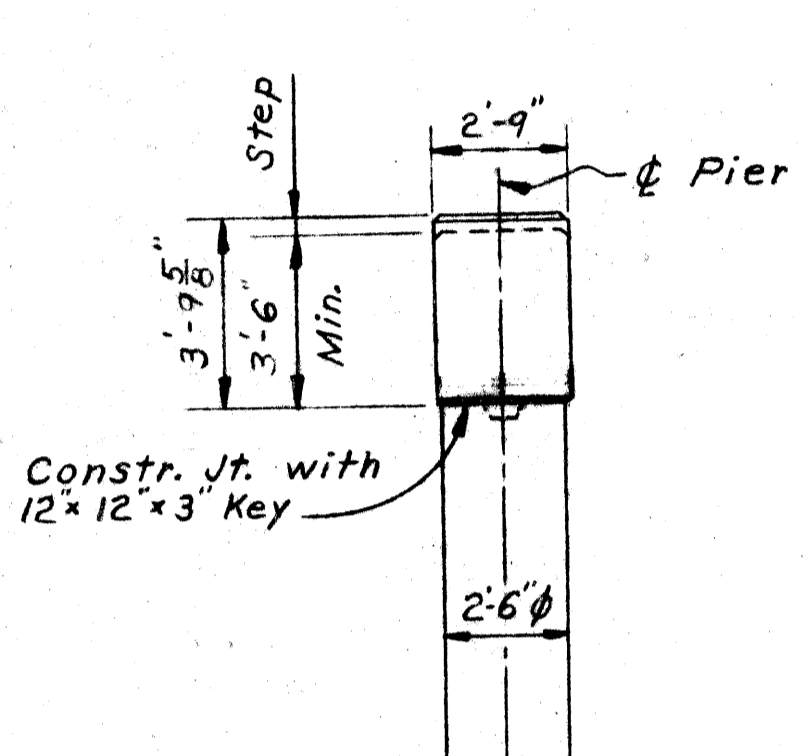
SECTION B-B



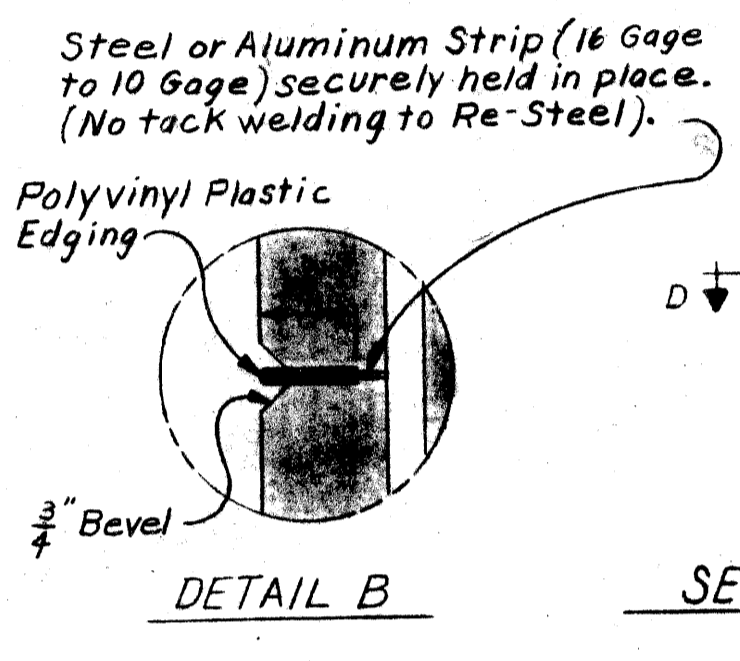
DETAIL AT NOSING



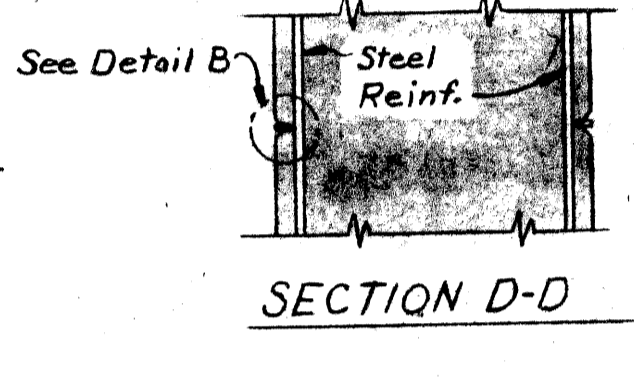
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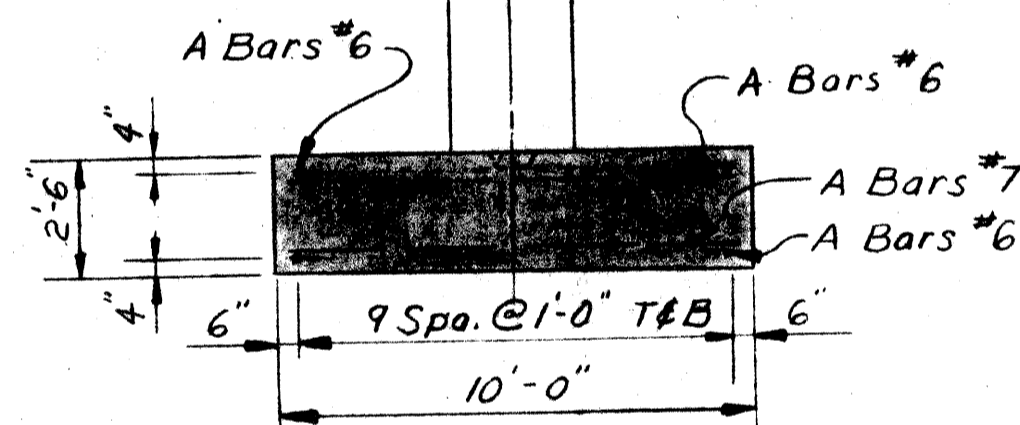
DETAIL B



SECTION THRU PIER CAP
PARTIAL METAL BULKHEAD



SECTION D-D



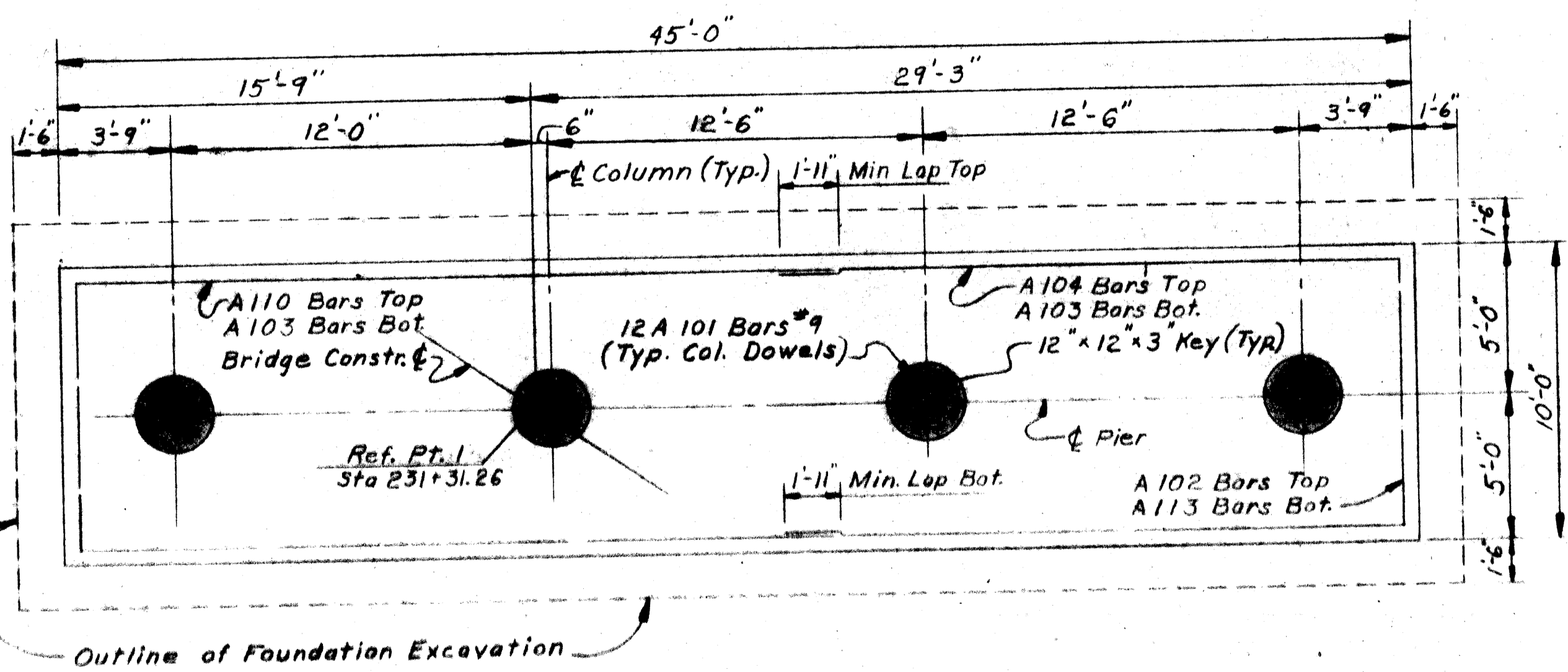
SECTION A-A

NOTES:

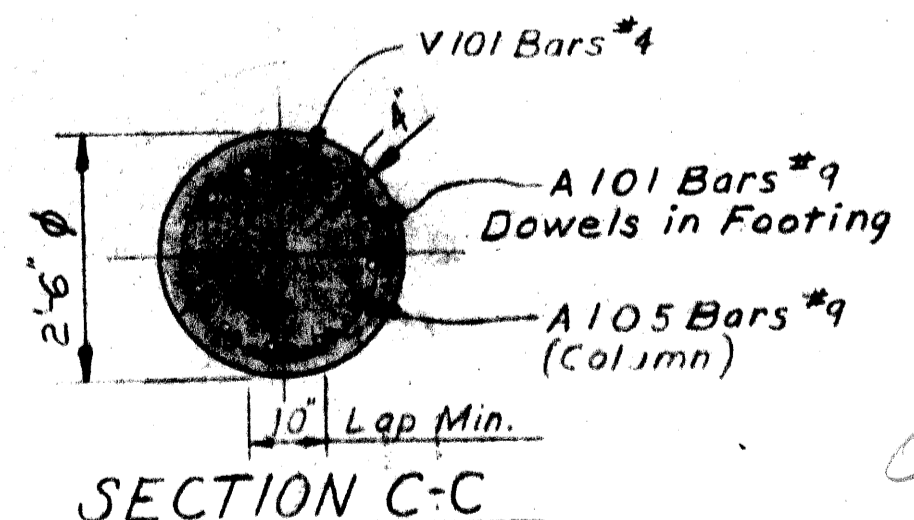
Partial metal bulkhead may be used as alternate construction joint at contractor's expense.
Care is to be used in casting concrete around bulkhead to prevent dislocation or misalignment of the bulkhead.
Match metal strip to fit around reinforcing steel.

CONCRETE QUANTITIES (Cu. Yds)			
POUR	LOCATION	Grade A6A	Grade A6AA
A	Footing	41.7	
B	Columns		9.9
C	Beam		7.3
D	Beam		10.3
TOTAL		41.7	27.5

MISCELLANEOUS QUANTITIES		
ITEM	UNITS	AMT.
Unclassified Excavation	Cu. Yds.	200
Low Temperature Protection	Cu. Yds.	69.2



FOUNDATION PLAN



SECTION C-C

OFFICE COPY

GENERAL NOTES:

For bevel and molding details see Std. Sh. R-11.
Anchor bolts shall be set accurately to a template.
The Project Engineer shall adjust the spacing of the reinforcing steel as required to permit placing of the anchor bolts.
Max. average foundation pressure DL only 2150 R.S.F.
Max. foundation pressure DL + LL 2900 R.S.F.

MICHIGAN DEPARTMENT OF STATE HIGHWAYS

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BUREAU OF HIGHWAYS AND EXPRESSWAYS

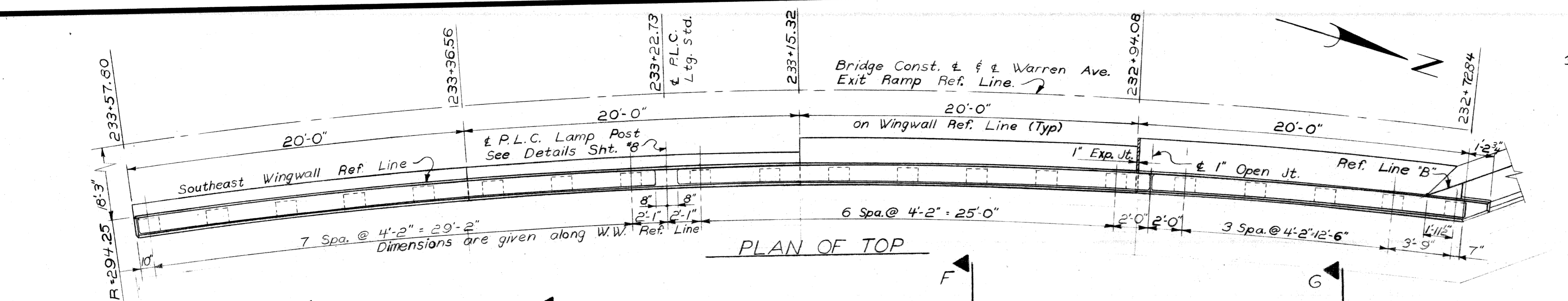
APPROVED: [Signature] STRUCTURAL ENGINEER

JOB NO. PW990(2)

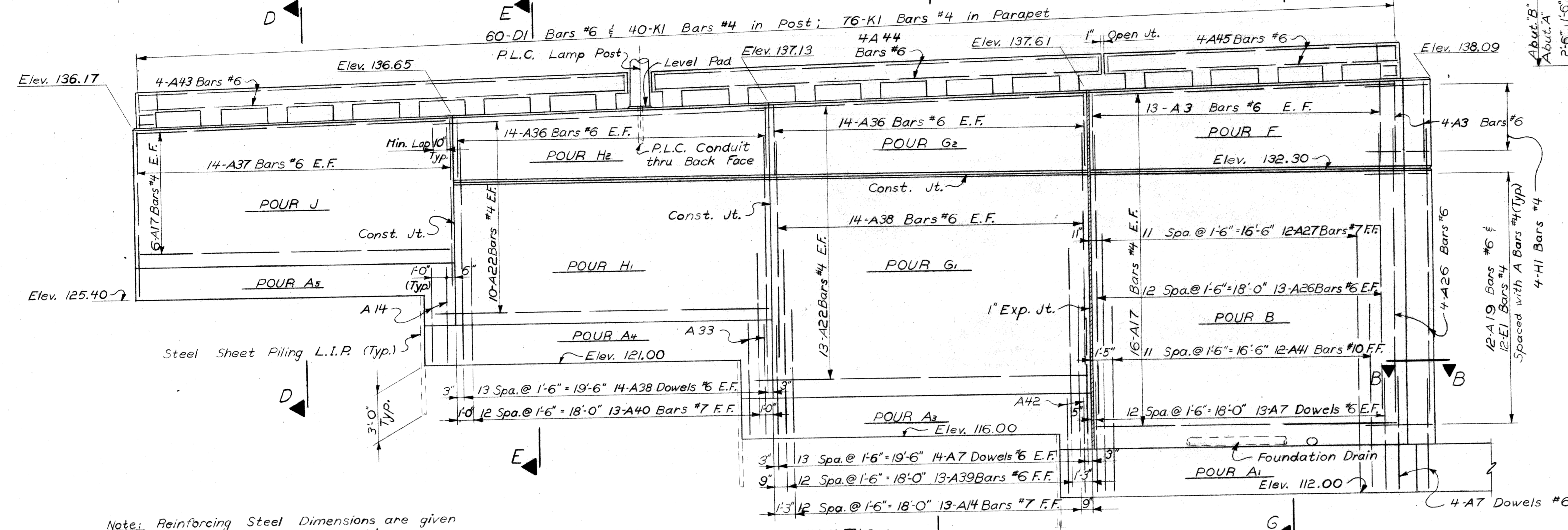
PIER DETAILS

NO.	DESCRIPTION	DATE	BY

CITY OF DETROIT
DRAWN BY: [Signature]
CHECKED BY: [Signature]
DATE: 12 OF 22
S48 of 82123K

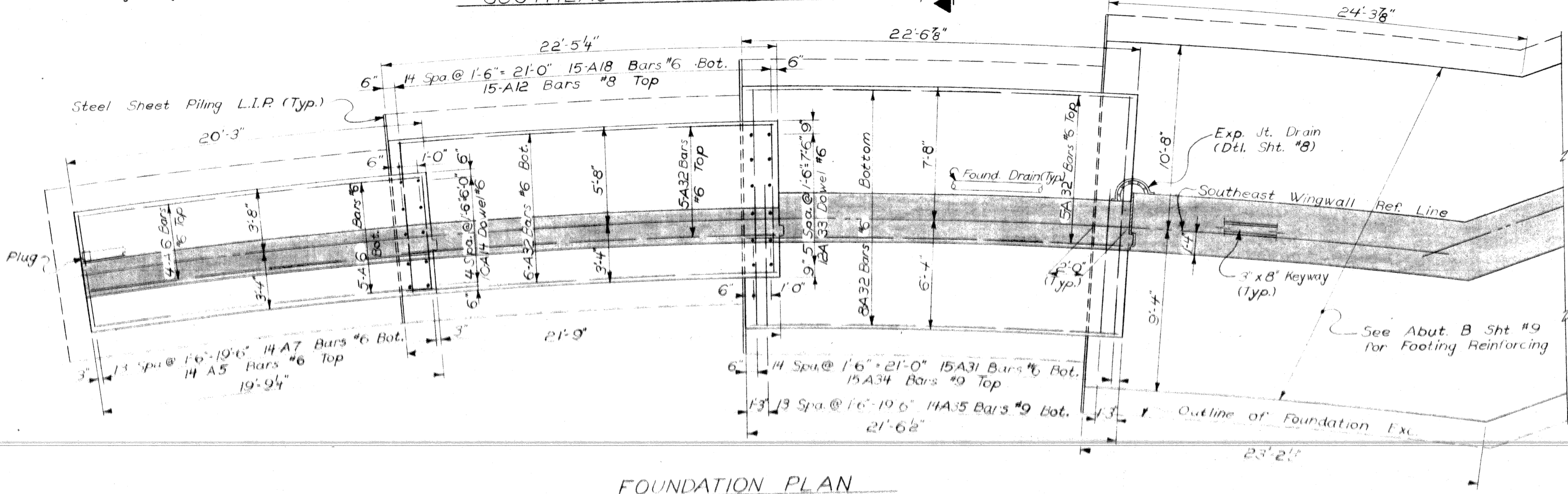


PLAN OF TOP

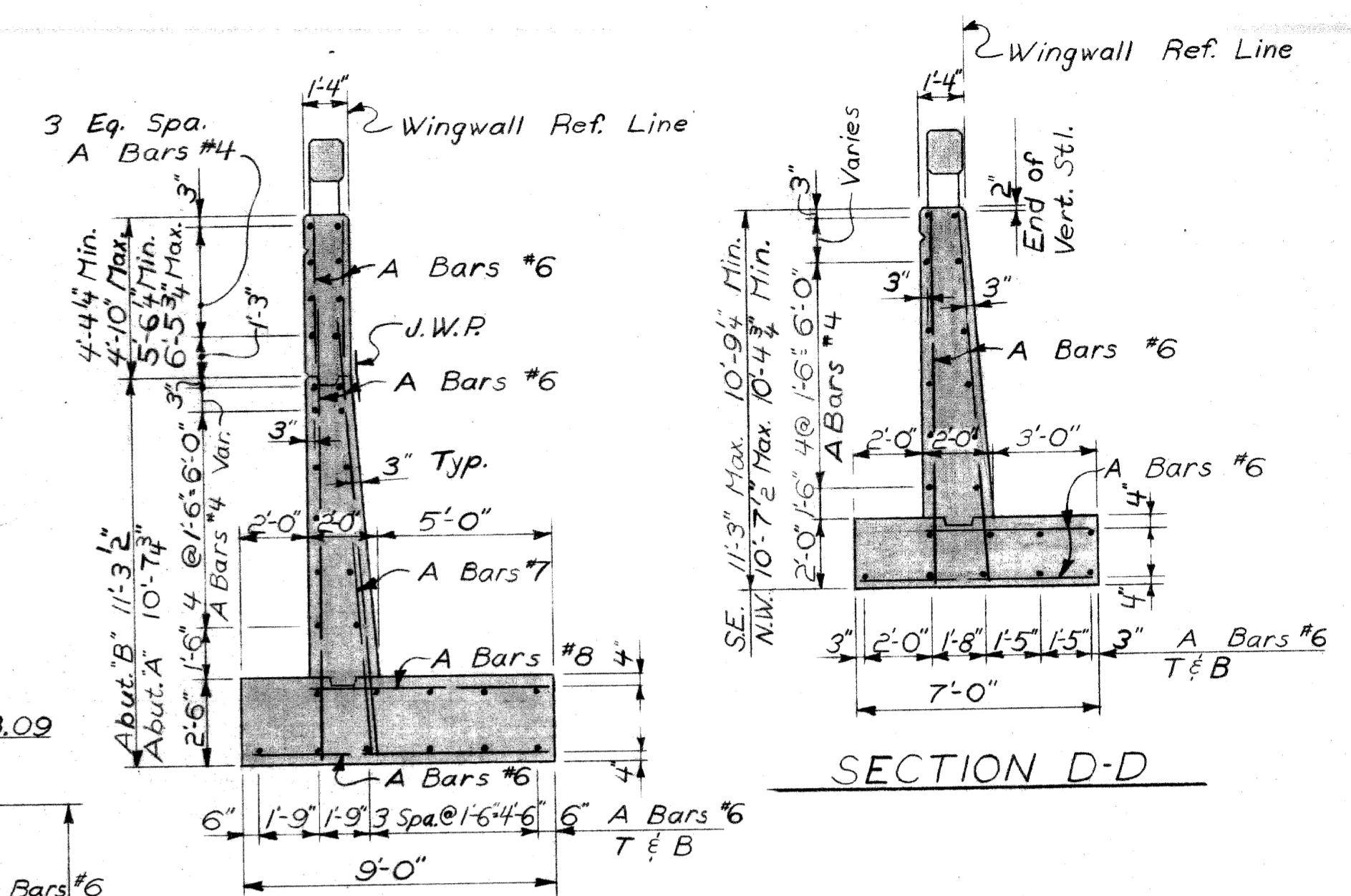


SOUTHEAST WINGWALL ELEVATION F

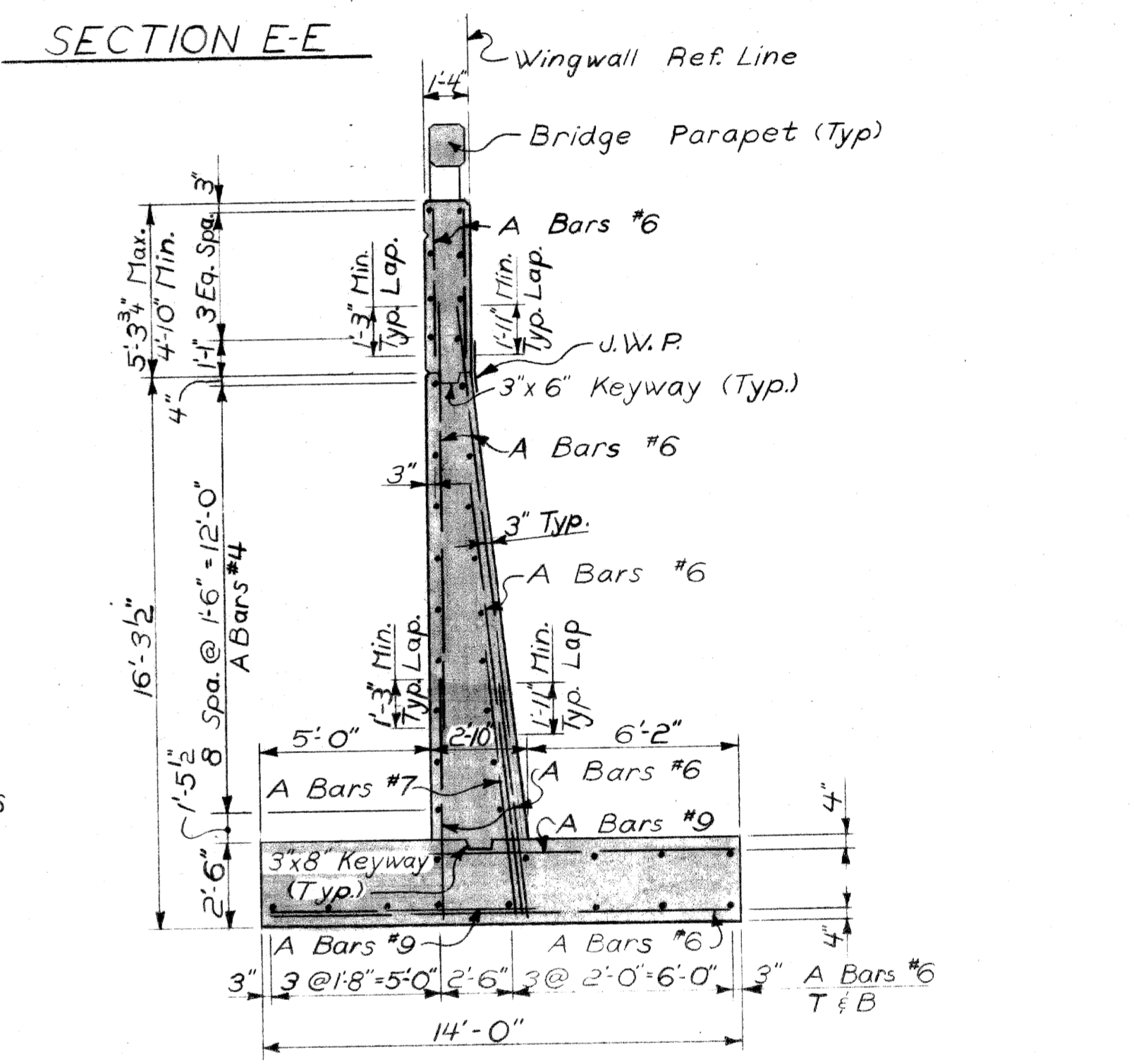
Note: Reinforcing Steel Dimensions are given along Wingwall Reference Line.



FOUNDATION PLAN



SECTION D-D



SECTION E-E

SECTION F-F

Note: For Section G-G see sheet #10

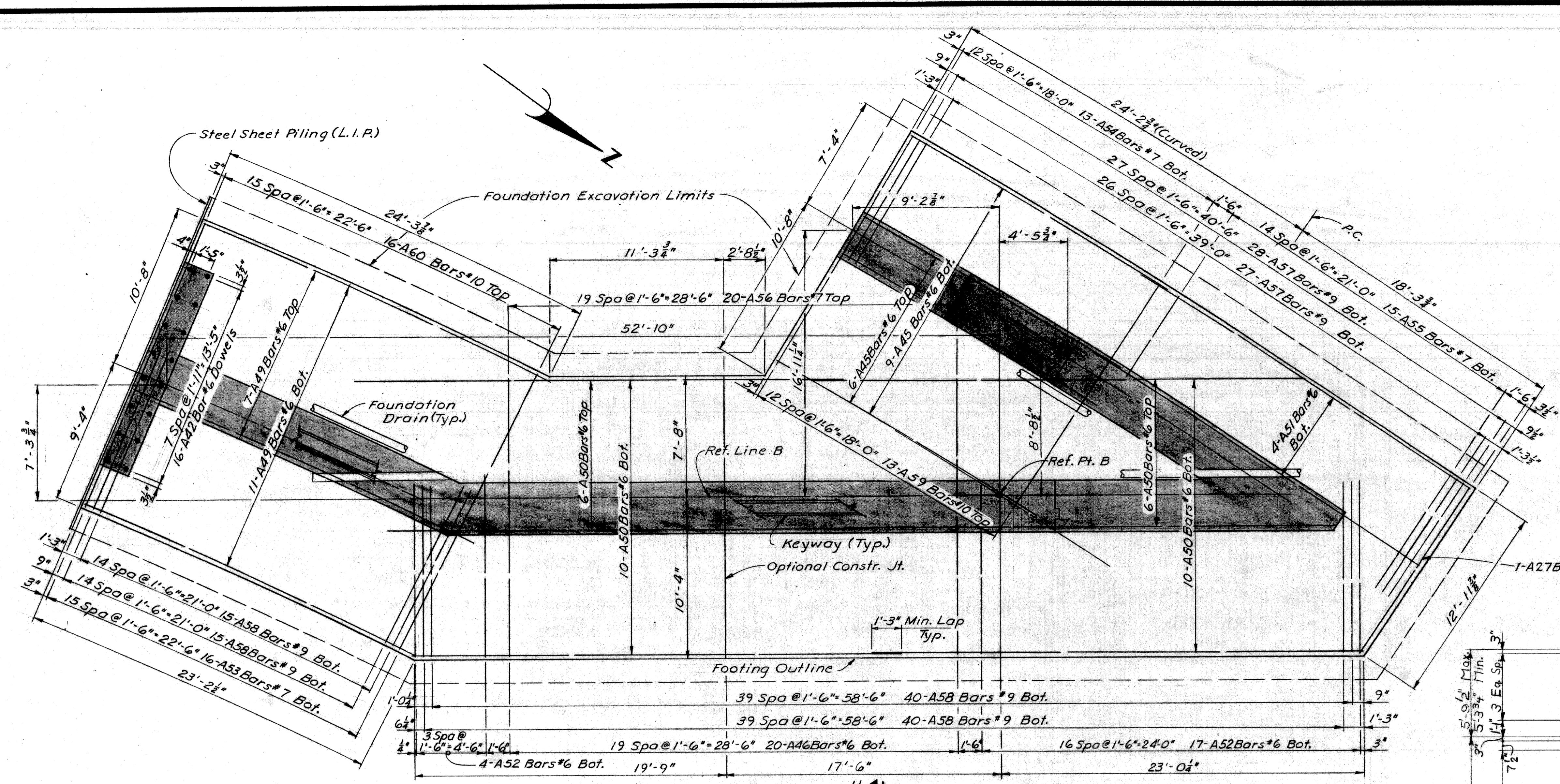
PLANS PREPARED BY
CITY OF DETROIT
 DEPARTMENT OF PUBLIC WORKS
 CITY ENGINEERS OFFICE
 BUREAU OF HIGHWAYS AND EXPRESSWAYS

MICHIGAN DEPARTMENT OF STATE HIGHWAYS

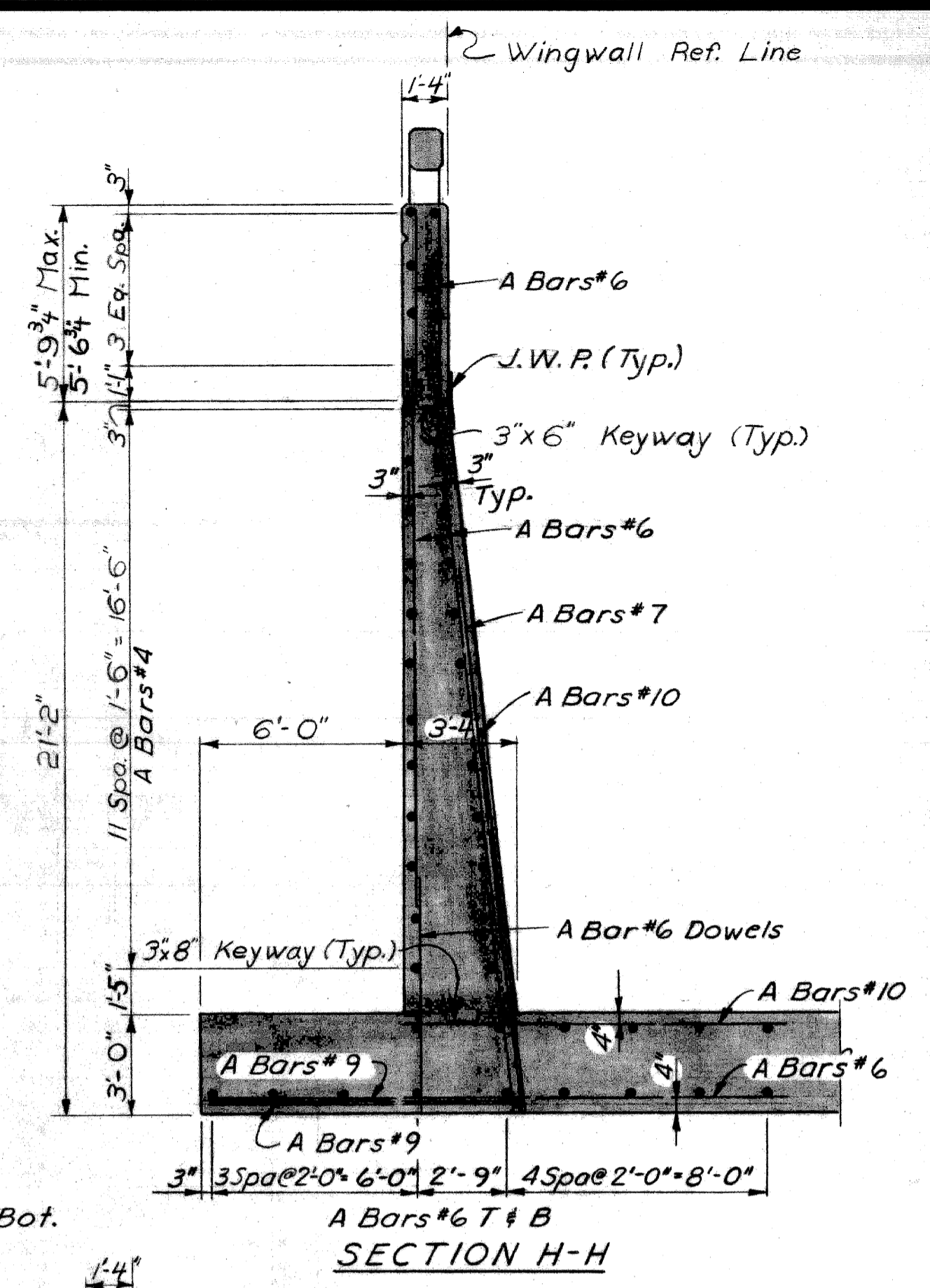
ABUTMENT B DETAILS

REVISIONS		DATE	BY

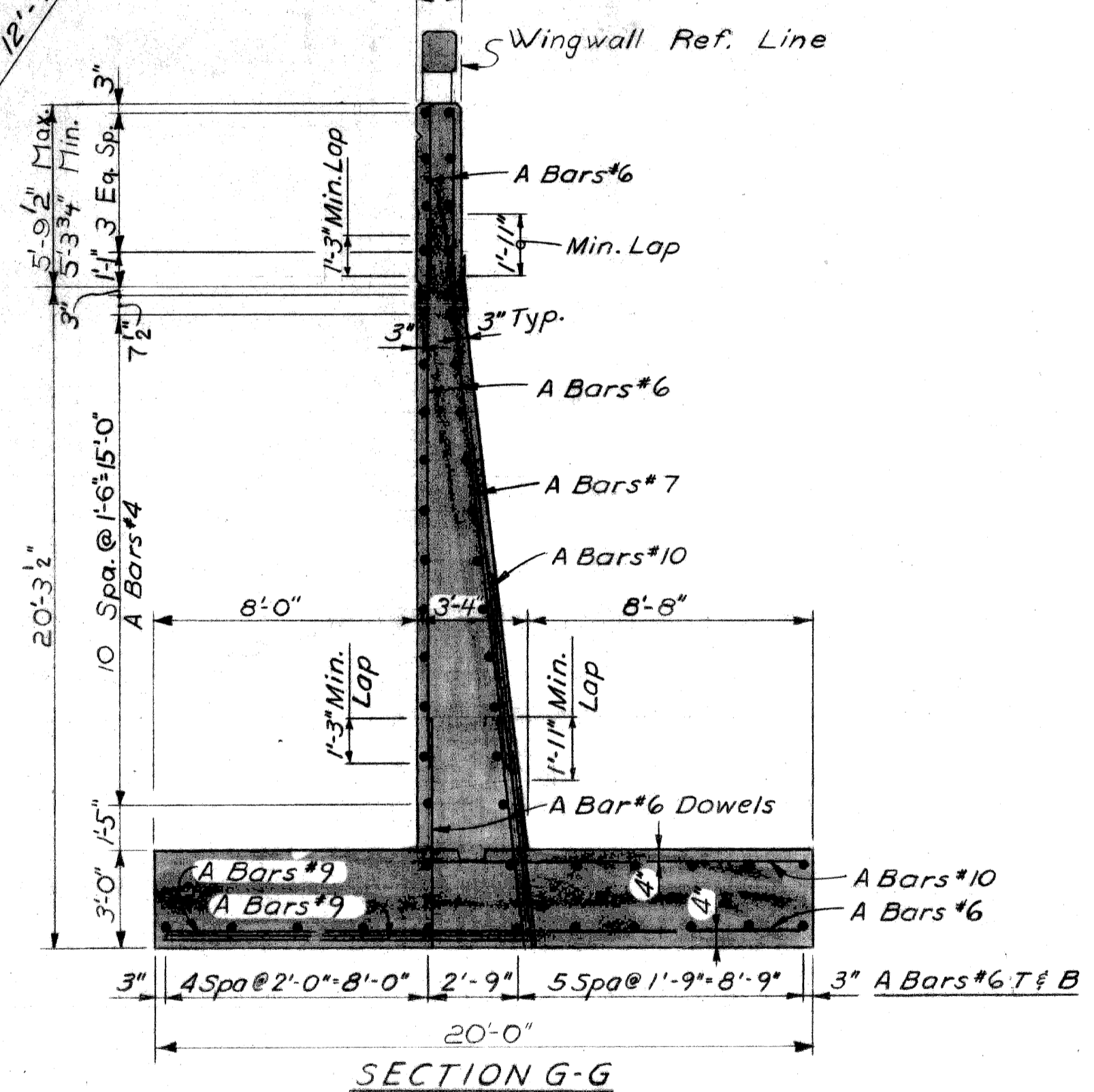
S48 of 82123K



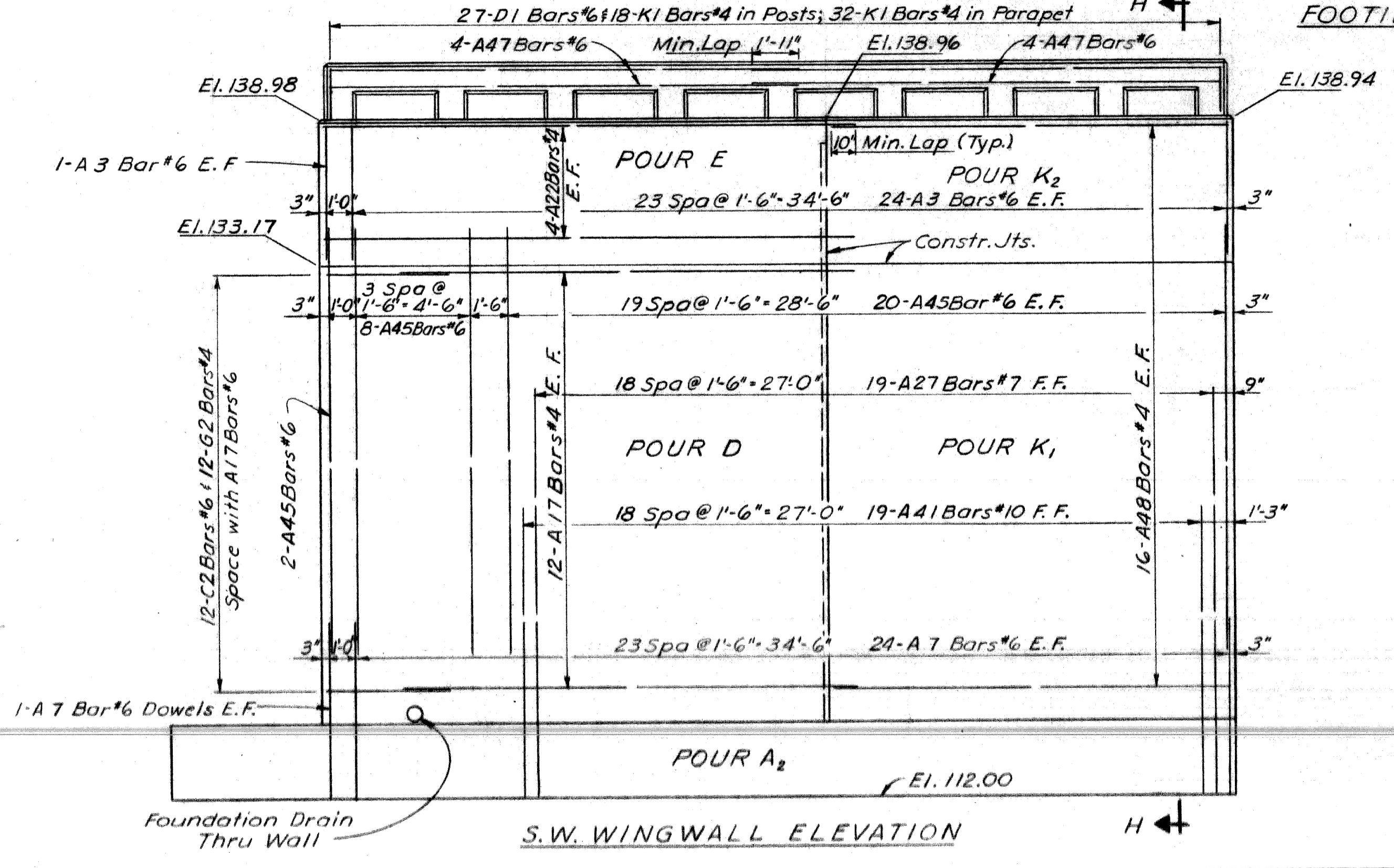
FOOTING PLAN



SECTION H-H



SECTION G-G



S.W. WINGWALL ELEVATION

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

APPROVED: [Signature] STRUCTURAL ENGINEER

JOB No. PW99021

MICHIGAN DEPARTMENT OF STATE HIGHWAYS

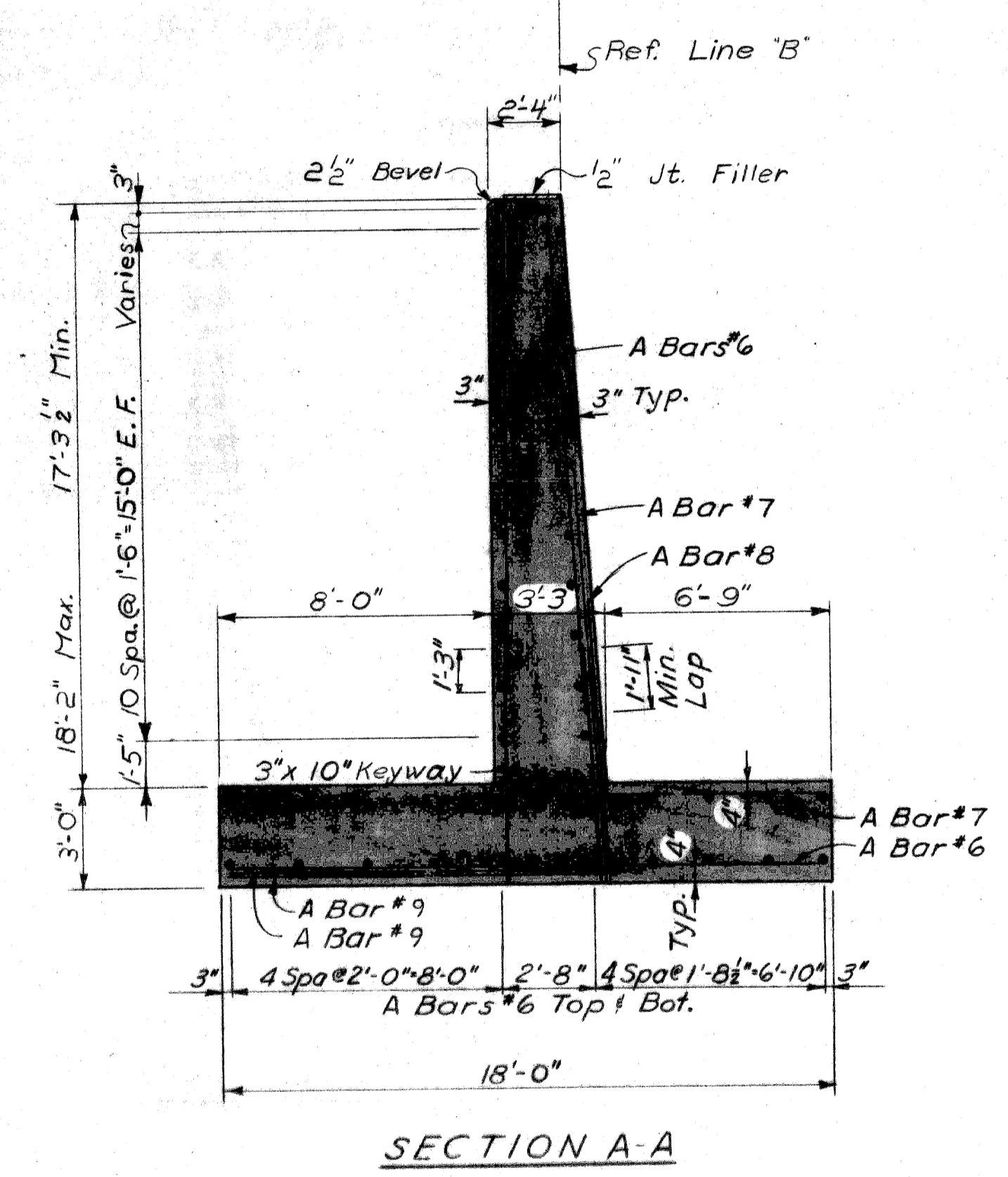
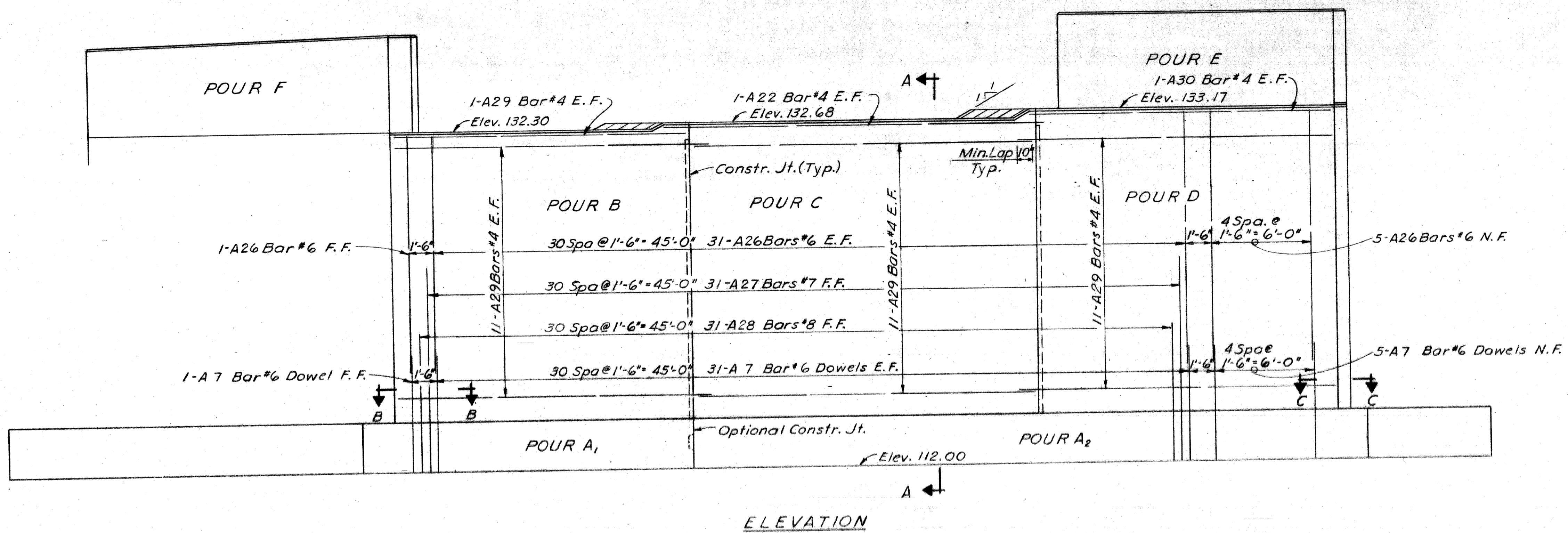
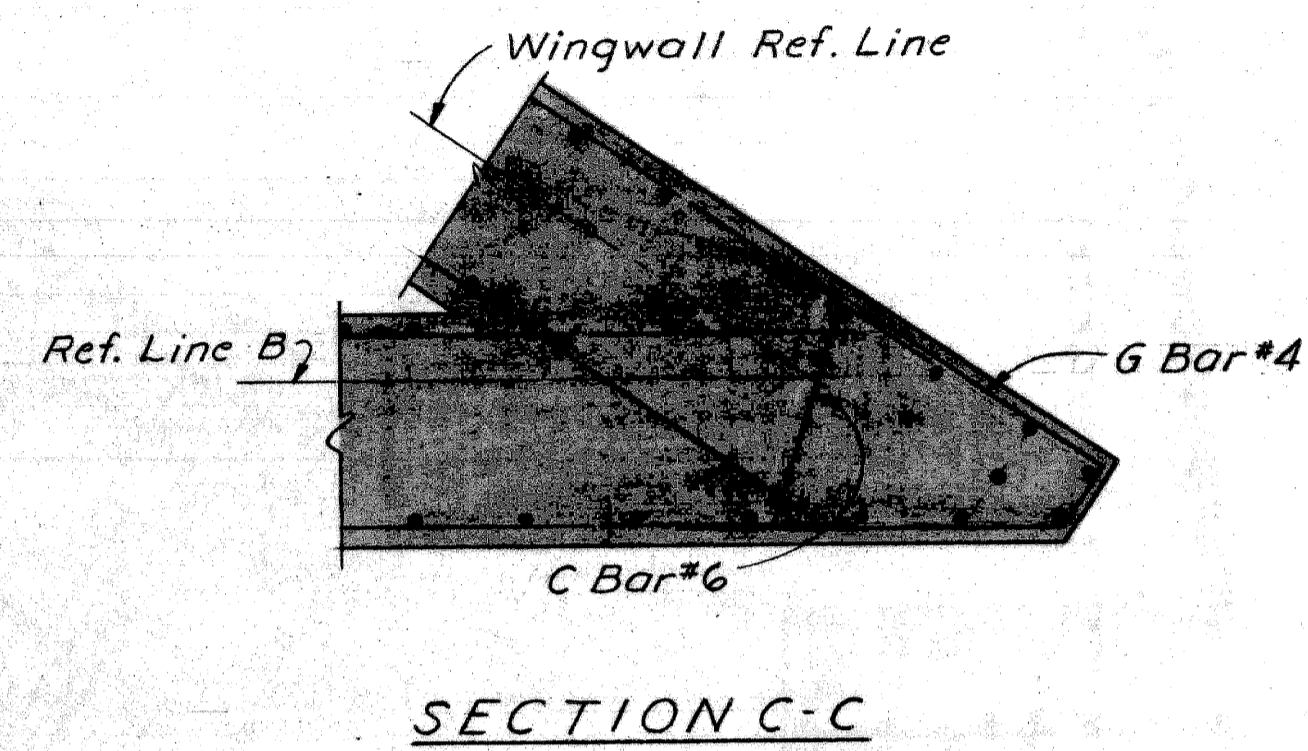
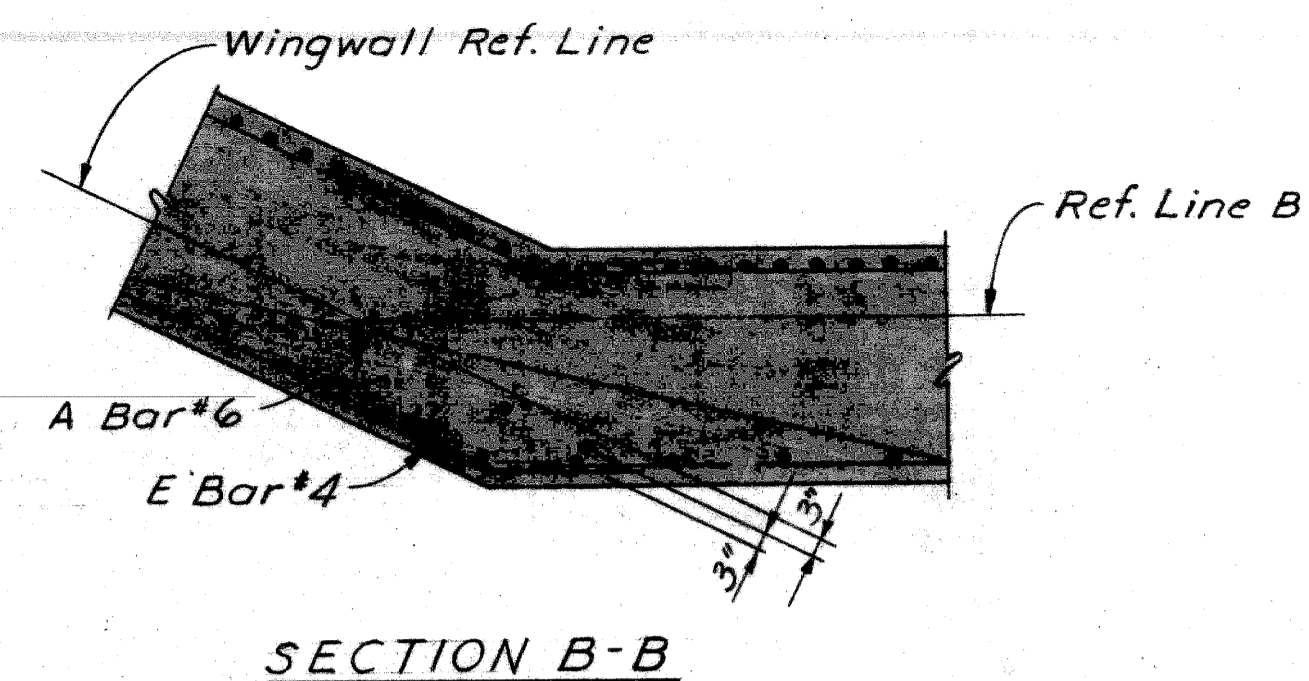
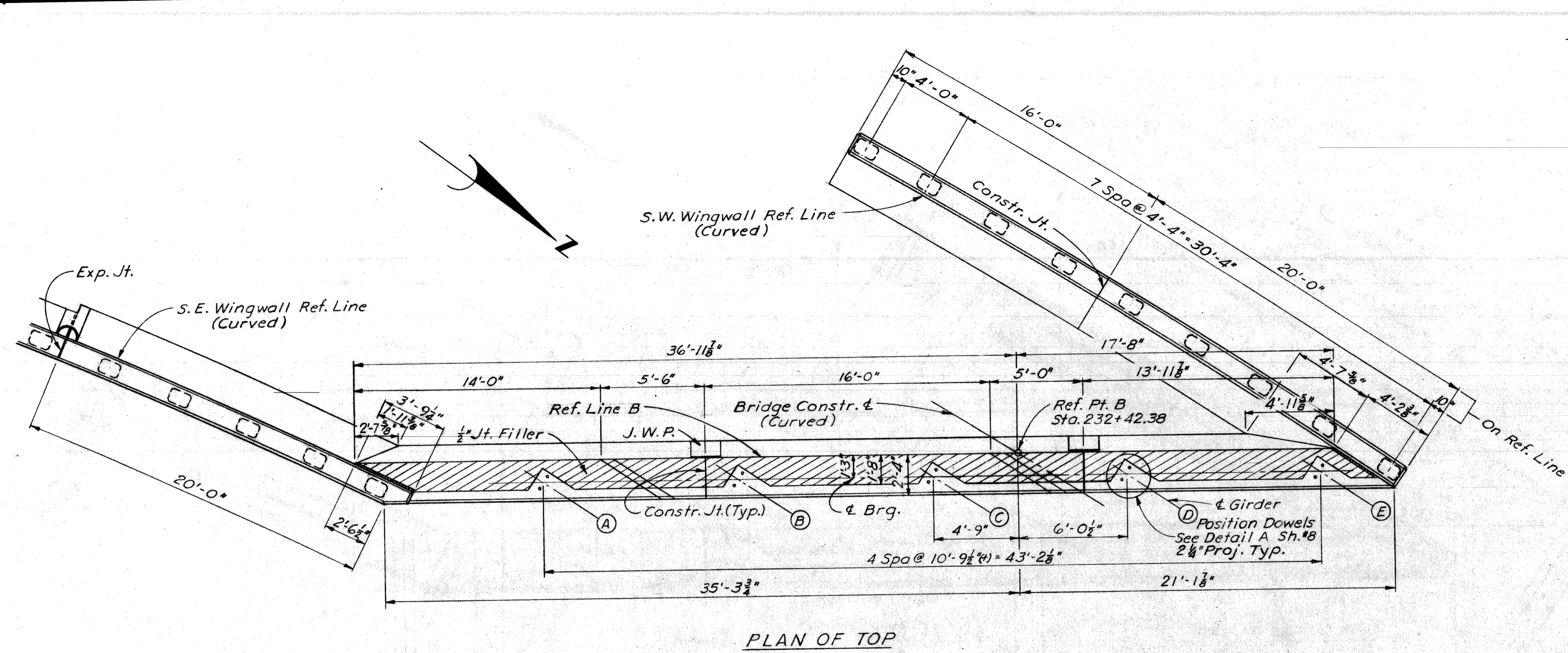
ABUTMENT B DETAILS

NO.	DESCRIPTION	DATE	BY

CITY OF DETROIT

SQUAD BOSS: [Signature]
 DRAWN BY: R. Harris 7-68
 CHECKED BY: [Signature] 10-68
 SHEET 10 OF 22

S48 of 82123K



PLANS PREPARED BY
 CITY OF DETROIT
 DEPARTMENT OF PUBLIC WORKS
 CITY ENGINEERS' OFFICE
 BUREAU OF HIGHWAYS AND EXPRESSWAYS

APPROVED: [Signature] STRUCTURAL ENGINEER

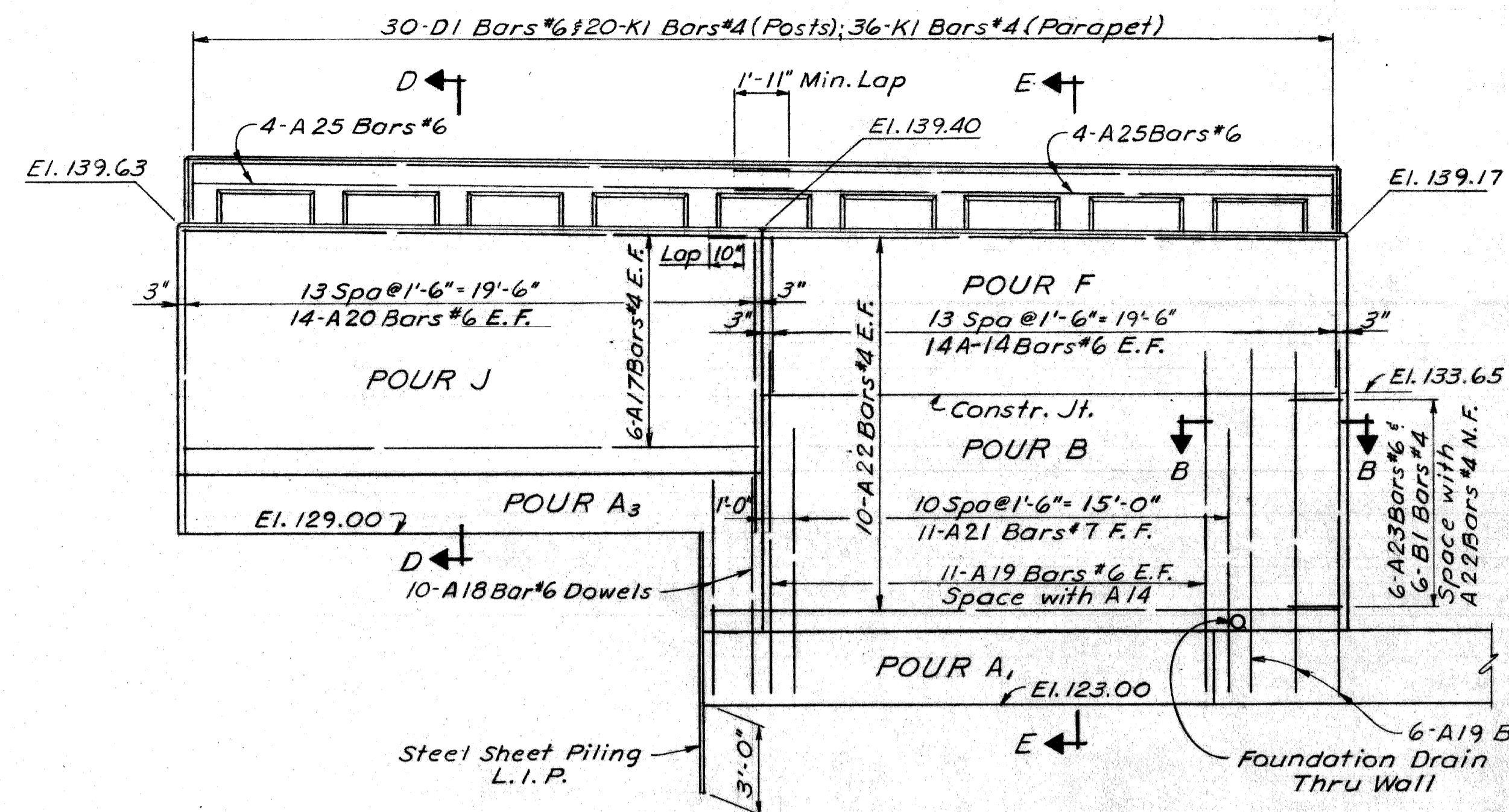
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MICHIGAN DEPARTMENT OF STATE HIGHWAYS

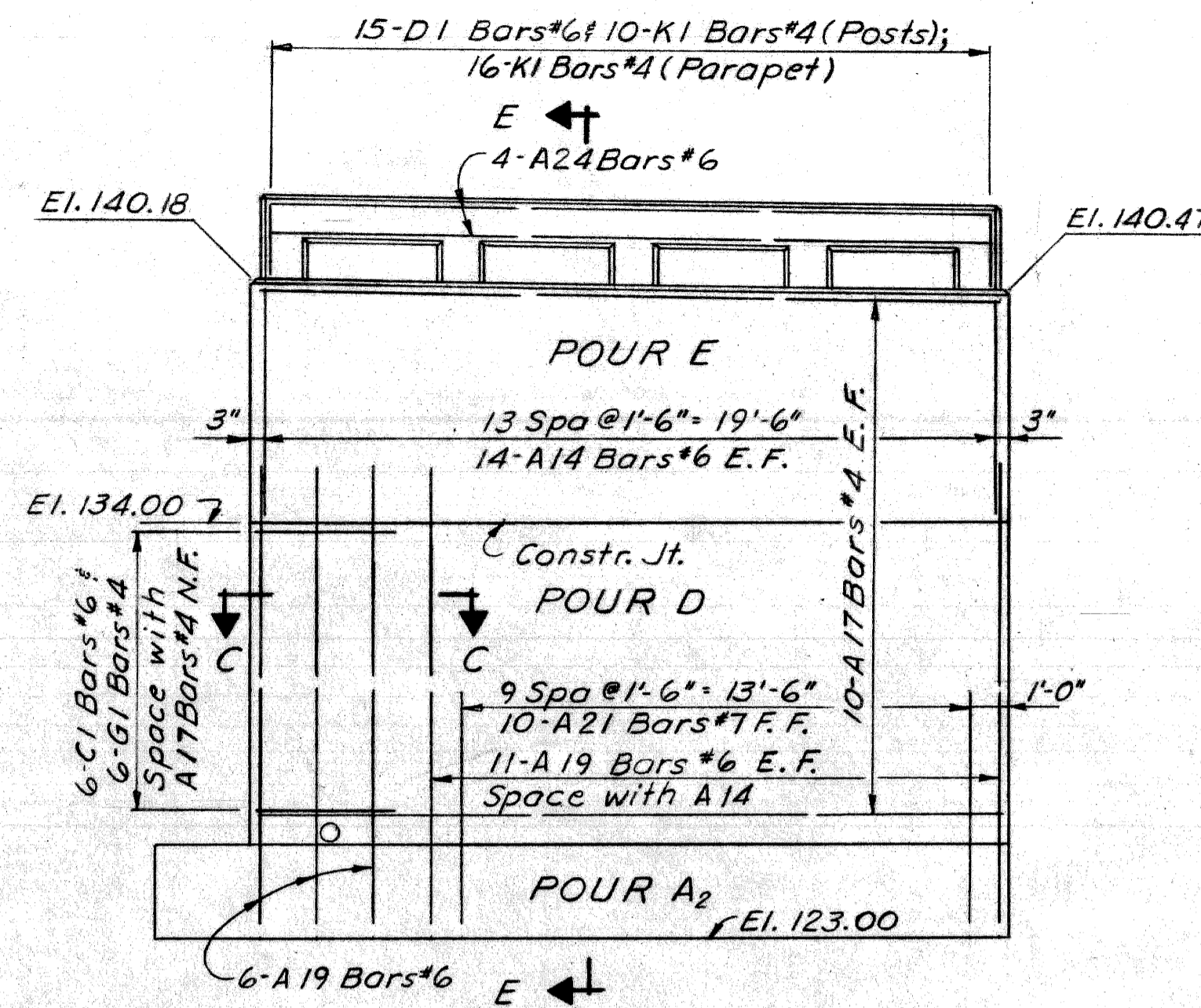
ABUTMENT B DETAILS

NO.	REVISIONS	DATE	BY

ROAD NO. 11
 DRAWN BY R. Harris 7-58
 CHECKED BY M.W. 10-59
 SHEET 7 OF 22
 548 of 82123K



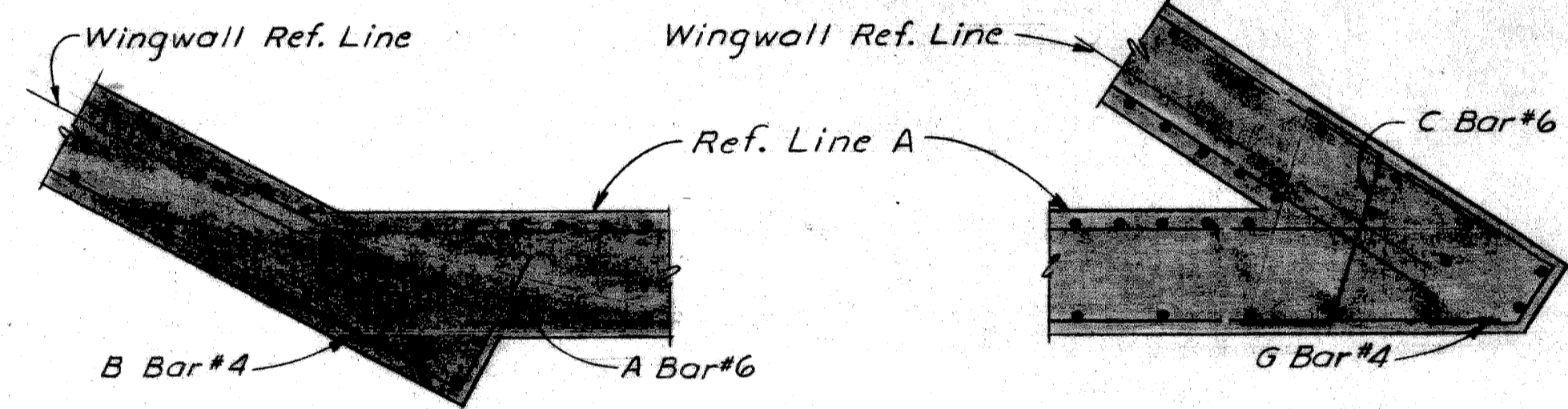
N.W. WINGWALL - ELEVATION



N.E. WINGWALL - ELEVATION

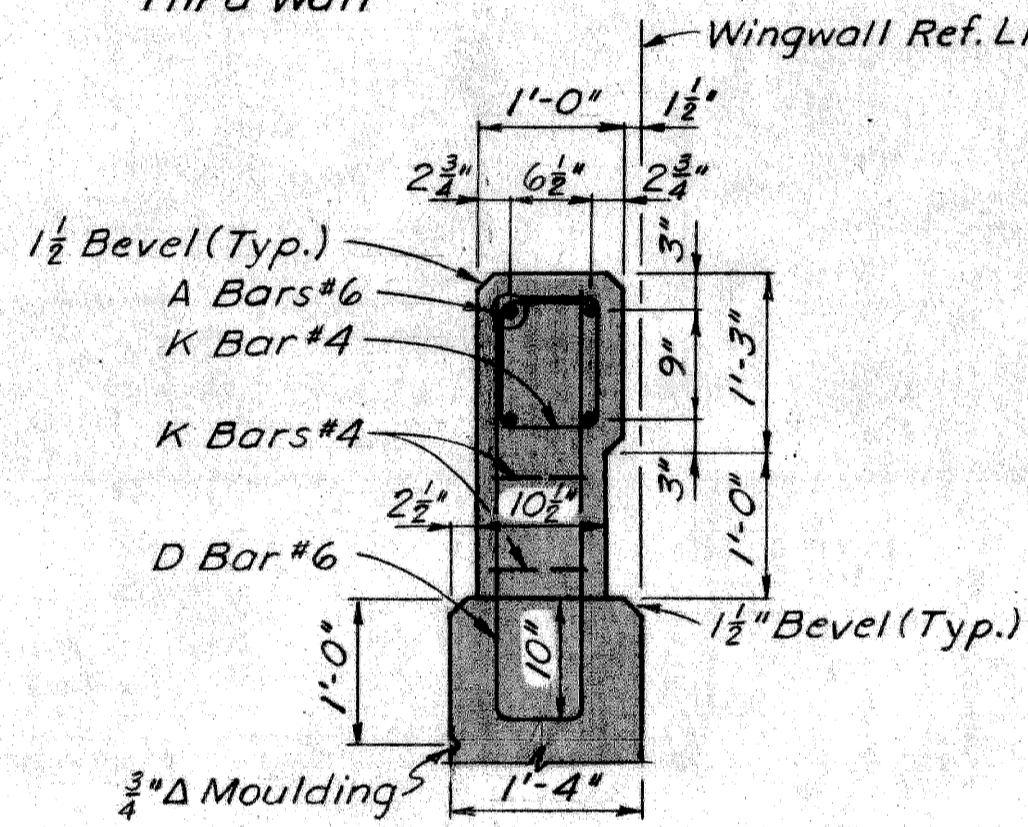
CONCRETE QUANTITIES (Cu.Yds.)					
POUR	LOCATION	ABUT. A		ABUT. B	
		A6A	A6AA	A6A	A6AA
A ₁	Abutment Footing	26.9		83.9	
A ₂	"	39.1		116.4	
A ₃	Wingwall Footing	12.2		29.6	
A ₄	"			20.1	
A ₅	"			11.4	
B	Abutment Stem		17.7		59.9
C	"		15.1		38.4
D	"		21.2		51.6
E	Wingwall Stem		6.3		5.7
F	"		5.5		5.7
G ₁	"				21.3
G ₂	"				5.0
H ₁	"				10.9
H ₂	"				4.5
J	"		10.5		11.1
K ₁	"				25.1
K ₂	"				4.6
Total Substructure Concrete		78.2	76.3	261.4	243.8

Bridge Parapet Concrete (9.2 Cu.Yd.) is not a pay item.

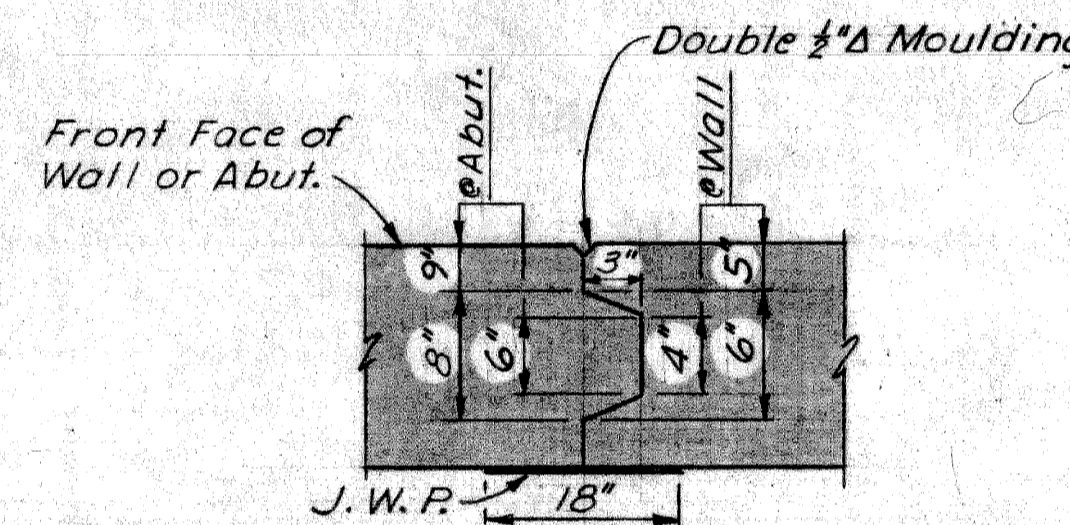


SECTION B-B

SECTION C-C

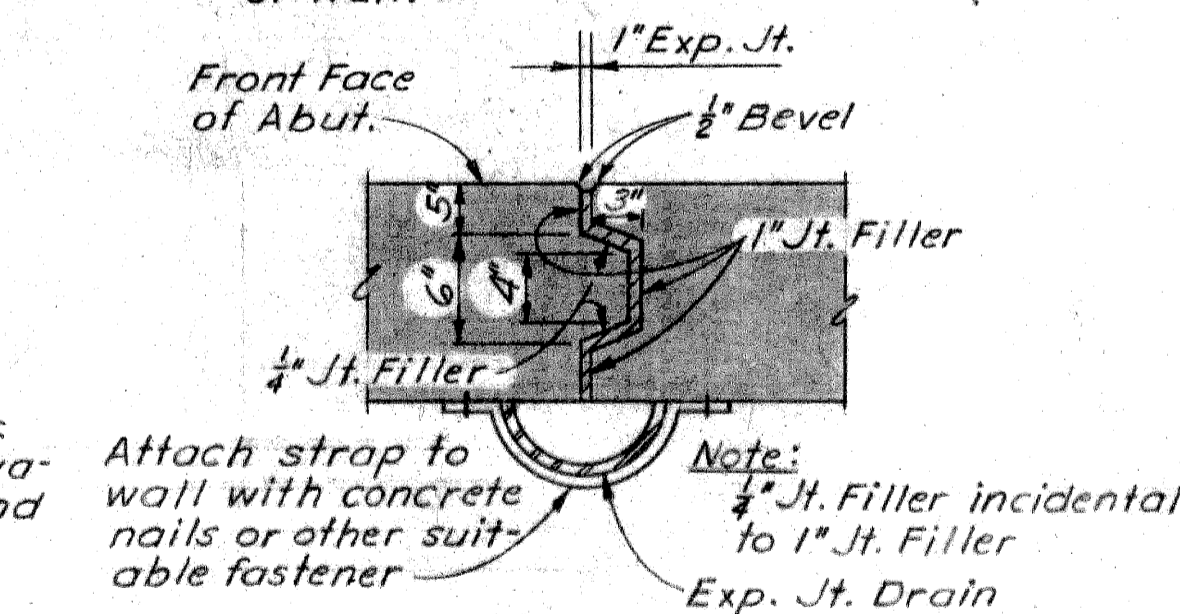


DETAIL C



CONSTRUCTION JT. DETAIL

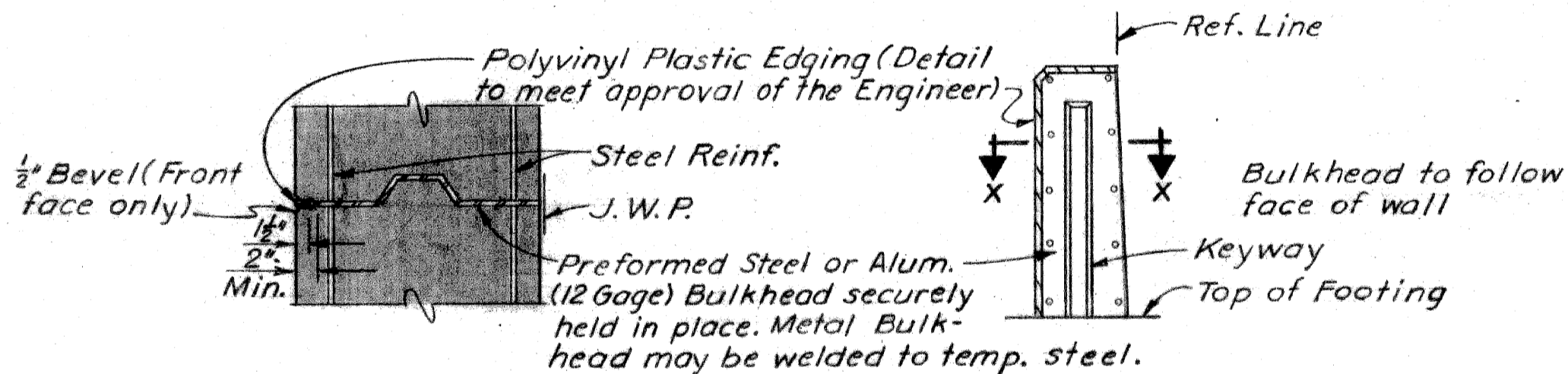
Note: Stop keyway & J.W.P. 9" below top of wall.



EXPANSION JT. DETAIL

MISCELLANEOUS QUANTITIES				
ITEM	UNIT	ABUT. A	ABUT. B	TOTAL
Lightweight Fill (C.I.P.)	Cu.Yds.	—	810	810
Unclassified Excavation	Cu.Yds.	45.2	1378	1830
Steel Sheet Piling (L.I.P.)	Sq.Ft.	10.8	386	494
Low Temp. Protection - Substr.	Cu.Yds.	146	505	651
1/2" Joint Filler	Sq. Ft.	79	83	162
1" Joint Filler	Sq. Ft.	—	48	48
Joint Waterproofing	Sq. Ft.	161	244	405
Expansion Joint Drain	Each	—	1	1
Bridge Parapet	Lin. Ft.	59.2	114.2	163.4
Foundation Drain	Lin. Ft.	109	168	277

Note: For Sections D-D and E-E see Sh. #11.

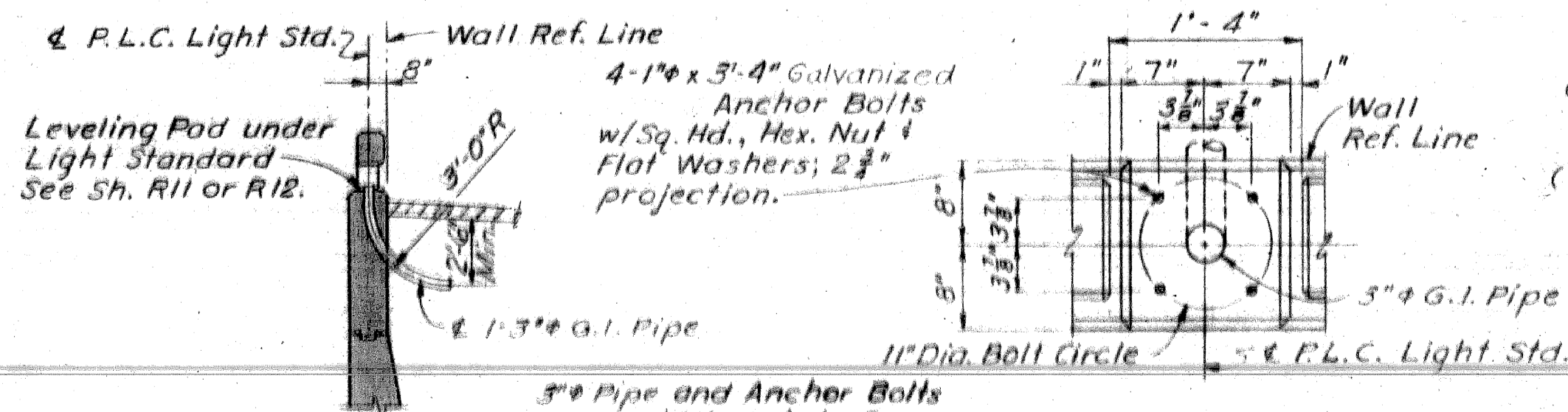


SECTION X-X

SECTION THRU CONSTRUCTION JOINT

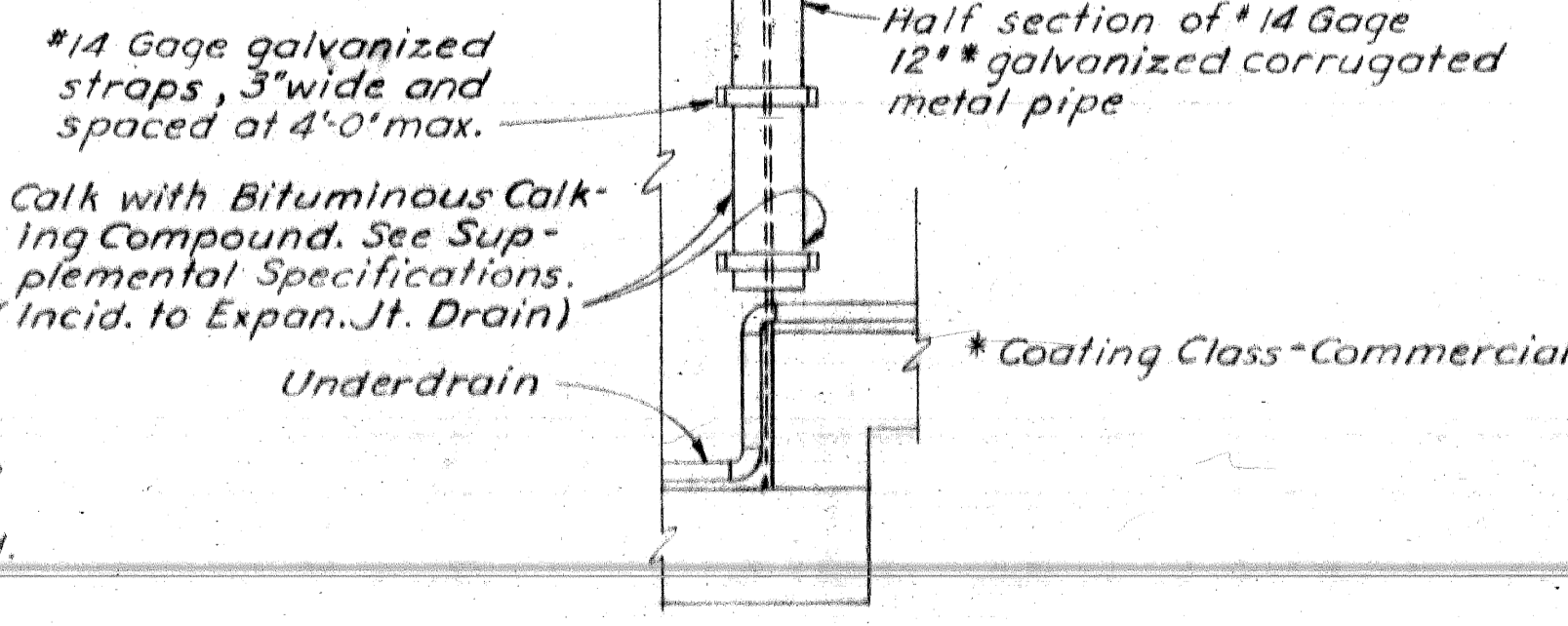
Note: The Metal Bulkhead may be used as alternate construction joint at contractor's expense. Care is to be used in casting concrete around bulkhead to prevent dislocation or misalignment of the bulkhead. Cut holes in metal bulkhead for reinforcing steel.

ALTERNATE CONSTRUCTION JOINT DETAIL



SECTION AT P.L.C. LAMP STANDARD

P.L.C. ANCHOR BOLT SETTING DETAIL



EXPANSION JOINT DRAIN

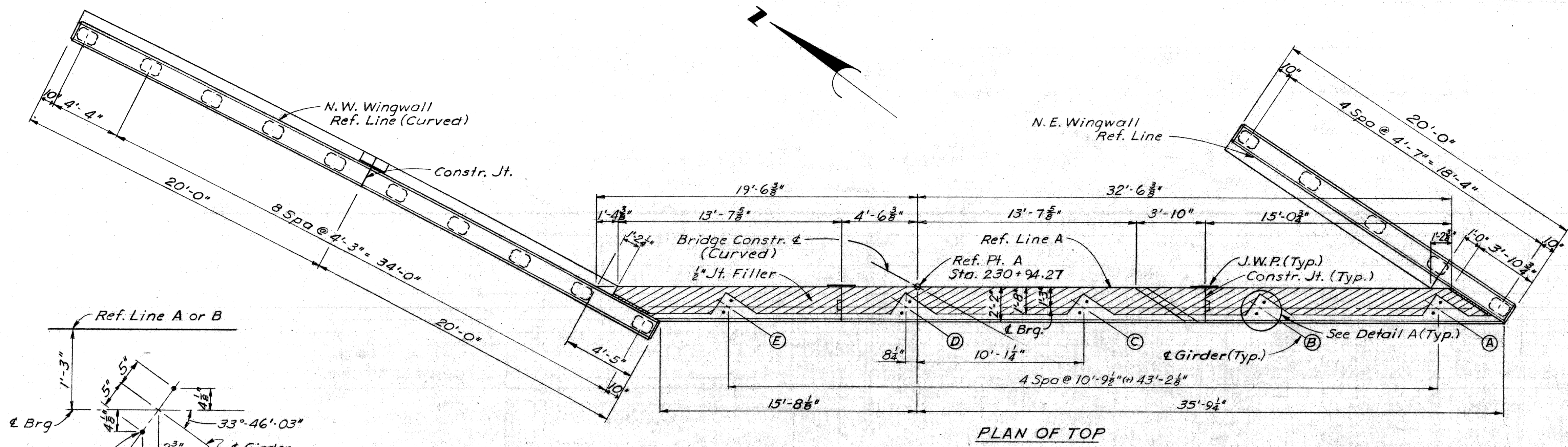
MICHIGAN DEPARTMENT OF STATE HIGHWAYS

ABUTMENT A DETAILS

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

REVISIONS			
NO.	DESCRIPTION	DATE	BY

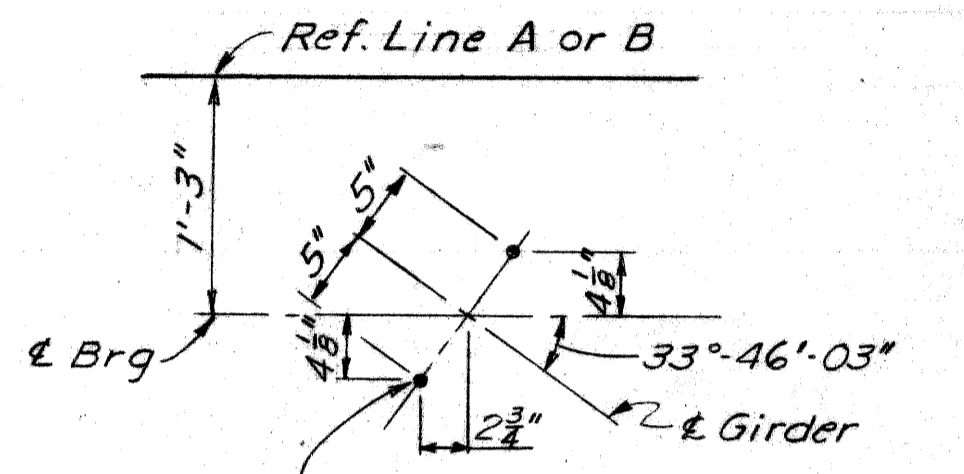
CITY OF DETROIT
SQUAD ROOM
DRAWN BY
CHECKED BY
JOB No.
PW99023



PLAN OF TOP

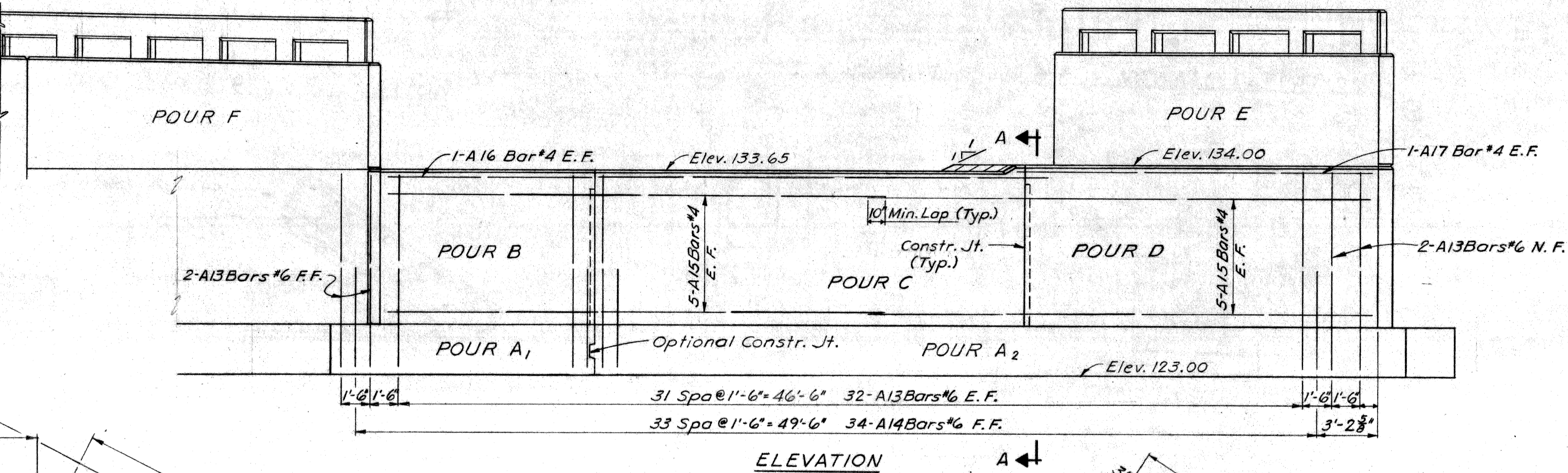
GENERAL NOTES

J.W.P. denotes Joint Waterproofing.
 N.F., F.F. and E.F. denotes near face, far face and each face respectively.
 For bevel and molding details, see standard sheet R 11 or R12.
 Pours E and F shall not be cast until superstructure is complete to tops of curbs.
 Anchor bolts and position dowels shall be accurately set to a template.
 Adjust the spacing of the reinforcing steel as required to permit placing of anchor bolts and position dowels.
 Vertical reinforcement shall be so positioned that the top end of bars are 2" from the top of abutment or walls unless otherwise indicated.
 Horizontal spacing of reinforcement for curved wingwalls is along the wingwall reference line.

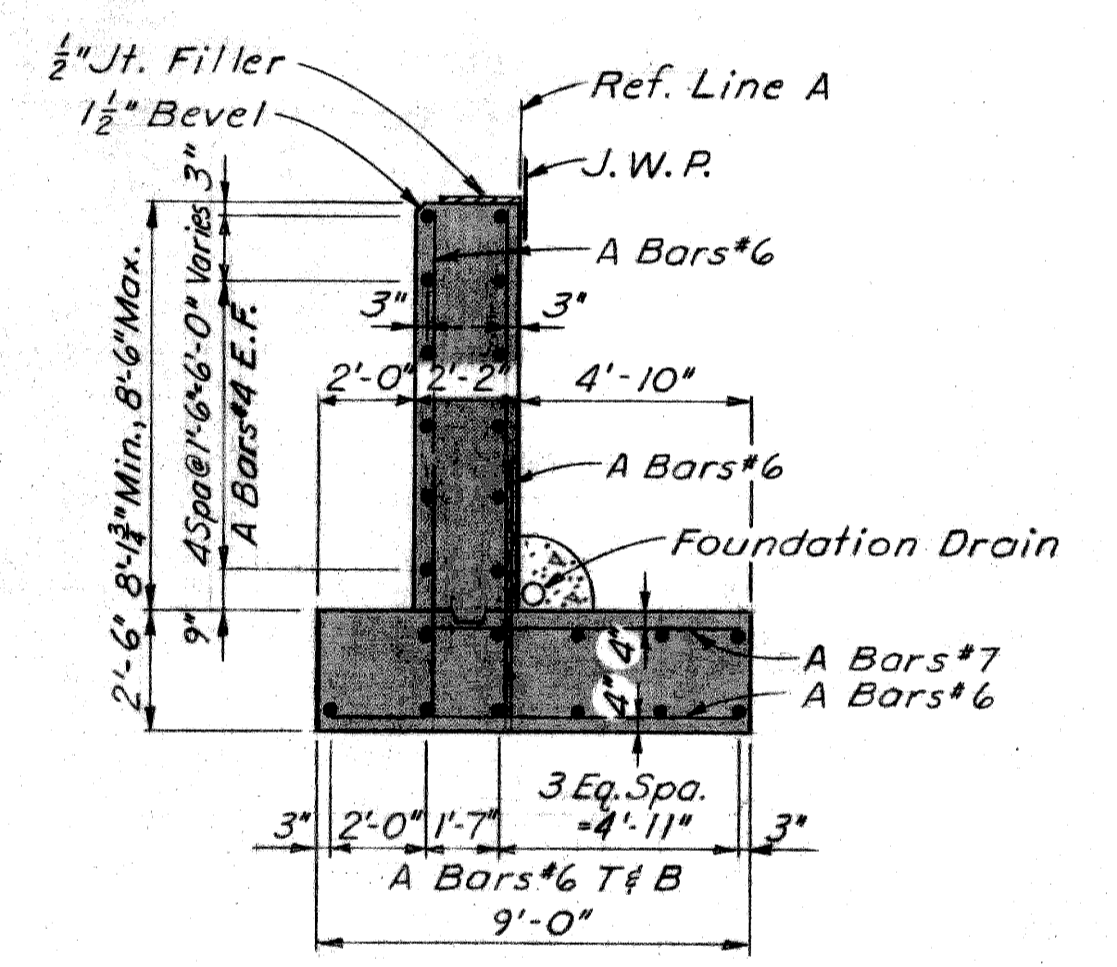


DETAIL A

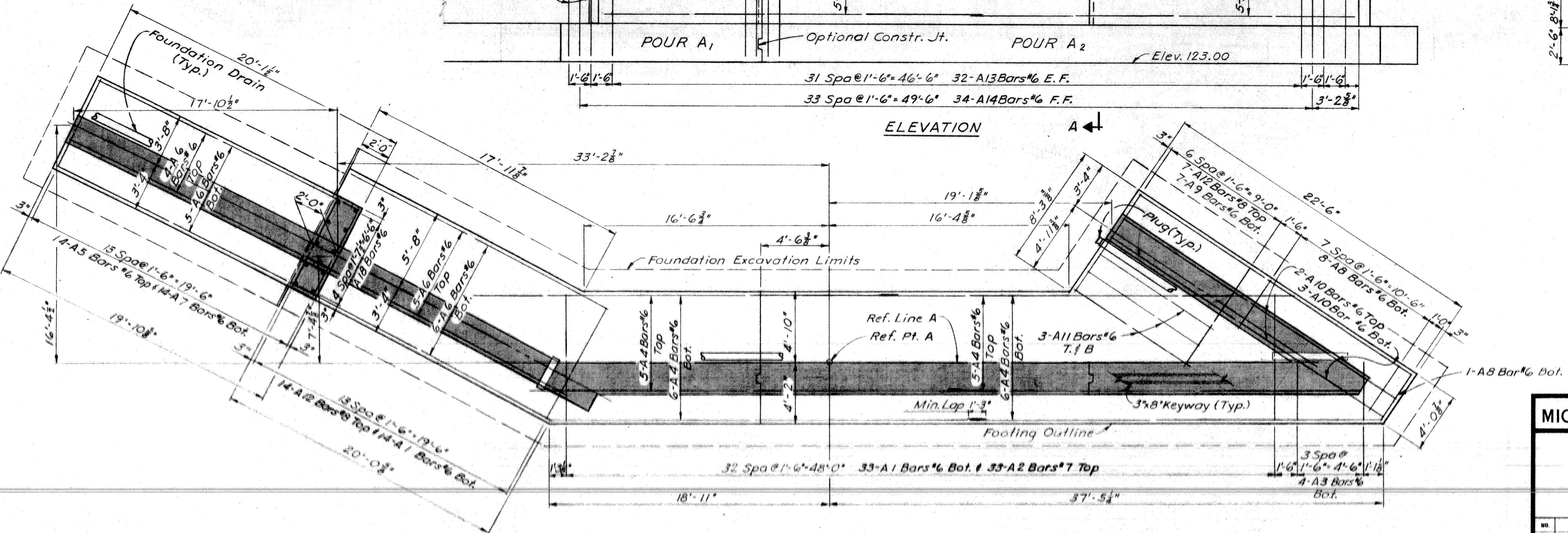
ANCHOR BOLT PROJECTION-ABUT. A					
Girder	A	B	C	D	E
Projection	7 3/4"	6 3/4"	8 1/4"	5"	4 1/2"



ELEVATION



SECTION A-A



FOOTING PLAN

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

APPROVED: *[Signature]*
 STRUCTURAL ENGINEER

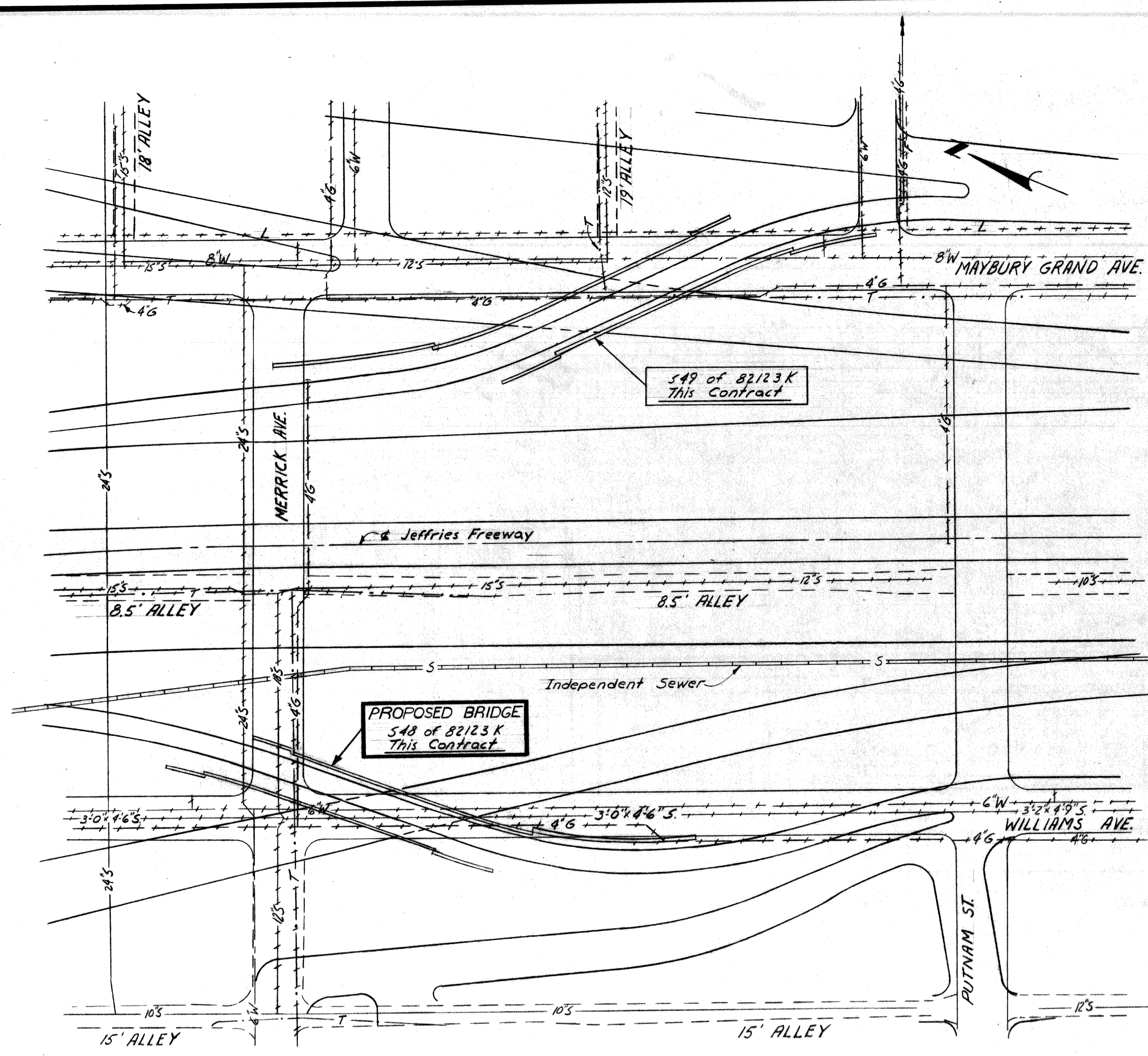
JOB No.
 PW99021

MICHIGAN DEPARTMENT OF STATE HIGHWAYS

ABUTMENT A DETAILS				CITY OF DETROIT	
REVISIONS				ROAD NO.	DATE
NO.	DESCRIPTION	DATE	BY	W4711	9-68

DRAWN BY: *R. Harris*
 CHECKED BY: *[Signature]*
 SHEET 7 OF 22

S48 of 82123K



SITUATION PLAN
Scale 1/2" = 40'

LEGEND

UTILITY	Existing	Deleted or Abandoned	New Work by Others
Michigan Consolidated Gas Co.	---G---	+++G+++	
Detroit Water Dept.	---W---	+++W+++	
City of Detroit Sewers	---S---	+++S+++	==S==
Michigan Bell Telephone Co.	---T---	+++T+++	
Public Lighting Commission	---L---	+++L+++	
Detroit Fire Dept.	---F---	+++F+++	

NOTE:
Bridge construction and utility alterations are included in package contract for control section 82123K. The contractor shall locate all active underground utilities prior to starting work, and shall conduct his operations in such a manner as to insure that those utilities not requiring relocation will not be disturbed.

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

APPROVED: *J. J. Carr*
STRUCTURAL ENGINEER

JOB No.
PW 990(2)

MICHIGAN DEPARTMENT OF STATE HIGHWAYS
JEFFRIES-FORD INTERCHANGE
WARREN AVE. EXIT RAMP IN DETROIT

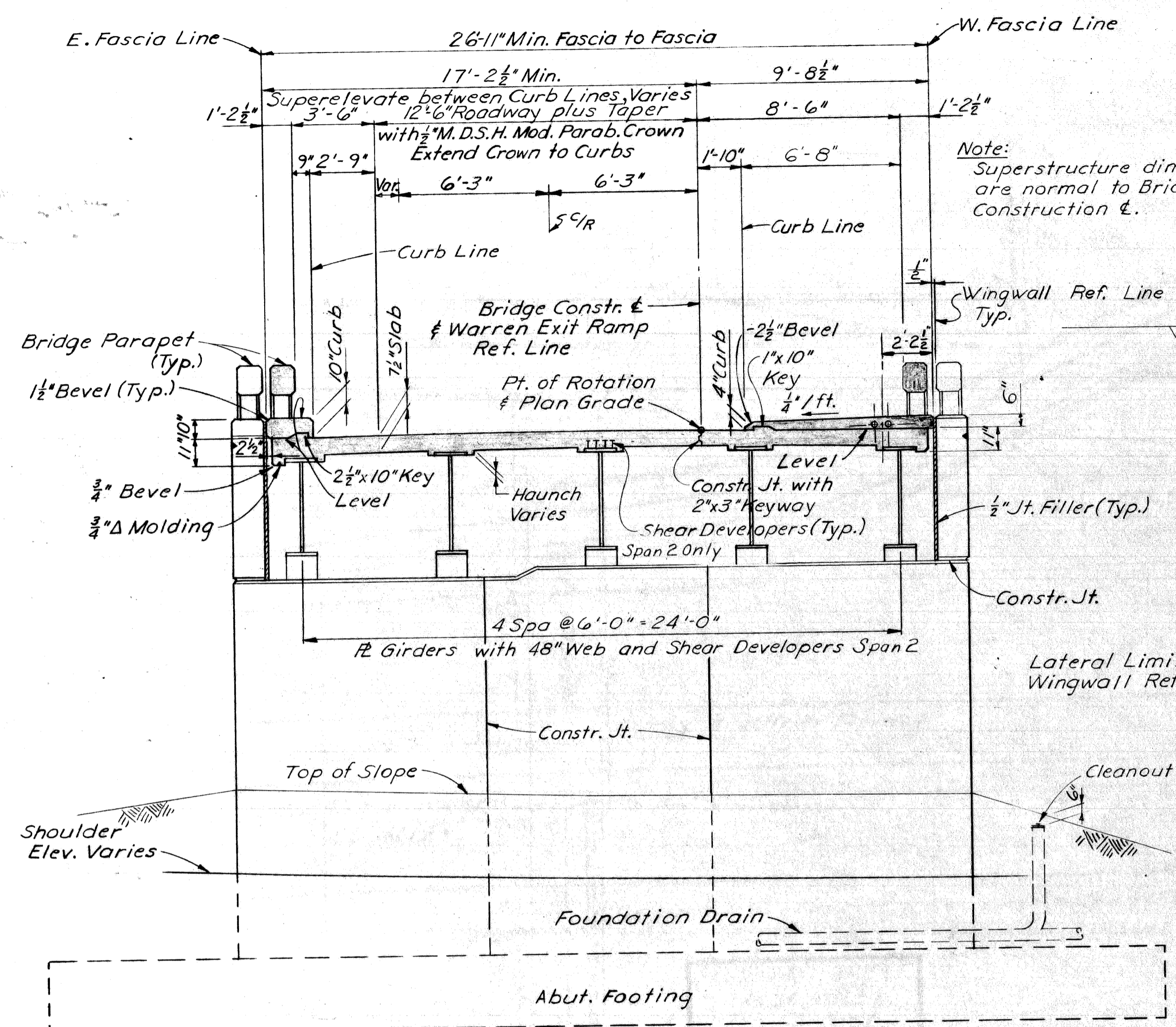
EXISTING UTILITIES AND PROPOSED ALTERATIONS

NO.	DESCRIPTION	DATE	BY

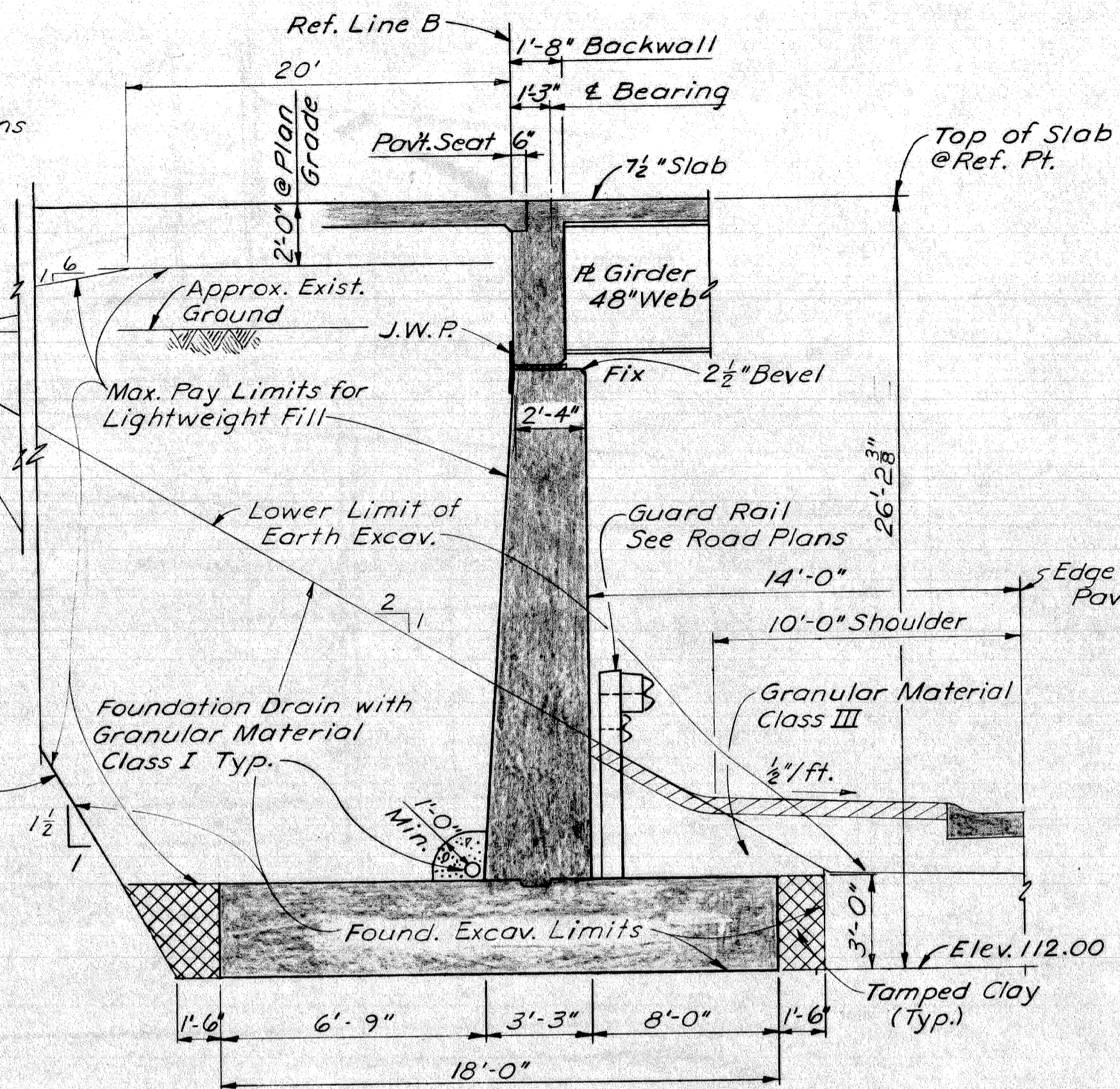
CITY OF DETROIT

SQUAD BOSS	Wette
DRAWN BY	R.J.B. 12-67
TRACED BY	R.H.P.W. 2-68
CHECKED BY	R.H.P.W. 2-68
SHEET	6 OF 22

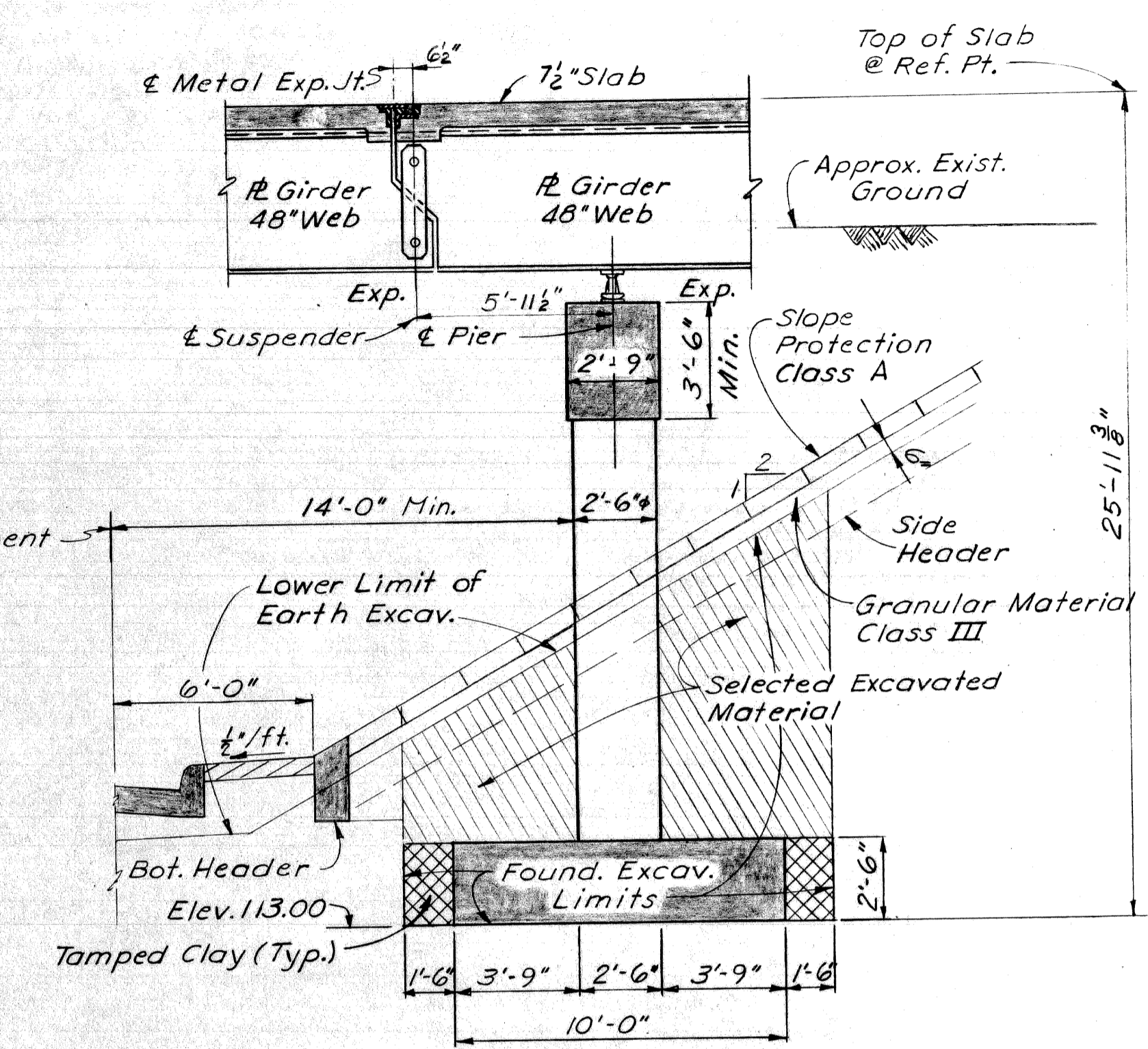
S48 of 82123K



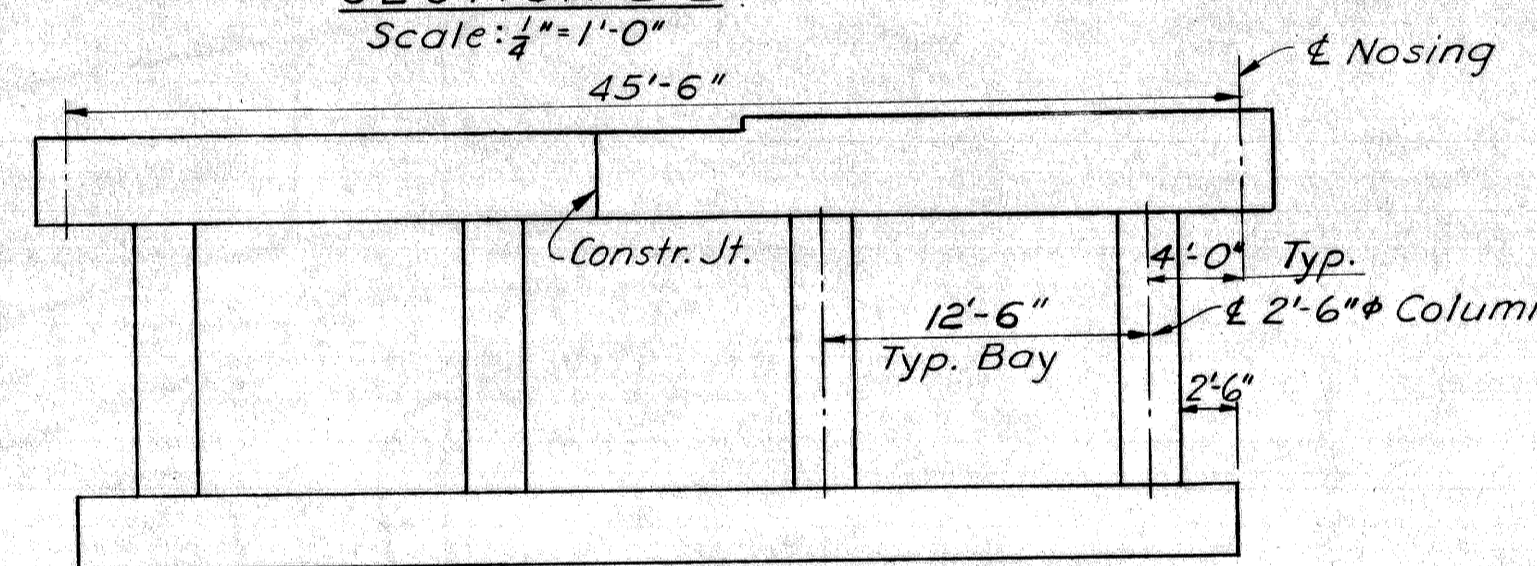
SECTION A-A
Scale: 1/4" = 1'-0"



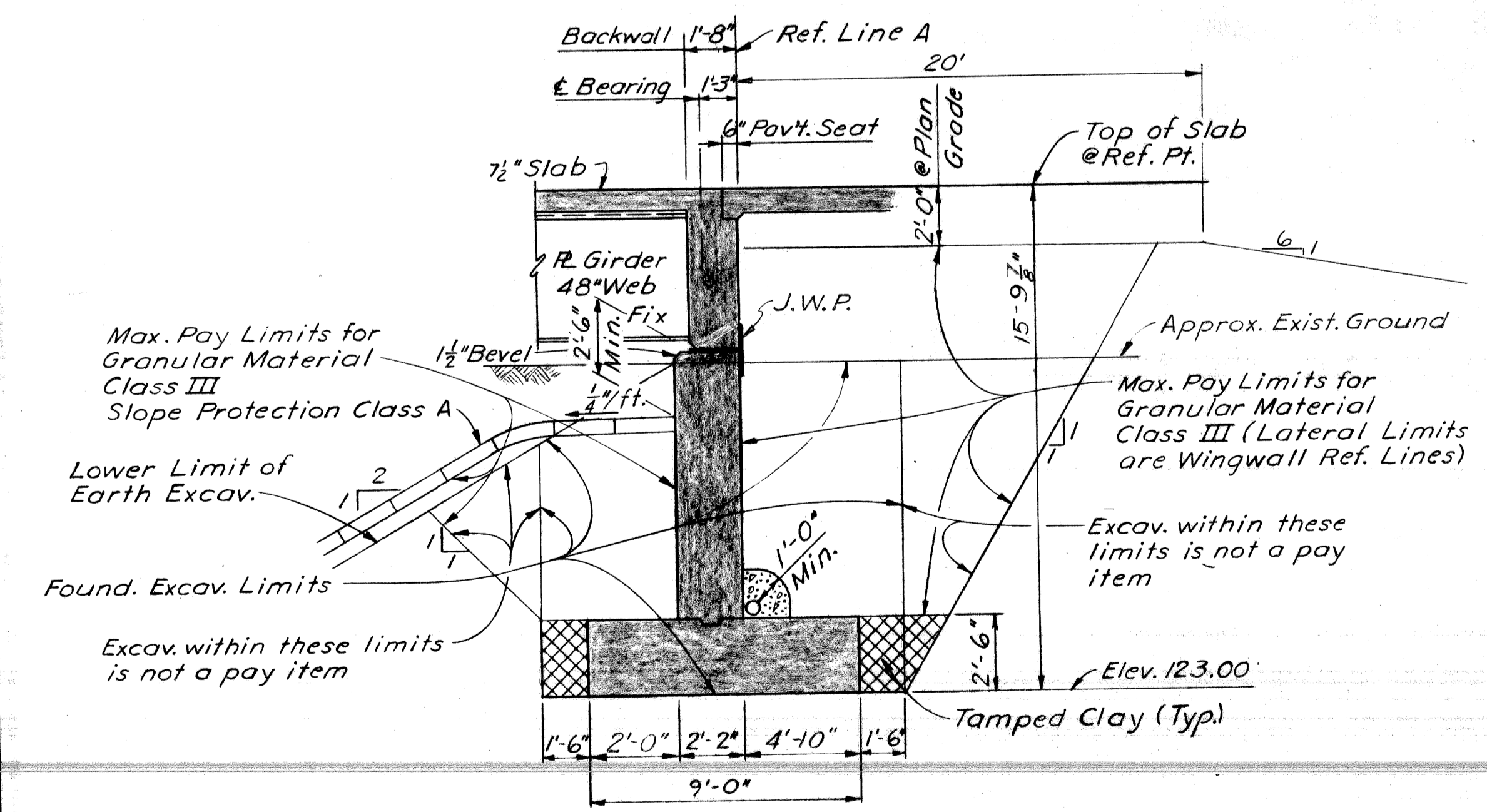
SECTION B-B
Scale: 1/4" = 1'-0"



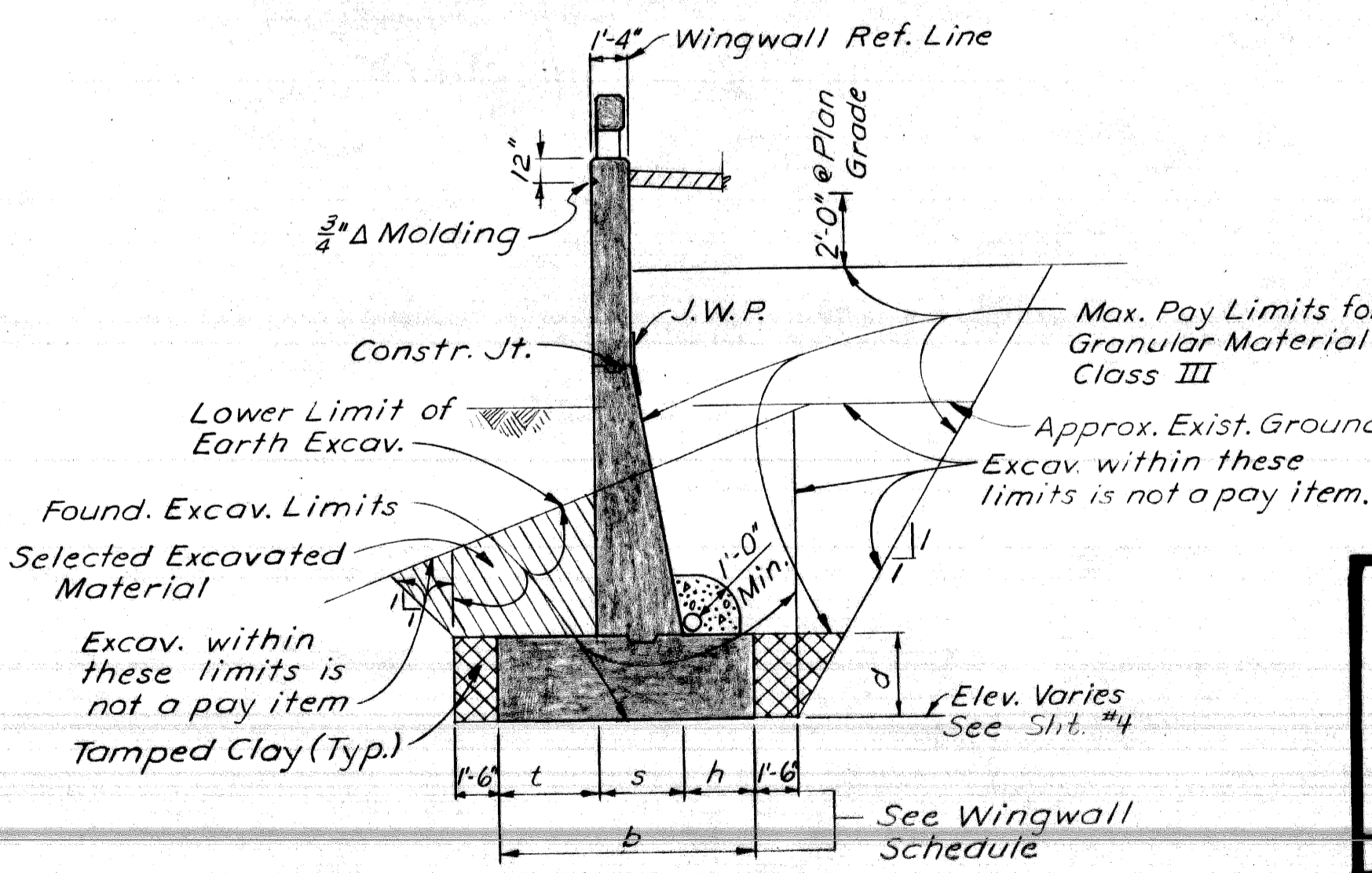
SECTION C-C
Scale: 1/4" = 1'-0"



PIER ELEVATION
Scale: 3/8" = 1'-0"



SECTION D-D
Scale: 1/4" = 1'-0"



SECTION E-E
Scale: 3/8" = 1'-0"

Note: See PLAN for location of wingwall sections.

WINGWALL SCHEDULE					
Section	b	h	s	t	d
①	7'-0"	3'-0"	2'-0"	2'-0"	2'-0"
②	7'-0"	5'-0"	2'-0"	2'-0"	2'-6"
③	14'-0"	6'-2"	2'-10"	5'-0"	2'-6"
④	20'-0"	8'-8"	3'-4"	3'-0"	3'-0"
⑤	—	—	3'-4"	6'-0"	3'-0"

GENERAL NOTES

The design of this structure is based on M.D.S.H. Specifications for the Design of Highway Bridges, 1958 edition and current AASHTO Standard Specifications for Highway Bridges, HS20-44 loading. Live load plus impact deflection equals 1/1000 of span length and 1/350 of cantilever arm. The top of roadway slab and tops of curbs are parallel to the vertical curve except as modified by super-elevation transition. This structure is partly on a horizontal curve. The fascia lines, curb lines and longitudinal construction joint are parallel to the curve and tangents except as shown. Tamped Clay is incidental to Unclassified Excavation. Granular Material Class III is incidental to Foundation Drain. For details of Slope Protection, see M.D.S.H. Standard Sh.#SP2. Selected Excavated Material is not a pay item. See Road Plans. Granular Material Class III Compacted in Place (See Road Plans) 950 Cu.Yds.

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

APPROVED: *J. J. Carver*
STRUCTURAL ENGINEER

JOB No.
FW 99021

MICHIGAN DEPARTMENT OF STATE HIGHWAYS

JEFFRIES-FORD INTERCHANGE
WARREN AVE. EXIT RAMP IN DETROIT

GENERAL PLAN OF STRUCTURE

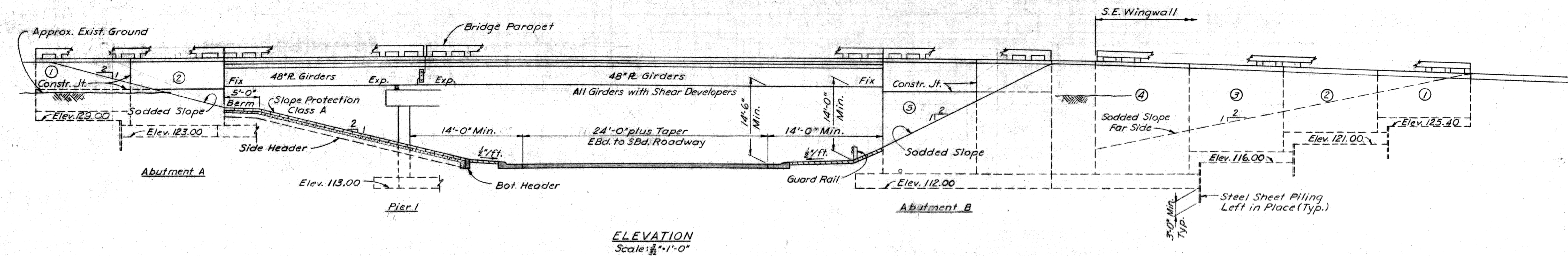
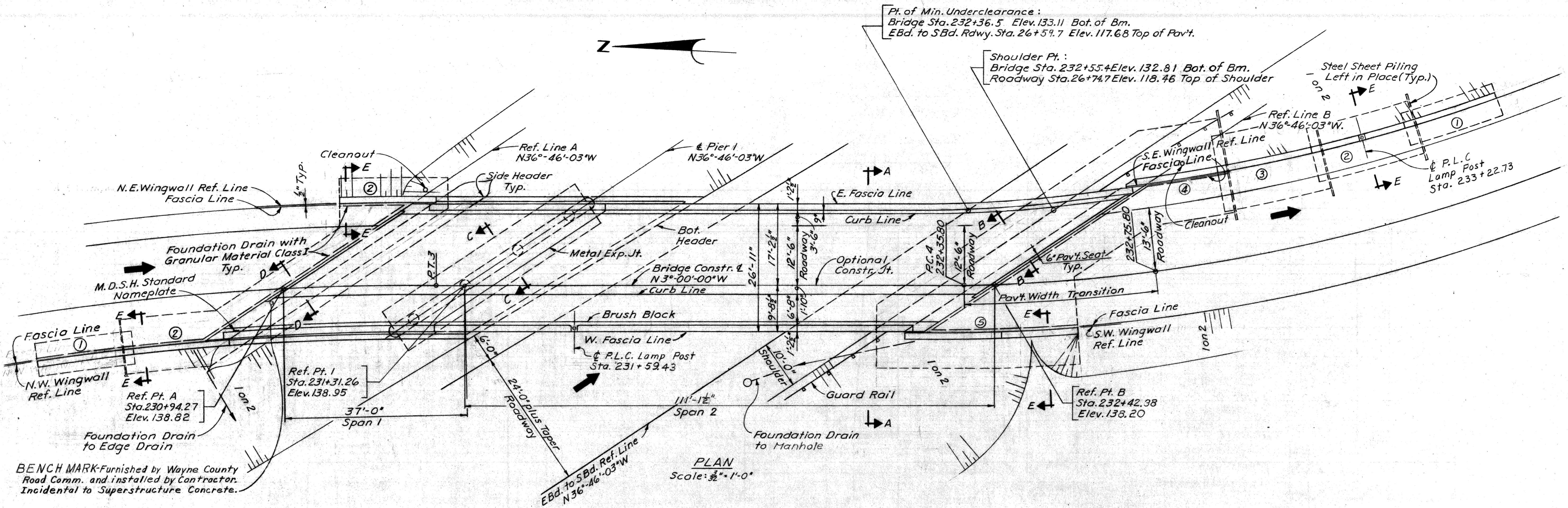
APPROVED: _____ DESIGN SUPERVISING ENGINEER

APPROVED: _____ DESIGN ENGINEER

DATE: 2/63

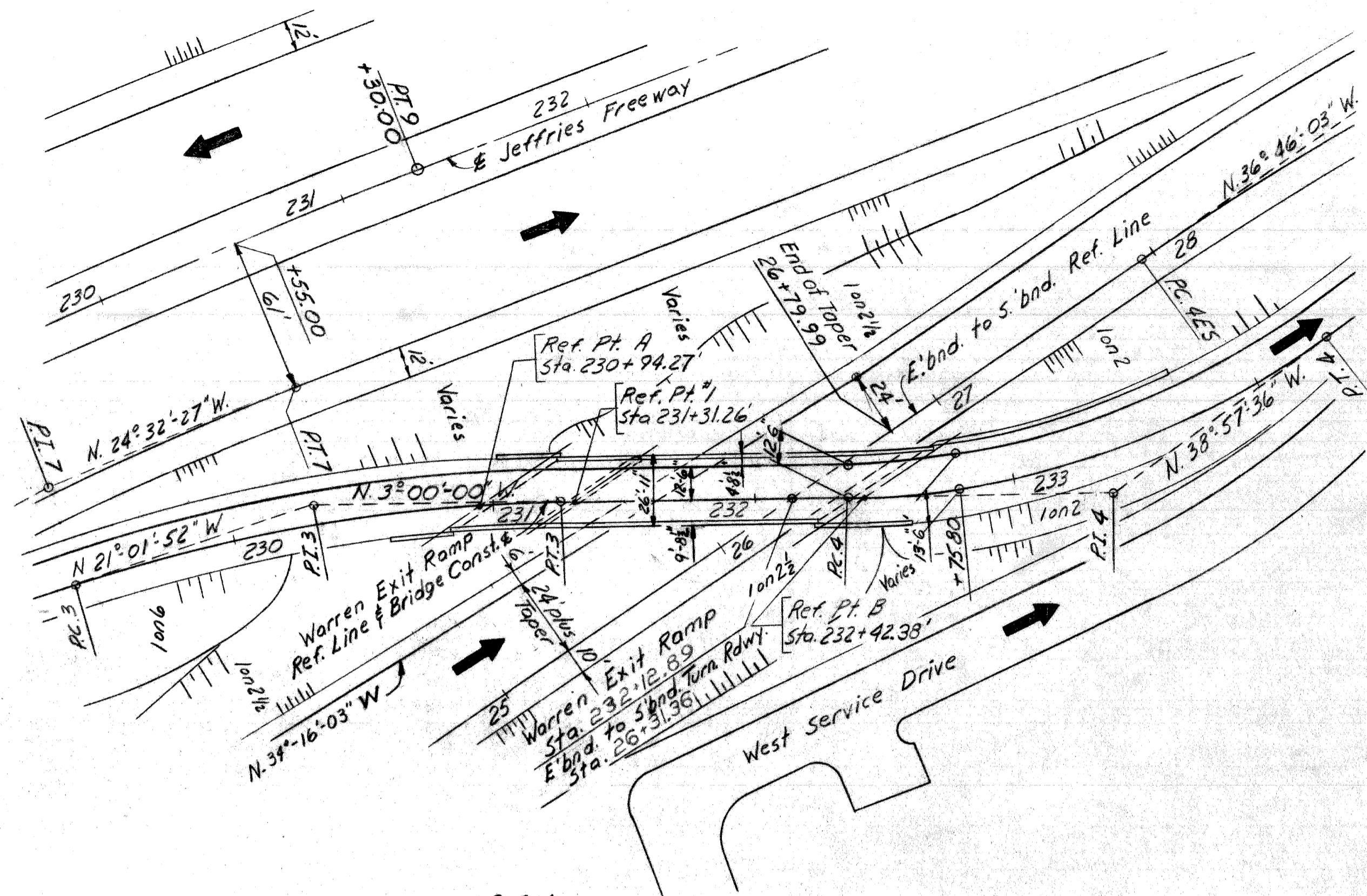
SHEET 5 OF 22

S48 of 82123K

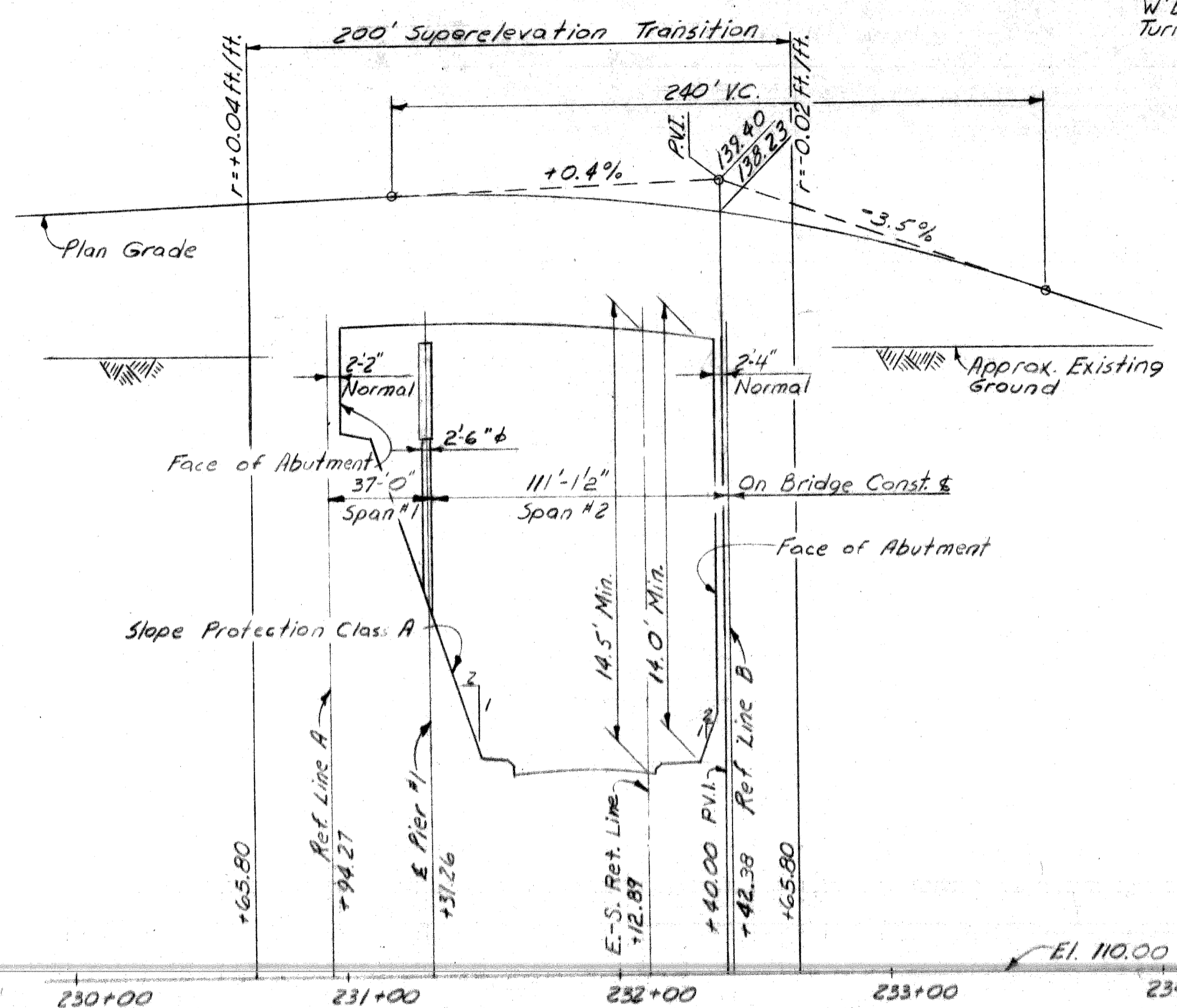


MISCELLANEOUS QUANTITIES		
ITEM	UNIT	AMOUNT
Slope Protection Class A	Sq. Yds.	177
Foundation Drain	Lin. Ft.	110
Slope Protection Header	Lin. Ft.	173

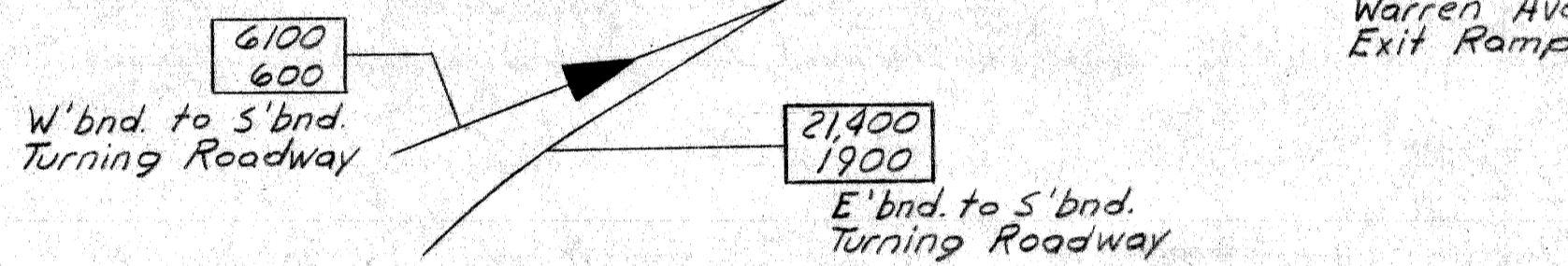
PLANS PREPARED BY CITY OF DETROIT DEPARTMENT OF PUBLIC WORKS DIVISION OF HIGHWAYS BUREAU OF BRIDGE AND TRESTLE CONSTRUCTION		MICHIGAN DEPARTMENT OF STATE HIGHWAYS	
APPROVED: <i>[Signature]</i> PROJECT ENGINEER		JOB No. PW 990(2)	
APPROVED: _____ DESIGN SUPERVISING ENGINEER		JEFFRIES-FORD INTERCHANGE WARREN AVE. EXIT RAMP IN DETROIT	
APPROVED: _____ DESIGN ENGINEER		GENERAL PLAN OF STRUCTURE	
NO. _____ DESCRIPTION _____ DATE _____ BY _____		DRAWN BY: <i>[Signature]</i> CHECKED BY: <i>[Signature]</i> SHEET 4 OF 22	
		S48 of 82123K	



PLAN
Scale 1/40'

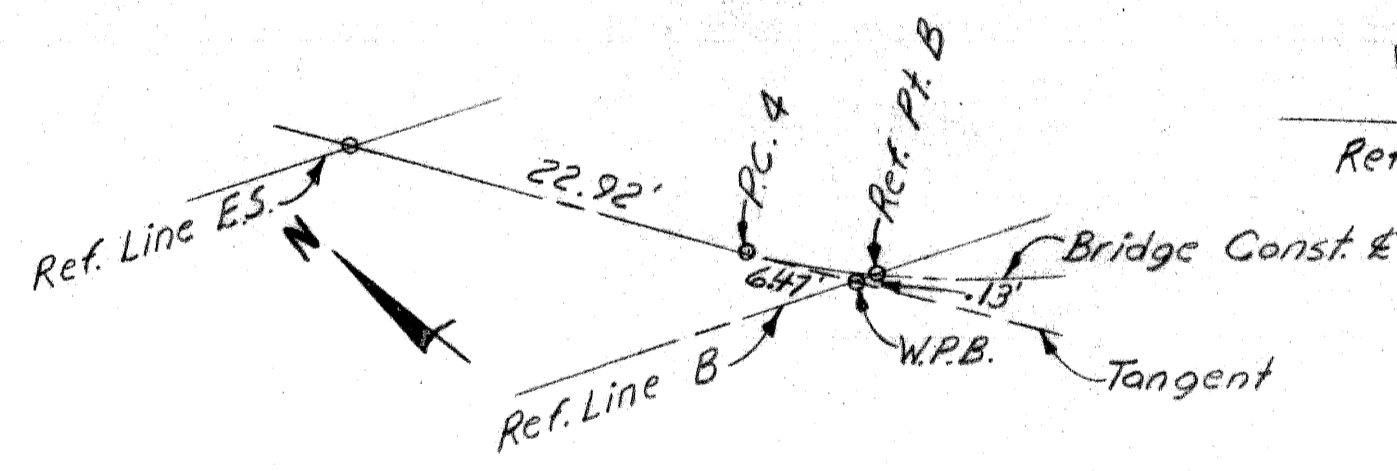


PROFILE ALONG BRIDGE CONSTRUCTION E
Scale: Hor. 1" = 40'
Vert. 1" = 4'



AD.T. denotes Average Daily Traffic
DH.V. denotes Design Hourly Volume

TRAFFIC COUNT
Estimated Traffic 1990



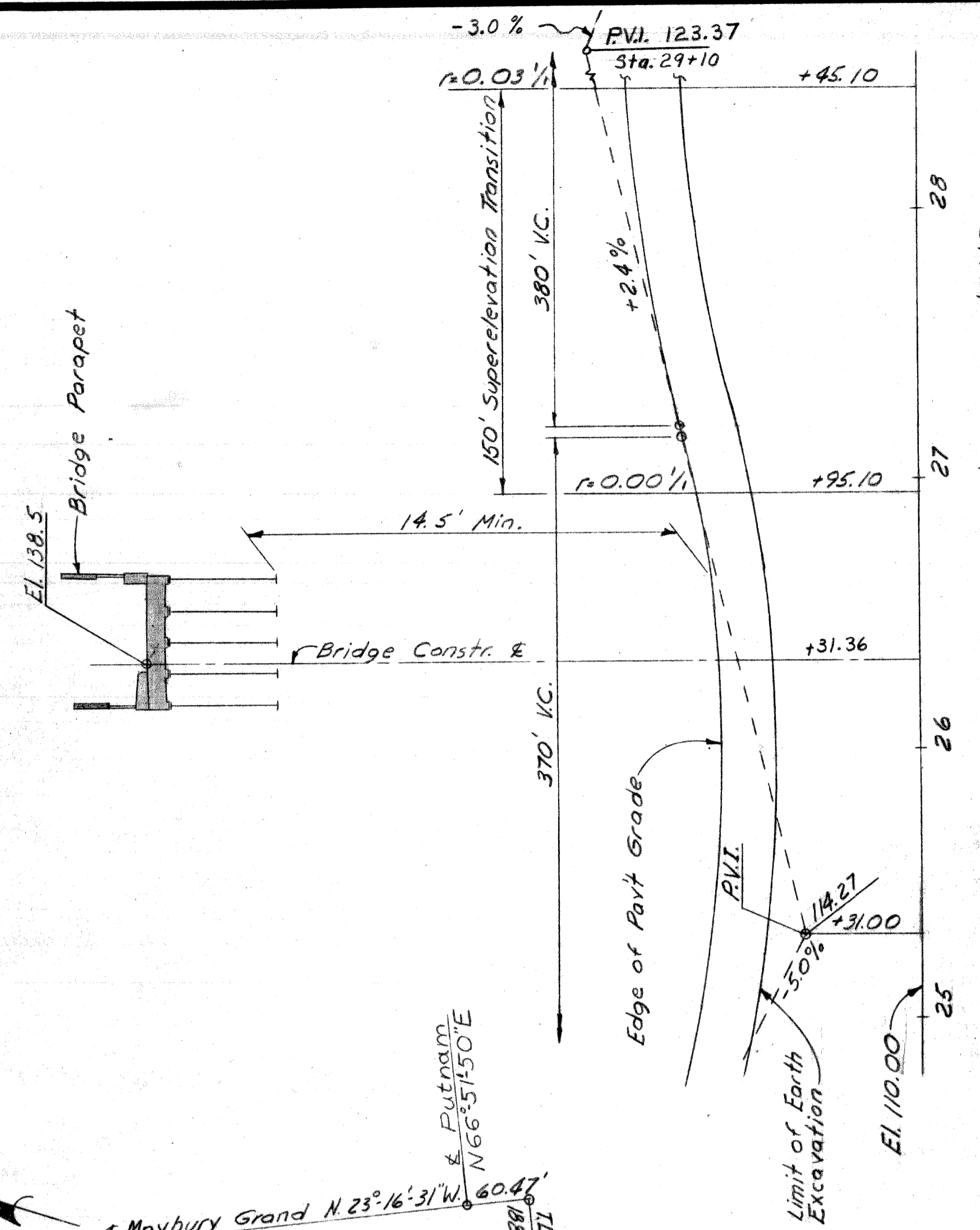
DETAIL A

BENCH MARKS

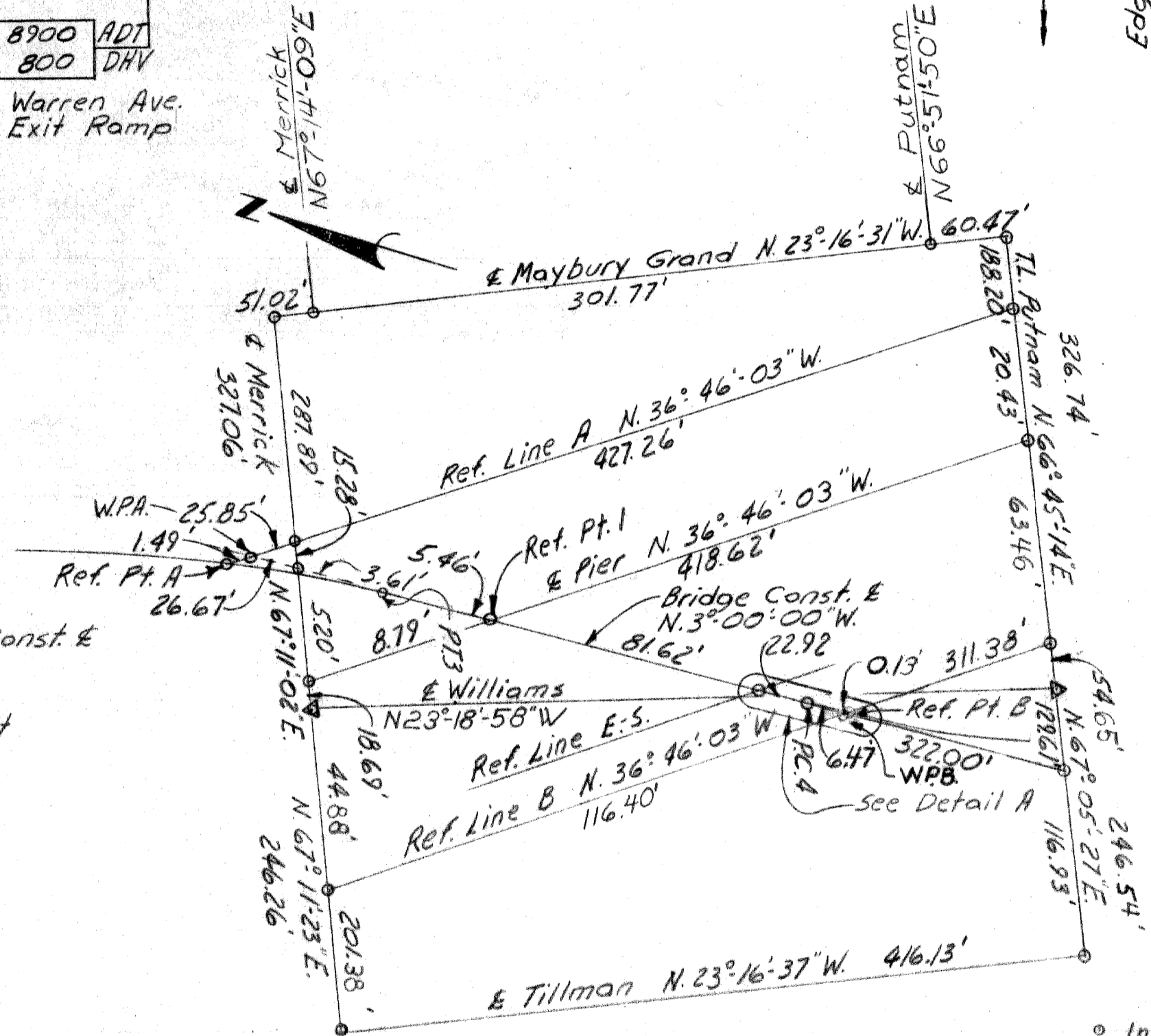
C.B.M. 26 Arrow on Hydrant N.E. Corner Merrick and Tillman. Elev. 134.43
P.B.M. 20-252A C. of D. Monument N.E. corner of Hancock and Tillman. Elev. 129.12
C.B.M. denotes Construction Bench Marks.
P.B.M. denotes Permanent Bench Marks.

CURVE DATA FOR WARREN EXIT RAMP

Curve #3	Curve #4
$\Delta = 18^\circ 01' 52''$	$\Delta = 35^\circ 57' 36''$
$D = 9^\circ 32' 57''$	$D = 18^\circ 20' 05''$
$R = 600.00$	$R = 312.50$
$T = 25.20'$	$T = 101.42'$
$L = 188.82'$	$L = 196.13'$
$E = 7.57'$	$E = 16.05'$
$PC = 229 + 36.98$	$PC = 232 + 35.80$
$PT = 230 + 32.18$	$PT = 233 + 37.22$
$P.T. = 231 + 25.80$	$P.T. = 234 + 31.93$

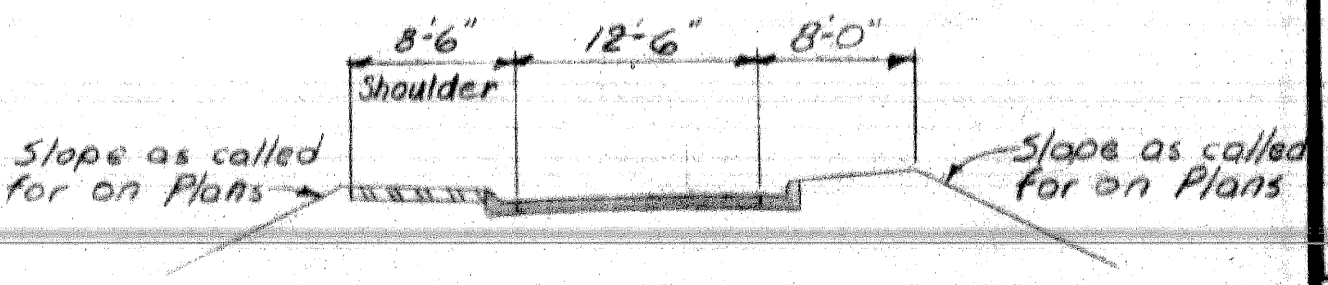


PROFILE ALONG E. BND. TO S. BND.
REFERENCE LINE
Scale: Hor. 1" = 40'
Vert. 1" = 4'



ALIGNMENT DIAGRAM
No Scale

o Indicates points of intersection
Δ Indicates points of direction change



BRIDGE APPROACH
Scale: 1/40'

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

APPROVED: [Signature] J. Paul
STRUCTURAL ENGINEER

JOB No.
PW-990(2)

NO.	DESCRIPTION	DATE	BY

MICHIGAN DEPARTMENT OF STATE HIGHWAYS

JEFFRIES-FORD INTERCHANGE
WARREN AVE. EXIT RAMP IN DETROIT

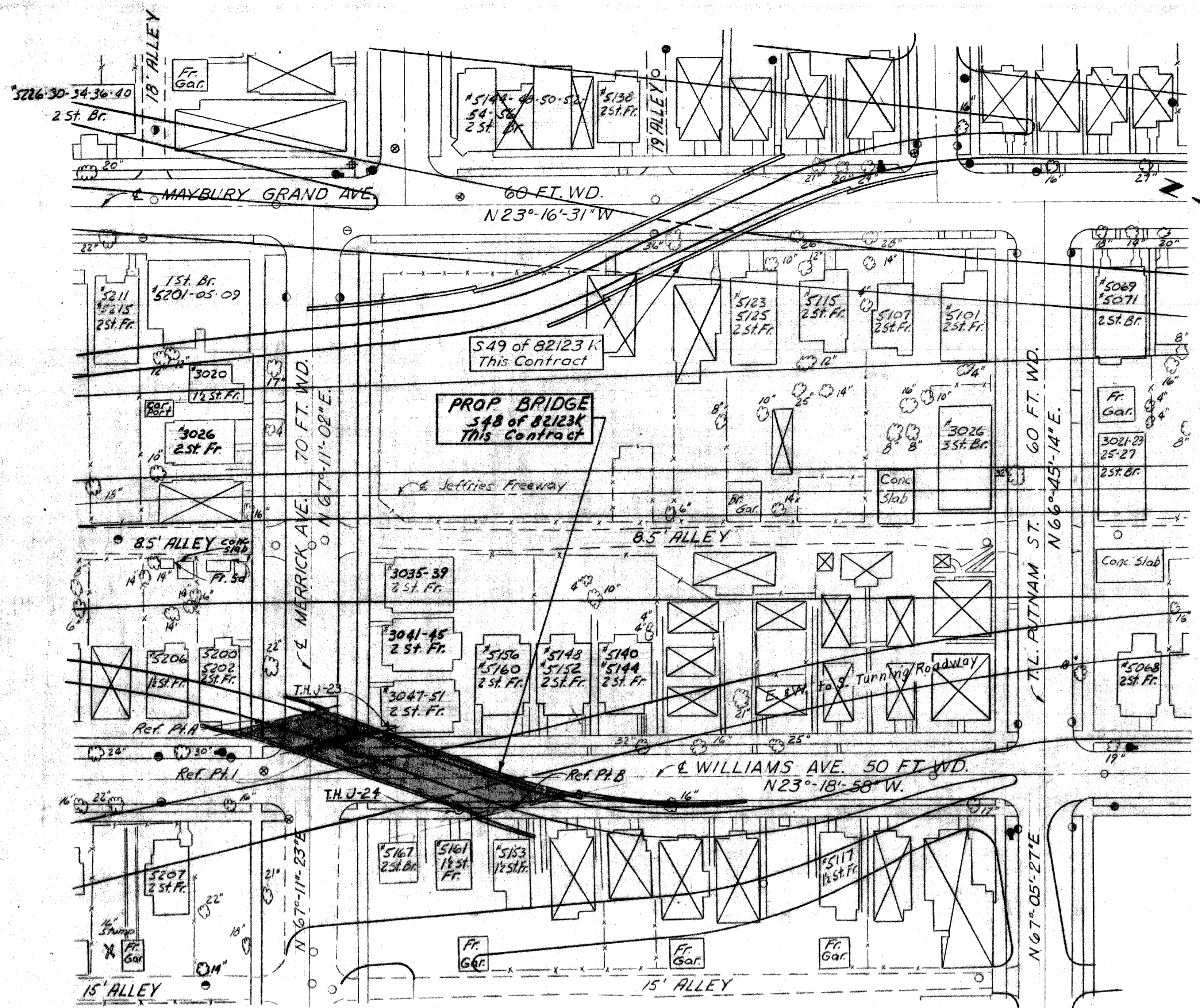
GENERAL DRAWING

APPROVED: [Signature] DESIGN SUPERVISING ENGINEER

APPROVED: [Signature] DESIGN ENGINEER

CITY OF DETROIT
DRAWN BY: Garaytha 1-68
CHECKED BY: [Signature] PW-68
SHEET 3 OF 22

548 of 82123K



LEGEND

- Tree
- Fence
- Sewer Manhole
- Sewer Inlet or Catch Basin
- ⊙ Water Gatewell and Valve
- P.L.C. Cable Manhole
- Fire Hydrant
- ⊕ D.F.D. Alarm Box
- ⊙ Test Hole for Soil Profile
- ⊙ M.B.T. Cable Manhole
- ⊠ Removed

SURVEY PLAN

Scale 1" = 40'

NOTES:

The topography shown represents conditions existing at the time the field survey was made. These conditions may have been altered by the operations of others before this work is started. Bench Marks are referenced to the City of Detroit Datum.

The work covered by these plans includes the construction of the Warren Ave. Exit Ramp Bridge 348 crossing the E. and W. end to S. end turning roadway, slope protection and lightweight fill to the limits shown. All other work is included in the road plans which are a part of this contract.

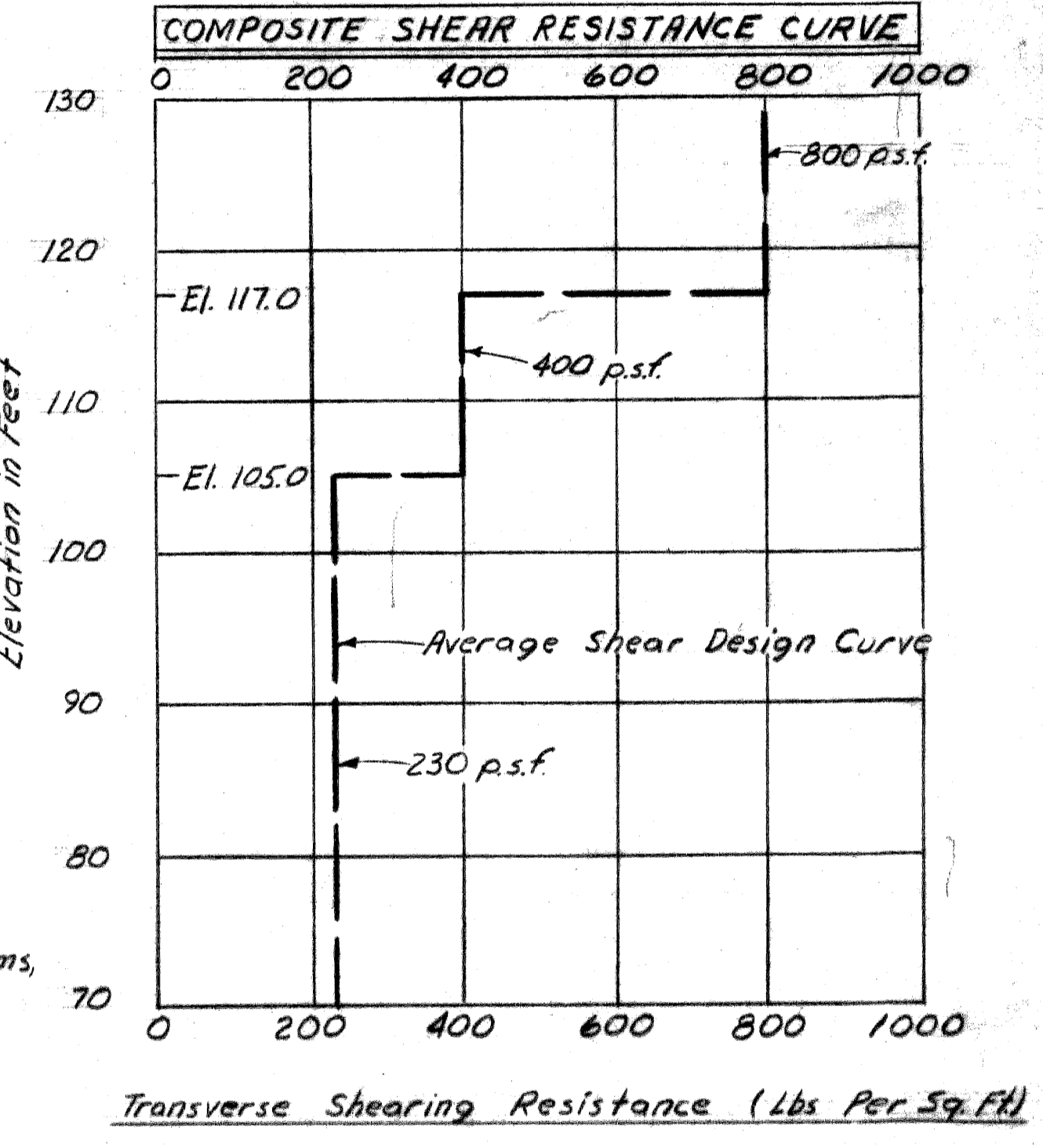
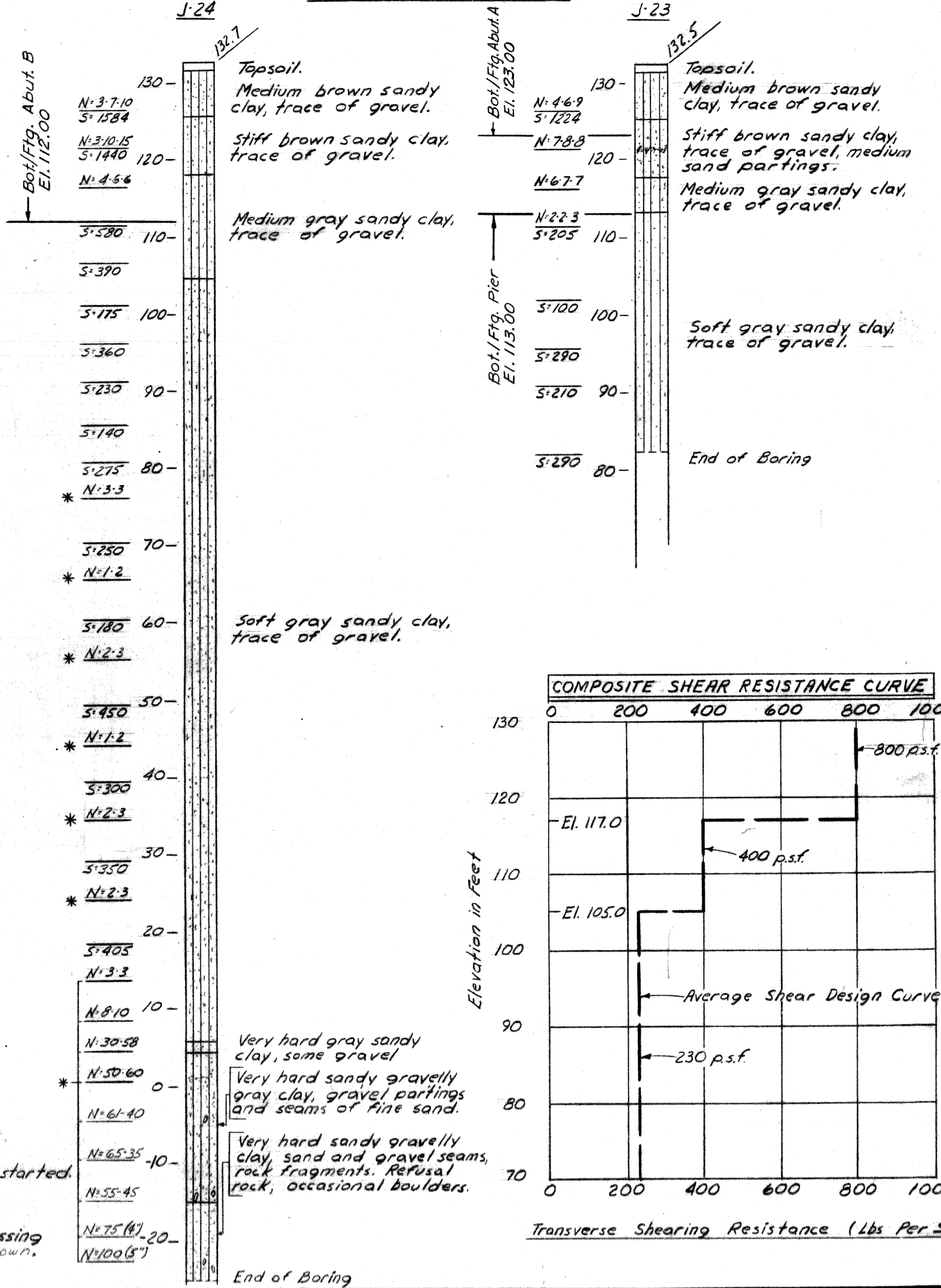
This Bridge is part of an Interchange and all area shown is within M.D.S.H. R.O.W. Removal of fences and buildings is not a part of this contract.

N Indicates the number of blows required to drive the 2" sampler 6" (or as noted) using a 140 lb. hammer falling 30". Where blow count is not shown, sampler was levered, pushed or hand driven.

S Indicates Transverse Shearing Resistance in lbs. per sq. ft. as determined by M.D.S.H. Standard Test.

* Indicates no Sample.

LOG OF SOIL BORINGS



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

APPROVED: *[Signature]*
 STRUCTURAL ENGINEER

REVISIONS

NO. DESCRIPTION DATE BY

MICHIGAN DEPARTMENT OF STATE HIGHWAYS

JEFFRIES - FORD INTERCHANGE
 WARREN AVE. EXIT RAMP IN DETROIT

GENERAL PLAN OF SITE

APPROVED: _____ DESIGN SUPERVISING ENGINEER

APPROVED: _____ DESIGN ENGINEER

JOB No. PW 990(2)

CITY OF DETROIT
 SQUAD BOSS: *[Signature]*
 DRAWN BY: *[Signature]*
 CHECKED BY: *[Signature]*
 SHEET 2 OF 22

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